

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: P546760

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-82-85-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: P546760  
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-LD4-2HI-50-UNV-82-85-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

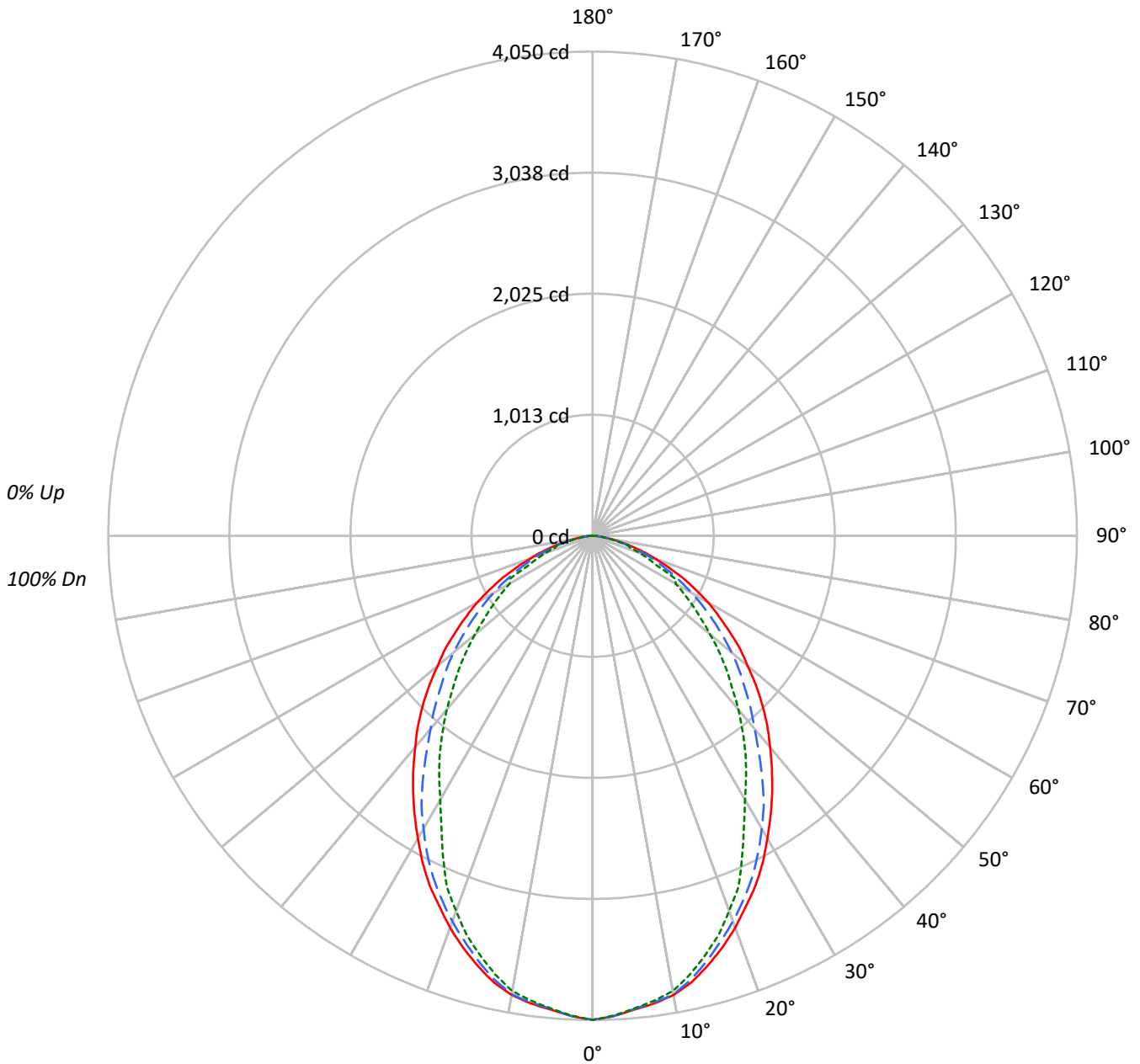
Lumens per Lamp: N/A  
Luminaire Lumens: 7950.0 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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°	5449	5449	5449
5°	5375	5368	5362
10°	5328	5322	5283
15°	5184	5132	5061
20°	4994	4914	4779
25°	4789	4684	4393
30°	4539	4393	3957
35°	4299	4060	3660
40°	4054	3700	3330
45°	3822	3421	3011
50°	3538	3175	2685
55°	3273	2877	2405
60°	2998	2570	2154
65°	2638	2251	1908
70°	2173	1971	1621
75°	1728	1509	1582
80°	1161	1088	1016
85°	722	868	1011



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	377.0	4.7
10°-20°	1034.6	13.0
20°-30°	1432.3	18.0
30°-40°	1527.2	19.2
40°-50°	1393.3	17.5
50°-60°	1091.5	13.7
60°-70°	711.4	8.9
70°-80°	315.2	4.0
80°-90°	67.7	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°	2843.8	35.8
0°-40°	4371.0	55.0
0°-60°	6855.8	86.2
0°-90°	7950.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7950.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4050	4050	4050	4050	4050	
5°	3979	3975	3975	3970	3970	378
15°	3722	3722	3684	3647	3633	1046
25°	3226	3207	3155	3043	2959	1481
35°	2617	2598	2472	2285	2228	1636
45°	2008	1966	1798	1648	1582	1547
55°	1395	1353	1227	1082	1025	1251
65°	829	782	707	721	599	817
75°	332	309	290	276	304	356
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4049.6	4049.6	4049.6	4049.6	4049.6
2.5°	4021.5	4021.5	4021.5	4016.9	4016.9
5°	3979.4	3974.7	3974.7	3970.0	3970.0
7.5°	3946.6	3941.9	3937.3	3932.6	3923.2
10°	3899.8	3899.8	3895.1	3871.7	3867.0
12.5°	3824.9	3820.2	3801.5	3768.7	3759.4
15°	3721.9	3721.9	3684.5	3647.0	3633.0
17.5°	3609.5	3604.9	3558.1	3520.6	3501.9
20°	3487.8	3478.5	3431.6	3370.8	3338.0
22.5°	3352.1	3352.1	3295.9	3216.3	3183.5
25°	3225.7	3206.9	3155.4	3043.1	2958.8
27.5°	3080.5	3052.4	2996.3	2837.1	2738.8
30°	2921.3	2907.3	2827.7	2621.7	2546.8
32.5°	2771.5	2748.1	2663.9	2448.5	2387.6
35°	2617.0	2598.3	2471.9	2284.6	2228.5
37.5°	2462.5	2439.1	2280.0	2130.1	2059.9
40°	2308.1	2280.0	2106.7	1971.0	1896.1
42.5°	2162.9	2125.5	1956.9	1811.8	1727.5
45°	2008.4	1966.3	1797.8	1647.9	1582.4
47.5°	1853.9	1816.5	1662.0	1507.5	1432.6
50°	1690.1	1657.3	1516.9	1362.4	1282.8
52.5°	1554.3	1502.8	1367.0	1212.5	1147.0
55°	1395.1	1353.0	1226.6	1081.5	1025.3
57.5°	1250.0	1207.9	1090.8	955.1	908.2
60°	1114.2	1053.4	955.1	838.0	800.6
62.5°	964.4	917.6	833.3	735.0	781.8
65°	828.7	781.8	706.9	721.0	599.3
67.5°	678.8	655.4	589.9	524.3	505.6
70°	552.4	524.3	500.9	430.7	412.0
72.5°	440.1	412.0	379.2	341.8	327.7
75°	332.4	309.0	290.3	276.2	304.3
77.5°	229.4	220.0	206.0	191.9	187.3
80°	149.8	145.1	140.4	135.8	131.1
82.5°	89.0	89.0	89.0	89.0	89.0
85°	46.8	51.5	56.2	60.9	65.5
87.5°	28.1	28.1	32.8	37.5	42.1
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)