

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: P545098

Luminaire Tested: **FMR-12-1-LD4-2LO-40-UNV-82-87-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: P545098  
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-82-87-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

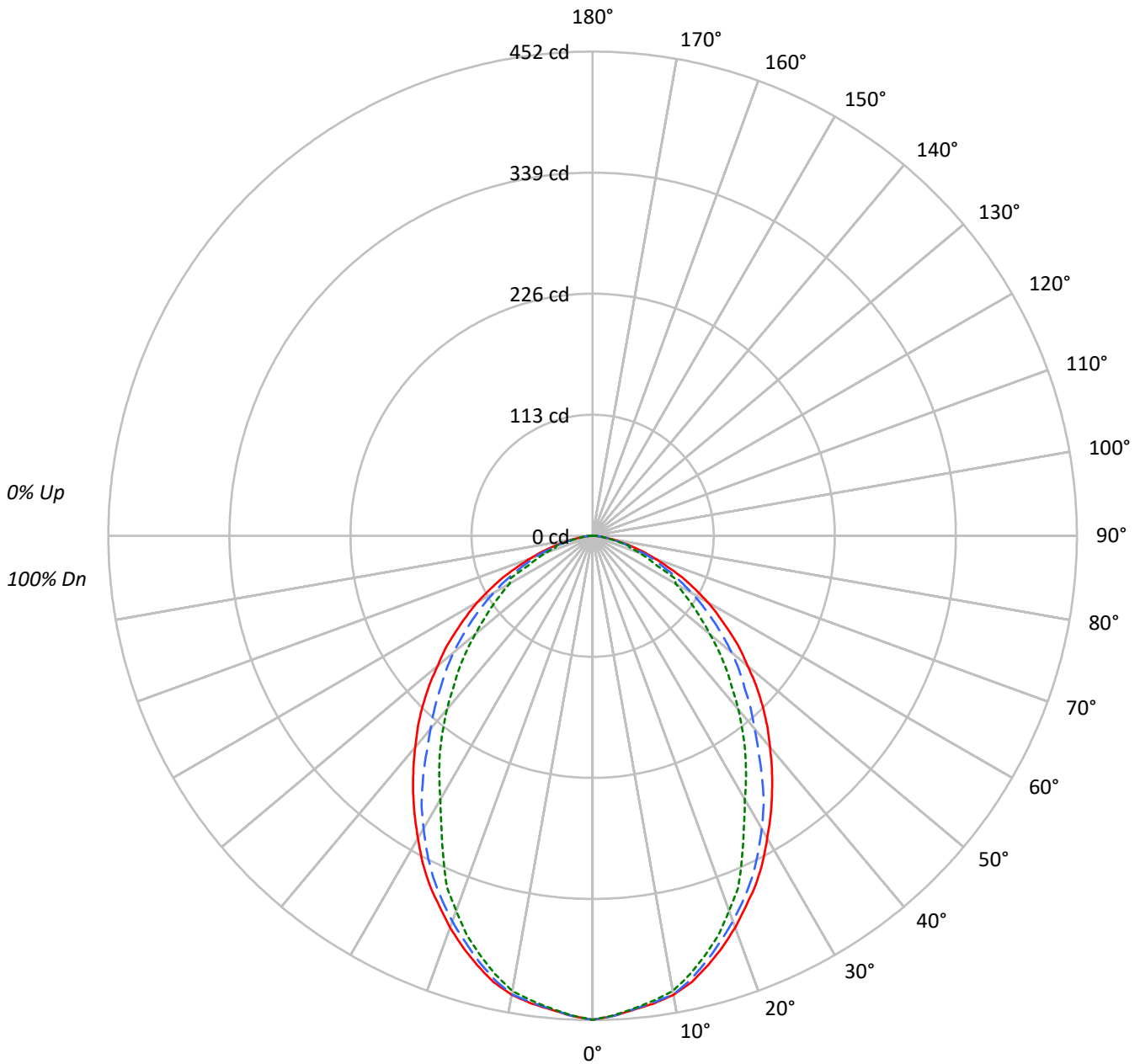
Lumens per Lamp: N/A  
Luminaire Lumens: 887.0 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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																			
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°	4863	4863	4863
5°	4797	4792	4786
10°	4756	4750	4716
15°	4628	4581	4517
20°	4457	4386	4266
25°	4274	4182	3920
30°	4051	3921	3532
35°	3837	3624	3267
40°	3618	3303	2972
45°	3411	3054	2688
50°	3158	2833	2396
55°	2922	2569	2147
60°	2676	2295	1922
65°	2356	2010	1704
70°	1939	1759	1448
75°	1543	1347	1414
80°	1035	973	905
85°	642	778	902



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.1	4.7
10°-20°	115.4	13.0
20°-30°	159.8	18.0
30°-40°	170.4	19.2
40°-50°	155.4	17.5
50°-60°	121.8	13.7
60°-70°	79.4	8.9
70°-80°	35.2	4.0
80°-90°	7.5	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°	317.3	35.8
0°-40°	487.7	55.0
0°-60°	764.9	86.2
0°-90°	887.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	887.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	452	452	452	452	452	
5°	444	444	444	443	443	42
15°	415	415	411	407	405	117
25°	360	358	352	340	330	165
35°	292	290	276	255	249	183
45°	224	219	201	184	177	173
55°	156	151	137	121	114	140
65°	92	87	79	80	67	91
75°	37	34	32	31	34	40
85°	5	6	6	7	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	451.8	451.8	451.8	451.8	451.8
2.5°	448.7	448.7	448.7	448.2	448.2
5°	444.0	443.5	443.5	442.9	442.9
7.5°	440.3	439.8	439.3	438.8	437.7
10°	435.1	435.1	434.6	432.0	431.5
12.5°	426.8	426.2	424.1	420.5	419.4
15°	415.3	415.3	411.1	406.9	405.3
17.5°	402.7	402.2	397.0	392.8	390.7
20°	389.1	388.1	382.9	376.1	372.4
22.5°	374.0	374.0	367.7	358.8	355.2
25°	359.9	357.8	352.1	339.5	330.1
27.5°	343.7	340.6	334.3	316.5	305.6
30°	325.9	324.4	315.5	292.5	284.2
32.5°	309.2	306.6	297.2	273.2	266.4
35°	292.0	289.9	275.8	254.9	248.6
37.5°	274.8	272.1	254.4	237.7	229.8
40°	257.5	254.4	235.1	219.9	211.5
42.5°	241.3	237.1	218.3	202.1	192.7
45°	224.1	219.4	200.6	183.9	176.6
47.5°	206.8	202.7	185.4	168.2	159.8
50°	188.6	184.9	169.2	152.0	143.1
52.5°	173.4	167.7	152.5	135.3	128.0
55°	155.7	151.0	136.9	120.7	114.4
57.5°	139.5	134.8	121.7	106.6	101.3
60°	124.3	117.5	106.6	93.5	89.3
62.5°	107.6	102.4	93.0	82.0	87.2
65°	92.5	87.2	78.9	80.4	66.9
67.5°	75.7	73.1	65.8	58.5	56.4
70°	61.6	58.5	55.9	48.1	46.0
72.5°	49.1	46.0	42.3	38.1	36.6
75°	37.1	34.5	32.4	30.8	34.0
77.5°	25.6	24.6	23.0	21.4	20.9
80°	16.7	16.2	15.7	15.1	14.6
82.5°	9.9	9.9	9.9	9.9	9.9
85°	5.2	5.7	6.3	6.8	7.3
87.5°	3.1	3.1	3.7	4.2	4.7
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)