

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: P544992

Luminaire Tested: **FMR-12-1-LD4-2HI-40-UNV-81-85-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: P544992  
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-81-85-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

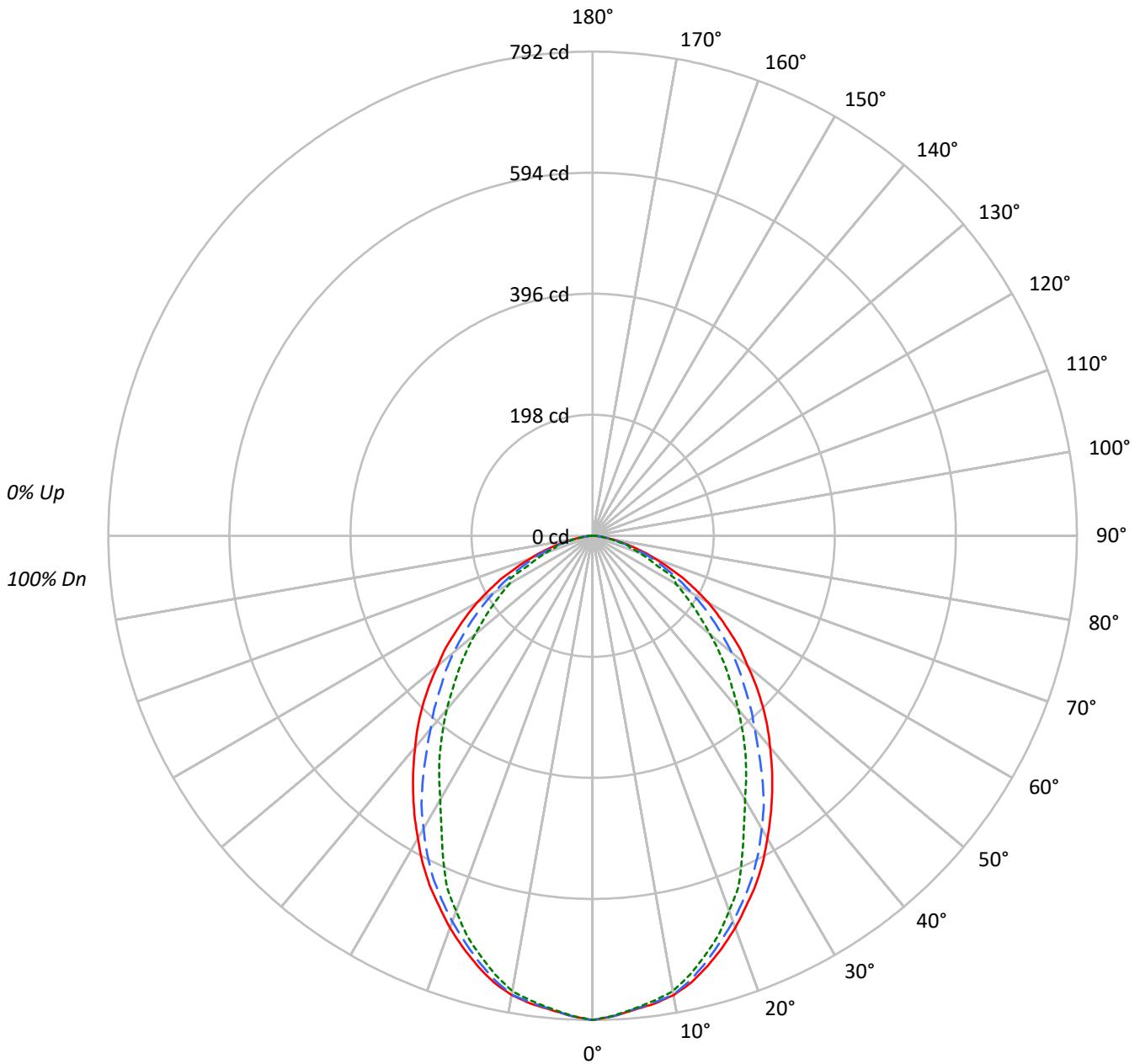
Lumens per Lamp: N/A  
Luminaire Lumens: 1555.0 lumens  
Efficiency: N/A  
Efficacy: 72.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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				20				20	
RC	80				70				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°	8526	8526	8526
5°	8411	8400	8390
10°	8337	8328	8267
15°	8113	8031	7919
20°	7814	7688	7479
25°	7493	7330	6873
30°	7102	6875	6192
35°	6727	6353	5728
40°	6343	5791	5212
45°	5979	5352	4711
50°	5536	4968	4201
55°	5121	4502	3763
60°	4691	4021	3371
65°	4129	3522	2985
70°	3402	3084	2537
75°	2703	2362	2475
80°	1816	1705	1587
85°	1136	1359	1581



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.7	4.7
10°-20°	202.4	13.0
20°-30°	280.1	18.0
30°-40°	298.7	19.2
40°-50°	272.5	17.5
50°-60°	213.5	13.7
60°-70°	139.2	8.9
70°-80°	61.6	4.0
80°-90°	13.2	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°	556.2	35.8
0°-40°	855.0	55.0
0°-60°	1341.0	86.2
0°-90°	1555.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1555.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	792	792	792	792	792	
5°	778	777	777	776	776	74
15°	728	728	721	713	711	205
25°	631	627	617	595	579	290
35°	512	508	484	447	436	320
45°	393	385	352	322	310	303
55°	273	265	240	212	200	245
65°	162	153	138	141	117	160
75°	65	60	57	54	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°	792.1	792.1	792.1	792.1	792.1
2.5°	786.6	786.6	786.6	785.7	785.7
5°	778.4	777.4	777.4	776.5	776.5
7.5°	772.0	771.0	770.1	769.2	767.4
10°	762.8	762.8	761.9	757.3	756.4
12.5°	748.1	747.2	743.6	737.2	735.3
15°	728.0	728.0	720.7	713.3	710.6
17.5°	706.0	705.1	695.9	688.6	685.0
20°	682.2	680.4	671.2	659.3	652.9
22.5°	655.7	655.7	644.7	629.1	622.7
25°	630.9	627.3	617.2	595.2	578.7
27.5°	602.5	597.0	586.1	554.9	535.7
30°	571.4	568.7	553.1	512.8	498.2
32.5°	542.1	537.5	521.0	478.9	467.0
35°	511.9	508.2	483.5	446.9	435.9
37.5°	481.7	477.1	446.0	416.7	402.9
40°	451.4	446.0	412.1	385.5	370.9
42.5°	423.1	415.7	382.8	354.4	337.9
45°	392.8	384.6	351.6	322.3	309.5
47.5°	362.6	355.3	325.1	294.9	280.2
50°	330.6	324.2	296.7	266.5	250.9
52.5°	304.0	293.9	267.4	237.2	224.4
55°	272.9	264.6	239.9	211.5	200.5
57.5°	244.5	236.3	213.4	186.8	177.6
60°	217.9	206.0	186.8	163.9	156.6
62.5°	188.6	179.5	163.0	143.8	152.9
65°	162.1	152.9	138.3	141.0	117.2
67.5°	132.8	128.2	115.4	102.6	98.9
70°	108.1	102.6	98.0	84.2	80.6
72.5°	86.1	80.6	74.2	66.8	64.1
75°	65.0	60.4	56.8	54.0	59.5
77.5°	44.9	43.0	40.3	37.5	36.6
80°	29.3	28.4	27.5	26.6	25.6
82.5°	17.4	17.4	17.4	17.4	17.4
85°	9.2	10.1	11.0	11.9	12.8
87.5°	5.5	5.5	6.4	7.3	8.2
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)