

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: P547247

Luminaire Tested: **FMR-24-4-LD4-3STD-50-UNV-93-84-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: P547247  
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-93-84-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

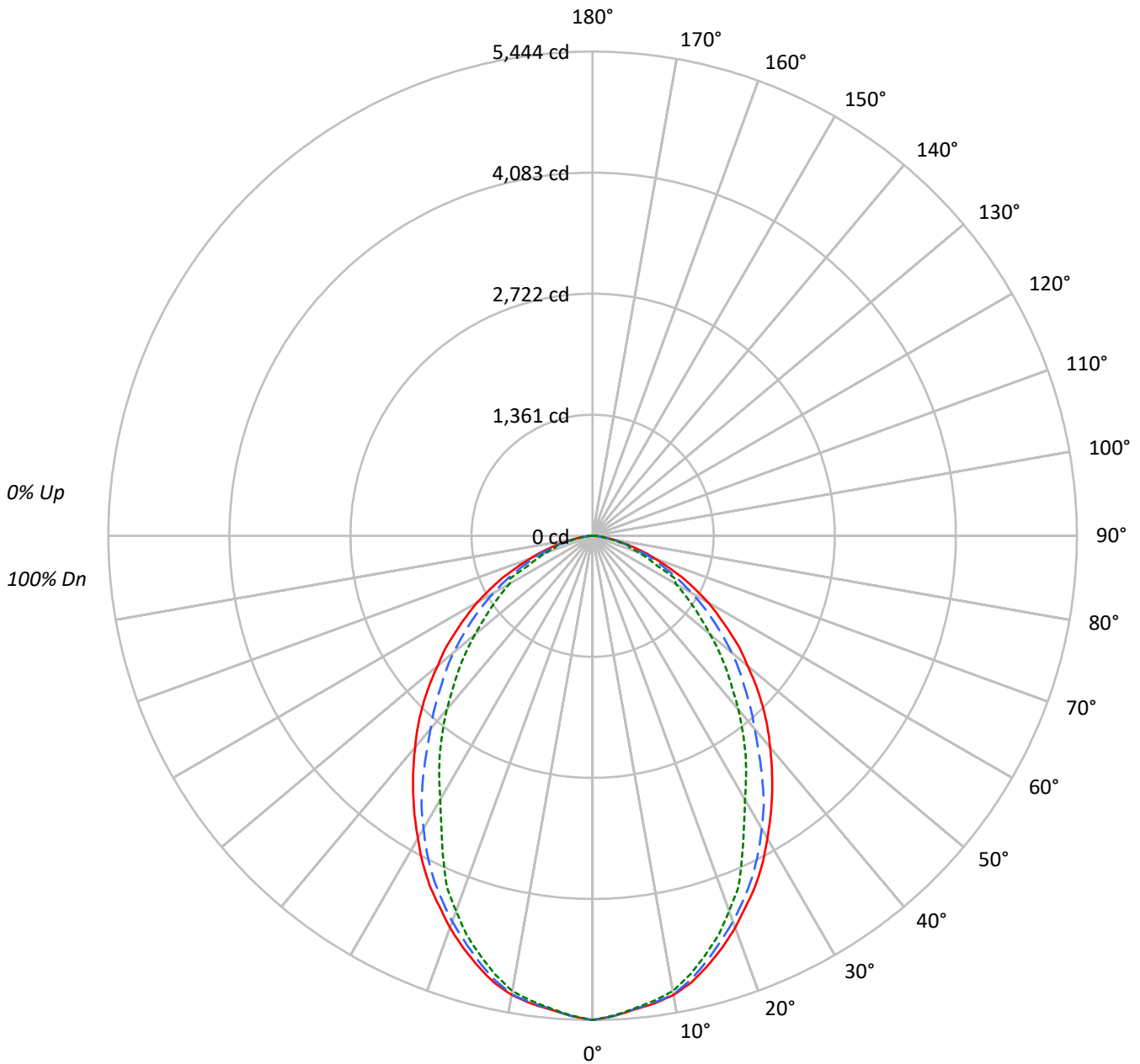
Lumens per Lamp: N/A  
Luminaire Lumens: 10687.0 lumens  
Efficiency: N/A  
Efficacy: 107.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	7325	7325	7325
5°	7225	7217	7208
10°	7162	7154	7102
15°	6969	6899	6803
20°	6713	6605	6425
25°	6437	6297	5905
30°	6101	5906	5319
35°	5778	5458	4921
40°	5450	4974	4477
45°	5137	4599	4048
50°	4756	4268	3610
55°	4399	3868	3233
60°	4031	3455	2896
65°	3546	3025	2565
70°	2921	2649	2179
75°	2323	2028	2127
80°	1561	1463	1365
85°	971	1166	1360



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	506.7	4.7
10°-20°	1390.7	13.0
20°-30°	1925.4	18.0
30°-40°	2053.0	19.2
40°-50°	1872.9	17.5
50°-60°	1467.3	13.7
60°-70°	956.3	8.9
70°-80°	423.7	4.0
80°-90°	91.0	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°	3822.8	35.8
0°-40°	5875.8	55.0
0°-60°	9216.1	86.2
0°-90°	10687.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10687.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5444	5444	5444	5444	5444	
5°	5349	5343	5343	5337	5337	508
15°	5003	5003	4953	4903	4884	1407
25°	4336	4311	4242	4091	3977	1991
35°	3518	3493	3323	3071	2996	2199
45°	2700	2643	2417	2215	2127	2080
55°	1875	1819	1649	1454	1378	1682
65°	1114	1051	950	969	806	1098
75°	447	415	390	371	409	479
85°	63	69	76	82	88	87
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5443.8	5443.8	5443.8	5443.8	5443.8
2.5°	5406.1	5406.1	5406.1	5399.8	5399.8
5°	5349.4	5343.1	5343.1	5336.8	5336.8
7.5°	5305.4	5299.1	5292.8	5286.5	5273.9
10°	5242.4	5242.4	5236.1	5204.7	5198.4
12.5°	5141.7	5135.4	5110.3	5066.2	5053.6
15°	5003.3	5003.3	4952.9	4902.6	4883.7
17.5°	4852.2	4845.9	4783.0	4732.7	4707.5
20°	4688.6	4676.0	4613.1	4531.3	4487.2
22.5°	4506.1	4506.1	4430.6	4323.6	4279.5
25°	4336.2	4311.0	4241.8	4090.7	3977.4
27.5°	4141.1	4103.3	4027.8	3813.8	3681.7
30°	3927.1	3908.2	3801.2	3524.3	3423.6
32.5°	3725.7	3694.2	3581.0	3291.5	3209.6
35°	3518.0	3492.9	3322.9	3071.2	2995.7
37.5°	3310.3	3278.9	3064.9	2863.5	2769.1
40°	3102.7	3064.9	2832.0	2649.5	2548.8
42.5°	2907.6	2857.2	2630.7	2435.6	2322.3
45°	2699.9	2643.2	2416.7	2215.3	2127.2
47.5°	2492.2	2441.8	2234.2	2026.5	1925.8
50°	2271.9	2227.9	2039.1	1831.4	1724.4
52.5°	2089.4	2020.2	1837.7	1630.0	1541.9
55°	1875.4	1818.8	1648.9	1453.8	1378.3
57.5°	1680.3	1623.7	1466.4	1283.9	1220.9
60°	1497.8	1416.0	1283.9	1126.5	1076.2
62.5°	1296.4	1233.5	1120.2	988.1	1051.0
65°	1113.9	1051.0	950.3	969.2	805.6
67.5°	912.5	881.1	793.0	704.9	679.7
70°	742.6	704.9	673.4	579.0	553.8
72.5°	591.6	553.8	509.8	459.4	440.5
75°	446.8	415.4	390.2	371.3	409.1
77.5°	308.4	295.8	276.9	258.0	251.7
80°	201.4	195.1	188.8	182.5	176.2
82.5°	119.6	119.6	119.6	119.6	119.6
85°	62.9	69.2	75.5	81.8	88.1
87.5°	37.8	37.8	44.1	50.3	56.6
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)