

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

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6030.0 lumens
Efficiency: N/A
Efficacy: 86.8 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

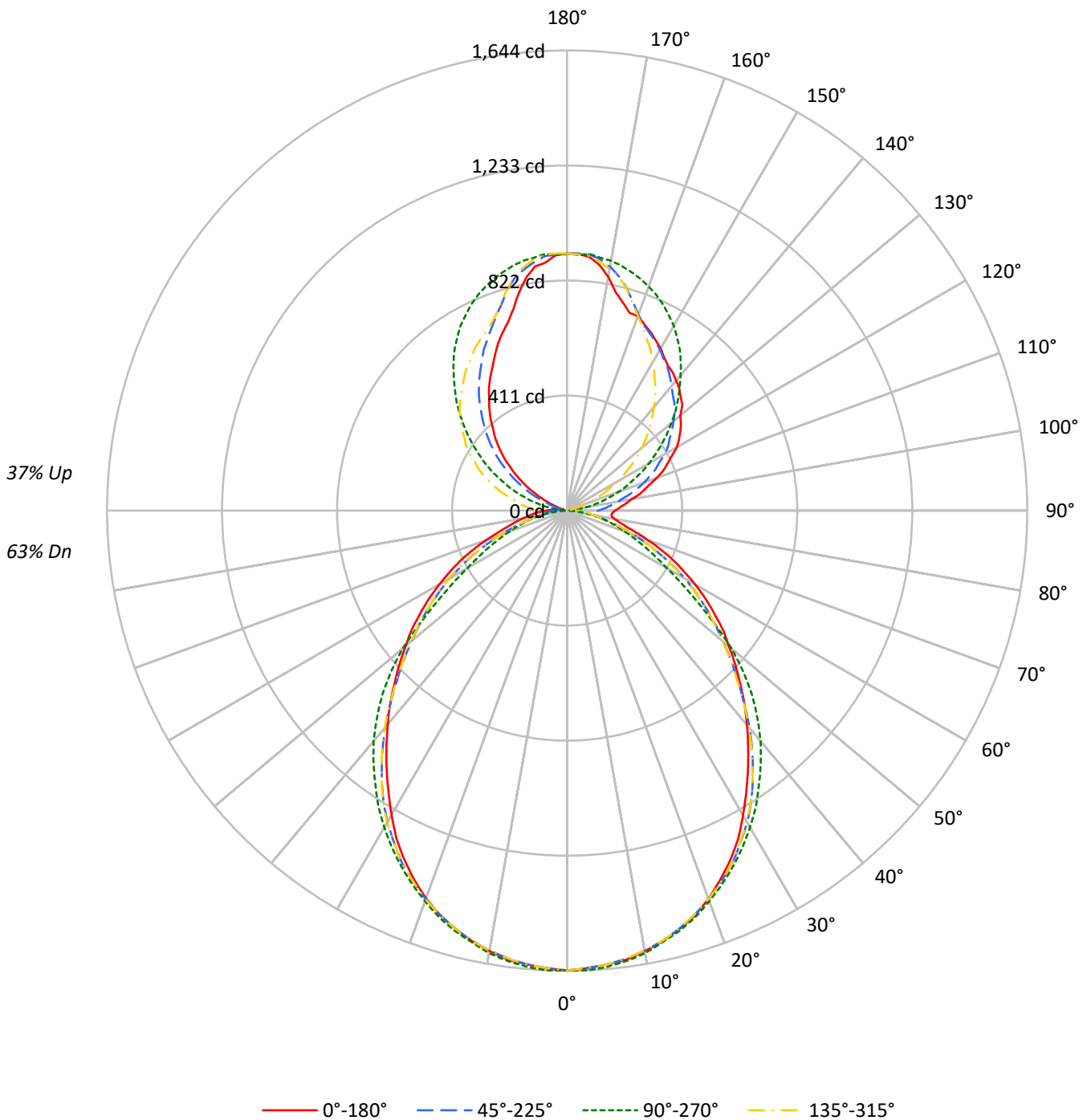
Input Watts (W): 69.488
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: MWL-4-26-45-UNV-L935-EDD

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	38	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°	10611	10611	10611	10611
5°	10456	9754	10456	9754
10°	10287	8952	10287	8952
15°	10067	8192	10055	8192
20°	9777	7483	9764	7483
25°	9366	6817	9353	6817
30°	8842	6179	8824	6179
35°	8278	5541	8265	5541
40°	7748	4929	7728	4929
45°	7230	4271	7214	4271
50°	6743	3511	6726	3511
55°	6291	2625	6279	2625
60°	5773	1942	5766	1942
65°	5225	1478	5225	1478
70°	4488	1105	4498	1105
75°	3877	799	3913	799
80°	4017	510	3731	510
85°	5382	237	3958	237



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.8	2.6
10°-20°	436.5	7.2
20°-30°	639.9	10.6
30°-40°	724.3	12.0
40°-50°	682.2	11.3
50°-60°	544.8	9.0
60°-70°	358.0	5.9
70°-80°	183.1	3.0
80°-90°	93.2	1.5
90°-100°	89.8	1.5
100°-110°	144.9	2.4
110°-120°	244.7	4.1
120°-130°	332.1	5.5
130°-140°	378.5	6.3
140°-150°	377.4	6.3
150°-160°	328.6	5.4
160°-170°	231.1	3.8
170°-180°	86.1	1.4
0°-30°	1231.2	20.4
0°-40°	1955.5	32.4
0°-60°	3182.5	52.8
0°-90°	3816.8	63.3
90°-120°	479.4	8.0
90°-150°	1567.4	26.0
90°-180°	2213.0	36.7
0°-180°	6030.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1643	1643	1643	1643	1643	
5°	1628	1636	1628	1636	1628	155
15°	1548	1554	1546	1554	1548	436
25°	1378	1403	1376	1403	1378	633
35°	1126	1195	1125	1195	1126	705
45°	874	935	872	935	874	676
55°	642	566	641	566	642	575
65°	418	304	418	304	418	412
75°	216	152	218	152	216	238
85°	159	40	117	40	159	133
90°	171	2	74	2	171	95
95°	198	27	44	27	198	170
105°	286	128	13	128	286	302
115°	395	263	92	263	395	392
125°	494	411	225	411	494	441
135°	574	561	361	561	574	443
145°	630	702	486	702	630	397
155°	704	811	611	811	704	325
165°	769	883	744	883	769	218
175°	909	920	890	920	909	85
180°	918	918	918	918	918	



TEST NUMBER: P392647

CATALOG NUMBER: MWL-4-26-45-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1643.0	1643.0	1643.0	1643.0	1643.0	1643.0	1643.0	1643.0	1643.0	1643.0	1643.0
2.5°	1636.1	1640.7	1636.1	1645.2	1644.4	1644.6	1636.1	1640.7	1636.7	1640.7	1636.1
5°	1627.6	1632.3	1628.5	1635.2	1636.1	1635.2	1627.8	1632.3	1627.6	1632.3	1627.8
7.5°	1618.0	1618.5	1614.2	1623.4	1623.4	1622.7	1613.6	1617.9	1618.0	1617.9	1613.6
10°	1597.5	1600.6	1596.4	1605.7	1605.7	1605.2	1595.8	1599.4	1597.5	1599.4	1595.8
12.5°	1575.8	1576.9	1574.6	1582.2	1579.0	1582.2	1574.6	1575.7	1574.6	1575.7	1574.6
15°	1547.7	1547.2	1546.6	1555.1	1553.6	1554.4	1546.0	1546.0	1545.8	1546.0	1546.0
17.5°	1516.4	1515.9	1513.5	1522.2	1523.0	1522.2	1512.8	1515.3	1514.4	1515.3	1512.8
20°	1476.5	1475.8	1477.9	1484.9	1485.1	1484.3	1477.2	1474.5	1474.5	1474.5	1477.2
22.5°	1428.3	1433.4	1435.5	1445.9	1445.3	1445.3	1434.8	1432.2	1427.1	1432.2	1434.8
25°	1378.2	1384.2	1393.7	1402.6	1402.8	1402.0	1392.5	1382.3	1376.3	1382.3	1392.5
27.5°	1323.2	1329.9	1339.4	1357.5	1356.2	1356.8	1338.2	1328.0	1321.2	1328.0	1338.2
30°	1257.0	1267.2	1286.7	1305.5	1307.0	1304.2	1284.7	1265.2	1254.4	1265.2	1284.7
32.5°	1190.8	1201.0	1224.7	1249.5	1254.1	1248.3	1222.8	1198.5	1188.3	1198.5	1222.8
35°	1126.5	1133.3	1157.1	1191.8	1195.0	1189.9	1155.3	1131.4	1124.7	1131.4	1155.3
37.5°	1062.1	1063.8	1086.6	1128.2	1136.3	1126.3	1084.8	1061.9	1060.2	1061.9	1084.8
40°	999.3	995.1	1014.6	1057.2	1075.3	1056.0	1012.0	992.5	996.8	992.5	1012.0
42.5°	938.2	928.9	936.0	986.9	1005.7	985.6	934.0	926.4	935.7	926.4	934.0
45°	874.0	863.1	863.1	908.8	935.3	907.6	860.4	861.1	872.1	861.1	860.4
47.5°	814.7	801.1	795.2	833.6	854.7	833.0	792.6	799.1	812.8	799.1	792.6
50°	754.4	743.5	726.5	749.5	765.9	748.3	723.9	740.8	752.5	740.8	723.9
52.5°	702.7	687.5	664.8	672.4	662.4	671.1	662.8	684.9	700.8	684.9	662.8
55°	641.8	633.4	604.5	596.3	566.0	595.0	602.6	631.4	640.6	631.4	602.6
57.5°	585.9	580.8	544.3	513.2	484.5	511.9	542.3	578.8	584.6	578.8	542.3
60°	527.6	525.1	486.1	438.7	410.7	438.0	484.7	523.7	526.9	523.7	484.7
62.5°	470.8	467.4	424.1	367.5	355.8	366.8	422.8	466.1	470.1	466.1	422.8
65°	418.3	409.0	364.1	306.4	304.1	305.7	363.5	408.3	418.3	408.3	363.5
67.5°	361.6	347.1	304.7	255.7	259.9	255.7	304.1	346.5	361.6	346.5	304.1
70°	305.7	287.1	253.2	212.4	219.3	212.4	253.2	287.8	306.4	287.8	253.2
72.5°	255.7	234.5	204.0	173.4	183.9	172.8	204.0	235.1	257.1	235.1	204.0
75°	215.8	191.2	160.2	138.1	151.6	138.1	160.8	191.9	217.8	191.9	160.8
77.5°	190.4	157.4	122.8	106.7	121.9	106.7	123.4	155.5	187.9	155.5	123.4
80°	171.8	140.2	99.3	79.6	91.5	79.6	97.9	129.9	159.6	129.9	97.9
82.5°	161.0	130.7	89.2	56.7	64.3	56.7	81.5	107.3	136.4	107.3	81.5
85°	159.1	134.9	90.8	45.9	39.7	44.5	72.0	95.4	117.0	95.4	72.0
87.5°	162.9	143.5	96.8	46.3	13.5	37.1	59.9	81.4	96.3	81.4	59.9
90°	171.2	157.0	110.8	49.6	1.6	25.0	46.8	65.8	74.0	65.8	46.8
92.5°	184.5	174.1	126.2	60.4	11.2	15.7	37.5	54.4	57.5	54.4	37.5
95°	197.9	194.8	144.8	72.4	26.7	7.7	28.2	44.5	44.4	44.5	28.2
97.5°	216.2	213.7	163.1	91.6	46.9	8.6	20.0	35.7	34.9	35.7	20.0
100°	232.9	231.4	183.8	119.3	71.4	22.3	12.2	28.0	28.9	28.0	12.2
102.5°	262.2	251.9	205.3	145.9	97.9	41.0	12.3	18.7	21.3	18.7	12.3
105°	285.6	274.1	236.1	173.8	128.4	66.3	27.0	13.7	12.9	13.7	27.0
107.5°	308.4	301.1	264.7	203.1	160.8	96.3	48.9	26.6	18.3	26.6	48.9
110°	339.9	332.2	292.5	231.6	195.4	127.3	74.2	47.2	36.9	47.2	74.2



TEST NUMBER: P392647

CATALOG NUMBER: MWL-4-26-45-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	371.0	365.2	318.4	261.4	230.2	160.9	105.4	73.1	63.4	73.1	105.4
115°	394.9	391.8	348.2	289.2	262.7	199.2	139.6	103.5	91.9	103.5	139.6
117.5°	420.2	419.6	370.2	317.7	301.5	233.6	171.4	134.0	121.7	134.0	171.4
120°	452.0	446.8	401.5	346.2	338.5	269.7	207.2	169.0	156.6	169.0	207.2
122.5°	474.0	470.8	427.4	373.5	373.5	306.7	240.8	202.6	189.8	202.6	240.8
125°	494.1	492.7	446.8	400.6	411.0	341.0	278.5	239.6	225.3	239.6	278.5
127.5°	512.1	514.1	472.1	431.3	449.1	376.9	315.3	272.6	257.7	272.6	315.3
130°	527.7	534.2	496.1	458.5	485.5	415.1	348.4	305.6	295.9	305.6	348.4
132.5°	558.2	554.3	520.7	486.3	524.3	450.0	383.4	338.7	327.6	338.7	383.4
135°	573.7	575.0	542.0	510.3	560.6	485.0	416.3	372.3	361.3	372.3	416.3
137.5°	592.5	588.6	558.8	539.4	594.3	518.7	448.7	408.0	390.5	408.0	448.7
140°	606.1	605.5	580.9	565.4	630.5	551.7	481.8	440.3	424.1	440.3	481.8
142.5°	620.4	624.2	602.8	593.8	666.8	586.7	517.4	472.1	456.6	472.1	517.4
145°	630.1	638.5	624.9	629.5	702.0	625.6	548.5	502.5	485.6	502.5	548.5
147.5°	646.2	657.3	641.0	654.7	730.9	659.9	579.6	534.2	519.3	534.2	579.6
150°	668.3	673.5	663.7	689.7	762.2	698.1	611.3	564.7	549.8	564.7	611.3
152.5°	685.7	692.2	681.2	727.9	786.1	733.0	646.2	594.5	576.9	594.5	646.2
155°	704.0	706.5	698.8	764.7	811.4	767.4	674.1	627.5	610.7	627.5	674.1
157.5°	720.7	725.9	716.8	792.7	833.5	797.1	705.9	660.5	645.6	660.5	705.9
160°	738.9	738.9	744.1	825.0	851.6	823.1	739.6	696.8	676.0	696.8	739.6
162.5°	740.8	753.1	780.9	847.7	869.0	845.7	775.7	722.7	704.6	722.7	775.7
165°	769.3	780.3	822.4	867.8	882.7	865.8	820.4	765.4	744.1	765.4	820.4
167.5°	799.0	822.4	856.1	890.4	895.6	884.6	854.8	816.6	797.1	816.6	854.8
170°	846.9	867.8	884.6	898.8	906.0	899.5	876.2	857.4	844.2	857.4	876.2
172.5°	885.0	898.8	905.3	914.3	910.7	907.3	895.6	886.5	879.2	886.5	895.6
175°	909.0	912.4	918.2	915.0	919.8	911.8	912.4	917.0	889.6	917.0	912.4
177.5°	917.4	922.8	919.5	913.7	914.3	913.0	915.7	918.2	913.5	918.2	915.7
180°	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2



TEST NUMBER: P392647

CATALOG NUMBER: MWL-4-26-45-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1643.0	1643.0	1643.0	1643.0	1643.0	1643.0
2.5°	1644.6	1644.4	1645.2	1636.1	1640.7	1636.1
5°	1635.2	1636.1	1635.2	1628.5	1632.3	1627.6
7.5°	1622.7	1623.4	1623.4	1614.2	1618.5	1618.0
10°	1605.2	1605.7	1605.7	1596.4	1600.6	1597.5
12.5°	1582.2	1579.0	1582.2	1574.6	1576.9	1575.8
15°	1554.4	1553.6	1555.1	1546.6	1547.2	1547.7
17.5°	1522.2	1523.0	1522.2	1513.5	1515.9	1516.4
20°	1484.3	1485.1	1484.9	1477.9	1475.8	1476.5
22.5°	1445.3	1445.3	1445.9	1435.5	1433.4	1428.3
25°	1402.0	1402.8	1402.6	1393.7	1384.2	1378.2
27.5°	1356.8	1356.2	1357.5	1339.4	1329.9	1323.2
30°	1304.2	1307.0	1305.5	1286.7	1267.2	1257.0
32.5°	1248.3	1254.1	1249.5	1224.7	1201.0	1190.8
35°	1189.9	1195.0	1191.8	1157.1	1133.3	1126.5
37.5°	1126.3	1136.3	1128.2	1086.6	1063.8	1062.1
40°	1056.0	1075.3	1057.2	1014.6	995.1	999.3
42.5°	985.6	1005.7	986.9	936.0	928.9	938.2
45°	907.6	935.3	908.8	863.1	863.1	874.0
47.5°	833.0	854.7	833.6	795.2	801.1	814.7
50°	748.3	765.9	749.5	726.5	743.5	754.4
52.5°	671.1	662.4	672.4	664.8	687.5	702.7
55°	595.0	566.0	596.3	604.5	633.4	641.8
57.5°	511.9	484.5	513.2	544.3	580.8	585.9
60°	438.0	410.7	438.7	486.1	525.1	527.6
62.5°	366.8	355.8	367.5	424.1	467.4	470.8
65°	305.7	304.1	306.4	364.1	409.0	418.3
67.5°	255.7	259.9	255.7	304.7	347.1	361.6
70°	212.4	219.3	212.4	253.2	287.1	305.7
72.5°	172.8	183.9	173.4	204.0	234.5	255.7
75°	138.1	151.6	138.1	160.2	191.2	215.8
77.5°	106.7	121.9	106.7	122.8	157.4	190.4
80°	79.6	91.5	79.6	99.3	140.2	171.8
82.5°	56.7	64.3	56.7	89.2	130.7	161.0
85°	44.5	39.7	45.9	90.8	134.9	159.1
87.5°	37.1	13.5	46.3	96.8	143.5	162.9
90°	25.0	1.6	49.6	110.8	157.0	171.2
92.5°	15.7	11.2	60.4	126.2	174.1	184.5
95°	7.7	26.7	72.4	144.8	194.8	197.9
97.5°	8.6	46.9	91.6	163.1	213.7	216.2
100°	22.3	71.4	119.3	183.8	231.4	232.9
102.5°	41.0	97.9	145.9	205.3	251.9	262.2
105°	66.3	128.4	173.8	236.1	274.1	285.6
107.5°	96.3	160.8	203.1	264.7	301.1	308.4
110°	127.3	195.4	231.6	292.5	332.2	339.9



TEST NUMBER: P392647

CATALOG NUMBER: MWL-4-26-45-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	160.9	230.2	261.4	318.4	365.2	371.0
115°	199.2	262.7	289.2	348.2	391.8	394.9
117.5°	233.6	301.5	317.7	370.2	419.6	420.2
120°	269.7	338.5	346.2	401.5	446.8	452.0
122.5°	306.7	373.5	373.5	427.4	470.8	474.0
125°	341.0	411.0	400.6	446.8	492.7	494.1
127.5°	376.9	449.1	431.3	472.1	514.1	512.1
130°	415.1	485.5	458.5	496.1	534.2	527.7
132.5°	450.0	524.3	486.3	520.7	554.3	558.2
135°	485.0	560.6	510.3	542.0	575.0	573.7
137.5°	518.7	594.3	539.4	558.8	588.6	592.5
140°	551.7	630.5	565.4	580.9	605.5	606.1
142.5°	586.7	666.8	593.8	602.8	624.2	620.4
145°	625.6	702.0	629.5	624.9	638.5	630.1
147.5°	659.9	730.9	654.7	641.0	657.3	646.2
150°	698.1	762.2	689.7	663.7	673.5	668.3
152.5°	733.0	786.1	727.9	681.2	692.2	685.7
155°	767.4	811.4	764.7	698.8	706.5	704.0
157.5°	797.1	833.5	792.7	716.8	725.9	720.7
160°	823.1	851.6	825.0	744.1	738.9	738.9
162.5°	845.7	869.0	847.7	780.9	753.1	740.8
165°	865.8	882.7	867.8	822.4	780.3	769.3
167.5°	884.6	895.6	890.4	856.1	822.4	799.0
170°	899.5	906.0	898.8	884.6	867.8	846.9
172.5°	907.3	910.7	914.3	905.3	898.8	885.0
175°	911.8	919.8	915.0	918.2	912.4	909.0
177.5°	913.0	914.3	913.7	919.5	922.8	917.4
180°	918.2	918.2	918.2	918.2	918.2	918.2

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