

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: P547047

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-82-84-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: P547047  
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-LD4-3HI-50-UNV-82-84-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

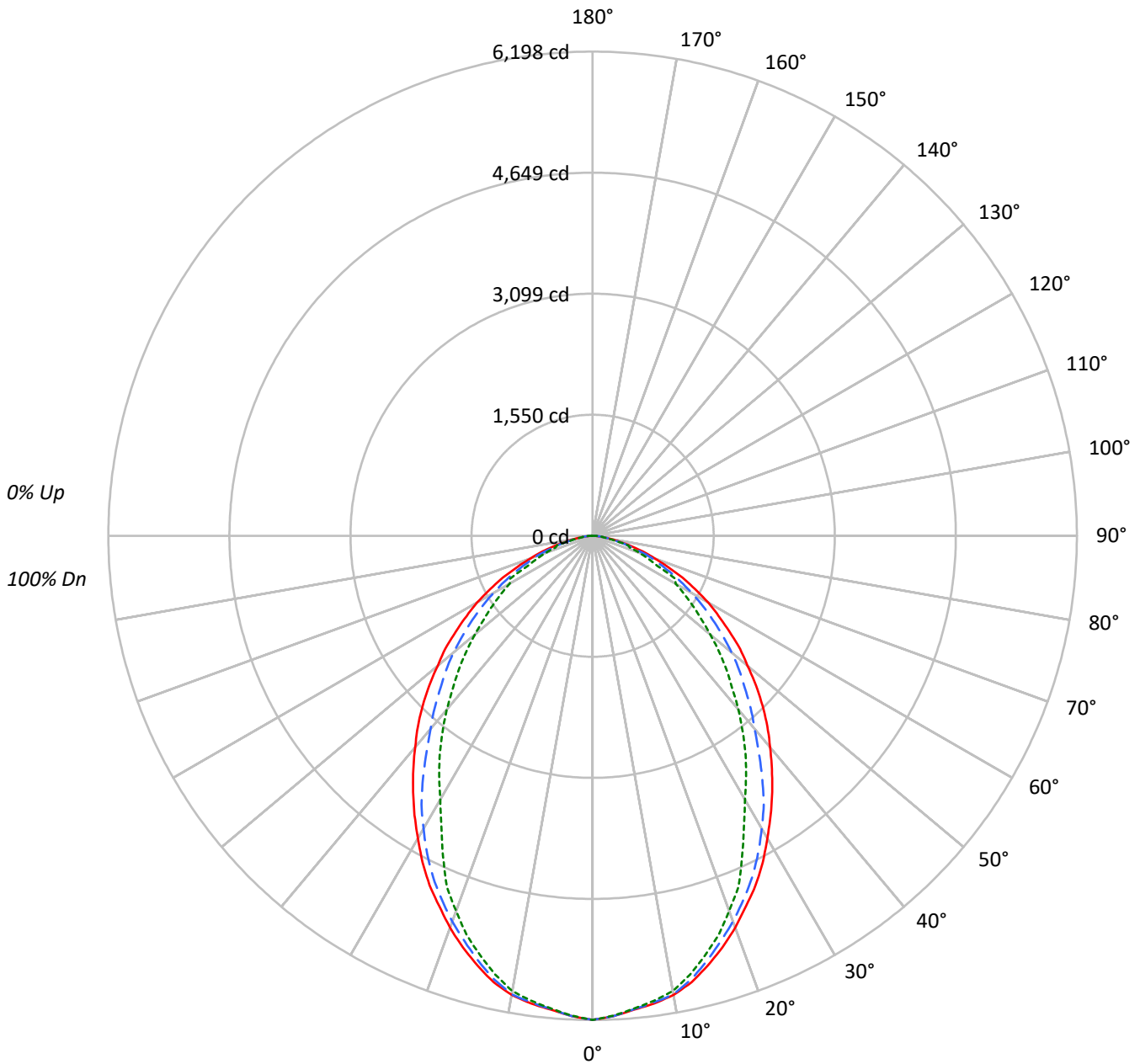
Lumens per Lamp: N/A  
Luminaire Lumens: 12167.0 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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

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### 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°	8339	8339	8339
5°	8226	8216	8206
10°	8154	8145	8086
15°	7935	7855	7745
20°	7643	7520	7315
25°	7329	7169	6723
30°	6946	6724	6056
35°	6579	6214	5602
40°	6204	5663	5097
45°	5849	5235	4608
50°	5414	4859	4109
55°	5009	4404	3681
60°	4589	3933	3297
65°	4038	3444	2920
70°	3326	3016	2480
75°	2645	2309	2421
80°	1777	1665	1554
85°	1105	1328	1548



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	576.9	4.7
10°-20°	1583.3	13.0
20°-30°	2192.0	18.0
30°-40°	2337.3	19.2
40°-50°	2132.3	17.5
50°-60°	1670.5	13.7
60°-70°	1088.8	8.9
70°-80°	482.4	4.0
80°-90°	103.6	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°	4352.2	35.8
0°-40°	6689.5	55.0
0°-60°	10492.3	86.2
0°-90°	12167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12167.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6198	6198	6198	6198	6198	
5°	6090	6083	6083	6076	6076	578
15°	5696	5696	5639	5582	5560	1601
25°	4937	4908	4829	4657	4528	2266
35°	4005	3977	3783	3496	3410	2504
45°	3074	3009	2751	2522	2422	2368
55°	2135	2071	1877	1655	1569	1915
65°	1268	1197	1082	1103	917	1250
75°	509	473	444	423	466	545
85°	72	79	86	93	100	99
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6197.7	6197.7	6197.7	6197.7	6197.7
2.5°	6154.7	6154.7	6154.7	6147.6	6147.6
5°	6090.2	6083.1	6083.1	6075.9	6075.9
7.5°	6040.1	6032.9	6025.7	6018.6	6004.3
10°	5968.4	5968.4	5961.3	5925.4	5918.3
12.5°	5853.8	5846.6	5818.0	5767.8	5753.5
15°	5696.2	5696.2	5638.8	5581.5	5560.0
17.5°	5524.2	5517.0	5445.4	5388.1	5359.4
20°	5337.9	5323.6	5251.9	5158.8	5108.6
22.5°	5130.1	5130.1	5044.1	4922.3	4872.2
25°	4936.7	4908.0	4829.2	4657.2	4528.3
27.5°	4714.6	4671.6	4585.6	4342.0	4191.5
30°	4470.9	4449.5	4327.6	4012.4	3897.7
32.5°	4241.7	4205.8	4076.9	3747.3	3654.1
35°	4005.2	3976.6	3783.1	3496.5	3410.5
37.5°	3768.8	3733.0	3489.3	3260.1	3152.6
40°	3532.3	3489.3	3224.2	3016.5	2901.8
42.5°	3310.2	3252.9	2995.0	2772.8	2643.9
45°	3073.8	3009.3	2751.4	2522.1	2421.8
47.5°	2837.3	2780.0	2543.6	2307.1	2192.5
50°	2586.6	2536.4	2321.5	2085.0	1963.2
52.5°	2378.8	2300.0	2092.2	1855.7	1755.4
55°	2135.2	2070.7	1877.2	1655.1	1569.1
57.5°	1913.0	1848.6	1669.4	1461.7	1390.0
60°	1705.3	1612.1	1461.7	1282.5	1225.2
62.5°	1476.0	1404.3	1275.4	1124.9	1196.6
65°	1268.2	1196.6	1081.9	1103.4	917.1
67.5°	1038.9	1003.1	902.8	802.5	773.8
70°	845.5	802.5	766.7	659.2	630.5
72.5°	673.5	630.5	580.4	523.0	501.5
75°	508.7	472.9	444.2	422.7	465.7
77.5°	351.1	336.8	315.3	293.8	286.6
80°	229.3	222.1	214.9	207.8	200.6
82.5°	136.1	136.1	136.1	136.1	136.1
85°	71.6	78.8	86.0	93.1	100.3
87.5°	43.0	43.0	50.2	57.3	64.5
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)