

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: P392632

Luminaire Tested: **MWL-4-00-45-UNV-L835-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392632  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-4-00-45-UNV-L835-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4434.9 lumens  
Efficiency: N/A  
Efficacy: 97.5 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

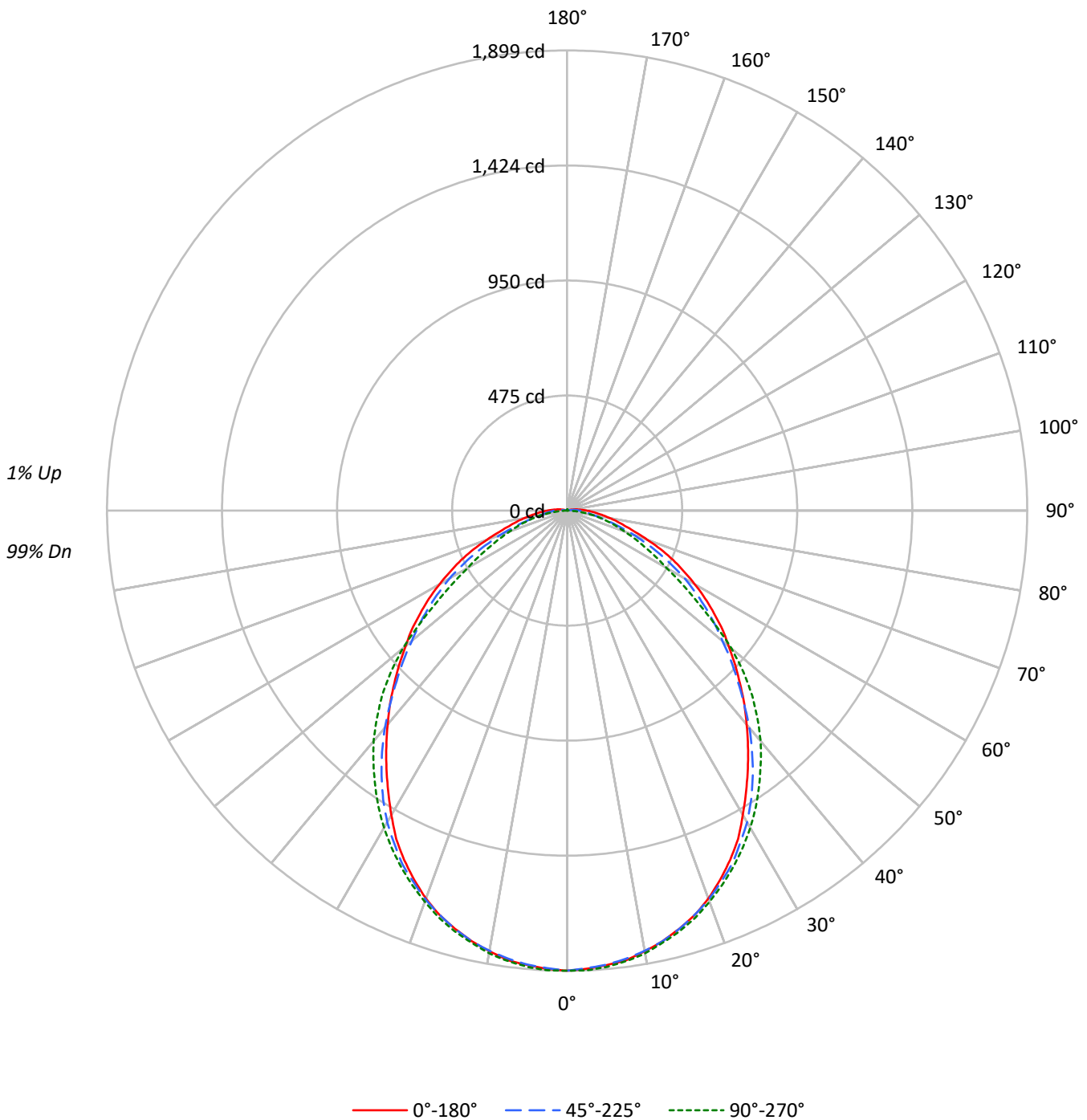
Input Watts (W): 45.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	56	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°	12262	12262	12262
5°	12097	11415	11266
10°	11892	10633	10344
15°	11621	9884	9473
20°	11284	9141	8656
25°	10813	8409	7885
30°	10203	7633	7146
35°	9554	6808	6407
40°	8938	5962	5694
45°	8340	5106	4932
50°	7773	4358	4055
55°	7253	3710	3030
60°	6656	3076	2240
65°	6027	2398	1705
70°	5180	1753	1273
75°	4467	1178	922
80°	4183	767	586
85°	4154	573	269



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	178.9	4.0
10°-20°	504.6	11.4
20°-30°	739.5	16.7
30°-40°	836.6	18.9
40°-50°	787.9	17.8
50°-60°	628.9	14.2
60°-70°	413.0	9.3
70°-80°	209.9	4.7
80°-90°	87.6	2.0
90°-100°	31.4	0.7
100°-110°	5.6	0.1
110°-120°	2.3	0.1
120°-130°	2.4	0.1
130°-140°	2.2	0.0
140°-150°	1.8	0.0
150°-160°	1.3	0.0
160°-170°	0.8	0.0
170°-180°	0.3	0.0
0°-30°	1423.0	32.1
0°-40°	2259.6	51.0
0°-60°	3676.3	82.9
0°-90°	4386.8	98.9
90°-120°	39.3	0.9
90°-150°	45.6	1.0
90°-180°	48.0	1.1
0°-180°	4434.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1899	1899	1899	1899	1899	
5°	1883	1887	1881	1889	1890	179
15°	1787	1788	1788	1797	1796	503
25°	1591	1598	1610	1622	1622	731
35°	1300	1308	1336	1376	1382	813
45°	1008	996	996	1049	1080	779
55°	740	730	697	688	654	663
65°	482	472	420	353	351	475
75°	249	220	185	159	175	270
85°	123	102	77	50	45	112
90°	81	72	51	28	1	44
95°	49	50	30	6	1	36
105°	10	7	2	1	1	13
115°	3	3	2	2	2	3
125°	3	3	3	2	2	3
135°	3	3	3	3	2	2
145°	3	3	3	3	3	2
155°	3	3	3	3	3	1
165°	3	3	3	3	3	1
175°	2	3	3	3	4	0
180°	3	3	3	3	3	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1898.7	1898.7	1898.7	1898.7	1898.7
2.5°	1892.8	1896.7	1889.8	1899.6	1898.7
5°	1882.9	1886.9	1881.0	1888.8	1889.8
7.5°	1871.1	1870.2	1865.2	1875.1	1875.1
10°	1846.6	1849.5	1844.6	1855.4	1855.4
12.5°	1820.0	1822.0	1820.0	1828.9	1825.9
15°	1786.6	1787.6	1787.6	1797.4	1796.5
17.5°	1750.3	1751.2	1749.3	1760.1	1761.1
20°	1704.1	1704.1	1708.0	1716.8	1717.8
22.5°	1649.0	1654.9	1658.9	1671.6	1671.6
25°	1591.1	1597.9	1609.7	1621.5	1622.5
27.5°	1527.2	1535.0	1546.8	1568.5	1568.5
30°	1450.5	1462.3	1484.9	1507.5	1511.5
32.5°	1373.9	1385.7	1413.2	1442.7	1449.5
35°	1300.2	1308.0	1335.5	1375.8	1381.7
37.5°	1225.5	1227.4	1254.0	1302.1	1312.9
40°	1152.8	1147.8	1170.4	1220.6	1242.2
42.5°	1082.0	1071.2	1080.0	1139.0	1161.6
45°	1008.3	995.5	995.5	1048.6	1080.0
47.5°	939.5	923.8	916.9	962.1	986.7
50°	869.7	857.0	837.3	864.8	884.5
52.5°	809.8	792.1	766.5	775.4	764.6
55°	740.0	730.2	696.8	687.9	653.5
57.5°	675.1	669.2	627.0	591.6	559.2
60°	608.3	605.4	560.2	506.1	473.7
62.5°	542.5	538.5	488.4	423.6	410.8
65°	482.5	471.7	419.6	352.8	350.8
67.5°	416.7	400.0	350.8	294.8	299.7
70°	352.8	331.2	291.9	244.7	252.6
72.5°	294.8	270.3	234.9	199.5	212.3
75°	248.6	220.1	184.8	159.2	174.9
77.5°	213.3	177.9	141.5	122.8	140.5
80°	178.9	147.4	112.0	91.4	105.2
82.5°	148.4	119.9	91.4	64.9	73.7
85°	122.8	102.2	76.7	50.1	45.2
87.5°	100.2	84.5	61.9	39.3	15.7
90°	80.6	71.7	51.1	27.5	1.0
92.5°	62.9	59.9	41.3	16.7	1.0
95°	49.1	50.1	30.5	5.9	1.0
97.5°	37.3	38.3	18.7	1.0	1.0
100°	27.5	26.5	8.8	1.0	1.0
102.5°	18.7	15.7	2.9	1.0	1.0
105°	9.8	6.9	2.0	1.0	1.0
107.5°	3.9	2.9	2.0	2.0	1.0
110°	2.9	2.9	2.0	2.0	2.0



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**CANDELA DISTRIBUTION (continued):**

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

(END OF REPORT)