

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: P545236

Luminaire Tested: **FMR-12-1-LD4-2STD-50-UNV-93-94-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: P545236  
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-12-1-LD4-2STD-50-UNV-93-94-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

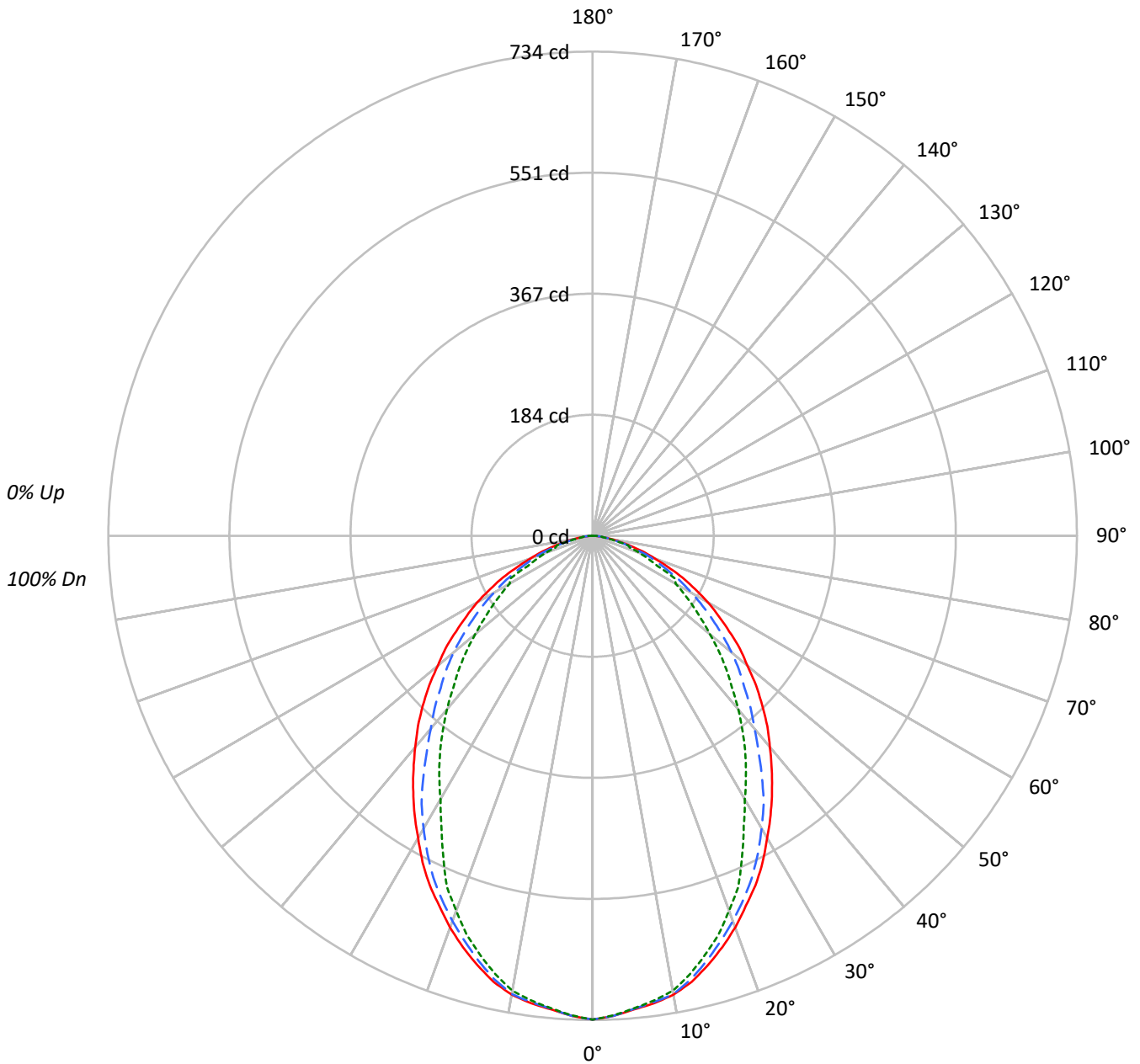
Lumens per Lamp: N/A  
Luminaire Lumens: 1440.0 lumens  
Efficiency: N/A  
Efficacy: 86.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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: P545236

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-93-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545236

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-93-94-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°	7895	7895	7895
5°	7788	7779	7770
10°	7721	7711	7655
15°	7513	7437	7333
20°	7237	7120	6926
25°	6940	6788	6365
30°	6576	6366	5734
35°	6229	5883	5303
40°	5875	5362	4825
45°	5538	4956	4363
50°	5126	4602	3892
55°	4742	4170	3485
60°	4344	3724	3122
65°	3823	3260	2763
70°	3150	2854	2348
75°	2504	2188	2292
80°	1680	1574	1469
85°	1050	1260	1470



TEST NUMBER: P545236

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-93-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.3	4.7
10°-20°	187.4	13.0
20°-30°	259.4	18.0
30°-40°	276.6	19.2
40°-50°	252.4	17.5
50°-60°	197.7	13.7
60°-70°	128.8	8.9
70°-80°	57.1	4.0
80°-90°	12.3	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°	515.1	35.8
0°-40°	791.7	55.0
0°-60°	1241.8	86.2
0°-90°	1440.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1440.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	734	734	734	734	734	
5°	721	720	720	719	719	68
15°	674	674	667	661	658	190
25°	584	581	572	551	536	268
35°	474	471	448	414	404	296
45°	364	356	326	298	287	280
55°	253	245	222	196	186	227
65°	150	142	128	131	108	148
75°	60	56	53	50	55	65
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



TEST NUMBER: P545236

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-93-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	733.5	733.5	733.5	733.5	733.5
2.5°	728.4	728.4	728.4	727.6	727.6
5°	720.8	719.9	719.9	719.1	719.1
7.5°	714.9	714.0	713.2	712.3	710.6
10°	706.4	706.4	705.5	701.3	700.4
12.5°	692.8	692.0	688.6	682.6	680.9
15°	674.2	674.2	667.4	660.6	658.0
17.5°	653.8	653.0	644.5	637.7	634.3
20°	631.8	630.1	621.6	610.6	604.6
22.5°	607.2	607.2	597.0	582.6	576.6
25°	584.3	580.9	571.5	551.2	535.9
27.5°	558.0	552.9	542.7	513.9	496.1
30°	529.1	526.6	512.2	474.9	461.3
32.5°	502.0	497.8	482.5	443.5	432.5
35°	474.0	470.6	447.7	413.8	403.6
37.5°	446.0	441.8	413.0	385.8	373.1
40°	418.1	413.0	381.6	357.0	343.4
42.5°	391.8	385.0	354.5	328.2	312.9
45°	363.8	356.2	325.6	298.5	286.6
47.5°	335.8	329.0	301.0	273.1	259.5
50°	306.1	300.2	274.8	246.8	232.4
52.5°	281.5	272.2	247.6	219.6	207.8
55°	252.7	245.1	222.2	195.9	185.7
57.5°	226.4	218.8	197.6	173.0	164.5
60°	201.8	190.8	173.0	151.8	145.0
62.5°	174.7	166.2	150.9	133.1	141.6
65°	150.1	141.6	128.0	130.6	108.5
67.5°	123.0	118.7	106.8	95.0	91.6
70°	100.1	95.0	90.7	78.0	74.6
72.5°	79.7	74.6	68.7	61.9	59.4
75°	60.2	56.0	52.6	50.0	55.1
77.5°	41.6	39.9	37.3	34.8	33.9
80°	27.1	26.3	25.4	24.6	23.7
82.5°	16.1	16.1	16.1	16.1	16.1
85°	8.5	9.3	10.2	11.0	11.9
87.5°	5.1	5.1	5.9	6.8	7.6
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)