

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: P545477

Luminaire Tested: **FMR-12-2-LD4-1STD-40-UNV-81-96-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: P545477  
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-LD4-1STD-40-UNV-81-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

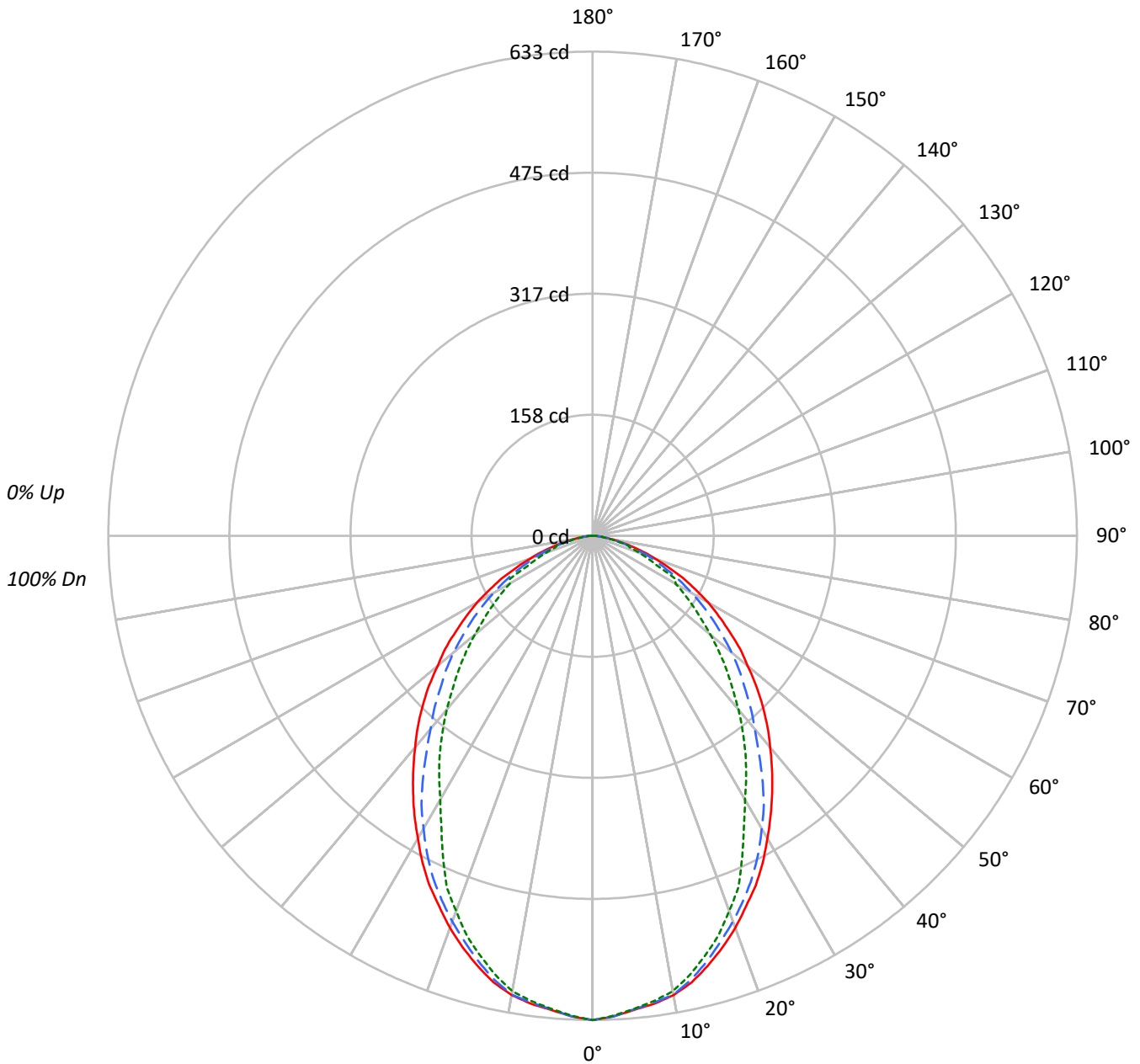
Lumens per Lamp: N/A  
Luminaire Lumens: 1243.0 lumens  
Efficiency: N/A  
Efficacy: 74.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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: P545477

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-81-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545477

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-81-96-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°	3408	3408	3408
5°	3361	3358	3353
10°	3332	3328	3304
15°	3242	3210	3165
20°	3123	3073	2989
25°	2995	2930	2747
30°	2839	2747	2475
35°	2689	2539	2289
40°	2536	2314	2083
45°	2390	2140	1883
50°	2212	1986	1680
55°	2046	1800	1504
60°	1875	1607	1348
65°	1650	1407	1193
70°	1360	1232	1013
75°	1081	944	990
80°	725	682	635
85°	451	543	630



TEST NUMBER: P545477

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-81-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.9	4.7
10°-20°	161.8	13.0
20°-30°	223.9	18.0
30°-40°	238.8	19.2
40°-50°	217.8	17.5
50°-60°	170.7	13.7
60°-70°	111.2	8.9
70°-80°	49.3	4.0
80°-90°	10.6	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°	444.6	35.8
0°-40°	683.4	55.0
0°-60°	1071.9	86.2
0°-90°	1243.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1243.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	633	633	633	633	633	
5°	622	622	622	621	621	59
15°	582	582	576	570	568	164
25°	504	501	493	476	463	232
35°	409	406	386	357	348	256
45°	314	307	281	258	247	242
55°	218	212	192	169	160	196
65°	130	122	110	113	94	128
75°	52	48	45	43	48	56
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



TEST NUMBER: P545477

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-81-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	633.2	633.2	633.2	633.2	633.2
2.5°	628.8	628.8	628.8	628.0	628.0
5°	622.2	621.5	621.5	620.7	620.7
7.5°	617.1	616.3	615.6	614.9	613.4
10°	609.7	609.7	609.0	605.4	604.6
12.5°	598.0	597.3	594.4	589.2	587.8
15°	581.9	581.9	576.1	570.2	568.0
17.5°	564.4	563.6	556.3	550.5	547.5
20°	545.3	543.9	536.5	527.0	521.9
22.5°	524.1	524.1	515.3	502.9	497.8
25°	504.3	501.4	493.4	475.8	462.6
27.5°	481.6	477.3	468.5	443.6	428.2
30°	456.8	454.6	442.1	409.9	398.2
32.5°	433.3	429.7	416.5	382.8	373.3
35°	409.2	406.3	386.5	357.2	348.4
37.5°	385.0	381.4	356.5	333.1	322.1
40°	360.9	356.5	329.4	308.2	296.5
42.5°	338.2	332.3	306.0	283.3	270.1
45°	314.0	307.4	281.1	257.7	247.4
47.5°	289.9	284.0	259.9	235.7	224.0
50°	264.2	259.1	237.2	213.0	200.6
52.5°	243.0	235.0	213.7	189.6	179.3
55°	218.1	211.5	191.8	169.1	160.3
57.5°	195.4	188.9	170.6	149.3	142.0
60°	174.2	164.7	149.3	131.0	125.2
62.5°	150.8	143.5	130.3	114.9	122.2
65°	129.6	122.2	110.5	112.7	93.7
67.5°	106.1	102.5	92.2	82.0	79.1
70°	86.4	82.0	78.3	67.3	64.4
72.5°	68.8	64.4	59.3	53.4	51.2
75°	52.0	48.3	45.4	43.2	47.6
77.5°	35.9	34.4	32.2	30.0	29.3
80°	23.4	22.7	22.0	21.2	20.5
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.1	8.8	9.5	10.2
87.5°	4.4	4.4	5.1	5.9	6.6
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)