

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: P544997

Luminaire Tested: **FMR-12-1-LD4-2HI-40-UNV-81-96-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: P544997  
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-LD4-2HI-40-UNV-81-96-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

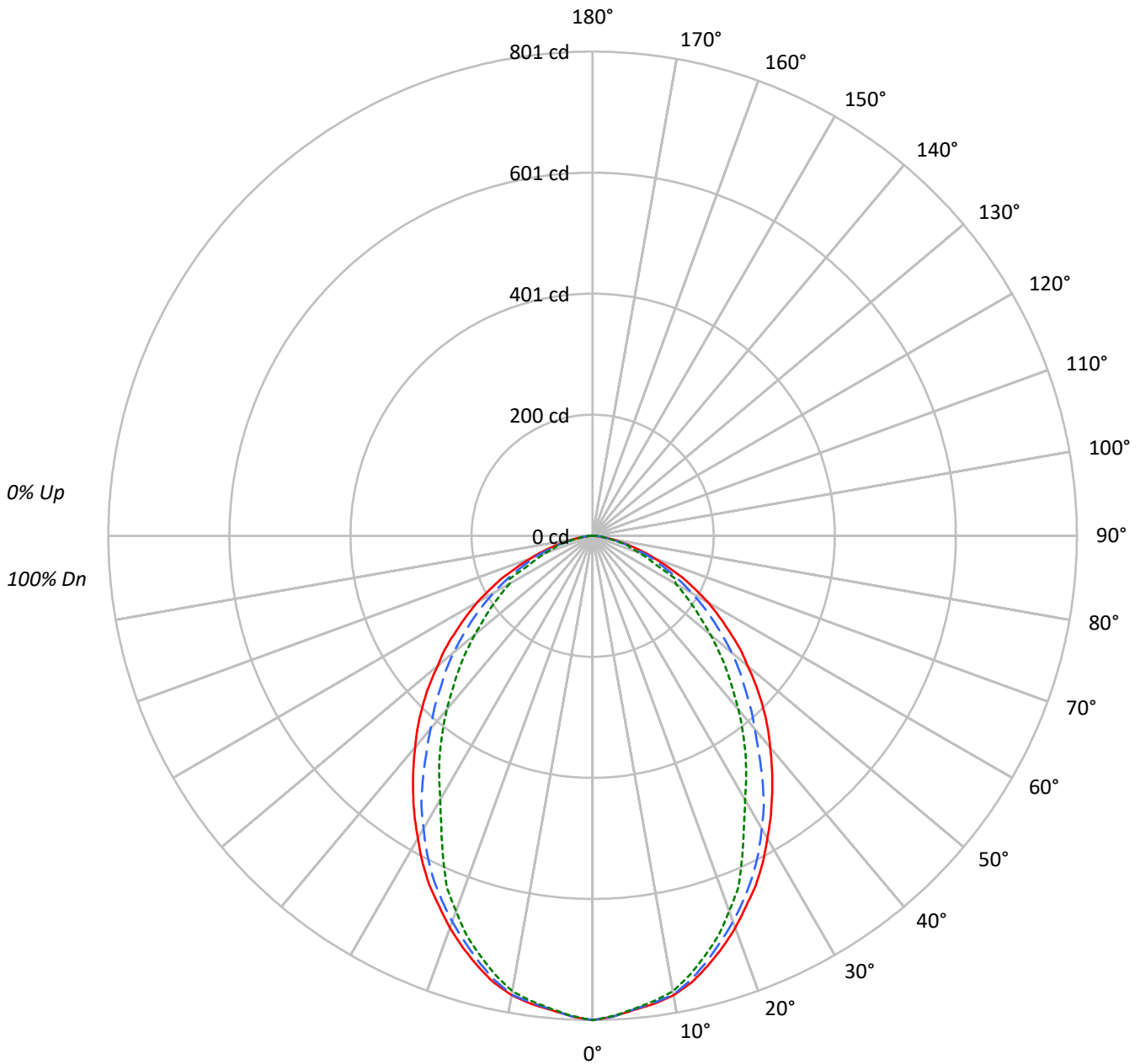
Lumens per Lamp: N/A  
Luminaire Lumens: 1573.0 lumens  
Efficiency: N/A  
Efficacy: 72.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	8625	8625	8625
5°	8508	8497	8487
10°	8434	8424	8363
15°	8206	8124	8010
20°	7905	7778	7566
25°	7580	7415	6953
30°	7184	6954	6263
35°	6804	6427	5794
40°	6417	5857	5272
45°	6049	5415	4766
50°	5600	5025	4250
55°	5180	4555	3808
60°	4747	4069	3410
65°	4177	3563	3021
70°	3440	3119	2565
75°	2737	2387	2504
80°	1835	1723	1605
85°	1149	1371	1606



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.6	4.7
10°-20°	204.7	13.0
20°-30°	283.4	18.0
30°-40°	302.2	19.2
40°-50°	275.7	17.5
50°-60°	216.0	13.7
60°-70°	140.8	8.9
70°-80°	62.4	4.0
80°-90°	13.4	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°	562.7	35.8
0°-40°	864.8	55.0
0°-60°	1356.5	86.2
0°-90°	1573.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1573.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	801	801	801	801	801	
5°	787	786	786	786	786	75
15°	736	736	729	722	719	207
25°	638	634	624	602	585	293
35°	518	514	489	452	441	324
45°	397	389	356	326	313	306
55°	276	268	243	214	203	248
65°	164	155	140	143	119	162
75°	66	61	57	55	60	70
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	801.3	801.3	801.3	801.3	801.3
2.5°	795.7	795.7	795.7	794.8	794.8
5°	787.4	786.4	786.4	785.5	785.5
7.5°	780.9	780.0	779.0	778.1	776.3
10°	771.6	771.6	770.7	766.1	765.1
12.5°	756.8	755.9	752.2	745.7	743.8
15°	736.4	736.4	729.0	721.6	718.8
17.5°	714.2	713.3	704.0	696.6	692.9
20°	690.1	688.3	679.0	666.9	660.5
22.5°	663.2	663.2	652.1	636.4	629.9
25°	638.2	634.5	624.3	602.1	585.4
27.5°	609.5	604.0	592.8	561.3	541.9
30°	578.0	575.2	559.5	518.7	503.9
32.5°	548.4	543.7	527.1	484.5	472.4
35°	517.8	514.1	489.1	452.0	440.9
37.5°	487.2	482.6	451.1	421.5	407.6
40°	456.7	451.1	416.8	390.0	375.2
42.5°	428.0	420.5	387.2	358.5	341.8
45°	397.4	389.1	355.7	326.1	313.1
47.5°	366.8	359.4	328.8	298.3	283.5
50°	334.4	327.9	300.1	269.6	253.8
52.5°	307.5	297.3	270.5	239.9	226.9
55°	276.0	267.7	242.7	214.0	202.9
57.5°	247.3	239.0	215.8	189.0	179.7
60°	220.5	208.4	189.0	165.8	158.4
62.5°	190.8	181.6	164.9	145.4	154.7
65°	164.0	154.7	139.9	142.7	118.6
67.5°	134.3	129.7	116.7	103.7	100.0
70°	109.3	103.7	99.1	85.2	81.5
72.5°	87.1	81.5	75.0	67.6	64.8
75°	65.8	61.1	57.4	54.7	60.2
77.5°	45.4	43.5	40.8	38.0	37.1
80°	29.6	28.7	27.8	26.9	25.9
82.5°	17.6	17.6	17.6	17.6	17.6
85°	9.3	10.2	11.1	12.0	13.0
87.5°	5.6	5.6	6.5	7.4	8.3
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)