

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: P545947

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-80-88-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: P545947  
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-LD4-1LO-40-UNV-80-88-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

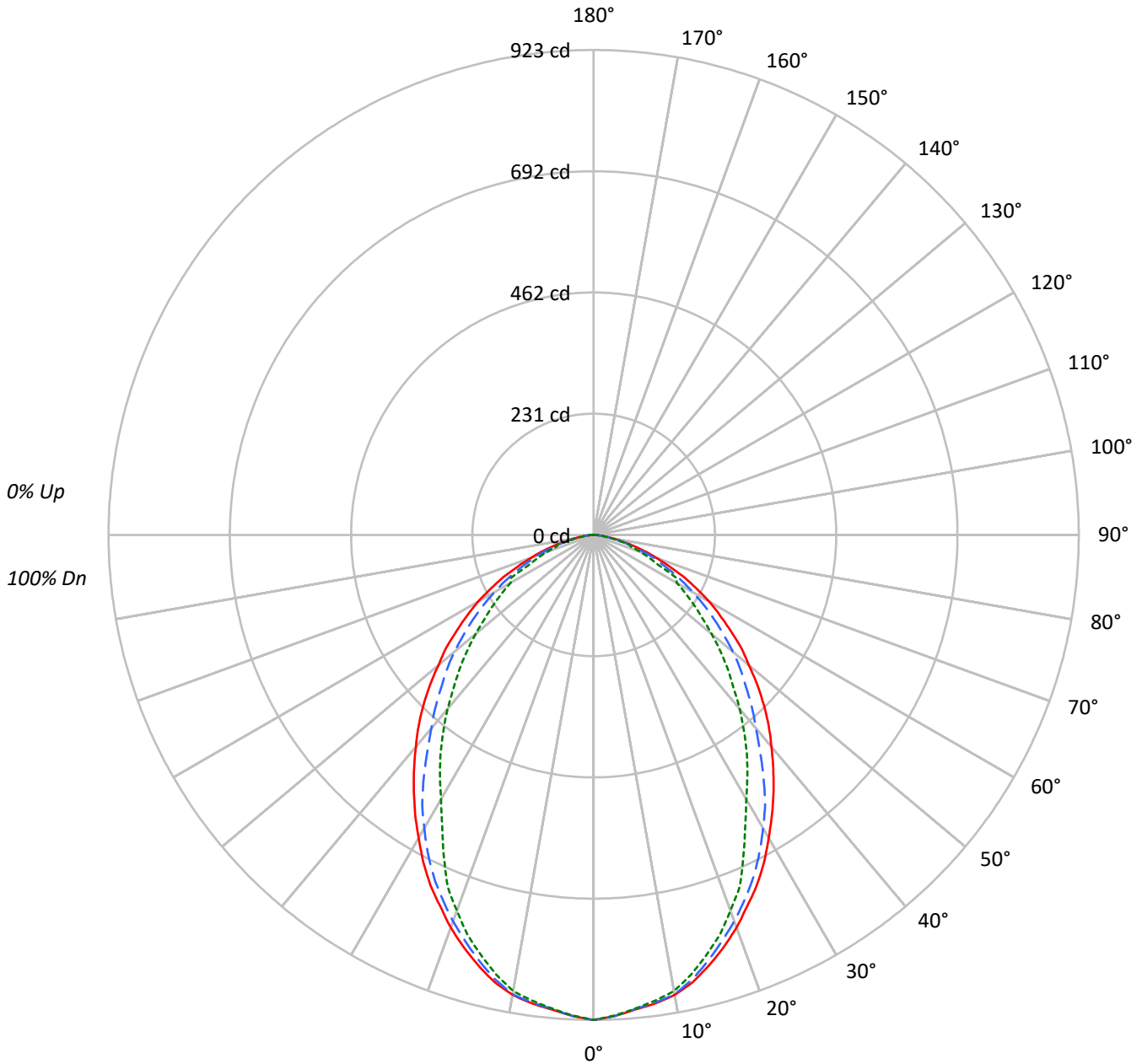
Lumens per Lamp: N/A  
Luminaire Lumens: 1812.0 lumens  
Efficiency: N/A  
Efficacy: 77.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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

TEST NUMBER: P545947

CATALOG NUMBER: FMR-12-4-LD4-1LO-40-UNV-80-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545947

CATALOG NUMBER: FMR-12-4-LD4-1LO-40-UNV-80-88-EDD

**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°	2484	2484	2484
5°	2450	2447	2444
10°	2429	2426	2408
15°	2363	2340	2307
20°	2277	2240	2179
25°	2183	2135	2002
30°	2069	2003	1804
35°	1960	1851	1668
40°	1848	1687	1518
45°	1742	1560	1373
50°	1613	1447	1224
55°	1492	1312	1096
60°	1367	1172	982
65°	1203	1026	870
70°	991	899	739
75°	788	688	722
80°	528	496	463
85°	330	395	460



TEST NUMBER: P545947

CATALOG NUMBER: FMR-12-4-LD4-1LO-40-UNV-80-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.9	4.7
10°-20°	235.8	13.0
20°-30°	326.4	18.0
30°-40°	348.1	19.2
40°-50°	317.6	17.5
50°-60°	248.8	13.7
60°-70°	162.1	8.9
70°-80°	71.8	4.0
80°-90°	15.4	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°	648.2	35.8
0°-40°	996.3	55.0
0°-60°	1562.6	86.2
0°-90°	1812.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1812.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	923	923	923	923	923	
5°	907	906	906	905	905	86
15°	848	848	840	831	828	238
25°	735	731	719	694	674	338
35°	596	592	563	521	508	373
45°	458	448	410	376	361	353
55°	318	308	280	246	234	285
65°	189	178	161	164	137	186
75°	76	70	66	63	69	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



TEST NUMBER: P545947

CATALOG NUMBER: FMR-12-4-LD4-1LO-40-UNV-80-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	923.0	923.0	923.0	923.0	923.0
2.5°	916.6	916.6	916.6	915.5	915.5
5°	907.0	905.9	905.9	904.9	904.9
7.5°	899.5	898.5	897.4	896.3	894.2
10°	888.9	888.9	887.8	882.5	881.4
12.5°	871.8	870.7	866.5	859.0	856.9
15°	848.3	848.3	839.8	831.2	828.0
17.5°	822.7	821.6	811.0	802.4	798.2
20°	795.0	792.8	782.2	768.3	760.8
22.5°	764.0	764.0	751.2	733.1	725.6
25°	735.2	730.9	719.2	693.6	674.4
27.5°	702.1	695.7	682.9	646.6	624.2
30°	665.8	662.6	644.5	597.6	580.5
32.5°	631.7	626.4	607.2	558.1	544.2
35°	596.5	592.2	563.4	520.7	507.9
37.5°	561.3	555.9	519.7	485.5	469.5
40°	526.1	519.7	480.2	449.2	432.2
42.5°	493.0	484.4	446.0	413.0	393.7
45°	457.8	448.2	409.8	375.6	360.7
47.5°	422.6	414.0	378.8	343.6	326.5
50°	385.2	377.7	345.7	310.5	292.4
52.5°	354.3	342.5	311.6	276.4	261.4
55°	318.0	308.4	279.6	246.5	233.7
57.5°	284.9	275.3	248.6	217.7	207.0
60°	254.0	240.1	217.7	191.0	182.5
62.5°	219.8	209.1	189.9	167.5	178.2
65°	188.9	178.2	161.1	164.3	136.6
67.5°	154.7	149.4	134.4	119.5	115.2
70°	125.9	119.5	114.2	98.2	93.9
72.5°	100.3	93.9	86.4	77.9	74.7
75°	75.8	70.4	66.2	63.0	69.4
77.5°	52.3	50.2	47.0	43.7	42.7
80°	34.1	33.1	32.0	30.9	29.9
82.5°	20.3	20.3	20.3	20.3	20.3
85°	10.7	11.7	12.8	13.9	14.9
87.5°	6.4	6.4	7.5	8.5	9.6
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)