

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: P546839

Luminaire Tested: **FMR-24-4-LD4-2LO-50-UNV-80-84-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: P546839  
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-LD4-2LO-50-UNV-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

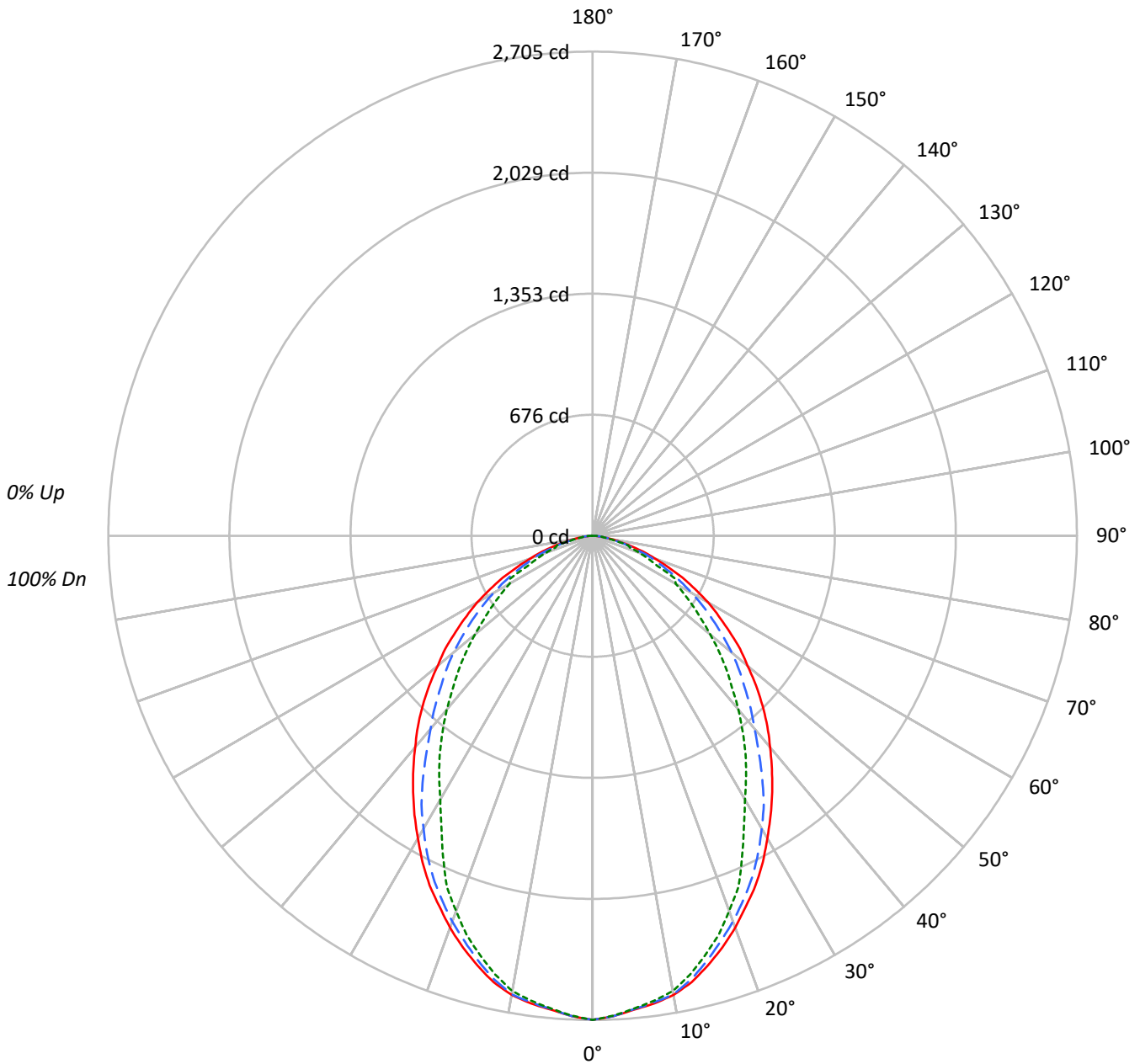
Lumens per Lamp: N/A  
Luminaire Lumens: 5310.0 lumens  
Efficiency: N/A  
Efficacy: 113.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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

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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°	3639	3639	3639
5°	3590	3586	3581
10°	3559	3555	3529
15°	3463	3428	3380
20°	3336	3282	3192
25°	3199	3129	2934
30°	3031	2934	2643
35°	2871	2712	2445
40°	2708	2471	2224
45°	2553	2285	2011
50°	2363	2121	1793
55°	2186	1922	1606
60°	2003	1717	1439
65°	1762	1503	1274
70°	1452	1316	1083
75°	1154	1008	1057
80°	776	727	679
85°	483	579	676



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	251.8	4.7
10°-20°	691.0	13.0
20°-30°	956.6	18.0
30°-40°	1020.1	19.2
40°-50°	930.6	17.5
50°-60°	729.0	13.7
60°-70°	475.2	8.9
70°-80°	210.5	4.0
80°-90°	45.2	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°	1899.4	35.8
0°-40°	2919.5	55.0
0°-60°	4579.1	86.2
0°-90°	5310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5310.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2705	2705	2705	2705	2705	
5°	2658	2655	2655	2652	2652	252
15°	2486	2486	2461	2436	2426	699
25°	2154	2142	2108	2032	1976	989
35°	1748	1736	1651	1526	1488	1093
45°	1342	1313	1201	1101	1057	1033
55°	932	904	819	722	685	836
65°	554	522	472	482	400	545
75°	222	206	194	184	203	238
85°	31	34	38	41	44	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2704.8	2704.8	2704.8	2704.8	2704.8
2.5°	2686.1	2686.1	2686.1	2683.0	2683.0
5°	2657.9	2654.8	2654.8	2651.7	2651.7
7.5°	2636.0	2632.9	2629.8	2626.7	2620.4
10°	2604.8	2604.8	2601.7	2586.0	2582.9
12.5°	2554.7	2551.6	2539.1	2517.2	2511.0
15°	2486.0	2486.0	2460.9	2435.9	2426.5
17.5°	2410.9	2407.8	2376.5	2351.5	2339.0
20°	2329.6	2323.4	2292.1	2251.4	2229.5
22.5°	2238.9	2238.9	2201.4	2148.2	2126.4
25°	2154.5	2142.0	2107.6	2032.5	1976.3
27.5°	2057.6	2038.8	2001.3	1895.0	1829.3
30°	1951.2	1941.9	1888.7	1751.1	1701.1
32.5°	1851.2	1835.5	1779.3	1635.4	1594.8
35°	1748.0	1735.5	1651.0	1526.0	1488.4
37.5°	1644.8	1629.2	1522.8	1422.8	1375.9
40°	1541.6	1522.8	1407.1	1316.5	1266.4
42.5°	1444.7	1419.7	1307.1	1210.1	1153.9
45°	1341.5	1313.3	1200.8	1100.7	1056.9
47.5°	1238.3	1213.3	1110.1	1006.9	956.9
50°	1128.8	1107.0	1013.1	910.0	856.8
52.5°	1038.2	1003.8	913.1	809.9	766.1
55°	931.8	903.7	819.3	722.3	684.8
57.5°	834.9	806.8	728.6	637.9	606.6
60°	744.2	703.6	637.9	559.7	534.7
62.5°	644.2	612.9	556.6	490.9	522.2
65°	553.5	522.2	472.2	481.6	400.3
67.5°	453.4	437.8	394.0	350.2	337.7
70°	369.0	350.2	334.6	287.7	275.2
72.5°	293.9	275.2	253.3	228.3	218.9
75°	222.0	206.4	193.9	184.5	203.3
77.5°	153.2	147.0	137.6	128.2	125.1
80°	100.1	96.9	93.8	90.7	87.6
82.5°	59.4	59.4	59.4	59.4	59.4
85°	31.3	34.4	37.5	40.7	43.8
87.5°	18.8	18.8	21.9	25.0	28.1
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)