

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: P545494

Luminaire Tested: **FMR-12-2-LD4-1STD-40-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: P545494  
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-93-97-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

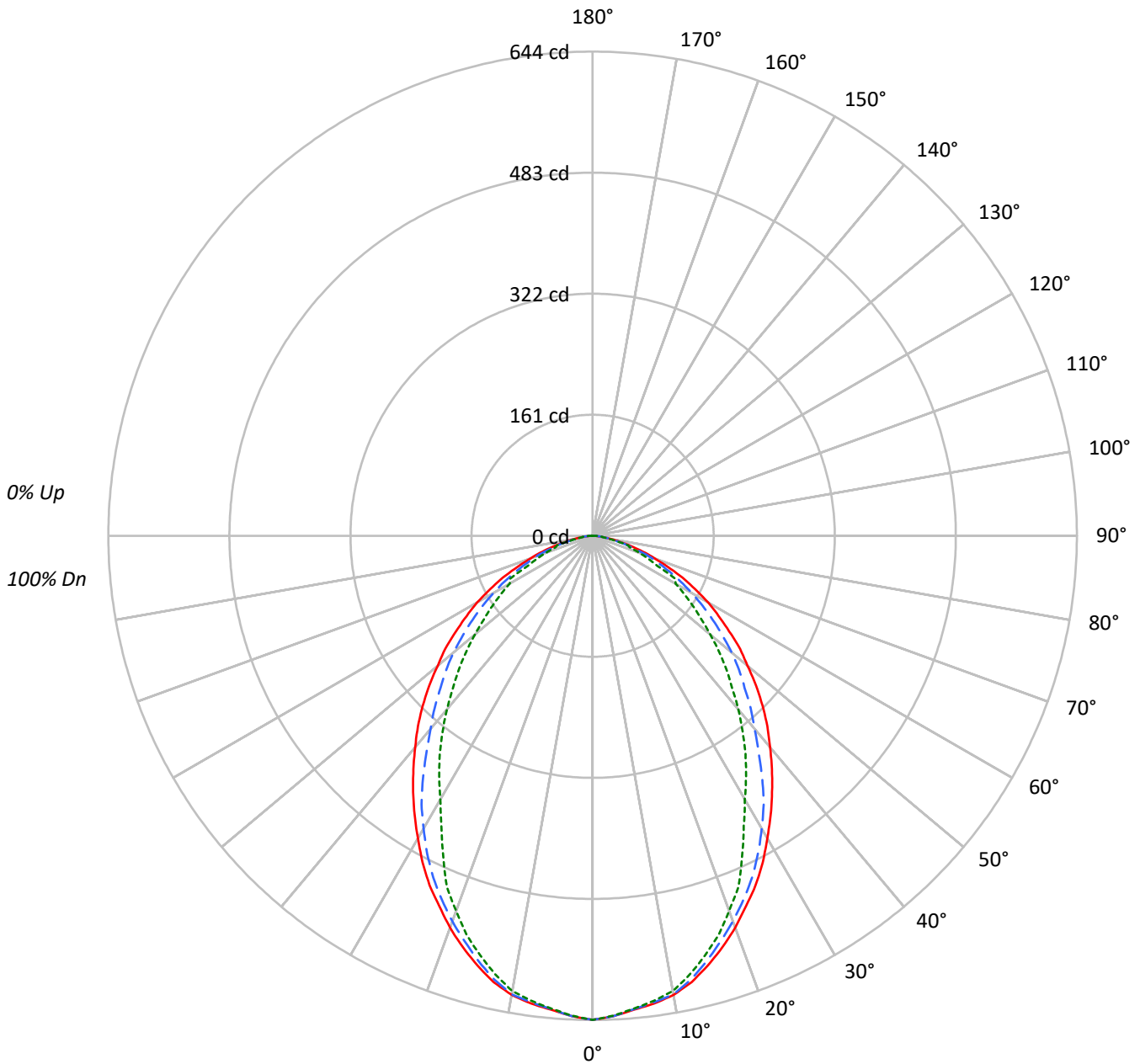
Lumens per Lamp: N/A  
Luminaire Lumens: 1264.0 lumens  
Efficiency: N/A  
Efficacy: 76.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
Input Voltage (V): NR  
Input Current (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: P545494

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-93-97-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545494

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-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°	3465	3465	3465
5°	3418	3414	3410
10°	3388	3384	3360
15°	3297	3264	3218
20°	3176	3125	3040
25°	3046	2979	2793
30°	2887	2794	2516
35°	2734	2582	2328
40°	2578	2354	2118
45°	2430	2175	1915
50°	2250	2020	1708
55°	2081	1830	1529
60°	1907	1634	1370
65°	1678	1431	1214
70°	1382	1253	1031
75°	1098	959	1006
80°	738	691	645
85°	457	550	642



TEST NUMBER: P545494

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-93-97-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.9	4.7
10°-20°	164.5	13.0
20°-30°	227.7	18.0
30°-40°	242.8	19.2
40°-50°	221.5	17.5
50°-60°	173.5	13.7
60°-70°	113.1	8.9
70°-80°	50.1	4.0
80°-90°	10.8	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°	452.1	35.8
0°-40°	695.0	55.0
0°-60°	1090.0	86.2
0°-90°	1264.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1264.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	644	644	644	644	644	
5°	633	632	632	631	631	60
15°	592	592	586	580	578	166
25°	513	510	502	484	470	235
35°	416	413	393	363	354	260
45°	319	313	286	262	252	246
55°	222	215	195	172	163	199
65°	132	124	112	115	95	130
75°	53	49	46	44	48	57
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



TEST NUMBER: P545494

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-93-97-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	643.9	643.9	643.9	643.9	643.9
2.5°	639.4	639.4	639.4	638.7	638.7
5°	632.7	632.0	632.0	631.2	631.2
7.5°	627.5	626.7	626.0	625.3	623.8
10°	620.0	620.0	619.3	615.6	614.8
12.5°	608.1	607.4	604.4	599.2	597.7
15°	591.8	591.8	585.8	579.9	577.6
17.5°	573.9	573.2	565.7	559.8	556.8
20°	554.5	553.1	545.6	535.9	530.7
22.5°	533.0	533.0	524.0	511.4	506.2
25°	512.9	509.9	501.7	483.8	470.4
27.5°	489.8	485.3	476.4	451.1	435.4
30°	464.5	462.2	449.6	416.8	404.9
32.5°	440.7	436.9	423.5	389.3	379.6
35°	416.1	413.1	393.0	363.2	354.3
37.5°	391.5	387.8	362.5	338.7	327.5
40°	367.0	362.5	335.0	313.4	301.5
42.5°	343.9	337.9	311.1	288.1	274.7
45°	319.3	312.6	285.8	262.0	251.6
47.5°	294.8	288.8	264.2	239.7	227.8
50°	268.7	263.5	241.2	216.6	204.0
52.5°	247.1	238.9	217.4	192.8	182.4
55°	221.8	215.1	195.0	171.9	163.0
57.5°	198.7	192.0	173.4	151.8	144.4
60°	177.2	167.5	151.8	133.2	127.3
62.5°	153.3	145.9	132.5	116.9	124.3
65°	131.8	124.3	112.4	114.6	95.3
67.5°	107.9	104.2	93.8	83.4	80.4
70°	87.8	83.4	79.6	68.5	65.5
72.5°	70.0	65.5	60.3	54.3	52.1
75°	52.8	49.1	46.1	43.9	48.4
77.5°	36.5	35.0	32.8	30.5	29.8
80°	23.8	23.1	22.3	21.6	20.8
82.5°	14.1	14.1	14.1	14.1	14.1
85°	7.4	8.2	8.9	9.7	10.4
87.5°	4.5	4.5	5.2	6.0	6.7
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)