

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: P546319

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-93-84-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: P546319  
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-35-UNV-93-84-EDD  
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

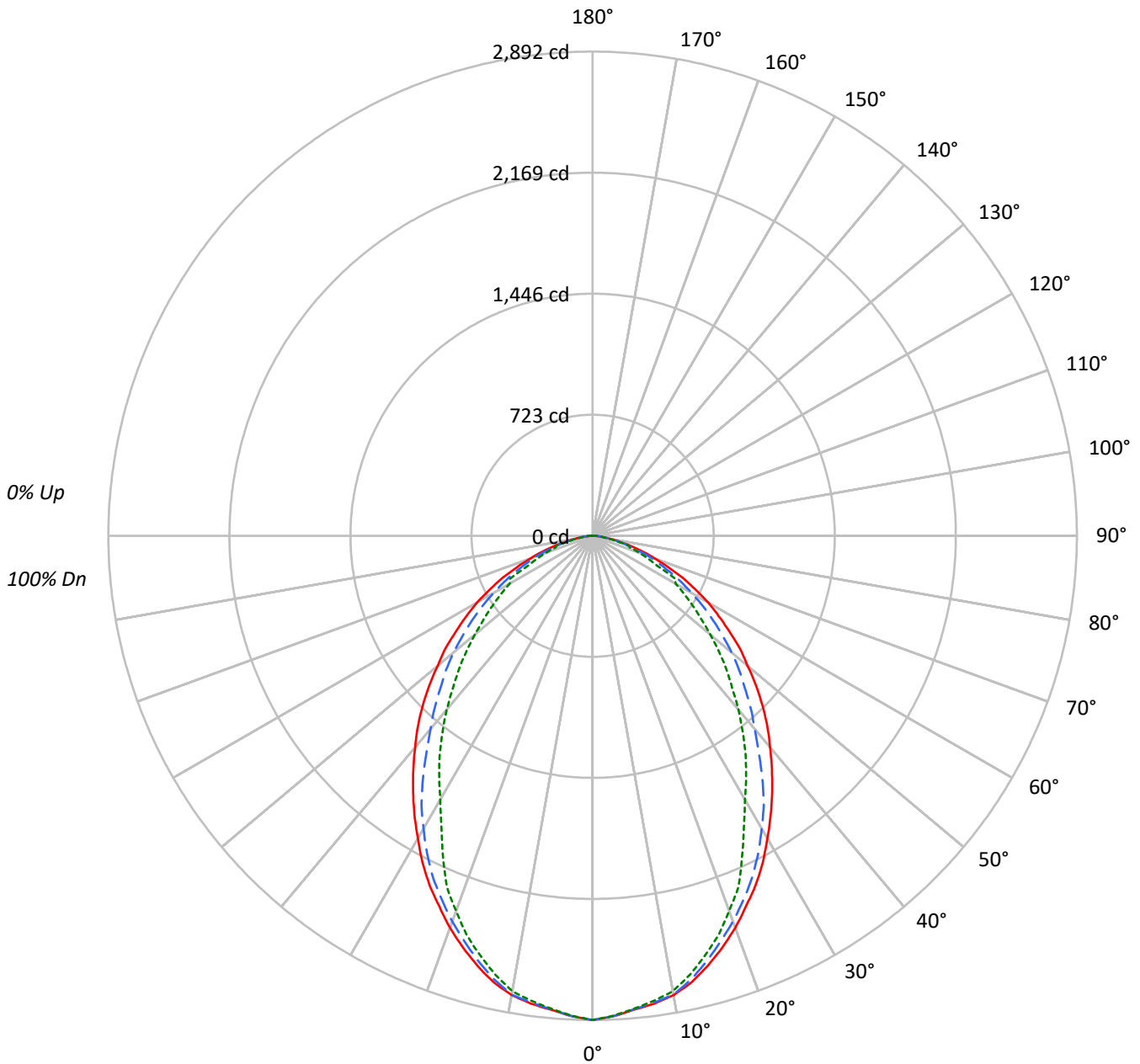
Lumens per Lamp: N/A  
Luminaire Lumens: 5678.0 lumens  
Efficiency: N/A  
Efficacy: 85.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	7783	7783	7783
5°	7677	7668	7659
10°	7611	7602	7547
15°	7405	7331	7229
20°	7134	7019	6827
25°	6840	6692	6274
30°	6483	6275	5652
35°	6140	5800	5229
40°	5791	5286	4757
45°	5459	4886	4301
50°	5053	4536	3836
55°	4675	4110	3436
60°	4283	3671	3077
65°	3768	3215	2725
70°	3105	2815	2315
75°	2468	2155	2259
80°	1658	1554	1450
85°	1031	1238	1445



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	269.2	4.7
10°-20°	738.9	13.0
20°-30°	1022.9	18.0
30°-40°	1090.8	19.2
40°-50°	995.1	17.5
50°-60°	779.6	13.7
60°-70°	508.1	8.9
70°-80°	225.1	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°	2031.1	35.8
0°-40°	3121.8	55.0
0°-60°	4896.5	86.2
0°-90°	5678.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5678.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2892	2892	2892	2892	2892	
5°	2842	2839	2839	2836	2836	270
15°	2658	2658	2632	2605	2595	747
25°	2304	2290	2254	2173	2113	1058
35°	1869	1856	1766	1632	1592	1169
45°	1434	1404	1284	1177	1130	1105
55°	996	966	876	772	732	894
65°	592	558	505	515	428	583
75°	237	221	207	197	217	254
85°	33	37	40	44	47	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2892.3	2892.3	2892.3	2892.3	2892.3
2.5°	2872.2	2872.2	2872.2	2868.9	2868.9
5°	2842.1	2838.8	2838.8	2835.5	2835.5
7.5°	2818.7	2815.4	2812.0	2808.7	2802.0
10°	2785.3	2785.3	2782.0	2765.2	2761.9
12.5°	2731.8	2728.5	2715.1	2691.7	2685.0
15°	2658.2	2658.2	2631.5	2604.7	2594.7
17.5°	2578.0	2574.6	2541.2	2514.5	2501.1
20°	2491.1	2484.4	2450.9	2407.5	2384.1
22.5°	2394.1	2394.1	2354.0	2297.1	2273.7
25°	2303.8	2290.4	2253.7	2173.4	2113.2
27.5°	2200.2	2180.1	2140.0	2026.3	1956.1
30°	2086.5	2076.4	2019.6	1872.5	1819.0
32.5°	1979.5	1962.7	1902.6	1748.8	1705.3
35°	1869.1	1855.8	1765.5	1631.7	1591.6
37.5°	1758.8	1742.1	1628.4	1521.4	1471.2
40°	1648.4	1628.4	1504.7	1407.7	1354.2
42.5°	1544.8	1518.0	1397.7	1294.0	1233.8
45°	1434.4	1404.4	1284.0	1177.0	1130.2
47.5°	1324.1	1297.4	1187.0	1076.7	1023.2
50°	1207.1	1183.7	1083.4	973.0	916.2
52.5°	1110.1	1073.3	976.4	866.0	819.2
55°	996.4	966.3	876.0	772.4	732.3
57.5°	892.8	862.7	779.1	682.1	648.7
60°	795.8	752.3	682.1	598.5	571.8
62.5°	688.8	655.4	595.2	525.0	558.4
65°	591.8	558.4	504.9	514.9	428.0
67.5°	484.8	468.1	421.3	374.5	361.1
70°	394.6	374.5	357.8	307.6	294.2
72.5°	314.3	294.2	270.8	244.1	234.1
75°	237.4	220.7	207.3	197.3	217.3
77.5°	163.8	157.2	147.1	137.1	133.7
80°	107.0	103.7	100.3	97.0	93.6
82.5°	63.5	63.5	63.5	63.5	63.5
85°	33.4	36.8	40.1	43.5	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)