

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: P547244

Luminaire Tested: **FMR-24-4-LD4-3STD-50-UNV-82-94-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: P547244  
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-LD4-3STD-50-UNV-82-94-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

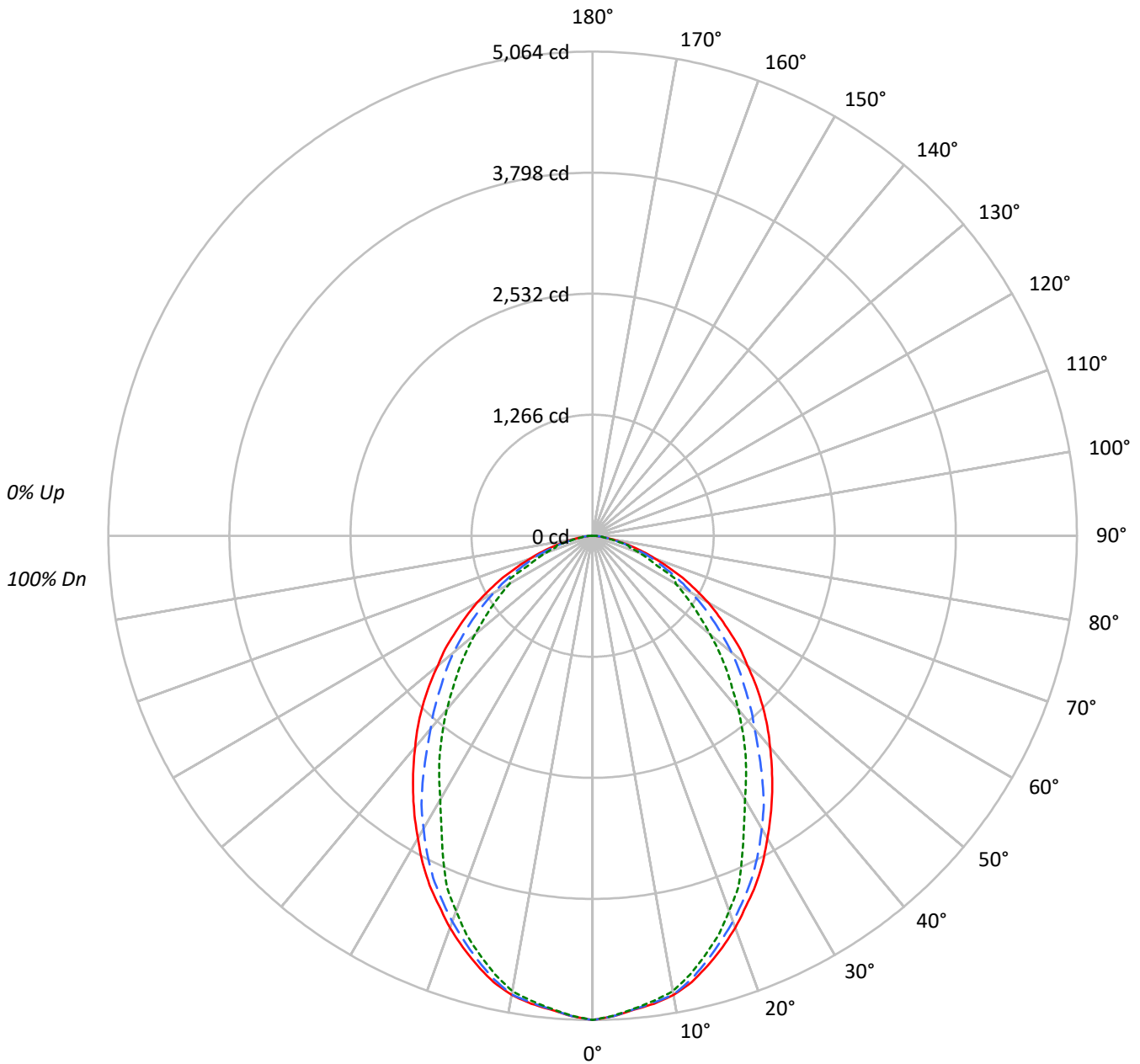
Lumens per Lamp: N/A  
Luminaire Lumens: 9942.0 lumens  
Efficiency: N/A  
Efficacy: 99.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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°	6814	6814	6814
5°	6721	6713	6706
10°	6663	6655	6607
15°	6484	6418	6329
20°	6245	6145	5977
25°	5989	5858	5493
30°	5676	5494	4948
35°	5376	5078	4577
40°	5070	4627	4165
45°	4779	4278	3765
50°	4424	3971	3358
55°	4093	3598	3008
60°	3750	3214	2694
65°	3299	2815	2386
70°	2718	2465	2027
75°	2161	1887	1979
80°	1452	1361	1270
85°	903	1085	1266



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	471.4	4.7
10°-20°	1293.8	13.0
20°-30°	1791.1	18.0
30°-40°	1909.9	19.2
40°-50°	1742.4	17.5
50°-60°	1365.0	13.7
60°-70°	889.6	8.9
70°-80°	394.1	4.0
80°-90°	84.6	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°	3556.3	35.8
0°-40°	5466.2	55.0
0°-60°	8573.6	86.2
0°-90°	9942.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9942.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5064	5064	5064	5064	5064	
5°	4976	4971	4971	4965	4965	472
15°	4654	4654	4608	4561	4543	1309
25°	4034	4010	3946	3806	3700	1852
35°	3273	3249	3091	2857	2787	2046
45°	2512	2459	2248	2061	1979	1935
55°	1745	1692	1534	1352	1282	1565
65°	1036	978	884	902	749	1021
75°	416	386	363	345	381	446
85°	58	64	70	76	82	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5064.3	5064.3	5064.3	5064.3	5064.3
2.5°	5029.2	5029.2	5029.2	5023.3	5023.3
5°	4976.5	4970.6	4970.6	4964.8	4964.8
7.5°	4935.5	4929.7	4923.8	4918.0	4906.2
10°	4877.0	4877.0	4871.1	4841.8	4836.0
12.5°	4783.3	4777.4	4754.0	4713.0	4701.3
15°	4654.5	4654.5	4607.7	4560.8	4543.3
17.5°	4514.0	4508.1	4449.6	4402.7	4379.3
20°	4361.8	4350.0	4291.5	4215.4	4174.4
22.5°	4192.0	4192.0	4121.7	4022.2	3981.2
25°	4033.9	4010.5	3946.1	3805.6	3700.2
27.5°	3852.4	3817.3	3747.0	3548.0	3425.0
30°	3653.3	3635.8	3536.2	3278.6	3185.0
32.5°	3466.0	3436.7	3331.3	3062.0	2985.9
35°	3272.8	3249.4	3091.3	2857.1	2786.8
37.5°	3079.6	3050.3	2851.2	2663.9	2576.1
40°	2886.4	2851.2	2634.6	2464.8	2371.2
42.5°	2704.9	2658.0	2447.3	2265.8	2160.4
45°	2511.7	2459.0	2248.2	2060.9	1978.9
47.5°	2318.5	2271.6	2078.4	1885.2	1791.5
50°	2113.5	2072.6	1896.9	1703.7	1604.2
52.5°	1943.8	1879.4	1709.6	1516.4	1434.4
55°	1744.7	1692.0	1533.9	1352.4	1282.2
57.5°	1563.2	1510.5	1364.1	1194.4	1135.8
60°	1393.4	1317.3	1194.4	1048.0	1001.2
62.5°	1206.1	1147.5	1042.1	919.2	977.7
65°	1036.3	977.7	884.1	901.6	749.4
67.5°	848.9	819.7	737.7	655.7	632.3
70°	690.9	655.7	626.5	538.6	515.2
72.5°	550.3	515.2	474.2	427.4	409.8
75°	415.7	386.4	363.0	345.4	380.6
77.5°	286.9	275.2	257.6	240.0	234.2
80°	187.4	181.5	175.6	169.8	163.9
82.5°	111.2	111.2	111.2	111.2	111.2
85°	58.5	64.4	70.3	76.1	82.0
87.5°	35.1	35.1	41.0	46.8	52.7
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)