

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: P547036

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-80-94-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: P547036  
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-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

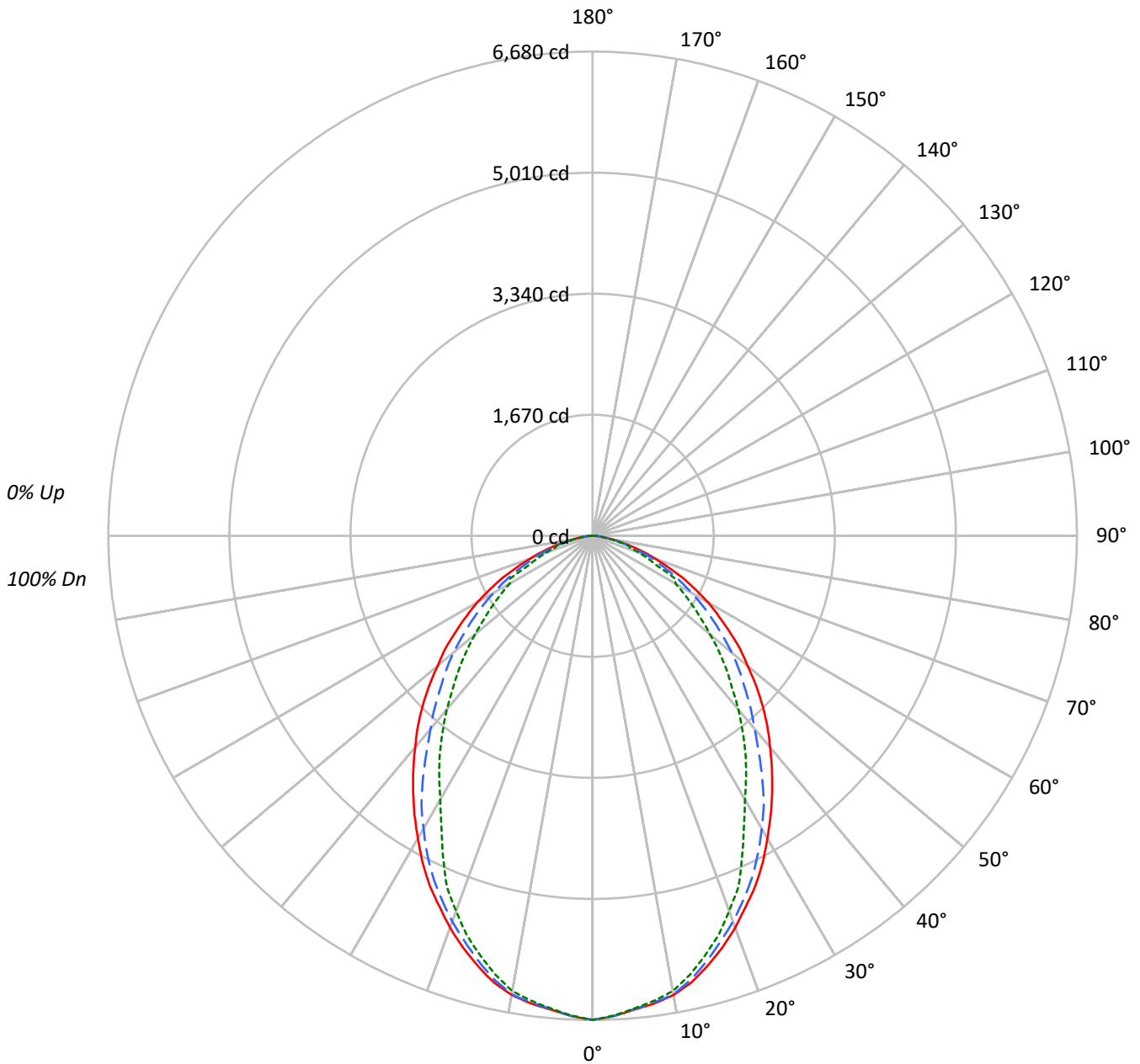
Lumens per Lamp: N/A  
Luminaire Lumens: 13113.0 lumens  
Efficiency: N/A  
Efficacy: 101.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	8987	8987	8987
5°	8865	8855	8844
10°	8788	8778	8714
15°	8551	8465	8347
20°	8237	8105	7883
25°	7899	7727	7245
30°	7486	7246	6527
35°	7090	6697	6037
40°	6687	6103	5493
45°	6304	5642	4967
50°	5835	5237	4429
55°	5398	4746	3967
60°	4946	4239	3553
65°	4351	3712	3147
70°	3585	3251	2673
75°	2850	2489	2609
80°	1915	1795	1675
85°	1192	1431	1669



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	621.8	4.7
10°-20°	1706.4	13.0
20°-30°	2362.4	18.0
30°-40°	2519.0	19.2
40°-50°	2298.1	17.5
50°-60°	1800.4	13.7
60°-70°	1173.4	8.9
70°-80°	519.9	4.0
80°-90°	111.6	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°	4690.6	35.8
0°-40°	7209.7	55.0
0°-60°	11308.1	86.2
0°-90°	13113.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13113.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6680	6680	6680	6680	6680	
5°	6564	6556	6556	6548	6548	623
15°	6139	6139	6077	6016	5992	1726
25°	5320	5290	5205	5019	4880	2443
35°	4317	4286	4077	3768	3676	2699
45°	3313	3243	2965	2718	2610	2552
55°	2301	2232	2023	1784	1691	2064
65°	1367	1290	1166	1189	988	1347
75°	548	510	479	456	502	588
85°	77	85	93	100	108	107
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6679.6	6679.6	6679.6	6679.6	6679.6
2.5°	6633.3	6633.3	6633.3	6625.5	6625.5
5°	6563.8	6556.0	6556.0	6548.3	6548.3
7.5°	6509.7	6502.0	6494.3	6486.5	6471.1
10°	6432.5	6432.5	6424.8	6386.1	6378.4
12.5°	6308.9	6301.2	6270.3	6216.3	6200.8
15°	6139.0	6139.0	6077.3	6015.5	5992.3
17.5°	5953.7	5946.0	5868.8	5807.0	5776.1
20°	5752.9	5737.5	5660.3	5559.9	5505.8
22.5°	5529.0	5529.0	5436.3	5305.1	5251.0
25°	5320.5	5289.6	5204.7	5019.3	4880.3
27.5°	5081.1	5034.8	4942.1	4679.6	4517.4
30°	4818.6	4795.4	4664.1	4324.4	4200.8
32.5°	4571.5	4532.9	4393.9	4038.6	3938.3
35°	4316.6	4285.7	4077.3	3768.4	3675.7
37.5°	4061.8	4023.2	3760.6	3513.5	3397.7
40°	3807.0	3760.6	3474.9	3251.0	3127.4
42.5°	3567.6	3505.8	3227.8	2988.4	2849.4
45°	3312.8	3243.3	2965.3	2718.2	2610.1
47.5°	3057.9	2996.2	2741.3	2486.5	2363.0
50°	2787.7	2733.6	2501.9	2247.1	2115.8
52.5°	2563.7	2478.8	2254.8	2000.0	1891.9
55°	2301.2	2231.7	2023.2	1783.8	1691.1
57.5°	2061.8	1992.3	1799.2	1575.3	1498.1
60°	1837.9	1737.5	1575.3	1382.2	1320.5
62.5°	1590.7	1513.5	1374.5	1212.4	1289.6
65°	1366.8	1289.6	1166.0	1189.2	988.4
67.5°	1119.7	1081.1	973.0	864.9	834.0
70°	911.2	864.9	826.3	710.4	679.5
72.5°	725.9	679.5	625.5	563.7	540.5
75°	548.3	509.7	478.8	455.6	501.9
77.5°	378.4	362.9	339.8	316.6	308.9
80°	247.1	239.4	231.7	223.9	216.2
82.5°	146.7	146.7	146.7	146.7	146.7
85°	77.2	84.9	92.7	100.4	108.1
87.5°	46.3	46.3	54.1	61.8	69.5
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)