

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: P545711

Luminaire Tested: **FMR-12-2-LD4-2LO-50-UNV-93-84-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: P545711  
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-12-2-LD4-2LO-50-UNV-93-84-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

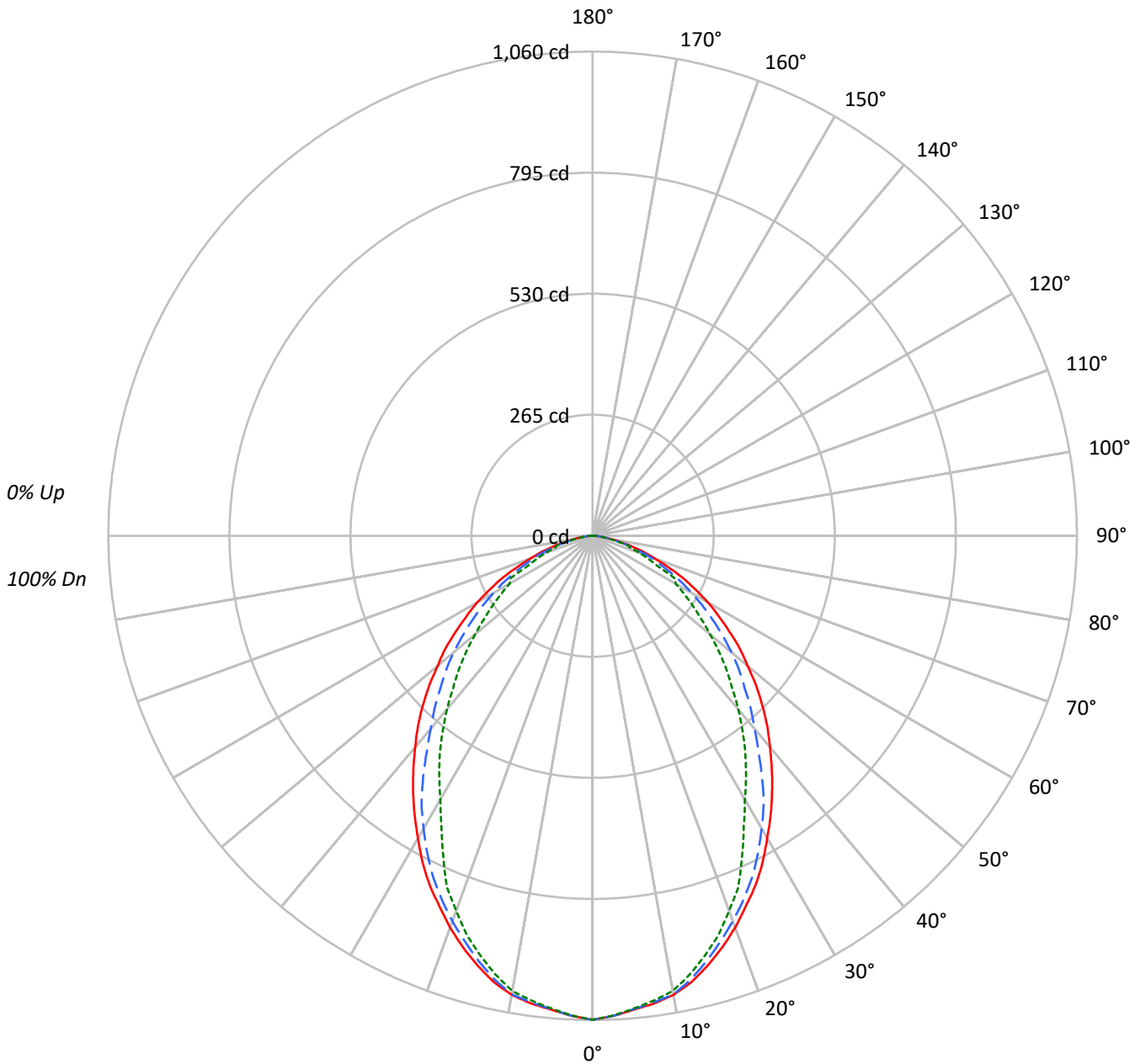
Lumens per Lamp: N/A  
Luminaire Lumens: 2080.0 lumens  
Efficiency: N/A  
Efficacy: 88.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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: P545711

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-93-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545711

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-93-84-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°	5702	5702	5702
5°	5625	5618	5612
10°	5576	5569	5529
15°	5426	5371	5296
20°	5226	5142	5002
25°	5011	4903	4597
30°	4750	4598	4141
35°	4499	4249	3830
40°	4243	3873	3485
45°	4000	3580	3151
50°	3702	3323	2810
55°	3425	3011	2517
60°	3138	2690	2255
65°	2761	2356	1997
70°	2274	2063	1696
75°	1809	1578	1655
80°	1215	1137	1063
85°	753	908	1056



TEST NUMBER: P545711

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-93-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.6	4.7
10°-20°	270.7	13.0
20°-30°	374.7	18.0
30°-40°	399.6	19.2
40°-50°	364.5	17.5
50°-60°	285.6	13.7
60°-70°	186.1	8.9
70°-80°	82.5	4.0
80°-90°	17.7	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°	744.0	35.8
0°-40°	1143.6	55.0
0°-60°	1793.7	86.2
0°-90°	2080.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2080.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1060	1060	1060	1060	1060	
5°	1041	1040	1040	1039	1039	99
15°	974	974	964	954	950	274
25°	844	839	826	796	774	387
35°	685	680	647	598	583	428
45°	526	514	470	431	414	405
55°	365	354	321	283	268	327
65°	217	205	185	189	157	214
75°	87	81	76	72	80	93
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



TEST NUMBER: P545711

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-93-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1059.5	1059.5	1059.5	1059.5	1059.5
2.5°	1052.2	1052.2	1052.2	1051.0	1051.0
5°	1041.2	1039.9	1039.9	1038.7	1038.7
7.5°	1032.6	1031.4	1030.1	1028.9	1026.5
10°	1020.3	1020.3	1019.1	1013.0	1011.8
12.5°	1000.7	999.5	994.6	986.0	983.6
15°	973.8	973.8	964.0	954.2	950.5
17.5°	944.4	943.2	930.9	921.1	916.2
20°	912.5	910.1	897.8	881.9	873.3
22.5°	877.0	877.0	862.3	841.5	832.9
25°	843.9	839.0	825.6	796.2	774.1
27.5°	806.0	798.6	783.9	742.3	716.6
30°	764.3	760.7	739.8	685.9	666.3
32.5°	725.1	719.0	697.0	640.6	624.7
35°	684.7	679.8	646.7	597.7	583.0
37.5°	644.3	638.2	596.5	557.3	538.9
40°	603.9	596.5	551.2	515.7	496.1
42.5°	565.9	556.1	512.0	474.0	452.0
45°	525.5	514.5	470.4	431.2	414.0
47.5°	485.1	475.3	434.8	394.4	374.8
50°	442.2	433.6	396.9	356.4	335.6
52.5°	406.7	393.2	357.7	317.2	300.1
55°	365.0	354.0	320.9	282.9	268.2
57.5°	327.0	316.0	285.4	249.9	237.6
60°	291.5	275.6	249.9	219.3	209.5
62.5°	252.3	240.1	218.0	192.3	204.6
65°	216.8	204.6	185.0	188.6	156.8
67.5°	177.6	171.5	154.3	137.2	132.3
70°	144.5	137.2	131.1	112.7	107.8
72.5°	115.1	107.8	99.2	89.4	85.7
75°	87.0	80.8	75.9	72.3	79.6
77.5°	60.0	57.6	53.9	50.2	49.0
80°	39.2	38.0	36.7	35.5	34.3
82.5°	23.3	23.3	23.3	23.3	23.3
85°	12.2	13.5	14.7	15.9	17.1
87.5°	7.3	7.3	8.6	9.8	11.0
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)