

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: P392625

Luminaire Tested: **MWL-4-00-25-UNV-L830-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392625  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-4-00-25-UNV-L830-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

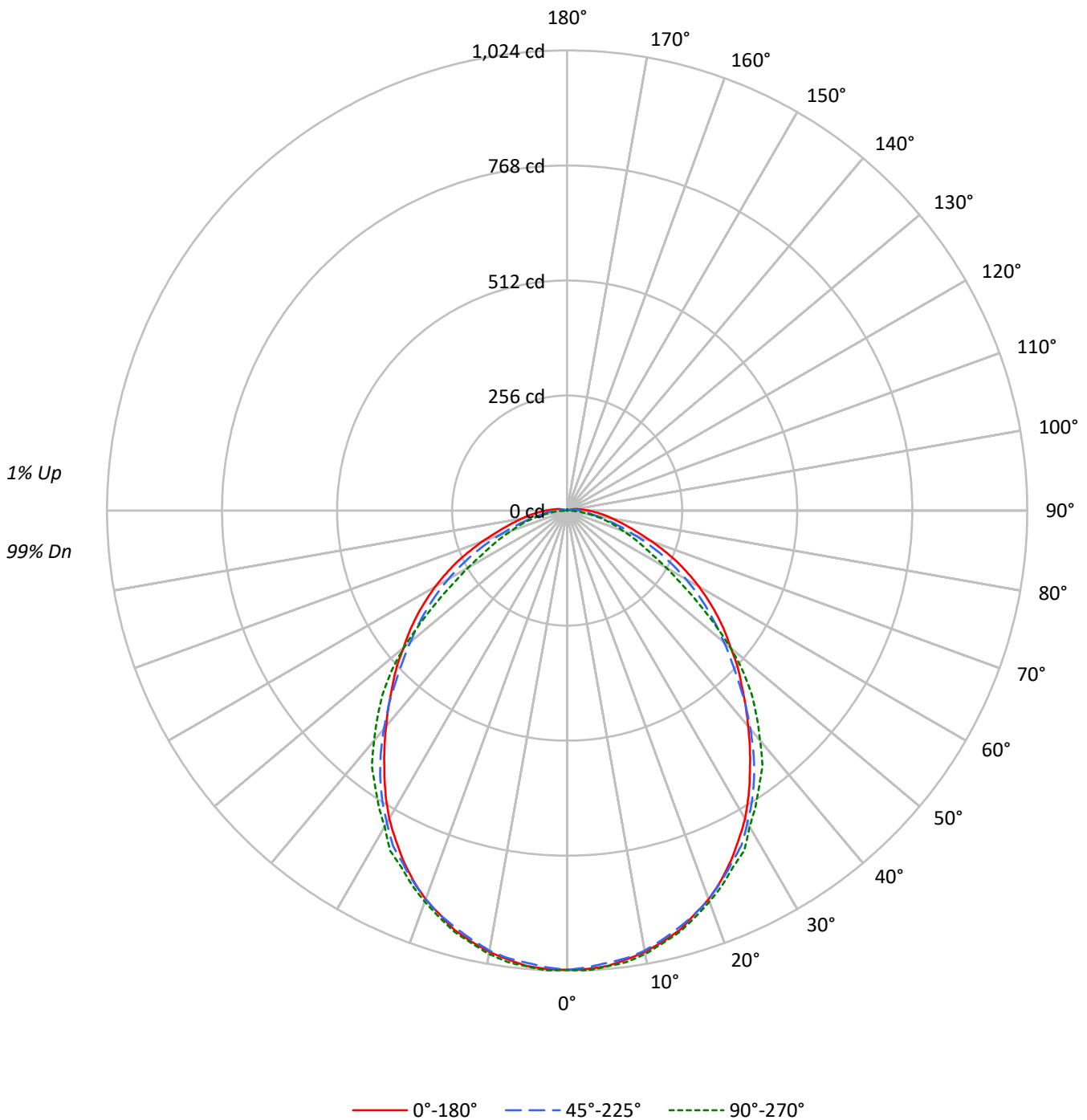
Lumens per Lamp: N/A  
Luminaire Lumens: 2415.0 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.19 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: Direct

Input Watts (W): 23.2  
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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CATALOG NUMBER: MWL-4-00-25-UNV-L830-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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101	99								
1	109	105	101	97	106	102	99	95	98	95	92	94	91	89	90	88	86	84								
2	100	92	86	80	97	90	84	79	87	82	77	83	79	75	80	77	74	71								
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	71	67	63	61								
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	64	59	55	53								
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	58	53	49	46								
6	72	59	51	45	70	58	50	45	57	49	44	55	48	44	53	47	43	41								
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37								
8	63	50	41	36	61	49	41	36	47	40	35	46	40	35	45	39	35	33								
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30								
10	55	42	35	30	54	42	34	29	41	34	29	40	33	29	39	33	29	27								

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

	0°	45°	90°
0°	6601	6601	6601
5°	6536	6133	6071
10°	6422	5732	5586
15°	6287	5312	5117
20°	6095	4926	4666
25°	5851	4522	4249
30°	5570	4124	3839
35°	5211	3699	3458
40°	4859	3231	3062
45°	4541	2767	2656
50°	4246	2373	2173
55°	3998	2024	1633
60°	3707	1676	1207
65°	3369	1327	896
70°	2930	968	667
75°	2569	667	491
80°	2401	434	316
85°	2436	323	137



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	4.0
10°-20°	272.0	11.3
20°-30°	399.4	16.5
30°-40°	453.5	18.8
40°-50°	426.6	17.7
50°-60°	341.8	14.2
60°-70°	226.8	9.4
70°-80°	117.7	4.9
80°-90°	49.9	2.1
90°-100°	19.2	0.8
100°-110°	4.1	0.2
110°-120°	1.6	0.1
120°-130°	1.7	0.1
130°-140°	1.5	0.1
140°-150°	1.2	0.1
150°-160°	0.9	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	767.8	31.8
0°-40°	1221.3	50.6
0°-60°	1989.7	82.4
0°-90°	2384.1	98.7
90°-120°	24.9	1.0
90°-150°	29.3	1.2
90°-180°	31.0	1.3
0°-180°	2415.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1022	1022	1022	1022	1022	
5°	1017	1015	1011	1019	1018	96
15°	966	963	961	969	970	272
25°	861	862	866	873	874	396
35°	709	712	726	745	746	444
45°	549	541	539	567	582	425
55°	408	398	380	370	352	365
65°	270	262	232	190	184	266
75°	143	125	105	88	93	154
85°	72	58	43	29	23	65
90°	48	41	30	16	0	26
95°	31	30	18	4	1	23
105°	9	7	1	1	1	10
115°	2	2	2	1	1	2
125°	2	2	2	2	2	2
135°	2	2	2	2	2	1
145°	2	2	2	2	2	1
155°	2	2	2	2	2	1
165°	2	2	2	2	2	1
175°	1	2	2	2	3	0
180°	2	2	2	2	2	



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CATALOG NUMBER: MWL-4-00-25-UNV-L830-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1022.1	1022.1	1022.1	1022.1	1022.1
2.5°	1021.2	1019.2	1017.3	1027.9	1024.0
5°	1017.3	1015.4	1010.6	1019.2	1018.3
7.5°	1007.7	1005.8	1004.8	1010.6	1013.5
10°	997.2	996.2	994.3	1000.0	1002.0
12.5°	982.8	985.6	978.0	983.7	985.6
15°	966.5	962.6	960.7	969.3	970.3
17.5°	942.5	945.3	942.5	948.2	948.2
20°	920.4	920.4	920.4	926.1	926.1
22.5°	892.6	895.4	894.5	899.3	902.2
25°	860.9	861.8	865.7	873.4	874.3
27.5°	826.3	830.2	839.8	848.4	853.2
30°	791.8	791.8	802.3	811.0	811.9
32.5°	751.5	751.5	765.9	780.3	780.3
35°	709.2	712.1	725.6	744.8	745.7
37.5°	668.0	666.1	681.4	703.5	714.0
40°	626.7	622.9	634.4	660.3	668.0
42.5°	587.4	580.6	587.4	613.3	624.8
45°	549.0	541.3	539.4	567.2	581.6
47.5°	514.4	503.9	496.2	514.4	531.7
50°	475.1	466.4	455.9	464.5	474.1
52.5°	442.4	431.9	417.5	418.4	411.7
55°	407.9	398.3	380.1	369.5	352.2
57.5°	373.3	366.6	342.6	320.6	298.5
60°	338.8	332.1	305.2	269.7	255.3
62.5°	304.2	299.4	267.8	227.5	215.0
65°	269.7	262.0	232.3	190.0	184.3
67.5°	233.2	225.5	195.8	160.3	159.3
70°	199.6	188.1	161.2	132.4	132.4
72.5°	168.9	154.5	131.5	109.4	113.2
75°	143.0	124.8	104.6	88.3	93.1
77.5°	120.9	101.7	81.6	69.1	74.9
80°	102.7	83.5	63.3	51.8	56.6
82.5°	87.3	69.1	51.8	36.5	39.3
85°	72.0	57.6	43.2	28.8	23.0
87.5°	58.5	48.9	35.5	22.1	7.7
90°	48.0	41.3	29.8	16.3	0.0
92.5°	38.4	35.5	24.0	9.6	1.0
95°	30.7	29.8	18.2	3.8	1.0
97.5°	24.0	25.0	12.5	1.0	1.0
100°	19.2	18.2	6.7	1.0	1.0
102.5°	13.4	11.5	1.9	1.0	1.0
105°	8.6	6.7	1.0	1.0	1.0
107.5°	3.8	1.9	1.0	1.0	1.0
110°	1.9	1.9	1.0	1.0	1.0



TEST NUMBER: P392625

CATALOG NUMBER: MWL-4-00-25-UNV-L830-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	1.9	1.0	1.0	1.0
115°	1.9	1.9	1.9	1.0	1.0
117.5°	1.9	1.9	1.9	1.9	1.0
120°	1.9	1.9	1.9	1.9	1.9
122.5°	1.9	1.9	1.9	1.9	1.9
125°	1.9	1.9	1.9	1.9	1.9
127.5°	1.9	1.9	1.9	1.9	1.9
130°	1.9	1.9	1.9	1.9	1.9
132.5°	1.9	1.9	1.9	1.9	1.9
135°	1.9	1.9	1.9	1.9	1.9
137.5°	1.9	1.9	1.9	1.9	1.9
140°	1.9	1.9	1.9	1.9	1.9
142.5°	1.9	2.9	1.9	1.9	1.9
145°	1.9	1.9	1.9	1.9	1.9
147.5°	1.9	1.9	1.9	1.9	1.9
150°	1.9	1.9	1.9	1.9	1.9
152.5°	1.9	1.9	1.9	1.9	1.9
155°	1.9	1.9	1.9	1.9	1.9
157.5°	1.9	1.9	1.9	1.9	1.9
160°	1.9	1.9	1.9	1.9	1.9
162.5°	1.9	1.9	1.9	1.9	1.9
165°	1.9	1.9	1.9	1.9	1.9
167.5°	1.9	1.9	1.9	1.9	1.9
170°	1.9	1.9	1.9	1.9	1.9
172.5°	1.0	1.9	1.9	1.9	2.9
175°	1.0	1.9	1.9	1.9	2.9
177.5°	1.0	1.9	1.9	1.9	2.9
180°	1.9	1.9	1.9	1.9	1.9

(END OF REPORT)