

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: P547141

Luminaire Tested: **FMR-24-4-LD4-3LO-50-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: P547141  
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-24-4-LD4-3LO-50-UNV-81-96-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

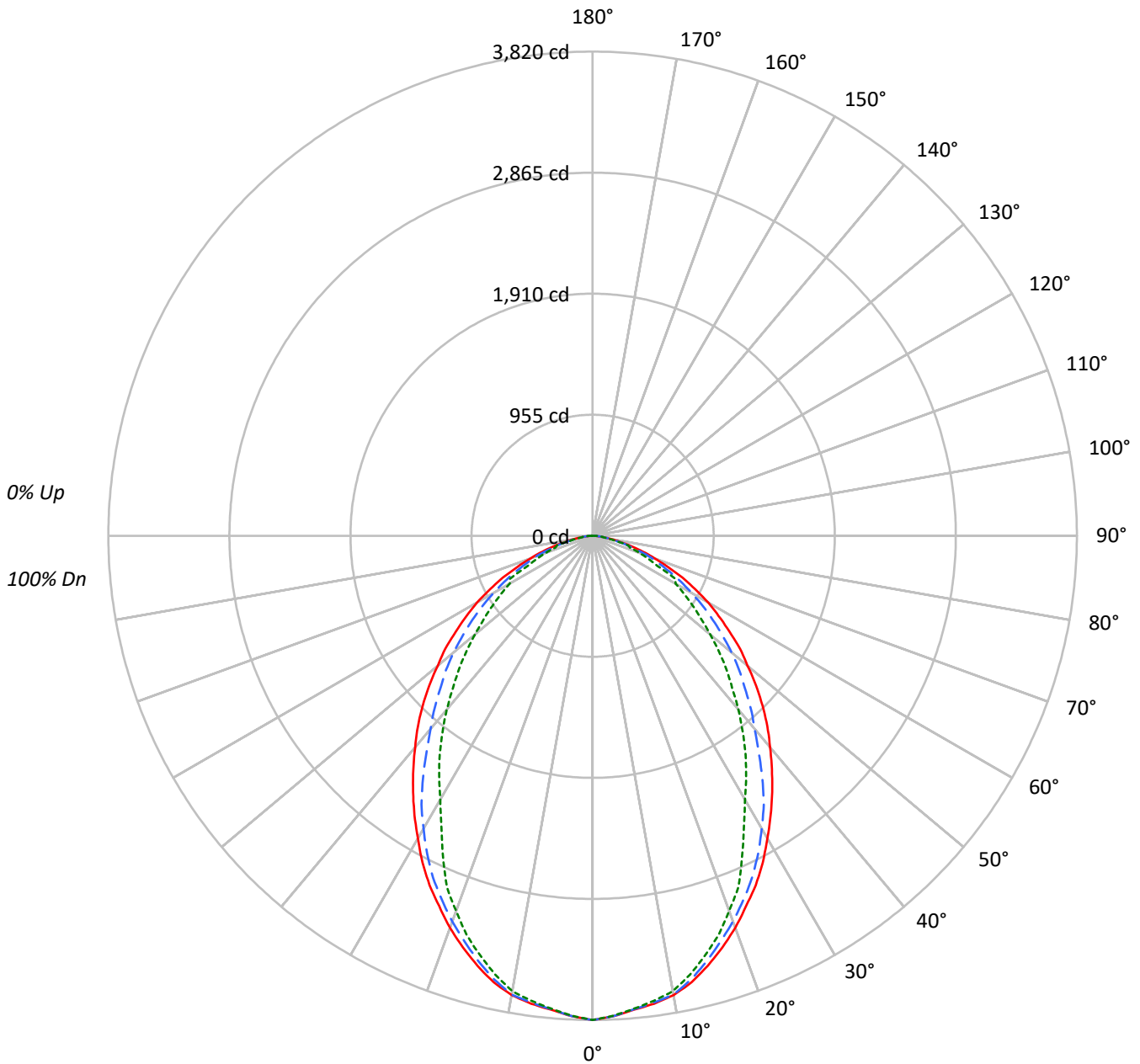
Lumens per Lamp: N/A  
Luminaire Lumens: 7500.0 lumens  
Efficiency: N/A  
Efficacy: 106.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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

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CATALOG NUMBER: FMR-24-4-LD4-3LO-50-UNV-81-96-EDD

### Luminous Intensity Polar Plot





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**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°	5140	5140	5140
5°	5071	5064	5059
10°	5027	5021	4984
15°	4891	4842	4774
20°	4711	4635	4509
25°	4518	4419	4144
30°	4282	4145	3733
35°	4055	3830	3453
40°	3824	3491	3142
45°	3605	3227	2841
50°	3337	2995	2533
55°	3088	2715	2269
60°	2829	2425	2032
65°	2489	2123	1800
70°	2050	1859	1529
75°	1630	1423	1493
80°	1095	1027	958
85°	682	818	954



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	355.6	4.7
10°-20°	976.0	13.0
20°-30°	1351.2	18.0
30°-40°	1440.8	19.2
40°-50°	1314.4	17.5
50°-60°	1029.7	13.7
60°-70°	671.1	8.9
70°-80°	297.3	4.0
80°-90°	63.8	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°	2682.8	35.8
0°-40°	4123.6	55.0
0°-60°	6467.7	86.2
0°-90°	7500.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7500.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3820	3820	3820	3820	3820	
5°	3754	3750	3750	3745	3745	356
15°	3511	3511	3476	3441	3427	987
25°	3043	3025	2977	2871	2791	1397
35°	2469	2451	2332	2155	2102	1544
45°	1895	1855	1696	1555	1493	1459
55°	1316	1276	1157	1020	967	1180
65°	782	738	667	680	565	770
75°	314	292	274	261	287	336
85°	44	49	53	57	62	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3820.4	3820.4	3820.4	3820.4	3820.4
2.5°	3793.9	3793.9	3793.9	3789.5	3789.5
5°	3754.2	3749.7	3749.7	3745.3	3745.3
7.5°	3723.2	3718.8	3714.4	3710.0	3701.2
10°	3679.1	3679.1	3674.7	3652.6	3648.2
12.5°	3608.4	3604.0	3586.3	3555.4	3546.6
15°	3511.2	3511.2	3475.9	3440.6	3427.3
17.5°	3405.2	3400.8	3356.7	3321.3	3303.7
20°	3290.4	3281.6	3237.4	3180.0	3149.1
22.5°	3162.3	3162.3	3109.3	3034.2	3003.3
25°	3043.1	3025.4	2976.8	2870.8	2791.3
27.5°	2906.2	2879.7	2826.7	2676.5	2583.7
30°	2756.0	2742.7	2667.7	2473.3	2402.7
32.5°	2614.7	2592.6	2513.1	2309.9	2252.5
35°	2468.9	2451.2	2332.0	2155.3	2102.3
37.5°	2323.2	2301.1	2150.9	2009.6	1943.3
40°	2177.4	2150.9	1987.5	1859.4	1788.7
42.5°	2040.5	2005.2	1846.2	1709.2	1629.7
45°	1894.7	1855.0	1696.0	1554.7	1492.8
47.5°	1749.0	1713.7	1567.9	1422.2	1351.5
50°	1594.4	1563.5	1431.0	1285.2	1210.2
52.5°	1466.3	1417.7	1289.7	1143.9	1082.1
55°	1316.2	1276.4	1157.2	1020.2	967.2
57.5°	1179.2	1139.5	1029.1	901.0	856.8
60°	1051.2	993.7	901.0	790.6	755.2
62.5°	909.8	865.7	786.2	693.4	737.6
65°	781.7	737.6	666.9	680.2	565.3
67.5°	640.4	618.3	556.5	494.7	477.0
70°	521.2	494.7	472.6	406.3	388.7
72.5°	415.2	388.7	357.7	322.4	309.2
75°	313.6	291.5	273.8	260.6	287.1
77.5°	216.4	207.6	194.3	181.1	176.7
80°	141.3	136.9	132.5	128.1	123.7
82.5°	83.9	83.9	83.9	83.9	83.9
85°	44.2	48.6	53.0	57.4	61.8
87.5°	26.5	26.5	30.9	35.3	39.7
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)