

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: P392471

Luminaire Tested: **MWL-2-00-38-UNV-L840-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392471  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-25)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-2-00-38-UNV-L840-EDD  
Description: MWL 2FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3848.0 lumens  
Efficiency: N/A  
Efficacy: 91.0 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

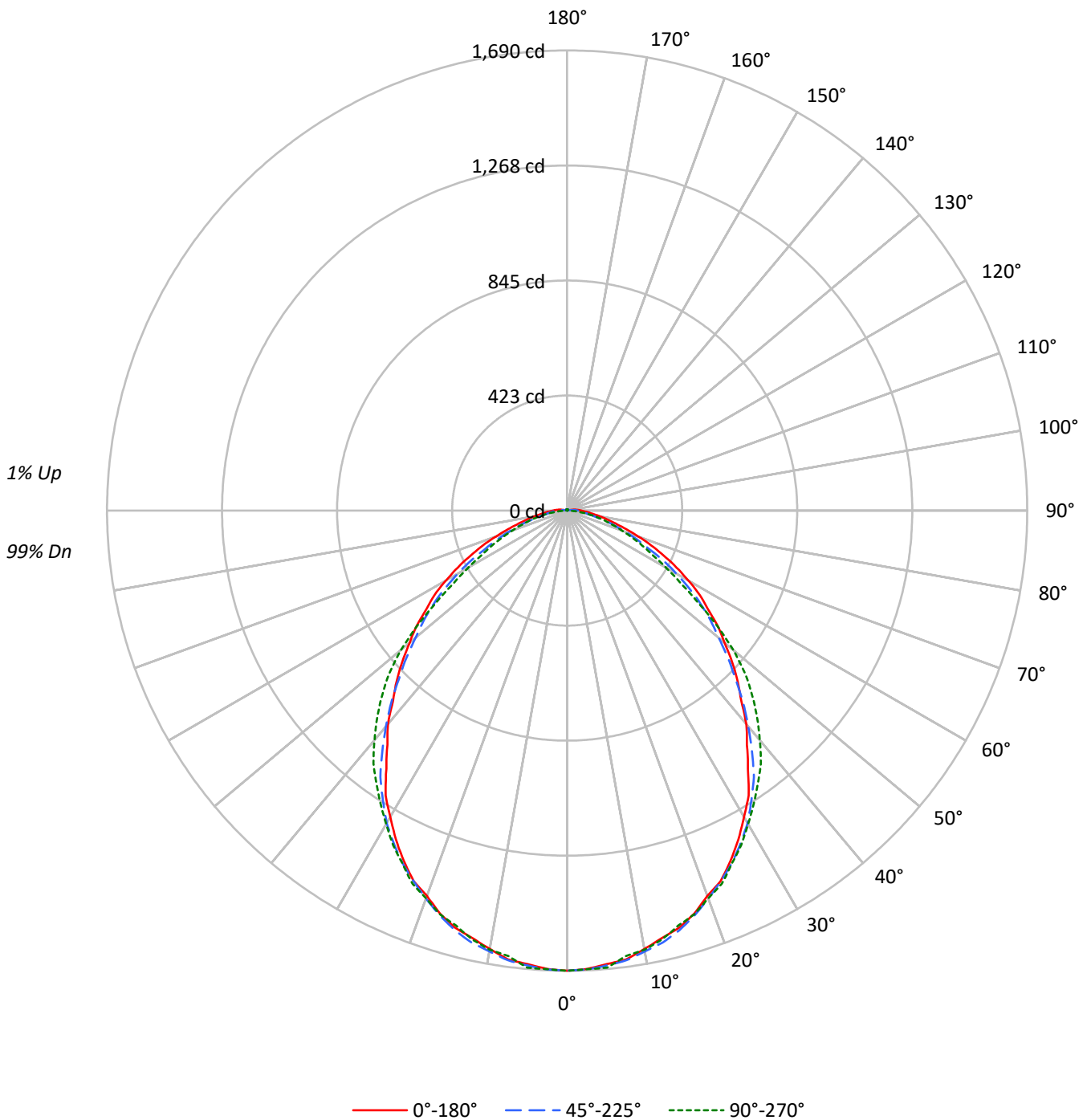
Input Watts (W): 42.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	105	101	98	107	103	99	96	98	96	93	94	92	90	91	89	87	85								
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73								
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	72	68	65	62								
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	65	60	56	54								
5	79	67	58	52	77	65	57	52	63	56	51	61	55	50	59	54	50	48								
6	73	60	52	46	71	59	51	46	57	50	45	56	49	45	54	49	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	37	48	41	36	47	41	36	46	40	36	34								
9	59	46	39	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°	21828	21828	21828
5°	21290	20230	20089
10°	20683	18738	18262
15°	20099	17354	16641
20°	19241	15894	15267
25°	18445	14573	13908
30°	17293	13233	12566
35°	15934	11799	11332
40°	14696	10163	10093
45°	13393	8608	8785
50°	12152	7227	7297
55°	10950	6085	5416
60°	9757	4823	3971
65°	8260	3561	2955
70°	6677	2572	2157
75°	5166	1692	1519
80°	4126	1043	959
85°	3463	785	393



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.9	4.1
10°-20°	447.1	11.6
20°-30°	655.8	17.0
30°-40°	743.3	19.3
40°-50°	693.5	18.0
50°-60°	544.4	14.1
60°-70°	338.6	8.8
70°-80°	162.7	4.2
80°-90°	65.3	1.7
90°-100°	21.7	0.6
100°-110°	2.6	0.1
110°-120°	2.3	0.1
120°-130°	2.7	0.1
130°-140°	3.0	0.1
140°-150°	2.6	0.1
150°-160°	2.1	0.1
160°-170°	1.1	0.0
170°-180°	0.4	0.0
0°-30°	1261.9	32.8
0°-40°	2005.2	52.1
0°-60°	3243.1	84.3
0°-90°	3809.7	99.0
90°-120°	26.6	0.7
90°-150°	34.8	0.9
90°-180°	38.0	1.0
0°-180°	3848.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1690	1690	1690	1690	1690	
5°	1672	1675	1677	1674	1685	159
15°	1587	1585	1595	1585	1578	446
25°	1420	1417	1430	1429	1431	652
35°	1158	1163	1196	1216	1222	726
45°	886	872	874	927	962	683
55°	631	626	600	602	584	568
65°	391	376	330	296	304	389
75°	184	159	142	131	144	201
85°	79	77	57	40	33	73
90°	51	57	40	21	1	29
95°	35	36	21	1	1	25
105°	2	2	2	1	1	5
115°	3	2	2	2	2	3
125°	3	3	3	3	3	3
135°	4	4	4	4	4	3
145°	4	4	4	4	4	3
155°	5	5	4	4	4	2
165°	5	4	4	4	3	1
175°	2	3	4	4	4	0
180°	4	4	4	4	4	



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CATALOG NUMBER: MWL-2-00-38-UNV-L840-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1689.9	1689.9	1689.9	1689.9	1689.9
2.5°	1684.9	1679.9	1686.9	1680.9	1685.9
5°	1671.9	1674.9	1676.9	1673.9	1684.9
7.5°	1662.9	1664.9	1665.9	1660.9	1649.9
10°	1634.9	1646.9	1643.9	1639.9	1637.9
12.5°	1607.9	1611.9	1624.9	1615.9	1612.9
15°	1586.9	1584.9	1594.9	1584.9	1577.9
17.5°	1551.9	1547.9	1557.9	1557.9	1553.9
20°	1505.9	1515.9	1515.9	1518.9	1514.9
22.5°	1472.9	1470.9	1473.9	1477.9	1483.9
25°	1419.9	1416.9	1429.9	1428.9	1430.9
27.5°	1361.9	1359.9	1378.9	1382.9	1384.9
30°	1298.9	1303.9	1324.9	1327.9	1328.9
32.5°	1240.9	1236.9	1259.9	1276.9	1275.9
35°	1157.9	1162.9	1195.9	1215.9	1221.9
37.5°	1084.9	1088.9	1115.9	1155.9	1168.9
40°	1023.9	1011.9	1034.9	1082.9	1100.9
42.5°	945.9	940.9	955.9	1007.9	1032.9
45°	885.9	871.9	873.9	926.9	961.9
47.5°	820.9	802.9	800.9	844.9	887.9
50°	754.9	745.9	725.9	757.9	795.9
52.5°	697.9	685.9	663.9	682.9	693.9
55°	630.9	625.9	599.9	601.9	584.0
57.5°	578.0	571.0	532.0	515.0	492.0
60°	514.0	506.0	463.0	432.0	420.0
62.5°	453.0	444.0	398.0	358.0	354.0
65°	391.0	376.0	330.0	296.0	304.0
67.5°	335.0	312.0	277.0	246.0	257.0
70°	278.0	253.0	228.0	202.0	214.0
72.5°	227.0	204.0	183.0	165.0	176.0
75°	184.0	159.0	142.0	131.0	144.0
77.5°	151.0	130.0	106.0	102.0	114.0
80°	121.0	108.0	82.0	76.0	86.0
82.5°	97.0	91.0	68.0	53.0	57.0
85°	79.0	77.0	57.0	40.0	33.0
87.5°	63.0	67.0	48.0	31.0	10.0
90°	51.0	57.0	40.0	21.0	1.0
92.5°	44.0	47.0	32.0	9.0	1.0
95°	35.0	36.0	21.0	1.0	1.0
97.5°	27.0	24.0	9.0	1.0	1.0
100°	16.0	11.0	2.0	1.0	1.0
102.5°	6.0	4.0	1.0	1.0	1.0
105°	2.0	2.0	2.0	1.0	1.0
107.5°	2.0	2.0	2.0	2.0	1.0
110°	2.0	2.0	2.0	2.0	2.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	2.0	2.0	2.0	2.0
115°	3.0	2.0	2.0	2.0	2.0
117.5°	3.0	3.0	3.0	2.0	2.0
120°	3.0	3.0	3.0	3.0	3.0
122.5°	3.0	3.0	3.0	3.0	3.0
125°	3.0	3.0	3.0	3.0	3.0
127.5°	3.0	3.0	3.0	3.0	3.0
130°	4.0	3.0	3.0	3.0	3.0
132.5°	4.0	4.0	3.0	4.0	4.0
135°	4.0	4.0	4.0	4.0	4.0
137.5°	4.0	4.0	4.0	4.0	4.0
140°	4.0	4.0	4.0	4.0	4.0
142.5°	4.0	4.0	4.0	4.0	4.0
145°	4.0	4.0	4.0	4.0	4.0
147.5°	4.0	4.0	4.0	4.0	4.0
150°	5.0	5.0	5.0	4.0	4.0
152.5°	5.0	5.0	5.0	4.0	4.0
155°	5.0	5.0	4.0	4.0	4.0
157.5°	5.0	5.0	4.0	4.0	4.0
160°	5.0	5.0	4.0	4.0	3.0
162.5°	5.0	4.0	4.0	4.0	3.0
165°	5.0	4.0	4.0	4.0	3.0
167.5°	4.0	4.0	4.0	3.0	3.0
170°	4.0	4.0	3.0	4.0	4.0
172.5°	3.0	4.0	3.0	4.0	4.0
175°	2.0	3.0	4.0	4.0	4.0
177.5°	3.0	3.0	4.0	5.0	5.0
180°	4.0	4.0	4.0	4.0	4.0

(END OF REPORT)