

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: P392647

Luminaire Tested: **MWL-4-26-45-UNV-L835-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392647  
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-4-26-45-UNV-L835-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

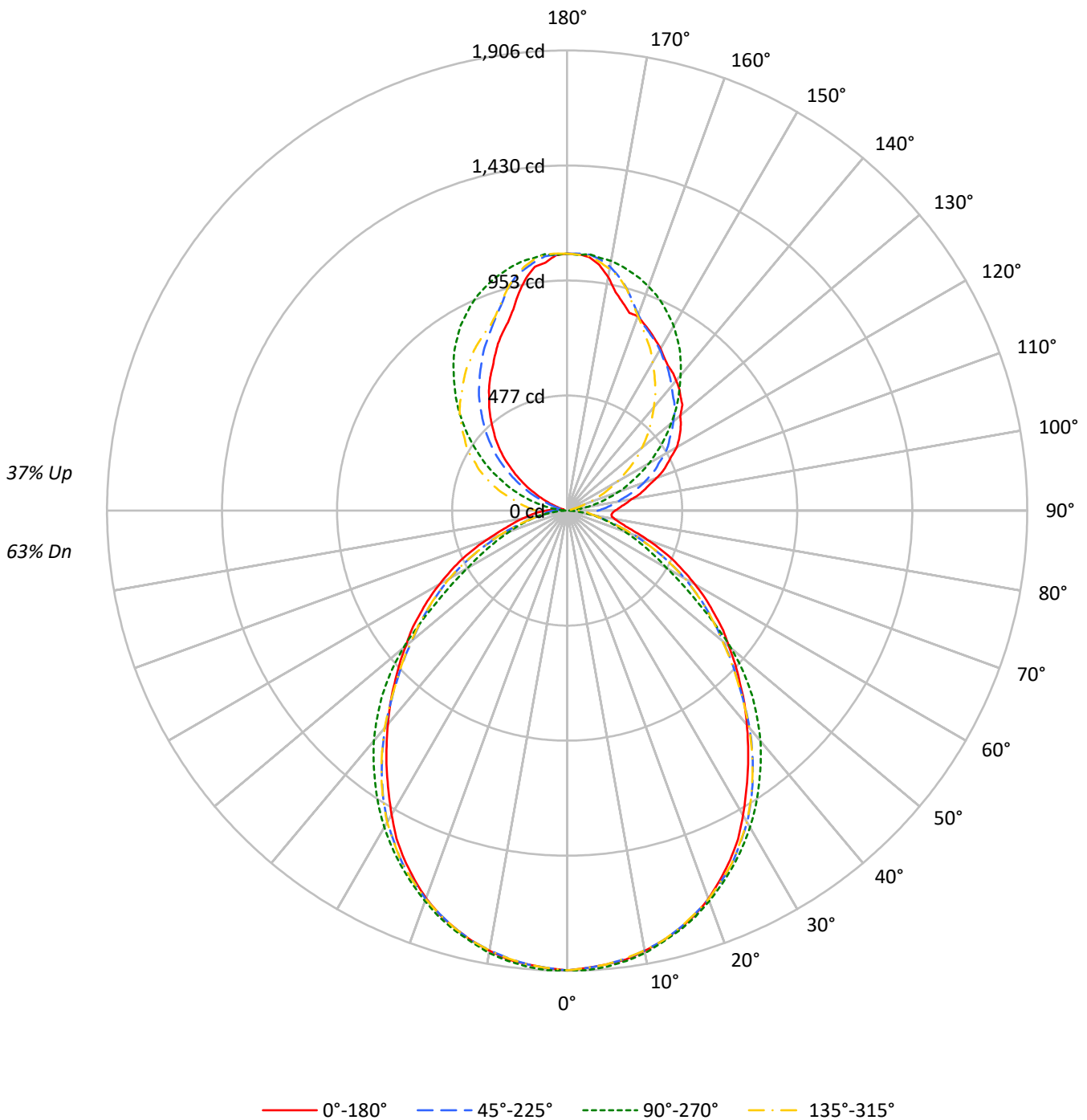
Lumens per Lamp: N/A  
Luminaire Lumens: 6988.0 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: Semi-Direct

Input Watts (W): 68.8  
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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	101	97	93	89	95	91	87	84	80	77	75	70	68	66	61	59	58	54
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	52	50	46
3	85	75	68	62	79	71	64	59	63	58	53	55	51	48	48	45	43	39
4	78	67	59	53	73	63	56	50	56	50	46	49	45	41	43	40	37	34
5	71	60	52	46	67	57	49	44	50	44	40	45	40	36	39	36	33	30
6	66	54	46	40	62	51	44	38	46	40	35	41	36	32	36	32	29	26
7	61	49	41	35	57	46	39	34	41	36	31	37	32	29	33	29	26	23
8	57	44	37	31	53	42	35	30	38	32	28	34	29	26	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	27	23	28	24	21	19
10	50	37	30	25	47	36	29	24	32	27	23	29	24	21	26	22	19	17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	12297	12297	12297	12297
5°	12118	11303	12118	11303
10°	11922	10374	11922	10374
15°	11667	9494	11652	9494
20°	11331	8672	11315	8672
25°	10854	7901	10839	7901
30°	10247	7161	10226	7161
35°	9593	6422	9578	6422
40°	8979	5712	8956	5712
45°	8379	4950	8360	4950
50°	7814	4069	7795	4069
55°	7290	3042	7277	3042
60°	6690	2250	6681	2250
65°	6056	1713	6056	1713
70°	5202	1280	5213	1280
75°	4494	927	4535	927
80°	4655	591	4323	591
85°	6238	274	4587	274



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.4	2.6
10°-20°	505.9	7.2
20°-30°	741.6	10.6
30°-40°	839.3	12.0
40°-50°	790.6	11.3
50°-60°	631.3	9.0
60°-70°	414.9	5.9
70°-80°	212.1	3.0
80°-90°	108.0	1.5
90°-100°	104.1	1.5
100°-110°	167.9	2.4
110°-120°	283.6	4.1
120°-130°	384.9	5.5
130°-140°	438.7	6.3
140°-150°	437.4	6.3
150°-160°	380.8	5.4
160°-170°	267.8	3.8
170°-180°	99.7	1.4
0°-30°	1426.9	20.4
0°-40°	2266.2	32.4
0°-60°	3688.2	52.8
0°-90°	4423.3	63.3
90°-120°	555.6	8.0
90°-150°	1816.5	26.0
90°-180°	2565.0	36.7
0°-180°	6988.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1904	1904	1904	1904	1904	
5°	1886	1896	1886	1896	1886	179
15°	1794	1800	1791	1800	1794	505
25°	1597	1626	1595	1626	1597	734
35°	1306	1385	1303	1385	1306	817
45°	1013	1084	1011	1084	1013	783
55°	744	656	742	656	744	666
65°	485	352	485	352	485	478
75°	250	176	252	176	250	275
85°	184	46	136	46	184	154
90°	198	2	86	2	198	110
95°	229	31	51	31	229	196
105°	331	149	15	149	331	350
115°	458	304	106	304	458	454
125°	573	476	261	476	573	511
135°	665	650	419	650	665	513
145°	730	814	563	814	730	460
155°	816	940	708	940	816	376
165°	892	1023	862	1023	892	253
175°	1053	1066	1031	1066	1053	98
180°	1064	1064	1064	1064	1064	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1904.1	1904.1	1904.1	1904.1	1904.1	1904.1	1904.1	1904.1	1904.1	1904.1	1904.1
2.5°	1896.0	1901.4	1896.0	1906.6	1905.7	1905.9	1896.0	1901.4	1896.7	1901.4	1896.0
5°	1886.2	1891.6	1887.2	1895.0	1896.0	1895.0	1886.4	1891.6	1886.2	1891.6	1886.4
7.5°	1875.1	1875.6	1870.7	1881.3	1881.3	1880.5	1870.0	1874.9	1875.1	1874.9	1870.0
10°	1851.3	1854.9	1850.0	1860.8	1860.8	1860.2	1849.3	1853.5	1851.3	1853.5	1849.3
12.5°	1826.2	1827.4	1824.8	1833.6	1829.9	1833.6	1824.8	1826.0	1824.8	1826.0	1824.8
15°	1793.6	1793.0	1792.3	1802.2	1800.4	1801.4	1791.6	1791.6	1791.4	1791.6	1791.6
17.5°	1757.3	1756.7	1754.0	1764.0	1765.0	1764.0	1753.2	1756.0	1755.0	1756.0	1753.2
20°	1711.1	1710.3	1712.7	1720.8	1721.1	1720.1	1711.9	1708.8	1708.8	1708.8	1711.9
22.5°	1655.2	1661.1	1663.6	1675.6	1674.9	1674.9	1662.8	1659.7	1653.8	1659.7	1662.8
25°	1597.2	1604.1	1615.1	1625.4	1625.7	1624.8	1613.7	1601.9	1595.0	1601.9	1613.7
27.5°	1533.4	1541.2	1552.2	1573.2	1571.7	1572.4	1550.8	1539.0	1531.1	1539.0	1550.8
30°	1456.7	1468.5	1491.1	1512.9	1514.7	1511.4	1488.8	1466.2	1453.7	1466.2	1488.8
32.5°	1380.0	1391.8	1419.3	1448.0	1453.4	1446.6	1417.1	1388.9	1377.1	1388.9	1417.1
35°	1305.5	1313.4	1340.9	1381.2	1384.9	1379.0	1338.8	1311.2	1303.4	1311.2	1338.8
37.5°	1230.8	1232.8	1259.3	1307.5	1316.8	1305.3	1257.2	1230.6	1228.7	1230.6	1257.2
40°	1158.1	1153.2	1175.8	1225.2	1246.1	1223.8	1172.8	1150.2	1155.2	1150.2	1172.8
42.5°	1087.3	1076.5	1084.7	1143.7	1165.5	1142.2	1082.4	1073.6	1084.4	1073.6	1082.4
45°	1012.9	1000.2	1000.2	1053.2	1083.9	1051.8	997.1	997.9	1010.7	997.9	997.1
47.5°	944.1	928.4	921.5	966.0	990.5	965.3	918.5	926.1	941.9	926.1	918.5
50°	874.3	861.6	841.9	868.6	887.6	867.2	838.9	858.5	872.1	858.5	838.9
52.5°	814.4	796.7	770.4	779.2	767.7	777.7	768.1	793.7	812.1	793.7	768.1
55°	743.8	734.0	700.6	691.0	655.9	689.5	698.3	731.7	742.4	731.7	698.3
57.5°	679.0	673.1	630.8	594.7	561.5	593.2	628.5	670.8	677.5	670.8	628.5
60°	611.4	608.5	563.3	508.4	476.0	507.6	561.7	606.9	610.6	606.9	561.7
62.5°	545.6	541.7	491.5	425.9	412.3	425.1	490.0	540.1	544.8	540.1	490.0
65°	484.8	474.0	421.9	355.1	352.4	354.3	421.2	473.2	484.8	473.2	421.2
67.5°	419.0	402.3	353.1	296.3	301.2	296.3	352.4	401.5	419.0	401.5	352.4
70°	354.3	332.7	293.4	246.2	254.1	246.2	293.4	333.5	355.1	333.5	293.4
72.5°	296.3	271.8	236.4	201.0	213.1	200.3	236.4	272.5	297.9	272.5	236.4
75°	250.1	221.6	185.6	160.0	175.7	160.0	186.3	222.4	252.4	222.4	186.3
77.5°	220.7	182.4	142.3	123.6	141.3	123.6	143.0	180.2	217.8	180.2	143.0
80°	199.1	162.5	115.1	92.2	106.0	92.2	113.5	150.5	184.9	150.5	113.5
82.5°	186.6	151.5	103.4	65.7	74.5	65.7	94.5	124.4	158.1	124.4	94.5
85°	184.4	156.3	105.2	53.2	46.0	51.6	83.4	110.5	135.6	110.5	83.4
87.5°	188.8	166.3	112.2	53.6	15.7	43.0	69.4	94.3	111.6	94.3	69.4
90°	198.4	182.0	128.4	57.5	1.8	29.0	54.2	76.3	85.8	76.3	54.2
92.5°	213.8	201.8	146.3	70.0	13.0	18.2	43.5	63.0	66.6	63.0	43.5
95°	229.3	225.8	167.8	83.9	31.0	8.9	32.7	51.6	51.4	51.6	32.7
97.5°	250.5	247.7	189.0	106.1	54.3	10.0	23.2	41.4	40.4	41.4	23.2
100°	269.9	268.2	213.0	138.3	82.8	25.8	14.1	32.5	33.5	32.5	14.1
102.5°	303.9	291.9	237.9	169.1	113.5	47.5	14.3	21.7	24.7	21.7	14.3
105°	331.0	317.6	273.6	201.4	148.8	76.8	31.3	15.9	15.0	15.9	31.3
107.5°	357.4	348.9	306.7	235.4	186.3	111.6	56.7	30.8	21.2	30.8	56.7
110°	393.9	385.0	339.0	268.4	226.4	147.5	86.0	54.7	42.8	54.7	86.0



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CATALOG NUMBER: MWL-4-26-45-UNV-L835-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	430.0	423.2	369.0	302.9	266.8	186.5	122.1	84.7	73.5	84.7	122.1
115°	457.7	454.0	403.5	335.2	304.4	230.9	161.8	120.0	106.5	120.0	161.8
117.5°	487.0	486.3	429.0	368.2	349.4	270.7	198.6	155.3	141.0	155.3	198.6
120°	523.8	517.8	465.3	401.2	392.3	312.6	240.1	195.8	181.5	195.8	240.1
122.5°	549.3	545.6	495.3	432.8	432.8	355.4	279.1	234.8	219.9	234.8	279.1
125°	572.6	571.0	517.8	464.3	476.3	395.2	322.7	277.7	261.1	277.7	322.7
127.5°	593.5	595.8	547.1	499.8	520.5	436.8	365.4	315.9	298.7	315.9	365.4
130°	611.6	619.1	574.9	531.3	562.6	481.0	403.8	354.2	342.9	354.2	403.8
132.5°	646.9	642.4	603.4	563.6	607.6	521.5	444.3	392.5	379.7	392.5	444.3
135°	664.9	666.4	628.1	591.4	649.7	562.1	482.5	431.5	418.7	431.5	482.5
137.5°	686.6	682.1	647.6	625.1	688.7	601.1	520.0	472.8	452.5	472.8	520.0
140°	702.4	701.7	673.2	655.2	730.7	639.3	558.4	510.3	491.5	510.3	558.4
142.5°	719.0	723.4	698.6	688.2	772.7	679.9	599.6	547.1	529.1	547.1	599.6
145°	730.2	739.9	724.2	729.5	813.5	725.0	635.6	582.3	562.8	582.3	635.6
147.5°	748.9	761.7	742.9	758.7	847.0	764.7	671.7	619.1	601.8	619.1	671.7
150°	774.5	780.5	769.2	799.3	883.3	809.0	708.4	654.4	637.1	654.4	708.4
152.5°	794.7	802.2	789.4	843.5	911.0	849.5	748.9	688.9	668.6	688.9	748.9
155°	815.8	818.7	809.8	886.2	940.3	889.3	781.2	727.2	707.7	727.2	781.2
157.5°	835.2	841.2	830.7	918.6	965.9	923.8	818.0	765.4	748.2	765.4	818.0
160°	856.3	856.3	862.3	956.1	986.9	953.9	857.1	807.5	783.4	807.5	857.1
162.5°	858.5	872.8	905.0	982.4	1007.1	980.1	899.0	837.5	816.5	837.5	899.0
165°	891.5	904.3	953.1	1005.7	1022.9	1003.4	950.8	887.0	862.3	887.0	950.8
167.5°	926.0	953.1	992.1	1031.9	1037.9	1025.1	990.6	946.3	923.8	946.3	990.6
170°	981.4	1005.7	1025.1	1041.6	1049.9	1042.4	1015.4	993.6	978.3	993.6	1015.4
172.5°	1025.6	1041.6	1049.1	1059.6	1055.4	1051.4	1037.9	1027.4	1018.9	1027.4	1037.9
175°	1053.4	1057.4	1064.1	1060.4	1065.9	1056.7	1057.4	1062.7	1030.9	1062.7	1057.4
177.5°	1063.2	1069.4	1065.6	1058.9	1059.6	1058.1	1061.2	1064.1	1058.6	1064.1	1061.2
180°	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1904.1	1904.1	1904.1	1904.1	1904.1	1904.1
2.5°	1905.9	1905.7	1906.6	1896.0	1901.4	1896.0
5°	1895.0	1896.0	1895.0	1887.2	1891.6	1886.2
7.5°	1880.5	1881.3	1881.3	1870.7	1875.6	1875.1
10°	1860.2	1860.8	1860.8	1850.0	1854.9	1851.3
12.5°	1833.6	1829.9	1833.6	1824.8	1827.4	1826.2
15°	1801.4	1800.4	1802.2	1792.3	1793.0	1793.6
17.5°	1764.0	1765.0	1764.0	1754.0	1756.7	1757.3
20°	1720.1	1721.1	1720.8	1712.7	1710.3	1711.1
22.5°	1674.9	1674.9	1675.6	1663.6	1661.1	1655.2
25°	1624.8	1625.7	1625.4	1615.1	1604.1	1597.2
27.5°	1572.4	1571.7	1573.2	1552.2	1541.2	1533.4
30°	1511.4	1514.7	1512.9	1491.1	1468.5	1456.7
32.5°	1446.6	1453.4	1448.0	1419.3	1391.8	1380.0
35°	1379.0	1384.9	1381.2	1340.9	1313.4	1305.5
37.5°	1305.3	1316.8	1307.5	1259.3	1232.8	1230.8
40°	1223.8	1246.1	1225.2	1175.8	1153.2	1158.1
42.5°	1142.2	1165.5	1143.7	1084.7	1076.5	1087.3
45°	1051.8	1083.9	1053.2	1000.2	1000.2	1012.9
47.5°	965.3	990.5	966.0	921.5	928.4	944.1
50°	867.2	887.6	868.6	841.9	861.6	874.3
52.5°	777.7	767.7	779.2	770.4	796.7	814.4
55°	689.5	655.9	691.0	700.6	734.0	743.8
57.5°	593.2	561.5	594.7	630.8	673.1	679.0
60°	507.6	476.0	508.4	563.3	608.5	611.4
62.5°	425.1	412.3	425.9	491.5	541.7	545.6
65°	354.3	352.4	355.1	421.9	474.0	484.8
67.5°	296.3	301.2	296.3	353.1	402.3	419.0
70°	246.2	254.1	246.2	293.4	332.7	354.3
72.5°	200.3	213.1	201.0	236.4	271.8	296.3
75°	160.0	175.7	160.0	185.6	221.6	250.1
77.5°	123.6	141.3	123.6	142.3	182.4	220.7
80°	92.2	106.0	92.2	115.1	162.5	199.1
82.5°	65.7	74.5	65.7	103.4	151.5	186.6
85°	51.6	46.0	53.2	105.2	156.3	184.4
87.5°	43.0	15.7	53.6	112.2	166.3	188.8
90°	29.0	1.8	57.5	128.4	182.0	198.4
92.5°	18.2	13.0	70.0	146.3	201.8	213.8
95°	8.9	31.0	83.9	167.8	225.8	229.3
97.5°	10.0	54.3	106.1	189.0	247.7	250.5
100°	25.8	82.8	138.3	213.0	268.2	269.9
102.5°	47.5	113.5	169.1	237.9	291.9	303.9
105°	76.8	148.8	201.4	273.6	317.6	331.0
107.5°	111.6	186.3	235.4	306.7	348.9	357.4
110°	147.5	226.4	268.4	339.0	385.0	393.9





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CATALOG NUMBER: MWL-4-26-45-UNV-L835-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	186.5	266.8	302.9	369.0	423.2	430.0
115°	230.9	304.4	335.2	403.5	454.0	457.7
117.5°	270.7	349.4	368.2	429.0	486.3	487.0
120°	312.6	392.3	401.2	465.3	517.8	523.8
122.5°	355.4	432.8	432.8	495.3	545.6	549.3
125°	395.2	476.3	464.3	517.8	571.0	572.6
127.5°	436.8	520.5	499.8	547.1	595.8	593.5
130°	481.0	562.6	531.3	574.9	619.1	611.6
132.5°	521.5	607.6	563.6	603.4	642.4	646.9
135°	562.1	649.7	591.4	628.1	666.4	664.9
137.5°	601.1	688.7	625.1	647.6	682.1	686.6
140°	639.3	730.7	655.2	673.2	701.7	702.4
142.5°	679.9	772.7	688.2	698.6	723.4	719.0
145°	725.0	813.5	729.5	724.2	739.9	730.2
147.5°	764.7	847.0	758.7	742.9	761.7	748.9
150°	809.0	883.3	799.3	769.2	780.5	774.5
152.5°	849.5	911.0	843.5	789.4	802.2	794.7
155°	889.3	940.3	886.2	809.8	818.7	815.8
157.5°	923.8	965.9	918.6	830.7	841.2	835.2
160°	953.9	986.9	956.1	862.3	856.3	856.3
162.5°	980.1	1007.1	982.4	905.0	872.8	858.5
165°	1003.4	1022.9	1005.7	953.1	904.3	891.5
167.5°	1025.1	1037.9	1031.9	992.1	953.1	926.0
170°	1042.4	1049.9	1041.6	1025.1	1005.7	981.4
172.5°	1051.4	1055.4	1059.6	1049.1	1041.6	1025.6
175°	1056.7	1065.9	1060.4	1064.1	1057.4	1053.4
177.5°	1058.1	1059.6	1058.9	1065.6	1069.4	1063.2
180°	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1

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