

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: P382142

Luminaire Tested: **MWL-2-00-13-UNV-L830-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P382142  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-30)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-2-00-13-UNV-L830-EDD  
Description: MWL 2FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

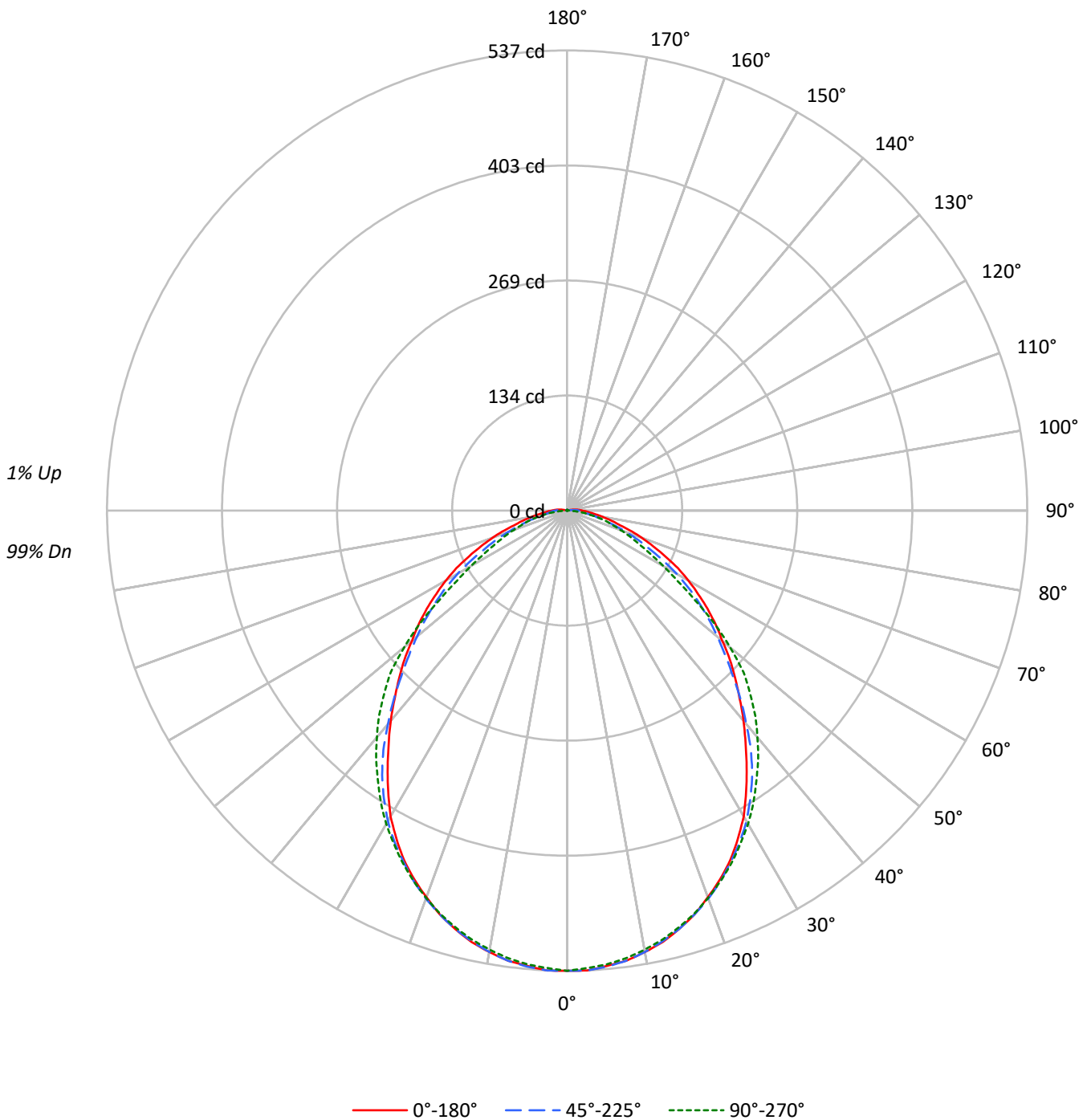
Lumens per Lamp: N/A  
Luminaire Lumens: 1219.9 lumens  
Efficiency: N/A  
Efficacy: 102.5 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.18 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 2' x H: 0.42')  
CIE Type: Direct

Input Watts (W): 11.9  
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	82	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	38	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°	6938	6938	6938
5°	6792	6446	6337
10°	6618	5963	5801
15°	6401	5499	5310
20°	6135	5054	4848
25°	5849	4608	4413
30°	5485	4180	3992
35°	5027	3715	3570
40°	4599	3193	3169
45°	4194	2696	2756
50°	3804	2279	2278
55°	3469	1905	1690
60°	3104	1538	1227
65°	2664	1149	899
70°	2222	822	668
75°	1732	546	483
80°	1432	345	302
85°	1188	270	123



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.6	4.1
10°-20°	142.3	11.7
20°-30°	208.0	17.0
30°-40°	234.5	19.2
40°-50°	217.8	17.9
50°-60°	171.0	14.0
60°-70°	108.2	8.9
70°-80°	53.3	4.4
80°-90°	22.2	1.8
90°-100°	7.6	0.6
100°-110°	0.8	0.1
110°-120°	0.9	0.1
120°-130°	0.8	0.1
130°-140°	0.7	0.1
140°-150°	0.6	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	400.8	32.9
0°-40°	635.3	52.1
0°-60°	1024.1	84.0
0°-90°	1207.7	99.0
90°-120°	9.4	0.8
90°-150°	11.4	0.9
90°-180°	12.0	1.0
0°-180°	1219.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	537	537	537	537	537	
5°	533	534	534	532	532	51
15°	505	505	505	505	504	142
25°	450	450	452	454	454	207
35°	365	368	376	384	385	228
45°	277	275	274	292	302	214
55°	200	198	188	188	182	179
65°	126	121	106	94	92	126
75°	62	54	46	42	46	68
85°	27	27	20	13	10	25
90°	18	20	14	8	0	10
95°	12	13	8	0	0	9
105°	1	1	0	0	0	2
115°	1	1	1	1	1	1
125°	1	1	1	1	1	1
135°	1	1	1	1	1	1
145°	1	1	1	1	1	1
155°	1	1	1	1	1	0
165°	1	1	1	1	1	0
175°	1	1	1	1	1	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	537.1	537.1	537.1	537.1	537.1
2.5°	537.1	537.1	537.1	535.3	534.3
5°	533.4	534.3	534.3	532.5	531.5
7.5°	529.7	529.7	529.7	527.8	526.9
10°	523.1	523.1	523.1	522.2	520.3
12.5°	515.7	515.7	514.7	513.8	512.9
15°	505.4	505.4	505.4	505.4	503.5
17.5°	494.2	494.2	494.2	494.2	493.2
20°	480.2	481.1	482.0	481.1	481.1
22.5°	466.1	466.1	468.0	468.9	468.0
25°	450.3	450.3	452.1	454.0	454.0
27.5°	431.6	432.5	436.3	438.1	438.1
30°	412.0	413.8	418.5	421.3	422.2
32.5°	388.6	391.4	398.0	403.6	404.5
35°	365.3	368.1	376.5	383.9	384.9
37.5°	341.9	342.8	352.2	363.4	366.2
40°	320.4	318.5	325.1	341.9	345.6
42.5°	298.0	295.2	299.9	317.6	325.1
45°	277.4	274.6	273.7	291.5	301.7
47.5°	257.8	253.2	250.4	264.4	279.3
50°	236.3	234.5	228.9	237.3	248.5
52.5°	218.6	215.8	208.3	212.1	216.7
55°	199.9	198.0	187.8	187.8	182.2
57.5°	181.2	179.4	168.1	161.6	152.3
60°	163.5	161.6	147.6	137.3	129.8
62.5°	145.7	142.0	126.1	113.0	109.3
65°	126.1	121.4	106.5	94.4	92.5
67.5°	108.4	101.8	89.7	78.5	79.4
70°	92.5	84.1	72.9	64.5	66.3
72.5°	76.6	67.3	58.9	52.3	55.1
75°	61.7	54.2	45.8	42.0	45.8
77.5°	51.4	43.9	35.5	32.7	36.4
80°	42.0	36.4	27.1	25.2	27.1
82.5°	33.6	30.8	22.4	17.7	18.7
85°	27.1	27.1	19.6	13.1	10.3
87.5°	22.4	23.4	16.8	10.3	2.8
90°	17.7	19.6	14.0	7.5	0.0
92.5°	14.9	16.8	11.2	3.7	0.0
95°	12.1	13.1	7.5	0.0	0.0
97.5°	9.3	8.4	3.7	0.0	0.0
100°	5.6	4.7	0.9	0.0	0.0
102.5°	2.8	1.9	0.0	0.0	0.0
105°	0.9	0.9	0.0	0.0	0.0
107.5°	0.9	0.9	0.9	0.0	0.0
110°	0.9	0.9	0.9	0.9	0.0



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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°	0.9	0.9	0.9	0.9	0.9
142.5°	0.9	0.9	0.9	0.9	0.9
145°	0.9	0.9	0.9	0.9	0.9
147.5°	0.9	0.9	0.9	0.9	0.9
150°	0.9	0.9	0.9	0.9	0.9
152.5°	0.9	0.9	0.9	0.9	0.9
155°	0.9	0.9	0.9	0.9	0.9
157.5°	0.9	0.9	0.9	0.9	0.9
160°	0.9	0.9	0.9	0.9	0.9
162.5°	0.9	0.9	0.9	0.9	0.9
165°	0.9	0.9	0.9	0.9	0.9
167.5°	0.9	0.9	0.9	0.9	0.9
170°	0.9	0.9	0.9	0.9	0.9
172.5°	0.9	0.9	0.9	0.9	0.9
175°	0.9	0.9	0.9	0.9	0.9
177.5°	0.9	0.9	0.9	0.9	0.9
180°	0.9	0.9	0.9	0.9	0.9

(END OF REPORT)