

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: P545087

Luminaire Tested: **FMR-12-1-LD4-2LO-40-UNV-81-84-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: P545087  
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-81-84-EDD  
Description: 1X1 FMR TROFFER WITH .156 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**

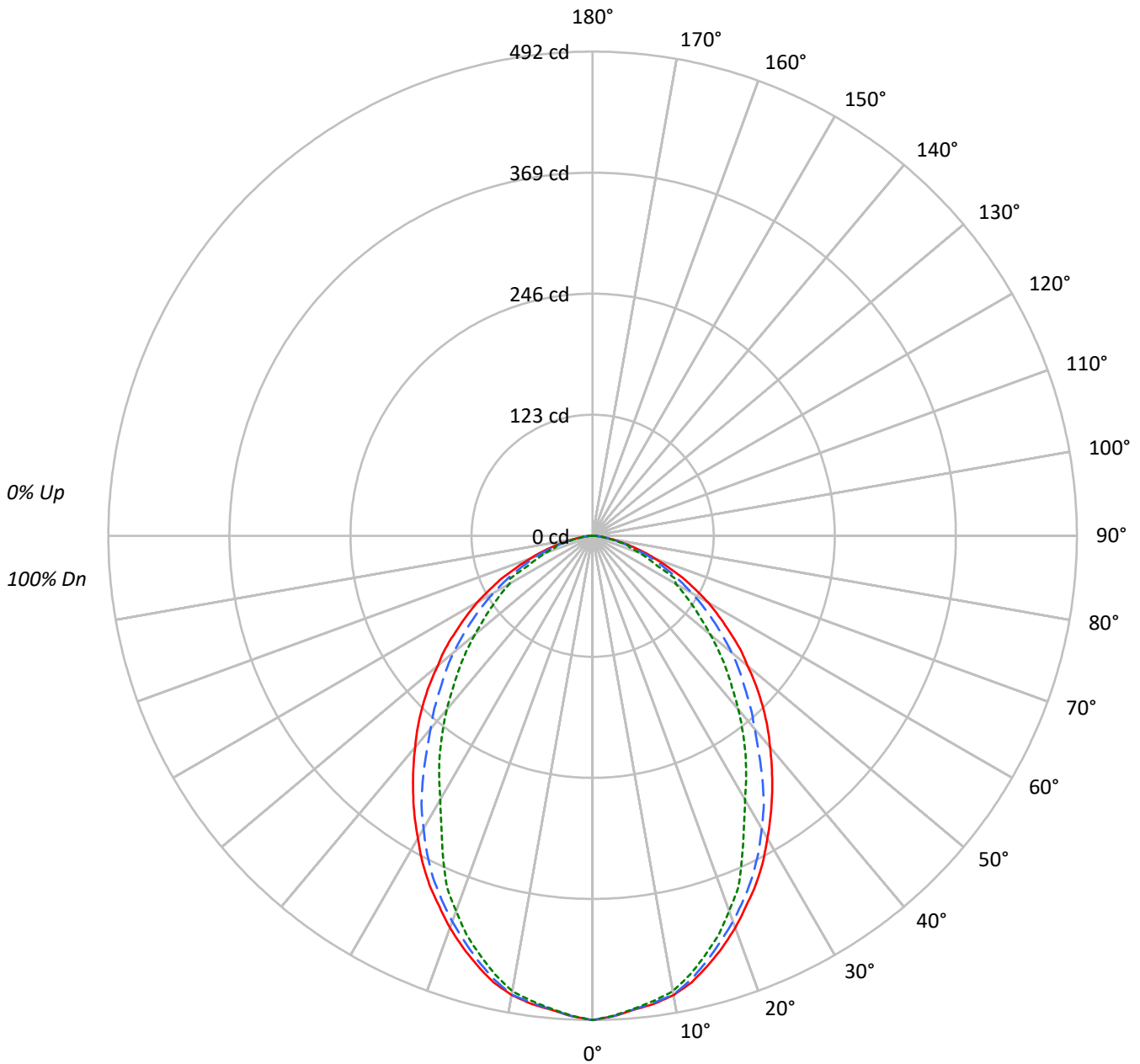
Lumens per Lamp: N/A  
Luminaire Lumens: 966.0 lumens  
Efficiency: N/A  
Efficacy: 82.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	5297	5297	5297
5°	5224	5219	5212
10°	5180	5173	5136
15°	5039	4989	4919
20°	4855	4777	4646
25°	4654	4554	4270
30°	4412	4271	3847
35°	4179	3947	3558
40°	3941	3597	3237
45°	3714	3325	2927
50°	3440	3086	2611
55°	3181	2796	2338
60°	2915	2497	2095
65°	2565	2188	1854
70°	2112	1917	1577
75°	1680	1468	1539
80°	1128	1060	986
85°	704	840	988



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.8	4.7
10°-20°	125.7	13.0
20°-30°	174.0	18.0
30°-40°	185.6	19.2
40°-50°	169.3	17.5
50°-60°	132.6	13.7
60°-70°	86.4	8.9
70°-80°	38.3	4.0
80°-90°	8.2	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°	345.5	35.8
0°-40°	531.1	55.0
0°-60°	833.0	86.2
0°-90°	966.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	966.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	492	492	492	492	492	
5°	484	483	483	482	482	46
15°	452	452	448	443	441	127
25°	392	390	383	370	360	180
35°	318	316	300	278	271	199
45°	244	239	218	200	192	188
55°	170	164	149	131	125	152
65°	101	95	86	88	73	99
75°	40	38	35	34	37	43
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°	492.1	492.1	492.1	492.1	492.1
2.5°	488.7	488.7	488.7	488.1	488.1
5°	483.5	483.0	483.0	482.4	482.4
7.5°	479.6	479.0	478.4	477.8	476.7
10°	473.9	473.9	473.3	470.5	469.9
12.5°	464.8	464.2	461.9	457.9	456.8
15°	452.2	452.2	447.7	443.1	441.4
17.5°	438.6	438.0	432.3	427.8	425.5
20°	423.8	422.7	417.0	409.6	405.6
22.5°	407.3	407.3	400.5	390.8	386.8
25°	391.9	389.7	383.4	369.8	359.5
27.5°	374.3	370.9	364.1	344.7	332.8
30°	355.0	353.3	343.6	318.6	309.5
32.5°	336.8	333.9	323.7	297.5	290.1
35°	318.0	315.7	300.4	277.6	270.8
37.5°	299.2	296.4	277.0	258.8	250.3
40°	280.5	277.0	256.0	239.5	230.4
42.5°	262.8	258.3	237.8	220.2	209.9
45°	244.0	238.9	218.4	200.2	192.3
47.5°	225.3	220.7	201.9	183.2	174.1
50°	205.4	201.4	184.3	165.5	155.9
52.5°	188.9	182.6	166.1	147.3	139.4
55°	169.5	164.4	149.0	131.4	124.6
57.5°	151.9	146.8	132.5	116.0	110.4
60°	135.4	128.0	116.0	101.8	97.3
62.5°	117.2	111.5	101.3	89.3	95.0
65°	100.7	95.0	85.9	87.6	72.8
67.5°	82.5	79.6	71.7	63.7	61.4
70°	67.1	63.7	60.9	52.3	50.1
72.5°	53.5	50.1	46.1	41.5	39.8
75°	40.4	37.5	35.3	33.6	37.0
77.5°	27.9	26.7	25.0	23.3	22.8
80°	18.2	17.6	17.1	16.5	15.9
82.5°	10.8	10.8	10.8	10.8	10.8
85°	5.7	6.3	6.8	7.4	8.0
87.5°	3.4	3.4	4.0	4.6	5.1
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)