

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: P392589

Luminaire Tested: **MWL-3-30-57-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392589
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-13 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-30-57-UNV-L930-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

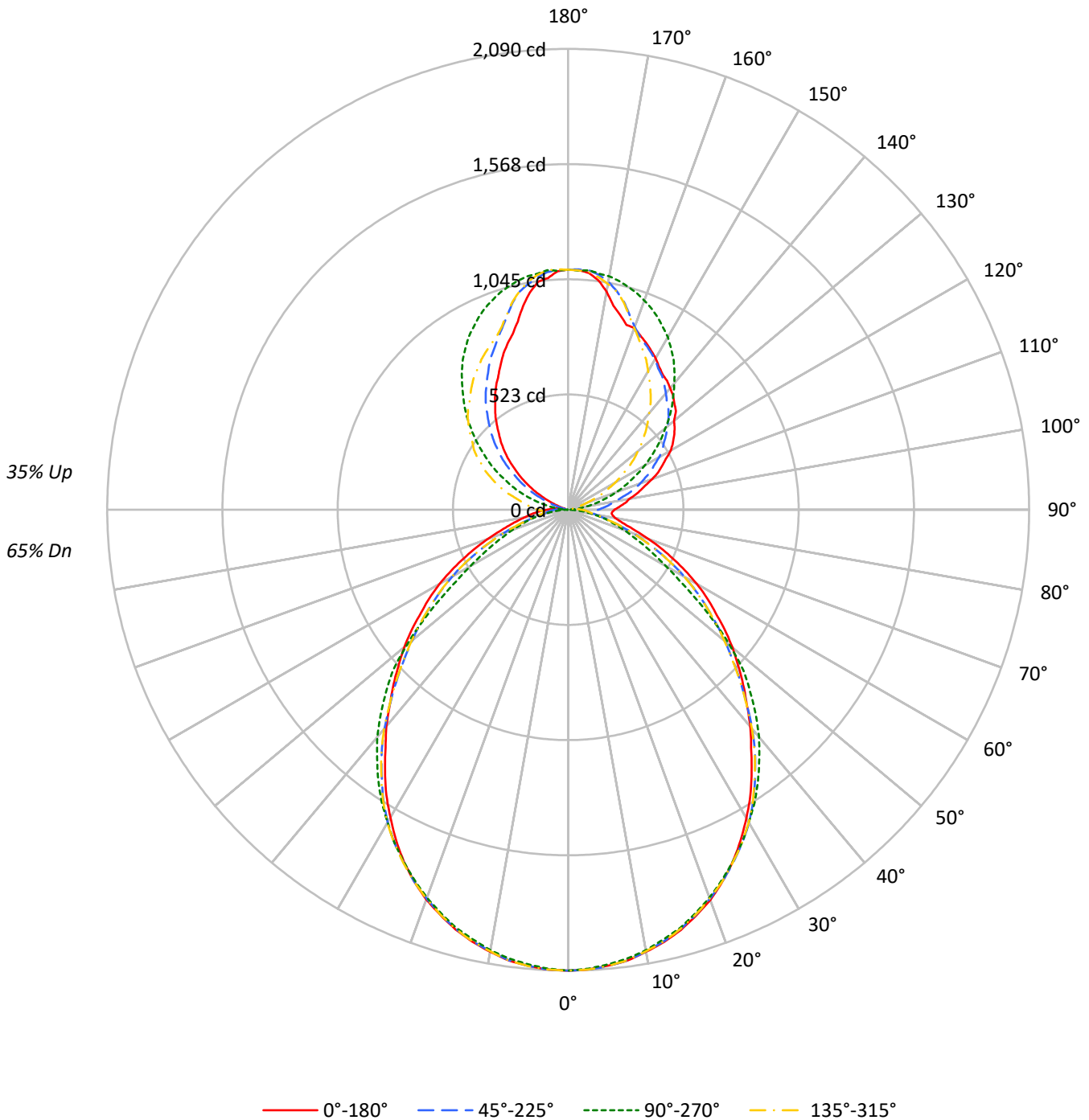
Lumens per Lamp: N/A
Luminaire Lumens: 7457.0 lumens
Efficiency: N/A
Efficacy: 75.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 98.576
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	50	30	10	0		
RCR																										
0	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	70	70	70	70	70	70	65		
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	62	61	59	59	59	59	59	59	59	55		
2	93	85	79	74	87	80	75	70	71	67	64	63	60	57	55	53	51	51	51	51	51	51	51	47		
3	85	75	68	62	80	71	65	59	63	58	54	56	52	49	49	46	44	44	44	44	44	44	44	40		
4	78	67	59	53	73	63	56	51	57	51	46	50	46	42	44	41	38	38	38	38	38	38	38	35		
5	72	60	52	46	67	57	50	44	51	45	40	45	41	37	40	36	33	33	33	33	33	33	33	31		
6	66	54	46	40	62	51	44	39	46	40	36	41	36	33	37	33	30	30	30	30	30	30	30	27		
7	61	49	41	35	58	47	39	34	42	36	32	38	33	29	34	30	27	27	27	27	27	27	27	24		
8	57	45	37	32	54	43	35	30	38	32	28	35	30	26	31	27	24	24	24	24	24	24	24	22		
9	53	41	33	28	50	39	32	27	35	30	25	32	27	24	29	25	22	22	22	22	22	22	22	20		
10	50	38	30	26	47	36	29	25	33	27	23	30	25	21	27	23	20	20	20	20	20	20	20	18		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	18001	18001	18001	18001
5°	17730	16454	17730	16454
10°	17379	15080	17379	15080
15°	16963	13800	16943	13800
20°	16434	12580	16413	12580
25°	15742	11421	15720	11421
30°	14869	10323	14841	10323
35°	13889	9278	13867	9278
40°	12936	8226	12905	8226
45°	11995	7105	11972	7105
50°	11174	5846	11149	5846
55°	10213	4388	10193	4388
60°	9346	3221	9335	3221
65°	8195	2425	8195	2425
70°	7036	1816	7049	1816
75°	5997	1307	6046	1307
80°	5989	836	5587	836
85°	7534	343	5628	343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.8	2.6
10°-20°	554.1	7.4
20°-30°	812.1	10.9
30°-40°	921.0	12.4
40°-50°	865.9	11.6
50°-60°	687.3	9.2
60°-70°	447.0	6.0
70°-80°	228.0	3.1
80°-90°	115.7	1.6
90°-100°	109.7	1.5
100°-110°	172.2	2.3
110°-120°	290.5	3.9
120°-130°	394.0	5.3
130°-140°	449.1	6.0
140°-150°	447.7	6.0
150°-160°	389.6	5.2
160°-170°	274.0	3.7
170°-180°	102.0	1.4
0°-30°	1563.1	21.0
0°-40°	2484.1	33.3
0°-60°	4037.3	54.1
0°-90°	4828.0	64.7
90°-120°	572.4	7.7
90°-150°	1863.3	25.0
90°-180°	2629.0	35.3
0°-180°	7457.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2090	2090	2090	2090	2090	
5°	2076	2070	2076	2070	2076	197
15°	1974	1963	1971	1963	1974	556
25°	1764	1763	1762	1763	1764	810
35°	1450	1501	1447	1501	1450	907
45°	1122	1167	1120	1167	1122	867
55°	815	710	814	710	815	733
65°	522	374	522	374	522	520
75°	274	186	276	186	274	300
85°	197	43	147	43	197	166
90°	210	2	95	2	210	116
95°	244	32	62	32	244	208
105°	339	153	16	153	339	360
115°	469	311	110	311	469	466
125°	587	487	268	487	587	524
135°	681	666	429	666	681	526
145°	748	832	577	832	748	471
155°	835	962	725	962	835	385
165°	913	1047	883	1047	913	259
175°	1078	1090	1055	1090	1078	100
180°	1088	1088	1088	1088	1088	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2090.4	2090.4	2090.4	2090.4	2090.4	2090.4	2090.4	2090.4	2090.4	2090.4	2090.4
2.5°	2087.1	2087.8	2087.8	2085.1	2083.4	2084.3	2087.8	2087.8	2087.9	2087.8	2087.8
5°	2076.1	2078.5	2077.6	2073.4	2070.0	2073.4	2076.8	2078.5	2076.1	2078.5	2076.8
7.5°	2062.6	2061.6	2061.6	2055.6	2053.1	2054.8	2060.8	2060.8	2062.6	2060.8	2060.8
10°	2036.2	2037.1	2033.8	2031.2	2028.7	2030.3	2032.9	2035.5	2036.2	2035.5	2032.9
12.5°	2008.3	2006.7	2005.0	2000.8	1995.8	2000.8	2005.0	2005.1	2006.7	2005.1	2005.0
15°	1973.6	1967.8	1968.6	1966.2	1962.8	1965.4	1967.9	1966.2	1971.2	1966.2	1967.9
17.5°	1929.6	1927.2	1925.6	1924.0	1918.9	1924.0	1924.8	1926.4	1927.2	1926.4	1924.8
20°	1884.0	1880.7	1877.4	1877.5	1872.5	1876.7	1876.6	1879.1	1881.6	1879.1	1876.6
22.5°	1826.6	1826.6	1825.8	1824.2	1819.2	1823.4	1825.1	1825.0	1825.0	1825.0	1825.1
25°	1764.1	1764.9	1767.5	1768.5	1762.6	1767.7	1765.9	1762.5	1761.7	1762.5	1765.9
27.5°	1692.2	1698.1	1706.7	1708.3	1705.2	1707.6	1705.1	1695.8	1689.9	1695.8	1705.1
30°	1615.3	1620.4	1639.0	1647.5	1637.6	1645.9	1636.6	1618.0	1612.2	1618.0	1636.6
32.5°	1537.5	1539.3	1562.1	1574.9	1573.2	1573.2	1559.7	1536.1	1534.4	1536.1	1559.7
35°	1449.7	1451.4	1476.8	1500.5	1500.6	1498.1	1474.4	1449.0	1447.4	1449.0	1474.4
37.5°	1362.7	1364.4	1391.5	1417.6	1422.8	1415.2	1389.1	1362.0	1360.4	1362.0	1389.1
40°	1284.9	1275.7	1298.5	1329.7	1345.8	1328.2	1295.3	1272.5	1281.8	1272.5	1295.3
42.5°	1198.7	1186.9	1197.9	1238.4	1258.0	1236.9	1195.6	1183.7	1195.6	1183.7	1195.6
45°	1121.8	1101.6	1104.9	1141.3	1166.8	1139.7	1101.9	1099.3	1119.6	1099.3	1101.9
47.5°	1044.1	1023.0	1012.8	1045.0	1077.1	1044.3	1009.8	1020.7	1041.8	1020.7	1009.8
50°	972.2	946.9	926.6	940.2	956.4	938.7	923.6	943.8	970.0	943.8	923.6
52.5°	895.4	874.2	843.9	845.5	833.8	844.0	841.6	871.2	893.1	871.2	841.6
55°	815.2	802.5	763.6	743.4	709.7	741.8	761.3	800.2	813.6	800.2	761.3
57.5°	746.7	732.3	685.8	642.0	598.9	640.5	683.5	730.0	745.2	730.0	683.5
60°	673.2	661.4	609.0	541.5	511.0	540.7	607.5	659.8	672.4	659.8	607.5
62.5°	597.2	588.7	531.3	454.4	437.6	453.6	529.7	587.2	596.5	587.2	529.7
65°	522.0	511.0	451.1	380.9	374.2	380.1	450.3	510.2	522.0	510.2	450.3
67.5°	453.5	436.6	380.9	317.6	316.7	317.6	380.1	435.9	453.5	435.9	380.1
70°	386.1	362.4	311.7	264.3	270.3	264.3	311.7	363.1	386.8	363.1	311.7
72.5°	324.4	296.5	251.6	215.4	223.0	214.6	251.6	297.3	325.9	297.3	251.6
75°	273.7	235.6	198.6	172.3	185.9	172.3	199.3	236.4	275.9	236.4	199.3
77.5°	239.2	196.4	153.7	132.6	148.6	132.6	154.5	194.2	236.2	194.2	154.5
80°	215.9	172.6	123.9	100.5	112.4	100.5	122.4	160.3	201.4	160.3	122.4
82.5°	204.8	162.4	110.3	72.6	77.7	72.6	101.1	134.7	175.7	134.7	101.1
85°	197.3	166.0	111.1	56.3	43.1	54.8	88.9	119.1	147.4	119.1	88.9
87.5°	201.2	177.5	119.8	56.0	12.7	45.3	76.2	103.8	122.2	103.8	76.2
90°	210.0	193.1	135.7	60.2	1.6	31.1	59.7	84.9	95.0	84.9	59.7
92.5°	226.9	213.5	153.9	71.4	13.1	18.4	48.8	71.5	76.5	71.5	48.8
95°	244.2	236.2	175.1	84.0	31.5	7.3	36.9	58.1	62.3	58.1	36.9
97.5°	266.2	258.9	193.6	109.1	55.4	10.9	24.0	47.8	51.2	47.8	24.0
100°	280.9	274.2	217.2	142.1	85.3	27.0	13.8	33.2	39.1	33.2	13.8
102.5°	311.9	298.4	242.8	173.6	116.8	49.3	14.0	22.2	26.4	22.2	14.0
105°	339.4	324.5	280.4	206.6	152.9	79.2	32.5	15.9	16.4	15.9	32.5
107.5°	367.3	358.0	314.1	240.4	191.2	113.8	58.6	32.6	23.6	32.6	58.6
110°	404.9	393.9	347.1	274.1	231.1	150.5	88.5	56.3	45.7	56.3	88.5



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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°	440.9	433.1	377.7	309.4	272.5	190.5	125.3	87.1	76.3	87.1	125.3
115°	469.2	464.6	413.9	343.2	310.9	236.6	166.9	123.1	110.2	123.1	166.9
117.5°	499.2	497.6	440.0	377.0	357.8	277.2	204.5	159.1	145.5	159.1	204.5
120°	536.8	529.8	476.1	410.8	401.5	320.2	245.8	200.6	186.8	200.6	245.8
122.5°	562.9	558.2	506.7	443.0	443.0	363.9	285.7	240.6	226.0	240.6	285.7
125°	586.6	584.2	529.8	475.2	487.4	404.7	330.3	284.2	268.2	284.2	330.3
127.5°	608.2	610.5	559.7	510.5	532.8	446.1	373.9	324.2	306.5	324.2	373.9
130°	626.6	634.2	588.2	543.6	575.7	492.2	413.1	363.3	351.8	363.3	413.1
132.5°	662.6	658.0	617.3	576.6	622.6	533.6	454.6	402.5	389.4	402.5	454.6
135°	681.0	682.6	642.6	605.0	665.7	575.1	493.7	442.4	429.3	442.4	493.7
137.5°	703.3	698.7	662.5	639.5	705.5	614.9	532.1	484.6	463.9	484.6	532.1
140°	719.4	718.6	688.6	670.2	748.4	654.0	571.3	522.9	503.8	522.9	571.3
142.5°	736.3	740.9	715.6	704.0	791.5	695.5	614.2	560.6	542.1	560.6	614.2
145°	747.8	757.8	741.6	746.1	832.2	741.6	651.1	596.5	576.6	596.5	651.1
147.5°	767.0	779.9	760.0	776.1	867.5	782.2	687.1	634.2	616.5	634.2	687.1
150°	793.1	799.1	786.8	818.3	903.5	828.3	724.7	670.2	652.6	670.2	724.7
152.5°	813.8	821.5	807.5	862.8	931.8	869.0	766.1	705.6	684.9	705.6	766.1
155°	835.2	838.3	828.3	906.6	961.8	909.6	799.1	744.7	724.8	744.7	799.1
157.5°	855.2	861.4	849.8	939.6	987.9	945.0	836.7	783.8	766.2	783.8	836.7
160°	876.6	875.8	882.0	977.9	1009.3	975.6	876.6	825.9	802.3	825.9	876.6
162.5°	879.0	892.7	925.8	1005.6	1030.9	1003.3	919.6	856.6	836.0	856.6	919.6
165°	912.7	925.0	975.7	1029.4	1047.0	1027.1	973.3	907.4	882.8	907.4	973.3
167.5°	947.2	974.9	1015.6	1056.2	1062.4	1049.3	1014.1	967.9	945.0	967.9	1014.1
170°	1003.9	1028.5	1049.3	1066.2	1074.7	1067.0	1039.3	1016.3	1000.8	1016.3	1039.3
172.5°	1049.2	1065.4	1073.9	1084.7	1079.2	1076.2	1062.4	1050.9	1042.3	1050.9	1062.4
175°	1077.6	1081.5	1089.2	1085.4	1090.1	1081.6	1082.4	1086.8	1054.6	1086.8	1082.4
177.5°	1087.5	1093.8	1090.9	1083.9	1084.7	1083.1	1086.2	1088.4	1082.9	1088.4	1086.2
180°	1088.4	1088.4	1088.4	1088.4	1088.4	1088.4	1088.4	1088.4	1088.4	1088.4	1088.4



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CATALOG NUMBER: MWL-3-30-57-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2090.4	2090.4	2090.4	2090.4	2090.4	2090.4
2.5°	2084.3	2083.4	2085.1	2087.8	2087.8	2087.1
5°	2073.4	2070.0	2073.4	2077.6	2078.5	2076.1
7.5°	2054.8	2053.1	2055.6	2061.6	2061.6	2062.6
10°	2030.3	2028.7	2031.2	2033.8	2037.1	2036.2
12.5°	2000.8	1995.8	2000.8	2005.0	2006.7	2008.3
15°	1965.4	1962.8	1966.2	1968.6	1967.8	1973.6
17.5°	1924.0	1918.9	1924.0	1925.6	1927.2	1929.6
20°	1876.7	1872.5	1877.5	1877.4	1880.7	1884.0
22.5°	1823.4	1819.2	1824.2	1825.8	1826.6	1826.6
25°	1767.7	1762.6	1768.5	1767.5	1764.9	1764.1
27.5°	1707.6	1705.2	1708.3	1706.7	1698.1	1692.2
30°	1645.9	1637.6	1647.5	1639.0	1620.4	1615.3
32.5°	1573.2	1573.2	1574.9	1562.1	1539.3	1537.5
35°	1498.1	1500.6	1500.5	1476.8	1451.4	1449.7
37.5°	1415.2	1422.8	1417.6	1391.5	1364.4	1362.7
40°	1328.2	1345.8	1329.7	1298.5	1275.7	1284.9
42.5°	1236.9	1258.0	1238.4	1197.9	1186.9	1198.7
45°	1139.7	1166.8	1141.3	1104.9	1101.6	1121.8
47.5°	1044.3	1077.1	1045.0	1012.8	1023.0	1044.1
50°	938.7	956.4	940.2	926.6	946.9	972.2
52.5°	844.0	833.8	845.5	843.9	874.2	895.4
55°	741.8	709.7	743.4	763.6	802.5	815.2
57.5°	640.5	598.9	642.0	685.8	732.3	746.7
60°	540.7	511.0	541.5	609.0	661.4	673.2
62.5°	453.6	437.6	454.4	531.3	588.7	597.2
65°	380.1	374.2	380.9	451.1	511.0	522.0
67.5°	317.6	316.7	317.6	380.9	436.6	453.5
70°	264.3	270.3	264.3	311.7	362.4	386.1
72.5°	214.6	223.0	215.4	251.6	296.5	324.4
75°	172.3	185.9	172.3	198.6	235.6	273.7
77.5°	132.6	148.6	132.6	153.7	196.4	239.2
80°	100.5	112.4	100.5	123.9	172.6	215.9
82.5°	72.6	77.7	72.6	110.3	162.4	204.8
85°	54.8	43.1	56.3	111.1	166.0	197.3
87.5°	45.3	12.7	56.0	119.8	177.5	201.2
90°	31.1	1.6	60.2	135.7	193.1	210.0
92.5°	18.4	13.1	71.4	153.9	213.5	226.9
95°	7.3	31.5	84.0	175.1	236.2	244.2
97.5°	10.9	55.4	109.1	193.6	258.9	266.2
100°	27.0	85.3	142.1	217.2	274.2	280.9
102.5°	49.3	116.8	173.6	242.8	298.4	311.9
105°	79.2	152.9	206.6	280.4	324.5	339.4
107.5°	113.8	191.2	240.4	314.1	358.0	367.3
110°	150.5	231.1	274.1	347.1	393.9	404.9



TEST NUMBER: P392589

CATALOG NUMBER: MWL-3-30-57-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	190.5	272.5	309.4	377.7	433.1	440.9
115°	236.6	310.9	343.2	413.9	464.6	469.2
117.5°	277.2	357.8	377.0	440.0	497.6	499.2
120°	320.2	401.5	410.8	476.1	529.8	536.8
122.5°	363.9	443.0	443.0	506.7	558.2	562.9
125°	404.7	487.4	475.2	529.8	584.2	586.6
127.5°	446.1	532.8	510.5	559.7	610.5	608.2
130°	492.2	575.7	543.6	588.2	634.2	626.6
132.5°	533.6	622.6	576.6	617.3	658.0	662.6
135°	575.1	665.7	605.0	642.6	682.6	681.0
137.5°	614.9	705.5	639.5	662.5	698.7	703.3
140°	654.0	748.4	670.2	688.6	718.6	719.4
142.5°	695.5	791.5	704.0	715.6	740.9	736.3
145°	741.6	832.2	746.1	741.6	757.8	747.8
147.5°	782.2	867.5	776.1	760.0	779.9	767.0
150°	828.3	903.5	818.3	786.8	799.1	793.1
152.5°	869.0	931.8	862.8	807.5	821.5	813.8
155°	909.6	961.8	906.6	828.3	838.3	835.2
157.5°	945.0	987.9	939.6	849.8	861.4	855.2
160°	975.6	1009.3	977.9	882.0	875.8	876.6
162.5°	1003.3	1030.9	1005.6	925.8	892.7	879.0
165°	1027.1	1047.0	1029.4	975.7	925.0	912.7
167.5°	1049.3	1062.4	1056.2	1015.6	974.9	947.2
170°	1067.0	1074.7	1066.2	1049.3	1028.5	1003.9
172.5°	1076.2	1079.2	1084.7	1073.9	1065.4	1049.2
175°	1081.6	1090.1	1085.4	1089.2	1081.5	1077.6
177.5°	1083.1	1084.7	1083.9	1090.9	1093.8	1087.5
180°	1088.4	1088.4	1088.4	1088.4	1088.4	1088.4

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