

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: P544802

Luminaire Tested: **FMR-12-1-LD4-1LO-40-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: P544802
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

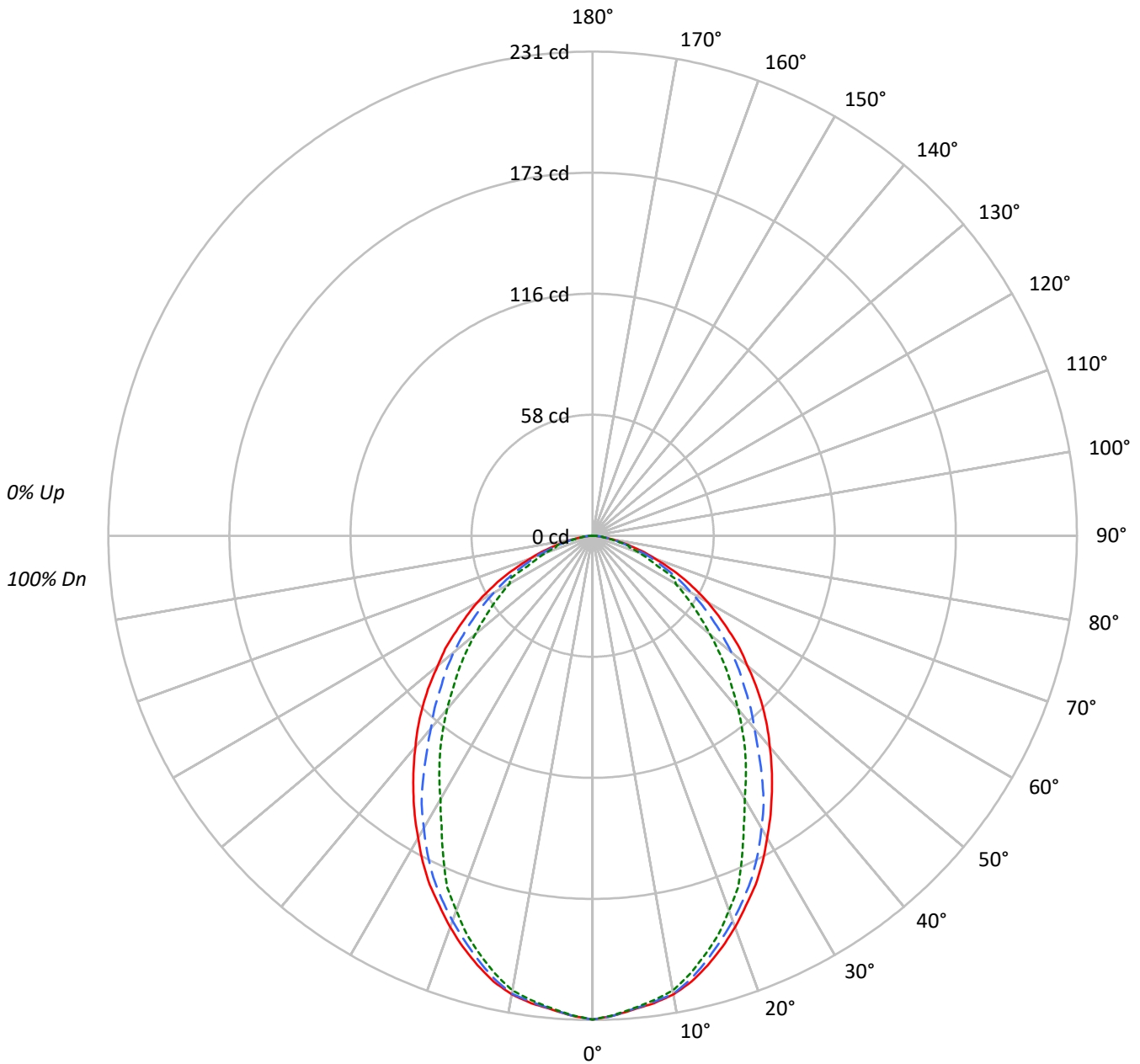
Lumens per Lamp: N/A
Luminaire Lumens: 453.0 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 5.8
Input Voltage (V): NR
Input Current (A_{in}): 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: P544802

CATALOG NUMBER: FMR-12-1-LD4-1LO-40-UNV-81-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P544802

CATALOG NUMBER: FMR-12-1-LD4-1LO-40-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°	2484	2484	2484
5°	2451	2447	2444
10°	2429	2425	2408
15°	2364	2339	2307
20°	2276	2239	2179
25°	2183	2135	2002
30°	2069	2002	1803
35°	1959	1851	1669
40°	1848	1686	1518
45°	1741	1559	1373
50°	1613	1447	1224
55°	1492	1312	1096
60°	1367	1171	982
65°	1202	1026	869
70°	991	897	740
75°	786	686	719
80°	527	496	465
85°	333	395	457



TEST NUMBER: P544802

CATALOG NUMBER: FMR-12-1-LD4-1LO-40-UNV-81-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	21.5	4.7
10°-20°	58.9	13.0
20°-30°	81.6	18.0
30°-40°	87.0	19.2
40°-50°	79.4	17.5
50°-60°	62.2	13.7
60°-70°	40.5	8.9
70°-80°	17.9	4.0
80°-90°	3.9	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°	162.0	35.8
0°-40°	249.1	55.0
0°-60°	390.6	86.2
0°-90°	453.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	453.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	231	231	231	231	231	
5°	227	226	226	226	226	22
15°	212	212	210	208	207	60
25°	184	183	180	173	169	84
35°	149	148	141	130	127	93
45°	114	112	102	94	90	88
55°	80	77	70	62	58	71
65°	47	44	40	41	34	47
75°	19	18	16	16	17	20
85°	3	3	3	4	4	4
90°	0	0	0	0	0	



TEST NUMBER: P544802

CATALOG NUMBER: FMR-12-1-LD4-1LO-40-UNV-81-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	230.8	230.8	230.8	230.8	230.8
2.5°	229.2	229.2	229.2	228.9	228.9
5°	226.8	226.5	226.5	226.2	226.2
7.5°	224.9	224.6	224.3	224.1	223.5
10°	222.2	222.2	221.9	220.6	220.3
12.5°	217.9	217.7	216.6	214.7	214.2
15°	212.1	212.1	209.9	207.8	207.0
17.5°	205.7	205.4	202.7	200.6	199.5
20°	198.7	198.2	195.5	192.1	190.2
22.5°	191.0	191.0	187.8	183.3	181.4
25°	183.8	182.7	179.8	173.4	168.6
27.5°	175.5	173.9	170.7	161.7	156.1
30°	166.5	165.7	161.1	149.4	145.1
32.5°	157.9	156.6	151.8	139.5	136.1
35°	149.1	148.1	140.9	130.2	127.0
37.5°	140.3	139.0	129.9	121.4	117.4
40°	131.5	129.9	120.0	112.3	108.0
42.5°	123.2	121.1	111.5	103.2	98.4
45°	114.4	112.0	102.4	93.9	90.2
47.5°	105.6	103.5	94.7	85.9	81.6
50°	96.3	94.4	86.4	77.6	73.1
52.5°	88.6	85.6	77.9	69.1	65.4
55°	79.5	77.1	69.9	61.6	58.4
57.5°	71.2	68.8	62.2	54.4	51.8
60°	63.5	60.0	54.4	47.8	45.6
62.5°	55.0	52.3	47.5	41.9	44.5
65°	47.2	44.5	40.3	41.1	34.1
67.5°	38.7	37.3	33.6	29.9	28.8
70°	31.5	29.9	28.5	24.5	23.5
72.5°	25.1	23.5	21.6	19.5	18.7
75°	18.9	17.6	16.5	15.7	17.3
77.5°	13.1	12.5	11.7	10.9	10.7
80°	8.5	8.3	8.0	7.7	7.5
82.5°	5.1	5.1	5.1	5.1	5.1
85°	2.7	2.9	3.2	3.5	3.7
87.5°	1.6	1.6	1.9	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)