

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: P547039

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-81-84-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: P547039  
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-81-84-EDD  
Description: 2X4 FMR TROFFER WITH .156 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**

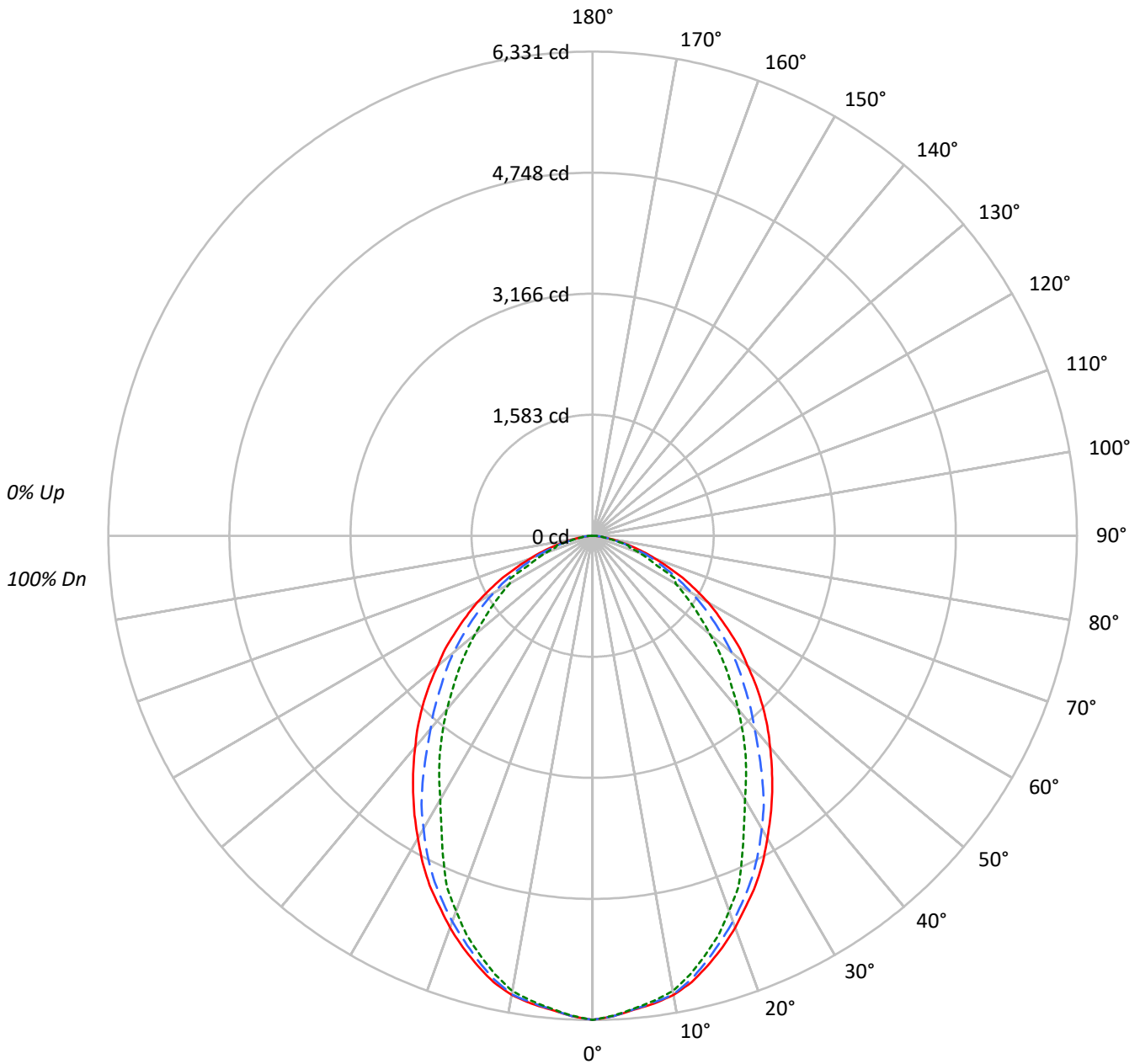
Lumens per Lamp: N/A  
Luminaire Lumens: 12428.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	8518	8518	8518
5°	8402	8392	8382
10°	8329	8319	8259
15°	8105	8023	7911
20°	7807	7681	7472
25°	7486	7323	6867
30°	7095	6868	6186
35°	6720	6347	5722
40°	6337	5785	5206
45°	5974	5348	4707
50°	5530	4964	4198
55°	5116	4498	3760
60°	4687	4018	3368
65°	4124	3518	2982
70°	3397	3081	2533
75°	2701	2359	2473
80°	1815	1702	1588
85°	1130	1355	1582



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	589.3	4.7
10°-20°	1617.3	13.0
20°-30°	2239.0	18.0
30°-40°	2387.4	19.2
40°-50°	2178.0	17.5
50°-60°	1706.3	13.7
60°-70°	1112.1	8.9
70°-80°	492.7	4.0
80°-90°	105.8	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°	4445.6	35.8
0°-40°	6833.0	55.0
0°-60°	10717.4	86.2
0°-90°	12428.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12428.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6331	6331	6331	6331	6331	
5°	6221	6214	6214	6206	6206	591
15°	5818	5818	5760	5701	5679	1636
25°	5043	5013	4933	4757	4625	2315
35°	4091	4062	3864	3572	3484	2558
45°	3140	3074	2810	2576	2474	2418
55°	2181	2115	1918	1691	1603	1956
65°	1295	1222	1105	1127	937	1277
75°	520	483	454	432	476	557
85°	73	80	88	95	102	102
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6330.7	6330.7	6330.7	6330.7	6330.7
2.5°	6286.7	6286.7	6286.7	6279.4	6279.4
5°	6220.9	6213.6	6213.6	6206.2	6206.2
7.5°	6169.6	6162.3	6155.0	6147.7	6133.1
10°	6096.5	6096.5	6089.1	6052.5	6045.2
12.5°	5979.4	5972.0	5942.8	5891.5	5876.9
15°	5818.3	5818.3	5759.8	5701.3	5679.3
17.5°	5642.7	5635.4	5562.2	5503.6	5474.4
20°	5452.4	5437.8	5364.6	5269.4	5218.2
22.5°	5240.2	5240.2	5152.3	5027.9	4976.7
25°	5042.6	5013.3	4932.8	4757.1	4625.4
27.5°	4815.7	4771.8	4684.0	4435.1	4281.4
30°	4566.9	4544.9	4420.5	4098.5	3981.4
32.5°	4332.7	4296.1	4164.3	3827.7	3732.5
35°	4091.1	4061.9	3864.3	3571.5	3483.7
37.5°	3849.6	3813.0	3564.2	3330.0	3220.2
40°	3608.1	3564.2	3293.4	3081.2	2964.1
42.5°	3381.2	3322.7	3059.2	2832.3	2700.6
45°	3139.7	3073.8	2810.4	2576.2	2473.7
47.5°	2898.2	2839.6	2598.1	2356.6	2239.5
50°	2642.0	2590.8	2371.3	2129.7	2005.3
52.5°	2429.8	2349.3	2137.1	1895.5	1793.1
55°	2181.0	2115.1	1917.5	1690.6	1602.8
57.5°	1954.1	1888.2	1705.3	1493.0	1419.8
60°	1741.8	1646.7	1493.0	1310.0	1251.5
62.5°	1507.6	1434.5	1302.7	1149.0	1222.2
65°	1295.4	1222.2	1105.1	1127.1	936.8
67.5°	1061.2	1024.6	922.2	819.7	790.4
70°	863.6	819.7	783.1	673.3	644.0
72.5°	688.0	644.0	592.8	534.3	512.3
75°	519.6	483.0	453.8	431.8	475.7
77.5°	358.6	344.0	322.0	300.1	292.7
80°	234.2	226.9	219.6	212.2	204.9
82.5°	139.1	139.1	139.1	139.1	139.1
85°	73.2	80.5	87.8	95.1	102.5
87.5°	43.9	43.9	51.2	58.5	65.9
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)