

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: P547433

Luminaire Tested: **FMR-24-4-LD4-4LO-50-UNV-82-86-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: P547433  
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-LD4-4LO-50-UNV-82-86-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

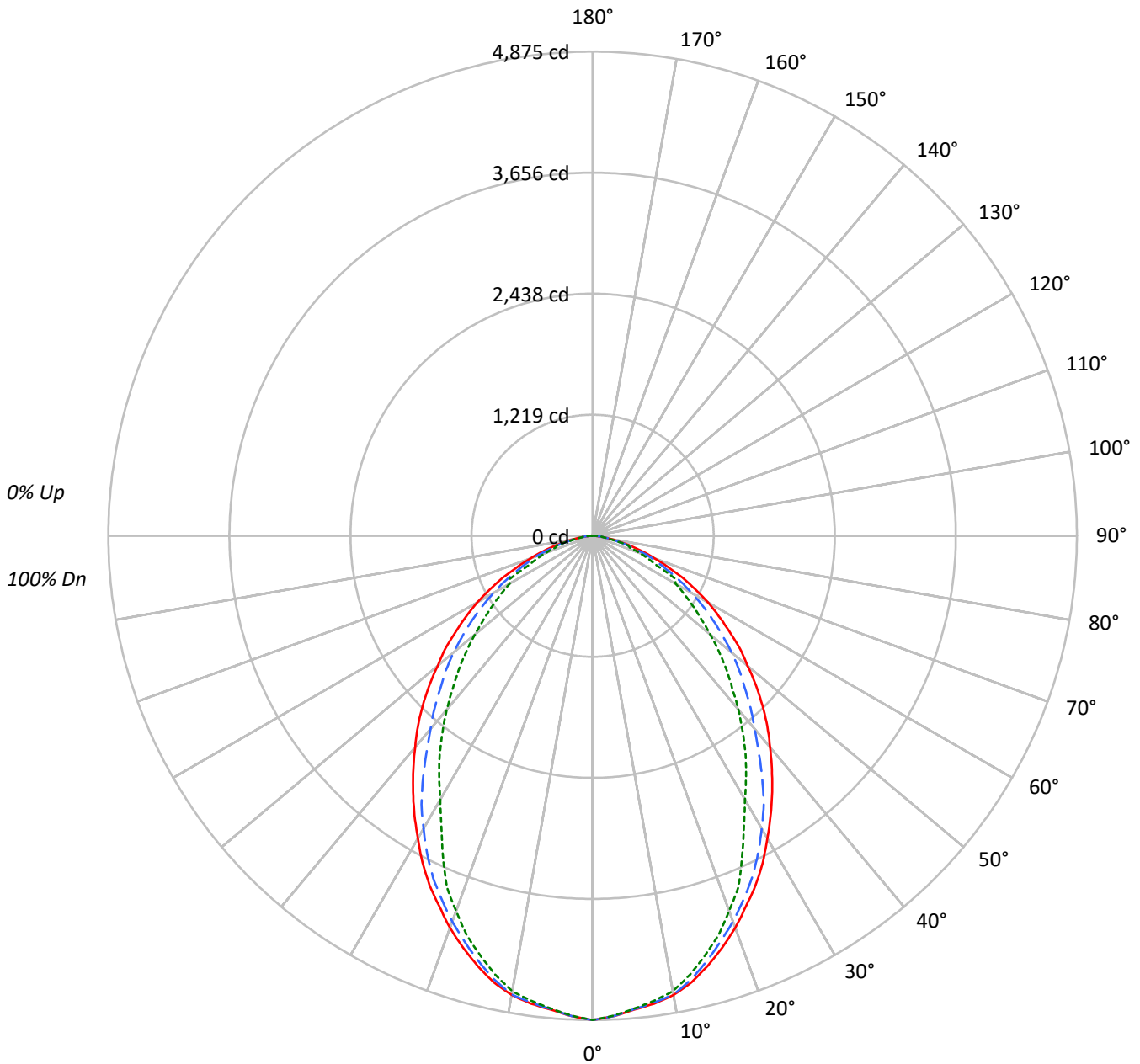
Lumens per Lamp: N/A  
Luminaire Lumens: 9571.0 lumens  
Efficiency: N/A  
Efficacy: 102.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
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°	6560	6560	6560
5°	6471	6463	6455
10°	6415	6407	6361
15°	6242	6179	6092
20°	6012	5916	5754
25°	5765	5640	5288
30°	5464	5289	4764
35°	5175	4888	4407
40°	4881	4455	4009
45°	4601	4118	3625
50°	4259	3822	3233
55°	3940	3464	2895
60°	3610	3094	2594
65°	3176	2710	2297
70°	2616	2373	1951
75°	2080	1816	1905
80°	1398	1310	1223
85°	871	1044	1218



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	453.8	4.7
10°-20°	1245.5	13.0
20°-30°	1724.3	18.0
30°-40°	1838.6	19.2
40°-50°	1677.3	17.5
50°-60°	1314.1	13.7
60°-70°	856.5	8.9
70°-80°	379.4	4.0
80°-90°	81.5	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°	3423.6	35.8
0°-40°	5262.2	55.0
0°-60°	8253.6	86.2
0°-90°	9571.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9571.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4875	4875	4875	4875	4875	
5°	4791	4785	4785	4780	4780	455
15°	4481	4481	4436	4391	4374	1260
25°	3883	3861	3799	3664	3562	1783
35°	3151	3128	2976	2750	2683	1970
45°	2418	2367	2164	1984	1905	1863
55°	1680	1629	1477	1302	1234	1506
65°	998	941	851	868	721	983
75°	400	372	349	332	366	429
85°	56	62	68	73	79	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4875.3	4875.3	4875.3	4875.3	4875.3
2.5°	4841.5	4841.5	4841.5	4835.9	4835.9
5°	4790.8	4785.2	4785.2	4779.5	4779.5
7.5°	4751.3	4745.7	4740.1	4734.4	4723.2
10°	4695.0	4695.0	4689.3	4661.2	4655.5
12.5°	4604.8	4599.2	4576.6	4537.2	4525.9
15°	4480.8	4480.8	4435.7	4390.6	4373.7
17.5°	4345.5	4339.9	4283.5	4238.4	4215.9
20°	4199.0	4187.7	4131.4	4058.1	4018.6
22.5°	4035.5	4035.5	3967.9	3872.1	3832.6
25°	3883.4	3860.8	3798.8	3663.5	3562.1
27.5°	3708.6	3674.8	3607.2	3415.6	3297.2
30°	3517.0	3500.1	3404.3	3156.3	3066.1
32.5°	3336.6	3308.5	3207.0	2947.7	2874.5
35°	3150.7	3128.1	2975.9	2750.5	2682.8
37.5°	2964.7	2936.5	2744.8	2564.5	2479.9
40°	2778.7	2744.8	2536.3	2372.9	2282.7
42.5°	2603.9	2558.8	2355.9	2181.2	2079.8
45°	2417.9	2367.2	2164.3	1984.0	1905.0
47.5°	2231.9	2186.9	2000.9	1814.9	1724.7
50°	2034.7	1995.2	1826.1	1640.1	1544.3
52.5°	1871.2	1809.2	1645.8	1459.8	1380.9
55°	1679.6	1628.9	1476.7	1302.0	1234.3
57.5°	1504.9	1454.1	1313.2	1149.8	1093.4
60°	1341.4	1268.2	1149.8	1008.9	963.8
62.5°	1161.1	1104.7	1003.2	884.9	941.3
65°	997.6	941.3	851.1	868.0	721.4
67.5°	817.3	789.1	710.2	631.3	608.7
70°	665.1	631.3	603.1	518.5	496.0
72.5°	529.8	496.0	456.5	411.4	394.5
75°	400.2	372.0	349.4	332.5	366.4
77.5°	276.2	264.9	248.0	231.1	225.4
80°	180.4	174.7	169.1	163.5	157.8
82.5°	107.1	107.1	107.1	107.1	107.1
85°	56.4	62.0	67.6	73.3	78.9
87.5°	33.8	33.8	39.5	45.1	50.7
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)