

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-L935-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-L935-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

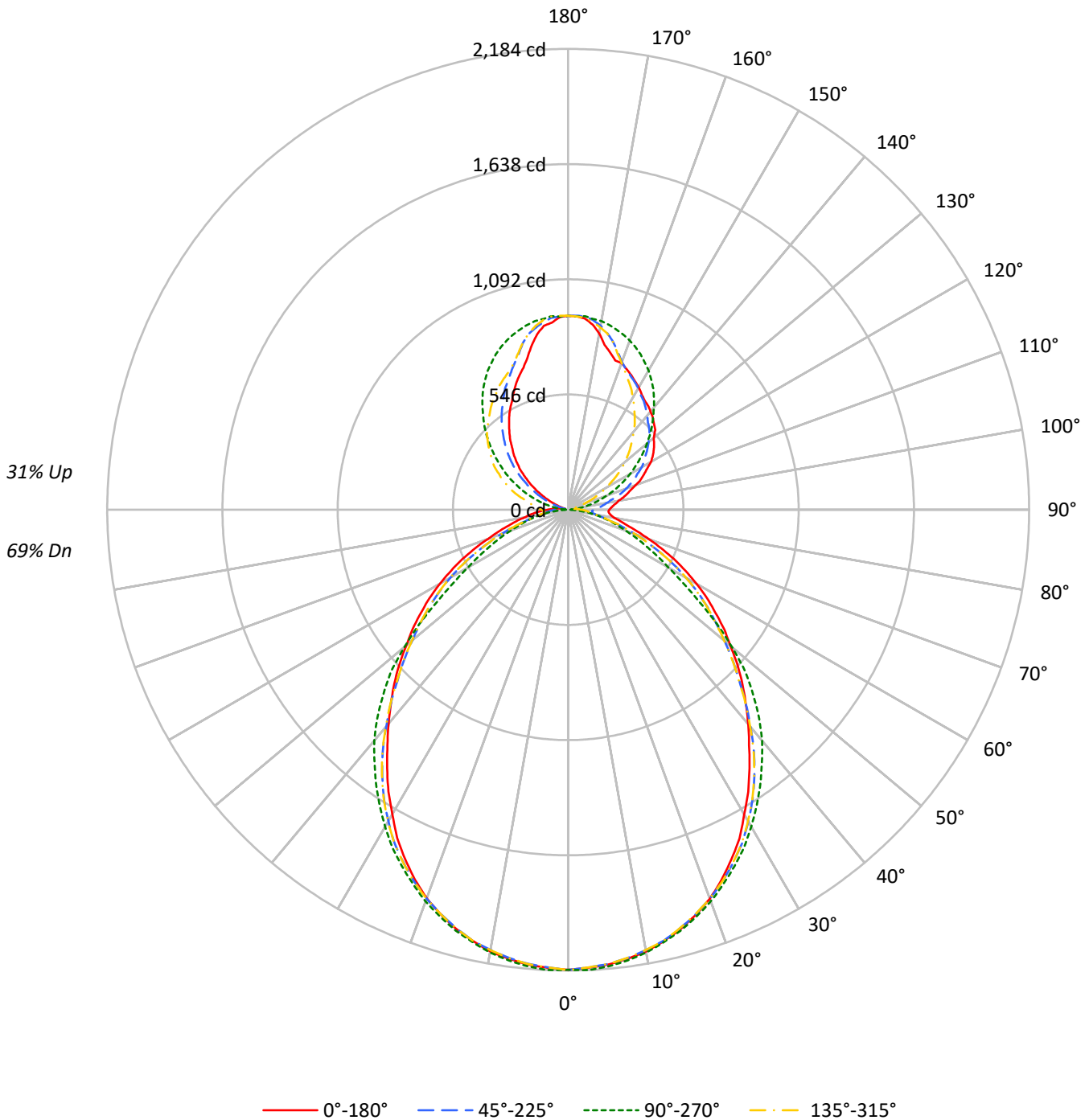
Lumens per Lamp: N/A
Luminaire Lumens: 7293.3 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 88.779
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: P392650
CATALOG NUMBER: MWL-4-26-60-UNV-L935-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	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°	14083	14083	14083	14083
5°	13904	12953	13904	12953
10°	13690	11878	13690	11878
15°	13382	10884	13369	10884
20°	12989	9953	12975	9953
25°	12432	9059	12419	9059
30°	11735	8199	11717	8199
35°	11000	7358	10987	7358
40°	10285	6554	10265	6554
45°	9650	5661	9634	5661
50°	8957	4642	8939	4642
55°	8344	3497	8331	3497
60°	7676	2596	7668	2596
65°	6899	1968	6899	1968
70°	5933	1455	5943	1455
75°	5204	1059	5239	1059
80°	5188	685	4898	685
85°	6589	308	5162	308



TEST NUMBER: P392650

CATALOG NUMBER: MWL-4-26-60-UNV-L935-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.6	2.8
10°-20°	579.8	7.9
20°-30°	850.1	11.7
30°-40°	962.3	13.2
40°-50°	906.5	12.4
50°-60°	724.8	9.9
60°-70°	475.9	6.5
70°-80°	243.0	3.3
80°-90°	118.6	1.6
90°-100°	98.8	1.4
100°-110°	146.5	2.0
110°-120°	245.2	3.4
120°-130°	332.7	4.6
130°-140°	379.2	5.2
140°-150°	378.0	5.2
150°-160°	328.9	4.5
160°-170°	231.3	3.2
170°-180°	86.1	1.2
0°-30°	1635.4	22.4
0°-40°	2597.7	35.6
0°-60°	4229.0	58.0
0°-90°	5066.4	69.5
90°-120°	490.6	6.7
90°-150°	1580.5	21.7
90°-180°	2227.0	30.5
0°-180°	7293.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2181	2181	2181	2181	2181	
5°	2164	2173	2164	2173	2164	205
15°	2057	2064	2055	2064	2057	579
25°	1829	1864	1827	1864	1829	841
35°	1497	1587	1495	1587	1497	936
45°	1167	1240	1165	1240	1167	899
55°	851	754	850	754	851	763
65°	552	405	552	405	552	546
75°	290	201	292	201	290	317
85°	195	52	153	52	195	165
90°	194	2	97	2	194	107
95°	213	27	60	27	213	181
105°	288	129	16	129	288	305
115°	396	263	93	263	396	393
125°	495	412	226	412	495	442
135°	574	561	362	561	574	443
145°	632	702	487	702	632	398
155°	705	812	612	812	705	325
165°	770	883	745	883	770	218
175°	909	920	890	920	909	85
180°	919	919	919	919	919	



TEST NUMBER: P392650

CATALOG NUMBER: MWL-4-26-60-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2180.6	2180.6	2180.6	2180.6	2180.6	2180.6	2180.6	2180.6	2180.6	2180.6	2180.6
2.5°	2172.8	2178.3	2171.1	2182.8	2183.7	2182.1	2171.1	2178.3	2173.4	2178.3	2171.1
5°	2164.3	2169.0	2161.7	2171.9	2172.8	2171.9	2161.1	2169.0	2164.3	2169.0	2161.1
7.5°	2147.1	2151.7	2143.3	2155.9	2155.0	2155.2	2142.7	2151.2	2147.1	2151.2	2142.7
10°	2125.8	2124.6	2119.5	2130.6	2130.6	2130.0	2118.9	2123.3	2125.8	2123.3	2118.9
12.5°	2093.9	2094.9	2091.8	2100.3	2098.7	2100.3	2091.8	2093.7	2092.6	2093.7	2091.8
15°	2057.3	2055.1	2052.8	2064.7	2064.0	2064.0	2052.1	2053.8	2055.3	2053.8	2052.1
17.5°	2012.4	2012.7	2009.5	2020.7	2021.6	2020.7	2008.8	2012.1	2010.4	2012.1	2008.8
20°	1961.5	1961.6	1962.1	1974.1	1975.2	1973.5	1961.4	1960.3	1959.5	1960.3	1961.4
22.5°	1898.9	1905.6	1907.8	1922.4	1920.9	1921.8	1907.1	1904.4	1897.6	1904.4	1907.1
25°	1829.3	1835.3	1847.3	1864.7	1864.1	1864.1	1846.1	1833.3	1827.4	1833.3	1846.1
27.5°	1756.4	1764.9	1782.8	1804.3	1803.9	1803.6	1781.6	1762.9	1754.4	1762.9	1781.6
30°	1668.2	1679.2	1706.4	1734.5	1734.3	1733.2	1704.4	1677.3	1665.7	1677.3	1704.4
32.5°	1586.8	1595.2	1626.7	1663.3	1662.9	1662.0	1624.7	1592.7	1584.3	1592.7	1624.7
35°	1497.0	1505.6	1537.8	1583.6	1586.8	1581.7	1535.9	1503.7	1495.2	1503.7	1535.9
37.5°	1408.0	1413.1	1445.4	1499.6	1507.7	1497.7	1443.5	1411.3	1406.2	1411.3	1443.5
40°	1326.6	1321.5	1343.5	1406.6	1429.7	1405.3	1341.0	1318.9	1324.0	1318.9	1341.0
42.5°	1245.2	1235.0	1245.4	1309.0	1338.1	1307.8	1243.5	1232.5	1242.7	1232.5	1243.5
45°	1166.6	1144.6	1145.4	1205.6	1239.7	1204.3	1142.7	1142.6	1164.7	1142.6	1142.7
47.5°	1086.9	1065.7	1057.2	1102.3	1139.6	1101.8	1054.6	1063.7	1084.9	1063.7	1054.6
50°	1002.1	988.5	966.4	997.2	1012.7	995.9	963.8	985.9	1000.1	985.9	963.8
52.5°	931.7	914.7	882.7	894.6	887.1	893.3	880.7	912.1	929.7	912.1	880.7
55°	851.3	841.9	805.5	787.9	754.2	786.5	803.5	840.0	850.0	840.0	803.5
57.5°	780.1	772.4	725.8	686.2	642.3	684.8	723.8	770.5	778.8	770.5	723.8
60°	701.5	701.5	645.4	582.0	549.0	581.3	644.1	700.1	700.8	700.1	644.1
62.5°	625.9	623.4	564.1	488.7	474.5	488.1	562.7	622.1	625.3	622.1	562.7
65°	552.3	540.4	482.8	409.0	405.0	408.3	482.1	539.8	552.3	539.8	482.1
67.5°	476.0	461.6	404.8	339.6	347.3	339.6	404.1	460.9	476.0	460.9	404.1
70°	404.1	383.7	337.1	280.3	288.7	280.3	337.1	384.4	404.8	384.4	337.1
72.5°	344.7	311.7	271.0	229.4	242.4	228.8	271.0	312.4	346.1	312.4	271.0
75°	289.6	252.3	210.1	183.9	200.8	183.9	210.7	253.0	291.6	253.0	210.7
77.5°	254.0	209.2	164.4	142.3	160.9	142.3	165.0	207.2	251.5	207.2	165.0
80°	221.9	180.9	132.4	105.9	122.8	105.9	131.0	170.5	209.5	170.5	131.0
82.5°	205.1	167.1	115.5	76.2	84.7	76.2	107.8	143.8	180.5	143.8	107.8
85°	194.8	163.7	112.8	60.3	51.6	58.9	94.1	124.2	152.6	124.2	94.1
87.5°	190.9	169.0	114.7	58.1	17.0	49.0	77.7	106.7	124.3	106.7	77.7
90°	194.2	177.4	125.2	58.1	1.6	33.5	61.2	86.2	96.9	86.2	61.2
92.5°	203.1	191.0	138.2	63.8	11.2	19.1	49.4	71.4	76.2	71.4	49.4
95°	213.1	209.3	153.3	73.3	26.7	8.5	36.8	58.9	59.6	58.9	36.8
97.5°	228.1	224.7	169.0	92.3	46.9	9.5	26.0	46.8	46.8	46.8	26.0
100°	241.4	239.1	186.3	120.2	72.2	23.0	14.7	35.7	37.4	35.7	14.7
102.5°	266.5	256.1	206.1	146.7	98.8	41.9	13.1	23.0	25.5	23.0	13.1
105°	288.2	275.7	237.0	174.7	129.3	67.0	27.8	15.4	15.5	15.4	27.8
107.5°	310.0	301.9	265.4	203.1	161.6	96.2	49.8	27.4	20.0	27.4	49.8
110°	340.8	333.0	293.3	231.6	195.3	127.3	75.1	48.1	37.7	48.1	75.1



TEST NUMBER: P392650

CATALOG NUMBER: MWL-4-26-60-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	371.9	366.0	319.2	261.4	230.2	160.9	106.1	74.0	64.3	74.0	106.1
115°	395.8	391.8	349.0	289.2	262.7	199.2	140.5	103.5	92.8	103.5	140.5
117.5°	421.1	419.6	371.0	318.5	302.4	234.4	172.2	134.0	122.5	134.0	172.2
120°	452.8	447.6	401.5	347.1	339.3	270.6	207.2	169.8	157.5	169.8	207.2
122.5°	474.9	471.6	427.3	374.2	374.2	307.5	240.8	203.5	190.5	203.5	240.8
125°	495.0	493.6	447.6	401.5	411.8	341.9	279.2	240.4	226.2	240.4	279.2
127.5°	513.0	515.0	472.9	431.3	450.0	376.9	316.2	273.5	258.6	273.5	316.2
130°	528.6	535.0	496.9	458.5	486.2	415.1	349.2	306.5	296.8	306.5	349.2
132.5°	559.1	555.1	521.5	487.1	525.1	450.9	384.2	339.5	328.4	339.5	384.2
135°	574.5	575.8	542.9	511.1	561.4	485.8	417.1	373.1	362.2	373.1	417.1
137.5°	593.3	589.4	559.6	540.2	595.1	519.6	449.6	408.8	391.3	408.8	449.6
140°	607.0	606.3	581.7	566.1	631.3	552.5	482.6	441.2	425.0	441.2	482.6
142.5°	621.2	625.9	603.7	594.6	667.6	587.5	518.3	473.7	457.3	473.7	518.3
145°	631.7	640.1	625.7	630.3	702.0	626.4	549.3	504.2	487.3	504.2	549.3
147.5°	648.0	658.9	641.9	655.5	731.7	660.6	580.4	535.9	520.9	535.9	580.4
150°	669.1	674.3	664.5	690.5	762.1	698.9	612.1	565.5	550.5	565.5	612.1
152.5°	686.6	693.0	682.0	728.6	786.1	733.8	647.1	595.2	577.8	595.2	647.1
155°	704.7	707.3	699.6	765.6	812.2	768.2	674.9	628.4	611.5	628.4	674.9
157.5°	721.6	726.7	717.6	793.4	834.3	797.9	706.7	661.3	646.4	661.3	706.7
160°	739.7	739.7	744.9	825.8	852.4	823.9	740.4	697.6	676.9	697.6	740.4
162.5°	741.7	753.9	781.7	848.5	869.9	846.5	776.5	723.5	705.3	723.5	776.5
165°	770.1	781.2	823.2	868.6	883.4	866.6	821.2	766.3	744.9	766.3	821.2
167.5°	799.9	823.2	856.9	892.1	897.2	886.2	855.6	817.3	797.9	817.3	855.6
170°	847.6	868.6	885.3	899.7	907.6	900.3	877.0	858.2	845.0	858.2	877.0
172.5°	884.9	899.7	906.0	916.0	911.5	908.9	896.4	887.3	879.2	887.3	896.4
175°	909.0	913.2	919.1	916.7	920.5	913.5	913.2	917.8	889.6	917.8	913.2
177.5°	917.3	923.6	920.3	915.4	916.0	914.7	916.5	919.1	913.5	919.1	916.5
180°	919.1	919.1	919.1	919.1	919.1	919.1	919.1	919.1	919.1	919.1	919.1



TEST NUMBER: P392650

CATALOG NUMBER: MWL-4-26-60-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2180.6	2180.6	2180.6	2180.6	2180.6	2180.6
2.5°	2182.1	2183.7	2182.8	2171.1	2178.3	2172.8
5°	2171.9	2172.8	2171.9	2161.7	2169.0	2164.3
7.5°	2155.2	2155.0	2155.9	2143.3	2151.7	2147.1
10°	2130.0	2130.6	2130.6	2119.5	2124.6	2125.8
12.5°	2100.3	2098.7	2100.3	2091.8	2094.9	2093.9
15°	2064.0	2064.0	2064.7	2052.8	2055.1	2057.3
17.5°	2020.7	2021.6	2020.7	2009.5	2012.7	2012.4
20°	1973.5	1975.2	1974.1	1962.1	1961.6	1961.5
22.5°	1921.8	1920.9	1922.4	1907.8	1905.6	1898.9
25°	1864.1	1864.1	1864.7	1847.3	1835.3	1829.3
27.5°	1803.6	1803.9	1804.3	1782.8	1764.9	1756.4
30°	1733.2	1734.3	1734.5	1706.4	1679.2	1668.2
32.5°	1662.0	1662.9	1663.3	1626.7	1595.2	1586.8
35°	1581.7	1586.8	1583.6	1537.8	1505.6	1497.0
37.5°	1497.7	1507.7	1499.6	1445.4	1413.1	1408.0
40°	1405.3	1429.7	1406.6	1343.5	1321.5	1326.6
42.5°	1307.8	1338.1	1309.0	1245.4	1235.0	1245.2
45°	1204.3	1239.7	1205.6	1145.4	1144.6	1166.6
47.5°	1101.8	1139.6	1102.3	1057.2	1065.7	1086.9
50°	995.9	1012.7	997.2	966.4	988.5	1002.1
52.5°	893.3	887.1	894.6	882.7	914.7	931.7
55°	786.5	754.2	787.9	805.5	841.9	851.3
57.5°	684.8	642.3	686.2	725.8	772.4	780.1
60°	581.3	549.0	582.0	645.4	701.5	701.5
62.5°	488.1	474.5	488.7	564.1	623.4	625.9
65°	408.3	405.0	409.0	482.8	540.4	552.3
67.5°	339.6	347.3	339.6	404.8	461.6	476.0
70°	280.3	288.7	280.3	337.1	383.7	404.1
72.5°	228.8	242.4	229.4	271.0	311.7	344.7
75°	183.9	200.8	183.9	210.1	252.3	289.6
77.5°	142.3	160.9	142.3	164.4	209.2	254.0
80°	105.9	122.8	105.9	132.4	180.9	221.9
82.5°	76.2	84.7	76.2	115.5	167.1	205.1
85°	58.9	51.6	60.3	112.8	163.7	194.8
87.5°	49.0	17.0	58.1	114.7	169.0	190.9
90°	33.5	1.6	58.1	125.2	177.4	194.2
92.5°	19.1	11.2	63.8	138.2	191.0	203.1
95°	8.5	26.7	73.3	153.3	209.3	213.1
97.5°	9.5	46.9	92.3	169.0	224.7	228.1
100°	23.0	72.2	120.2	186.3	239.1	241.4
102.5°	41.9	98.8	146.7	206.1	256.1	266.5
105°	67.0	129.3	174.7	237.0	275.7	288.2
107.5°	96.2	161.6	203.1	265.4	301.9	310.0
110°	127.3	195.3	231.6	293.3	333.0	340.8



TEST NUMBER: P392650

CATALOG NUMBER: MWL-4-26-60-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	160.9	230.2	261.4	319.2	366.0	371.9
115°	199.2	262.7	289.2	349.0	391.8	395.8
117.5°	234.4	302.4	318.5	371.0	419.6	421.1
120°	270.6	339.3	347.1	401.5	447.6	452.8
122.5°	307.5	374.2	374.2	427.3	471.6	474.9
125°	341.9	411.8	401.5	447.6	493.6	495.0
127.5°	376.9	450.0	431.3	472.9	515.0	513.0
130°	415.1	486.2	458.5	496.9	535.0	528.6
132.5°	450.9	525.1	487.1	521.5	555.1	559.1
135°	485.8	561.4	511.1	542.9	575.8	574.5
137.5°	519.6	595.1	540.2	559.6	589.4	593.3
140°	552.5	631.3	566.1	581.7	606.3	607.0
142.5°	587.5	667.6	594.6	603.7	625.9	621.2
145°	626.4	702.0	630.3	625.7	640.1	631.7
147.5°	660.6	731.7	655.5	641.9	658.9	648.0
150°	698.9	762.1	690.5	664.5	674.3	669.1
152.5°	733.8	786.1	728.6	682.0	693.0	686.6
155°	768.2	812.2	765.6	699.6	707.3	704.7
157.5°	797.9	834.3	793.4	717.6	726.7	721.6
160°	823.9	852.4	825.8	744.9	739.7	739.7
162.5°	846.5	869.9	848.5	781.7	753.9	741.7
165°	866.6	883.4	868.6	823.2	781.2	770.1
167.5°	886.2	897.2	892.1	856.9	823.2	799.9
170°	900.3	907.6	899.7	885.3	868.6	847.6
172.5°	908.9	911.5	916.0	906.0	899.7	884.9
175°	913.5	920.5	916.7	919.1	913.2	909.0
177.5°	914.7	916.0	915.4	920.3	923.6	917.3
180°	919.1	919.1	919.1	919.1	919.1	919.1

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