

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: P544962

Luminaire Tested: **FMR-12-1-LD4-2HI-35-UNV-81-87-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: P544962  
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-35-UNV-81-87-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

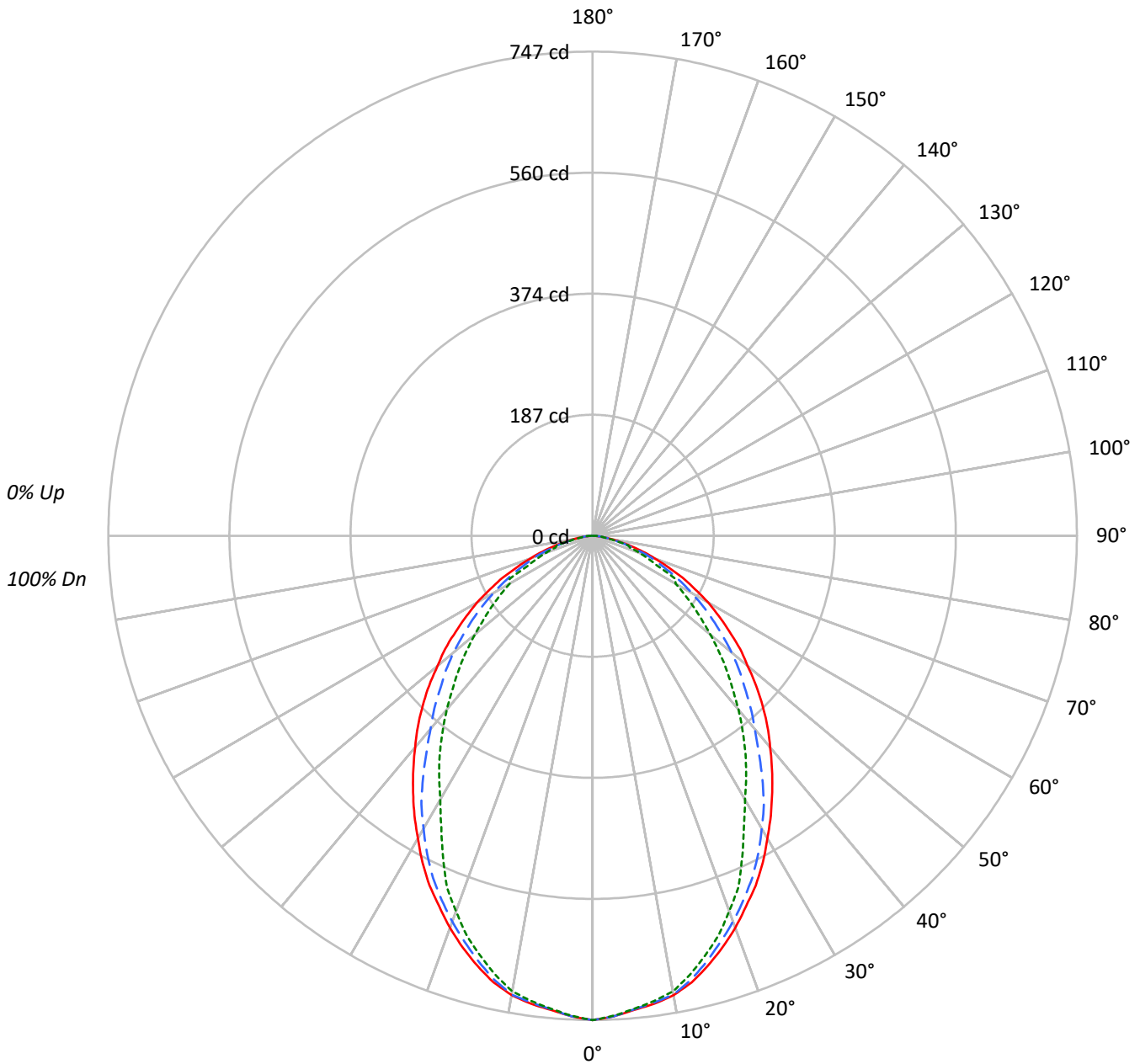
Lumens per Lamp: N/A  
Luminaire Lumens: 1467.0 lumens  
Efficiency: N/A  
Efficacy: 67.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	8044	8044	8044
5°	7934	7924	7916
10°	7865	7856	7800
15°	7653	7577	7471
20°	7372	7253	7056
25°	7069	6916	6485
30°	6701	6486	5842
35°	6345	5993	5403
40°	5984	5463	4917
45°	5641	5049	4445
50°	5223	4687	3964
55°	4830	4247	3551
60°	4426	3793	3180
65°	3894	3321	2817
70°	3207	2908	2392
75°	2549	2229	2337
80°	1711	1605	1500
85°	1062	1284	1494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.6	4.7
10°-20°	190.9	13.0
20°-30°	264.3	18.0
30°-40°	281.8	19.2
40°-50°	257.1	17.5
50°-60°	201.4	13.7
60°-70°	131.3	8.9
70°-80°	58.2	4.0
80°-90°	12.5	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°	524.8	35.8
0°-40°	806.6	55.0
0°-60°	1265.1	86.2
0°-90°	1467.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1467.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	747	747	747	747	747	
5°	734	733	733	733	733	70
15°	687	687	680	673	670	193
25°	595	592	582	562	546	273
35°	483	480	456	422	411	302
45°	371	363	332	304	292	285
55°	257	250	226	200	189	231
65°	153	144	130	133	111	151
75°	61	57	54	51	56	66
85°	9	10	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	747.3	747.3	747.3	747.3	747.3
2.5°	742.1	742.1	742.1	741.2	741.2
5°	734.3	733.4	733.4	732.6	732.6
7.5°	728.3	727.4	726.5	725.7	723.9
10°	719.6	719.6	718.8	714.4	713.6
12.5°	705.8	704.9	701.5	695.4	693.7
15°	686.8	686.8	679.9	673.0	670.4
17.5°	666.1	665.2	656.6	649.6	646.2
20°	643.6	641.9	633.2	622.0	616.0
22.5°	618.5	618.5	608.2	593.5	587.4
25°	595.2	591.8	582.3	561.5	546.0
27.5°	568.4	563.3	552.9	523.5	505.4
30°	539.1	536.5	521.8	483.8	470.0
32.5°	511.4	507.1	491.6	451.8	440.6
35°	482.9	479.5	456.1	421.6	411.2
37.5°	454.4	450.1	420.7	393.1	380.1
40°	425.9	420.7	388.8	363.7	349.9
42.5°	399.1	392.2	361.1	334.3	318.8
45°	370.6	362.8	331.7	304.1	292.0
47.5°	342.1	335.2	306.7	278.2	264.4
50°	311.9	305.8	279.9	251.4	236.7
52.5°	286.8	277.3	252.3	223.7	211.7
55°	257.4	249.7	226.3	199.6	189.2
57.5°	230.7	222.9	201.3	176.2	167.6
60°	205.6	194.4	176.2	154.6	147.7
62.5°	178.0	169.3	153.8	135.6	144.3
65°	152.9	144.3	130.4	133.0	110.6
67.5°	125.3	120.9	108.9	96.8	93.3
70°	101.9	96.8	92.4	79.5	76.0
72.5°	81.2	76.0	70.0	63.1	60.5
75°	61.3	57.0	53.6	51.0	56.2
77.5°	42.3	40.6	38.0	35.4	34.6
80°	27.6	26.8	25.9	25.1	24.2
82.5°	16.4	16.4	16.4	16.4	16.4
85°	8.6	9.5	10.4	11.2	12.1
87.5°	5.2	5.2	6.0	6.9	7.8
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)