

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: P546380

Luminaire Tested: **FMR-12-4-LD4-2STD-50-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: P546380  
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-82-94-EDD  
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

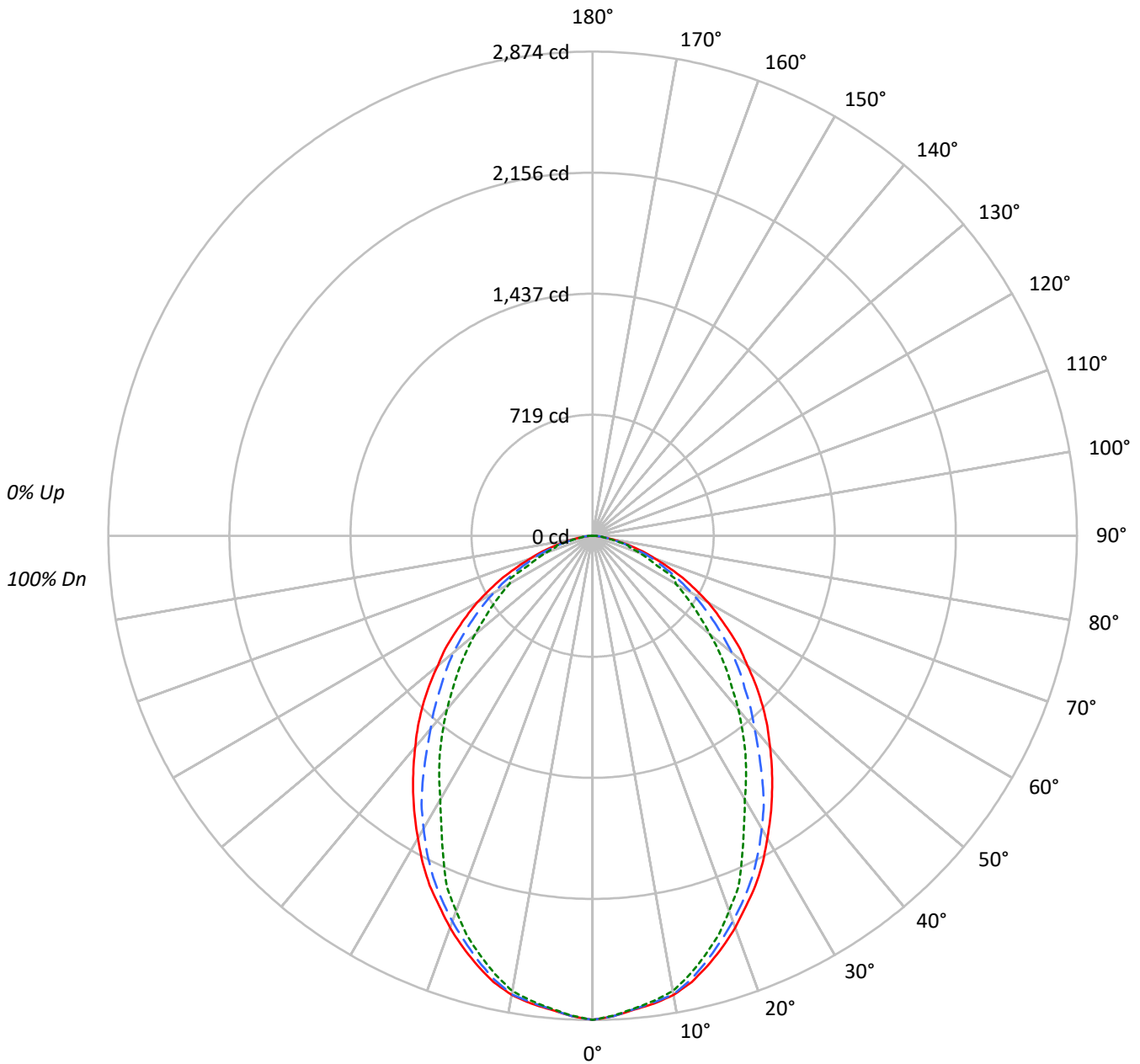
Lumens per Lamp: N/A  
Luminaire Lumens: 5641.0 lumens  
Efficiency: N/A  
Efficacy: 84.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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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### 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°	7733	7733	7733
5°	7627	7618	7609
10°	7561	7552	7498
15°	7357	7283	7182
20°	7087	6973	6783
25°	6796	6648	6233
30°	6441	6234	5615
35°	6100	5762	5194
40°	5753	5251	4726
45°	5423	4854	4273
50°	5020	4506	3810
55°	4644	4083	3413
60°	4255	3647	3057
65°	3744	3194	2707
70°	3084	2796	2300
75°	2453	2142	2245
80°	1647	1545	1441
85°	1025	1232	1436



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	267.5	4.7
10°-20°	734.1	13.0
20°-30°	1016.3	18.0
30°-40°	1083.7	19.2
40°-50°	988.6	17.5
50°-60°	774.5	13.7
60°-70°	504.8	8.9
70°-80°	223.6	4.0
80°-90°	48.0	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°	2017.8	35.8
0°-40°	3101.5	55.0
0°-60°	4864.6	86.2
0°-90°	5641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5641.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2874	2874	2874	2874	2874	
5°	2824	2820	2820	2817	2817	268
15°	2641	2641	2614	2588	2578	742
25°	2289	2276	2239	2159	2099	1051
35°	1857	1844	1754	1621	1581	1161
45°	1425	1395	1276	1169	1123	1098
55°	990	960	870	767	728	888
65°	588	555	502	512	425	579
75°	236	219	206	196	216	253
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2873.5	2873.5	2873.5	2873.5	2873.5
2.5°	2853.5	2853.5	2853.5	2850.2	2850.2
5°	2823.6	2820.3	2820.3	2817.0	2817.0
7.5°	2800.4	2797.0	2793.7	2790.4	2783.8
10°	2767.1	2767.1	2763.8	2747.2	2743.9
12.5°	2714.0	2710.7	2697.4	2674.1	2667.5
15°	2640.9	2640.9	2614.3	2587.8	2577.8
17.5°	2561.2	2557.9	2524.6	2498.1	2484.8
20°	2474.8	2468.2	2435.0	2391.8	2368.5
22.5°	2378.5	2378.5	2338.6	2282.2	2258.9
25°	2288.8	2275.5	2239.0	2159.2	2099.4
27.5°	2185.8	2165.9	2126.0	2013.1	1943.3
30°	2072.9	2062.9	2006.4	1860.3	1807.1
32.5°	1966.6	1950.0	1890.2	1737.4	1694.2
35°	1856.9	1843.7	1754.0	1621.1	1581.2
37.5°	1747.3	1730.7	1617.8	1511.5	1461.6
40°	1637.7	1617.8	1494.9	1398.5	1345.4
42.5°	1534.7	1508.1	1388.6	1285.6	1225.8
45°	1425.1	1395.2	1275.6	1169.3	1122.8
47.5°	1315.5	1288.9	1179.3	1069.7	1016.5
50°	1199.2	1176.0	1076.3	966.7	910.2
52.5°	1102.9	1066.3	970.0	860.4	813.9
55°	989.9	960.0	870.3	767.4	727.5
57.5°	886.9	857.1	774.0	677.7	644.5
60°	790.6	747.4	677.7	594.6	568.0
62.5°	684.3	651.1	591.3	521.5	554.8
65°	588.0	554.8	501.6	511.6	425.2
67.5°	481.7	465.1	418.6	372.1	358.8
70°	392.0	372.1	355.4	305.6	292.3
72.5°	312.3	292.3	269.1	242.5	232.5
75°	235.9	219.2	206.0	196.0	215.9
77.5°	162.8	156.1	146.2	136.2	132.9
80°	106.3	103.0	99.7	96.3	93.0
82.5°	63.1	63.1	63.1	63.1	63.1
85°	33.2	36.5	39.9	43.2	46.5
87.5°	19.9	19.9	23.3	26.6	29.9
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)