

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: P547130

Luminaire Tested: **FMR-24-4-LD4-3LO-50-UNV-80-87-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: P547130  
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-80-87-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

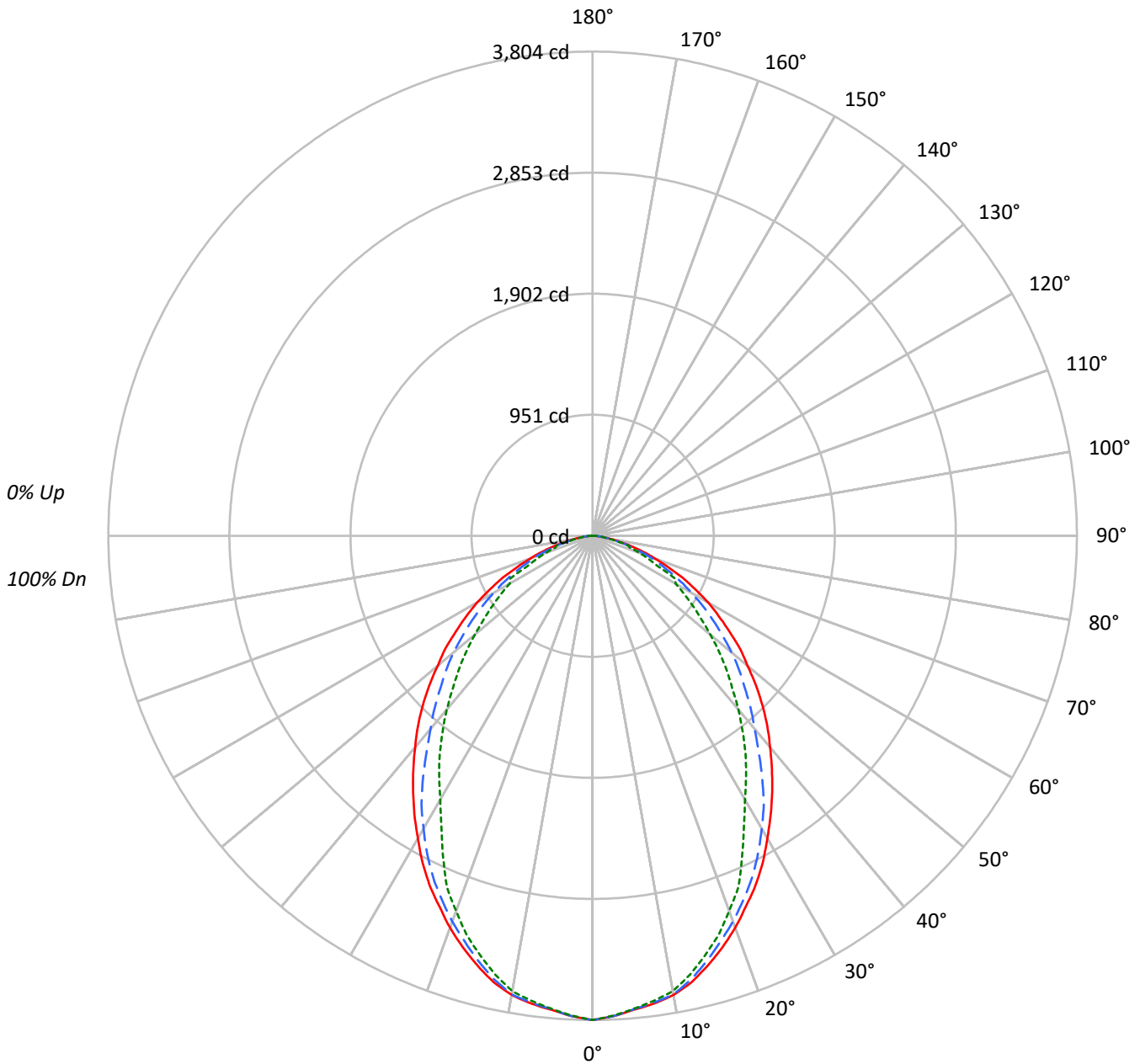
Lumens per Lamp: N/A  
Luminaire Lumens: 7468.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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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### 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°	5118	5118	5118
5°	5049	5043	5037
10°	5005	4999	4963
15°	4870	4821	4754
20°	4691	4616	4490
25°	4498	4400	4126
30°	4263	4127	3717
35°	4038	3814	3438
40°	3808	3476	3128
45°	3590	3213	2829
50°	3323	2983	2522
55°	3074	2703	2259
60°	2817	2414	2024
65°	2478	2114	1792
70°	2041	1851	1522
75°	1623	1418	1486
80°	1090	1022	954
85°	679	815	951



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	354.1	4.7
10°-20°	971.8	13.0
20°-30°	1345.4	18.0
30°-40°	1434.6	19.2
40°-50°	1308.8	17.5
50°-60°	1025.3	13.7
60°-70°	668.3	8.9
70°-80°	296.1	4.0
80°-90°	63.6	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°	2671.4	35.8
0°-40°	4106.0	55.0
0°-60°	6440.1	86.2
0°-90°	7468.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7468.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3804	3804	3804	3804	3804	
5°	3738	3734	3734	3729	3729	355
15°	3496	3496	3461	3426	3413	983
25°	3030	3012	2964	2859	2779	1391
35°	2458	2441	2322	2146	2093	1537
45°	1887	1847	1689	1548	1486	1453
55°	1310	1271	1152	1016	963	1175
65°	778	734	664	677	563	767
75°	312	290	273	260	286	335
85°	44	48	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°	3804.1	3804.1	3804.1	3804.1	3804.1
2.5°	3777.7	3777.7	3777.7	3773.3	3773.3
5°	3738.1	3733.7	3733.7	3729.3	3729.3
7.5°	3707.3	3702.9	3698.6	3694.2	3685.4
10°	3663.4	3663.4	3659.0	3637.0	3632.6
12.5°	3593.0	3588.6	3571.0	3540.2	3531.4
15°	3496.3	3496.3	3461.1	3425.9	3412.7
17.5°	3390.7	3386.3	3342.3	3307.1	3289.6
20°	3276.4	3267.6	3223.6	3166.4	3135.6
22.5°	3148.8	3148.8	3096.1	3021.3	2990.5
25°	3030.1	3012.5	2964.1	2858.6	2779.4
27.5°	2893.8	2867.4	2814.6	2665.1	2572.7
30°	2744.2	2731.0	2656.3	2462.8	2392.4
32.5°	2603.5	2581.5	2502.3	2300.1	2242.9
35°	2458.4	2440.8	2322.0	2146.1	2093.4
37.5°	2313.2	2291.3	2141.7	2001.0	1935.0
40°	2168.1	2141.7	1979.0	1851.5	1781.1
42.5°	2031.8	1996.6	1838.3	1701.9	1622.8
45°	1886.7	1847.1	1688.8	1548.0	1486.5
47.5°	1741.5	1706.3	1561.2	1416.1	1345.7
50°	1587.6	1556.8	1424.9	1279.8	1205.0
52.5°	1460.1	1411.7	1284.2	1139.0	1077.5
55°	1310.5	1271.0	1152.2	1015.9	963.1
57.5°	1174.2	1134.6	1024.7	897.2	853.2
60°	1046.7	989.5	897.2	787.2	752.0
62.5°	905.9	862.0	782.8	690.5	734.4
65°	778.4	734.4	664.1	677.3	562.9
67.5°	637.7	615.7	554.1	492.6	475.0
70°	518.9	492.6	470.6	404.6	387.0
72.5°	413.4	387.0	356.2	321.0	307.8
75°	312.2	290.3	272.7	259.5	285.9
77.5°	215.5	206.7	193.5	180.3	175.9
80°	140.7	136.3	131.9	127.5	123.1
82.5°	83.6	83.6	83.6	83.6	83.6
85°	44.0	48.4	52.8	57.2	61.6
87.5°	26.4	26.4	30.8	35.2	39.6
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)