

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: P547335

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-82-84-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: P547335  
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-LD4-4HI-50-UNV-82-84-EDD  
Description: 2X4 FMR TROFFER WITH .187 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**

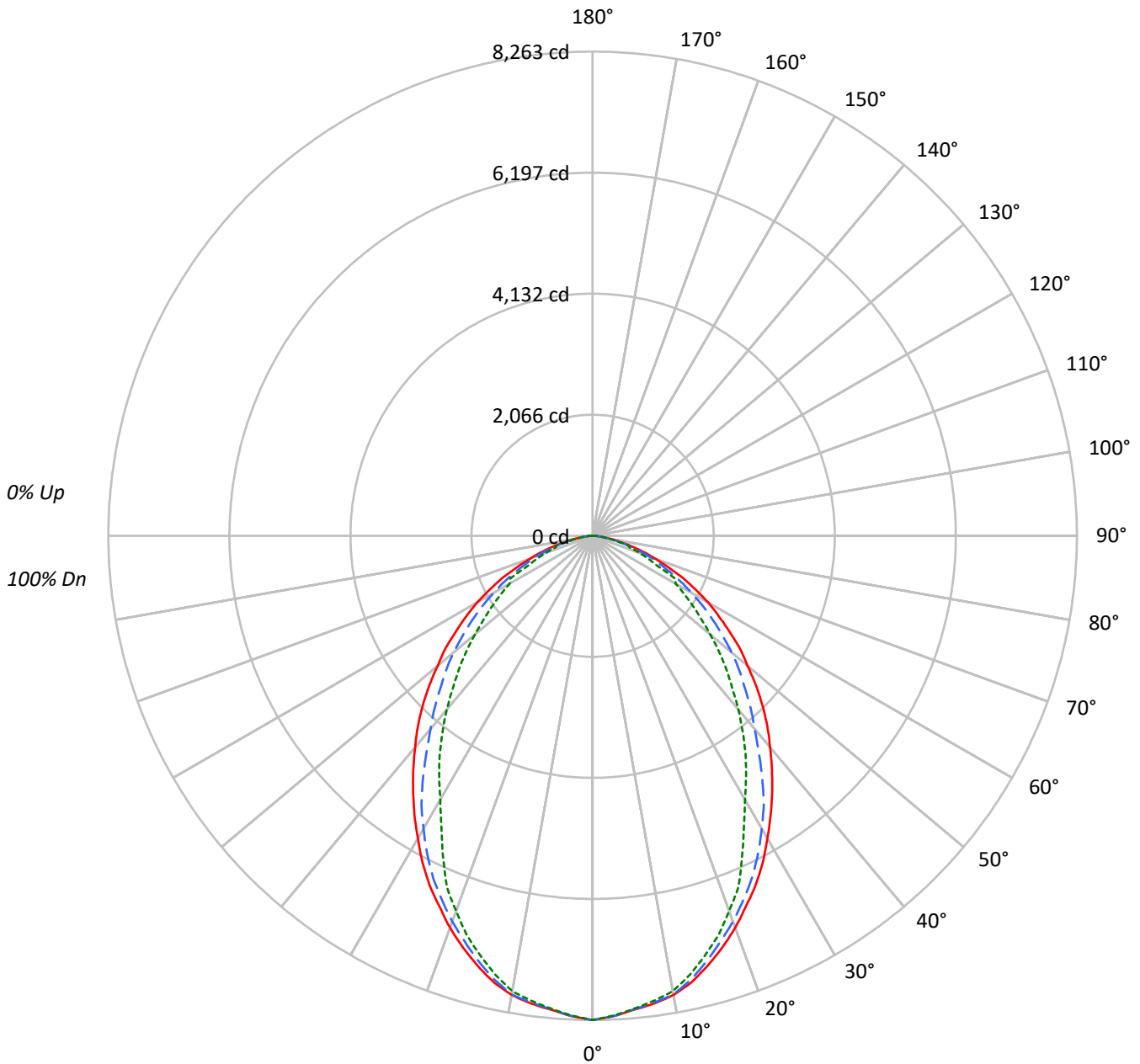
Lumens per Lamp: N/A  
Luminaire Lumens: 16222.0 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 172.8  
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

TEST NUMBER: P547335

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-82-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P547335

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-82-84-EDD

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11118	11118	11118
5°	10967	10954	10941
10°	10872	10859	10781
15°	10579	10472	10326
20°	10190	10026	9753
25°	9772	9559	8963
30°	9261	8964	8074
35°	8771	8285	7469
40°	8272	7550	6795
45°	7798	6980	6144
50°	7219	6479	5479
55°	6678	5871	4908
60°	6118	5244	4396
65°	5383	4592	3893
70°	4434	4021	3307
75°	3526	3079	3228
80°	2369	2221	2073
85°	1474	1769	2064



TEST NUMBER: P547335

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-82-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	769.2	4.7
10°-20°	2111.0	13.0
20°-30°	2922.5	18.0
30°-40°	3116.3	19.2
40°-50°	2842.9	17.5
50°-60°	2227.2	13.7
60°-70°	1451.6	8.9
70°-80°	643.1	4.0
80°-90°	138.1	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°	5802.7	35.8
0°-40°	8919.0	55.0
0°-60°	13989.2	86.2
0°-90°	16222.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16222.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8263	8263	8263	8263	8263	
5°	8120	8110	8110	8101	8101	771
15°	7595	7595	7518	7442	7413	2135
25°	6582	6544	6439	6209	6037	3022
35°	5340	5302	5044	4662	4547	3339
45°	4098	4012	3668	3363	3229	3157
55°	2847	2761	2503	2207	2092	2553
65°	1691	1595	1442	1471	1223	1666
75°	678	630	592	564	621	727
85°	96	105	115	124	134	132
90°	0	0	0	0	0	



TEST NUMBER: P547335

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-82-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8263.3	8263.3	8263.3	8263.3	8263.3
2.5°	8206.0	8206.0	8206.0	8196.4	8196.4
5°	8120.0	8110.4	8110.4	8100.9	8100.9
7.5°	8053.1	8043.6	8034.0	8024.4	8005.3
10°	7957.6	7957.6	7948.0	7900.3	7890.7
12.5°	7804.7	7795.2	7757.0	7690.1	7671.0
15°	7594.6	7594.6	7518.1	7441.7	7413.1
17.5°	7365.3	7355.7	7260.2	7183.8	7145.6
20°	7116.9	7097.8	7002.3	6878.1	6811.2
22.5°	6839.9	6839.9	6725.3	6562.9	6496.0
25°	6582.0	6543.7	6438.7	6209.4	6037.4
27.5°	6285.8	6228.5	6113.9	5789.1	5588.5
30°	5961.0	5932.4	5770.0	5349.6	5196.8
32.5°	5655.3	5607.6	5435.6	4996.2	4872.0
35°	5340.1	5301.9	5043.9	4661.8	4547.2
37.5°	5024.8	4977.1	4652.3	4346.6	4203.3
40°	4709.6	4652.3	4298.8	4021.8	3868.9
42.5°	4413.4	4337.0	3993.1	3697.0	3525.0
45°	4098.2	4012.2	3668.3	3362.6	3228.9
47.5°	3783.0	3706.5	3391.3	3076.0	2923.2
50°	3448.6	3381.7	3095.1	2779.9	2617.5
52.5°	3171.6	3066.5	2789.5	2474.2	2340.5
55°	2846.8	2760.8	2502.9	2206.7	2092.1
57.5°	2550.6	2464.7	2225.8	1948.8	1853.3
60°	2273.6	2149.4	1948.8	1710.0	1633.5
62.5°	1967.9	1872.4	1700.4	1499.8	1595.3
65°	1690.9	1595.3	1442.5	1471.1	1222.8
67.5°	1385.2	1337.4	1203.7	1069.9	1031.7
70°	1127.2	1069.9	1022.2	878.9	840.7
72.5°	898.0	840.7	773.8	697.4	668.7
75°	678.3	630.5	592.3	563.6	620.9
77.5°	468.1	449.0	420.3	391.7	382.1
80°	305.7	296.1	286.6	277.0	267.5
82.5°	181.5	181.5	181.5	181.5	181.5
85°	95.5	105.1	114.6	124.2	133.7
87.5°	57.3	57.3	66.9	76.4	86.0
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)