

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: P589068

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-82-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589068  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-2HI-50-UNV-82-97-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

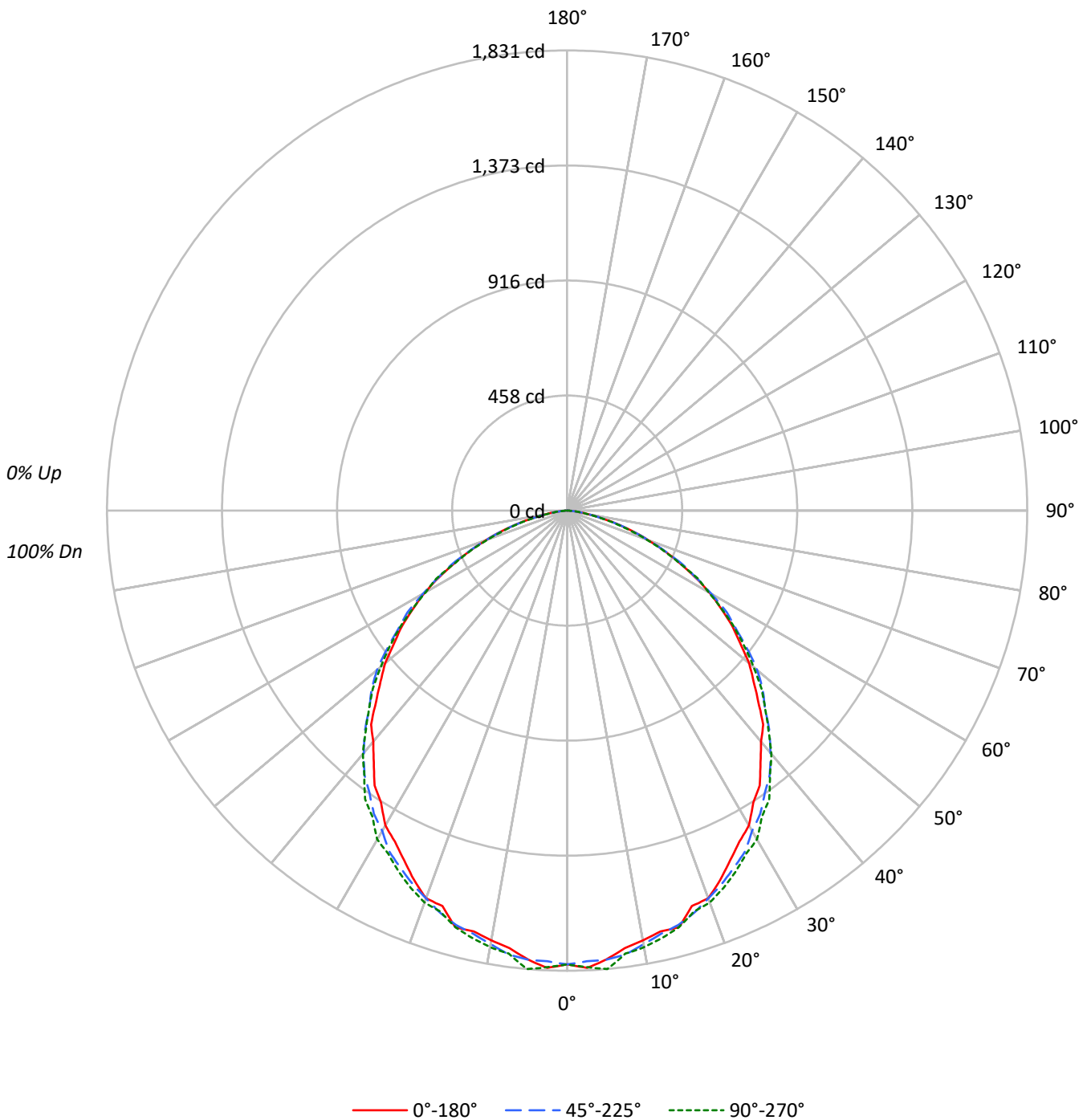
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4551.0 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
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	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4859	4859	4859
5°	4843	4845	4947
10°	4745	4786	4820
15°	4783	4756	4783
20°	4702	4702	4752
25°	4557	4657	4708
30°	4494	4574	4695
35°	4389	4504	4605
40°	4218	4421	4441
45°	4090	4236	4242
50°	3956	4135	4055
55°	3769	3842	3815
60°	3525	3560	3496
65°	3143	3223	3121
70°	2696	2706	2630
75°	2136	2130	2048
80°	1430	1392	1337
85°	778	769	719



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	169.9	3.7
10°-20°	481.4	10.6
20°-30°	721.2	15.8
30°-40°	854.8	18.8
40°-50°	856.4	18.8
50°-60°	726.9	16.0
60°-70°	490.1	10.8
70°-80°	215.3	4.7
80°-90°	35.0	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1372.5	30.2
0°-40°	2227.3	48.9
0°-60°	3810.5	83.7
0°-90°	4551.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4551.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1806	1806	1806	1806	1806	
5°	1793	1789	1794	1788	1831	169
15°	1717	1697	1707	1716	1717	478
25°	1535	1543	1568	1589	1586	710
35°	1336	1340	1371	1403	1402	829
45°	1075	1095	1113	1142	1115	831
55°	803	798	819	813	813	715
65°	494	487	506	487	490	491
75°	205	201	205	190	197	220
85°	25	24	25	24	23	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1805.7	1805.7	1805.7	1805.7	1805.7
2.5°	1821.3	1807.6	1794.8	1809.7	1818.8
5°	1792.9	1788.7	1793.6	1788.2	1831.4
7.5°	1756.1	1772.1	1781.5	1775.6	1778.2
10°	1736.5	1730.9	1751.6	1766.1	1764.0
12.5°	1715.5	1723.9	1725.1	1740.7	1742.1
15°	1716.7	1696.8	1707.3	1716.2	1716.9
17.5°	1650.0	1671.4	1678.7	1698.9	1673.8
20°	1641.8	1626.2	1641.8	1662.6	1659.3
22.5°	1591.7	1574.2	1607.8	1626.2	1625.0
25°	1534.8	1543.2	1568.4	1588.9	1585.6
27.5°	1484.9	1494.7	1530.6	1558.8	1540.6
30°	1446.4	1441.5	1471.9	1497.0	1511.0
32.5°	1377.7	1395.4	1430.8	1455.8	1442.5
35°	1335.9	1339.9	1370.9	1402.6	1401.7
37.5°	1263.0	1281.4	1325.0	1333.8	1325.7
40°	1200.7	1219.1	1258.5	1268.1	1264.1
42.5°	1154.8	1158.0	1191.8	1202.8	1185.3
45°	1074.8	1094.9	1113.0	1141.7	1114.7
47.5°	1006.7	1016.1	1055.2	1062.9	1048.7
50°	944.9	948.2	987.6	978.1	968.7
52.5°	867.3	881.1	903.2	901.3	890.4
55°	803.4	798.1	819.0	813.4	813.2
57.5°	726.7	736.0	753.3	744.4	730.2
60°	654.9	655.1	661.4	651.4	649.5
62.5°	574.9	577.7	579.1	566.8	586.8
65°	493.6	487.0	506.2	486.8	490.1
67.5°	418.7	422.0	420.1	408.0	412.7
70°	342.7	346.9	343.9	330.1	334.3
72.5°	273.2	268.1	271.4	254.1	262.1
75°	205.4	201.2	204.9	190.5	197.0
77.5°	139.9	143.2	140.8	133.1	137.6
80°	92.3	89.8	89.8	85.3	86.3
82.5°	53.9	51.3	50.6	49.2	51.3
85°	25.2	24.5	24.9	24.2	23.3
87.5°	9.1	9.3	9.3	8.9	8.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)