

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: P545096

Luminaire Tested: **FMR-12-1-LD4-2LO-40-UNV-82-85-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: P545096  
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-LD4-2LO-40-UNV-82-85-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

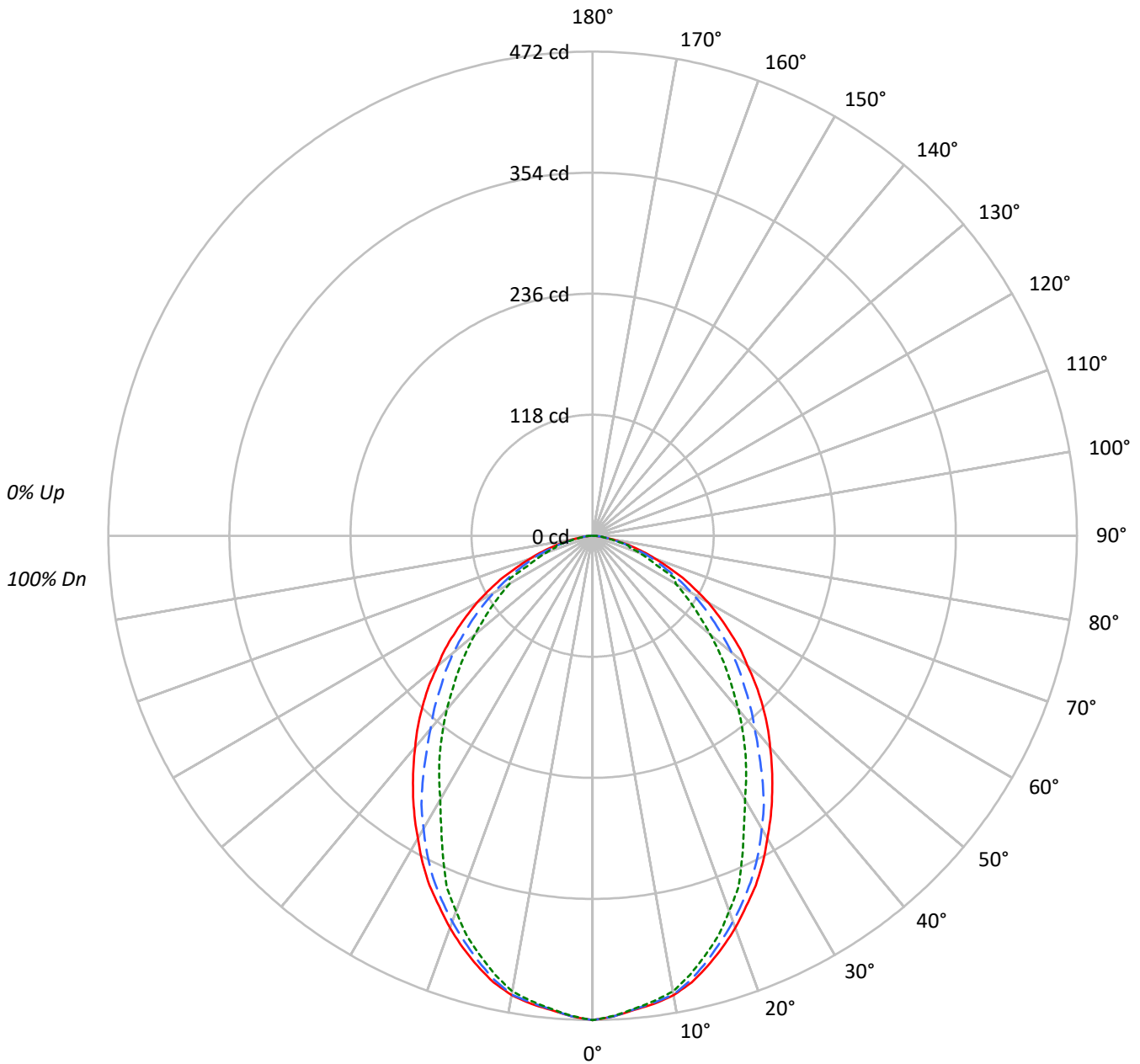
Lumens per Lamp: N/A  
Luminaire Lumens: 927.0 lumens  
Efficiency: N/A  
Efficacy: 79.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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: P545096

CATALOG NUMBER: FMR-12-1-LD4-2LO-40-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545096

CATALOG NUMBER: FMR-12-1-LD4-2LO-40-UNV-82-85-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°	5083	5083	5083
5°	5014	5008	5002
10°	4970	4964	4928
15°	4836	4787	4720
20°	4659	4583	4458
25°	4467	4369	4097
30°	4233	4098	3691
35°	4010	3787	3414
40°	3781	3452	3107
45°	3565	3191	2809
50°	3301	2962	2505
55°	3053	2684	2244
60°	2796	2398	2009
65°	2460	2099	1780
70°	2027	1838	1511
75°	1614	1406	1476
80°	1085	1017	948
85°	679	815	939



TEST NUMBER: P545096

CATALOG NUMBER: FMR-12-1-LD4-2LO-40-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.0	4.7
10°-20°	120.6	13.0
20°-30°	167.0	18.0
30°-40°	178.1	19.2
40°-50°	162.5	17.5
50°-60°	127.3	13.7
60°-70°	83.0	8.9
70°-80°	36.7	4.0
80°-90°	7.9	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°	331.6	35.8
0°-40°	509.7	55.0
0°-60°	799.4	86.2
0°-90°	927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	927.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	464	464	464	463	463	44
15°	434	434	430	425	424	122
25°	376	374	368	355	345	173
35°	305	303	288	266	260	191
45°	234	229	210	192	184	180
55°	163	158	143	126	120	146
65°	97	91	82	84	70	95
75°	39	36	34	32	36	42
85°	6	6	7	7	8	8
90°	0	0	0	0	0	



TEST NUMBER: P545096

CATALOG NUMBER: FMR-12-1-LD4-2LO-40-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	472.2	472.2	472.2	472.2	472.2
2.5°	468.9	468.9	468.9	468.4	468.4
5°	464.0	463.5	463.5	462.9	462.9
7.5°	460.2	459.6	459.1	458.6	457.5
10°	454.7	454.7	454.2	451.5	450.9
12.5°	446.0	445.5	443.3	439.4	438.4
15°	434.0	434.0	429.6	425.3	423.6
17.5°	420.9	420.3	414.9	410.5	408.3
20°	406.7	405.6	400.1	393.0	389.2
22.5°	390.9	390.9	384.3	375.0	371.2
25°	376.1	373.9	367.9	354.8	345.0
27.5°	359.2	355.9	349.4	330.8	319.4
30°	340.6	339.0	329.7	305.7	297.0
32.5°	323.2	320.4	310.6	285.5	278.4
35°	305.2	303.0	288.2	266.4	259.8
37.5°	287.1	284.4	265.9	248.4	240.2
40°	269.1	265.9	245.7	229.8	221.1
42.5°	252.2	247.8	228.2	211.3	201.4
45°	234.2	229.3	209.6	192.2	184.5
47.5°	216.2	211.8	193.8	175.8	167.0
50°	197.1	193.2	176.9	158.9	149.6
52.5°	181.2	175.2	159.4	141.4	133.7
55°	162.7	157.8	143.0	126.1	119.6
57.5°	145.8	140.8	127.2	111.4	105.9
60°	129.9	122.8	111.4	97.7	93.3
62.5°	112.5	107.0	97.2	85.7	91.2
65°	96.6	91.2	82.4	84.1	69.9
67.5°	79.2	76.4	68.8	61.1	59.0
70°	64.4	61.1	58.4	50.2	48.0
72.5°	51.3	48.0	44.2	39.9	38.2
75°	38.8	36.0	33.8	32.2	35.5
77.5°	26.7	25.7	24.0	22.4	21.8
80°	17.5	16.9	16.4	15.8	15.3
82.5°	10.4	10.4	10.4	10.4	10.4
85°	5.5	6.0	6.6	7.1	7.6
87.5°	3.3	3.3	3.8	4.4	4.9
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)