

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: P392652

Luminaire Tested: **MWL-4-26-73-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392652
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-4-26-73-UNV-L930-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

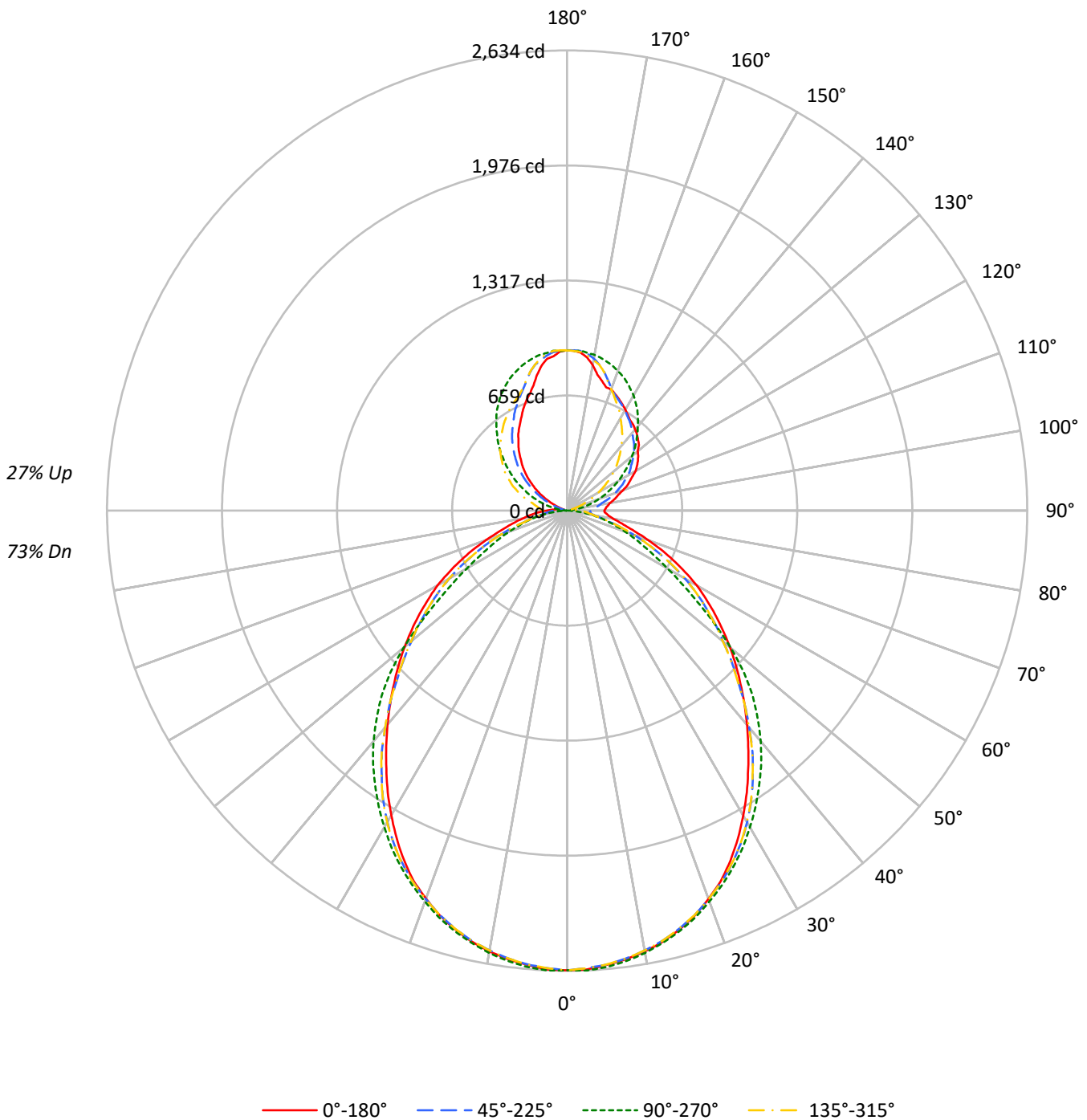
Lumens per Lamp: N/A
Luminaire Lumens: 8348.9 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 109.181
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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	103	99	95	91	98	94	91	87	85	82	80	77	75	73	69	67	66	62
2	94	87	81	76	89	83	77	73	75	71	67	68	65	62	61	59	56	53
3	87	77	70	64	82	73	67	61	67	61	57	61	56	53	55	51	49	45
4	79	69	61	54	75	65	58	53	60	54	49	54	50	46	49	45	42	39
5	73	61	53	47	69	59	51	46	54	48	43	49	44	40	45	41	37	34
6	68	55	47	41	64	53	46	40	49	42	38	45	39	35	41	36	33	31
7	63	50	42	37	60	48	41	35	44	38	33	41	35	31	37	33	29	27
8	59	46	38	33	56	44	37	32	41	34	30	37	32	28	34	30	27	24
9	55	42	34	29	52	41	33	29	37	31	27	35	29	26	32	27	24	22
10	51	39	31	27	49	37	31	26	35	29	25	32	27	23	30	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	16994	16994	16994	16994
5°	16769	15631	16769	15631
10°	16500	14335	16500	14335
15°	16146	13139	16134	13139
20°	15664	11997	15652	11997
25°	15027	10939	15014	10939
30°	14181	9895	14163	9895
35°	13275	8886	13261	8886
40°	12420	7904	12400	7904
45°	11610	6862	11594	6862
50°	10868	5607	10850	5607
55°	10114	4218	10101	4218
60°	9380	3138	9372	3138
65°	8343	2364	8343	2364
70°	7253	1778	7263	1778
75°	6325	1273	6361	1273
80°	6257	819	5969	819
85°	7739	367	6319	367



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.1	3.0
10°-20°	699.8	8.4
20°-30°	1026.3	12.3
30°-40°	1161.5	13.9
40°-50°	1094.4	13.1
50°-60°	875.7	10.5
60°-70°	576.5	6.9
70°-80°	294.3	3.5
80°-90°	140.5	1.7
90°-100°	106.5	1.3
100°-110°	147.4	1.8
110°-120°	245.0	2.9
120°-130°	332.2	4.0
130°-140°	378.5	4.5
140°-150°	377.2	4.5
150°-160°	328.2	3.9
160°-170°	230.8	2.8
170°-180°	85.9	1.0
0°-30°	1974.2	23.6
0°-40°	3135.7	37.6
0°-60°	5105.8	61.2
0°-90°	6117.1	73.3
90°-120°	499.0	6.0
90°-150°	1586.9	19.0
90°-180°	2232.0	26.7
0°-180°	8348.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2631	2631	2631	2631	2631	
5°	2610	2622	2610	2622	2610	248
15°	2482	2492	2480	2492	2482	699
25°	2211	2251	2209	2251	2211	1015
35°	1806	1916	1805	1916	1806	1131
45°	1404	1503	1402	1503	1404	1085
55°	1032	910	1030	910	1032	924
65°	668	486	668	486	668	663
75°	352	242	354	242	352	384
85°	229	62	187	62	229	194
90°	213	2	116	2	213	118
95°	225	28	72	28	225	190
105°	290	129	18	129	290	308
115°	395	263	93	263	395	392
125°	494	410	226	410	494	441
135°	574	560	362	560	574	443
145°	630	700	486	700	630	397
155°	703	810	610	810	703	324
165°	768	882	743	882	768	218
175°	907	918	887	918	907	85
180°	917	917	917	917	917	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2631.4	2631.4	2631.4	2631.4	2631.4	2631.4	2631.4	2631.4	2631.4	2631.4	2631.4
2.5°	2628.7	2628.3	2621.1	2635.3	2634.5	2634.6	2621.1	2628.3	2629.3	2628.3	2621.1
5°	2610.2	2614.7	2608.4	2622.7	2622.0	2622.7	2607.8	2614.7	2610.2	2614.7	2607.8
7.5°	2590.4	2596.8	2585.8	2602.5	2600.8	2601.8	2585.1	2596.2	2590.4	2596.2	2585.1
10°	2562.3	2564.6	2557.1	2572.2	2571.4	2571.7	2556.4	2563.4	2562.3	2563.4	2556.4
12.5°	2528.1	2527.5	2521.8	2535.3	2533.8	2535.3	2521.8	2526.2	2526.9	2526.2	2521.8
15°	2482.3	2481.8	2477.8	2491.4	2491.6	2490.7	2477.2	2480.5	2480.4	2480.5	2477.2
17.5°	2430.8	2429.4	2427.1	2441.6	2441.6	2441.6	2426.5	2428.8	2428.8	2428.8	2426.5
20°	2365.6	2368.4	2367.1	2381.7	2381.0	2381.0	2366.4	2367.1	2363.7	2367.1	2366.4
22.5°	2296.5	2299.1	2303.7	2322.5	2319.3	2321.9	2303.0	2297.8	2295.3	2297.8	2303.0
25°	2211.2	2216.2	2231.6	2251.5	2250.9	2250.9	2230.4	2214.3	2209.3	2214.3	2230.4
27.5°	2116.5	2130.0	2150.4	2175.3	2175.6	2174.6	2149.2	2128.1	2114.5	2128.1	2149.2
30°	2015.9	2030.3	2060.7	2095.5	2092.9	2094.3	2058.8	2028.3	2013.4	2028.3	2058.8
32.5°	1913.7	1928.0	1962.6	2004.3	2008.1	2003.0	1960.7	1925.5	1911.1	1925.5	1960.7
35°	1806.5	1813.2	1852.9	1915.5	1916.2	1913.7	1851.1	1811.4	1804.6	1811.4	1851.1
37.5°	1702.5	1704.2	1743.9	1809.9	1824.7	1808.0	1742.1	1702.4	1700.7	1702.4	1742.1
40°	1601.9	1593.5	1621.4	1695.1	1724.1	1693.9	1618.8	1591.0	1599.4	1591.0	1618.8
42.5°	1502.2	1492.1	1504.2	1576.8	1615.0	1575.6	1502.2	1489.5	1499.7	1489.5	1502.2
45°	1403.6	1384.9	1382.5	1455.1	1502.7	1453.9	1379.8	1383.0	1401.6	1383.0	1379.8
47.5°	1309.7	1287.7	1275.1	1331.1	1373.3	1330.4	1272.5	1285.8	1307.8	1285.8	1272.5
50°	1216.0	1194.8	1165.3	1204.3	1223.1	1203.0	1162.6	1192.2	1213.9	1192.2	1162.6
52.5°	1123.0	1106.9	1069.0	1082.6	1061.7	1081.3	1067.1	1104.2	1121.1	1104.2	1067.1
55°	1031.9	1017.5	971.0	953.5	909.7	952.2	969.1	1015.6	1030.5	1015.6	969.1
57.5°	942.2	933.8	876.4	824.1	777.0	822.8	874.3	931.8	941.0	931.8	874.3
60°	857.2	847.8	781.1	700.1	663.7	699.4	779.7	846.5	856.5	846.5	779.7
62.5°	760.8	756.5	681.3	590.2	566.7	589.5	680.0	755.2	760.1	755.2	680.0
65°	667.9	655.3	585.2	495.5	486.4	494.8	584.5	654.7	667.9	654.7	584.5
67.5°	578.4	559.8	494.7	413.7	416.3	413.7	494.0	559.1	578.4	559.1	494.0
70°	494.0	465.3	407.0	341.9	352.9	341.9	407.0	466.0	494.7	466.0	407.0
72.5°	415.4	379.9	326.7	278.5	292.2	277.9	326.7	380.6	416.7	380.6	326.7
75°	352.0	307.2	254.2	222.2	241.5	222.2	254.8	307.9	354.0	307.9	254.8
77.5°	305.6	254.9	198.5	171.4	195.1	171.4	199.1	253.0	303.1	253.0	199.1
80°	267.6	219.2	159.0	126.6	146.9	126.6	157.6	208.9	255.3	208.9	157.6
82.5°	241.6	198.7	139.6	91.1	102.9	91.1	131.9	175.5	217.1	175.5	131.9
85°	228.8	191.0	131.8	72.7	61.5	71.4	113.1	151.6	186.8	151.6	113.1
87.5°	214.8	188.7	130.3	67.2	22.8	58.1	93.5	126.7	148.4	126.7	93.5
90°	212.9	194.6	137.4	64.6	1.5	40.2	73.6	103.6	116.0	103.6	73.6
92.5°	219.3	206.5	147.8	68.6	12.0	24.1	59.4	87.2	92.8	87.2	59.4
95°	225.1	219.5	161.2	74.8	27.5	10.2	45.1	69.7	72.1	69.7	45.1
97.5°	237.4	234.1	172.7	92.0	47.5	9.5	30.1	56.7	56.7	56.7	30.1
100°	248.1	245.0	188.3	119.7	72.0	23.0	17.2	42.4	44.9	42.4	17.2
102.5°	270.7	259.5	206.2	146.3	98.4	41.6	13.9	27.1	30.6	27.1	13.9
105°	289.8	276.5	236.2	174.0	128.8	66.8	27.7	17.1	18.0	17.1	27.7
107.5°	309.8	301.7	264.6	203.3	161.1	96.8	49.6	28.2	20.8	28.2	49.6
110°	340.5	332.7	292.3	231.7	195.5	127.7	74.8	48.8	38.5	48.8	74.8



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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°	371.5	365.7	318.1	261.3	230.3	161.3	105.8	74.6	64.9	74.6	105.8
115°	395.3	391.3	348.7	289.1	262.6	199.3	140.8	104.1	93.3	104.1	140.8
117.5°	420.5	419.0	370.6	317.4	301.3	233.6	172.5	134.4	123.0	134.4	172.5
120°	452.1	446.1	401.0	345.9	338.2	269.7	207.4	169.2	157.8	169.2	207.4
122.5°	474.1	470.9	426.8	373.9	373.0	307.3	240.9	203.6	190.8	203.6	240.9
125°	494.1	492.7	446.1	401.0	410.4	341.5	278.3	240.5	226.3	240.5	278.3
127.5°	512.1	514.0	472.1	430.7	449.3	376.5	315.9	273.3	258.5	273.3	315.9
130°	527.7	534.1	496.1	457.8	485.5	414.5	348.9	306.3	296.6	306.3	348.9
132.5°	558.0	554.1	520.6	485.5	524.2	449.3	383.7	339.2	328.2	339.2	383.7
135°	573.5	574.8	541.9	509.4	560.4	484.2	416.6	372.7	361.7	372.7	416.6
137.5°	592.1	588.3	558.6	539.2	593.9	518.6	448.9	408.2	390.9	408.2	448.9
140°	605.8	605.1	580.6	565.1	630.0	551.5	481.9	440.5	424.4	440.5	481.9
142.5°	620.8	624.6	602.4	593.5	666.2	586.4	517.4	473.0	457.5	473.0	517.4
145°	629.6	638.8	624.5	629.0	700.4	625.2	548.3	503.3	485.7	503.3	548.3
147.5°	646.6	656.8	640.6	654.1	730.1	659.2	579.3	534.1	520.0	534.1	579.3
150°	667.7	672.9	663.2	689.0	760.4	697.4	610.9	564.4	549.5	564.4	610.9
152.5°	685.1	691.5	680.5	727.0	784.3	732.2	645.8	594.1	576.7	594.1	645.8
155°	703.3	705.7	698.1	763.8	810.3	766.5	673.5	627.1	610.3	627.1	673.5
157.5°	720.0	725.1	716.1	791.7	832.2	796.1	705.2	659.9	645.1	659.9	705.2
160°	738.0	738.0	743.2	823.9	850.4	821.9	738.7	696.1	675.4	696.1	738.7
162.5°	740.0	752.2	779.9	846.5	867.8	844.6	774.8	721.9	703.8	721.9	774.8
165°	768.4	779.3	821.3	866.5	882.2	864.6	819.4	764.5	743.2	764.5	819.4
167.5°	797.2	820.4	854.9	889.9	895.1	884.1	853.6	814.6	795.3	814.6	853.6
170°	844.8	866.5	883.2	898.3	905.4	899.0	874.9	856.1	842.2	856.1	874.9
172.5°	882.8	897.5	903.8	913.8	909.3	906.7	894.2	885.2	877.1	885.2	894.2
175°	906.7	911.0	916.8	914.4	918.4	911.2	911.0	915.5	887.4	915.5	911.0
177.5°	915.1	921.4	918.1	913.2	913.8	912.5	914.3	916.8	911.2	916.8	914.3
180°	916.8	916.8	916.8	916.8	916.8	916.8	916.8	916.8	916.8	916.8	916.8



TEST NUMBER: P392652

CATALOG NUMBER: MWL-4-26-73-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2631.4	2631.4	2631.4	2631.4	2631.4	2631.4
2.5°	2634.6	2634.5	2635.3	2621.1	2628.3	2628.7
5°	2622.7	2622.0	2622.7	2608.4	2614.7	2610.2
7.5°	2601.8	2600.8	2602.5	2585.8	2596.8	2590.4
10°	2571.7	2571.4	2572.2	2557.1	2564.6	2562.3
12.5°	2535.3	2533.8	2535.3	2521.8	2527.5	2528.1
15°	2490.7	2491.6	2491.4	2477.8	2481.8	2482.3
17.5°	2441.6	2441.6	2441.6	2427.1	2429.4	2430.8
20°	2381.0	2381.0	2381.7	2367.1	2368.4	2365.6
22.5°	2321.9	2319.3	2322.5	2303.7	2299.1	2296.5
25°	2250.9	2250.9	2251.5	2231.6	2216.2	2211.2
27.5°	2174.6	2175.6	2175.3	2150.4	2130.0	2116.5
30°	2094.3	2092.9	2095.5	2060.7	2030.3	2015.9
32.5°	2003.0	2008.1	2004.3	1962.6	1928.0	1913.7
35°	1913.7	1916.2	1915.5	1852.9	1813.2	1806.5
37.5°	1808.0	1824.7	1809.9	1743.9	1704.2	1702.5
40°	1693.9	1724.1	1695.1	1621.4	1593.5	1601.9
42.5°	1575.6	1615.0	1576.8	1504.2	1492.1	1502.2
45°	1453.9	1502.7	1455.1	1382.5	1384.9	1403.6
47.5°	1330.4	1373.3	1331.1	1275.1	1287.7	1309.7
50°	1203.0	1223.1	1204.3	1165.3	1194.8	1216.0
52.5°	1081.3	1061.7	1082.6	1069.0	1106.9	1123.0
55°	952.2	909.7	953.5	971.0	1017.5	1031.9
57.5°	822.8	777.0	824.1	876.4	933.8	942.2
60°	699.4	663.7	700.1	781.1	847.8	857.2
62.5°	589.5	566.7	590.2	681.3	756.5	760.8
65°	494.8	486.4	495.5	585.2	655.3	667.9
67.5°	413.7	416.3	413.7	494.7	559.8	578.4
70°	341.9	352.9	341.9	407.0	465.3	494.0
72.5°	277.9	292.2	278.5	326.7	379.9	415.4
75°	222.2	241.5	222.2	254.2	307.2	352.0
77.5°	171.4	195.1	171.4	198.5	254.9	305.6
80°	126.6	146.9	126.6	159.0	219.2	267.6
82.5°	91.1	102.9	91.1	139.6	198.7	241.6
85°	71.4	61.5	72.7	131.8	191.0	228.8
87.5°	58.1	22.8	67.2	130.3	188.7	214.8
90°	40.2	1.5	64.6	137.4	194.6	212.9
92.5°	24.1	12.0	68.6	147.8	206.5	219.3
95°	10.2	27.5	74.8	161.2	219.5	225.1
97.5°	9.5	47.5	92.0	172.7	234.1	237.4
100°	23.0	72.0	119.7	188.3	245.0	248.1
102.5°	41.6	98.4	146.3	206.2	259.5	270.7
105°	66.8	128.8	174.0	236.2	276.5	289.8
107.5°	96.8	161.1	203.3	264.6	301.7	309.8
110°	127.7	195.5	231.7	292.3	332.7	340.5



TEST NUMBER: P392652

CATALOG NUMBER: MWL-4-26-73-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	161.3	230.3	261.3	318.1	365.7	371.5
115°	199.3	262.6	289.1	348.7	391.3	395.3
117.5°	233.6	301.3	317.4	370.6	419.0	420.5
120°	269.7	338.2	345.9	401.0	446.1	452.1
122.5°	307.3	373.0	373.9	426.8	470.9	474.1
125°	341.5	410.4	401.0	446.1	492.7	494.1
127.5°	376.5	449.3	430.7	472.1	514.0	512.1
130°	414.5	485.5	457.8	496.1	534.1	527.7
132.5°	449.3	524.2	485.5	520.6	554.1	558.0
135°	484.2	560.4	509.4	541.9	574.8	573.5
137.5°	518.6	593.9	539.2	558.6	588.3	592.1
140°	551.5	630.0	565.1	580.6	605.1	605.8
142.5°	586.4	666.2	593.5	602.4	624.6	620.8
145°	625.2	700.4	629.0	624.5	638.8	629.6
147.5°	659.2	730.1	654.1	640.6	656.8	646.6
150°	697.4	760.4	689.0	663.2	672.9	667.7
152.5°	732.2	784.3	727.0	680.5	691.5	685.1
155°	766.5	810.3	763.8	698.1	705.7	703.3
157.5°	796.1	832.2	791.7	716.1	725.1	720.0
160°	821.9	850.4	823.9	743.2	738.0	738.0
162.5°	844.6	867.8	846.5	779.9	752.2	740.0
165°	864.6	882.2	866.5	821.3	779.3	768.4
167.5°	884.1	895.1	889.9	854.9	820.4	797.2
170°	899.0	905.4	898.3	883.2	866.5	844.8
172.5°	906.7	909.3	913.8	903.8	897.5	882.8
175°	911.2	918.4	914.4	916.8	911.0	906.7
177.5°	912.5	913.8	913.2	918.1	921.4	915.1
180°	916.8	916.8	916.8	916.8	916.8	916.8

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