

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: P392631

Luminaire Tested: **MWL-4-00-45-UNV-L930-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392631  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-4-00-45-UNV-L930-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

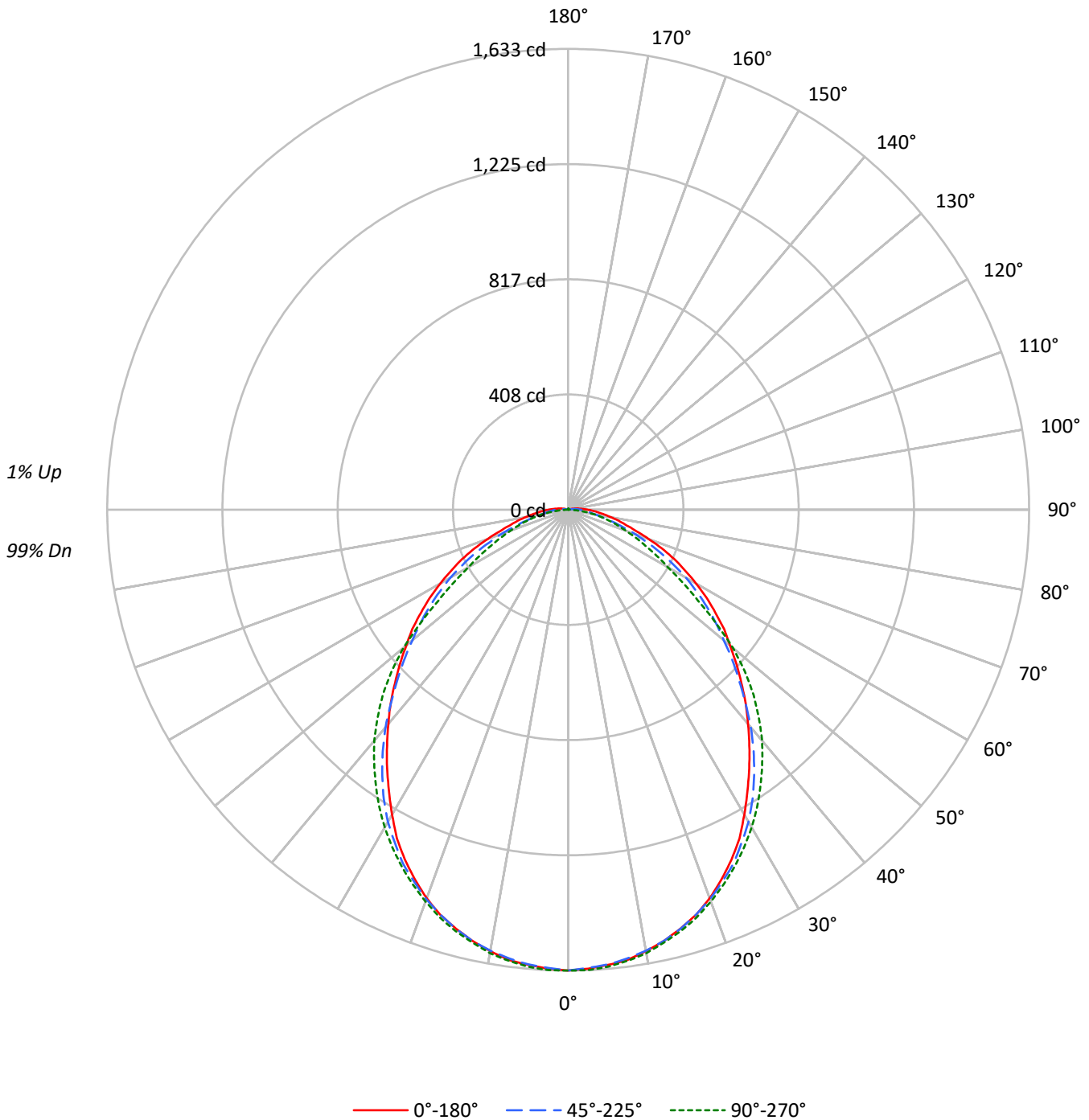
Lumens per Lamp: N/A  
Luminaire Lumens: 3814.6 lumens  
Efficiency: N/A  
Efficacy: 83.0 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: Direct

Input Watts (W): 45.955  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	109	105	101	97	106	102	99	95	98	95	92	94	92	89	90	88	86	84
2	100	92	86	81	97	90	85	80	87	82	78	83	79	76	80	77	74	72
3	92	82	74	68	89	80	73	68	77	71	66	74	69	65	72	67	64	62
4	85	73	65	59	82	72	64	58	69	63	57	67	61	56	65	60	56	53
5	78	66	57	51	76	65	57	51	63	55	50	60	54	49	59	53	49	47
6	72	60	51	45	70	59	51	45	57	50	44	55	49	44	53	48	43	41
7	67	54	46	40	66	53	46	40	52	45	40	50	44	39	49	43	39	37
8	63	50	42	36	61	49	41	36	48	41	36	46	40	35	45	39	35	33
9	59	46	38	33	57	45	38	32	44	37	32	43	37	32	42	36	32	30
10	55	42	35	30	54	42	35	30	41	34	29	40	34	29	39	33	29	27

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

	0°	45°	90°
0°	10546	10546	10546
5°	10404	9817	9689
10°	10228	9145	8896
15°	9995	8501	8147
20°	9705	7861	7444
25°	9299	7232	6781
30°	8775	6565	6146
35°	8217	5855	5510
40°	7686	5128	4897
45°	7173	4391	4242
50°	6686	3748	3487
55°	6238	3190	2606
60°	5725	2646	1926
65°	5184	2062	1466
70°	4454	1507	1094
75°	3843	1013	794
80°	3596	660	504
85°	3575	492	232



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.9	4.0
10°-20°	434.0	11.4
20°-30°	636.0	16.7
30°-40°	719.6	18.9
40°-50°	677.6	17.8
50°-60°	540.9	14.2
60°-70°	355.2	9.3
70°-80°	180.5	4.7
80°-90°	75.3	2.0
90°-100°	27.0	0.7
100°-110°	4.8	0.1
110°-120°	2.0	0.1
120°-130°	2.1	0.1
130°-140°	1.9	0.1
140°-150°	1.6	0.0
150°-160°	1.2	0.0
160°-170°	0.7	0.0
170°-180°	0.2	0.0
0°-30°	1223.8	32.1
0°-40°	1943.4	50.9
0°-60°	3161.8	82.9
0°-90°	3772.9	98.9
90°-120°	33.9	0.9
90°-150°	39.5	1.0
90°-180°	42.0	1.1
0°-180°	3814.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1633	1633	1633	1633	1633	
5°	1619	1623	1618	1624	1625	154
15°	1537	1537	1537	1546	1545	433
25°	1368	1374	1384	1395	1395	629
35°	1118	1125	1149	1183	1188	699
45°	867	856	856	902	929	670
55°	636	628	599	592	562	570
65°	415	406	361	303	302	409
75°	214	189	159	137	150	232
85°	106	88	66	43	39	96
90°	69	62	44	24	1	38
95°	42	43	26	5	1	31
105°	8	6	2	1	1	11
115°	3	3	2	2	2	3
125°	3	3	3	2	2	2
135°	3	3	3	3	2	2
145°	3	3	3	3	3	2
155°	3	3	3	3	3	1
165°	3	3	3	3	3	1
175°	2	3	3	3	3	0
180°	3	3	3	3	3	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1633.0	1633.0	1633.0	1633.0	1633.0
2.5°	1627.9	1631.2	1625.3	1633.8	1633.0
5°	1619.4	1622.8	1617.7	1624.5	1625.3
7.5°	1609.3	1608.4	1604.2	1612.6	1612.6
10°	1588.2	1590.7	1586.5	1595.7	1595.7
12.5°	1565.4	1567.0	1565.4	1572.9	1570.4
15°	1536.6	1537.4	1537.4	1545.9	1545.0
17.5°	1505.3	1506.2	1504.5	1513.8	1514.6
20°	1465.6	1465.6	1468.9	1476.6	1477.4
22.5°	1418.2	1423.3	1426.7	1437.7	1437.7
25°	1368.4	1374.3	1384.4	1394.6	1395.4
27.5°	1313.4	1320.2	1330.3	1348.9	1348.9
30°	1247.5	1257.7	1277.1	1296.5	1300.0
32.5°	1181.6	1191.8	1215.4	1240.8	1246.7
35°	1118.2	1125.0	1148.6	1183.3	1188.3
37.5°	1054.0	1055.6	1078.5	1119.9	1129.2
40°	991.4	987.2	1006.7	1049.7	1068.3
42.5°	930.6	921.3	928.8	979.6	999.0
45°	867.2	856.2	856.2	901.8	928.8
47.5°	808.0	794.5	788.6	827.5	848.6
50°	748.0	737.0	720.1	743.8	760.7
52.5°	696.5	681.2	659.2	666.9	657.6
55°	636.4	628.0	599.3	591.6	562.0
57.5°	580.7	575.6	539.2	508.8	480.9
60°	523.2	520.6	481.8	435.3	407.4
62.5°	466.6	463.1	420.1	364.3	353.3
65°	415.0	405.7	360.9	303.4	301.7
67.5°	358.4	344.0	301.7	253.6	257.8
70°	303.4	284.8	251.0	210.4	217.2
72.5°	253.6	232.5	202.0	171.6	182.5
75°	213.9	189.3	158.9	136.9	150.5
77.5°	183.4	152.9	121.7	105.7	120.9
80°	153.8	126.8	96.3	78.6	90.4
82.5°	127.6	103.1	78.6	55.8	63.4
85°	105.7	87.9	65.9	43.1	38.9
87.5°	86.2	72.7	53.3	33.8	13.6
90°	69.3	61.7	43.9	23.7	0.9
92.5°	54.1	51.6	35.5	14.4	0.9
95°	42.3	43.1	26.2	5.1	0.9
97.5°	32.1	32.9	16.0	0.9	0.9
100°	23.7	22.8	7.6	0.9	0.9
102.5°	16.0	13.6	2.6	0.9	0.9
105°	8.5	5.9	1.7	0.9	0.9
107.5°	3.3	2.6	1.7	1.7	0.9
110°	2.6	2.6	1.7	1.7	1.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.6	2.6	1.7	1.7	1.7
115°	2.6	2.6	1.7	1.7	1.7
117.5°	2.6	2.6	1.7	1.7	1.7
120°	2.6	2.6	2.6	1.7	1.7
122.5°	2.6	2.6	2.6	1.7	1.7
125°	2.6	2.6	2.6	1.7	1.7
127.5°	2.6	2.6	2.6	2.6	1.7
130°	2.6	2.6	2.6	2.6	1.7
132.5°	2.6	2.6	2.6	2.6	1.7
135°	2.6	2.6	2.6	2.6	1.7
137.5°	2.6	2.6	2.6	2.6	1.7
140°	2.6	2.6	2.6	2.6	1.7
142.5°	2.6	2.6	2.6	2.6	1.7
145°	2.6	2.6	2.6	2.6	2.6
147.5°	2.6	2.6	2.6	2.6	1.7
150°	2.6	2.6	2.6	2.6	2.6
152.5°	2.6	2.6	2.6	2.6	2.6
155°	2.6	2.6	2.6	2.6	2.6
157.5°	2.6	2.6	2.6	2.6	2.6
160°	2.6	2.6	2.6	2.6	2.6
162.5°	2.6	2.6	2.6	2.6	2.6
165°	2.6	2.6	2.6	2.6	2.6
167.5°	2.6	2.6	2.6	2.6	2.6
170°	1.7	2.6	2.6	2.6	2.6
172.5°	1.7	2.6	2.6	2.6	3.3
175°	1.7	2.6	2.6	2.6	3.3
177.5°	1.7	2.6	2.6	2.6	2.6
180°	2.6	2.6	2.6	2.6	2.6

(END OF REPORT)