

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: P547425

Luminaire Tested: **FMR-24-4-LD4-4LO-50-UNV-81-86-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: P547425  
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-81-86-EDD  
Description: 2X4 FMR TROFFER WITH .156 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**

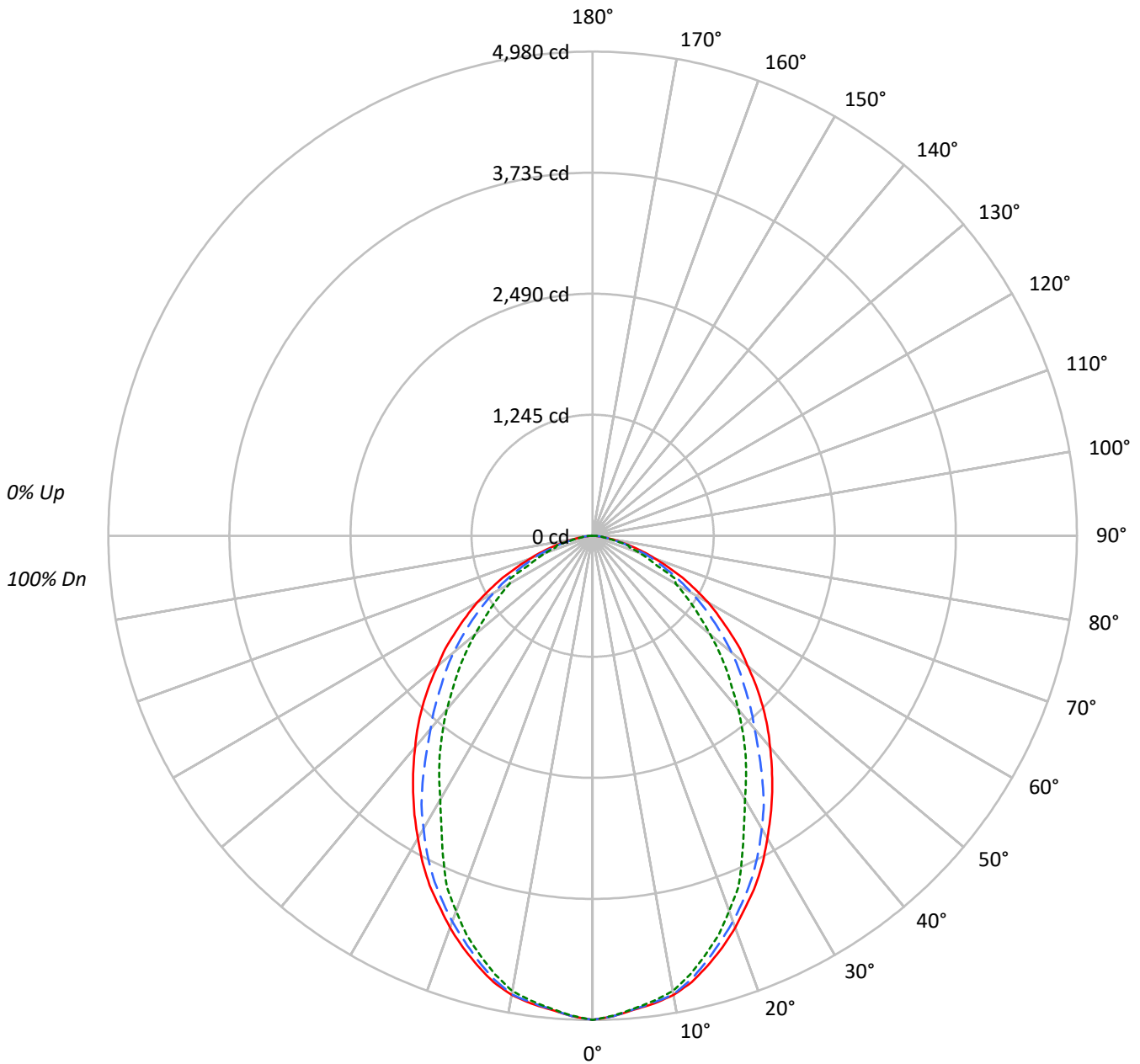
Lumens per Lamp: N/A  
Luminaire Lumens: 9776.0 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	6700	6700	6700
5°	6609	6601	6594
10°	6552	6544	6497
15°	6375	6311	6223
20°	6141	6042	5877
25°	5889	5760	5402
30°	5581	5402	4866
35°	5286	4993	4501
40°	4985	4550	4095
45°	4699	4207	3702
50°	4350	3904	3302
55°	4024	3538	2958
60°	3687	3160	2649
65°	3244	2768	2346
70°	2672	2423	1993
75°	2125	1855	1945
80°	1427	1338	1249
85°	889	1067	1244



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	463.5	4.7
10°-20°	1272.2	13.0
20°-30°	1761.2	18.0
30°-40°	1878.0	19.2
40°-50°	1713.3	17.5
50°-60°	1342.2	13.7
60°-70°	874.8	8.9
70°-80°	387.6	4.0
80°-90°	83.2	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°	3496.9	35.8
0°-40°	5374.9	55.0
0°-60°	8430.4	86.2
0°-90°	9776.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9776.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4980	4980	4980	4980	4980	
5°	4893	4888	4888	4882	4882	464
15°	4577	4577	4531	4485	4467	1287
25°	3966	3944	3880	3742	3638	1821
35°	3218	3195	3040	2809	2740	2012
45°	2470	2418	2211	2026	1946	1902
55°	1716	1664	1508	1330	1261	1539
65°	1019	961	869	887	737	1004
75°	409	380	357	340	374	438
85°	58	63	69	75	81	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4979.8	4979.8	4979.8	4979.8	4979.8
2.5°	4945.2	4945.2	4945.2	4939.5	4939.5
5°	4893.4	4887.7	4887.7	4881.9	4881.9
7.5°	4853.1	4847.4	4841.6	4835.8	4824.3
10°	4795.5	4795.5	4789.8	4761.0	4755.2
12.5°	4703.4	4697.7	4674.6	4634.3	4622.8
15°	4576.8	4576.8	4530.7	4484.7	4467.4
17.5°	4438.6	4432.9	4375.3	4329.2	4306.2
20°	4288.9	4277.4	4219.8	4145.0	4104.7
22.5°	4122.0	4122.0	4052.9	3955.0	3914.7
25°	3966.5	3943.5	3880.2	3742.0	3638.4
27.5°	3788.1	3753.5	3684.4	3488.7	3367.8
30°	3592.3	3575.1	3477.2	3223.9	3131.8
32.5°	3408.1	3379.3	3275.7	3010.9	2936.0
35°	3218.1	3195.1	3039.7	2809.4	2740.3
37.5°	3028.2	2999.4	2803.6	2619.4	2533.1
40°	2838.2	2803.6	2590.6	2423.7	2331.6
42.5°	2659.7	2613.7	2406.4	2227.9	2124.3
45°	2469.7	2417.9	2210.7	2026.4	1945.8
47.5°	2279.8	2233.7	2043.7	1853.7	1761.6
50°	2078.3	2038.0	1865.3	1675.3	1577.4
52.5°	1911.3	1848.0	1681.0	1491.1	1410.5
55°	1715.6	1663.8	1508.3	1329.9	1260.8
57.5°	1537.1	1485.3	1341.4	1174.4	1116.8
60°	1370.2	1295.3	1174.4	1030.5	984.4
62.5°	1185.9	1128.4	1024.7	903.8	961.4
65°	1019.0	961.4	869.3	886.6	736.9
67.5°	834.8	806.0	725.4	644.8	621.8
70°	679.3	644.8	616.0	529.6	506.6
72.5°	541.2	506.6	466.3	420.3	403.0
75°	408.7	380.0	356.9	339.7	374.2
77.5°	282.1	270.6	253.3	236.0	230.3
80°	184.2	178.5	172.7	167.0	161.2
82.5°	109.4	109.4	109.4	109.4	109.4
85°	57.6	63.3	69.1	74.8	80.6
87.5°	34.5	34.5	40.3	46.1	51.8
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)