

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: P547149

Luminaire Tested: **FMR-24-4-LD4-3LO-50-UNV-82-96-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: P547149  
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-LD4-3LO-50-UNV-82-96-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

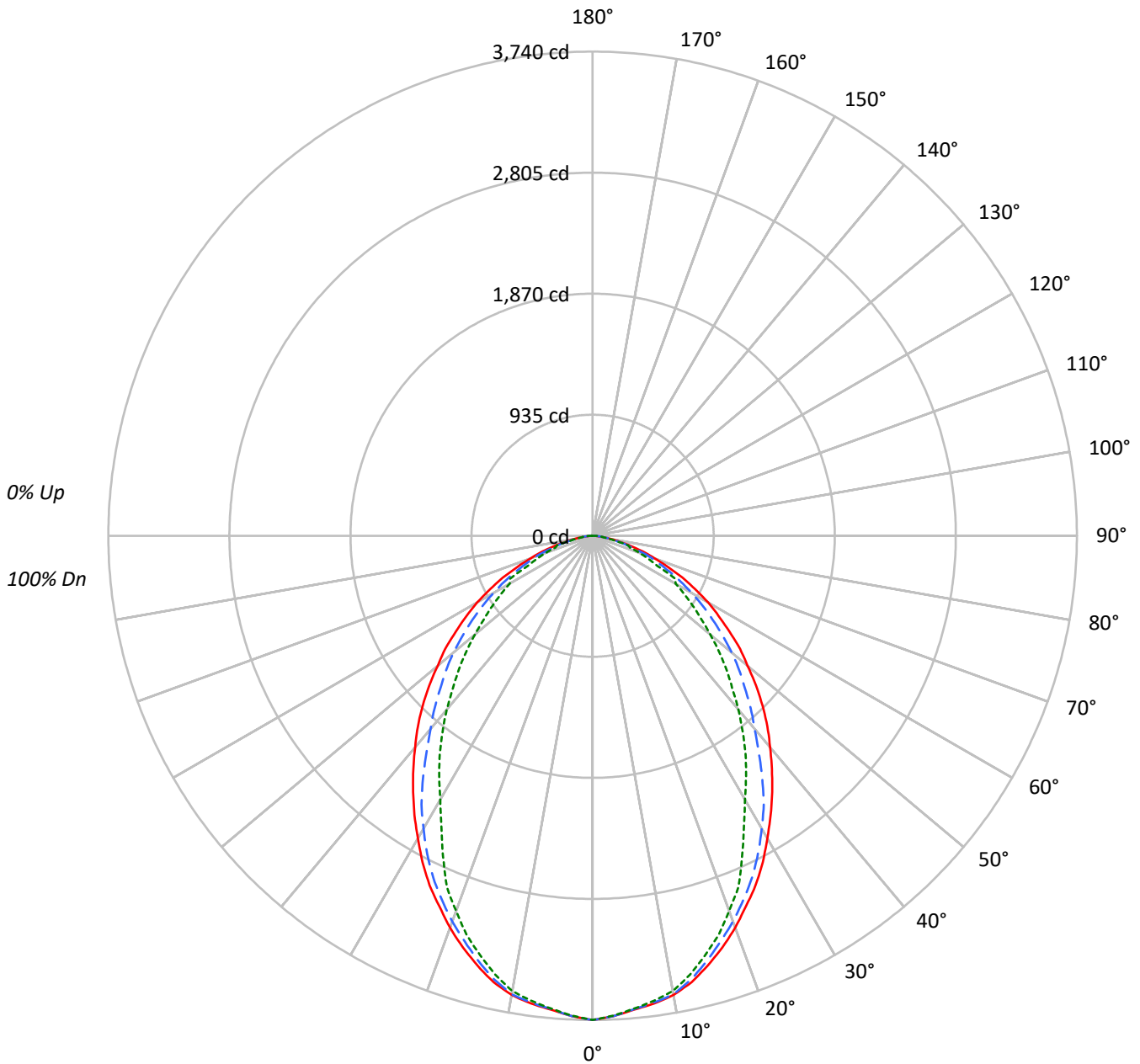
Lumens per Lamp: N/A  
Luminaire Lumens: 7342.0 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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°	5032	5032	5032
5°	4964	4958	4952
10°	4921	4915	4879
15°	4788	4740	4673
20°	4612	4538	4414
25°	4423	4326	4057
30°	4192	4057	3654
35°	3970	3750	3380
40°	3744	3417	3076
45°	3529	3159	2781
50°	3267	2932	2480
55°	3022	2657	2221
60°	2769	2373	1989
65°	2436	2079	1762
70°	2007	1820	1497
75°	1596	1394	1461
80°	1072	1005	938
85°	667	801	934



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	348.1	4.7
10°-20°	955.4	13.0
20°-30°	1322.7	18.0
30°-40°	1410.4	19.2
40°-50°	1286.7	17.5
50°-60°	1008.0	13.7
60°-70°	657.0	8.9
70°-80°	291.1	4.0
80°-90°	62.5	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°	2626.3	35.8
0°-40°	4036.7	55.0
0°-60°	6331.4	86.2
0°-90°	7342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7342.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3740	3740	3740	3740	3740	
5°	3675	3671	3671	3666	3666	349
15°	3437	3437	3403	3368	3355	966
25°	2979	2962	2914	2810	2732	1368
35°	2417	2400	2283	2110	2058	1511
45°	1855	1816	1660	1522	1461	1429
55°	1288	1250	1133	999	947	1156
65°	765	722	653	666	553	754
75°	307	285	268	255	281	329
85°	43	48	52	56	60	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3739.9	3739.9	3739.9	3739.9	3739.9
2.5°	3714.0	3714.0	3714.0	3709.7	3709.7
5°	3675.1	3670.7	3670.7	3666.4	3666.4
7.5°	3644.8	3640.5	3636.2	3631.8	3623.2
10°	3601.6	3601.6	3597.2	3575.6	3571.3
12.5°	3532.4	3528.1	3510.8	3480.5	3471.9
15°	3437.3	3437.3	3402.7	3368.1	3355.1
17.5°	3333.5	3329.2	3285.9	3251.3	3234.1
20°	3221.1	3212.4	3169.2	3113.0	3082.7
22.5°	3095.7	3095.7	3043.8	2970.3	2940.1
25°	2979.0	2961.7	2914.1	2810.3	2732.5
27.5°	2844.9	2819.0	2767.1	2620.1	2529.3
30°	2697.9	2685.0	2611.5	2421.2	2352.0
32.5°	2559.6	2538.0	2460.1	2261.2	2205.0
35°	2416.9	2399.6	2282.9	2109.9	2058.0
37.5°	2274.2	2252.6	2105.6	1967.2	1902.4
40°	2131.5	2105.6	1945.6	1820.2	1751.1
42.5°	1997.5	1962.9	1807.3	1673.2	1595.4
45°	1854.8	1815.9	1660.3	1521.9	1461.4
47.5°	1712.1	1677.6	1534.9	1392.2	1323.0
50°	1560.8	1530.6	1400.8	1258.2	1184.7
52.5°	1435.4	1387.9	1262.5	1119.8	1059.3
55°	1288.4	1249.5	1132.8	998.8	946.9
57.5°	1154.4	1115.5	1007.4	882.0	838.8
60°	1029.0	972.8	882.0	773.9	739.3
62.5°	890.7	847.4	769.6	678.8	722.0
65°	765.3	722.0	652.9	665.8	553.4
67.5°	626.9	605.3	544.8	484.2	466.9
70°	510.2	484.2	462.6	397.8	380.5
72.5°	406.4	380.5	350.2	315.6	302.7
75°	307.0	285.4	268.1	255.1	281.0
77.5°	211.9	203.2	190.2	177.3	172.9
80°	138.4	134.0	129.7	125.4	121.1
82.5°	82.1	82.1	82.1	82.1	82.1
85°	43.2	47.6	51.9	56.2	60.5
87.5°	25.9	25.9	30.3	34.6	38.9
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)