

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: P546747

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-80-88-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: P546747  
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-LD4-2HI-50-UNV-80-88-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

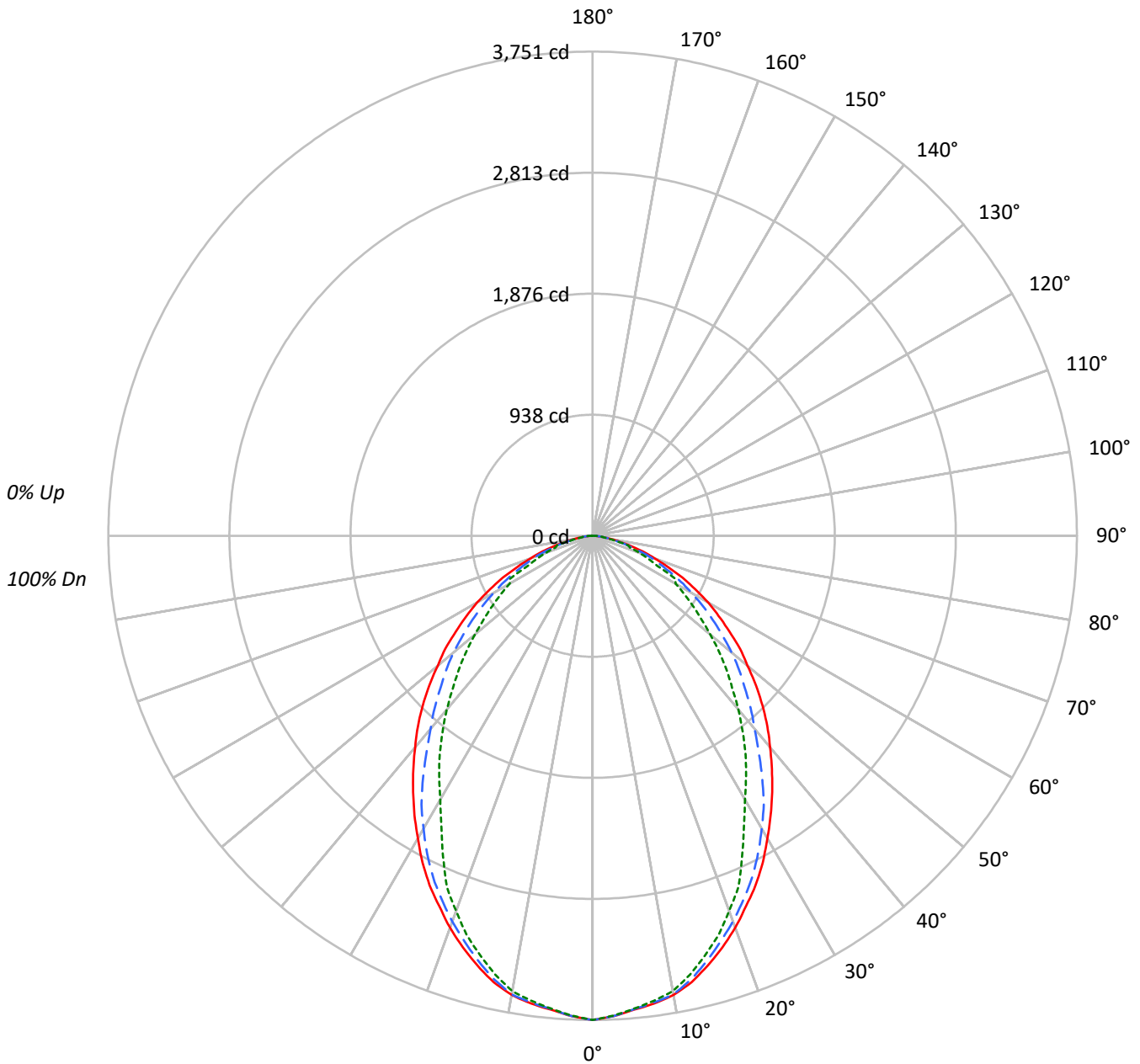
Lumens per Lamp: N/A  
Luminaire Lumens: 7364.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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°	5047	5047	5047
5°	4979	4973	4967
10°	4935	4929	4894
15°	4802	4754	4688
20°	4626	4551	4427
25°	4436	4339	4069
30°	4204	4069	3665
35°	3982	3761	3391
40°	3755	3428	3085
45°	3540	3169	2789
50°	3277	2941	2487
55°	3031	2665	2228
60°	2777	2381	1996
65°	2444	2085	1767
70°	2013	1825	1501
75°	1601	1398	1465
80°	1075	1008	941
85°	670	803	937



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	349.2	4.7
10°-20°	958.3	13.0
20°-30°	1326.7	18.0
30°-40°	1414.6	19.2
40°-50°	1290.6	17.5
50°-60°	1011.1	13.7
60°-70°	658.9	8.9
70°-80°	292.0	4.0
80°-90°	62.7	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°	2634.2	35.8
0°-40°	4048.8	55.0
0°-60°	6350.4	86.2
0°-90°	7364.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7364.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3751	3751	3751	3751	3751	
5°	3686	3682	3682	3677	3677	350
15°	3448	3448	3413	3378	3365	969
25°	2988	2970	2923	2819	2741	1372
35°	2424	2407	2290	2116	2064	1516
45°	1860	1821	1665	1526	1466	1433
55°	1292	1253	1136	1002	950	1159
65°	768	724	655	668	555	756
75°	308	286	269	256	282	330
85°	43	48	52	56	61	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3751.1	3751.1	3751.1	3751.1	3751.1
2.5°	3725.1	3725.1	3725.1	3720.8	3720.8
5°	3686.1	3681.7	3681.7	3677.4	3677.4
7.5°	3655.7	3651.4	3647.0	3642.7	3634.0
10°	3612.4	3612.4	3608.0	3586.3	3582.0
12.5°	3543.0	3538.6	3521.3	3490.9	3482.3
15°	3447.6	3447.6	3412.9	3378.2	3365.2
17.5°	3343.5	3339.2	3295.8	3261.1	3243.7
20°	3230.7	3222.1	3178.7	3122.3	3092.0
22.5°	3105.0	3105.0	3052.9	2979.2	2948.9
25°	2987.9	2970.5	2922.8	2818.8	2740.7
27.5°	2853.5	2827.4	2775.4	2628.0	2536.9
30°	2706.0	2693.0	2619.3	2428.5	2359.1
32.5°	2567.2	2545.6	2467.5	2268.0	2211.6
35°	2424.1	2406.8	2289.7	2116.2	2064.2
37.5°	2281.0	2259.3	2111.9	1973.1	1908.1
40°	2137.9	2111.9	1951.5	1825.7	1756.3
42.5°	2003.5	1968.8	1812.7	1678.2	1600.2
45°	1860.4	1821.4	1665.2	1526.5	1465.8
47.5°	1717.3	1682.6	1539.5	1396.4	1327.0
50°	1565.5	1535.1	1405.0	1261.9	1188.2
52.5°	1439.7	1392.0	1266.3	1123.2	1062.5
55°	1292.3	1253.3	1136.2	1001.7	949.7
57.5°	1157.9	1118.8	1010.4	884.7	841.3
60°	1032.1	975.7	884.7	776.2	741.6
62.5°	893.3	850.0	771.9	680.8	724.2
65°	767.6	724.2	654.8	667.8	555.1
67.5°	628.8	607.1	546.4	485.7	468.3
70°	511.7	485.7	464.0	399.0	381.6
72.5°	407.6	381.6	351.3	316.6	303.6
75°	307.9	286.2	268.9	255.9	281.9
77.5°	212.5	203.8	190.8	177.8	173.5
80°	138.8	134.4	130.1	125.8	121.4
82.5°	82.4	82.4	82.4	82.4	82.4
85°	43.4	47.7	52.0	56.4	60.7
87.5°	26.0	26.0	30.4	34.7	39.0
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)