

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: P544758

Luminaire Tested: **FMR-12-1-LD4-1HI-50-UNV-93-97-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: P544758  
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-LD4-1HI-50-UNV-93-97-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

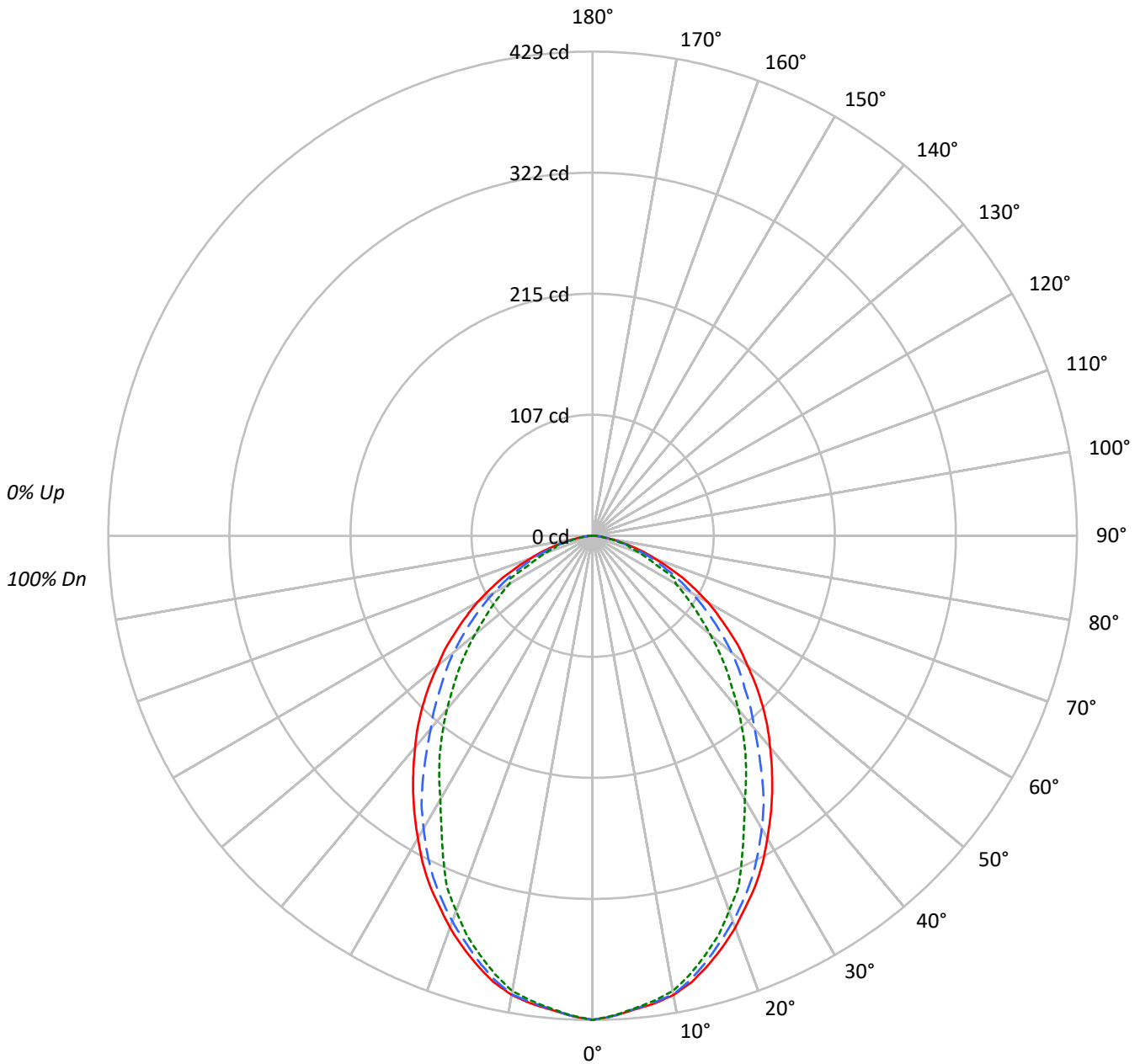
Lumens per Lamp: N/A  
Luminaire Lumens: 842.0 lumens  
Efficiency: N/A  
Efficacy: 78.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 10.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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: P544758

CATALOG NUMBER: FMR-12-1-LD4-1HI-50-UNV-93-97-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P544758

CATALOG NUMBER: FMR-12-1-LD4-1HI-50-UNV-93-97-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°	4617	4617	4617
5°	4554	4549	4544
10°	4514	4509	4477
15°	4393	4348	4288
20°	4231	4164	4049
25°	4057	3969	3722
30°	3846	3723	3352
35°	3642	3440	3101
40°	3436	3135	2821
45°	3238	2898	2551
50°	2997	2691	2276
55°	2774	2438	2038
60°	2540	2179	1826
65°	2236	1908	1617
70°	1841	1671	1372
75°	1464	1277	1339
80°	986	924	862
85°	618	741	852



TEST NUMBER: P544758

CATALOG NUMBER: FMR-12-1-LD4-1HI-50-UNV-93-97-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.9	4.7
10°-20°	109.6	13.0
20°-30°	151.7	18.0
30°-40°	161.7	19.2
40°-50°	147.6	17.5
50°-60°	115.6	13.7
60°-70°	75.4	8.9
70°-80°	33.4	4.0
80°-90°	7.2	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°	301.2	35.8
0°-40°	462.9	55.0
0°-60°	726.1	86.2
0°-90°	842.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	842.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	429	429	429	429	429	
5°	422	421	421	420	420	40
15°	394	394	390	386	385	111
25°	342	340	334	322	313	157
35°	277	275	262	242	236	173
45°	213	208	190	174	168	164
55°	148	143	130	114	109	133
65°	88	83	75	76	64	86
75°	35	33	31	29	32	38
85°	5	6	6	6	7	7
90°	0	0	0	0	0	



TEST NUMBER: P544758

CATALOG NUMBER: FMR-12-1-LD4-1HI-50-UNV-93-97-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	428.9	428.9	428.9	428.9	428.9
2.5°	425.9	425.9	425.9	425.4	425.4
5°	421.5	421.0	421.0	420.5	420.5
7.5°	418.0	417.5	417.0	416.5	415.5
10°	413.0	413.0	412.5	410.1	409.6
12.5°	405.1	404.6	402.6	399.2	398.2
15°	394.2	394.2	390.2	386.3	384.8
17.5°	382.3	381.8	376.8	372.9	370.9
20°	369.4	368.4	363.5	357.0	353.5
22.5°	355.0	355.0	349.1	340.6	337.2
25°	341.6	339.7	334.2	322.3	313.4
27.5°	326.3	323.3	317.3	300.5	290.1
30°	309.4	307.9	299.5	277.7	269.7
32.5°	293.5	291.1	282.1	259.3	252.9
35°	277.2	275.2	261.8	242.0	236.0
37.5°	260.8	258.3	241.5	225.6	218.2
40°	244.5	241.5	223.1	208.7	200.8
42.5°	229.1	225.1	207.3	191.9	183.0
45°	212.7	208.3	190.4	174.5	167.6
47.5°	196.4	192.4	176.0	159.7	151.7
50°	179.0	175.5	160.7	144.3	135.9
52.5°	164.6	159.2	144.8	128.4	121.5
55°	147.8	143.3	129.9	114.5	108.6
57.5°	132.4	127.9	115.5	101.2	96.2
60°	118.0	111.6	101.2	88.8	84.8
62.5°	102.1	97.2	88.3	77.8	82.8
65°	87.8	82.8	74.9	76.4	63.5
67.5°	71.9	69.4	62.5	55.5	53.6
70°	58.5	55.5	53.1	45.6	43.6
72.5°	46.6	43.6	40.2	36.2	34.7
75°	35.2	32.7	30.7	29.3	32.2
77.5°	24.3	23.3	21.8	20.3	19.8
80°	15.9	15.4	14.9	14.4	13.9
82.5°	9.4	9.4	9.4	9.4	9.4
85°	5.0	5.5	6.0	6.4	6.9
87.5°	3.0	3.0	3.5	4.0	4.5
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)