

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: P545462

Luminaire Tested: **FMR-12-2-LD4-1STD-35-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: P545462  
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-35-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 3500K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

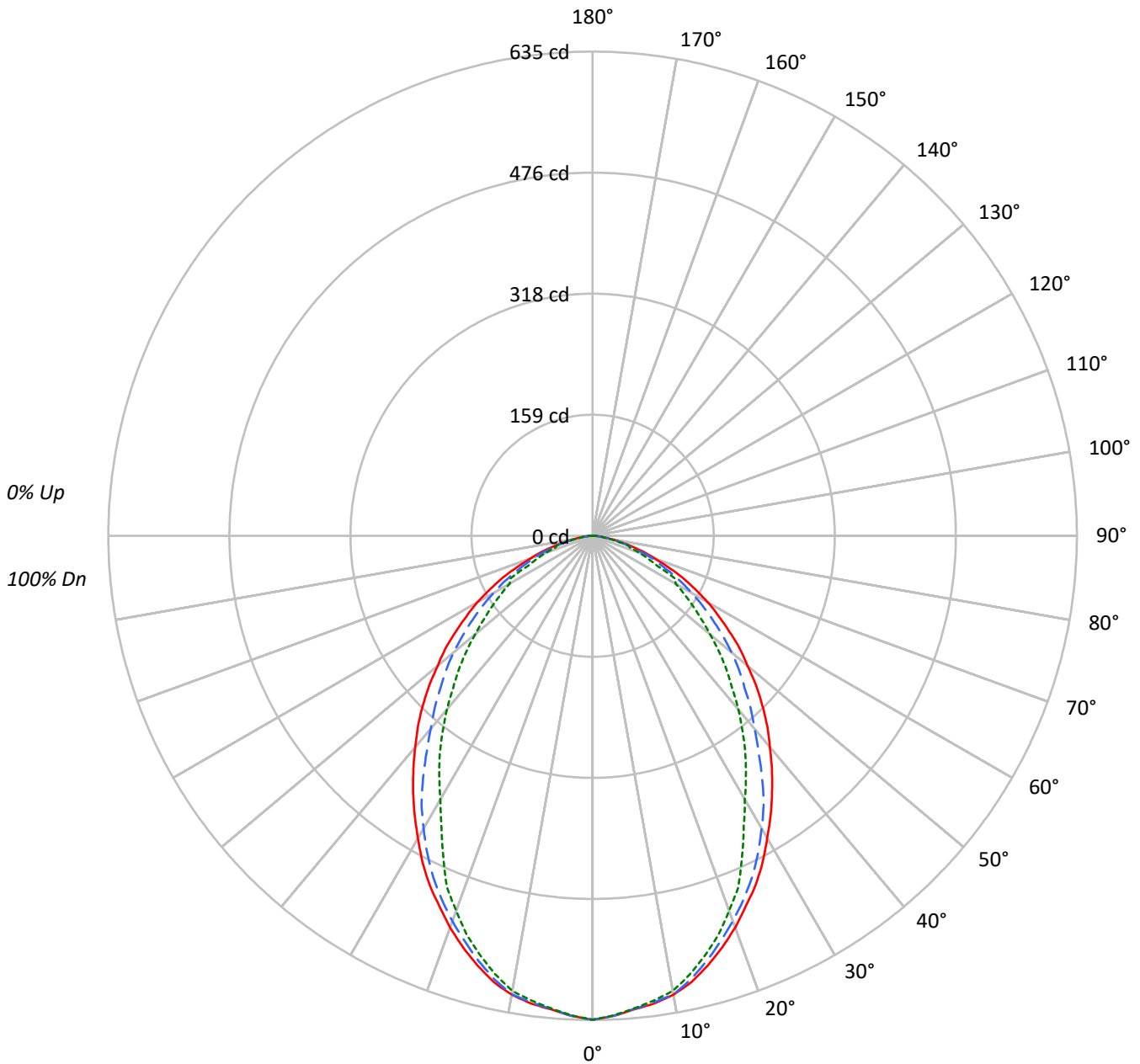
Lumens per Lamp: N/A  
Luminaire Lumens: 1246.0 lumens  
Efficiency: N/A  
Efficacy: 75.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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: P545462

CATALOG NUMBER: FMR-12-2-LD4-1STD-35-UNV-93-97-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545462

CATALOG NUMBER: FMR-12-2-LD4-1STD-35-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°	3416	3416	3416
5°	3370	3366	3361
10°	3340	3336	3312
15°	3250	3218	3173
20°	3131	3080	2997
25°	3002	2937	2754
30°	2846	2754	2481
35°	2695	2545	2295
40°	2541	2320	2088
45°	2396	2145	1888
50°	2218	1990	1683
55°	2052	1803	1508
60°	1879	1611	1351
65°	1654	1411	1196
70°	1363	1235	1017
75°	1083	946	992
80°	728	682	635
85°	451	543	636



TEST NUMBER: P545462

CATALOG NUMBER: FMR-12-2-LD4-1STD-35-UNV-93-97-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.1	4.7
10°-20°	162.1	13.0
20°-30°	224.5	18.0
30°-40°	239.4	19.2
40°-50°	218.4	17.5
50°-60°	171.1	13.7
60°-70°	111.5	8.9
70°-80°	49.4	4.0
80°-90°	10.6	0.8
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°	445.7	35.8
0°-40°	685.1	55.0
0°-60°	1074.5	86.2
0°-90°	1246.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1246.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	635	635	635	635	635	
5°	624	623	623	622	622	59
15°	583	583	578	572	569	164
25°	506	503	494	477	464	232
35°	410	407	387	358	349	256
45°	315	308	282	258	248	242
55°	219	212	192	170	161	196
65°	130	122	111	113	94	128
75°	52	48	46	43	48	56
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



TEST NUMBER: P545462

CATALOG NUMBER: FMR-12-2-LD4-1STD-35-UNV-93-97-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	634.7	634.7	634.7	634.7	634.7
2.5°	630.3	630.3	630.3	629.6	629.6
5°	623.7	623.0	623.0	622.2	622.2
7.5°	618.6	617.8	617.1	616.4	614.9
10°	611.2	611.2	610.5	606.8	606.1
12.5°	599.5	598.7	595.8	590.7	589.2
15°	583.3	583.3	577.5	571.6	569.4
17.5°	565.7	565.0	557.7	551.8	548.8
20°	546.6	545.2	537.8	528.3	523.2
22.5°	525.4	525.4	516.6	504.1	499.0
25°	505.6	502.6	494.5	476.9	463.7
27.5°	482.8	478.4	469.6	444.7	429.2
30°	457.9	455.7	443.2	410.9	399.2
32.5°	434.4	430.7	417.5	383.8	374.2
35°	410.2	407.2	387.4	358.1	349.3
37.5°	386.0	382.3	357.3	333.9	322.9
40°	361.7	357.3	330.2	308.9	297.2
42.5°	339.0	333.1	306.7	284.0	270.8
45°	314.8	308.2	281.8	258.3	248.0
47.5°	290.6	284.7	260.5	236.3	224.5
50°	264.9	259.7	237.7	213.5	201.0
52.5°	243.6	235.5	214.3	190.0	179.8
55°	218.7	212.1	192.2	169.5	160.7
57.5°	195.9	189.3	171.0	149.7	142.3
60°	174.6	165.1	149.7	131.3	125.5
62.5°	151.2	143.8	130.6	115.2	122.5
65°	129.9	122.5	110.8	113.0	93.9
67.5°	106.4	102.7	92.5	82.2	79.2
70°	86.6	82.2	78.5	67.5	64.6
72.5°	69.0	64.6	59.4	53.6	51.4
75°	52.1	48.4	45.5	43.3	47.7
77.5°	36.0	34.5	32.3	30.1	29.4
80°	23.5	22.7	22.0	21.3	20.5
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.1	8.8	9.5	10.3
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)