

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: P547084

Luminaire Tested: **FMR-24-4-LD4-3LO-35-UNV-82-94-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: P547084  
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-LD4-3LO-35-UNV-82-94-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

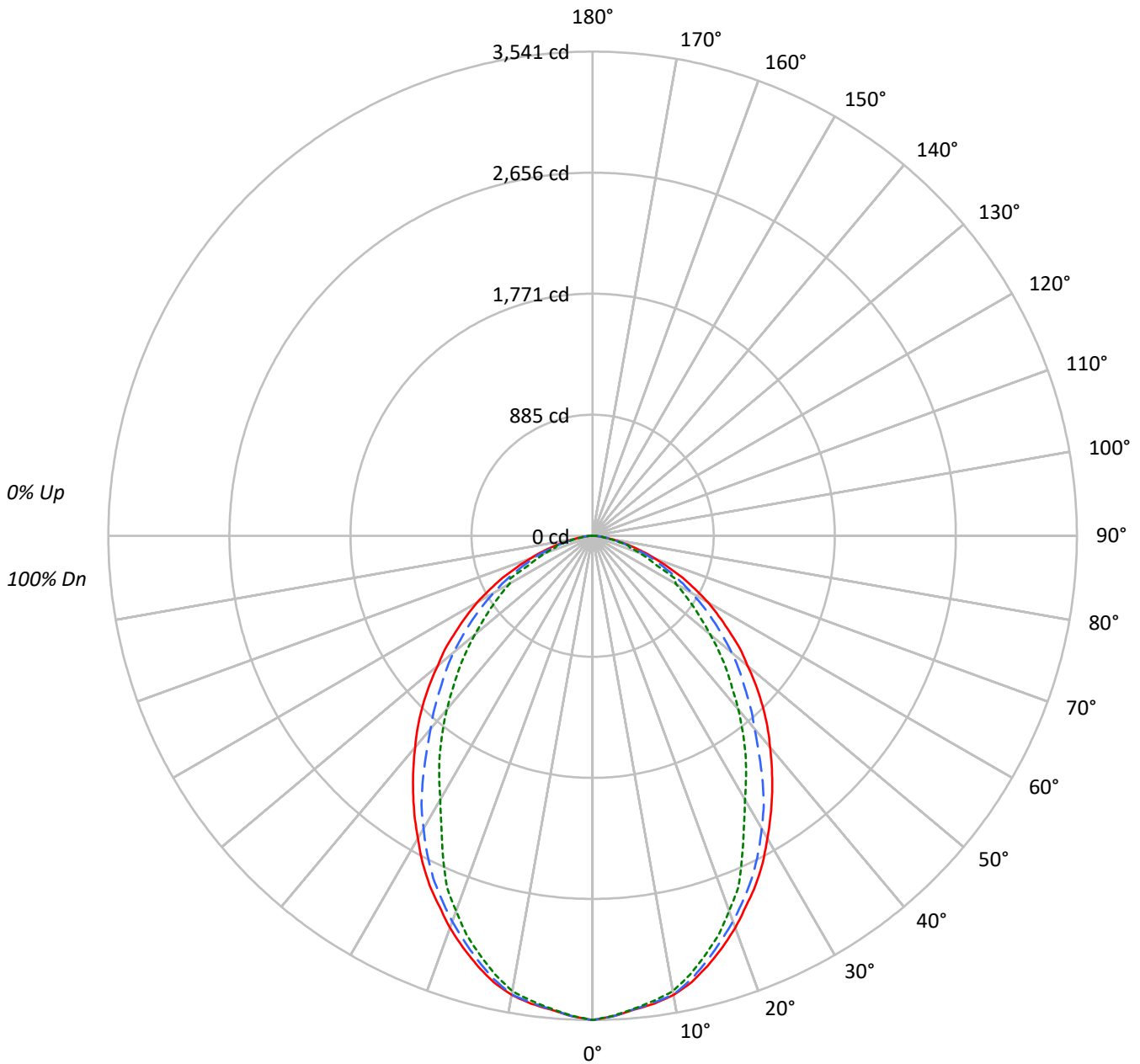
Lumens per Lamp: N/A  
Luminaire Lumens: 6952.0 lumens  
Efficiency: N/A  
Efficacy: 99.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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: P547084

CATALOG NUMBER: FMR-24-4-LD4-3LO-35-UNV-82-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P547084

CATALOG NUMBER: FMR-24-4-LD4-3LO-35-UNV-82-94-EDD

**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°	4765	4765	4765
5°	4700	4695	4689
10°	4659	4654	4620
15°	4534	4488	4425
20°	4367	4297	4180
25°	4188	4096	3841
30°	3969	3842	3460
35°	3759	3551	3201
40°	3545	3236	2912
45°	3342	2991	2633
50°	3094	2776	2348
55°	2862	2516	2103
60°	2622	2248	1884
65°	2307	1968	1668
70°	1900	1723	1417
75°	1511	1319	1383
80°	1015	951	888
85°	631	758	885



TEST NUMBER: P547084

CATALOG NUMBER: FMR-24-4-LD4-3LO-35-UNV-82-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	329.6	4.7
10°-20°	904.7	13.0
20°-30°	1252.5	18.0
30°-40°	1335.5	19.2
40°-50°	1218.4	17.5
50°-60°	954.5	13.7
60°-70°	622.1	8.9
70°-80°	275.6	4.0
80°-90°	59.2	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°	2486.8	35.8
0°-40°	3822.3	55.0
0°-60°	5995.1	86.2
0°-90°	6952.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6952.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3541	3541	3541	3541	3541	
5°	3480	3476	3476	3472	3472	330
15°	3255	3255	3222	3189	3177	915
25°	2821	2804	2759	2661	2587	1295
35°	2288	2272	2162	1998	1949	1431
45°	1756	1720	1572	1441	1384	1353
55°	1220	1183	1073	946	897	1094
65°	725	684	618	630	524	714
75°	291	270	254	242	266	312
85°	41	45	49	53	57	57
90°	0	0	0	0	0	



TEST NUMBER: P547084

CATALOG NUMBER: FMR-24-4-LD4-3LO-35-UNV-82-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3541.3	3541.3	3541.3	3541.3	3541.3
2.5°	3516.7	3516.7	3516.7	3512.6	3512.6
5°	3479.8	3475.8	3475.8	3471.7	3471.7
7.5°	3451.2	3447.1	3443.0	3438.9	3430.7
10°	3410.2	3410.2	3406.2	3385.7	3381.6
12.5°	3344.7	3340.7	3324.3	3295.6	3287.4
15°	3254.7	3254.7	3221.9	3189.2	3176.9
17.5°	3156.4	3152.3	3111.4	3078.6	3062.3
20°	3050.0	3041.8	3000.9	2947.6	2919.0
22.5°	2931.3	2931.3	2882.1	2812.5	2783.9
25°	2820.7	2804.3	2759.3	2661.1	2587.4
27.5°	2693.8	2669.2	2620.1	2480.9	2395.0
30°	2554.6	2542.3	2472.7	2292.6	2227.1
32.5°	2423.6	2403.1	2329.5	2141.1	2087.9
35°	2288.5	2272.1	2161.6	1997.8	1948.7
37.5°	2153.4	2132.9	1993.7	1862.7	1801.3
40°	2018.3	1993.7	1842.3	1723.5	1658.0
42.5°	1891.4	1858.6	1711.3	1584.4	1510.7
45°	1756.3	1719.5	1572.1	1441.1	1383.8
47.5°	1621.2	1588.4	1453.3	1318.2	1252.7
50°	1477.9	1449.3	1326.4	1191.3	1121.7
52.5°	1359.2	1314.2	1195.4	1060.3	1003.0
55°	1220.0	1183.1	1072.6	945.7	896.6
57.5°	1093.1	1056.2	953.9	835.2	794.2
60°	974.4	921.1	835.2	732.8	700.1
62.5°	843.4	802.4	728.7	642.7	683.7
65°	724.6	683.7	618.2	630.5	524.0
67.5°	593.6	573.2	515.8	458.5	442.1
70°	483.1	458.5	438.1	376.6	360.3
72.5°	384.8	360.3	331.6	298.9	286.6
75°	290.7	270.2	253.8	241.5	266.1
77.5°	200.6	192.4	180.1	167.9	163.8
80°	131.0	126.9	122.8	118.7	114.6
82.5°	77.8	77.8	77.8	77.8	77.8
85°	40.9	45.0	49.1	53.2	57.3
87.5°	24.6	24.6	28.7	32.8	36.8
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)