

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: P392635

Luminaire Tested: **MWL-4-00-60-UNV-L835-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392635  
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-L835-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5899.9 lumens  
Efficiency: N/A  
Efficacy: 91.3 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

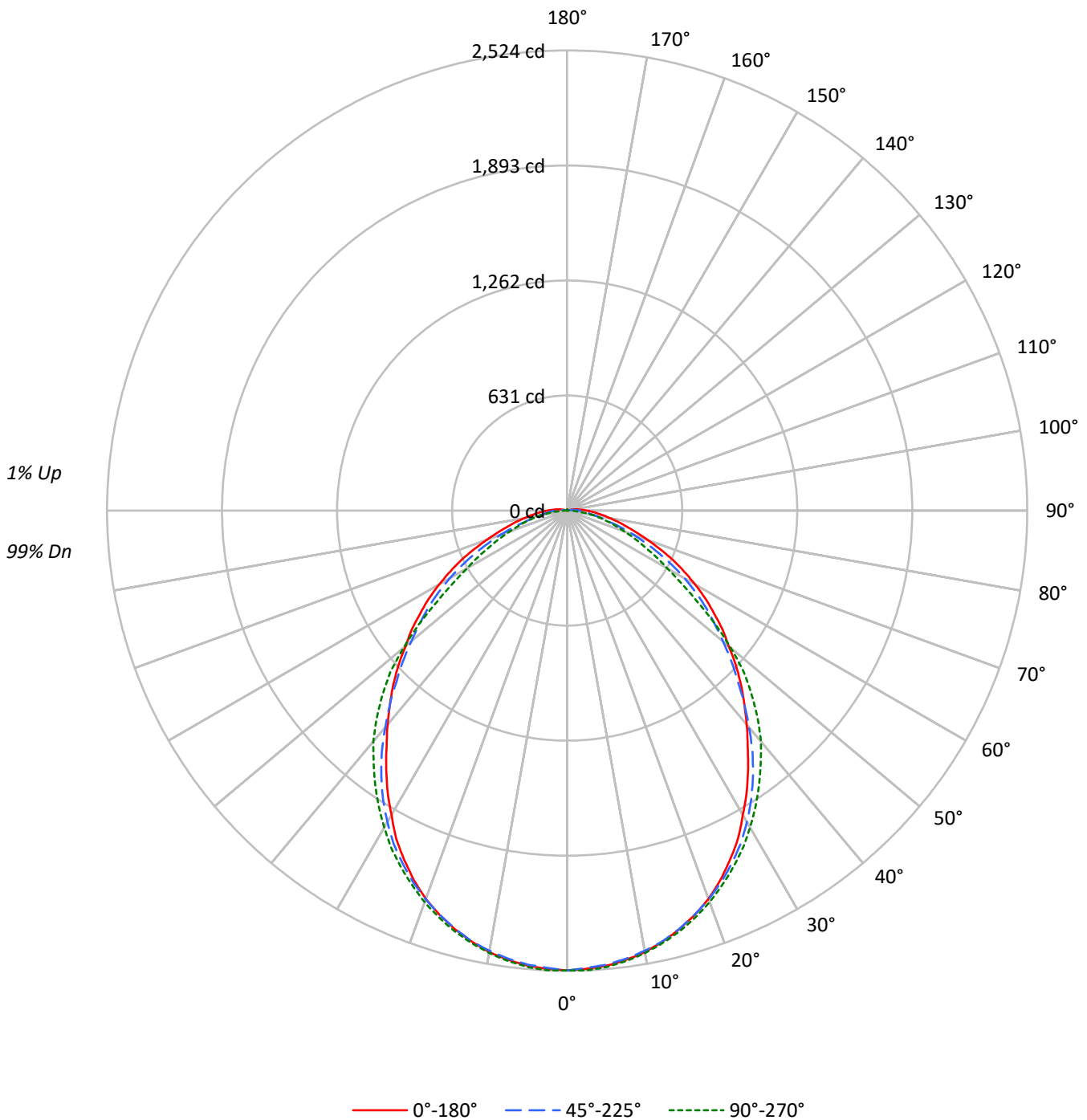
Input Watts (W): 64.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	16288	16288	16288
5°	16095	15168	14976
10°	15836	14130	13737
15°	15465	13130	12594
20°	15008	12146	11519
25°	14367	11157	10485
30°	13558	10135	9489
35°	12711	9058	8514
40°	11880	7905	7579
45°	11146	6785	6544
50°	10339	5806	5366
55°	9633	4950	4043
60°	8862	4091	2997
65°	7968	3185	2273
70°	6855	2337	1679
75°	6005	1548	1223
80°	5539	1031	789
85°	5551	763	352



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	237.8	4.0
10°-20°	670.7	11.4
20°-30°	983.2	16.7
30°-40°	1112.6	18.9
40°-50°	1047.9	17.8
50°-60°	837.6	14.2
60°-70°	549.6	9.3
70°-80°	279.4	4.7
80°-90°	117.0	2.0
90°-100°	41.8	0.7
100°-110°	7.6	0.1
110°-120°	2.9	0.0
120°-130°	3.1	0.1
130°-140°	2.9	0.0
140°-150°	2.5	0.0
150°-160°	1.8	0.0
160°-170°	1.1	0.0
170°-180°	0.4	0.0
0°-30°	1891.7	32.1
0°-40°	3004.3	50.9
0°-60°	4889.8	82.9
0°-90°	5835.8	98.9
90°-120°	52.3	0.9
90°-150°	60.8	1.0
90°-180°	64.0	1.1
0°-180°	5899.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2522	2522	2522	2522	2522	
5°	2505	2509	2499	2511	2512	238
15°	2378	2376	2375	2388	2388	670
25°	2114	2121	2136	2157	2157	972
35°	1730	1740	1777	1830	1836	1082
45°	1348	1322	1323	1393	1433	1039
55°	983	972	930	910	872	881
65°	638	624	557	472	468	630
75°	334	291	243	212	232	362
85°	164	136	102	67	59	149
90°	107	95	68	37	1	59
95°	67	67	40	7	1	49
105°	13	9	3	2	2	17
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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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2522.0	2522.0	2522.0	2522.0	2522.0
2.5°	2515.1	2520.0	2510.2	2523.0	2524.0
5°	2505.3	2509.2	2499.4	2511.2	2512.2
7.5°	2484.6	2488.6	2478.7	2492.5	2491.5
10°	2459.1	2457.1	2451.2	2464.0	2464.0
12.5°	2420.8	2422.7	2419.8	2429.6	2428.6
15°	2377.5	2376.5	2374.6	2388.3	2388.3
17.5°	2325.4	2327.4	2324.4	2338.2	2339.2
20°	2266.5	2267.4	2269.4	2284.1	2286.1
22.5°	2194.7	2202.6	2206.5	2224.2	2223.2
25°	2114.1	2121.0	2135.7	2157.4	2157.4
27.5°	2029.6	2039.4	2061.0	2086.6	2087.6
30°	1927.4	1940.1	1971.6	2005.0	2007.0
32.5°	1833.0	1842.8	1879.2	1922.5	1923.4
35°	1729.8	1739.6	1777.0	1830.1	1836.0
37.5°	1626.6	1632.5	1669.9	1732.8	1743.6
40°	1532.3	1526.4	1551.9	1625.6	1653.2
42.5°	1437.9	1426.1	1438.9	1512.6	1547.0
45°	1347.5	1321.9	1322.9	1392.7	1433.0
47.5°	1255.1	1230.5	1220.7	1273.8	1317.0
50°	1156.8	1141.1	1115.5	1151.9	1170.6
52.5°	1075.2	1055.6	1019.2	1033.0	1025.1
55°	982.8	972.0	929.8	910.1	871.8
57.5°	900.3	891.4	837.4	792.2	742.1
60°	809.9	809.9	745.0	672.3	633.9
62.5°	722.4	719.4	650.6	564.2	548.4
65°	637.9	624.1	557.3	471.8	467.8
67.5°	549.4	532.7	466.9	392.2	401.0
70°	466.9	443.3	389.2	323.4	333.2
72.5°	398.1	359.7	312.5	264.4	280.1
75°	334.2	290.9	242.8	212.3	232.0
77.5°	287.0	237.8	189.7	164.1	185.8
80°	236.9	194.6	150.4	121.9	141.5
82.5°	199.5	162.2	121.9	87.5	97.3
85°	164.1	135.6	102.2	66.8	59.0
87.5°	132.7	114.0	82.6	53.1	19.7
90°	107.1	95.3	67.8	37.3	1.0
92.5°	84.5	79.6	55.0	20.6	1.0
95°	66.8	66.8	40.3	6.9	1.0
97.5°	51.1	51.1	25.6	2.0	1.0
100°	37.3	35.4	11.8	2.0	2.0
102.5°	23.6	20.6	3.9	2.0	2.0
105°	12.8	8.8	2.9	2.0	2.0
107.5°	5.9	3.9	2.9	2.0	2.0
110°	3.9	3.9	2.9	2.0	2.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.9	3.9	2.9	2.0	2.0
115°	3.9	2.9	2.9	2.0	2.0
117.5°	3.9	2.9	2.9	2.9	2.9
120°	3.9	3.9	2.9	2.9	2.9
122.5°	3.9	3.9	2.9	2.9	2.9
125°	3.9	3.9	3.9	2.9	2.9
127.5°	3.9	3.9	3.9	2.9	2.9
130°	3.9	3.9	3.9	2.9	2.9
132.5°	3.9	3.9	3.9	3.9	2.9
135°	3.9	3.9	3.9	3.9	2.9
137.5°	3.9	3.9	3.9	3.9	2.9
140°	3.9	3.9	3.9	3.9	2.9
142.5°	3.9	4.9	3.9	3.9	2.9
145°	4.9	4.9	3.9	3.9	2.9
147.5°	4.9	4.9	3.9	3.9	2.9
150°	3.9	3.9	3.9	3.9	2.9
152.5°	3.9	3.9	3.9	3.9	2.9
155°	3.9	3.9	3.9	3.9	3.9
157.5°	3.9	3.9	3.9	3.9	3.9
160°	3.9	3.9	3.9	3.9	3.9
162.5°	3.9	3.9	3.9	3.9	3.9
165°	3.9	3.9	3.9	3.9	3.9
167.5°	3.9	3.9	3.9	4.9	4.9
170°	2.9	3.9	3.9	3.9	4.9
172.5°	2.0	3.9	3.9	4.9	4.9
175°	2.0	3.9	3.9	4.9	4.9
177.5°	2.0	3.9	3.9	4.9	4.9
180°	3.9	3.9	3.9	3.9	3.9

(END OF REPORT)