

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: P547056

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-93-85-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: P547056  
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-93-85-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

**Summary**

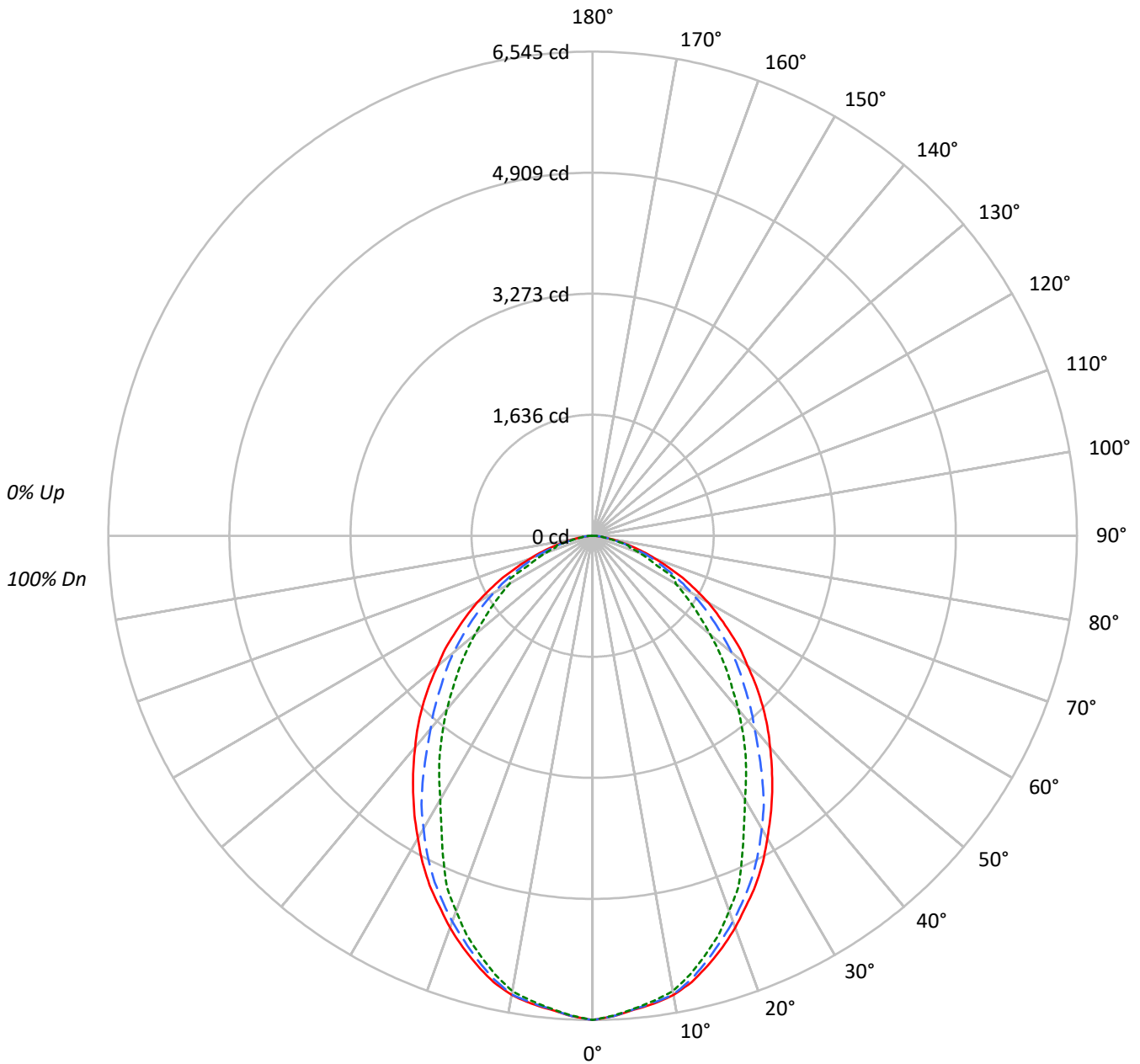
Lumens per Lamp: N/A  
Luminaire Lumens: 12849.0 lumens  
Efficiency: N/A  
Efficacy: 99.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	8806	8806	8806
5°	8687	8676	8666
10°	8611	8601	8539
15°	8379	8295	8179
20°	8071	7941	7725
25°	7740	7571	7099
30°	7336	7100	6395
35°	6947	6562	5916
40°	6552	5981	5383
45°	6177	5529	4866
50°	5718	5132	4340
55°	5289	4650	3887
60°	4846	4154	3482
65°	4264	3638	3083
70°	3513	3185	2620
75°	2793	2439	2557
80°	1876	1759	1642
85°	1169	1402	1635



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	609.3	4.7
10°-20°	1672.1	13.0
20°-30°	2314.9	18.0
30°-40°	2468.3	19.2
40°-50°	2251.8	17.5
50°-60°	1764.1	13.7
60°-70°	1149.8	8.9
70°-80°	509.4	4.0
80°-90°	109.4	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°	4596.2	35.8
0°-40°	7064.5	55.0
0°-60°	11080.4	86.2
0°-90°	12849.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12849.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6545	6545	6545	6545	6545	
5°	6432	6424	6424	6416	6416	611
15°	6015	6015	5955	5894	5872	1691
25°	5213	5183	5100	4918	4782	2393
35°	4230	4200	3995	3692	3602	2644
45°	3246	3178	2906	2663	2558	2500
55°	2255	2187	1982	1748	1657	2022
65°	1339	1264	1143	1165	968	1320
75°	537	499	469	446	492	576
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6545.1	6545.1	6545.1	6545.1	6545.1
2.5°	6499.7	6499.7	6499.7	6492.1	6492.1
5°	6431.6	6424.0	6424.0	6416.5	6416.5
7.5°	6378.6	6371.1	6363.5	6355.9	6340.8
10°	6303.0	6303.0	6295.4	6257.6	6250.0
12.5°	6181.9	6174.3	6144.1	6091.1	6076.0
15°	6015.4	6015.4	5954.9	5894.4	5871.7
17.5°	5833.8	5826.3	5750.6	5690.1	5659.8
20°	5637.1	5622.0	5546.3	5448.0	5395.0
22.5°	5417.7	5417.7	5326.9	5198.3	5145.3
25°	5213.4	5183.1	5099.9	4918.3	4782.1
27.5°	4978.8	4933.4	4842.6	4585.4	4426.5
30°	4721.6	4698.9	4570.2	4237.3	4116.2
32.5°	4479.4	4441.6	4305.4	3957.3	3859.0
35°	4229.7	4199.5	3995.2	3692.5	3601.7
37.5°	3980.0	3942.2	3684.9	3442.8	3329.3
40°	3730.3	3684.9	3405.0	3185.5	3064.5
42.5°	3495.8	3435.2	3162.8	2928.3	2792.1
45°	3246.1	3178.0	2905.6	2663.4	2557.5
47.5°	2996.4	2935.8	2686.1	2436.4	2315.4
50°	2731.5	2678.6	2451.6	2201.9	2073.2
52.5°	2512.1	2428.9	2209.4	1959.7	1853.8
55°	2254.8	2186.7	1982.4	1747.9	1657.1
57.5°	2020.3	1952.2	1763.0	1543.6	1467.9
60°	1800.9	1702.5	1543.6	1354.4	1293.9
62.5°	1558.7	1483.1	1346.9	1188.0	1263.6
65°	1339.3	1263.6	1142.6	1165.3	968.5
67.5°	1097.2	1059.3	953.4	847.5	817.2
70°	892.9	847.5	809.6	696.1	665.9
72.5°	711.3	665.9	612.9	552.4	529.7
75°	537.2	499.4	469.1	446.4	491.8
77.5°	370.8	355.6	332.9	310.2	302.7
80°	242.1	234.6	227.0	219.4	211.9
82.5°	143.8	143.8	143.8	143.8	143.8
85°	75.7	83.2	90.8	98.4	105.9
87.5°	45.4	45.4	53.0	60.5	68.1
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)