

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: P546367

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-81-84-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: P546367  
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-81-84-EDD  
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC 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**

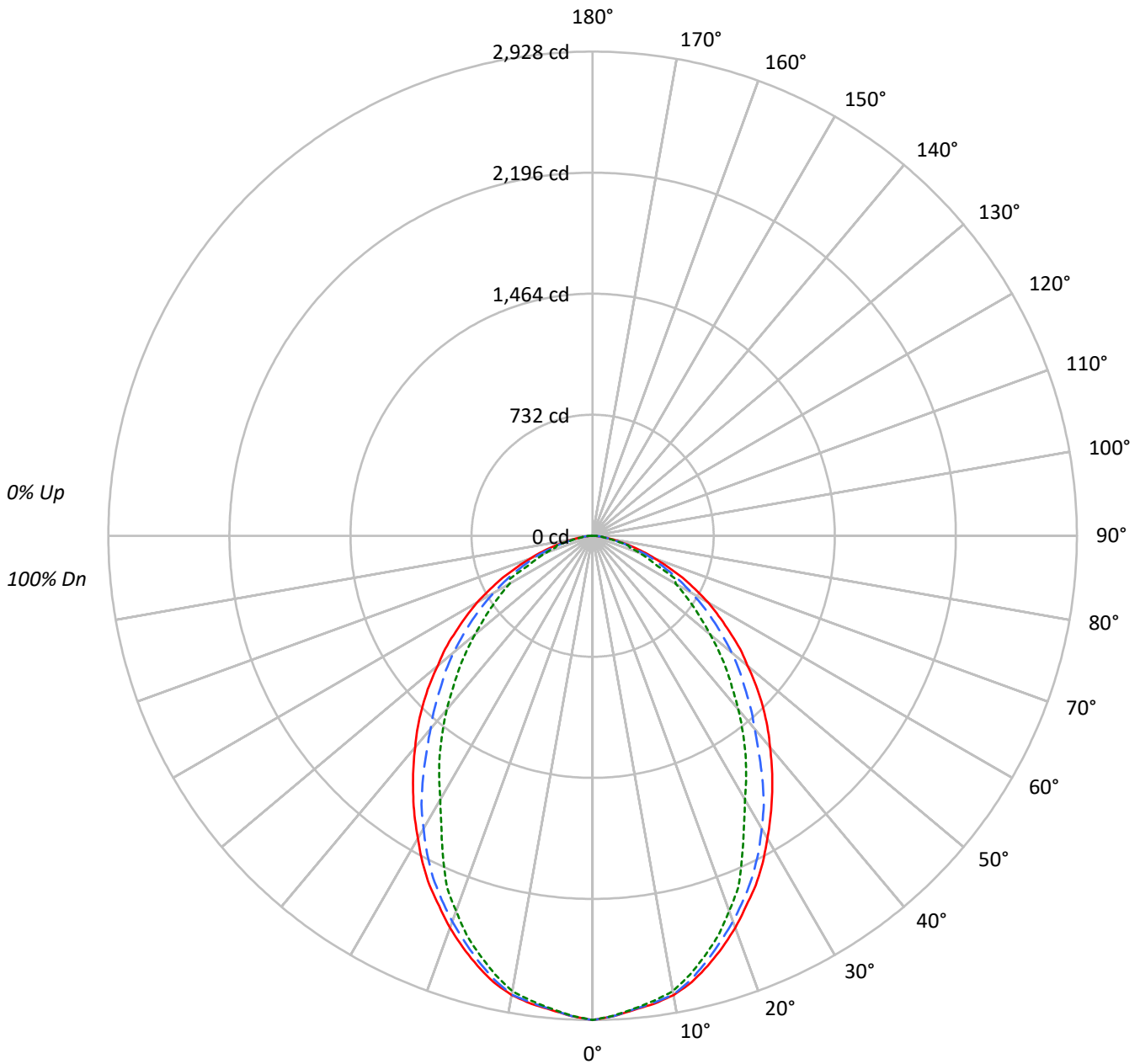
Lumens per Lamp: N/A  
Luminaire Lumens: 5749.0 lumens  
Efficiency: N/A  
Efficacy: 86.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	7881	7881	7881
5°	7773	7764	7755
10°	7706	7697	7641
15°	7498	7423	7319
20°	7223	7107	6913
25°	6926	6775	6353
30°	6564	6354	5723
35°	6217	5872	5294
40°	5863	5352	4816
45°	5527	4947	4355
50°	5117	4592	3883
55°	4733	4161	3478
60°	4337	3717	3116
65°	3815	3255	2759
70°	3143	2850	2344
75°	2499	2182	2288
80°	1678	1574	1469
85°	1047	1254	1463



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	272.6	4.7
10°-20°	748.1	13.0
20°-30°	1035.7	18.0
30°-40°	1104.4	19.2
40°-50°	1007.5	17.5
50°-60°	789.3	13.7
60°-70°	514.4	8.9
70°-80°	227.9	4.0
80°-90°	48.9	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°	2056.5	35.8
0°-40°	3160.9	55.0
0°-60°	4957.7	86.2
0°-90°	5749.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5749.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2928	2928	2928	2928	2928	
5°	2878	2874	2874	2871	2871	273
15°	2692	2692	2664	2637	2627	757
25°	2333	2319	2282	2201	2140	1071
35°	1892	1879	1788	1652	1612	1183
45°	1452	1422	1300	1192	1144	1119
55°	1009	978	887	782	741	905
65°	599	565	511	521	433	591
75°	240	223	210	200	220	258
85°	34	37	41	44	47	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2928.5	2928.5	2928.5	2928.5	2928.5
2.5°	2908.2	2908.2	2908.2	2904.8	2904.8
5°	2877.7	2874.3	2874.3	2870.9	2870.9
7.5°	2854.0	2850.6	2847.2	2843.8	2837.1
10°	2820.1	2820.1	2816.7	2799.8	2796.4
12.5°	2766.0	2762.6	2749.0	2725.3	2718.6
15°	2691.5	2691.5	2664.4	2637.3	2627.2
17.5°	2610.2	2606.8	2573.0	2545.9	2532.4
20°	2522.2	2515.4	2481.6	2437.6	2413.9
22.5°	2424.0	2424.0	2383.4	2325.8	2302.1
25°	2332.6	2319.1	2281.8	2200.6	2139.6
27.5°	2227.7	2207.4	2166.7	2051.6	1980.5
30°	2112.6	2102.4	2044.8	1895.9	1841.7
32.5°	2004.2	1987.3	1926.4	1770.6	1726.6
35°	1892.5	1879.0	1787.5	1652.1	1611.5
37.5°	1780.8	1763.8	1648.7	1540.4	1489.6
40°	1669.1	1648.7	1523.5	1425.3	1371.1
42.5°	1564.1	1537.0	1415.1	1310.2	1249.3
45°	1452.4	1421.9	1300.0	1191.7	1144.3
47.5°	1340.7	1313.6	1201.9	1090.1	1036.0
50°	1222.2	1198.5	1096.9	985.2	927.6
52.5°	1124.0	1086.7	988.6	876.8	829.4
55°	1008.9	978.4	887.0	782.1	741.4
57.5°	903.9	873.5	788.8	690.6	656.8
60°	805.8	761.7	690.6	606.0	578.9
62.5°	697.4	663.6	602.6	531.5	565.4
65°	599.2	565.4	511.2	521.4	433.3
67.5°	490.9	474.0	426.6	379.2	365.6
70°	399.5	379.2	362.2	311.5	297.9
72.5°	318.2	297.9	274.2	247.1	237.0
75°	240.4	223.4	209.9	199.7	220.1
77.5°	165.9	159.1	149.0	138.8	135.4
80°	108.3	105.0	101.6	98.2	94.8
82.5°	64.3	64.3	64.3	64.3	64.3
85°	33.9	37.2	40.6	44.0	47.4
87.5°	20.3	20.3	23.7	27.1	30.5
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)