

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: P545095

Luminaire Tested: **FMR-12-1-LD4-2LO-40-UNV-82-84-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: P545095  
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-12-1-LD4-2LO-40-UNV-82-84-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

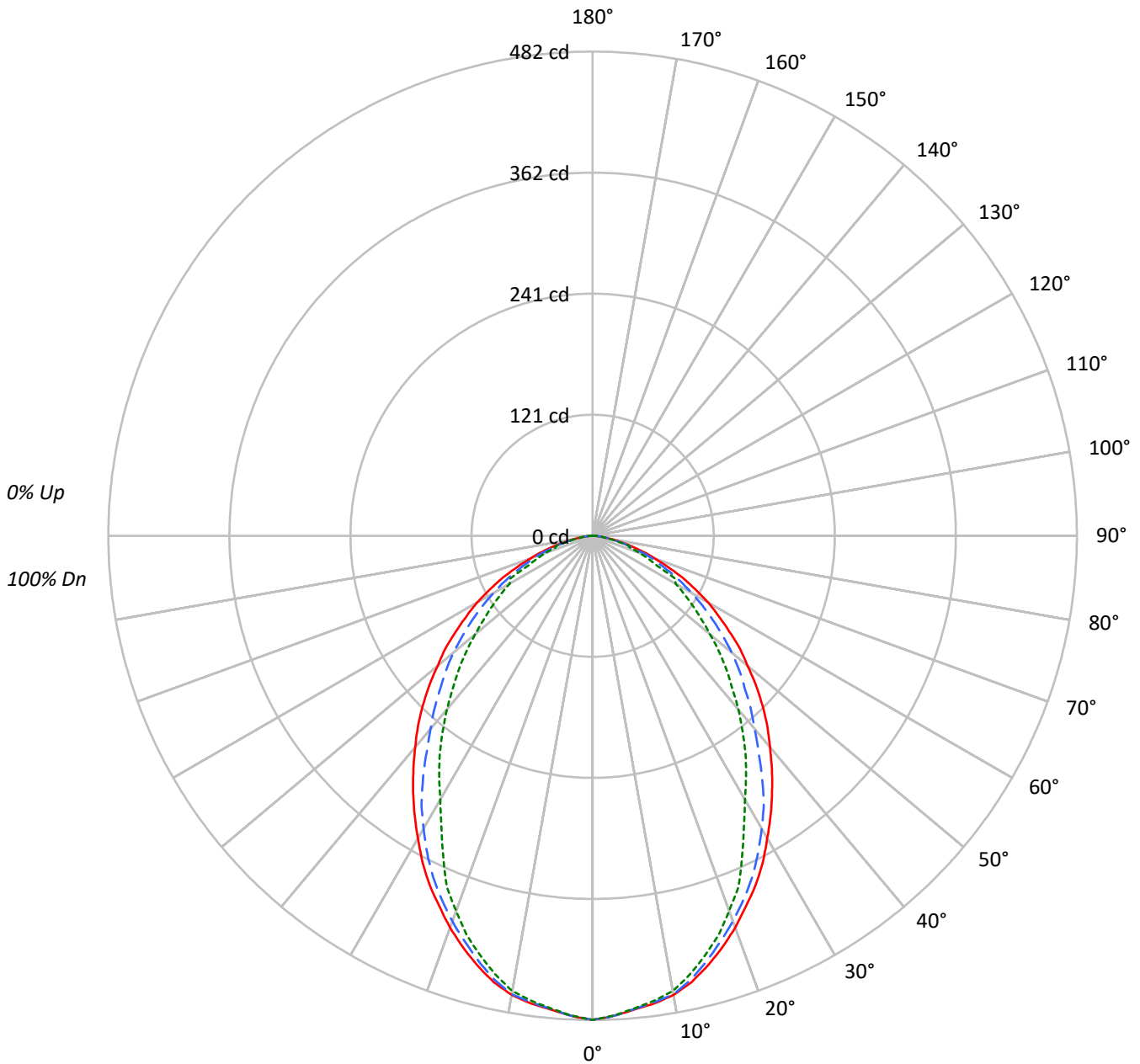
Lumens per Lamp: N/A  
Luminaire Lumens: 946.0 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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			100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87			87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75			75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65			65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56			56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44			44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40			40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36			36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30			30																

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5187	5187	5187
5°	5116	5111	5104
10°	5073	5066	5030
15°	4936	4885	4817
20°	4754	4677	4550
25°	4558	4460	4182
30°	4320	4182	3767
35°	4092	3865	3485
40°	3858	3523	3170
45°	3638	3256	2866
50°	3368	3023	2555
55°	3115	2740	2289
60°	2855	2446	2052
65°	2511	2142	1816
70°	2068	1876	1542
75°	1647	1435	1506
80°	1103	1035	967
85°	692	827	963



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.9	4.7
10°-20°	123.1	13.0
20°-30°	170.4	18.0
30°-40°	181.7	19.2
40°-50°	165.8	17.5
50°-60°	129.9	13.7
60°-70°	84.7	8.9
70°-80°	37.5	4.0
80°-90°	8.1	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°	338.4	35.8
0°-40°	520.1	55.0
0°-60°	815.8	86.2
0°-90°	946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	946.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	474	473	473	472	472	45
15°	443	443	438	434	432	125
25°	384	382	376	362	352	176
35°	311	309	294	272	265	195
45°	239	234	214	196	188	184
55°	166	161	146	129	122	149
65°	99	93	84	86	71	97
75°	40	37	34	33	36	42
85°	6	6	7	7	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	481.9	481.9	481.9	481.9	481.9
2.5°	478.5	478.5	478.5	478.0	478.0
5°	473.5	473.0	473.0	472.4	472.4
7.5°	469.6	469.1	468.5	468.0	466.8
10°	464.1	464.1	463.5	460.7	460.2
12.5°	455.1	454.6	452.4	448.5	447.3
15°	442.9	442.9	438.4	434.0	432.3
17.5°	429.5	429.0	423.4	418.9	416.7
20°	415.0	413.9	408.3	401.1	397.2
22.5°	398.9	398.9	392.2	382.7	378.8
25°	383.8	381.6	375.5	362.1	352.1
27.5°	366.6	363.2	356.5	337.6	325.9
30°	347.6	346.0	336.5	312.0	303.1
32.5°	329.8	327.0	317.0	291.4	284.1
35°	311.4	309.2	294.1	271.9	265.2
37.5°	293.0	290.2	271.3	253.5	245.1
40°	274.6	271.3	250.7	234.5	225.6
42.5°	257.4	252.9	232.9	215.6	205.6
45°	239.0	234.0	213.9	196.1	188.3
47.5°	220.6	216.1	197.8	179.4	170.5
50°	201.1	197.2	180.5	162.1	152.6
52.5°	185.0	178.8	162.7	144.3	136.5
55°	166.0	161.0	146.0	128.7	122.0
57.5°	148.7	143.7	129.8	113.6	108.1
60°	132.6	125.3	113.6	99.7	95.3
62.5°	114.8	109.2	99.2	87.5	93.0
65°	98.6	93.0	84.1	85.8	71.3
67.5°	80.8	78.0	70.2	62.4	60.2
70°	65.7	62.4	59.6	51.3	49.0
72.5°	52.4	49.0	45.1	40.7	39.0
75°	39.6	36.8	34.5	32.9	36.2
77.5°	27.3	26.2	24.5	22.8	22.3
80°	17.8	17.3	16.7	16.2	15.6
82.5°	10.6	10.6	10.6	10.6	10.6
85°	5.6	6.1	6.7	7.2	7.8
87.5°	3.3	3.3	3.9	4.5	5.0
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)