

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: P382145

Luminaire Tested: **MWL-2-00-17-UNV-L830-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P382145  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-29)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-2-00-17-UNV-L830-EDD  
Description: MWL 2FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

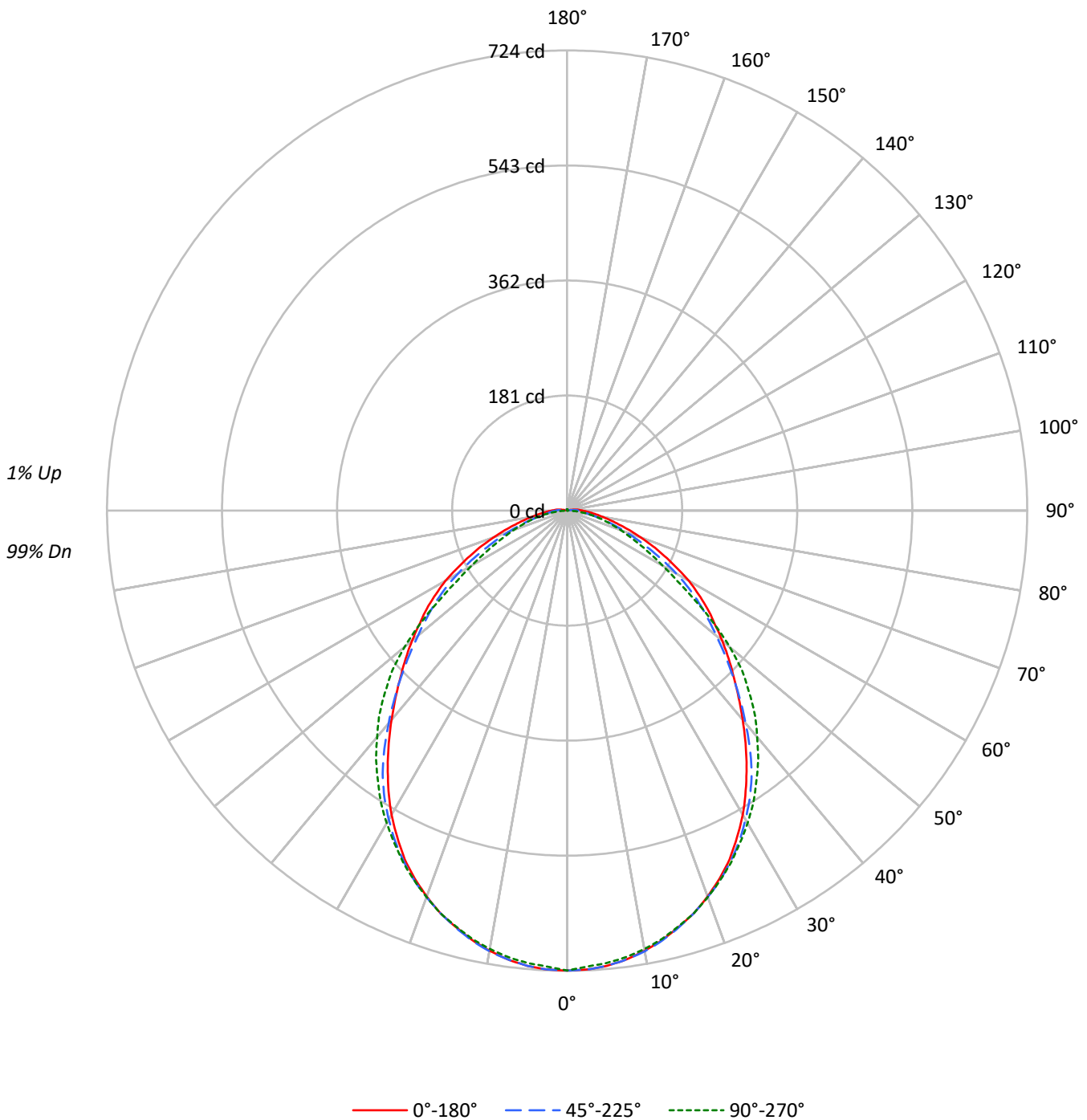
Lumens per Lamp: N/A  
Luminaire Lumens: 1638.9 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 2' x H: 0.42')  
CIE Type: Direct

Input Watts (W): 16.6  
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	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	98	107	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	93	87	81	98	91	85	80	87	82	78	84	80	76	81	77	75	72
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	72	68	64	62
4	85	74	66	59	83	72	65	59	70	63	58	67	62	57	65	60	56	54
5	79	66	58	52	76	65	57	51	63	56	51	61	55	50	59	54	50	48
6	73	60	52	46	71	59	51	45	57	50	45	56	49	45	54	48	44	42
7	68	55	47	41	66	54	46	41	52	45	40	51	45	40	50	44	40	38
8	63	50	42	37	62	50	42	36	48	41	36	47	41	36	46	40	36	34
9	59	46	39	33	58	46	38	33	45	38	33	43	37	33	42	37	32	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30	28

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

	0°	45°	90°
0°	9348	9348	9348
5°	9156	8674	8518
10°	8896	8026	7809
15°	8587	7387	7140
20°	8256	6785	6521
25°	7860	6206	5936
30°	7360	5605	5369
35°	6772	4993	4815
40°	6166	4292	4263
45°	5604	3634	3702
50°	5126	3050	3065
55°	4684	2567	2269
60°	4201	2063	1642
65°	3570	1542	1216
70°	2937	1107	903
75°	2358	746	640
80°	1909	463	417
85°	1639	359	178



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.0	4.2
10°-20°	191.2	11.7
20°-30°	279.6	17.1
30°-40°	315.3	19.2
40°-50°	292.5	17.8
50°-60°	229.6	14.0
60°-70°	144.9	8.8
70°-80°	71.5	4.4
80°-90°	29.7	1.8
90°-100°	10.3	0.6
100°-110°	1.3	0.1
110°-120°	0.9	0.1
120°-130°	0.8	0.0
130°-140°	0.8	0.0
140°-150°	1.1	0.1
150°-160°	0.8	0.0
160°-170°	0.4	0.0
170°-180°	0.1	0.0
0°-30°	538.9	32.9
0°-40°	854.1	52.1
0°-60°	1376.3	84.0
0°-90°	1622.4	99.0
90°-120°	12.5	0.8
90°-150°	15.1	0.9
90°-180°	16.0	1.0
0°-180°	1638.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	724	724	724	724	724	
5°	719	719	719	716	714	68
15°	678	679	679	678	677	191
25°	605	606	609	610	611	278
35°	492	494	506	516	519	307
45°	371	368	369	391	405	287
55°	270	266	253	251	245	241
65°	169	163	143	126	125	168
75°	84	72	63	56	61	91
85°	37	36	26	18	15	34
90°	24	27	18	10	0	13
95°	17	18	10	1	0	12
105°	1	1	1	1	1	3
115°	1	1	1	1	1	1
125°	1	1	1	1	1	1
135°	1	1	1	1	1	1
145°	2	2	2	2	1	1
155°	2	2	2	2	1	1
165°	2	2	2	1	1	1
175°	1	1	2	2	2	0
180°	2	2	2	2	2	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	723.7	723.7	723.7	723.7	723.7
2.5°	722.8	722.8	722.8	720.0	718.1
5°	719.0	719.0	719.0	716.2	714.4
7.5°	712.5	712.5	712.5	710.6	708.8
10°	703.2	704.1	704.1	702.2	700.4
12.5°	692.0	692.9	692.9	691.0	690.1
15°	678.0	678.9	678.9	678.0	677.0
17.5°	664.0	664.0	664.0	664.9	664.0
20°	646.2	647.1	647.1	648.1	647.1
22.5°	626.6	627.5	629.4	629.4	629.4
25°	605.1	606.1	608.9	609.8	610.7
27.5°	579.0	582.7	586.4	588.3	589.2
30°	552.8	555.6	561.2	566.8	567.8
32.5°	522.9	526.7	535.1	542.6	545.4
35°	492.1	494.0	506.1	515.5	519.2
37.5°	461.3	460.4	472.5	489.3	494.0
40°	429.6	427.7	437.0	459.4	465.0
42.5°	399.7	397.8	402.5	427.7	438.0
45°	370.7	367.9	368.9	391.3	405.3
47.5°	344.6	339.9	337.1	353.9	373.5
50°	318.4	313.8	306.3	318.4	334.3
52.5°	292.3	289.5	279.2	284.8	290.4
55°	269.9	266.1	253.1	251.2	244.7
57.5°	244.7	242.8	226.9	216.6	204.5
60°	221.3	216.6	198.0	183.0	173.7
62.5°	193.3	190.5	170.0	151.3	147.5
65°	169.0	163.4	142.9	126.1	125.1
67.5°	145.7	136.3	118.6	104.6	105.5
70°	122.3	112.1	98.1	85.9	89.6
72.5°	102.7	90.6	79.4	70.0	73.8
75°	84.0	71.9	62.6	56.0	60.7
77.5°	69.1	58.8	47.6	44.8	48.6
80°	56.0	48.6	36.4	33.6	37.4
82.5°	45.8	42.0	30.8	23.3	25.2
85°	37.4	35.5	26.1	17.7	14.9
87.5°	29.9	30.8	21.5	14.0	3.7
90°	24.3	27.1	17.7	10.3	0.0
92.5°	19.6	22.4	14.9	4.7	0.0
95°	16.8	17.7	10.3	0.9	0.0
97.5°	12.1	12.1	4.7	0.0	0.0
100°	7.5	6.5	0.9	0.0	0.0
102.5°	3.7	1.9	0.9	0.0	0.0
105°	0.9	0.9	0.9	0.9	0.9
107.5°	0.9	0.9	0.9	0.9	0.9
110°	0.9	0.9	0.9	0.9	0.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	0.9	0.9	0.9	0.9
115°	0.9	0.9	0.9	0.9	0.9
117.5°	0.9	0.9	0.9	0.9	0.9
120°	0.9	0.9	0.9	0.9	0.9
122.5°	0.9	0.9	0.9	0.9	0.9
125°	0.9	0.9	0.9	0.9	0.9
127.5°	0.9	0.9	0.9	0.9	0.9
130°	0.9	0.9	0.9	0.9	0.9
132.5°	0.9	0.9	0.9	0.9	0.9
135°	0.9	0.9	0.9	0.9	0.9
137.5°	0.9	0.9	0.9	0.9	0.9
140°	1.9	1.9	1.9	0.9	0.9
142.5°	1.9	1.9	1.9	0.9	0.9
145°	1.9	1.9	1.9	1.9	0.9
147.5°	1.9	1.9	1.9	1.9	0.9
150°	1.9	1.9	1.9	1.9	0.9
152.5°	1.9	1.9	1.9	1.9	0.9
155°	1.9	1.9	1.9	1.9	0.9
157.5°	1.9	1.9	1.9	1.9	0.9
160°	1.9	1.9	1.9	0.9	0.9
162.5°	1.9	1.9	1.9	0.9	0.9
165°	1.9	1.9	1.9	0.9	0.9
167.5°	1.9	1.9	0.9	0.9	0.9
170°	0.9	1.9	0.9	1.9	1.9
172.5°	0.9	0.9	0.9	1.9	1.9
175°	0.9	0.9	1.9	1.9	1.9
177.5°	0.9	0.9	1.9	1.9	1.9
180°	1.9	1.9	1.9	1.9	1.9

(END OF REPORT)