

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-L930-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-L930-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5073.3 lumens  
Efficiency: N/A  
Efficacy: 77.8 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

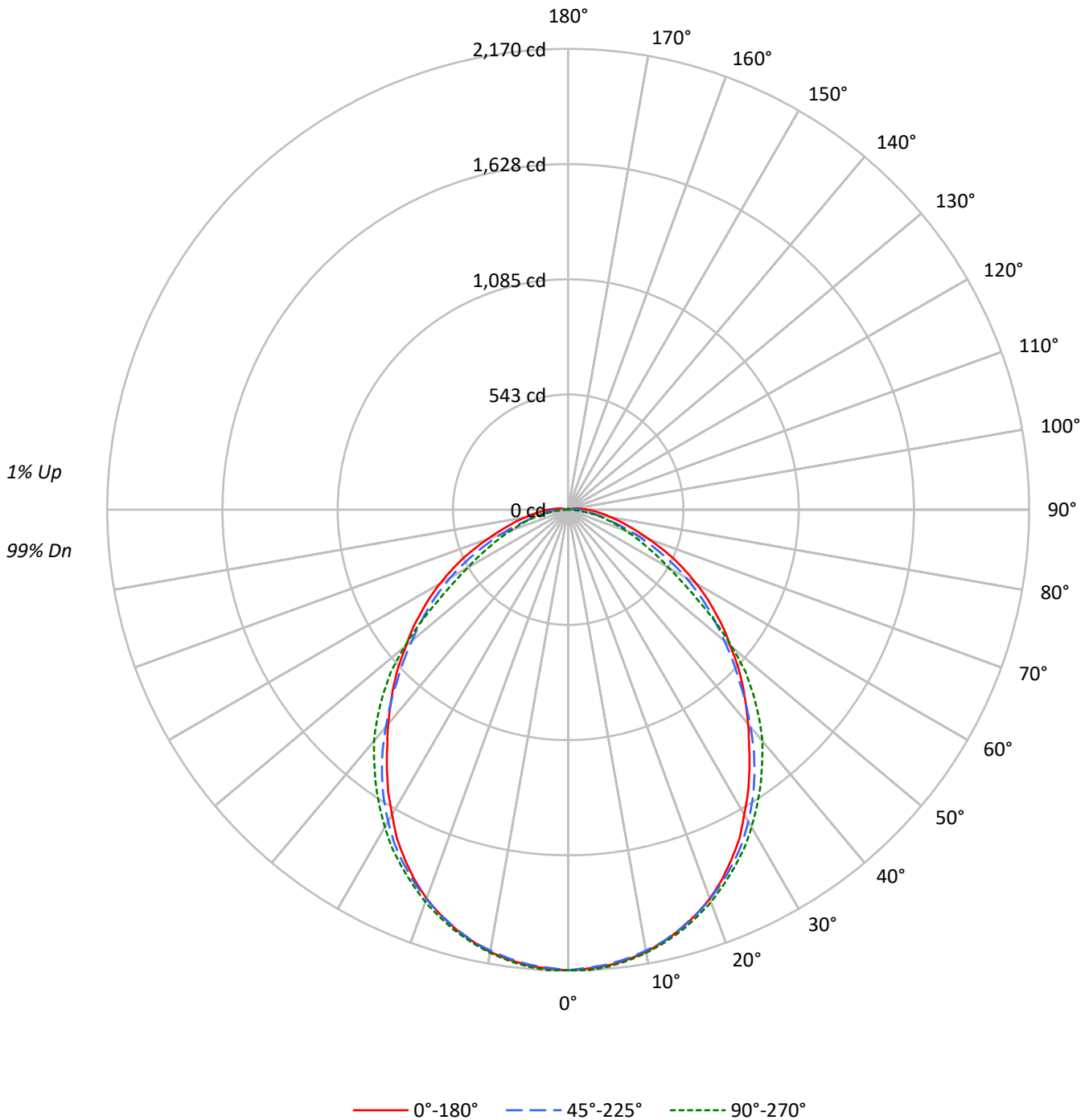
Input Watts (W): 65.246  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	14006	14006	14006
5°	13840	13042	12878
10°	13617	12150	11812
15°	13298	11290	10830
20°	12905	10444	9905
25°	12355	9594	9015
30°	11659	8715	8159
35°	10930	7789	7321
40°	10215	6798	6517
45°	9585	5835	5628
50°	8891	4992	4614
55°	8284	4256	3476
60°	7620	3518	2577
65°	6852	2738	1955
70°	5893	2009	1444
75°	5164	1331	1051
80°	4763	886	678
85°	4773	656	302



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	204.5	4.0
10°-20°	576.7	11.4
20°-30°	845.5	16.7
30°-40°	956.8	18.9
40°-50°	901.1	17.8
50°-60°	720.3	14.2
60°-70°	472.6	9.3
70°-80°	240.3	4.7
80°-90°	100.6	2.0
90°-100°	36.0	0.7
100°-110°	6.5	0.1
110°-120°	2.5	0.1
120°-130°	2.7	0.1
130°-140°	2.5	0.0
140°-150°	2.2	0.0
150°-160°	1.5	0.0
160°-170°	1.0	0.0
170°-180°	0.3	0.0
0°-30°	1626.7	32.1
0°-40°	2583.4	50.9
0°-60°	4204.8	82.9
0°-90°	5018.2	98.9
90°-120°	45.0	0.9
90°-150°	52.3	1.0
90°-180°	55.0	1.1
0°-180°	5073.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2169	2169	2169	2169	2169	
5°	2154	2158	2149	2159	2160	204
15°	2044	2044	2042	2054	2054	576
25°	1818	1824	1836	1855	1855	835
35°	1488	1496	1528	1574	1579	930
45°	1159	1137	1138	1198	1232	893
55°	845	836	800	783	750	758
65°	548	537	479	406	402	542
75°	287	250	209	182	199	311
85°	141	117	88	58	51	128
90°	92	82	58	32	1	51
95°	58	58	35	6	1	42
105°	11	8	3	2	2	14
115°	3	3	3	2	2	3
125°	3	3	3	3	3	3
135°	3	3	3	3	3	3
145°	4	4	3	3	3	2
155°	3	3	3	3	3	2
165°	3	3	3	3	3	1
175°	2	3	3	4	4	0
180°	3	3	3	3	3	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2168.7	2168.7	2168.7	2168.7	2168.7
2.5°	2162.8	2167.0	2158.5	2169.6	2170.3
5°	2154.3	2157.7	2149.2	2159.3	2160.2
7.5°	2136.5	2140.0	2131.5	2143.3	2142.4
10°	2114.6	2112.9	2107.8	2118.8	2118.8
12.5°	2081.6	2083.4	2080.8	2089.3	2088.4
15°	2044.4	2043.6	2041.9	2053.8	2053.8
17.5°	1999.6	2001.4	1998.8	2010.6	2011.5
20°	1948.9	1949.8	1951.5	1964.1	1965.8
22.5°	1887.3	1894.0	1897.4	1912.6	1911.7
25°	1818.0	1823.9	1836.5	1855.1	1855.1
27.5°	1745.2	1753.7	1772.3	1794.3	1795.1
30°	1657.4	1668.4	1695.4	1724.1	1725.8
32.5°	1576.2	1584.6	1616.0	1653.1	1653.9
35°	1487.5	1496.0	1528.0	1573.7	1578.7
37.5°	1398.8	1403.8	1435.9	1490.0	1499.3
40°	1317.6	1312.6	1334.5	1397.9	1421.6
42.5°	1236.5	1226.4	1237.3	1300.7	1330.3
45°	1158.7	1136.7	1137.6	1197.6	1232.3
47.5°	1079.2	1058.1	1049.6	1095.3	1132.5
50°	994.8	981.2	959.2	990.6	1006.6
52.5°	924.6	907.7	876.4	888.2	881.5
55°	845.2	835.9	799.5	782.6	749.7
57.5°	774.1	766.6	720.1	681.2	638.1
60°	696.4	696.4	640.7	578.0	545.1
62.5°	621.2	618.6	559.5	485.2	471.6
65°	548.5	536.7	479.2	405.6	402.3
67.5°	472.5	458.0	401.4	337.2	344.8
70°	401.4	381.2	334.7	278.1	286.5
72.5°	342.3	309.3	268.7	227.3	240.9
75°	287.4	250.2	208.8	182.5	199.4
77.5°	246.8	204.5	163.2	141.1	159.7
80°	203.7	167.4	129.3	104.8	121.7
82.5°	171.6	139.5	104.8	75.2	83.6
85°	141.1	116.7	87.9	57.5	50.7
87.5°	114.1	98.0	71.0	45.6	16.9
90°	92.1	82.0	58.3	32.1	0.9
92.5°	72.6	68.4	47.4	17.8	0.9
95°	57.5	57.5	34.7	5.9	0.9
97.5°	43.9	43.9	22.0	1.7	0.9
100°	32.1	30.5	10.1	1.7	1.7
102.5°	20.3	17.8	3.3	1.7	1.7
105°	11.0	7.6	2.6	1.7	1.7
107.5°	5.1	3.3	2.6	1.7	1.7
110°	3.3	3.3	2.6	1.7	1.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.3	3.3	2.6	1.7	1.7
115°	3.3	2.6	2.6	1.7	1.7
117.5°	3.3	2.6	2.6	2.6	2.6
120°	3.3	3.3	2.6	2.6	2.6
122.5°	3.3	3.3	2.6	2.6	2.6
125°	3.3	3.3	3.3	2.6	2.6
127.5°	3.3	3.3	3.3	2.6	2.6
130°	3.3	3.3	3.3	2.6	2.6
132.5°	3.3	3.3	3.3	3.3	2.6
135°	3.3	3.3	3.3	3.3	2.6
137.5°	3.3	3.3	3.3	3.3	2.6
140°	3.3	3.3	3.3	3.3	2.6
142.5°	3.3	4.2	3.3	3.3	2.6
145°	4.2	4.2	3.3	3.3	2.6
147.5°	4.2	4.2	3.3	3.3	2.6
150°	3.3	3.3	3.3	3.3	2.6
152.5°	3.3	3.3	3.3	3.3	2.6
155°	3.3	3.3	3.3	3.3	3.3
157.5°	3.3	3.3	3.3	3.3	3.3
160°	3.3	3.3	3.3	3.3	3.3
162.5°	3.3	3.3	3.3	3.3	3.3
165°	3.3	3.3	3.3	3.3	3.3
167.5°	3.3	3.3	3.3	4.2	4.2
170°	2.6	3.3	3.3	3.3	4.2
172.5°	1.7	3.3	3.3	4.2	4.2
175°	1.7	3.3	3.3	4.2	4.2
177.5°	1.7	3.3	3.3	4.2	4.2
180°	3.3	3.3	3.3	3.3	3.3

(END OF REPORT)