

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: P546362

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-80-87-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: P546362  
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-12-4-LD4-2STD-50-UNV-80-87-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

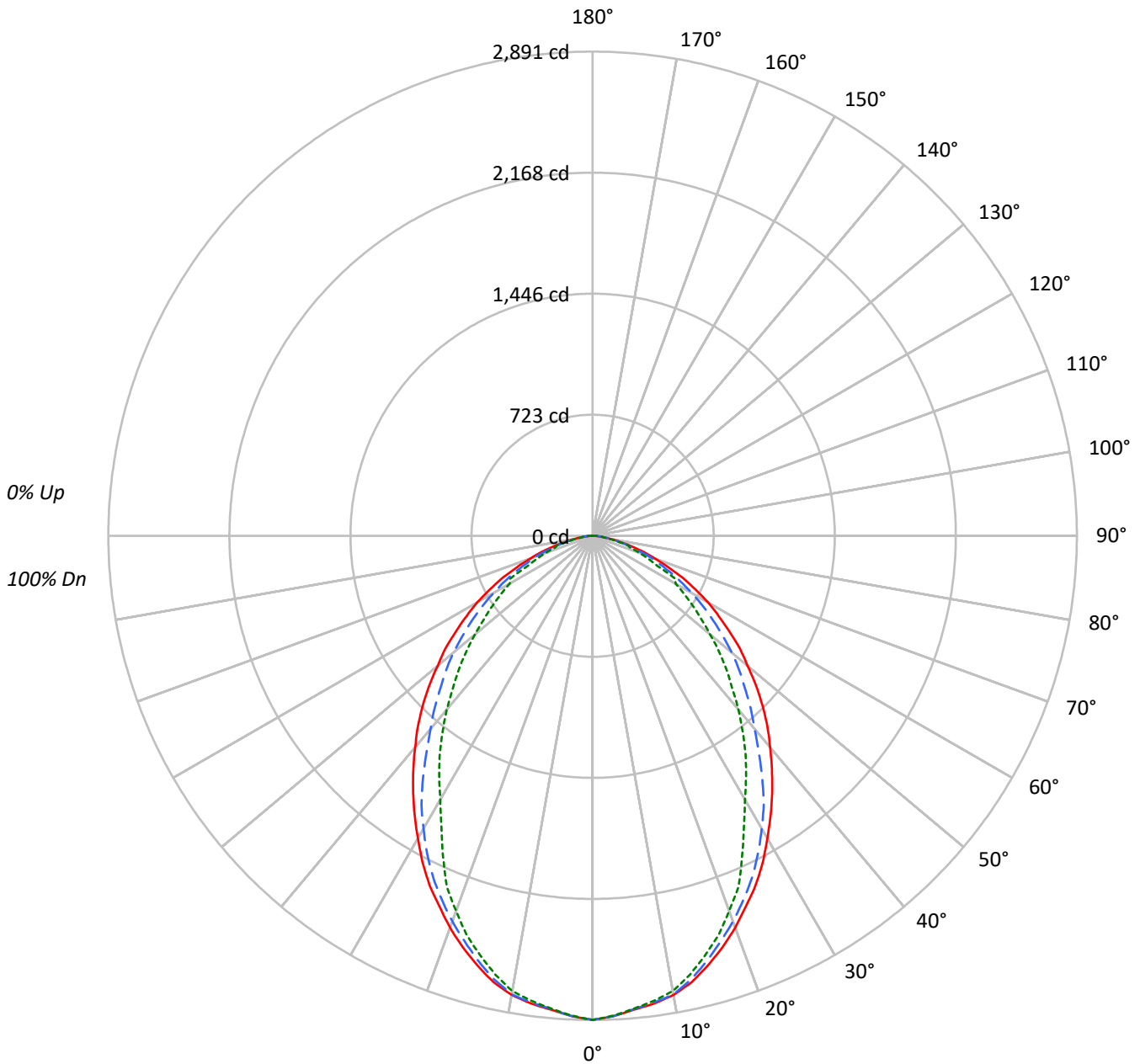
Lumens per Lamp: N/A  
Luminaire Lumens: 5675.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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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CATALOG NUMBER: FMR-12-4-LD4-2STD-50-UNV-80-87-EDD

### 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°	7779	7779	7779
5°	7673	7664	7655
10°	7607	7598	7543
15°	7402	7327	7225
20°	7130	7015	6824
25°	6837	6688	6271
30°	6480	6272	5649
35°	6137	5797	5226
40°	5788	5283	4755
45°	5456	4884	4299
50°	5050	4533	3834
55°	4672	4108	3434
60°	4281	3669	3076
65°	3766	3213	2724
70°	3102	2814	2314
75°	2467	2154	2258
80°	1657	1554	1450
85°	1031	1238	1445



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	269.1	4.7
10°-20°	738.5	13.0
20°-30°	1022.4	18.0
30°-40°	1090.2	19.2
40°-50°	994.6	17.5
50°-60°	779.2	13.7
60°-70°	507.8	8.9
70°-80°	225.0	4.0
80°-90°	48.3	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°	2030.0	35.8
0°-40°	3120.2	55.0
0°-60°	4893.9	86.2
0°-90°	5675.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5675.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2891	2891	2891	2891	2891	
5°	2841	2837	2837	2834	2834	270
15°	2657	2657	2630	2603	2593	747
25°	2303	2289	2252	2172	2112	1057
35°	1868	1855	1764	1631	1591	1168
45°	1434	1404	1283	1176	1130	1104
55°	996	966	876	772	732	893
65°	592	558	505	515	428	583
75°	237	221	207	197	217	254
85°	33	37	40	43	47	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2890.8	2890.8	2890.8	2890.8	2890.8
2.5°	2870.7	2870.7	2870.7	2867.4	2867.4
5°	2840.6	2837.3	2837.3	2834.0	2834.0
7.5°	2817.2	2813.9	2810.6	2807.2	2800.5
10°	2783.8	2783.8	2780.5	2763.8	2760.4
12.5°	2730.4	2727.0	2713.6	2690.3	2683.6
15°	2656.8	2656.8	2630.1	2603.4	2593.3
17.5°	2576.6	2573.3	2539.9	2513.1	2499.8
20°	2489.7	2483.1	2449.6	2406.2	2382.8
22.5°	2392.8	2392.8	2352.7	2295.9	2272.5
25°	2302.6	2289.2	2252.5	2172.3	2112.1
27.5°	2199.0	2178.9	2138.8	2025.2	1955.0
30°	2085.4	2075.3	2018.5	1871.5	1818.0
32.5°	1978.4	1961.7	1901.6	1747.8	1704.4
35°	1868.1	1854.8	1764.5	1630.9	1590.8
37.5°	1757.9	1741.1	1627.5	1520.6	1470.4
40°	1647.6	1627.5	1503.9	1407.0	1353.5
42.5°	1544.0	1517.2	1396.9	1293.3	1233.2
45°	1433.7	1403.6	1283.3	1176.4	1129.6
47.5°	1323.4	1296.7	1186.4	1076.1	1022.6
50°	1206.4	1183.0	1082.8	972.5	915.7
52.5°	1109.5	1072.8	975.8	865.6	818.8
55°	995.9	965.8	875.6	772.0	731.9
57.5°	892.3	862.2	778.7	681.8	648.3
60°	795.4	751.9	681.8	598.2	571.5
62.5°	688.4	655.0	594.9	524.7	558.1
65°	591.5	558.1	504.6	514.7	427.8
67.5°	484.6	467.9	421.1	374.3	360.9
70°	394.3	374.3	357.6	307.5	294.1
72.5°	314.1	294.1	270.7	244.0	233.9
75°	237.3	220.6	207.2	197.2	217.2
77.5°	163.8	157.1	147.0	137.0	133.7
80°	106.9	103.6	100.3	96.9	93.6
82.5°	63.5	63.5	63.5	63.5	63.5
85°	33.4	36.8	40.1	43.4	46.8
87.5°	20.1	20.1	23.4	26.7	30.1
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)