

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: P392634

Luminaire Tested: **MWL-4-00-60-UNV-L830-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392634  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-4-00-60-UNV-L830-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5761.9 lumens  
Efficiency: N/A  
Efficacy: 89.2 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

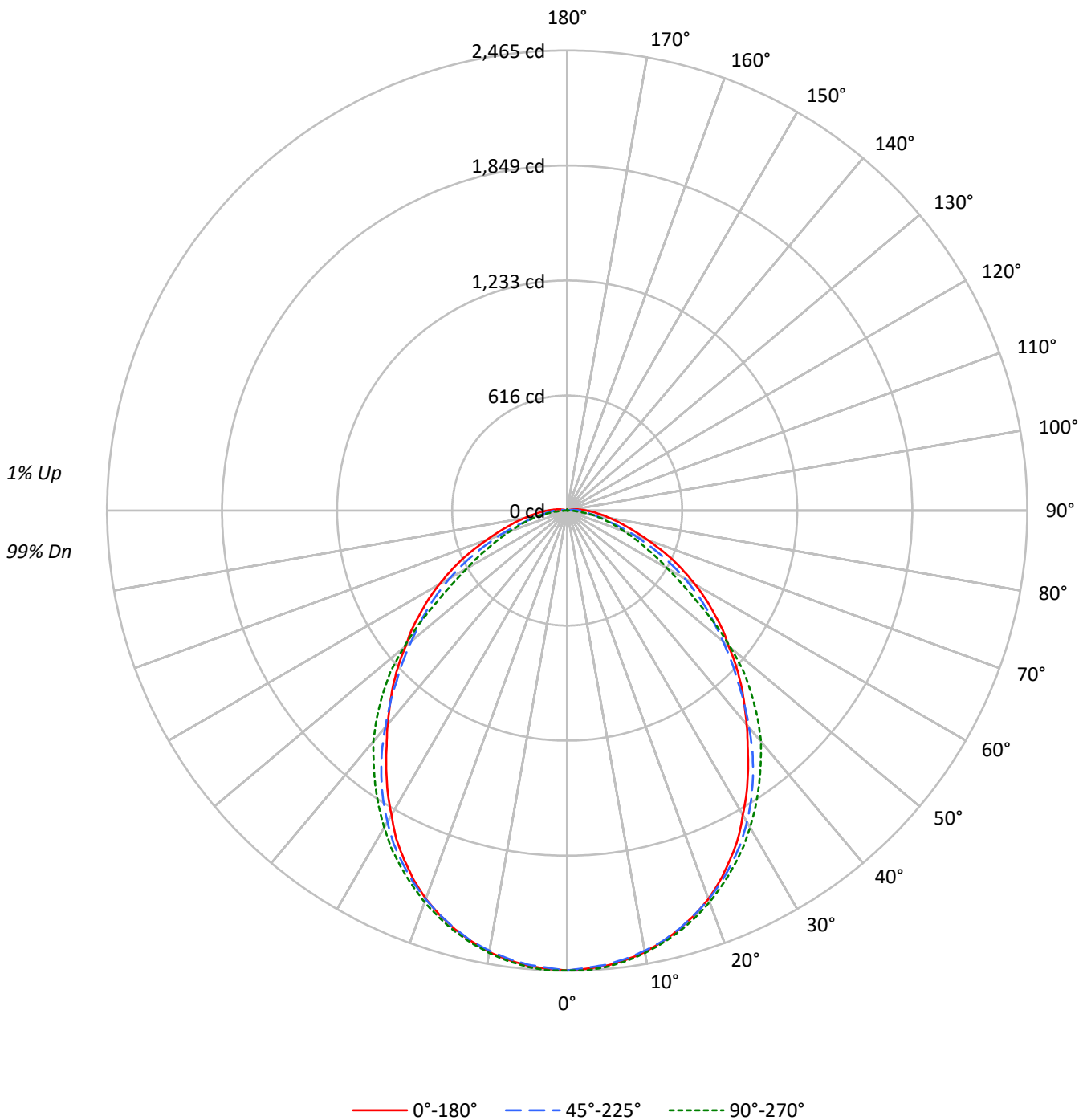
Input Watts (W): 64.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	55	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°	15907	15907	15907
5°	15719	14813	14626
10°	15466	13799	13416
15°	15103	12823	12300
20°	14657	11862	11250
25°	14031	10896	10239
30°	13241	9898	9267
35°	12414	8846	8314
40°	11602	7720	7401
45°	10886	6627	6391
50°	10098	5670	5241
55°	9409	4834	3948
60°	8654	3995	2927
65°	7781	3110	2220
70°	6693	2282	1640
75°	5865	1512	1194
80°	5408	1007	770
85°	5422	745	343



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	232.2	4.0
10°-20°	655.0	11.4
20°-30°	960.2	16.7
30°-40°	1086.6	18.9
40°-50°	1023.4	17.8
50°-60°	818.0	14.2
60°-70°	536.8	9.3
70°-80°	272.9	4.7
80°-90°	114.2	2.0
90°-100°	40.8	0.7
100°-110°	7.4	0.1
110°-120°	2.9	0.0
120°-130°	3.0	0.1
130°-140°	2.8	0.0
140°-150°	2.5	0.0
150°-160°	1.7	0.0
160°-170°	1.1	0.0
170°-180°	0.4	0.0
0°-30°	1847.4	32.1
0°-40°	2934.0	50.9
0°-60°	4775.4	82.9
0°-90°	5699.3	98.9
90°-120°	51.1	0.9
90°-150°	59.4	1.0
90°-180°	63.0	1.1
0°-180°	5761.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2463	2463	2463	2463	2463	
5°	2447	2450	2441	2452	2453	232
15°	2322	2321	2319	2332	2332	654
25°	2065	2071	2086	2107	2107	949
35°	1689	1699	1735	1787	1793	1056
45°	1316	1291	1292	1360	1400	1014
55°	960	949	908	889	851	861
65°	623	610	544	461	457	615
75°	326	284	237	207	226	353
85°	160	132	100	65	58	146
90°	105	93	66	36	1	58
95°	65	65	39	7	1	48
105°	12	9	3	2	2	16
115°	4	3	3	2	2	4
125°	4	4	4	3	3	3
135°	4	4	4	4	3	3
145°	5	5	4	4	3	3
155°	4	4	4	4	4	2
165°	4	4	4	4	4	1
175°	2	4	4	5	5	0
180°	4	4	4	4	4	



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CATALOG NUMBER: MWL-4-00-60-UNV-L830-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2463.0	2463.0	2463.0	2463.0	2463.0
2.5°	2456.3	2461.1	2451.5	2464.0	2464.9
5°	2446.7	2450.5	2440.9	2452.4	2453.4
7.5°	2426.5	2430.4	2420.8	2434.2	2433.2
10°	2401.6	2399.7	2393.9	2406.4	2406.4
12.5°	2364.1	2366.1	2363.2	2372.8	2371.8
15°	2321.9	2320.9	2319.0	2332.5	2332.5
17.5°	2271.0	2273.0	2270.1	2283.5	2284.5
20°	2213.4	2214.4	2216.3	2230.7	2232.6
22.5°	2143.4	2151.0	2154.9	2172.2	2171.2
25°	2064.7	2071.4	2085.8	2106.9	2106.9
27.5°	1982.1	1991.7	2012.8	2037.8	2038.7
30°	1882.3	1894.8	1925.5	1958.1	1960.0
32.5°	1790.1	1799.7	1835.3	1877.5	1878.4
35°	1689.4	1699.0	1735.4	1787.3	1793.0
37.5°	1588.6	1594.3	1630.8	1692.2	1702.8
40°	1496.4	1490.7	1515.6	1587.6	1614.5
42.5°	1404.3	1392.8	1405.2	1477.2	1510.8
45°	1316.0	1291.0	1292.0	1360.1	1399.5
47.5°	1225.7	1201.7	1192.1	1244.0	1286.2
50°	1129.8	1114.4	1089.4	1125.0	1143.2
52.5°	1050.1	1030.9	995.4	1008.8	1001.1
55°	959.9	949.3	908.0	888.8	851.4
57.5°	879.2	870.6	817.8	773.6	724.7
60°	790.9	790.9	727.6	656.5	619.1
62.5°	705.5	702.6	635.4	551.0	535.6
65°	622.9	609.5	544.2	460.7	456.9
67.5°	536.6	520.2	455.9	383.0	391.6
70°	455.9	432.9	380.1	315.8	325.4
72.5°	388.7	351.3	305.2	258.2	273.6
75°	326.4	284.1	237.1	207.3	226.5
77.5°	280.3	232.3	185.3	160.3	181.4
80°	231.3	190.1	146.9	119.0	138.2
82.5°	194.9	158.4	119.0	85.4	95.0
85°	160.3	132.5	99.8	65.3	57.6
87.5°	129.6	111.3	80.6	51.8	19.2
90°	104.6	93.1	66.2	36.5	1.0
92.5°	82.5	77.7	53.8	20.2	1.0
95°	65.3	65.3	39.4	6.7	1.0
97.5°	49.9	49.9	25.0	1.9	1.0
100°	36.5	34.6	11.5	1.9	1.9
102.5°	23.0	20.2	3.8	1.9	1.9
105°	12.5	8.6	2.9	1.9	1.9
107.5°	5.8	3.8	2.9	1.9	1.9
110°	3.8	3.8	2.9	1.9	1.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.8	3.8	2.9	1.9	1.9
115°	3.8	2.9	2.9	1.9	1.9
117.5°	3.8	2.9	2.9	2.9	2.9
120°	3.8	3.8	2.9	2.9	2.9
122.5°	3.8	3.8	2.9	2.9	2.9
125°	3.8	3.8	3.8	2.9	2.9
127.5°	3.8	3.8	3.8	2.9	2.9
130°	3.8	3.8	3.8	2.9	2.9
132.5°	3.8	3.8	3.8	3.8	2.9
135°	3.8	3.8	3.8	3.8	2.9
137.5°	3.8	3.8	3.8	3.8	2.9
140°	3.8	3.8	3.8	3.8	2.9
142.5°	3.8	4.8	3.8	3.8	2.9
145°	4.8	4.8	3.8	3.8	2.9
147.5°	4.8	4.8	3.8	3.8	2.9
150°	3.8	3.8	3.8	3.8	2.9
152.5°	3.8	3.8	3.8	3.8	2.9
155°	3.8	3.8	3.8	3.8	3.8
157.5°	3.8	3.8	3.8	3.8	3.8
160°	3.8	3.8	3.8	3.8	3.8
162.5°	3.8	3.8	3.8	3.8	3.8
165°	3.8	3.8	3.8	3.8	3.8
167.5°	3.8	3.8	3.8	4.8	4.8
170°	2.9	3.8	3.8	3.8	4.8
172.5°	1.9	3.8	3.8	4.8	4.8
175°	1.9	3.8	3.8	4.8	4.8
177.5°	1.9	3.8	3.8	4.8	4.8
180°	3.8	3.8	3.8	3.8	3.8

(END OF REPORT)