

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: P546266

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-80-87-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P546266  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-12-4-LD4-2LO-50-UNV-80-87-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

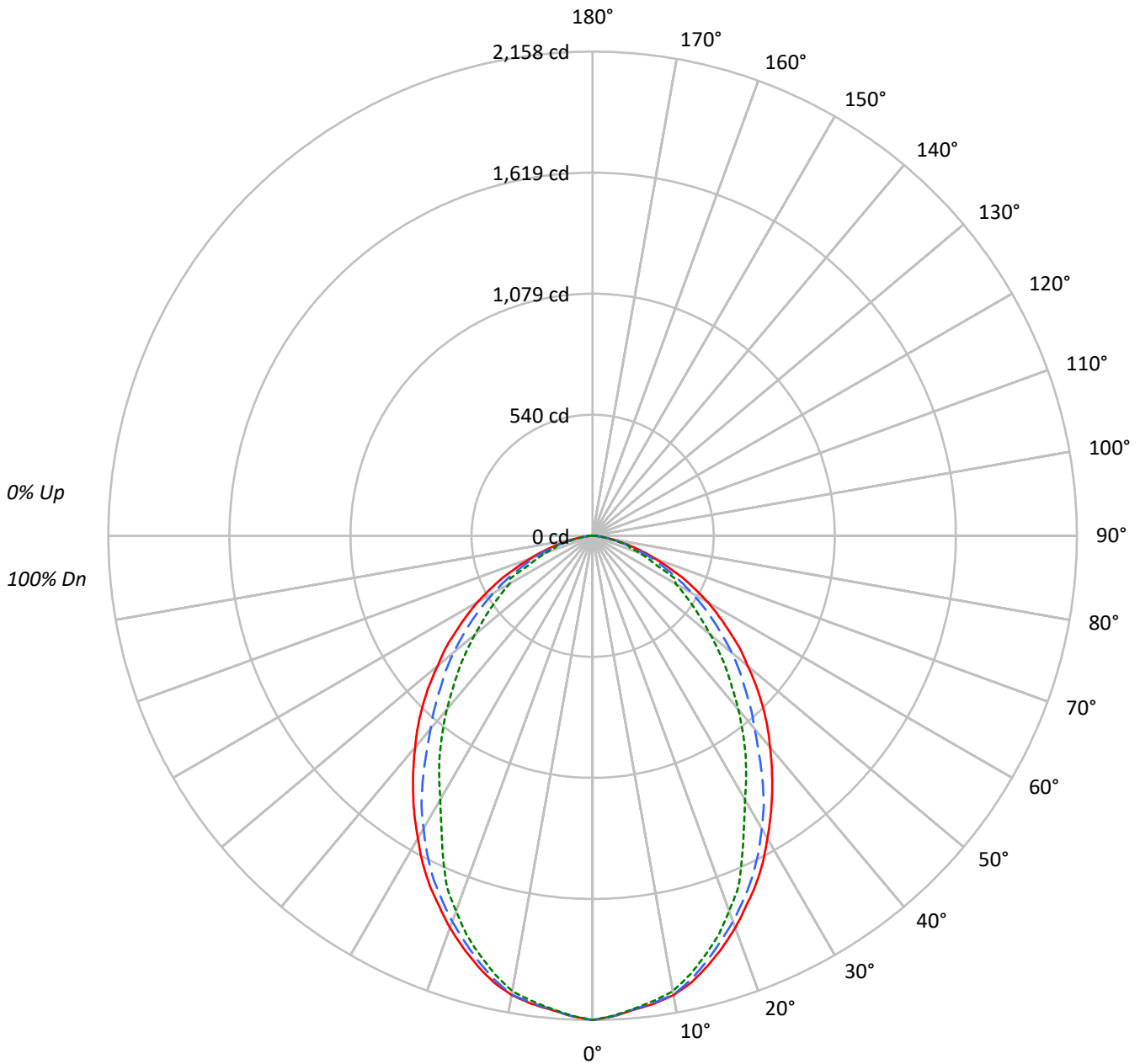
Lumens per Lamp: N/A  
Luminaire Lumens: 4237.0 lumens  
Efficiency: N/A  
Efficacy: 90.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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									
RC	80									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	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

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

	0°	45°	90°
0°	5808	5808	5808
5°	5729	5722	5716
10°	5679	5672	5632
15°	5526	5471	5394
20°	5323	5237	5094
25°	5104	4993	4682
30°	4838	4683	4218
35°	4582	4328	3902
40°	4321	3944	3550
45°	4074	3646	3209
50°	3771	3384	2862
55°	3488	3067	2563
60°	3196	2739	2296
65°	2812	2399	2034
70°	2316	2101	1728
75°	1842	1608	1686
80°	1237	1161	1083
85°	772	923	1078



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	200.9	4.7
10°-20°	551.4	13.0
20°-30°	763.3	18.0
30°-40°	813.9	19.2
40°-50°	742.5	17.5
50°-60°	581.7	13.7
60°-70°	379.1	8.9
70°-80°	168.0	4.0
80°-90°	36.1	0.9
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°	1515.6	35.8
0°-40°	2329.5	55.0
0°-60°	3653.8	86.2
0°-90°	4237.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4237.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2121	2118	2118	2116	2116	201
15°	1984	1984	1964	1944	1936	558
25°	1719	1709	1682	1622	1577	789
35°	1395	1385	1317	1218	1188	872
45°	1070	1048	958	878	843	825
55°	744	721	654	576	546	667
65°	442	417	377	384	319	435
75°	177	165	155	147	162	190
85°	25	27	30	32	35	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2158.3	2158.3	2158.3	2158.3	2158.3
2.5°	2143.3	2143.3	2143.3	2140.8	2140.8
5°	2120.8	2118.3	2118.3	2115.9	2115.9
7.5°	2103.4	2100.9	2098.4	2095.9	2090.9
10°	2078.4	2078.4	2075.9	2063.5	2061.0
12.5°	2038.5	2036.0	2026.0	2008.6	2003.6
15°	1983.6	1983.6	1963.7	1943.7	1936.2
17.5°	1923.7	1921.2	1896.3	1876.3	1866.3
20°	1858.9	1853.9	1828.9	1796.5	1779.0
22.5°	1786.5	1786.5	1756.6	1714.1	1696.7
25°	1719.1	1709.2	1681.7	1621.8	1576.9
27.5°	1641.8	1626.8	1596.9	1512.0	1459.6
30°	1556.9	1549.5	1507.0	1397.3	1357.3
32.5°	1477.1	1464.6	1419.7	1304.9	1272.5
35°	1394.8	1384.8	1317.4	1217.6	1187.7
37.5°	1312.4	1300.0	1215.1	1135.3	1097.8
40°	1230.1	1215.1	1122.8	1050.4	1010.5
42.5°	1152.7	1132.8	1043.0	965.6	920.7
45°	1070.4	1047.9	958.1	878.3	843.3
47.5°	988.1	968.1	885.8	803.4	763.5
50°	900.7	883.3	808.4	726.1	683.7
52.5°	828.4	800.9	728.6	646.2	611.3
55°	743.5	721.1	653.7	576.4	546.4
57.5°	666.2	643.7	581.4	509.0	484.1
60°	593.8	561.4	509.0	446.6	426.7
62.5°	514.0	489.0	444.1	391.7	416.7
65°	441.6	416.7	376.8	384.2	319.4
67.5°	361.8	349.3	314.4	279.5	269.5
70°	294.4	279.5	267.0	229.6	219.6
72.5°	234.5	219.6	202.1	182.1	174.7
75°	177.2	164.7	154.7	147.2	162.2
77.5°	122.3	117.3	109.8	102.3	99.8
80°	79.8	77.3	74.9	72.4	69.9
82.5°	47.4	47.4	47.4	47.4	47.4
85°	25.0	27.4	29.9	32.4	34.9
87.5°	15.0	15.0	17.5	20.0	22.5
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)