

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: P544770

Luminaire Tested: **FMR-12-1-LD4-1LO-35-UNV-81-87-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: P544770  
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-12-1-LD4-1LO-35-UNV-81-87-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

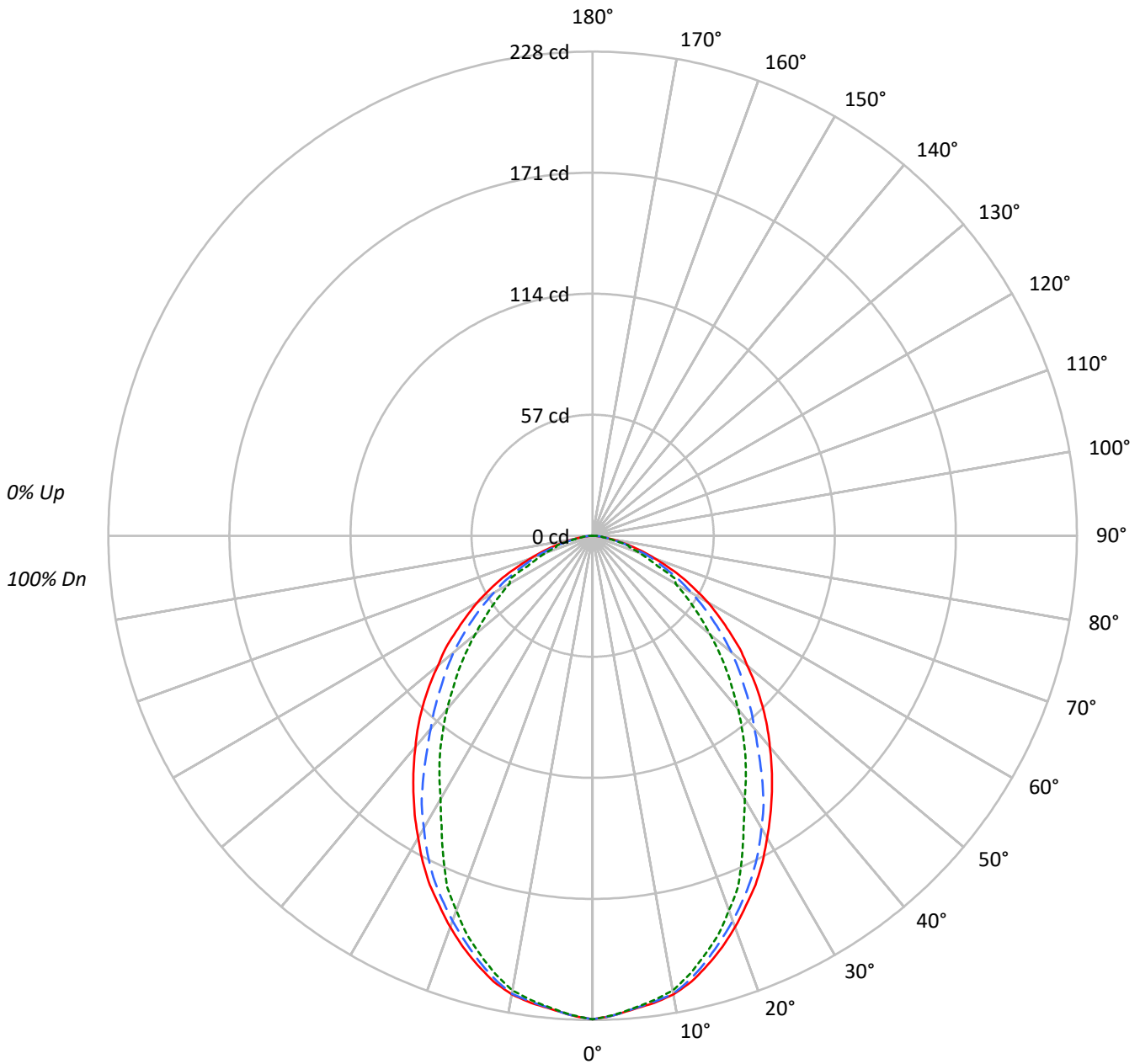
Lumens per Lamp: N/A  
Luminaire Lumens: 447.0 lumens  
Efficiency: N/A  
Efficacy: 77.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 5.8  
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

TEST NUMBER: P544770

CATALOG NUMBER: FMR-12-1-LD4-1LO-35-UNV-81-87-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P544770

CATALOG NUMBER: FMR-12-1-LD4-1LO-35-UNV-81-87-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°	2451	2451	2451
5°	2417	2415	2412
10°	2397	2394	2376
15°	2332	2309	2277
20°	2246	2210	2150
25°	2154	2107	1976
30°	2042	1976	1780
35°	1933	1827	1646
40°	1824	1665	1498
45°	1719	1539	1355
50°	1591	1428	1207
55°	1471	1295	1081
60°	1348	1156	969
65°	1187	1011	858
70°	979	887	730
75°	778	678	711
80°	521	490	459
85°	321	395	457



TEST NUMBER: P544770

CATALOG NUMBER: FMR-12-1-LD4-1LO-35-UNV-81-87-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.2	4.7
10°-20°	58.2	13.0
20°-30°	80.5	18.0
30°-40°	85.9	19.2
40°-50°	78.3	17.5
50°-60°	61.4	13.7
60°-70°	40.0	8.9
70°-80°	17.7	4.0
80°-90°	3.8	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°	159.9	35.8
0°-40°	245.8	55.0
0°-60°	385.5	86.2
0°-90°	447.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	447.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	228	228	228	228	228	
5°	224	224	224	223	223	21
15°	209	209	207	205	204	59
25°	181	180	177	171	166	83
35°	147	146	139	128	125	92
45°	113	111	101	93	89	87
55°	78	76	69	61	58	70
65°	47	44	40	40	34	46
75°	19	17	16	16	17	20
85°	3	3	3	3	4	4
90°	0	0	0	0	0	



TEST NUMBER: P544770

CATALOG NUMBER: FMR-12-1-LD4-1LO-35-UNV-81-87-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	227.7	227.7	227.7	227.7	227.7
2.5°	226.1	226.1	226.1	225.9	225.9
5°	223.7	223.5	223.5	223.2	223.2
7.5°	221.9	221.6	221.4	221.1	220.6
10°	219.3	219.3	219.0	217.7	217.4
12.5°	215.1	214.8	213.7	211.9	211.4
15°	209.3	209.3	207.2	205.1	204.3
17.5°	203.0	202.7	200.1	198.0	196.9
20°	196.1	195.6	192.9	189.5	187.7
22.5°	188.5	188.5	185.3	180.8	179.0
25°	181.4	180.3	177.4	171.1	166.4
27.5°	173.2	171.6	168.5	159.5	154.0
30°	164.3	163.5	159.0	147.4	143.2
32.5°	155.8	154.5	149.8	137.7	134.2
35°	147.1	146.1	139.0	128.5	125.3
37.5°	138.5	137.1	128.2	119.8	115.8
40°	129.8	128.2	118.5	110.8	106.6
42.5°	121.6	119.5	110.0	101.9	97.1
45°	112.9	110.6	101.1	92.7	89.0
47.5°	104.2	102.1	93.4	84.8	80.5
50°	95.0	93.2	85.3	76.6	72.1
52.5°	87.4	84.5	76.9	68.2	64.5
55°	78.4	76.1	69.0	60.8	57.6
57.5°	70.3	67.9	61.3	53.7	51.1
60°	62.6	59.2	53.7	47.1	45.0
62.5°	54.2	51.6	46.9	41.3	44.0
65°	46.6	44.0	39.7	40.5	33.7
67.5°	38.2	36.9	33.2	29.5	28.4
70°	31.1	29.5	28.2	24.2	23.2
72.5°	24.7	23.2	21.3	19.2	18.4
75°	18.7	17.4	16.3	15.5	17.1
77.5°	12.9	12.4	11.6	10.8	10.5
80°	8.4	8.2	7.9	7.6	7.4
82.5°	5.0	5.0	5.0	5.0	5.0
85°	2.6	2.9	3.2	3.4	3.7
87.5°	1.6	1.6	1.8	2.1	2.4
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)