

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: P547042

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-81-87-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: P547042  
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-LD4-3HI-50-UNV-81-87-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

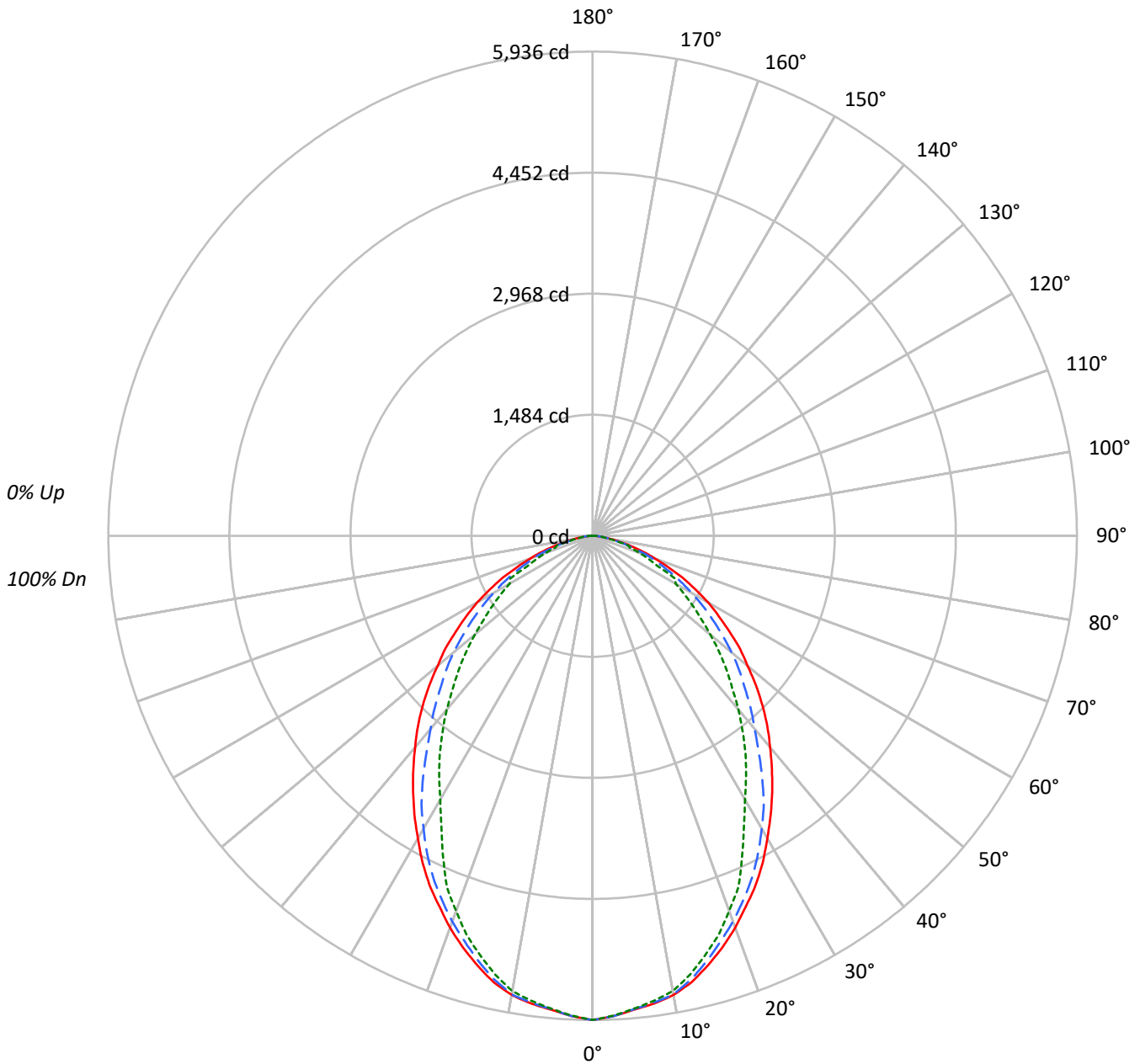
Lumens per Lamp: N/A  
Luminaire Lumens: 11653.0 lumens  
Efficiency: N/A  
Efficacy: 89.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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°	7987	7987	7987
5°	7878	7869	7860
10°	7810	7800	7744
15°	7599	7523	7418
20°	7320	7202	7006
25°	7019	6866	6439
30°	6653	6440	5800
35°	6301	5951	5365
40°	5942	5424	4881
45°	5602	5014	4414
50°	5186	4654	3936
55°	4797	4217	3525
60°	4395	3767	3158
65°	3867	3299	2797
70°	3186	2889	2376
75°	2533	2212	2319
80°	1702	1595	1488
85°	1059	1271	1484



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	552.5	4.7
10°-20°	1516.4	13.0
20°-30°	2099.4	18.0
30°-40°	2238.6	19.2
40°-50°	2042.2	17.5
50°-60°	1599.9	13.7
60°-70°	1042.7	8.9
70°-80°	462.0	4.0
80°-90°	99.2	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°	4168.4	35.8
0°-40°	6406.9	55.0
0°-60°	10049.1	86.2
0°-90°	11653.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11653.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5936	5936	5936	5936	5936	
5°	5833	5826	5826	5819	5819	554
15°	5456	5456	5401	5346	5325	1534
25°	4728	4701	4625	4460	4337	2171
35°	3836	3809	3623	3349	3266	2398
45°	2944	2882	2635	2416	2320	2268
55°	2045	1983	1798	1585	1503	1834
65°	1215	1146	1036	1057	878	1197
75°	487	453	426	405	446	522
85°	69	76	82	89	96	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5935.9	5935.9	5935.9	5935.9	5935.9
2.5°	5894.7	5894.7	5894.7	5887.8	5887.8
5°	5832.9	5826.1	5826.1	5819.2	5819.2
7.5°	5784.9	5778.0	5771.2	5764.3	5750.6
10°	5716.3	5716.3	5709.4	5675.1	5668.3
12.5°	5606.5	5599.6	5572.2	5524.1	5510.4
15°	5455.5	5455.5	5400.6	5345.7	5325.1
17.5°	5290.8	5284.0	5215.3	5160.4	5133.0
20°	5112.4	5098.7	5030.1	4940.9	4892.8
22.5°	4913.4	4913.4	4831.1	4714.4	4666.4
25°	4728.1	4700.7	4625.2	4460.5	4337.0
27.5°	4515.4	4474.2	4391.9	4158.5	4014.4
30°	4282.1	4261.5	4144.8	3842.9	3733.1
32.5°	4062.5	4028.2	3904.6	3589.0	3499.8
35°	3836.0	3808.6	3623.3	3348.8	3266.5
37.5°	3609.6	3575.3	3341.9	3122.3	3019.4
40°	3383.1	3341.9	3088.0	2889.0	2779.2
42.5°	3170.4	3115.5	2868.4	2655.7	2532.2
45°	2943.9	2882.2	2635.1	2415.5	2319.5
47.5°	2717.5	2662.6	2436.1	2209.7	2099.9
50°	2477.3	2429.3	2223.4	1996.9	1880.3
52.5°	2278.3	2202.8	2003.8	1777.3	1681.3
55°	2045.0	1983.2	1797.9	1585.2	1502.8
57.5°	1832.2	1770.5	1598.9	1399.9	1331.3
60°	1633.2	1544.0	1399.9	1228.4	1173.5
62.5°	1413.6	1345.0	1221.5	1077.4	1146.0
65°	1214.6	1146.0	1036.2	1056.8	878.4
67.5°	995.0	960.7	864.6	768.6	741.1
70°	809.8	768.6	734.3	631.3	603.9
72.5°	645.1	603.9	555.8	500.9	480.4
75°	487.2	452.9	425.5	404.9	446.0
77.5°	336.3	322.5	301.9	281.4	274.5
80°	219.6	212.7	205.9	199.0	192.1
82.5°	130.4	130.4	130.4	130.4	130.4
85°	68.6	75.5	82.3	89.2	96.1
87.5°	41.2	41.2	48.0	54.9	61.8
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)