

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: P547058

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-93-87-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: P547058  
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-93-87-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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**

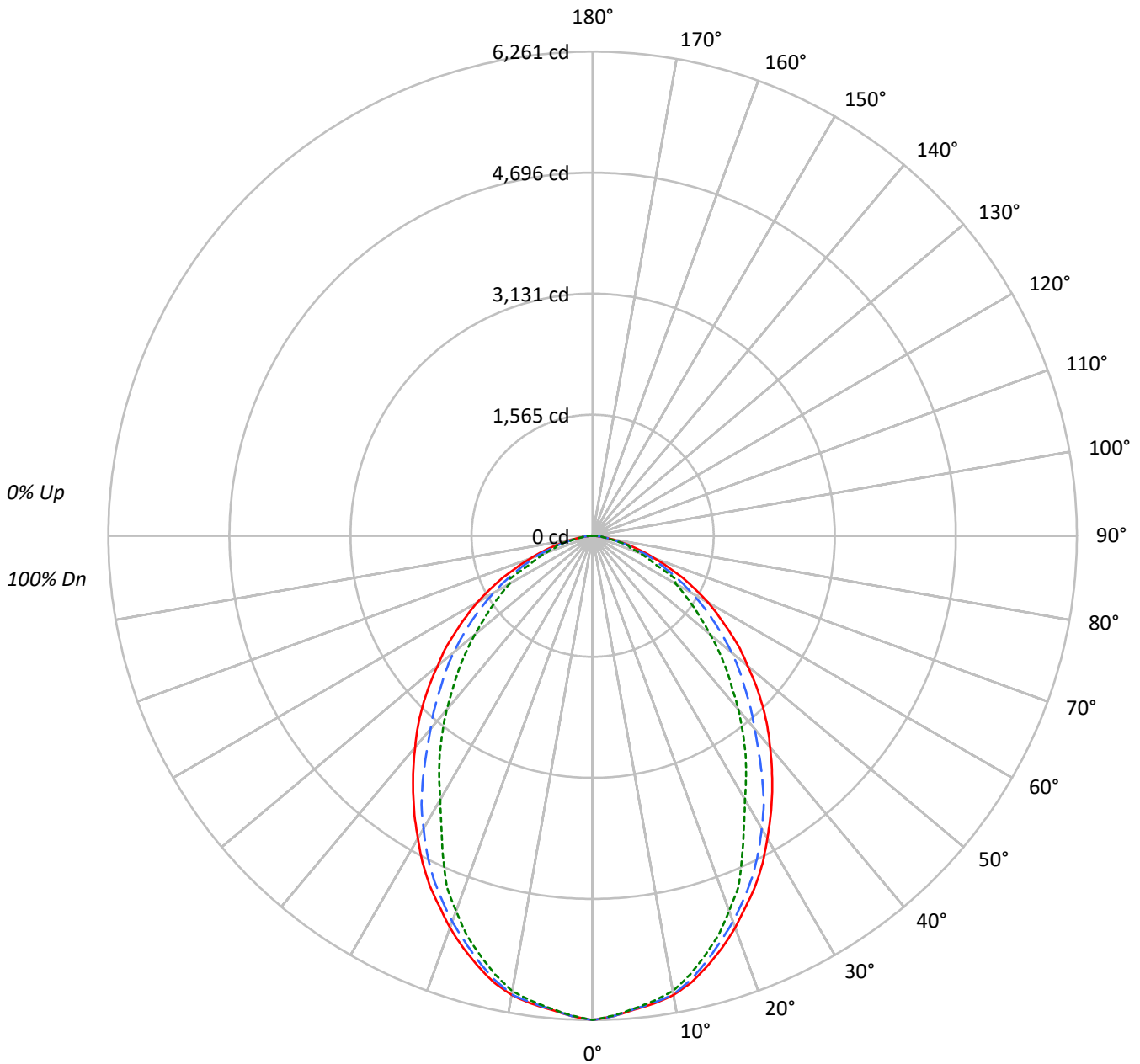
Lumens per Lamp: N/A  
Luminaire Lumens: 12291.0 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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					20					
RC	80					70					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°	8424	8424	8424
5°	8309	8300	8290
10°	8238	8228	8168
15°	8015	7935	7824
20°	7721	7597	7389
25°	7404	7242	6791
30°	7017	6792	6117
35°	6646	6277	5659
40°	6267	5721	5149
45°	5908	5289	4655
50°	5469	4909	4151
55°	5060	4449	3718
60°	4635	3973	3331
65°	4079	3479	2950
70°	3360	3047	2506
75°	2672	2333	2446
80°	1795	1682	1571
85°	1118	1342	1564



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	582.8	4.7
10°-20°	1599.5	13.0
20°-30°	2214.3	18.0
30°-40°	2361.1	19.2
40°-50°	2154.0	17.5
50°-60°	1687.5	13.7
60°-70°	1099.8	8.9
70°-80°	487.3	4.0
80°-90°	104.6	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°	4396.6	35.8
0°-40°	6757.7	55.0
0°-60°	10599.3	86.2
0°-90°	12291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12291.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6261	6261	6261	6261	6261	
5°	6152	6145	6145	6138	6138	584
15°	5754	5754	5696	5638	5617	1618
25°	4987	4958	4878	4705	4574	2290
35°	4046	4017	3822	3532	3445	2530
45°	3105	3040	2779	2548	2446	2392
55°	2157	2092	1896	1672	1585	1935
65°	1281	1209	1093	1115	926	1263
75°	514	478	449	427	470	551
85°	72	80	87	94	101	100
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6260.9	6260.9	6260.9	6260.9	6260.9
2.5°	6217.4	6217.4	6217.4	6210.2	6210.2
5°	6152.3	6145.1	6145.1	6137.8	6137.8
7.5°	6101.6	6094.4	6087.2	6079.9	6065.4
10°	6029.3	6029.3	6022.0	5985.8	5978.6
12.5°	5913.4	5906.2	5877.3	5826.6	5812.1
15°	5754.2	5754.2	5696.3	5638.4	5616.7
17.5°	5580.5	5573.3	5500.9	5443.0	5414.0
20°	5392.3	5377.8	5305.5	5211.4	5160.7
22.5°	5182.4	5182.4	5095.6	4972.5	4921.8
25°	4987.0	4958.0	4878.4	4704.7	4574.4
27.5°	4762.6	4719.2	4632.3	4386.2	4234.2
30°	4516.5	4494.8	4371.8	4053.3	3937.5
32.5°	4284.9	4248.7	4118.4	3785.5	3691.4
35°	4046.0	4017.1	3821.7	3532.1	3445.3
37.5°	3807.2	3771.0	3524.9	3293.3	3184.7
40°	3568.3	3524.9	3257.1	3047.2	2931.4
42.5°	3344.0	3286.1	3025.5	2801.1	2670.8
45°	3105.1	3040.0	2779.4	2547.8	2446.4
47.5°	2866.2	2808.3	2569.5	2330.6	2214.8
50°	2612.9	2562.3	2345.1	2106.3	1983.2
52.5°	2403.0	2323.4	2113.5	1874.6	1773.3
55°	2156.9	2091.8	1896.4	1672.0	1585.1
57.5°	1932.5	1867.4	1686.5	1476.6	1404.2
60°	1722.6	1628.6	1476.6	1295.6	1237.7
62.5°	1491.0	1418.6	1288.4	1136.4	1208.7
65°	1281.1	1208.7	1092.9	1114.7	926.5
67.5°	1049.5	1013.3	912.0	810.7	781.7
70°	854.1	810.7	774.5	665.9	636.9
72.5°	680.4	636.9	586.3	528.4	506.7
75°	513.9	477.7	448.8	427.0	470.5
77.5°	354.7	340.2	318.5	296.8	289.5
80°	231.6	224.4	217.1	209.9	202.7
82.5°	137.5	137.5	137.5	137.5	137.5
85°	72.4	79.6	86.9	94.1	101.3
87.5°	43.4	43.4	50.7	57.9	65.1
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)