

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: P545506

Luminaire Tested: **FMR-12-2-LD4-1STD-50-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: P545506  
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-50-UNV-81-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

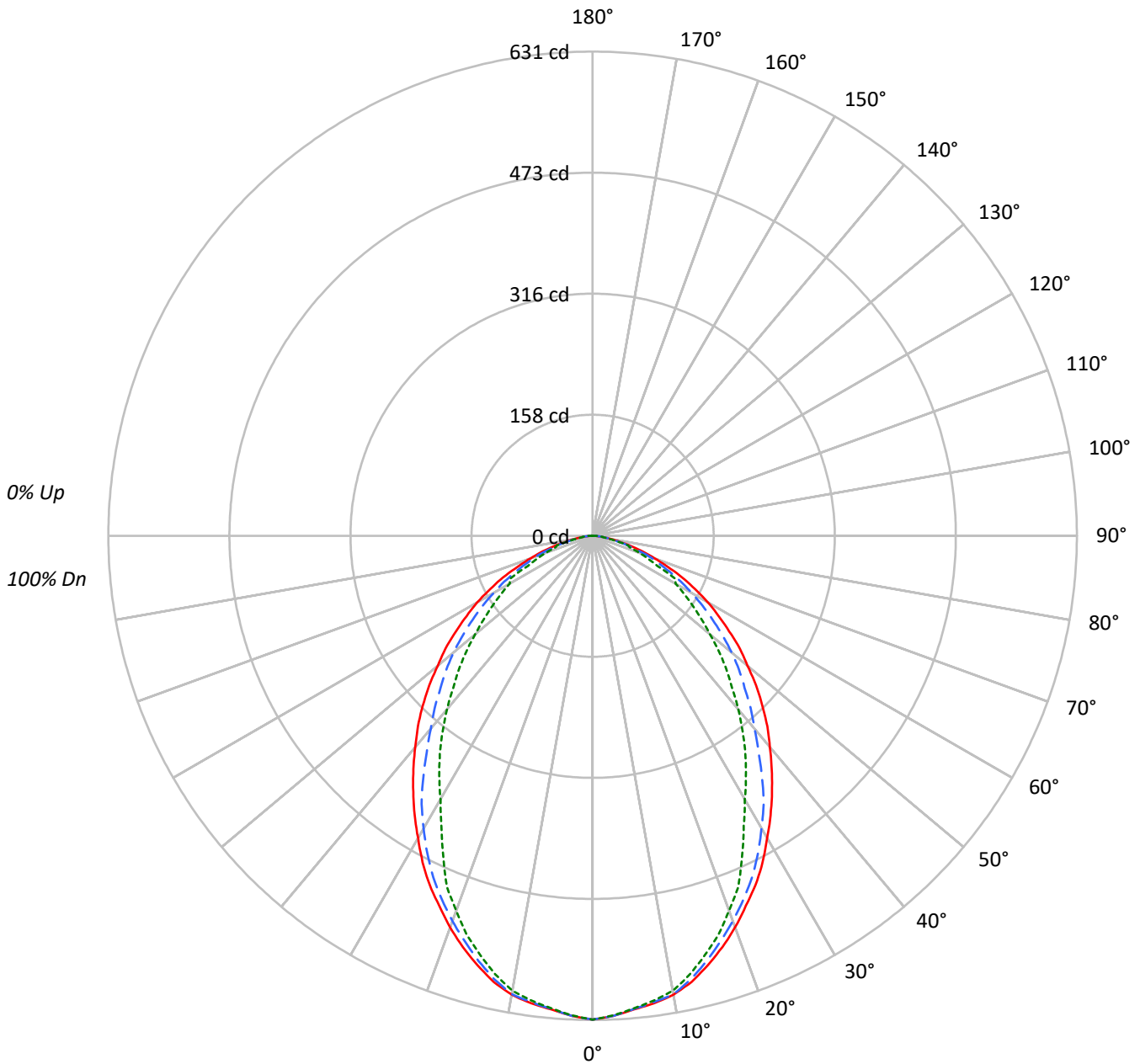
Lumens per Lamp: N/A  
Luminaire Lumens: 1238.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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: P545506

CATALOG NUMBER: FMR-12-2-LD4-1STD-50-UNV-81-87-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545506

CATALOG NUMBER: FMR-12-2-LD4-1STD-50-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°	3394	3394	3394
5°	3348	3344	3340
10°	3319	3315	3291
15°	3229	3197	3152
20°	3111	3061	2977
25°	2983	2918	2736
30°	2827	2736	2465
35°	2677	2529	2280
40°	2525	2305	2075
45°	2381	2131	1875
50°	2204	1978	1673
55°	2039	1792	1498
60°	1868	1601	1342
65°	1643	1402	1188
70°	1353	1227	1010
75°	1077	940	986
80°	722	679	632
85°	451	537	630



TEST NUMBER: P545506

CATALOG NUMBER: FMR-12-2-LD4-1STD-50-UNV-81-87-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.7	4.7
10°-20°	161.1	13.0
20°-30°	223.0	18.0
30°-40°	237.8	19.2
40°-50°	217.0	17.5
50°-60°	170.0	13.7
60°-70°	110.8	8.9
70°-80°	49.1	4.0
80°-90°	10.5	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°	442.8	35.8
0°-40°	680.7	55.0
0°-60°	1067.6	86.2
0°-90°	1238.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1238.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	631	631	631	631	631	
5°	620	619	619	618	618	59
15°	580	580	574	568	566	163
25°	502	499	491	474	461	231
35°	408	405	385	356	347	255
45°	313	306	280	257	246	241
55°	217	211	191	168	160	195
65°	129	122	110	112	93	127
75°	52	48	45	43	47	55
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



TEST NUMBER: P545506

CATALOG NUMBER: FMR-12-2-LD4-1STD-50-UNV-81-87-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	630.6	630.6	630.6	630.6	630.6
2.5°	626.2	626.2	626.2	625.5	625.5
5°	619.7	619.0	619.0	618.2	618.2
7.5°	614.6	613.9	613.1	612.4	610.9
10°	607.3	607.3	606.6	602.9	602.2
12.5°	595.6	594.9	592.0	586.9	585.4
15°	579.6	579.6	573.8	567.9	565.7
17.5°	562.1	561.4	554.1	548.2	545.3
20°	543.1	541.7	534.4	524.9	519.8
22.5°	522.0	522.0	513.2	500.9	495.7
25°	502.3	499.4	491.4	473.9	460.8
27.5°	479.7	475.3	466.6	441.8	426.5
30°	454.9	452.7	440.3	408.3	396.6
32.5°	431.6	427.9	414.8	381.3	371.8
35°	407.5	404.6	384.9	355.8	347.0
37.5°	383.5	379.8	355.0	331.7	320.8
40°	359.4	355.0	328.1	306.9	295.3
42.5°	336.8	331.0	304.7	282.1	269.0
45°	312.8	306.2	280.0	256.6	246.4
47.5°	288.7	282.9	258.8	234.8	223.1
50°	263.2	258.1	236.2	212.2	199.8
52.5°	242.0	234.0	212.9	188.8	178.6
55°	217.3	210.7	191.0	168.4	159.7
57.5°	194.7	188.1	169.9	148.7	141.4
60°	173.5	164.0	148.7	130.5	124.7
62.5°	150.2	142.9	129.8	114.5	121.7
65°	129.0	121.7	110.1	112.3	93.3
67.5°	105.7	102.1	91.9	81.7	78.7
70°	86.0	81.7	78.0	67.1	64.2
72.5°	68.5	64.2	59.1	53.2	51.0
75°	51.8	48.1	45.2	43.0	47.4
77.5°	35.7	34.3	32.1	29.9	29.2
80°	23.3	22.6	21.9	21.1	20.4
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.0	8.7	9.5	10.2
87.5°	4.4	4.4	5.1	5.8	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)