

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: P545110

Luminaire Tested: **FMR-12-1-LD4-2LO-40-UNV-93-97-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: P545110  
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-93-97-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

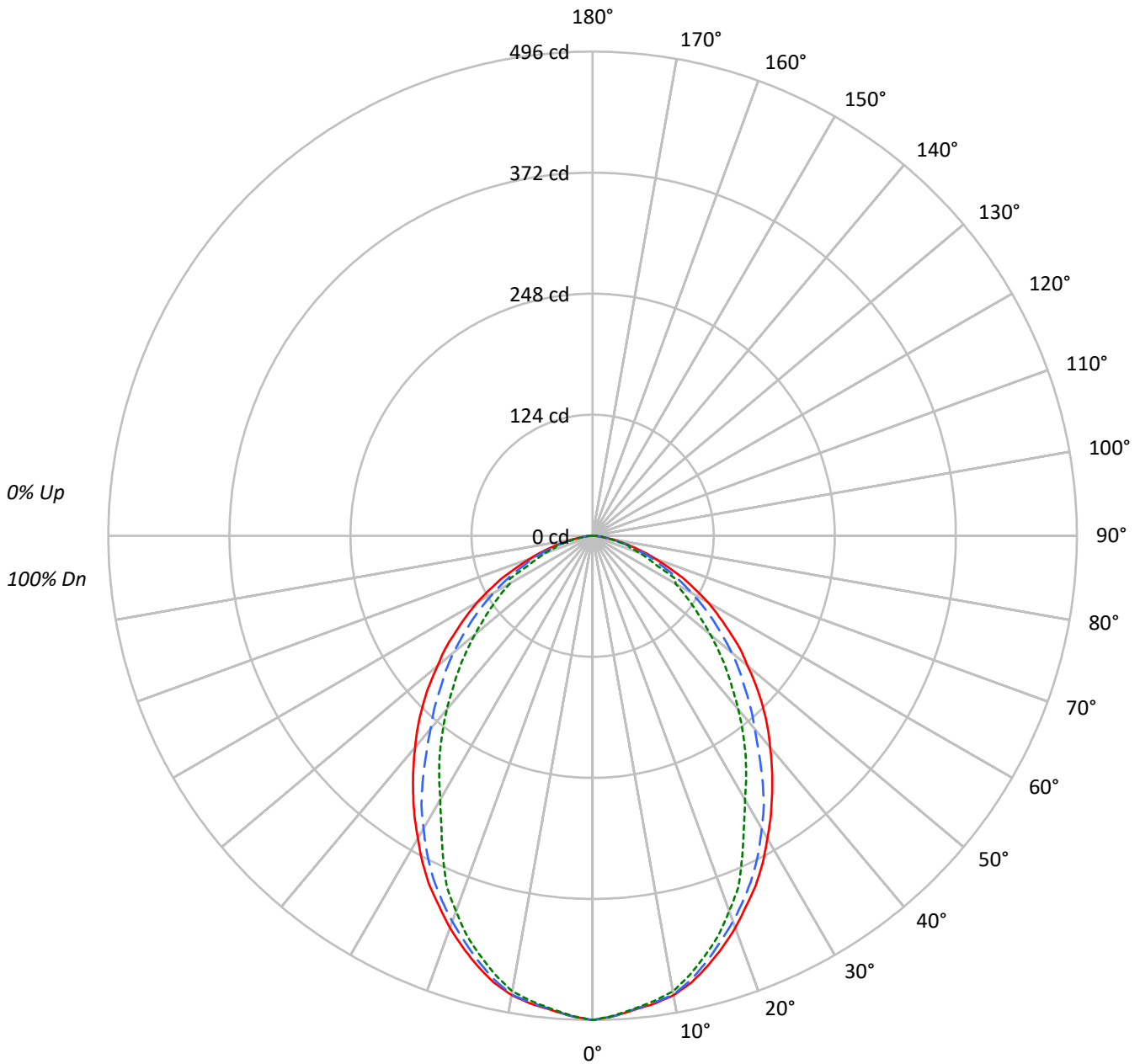
Lumens per Lamp: N/A  
Luminaire Lumens: 974.0 lumens  
Efficiency: N/A  
Efficacy: 83.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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				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°	5340	5340	5340
5°	5267	5262	5256
10°	5222	5216	5179
15°	5081	5030	4960
20°	4895	4816	4685
25°	4694	4592	4305
30°	4448	4305	3878
35°	4213	3979	3587
40°	3974	3627	3264
45°	3746	3354	2952
50°	3468	3111	2632
55°	3207	2821	2357
60°	2939	2519	2112
65°	2585	2206	1869
70°	2131	1932	1589
75°	1693	1481	1551
80°	1141	1066	998
85°	704	852	988



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.2	4.7
10°-20°	126.7	13.0
20°-30°	175.5	18.0
30°-40°	187.1	19.2
40°-50°	170.7	17.5
50°-60°	133.7	13.7
60°-70°	87.2	8.9
70°-80°	38.6	4.0
80°-90°	8.3	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°	348.4	35.8
0°-40°	535.5	55.0
0°-60°	839.9	86.2
0°-90°	974.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	974.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	496	496	496	496	496	
5°	488	487	487	486	486	46
15°	456	456	451	447	445	128
25°	395	393	387	373	362	181
35°	321	318	303	280	273	200
45°	246	241	220	202	194	190
55°	171	166	150	132	126	153
65°	102	96	87	88	73	100
75°	41	38	36	34	37	44
85°	6	6	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	496.1	496.1	496.1	496.1	496.1
2.5°	492.7	492.7	492.7	492.1	492.1
5°	487.5	487.0	487.0	486.4	486.4
7.5°	483.5	483.0	482.4	481.8	480.7
10°	477.8	477.8	477.2	474.3	473.8
12.5°	468.6	468.0	465.7	461.7	460.6
15°	456.0	456.0	451.4	446.8	445.1
17.5°	442.2	441.7	435.9	431.3	429.0
20°	427.3	426.2	420.4	413.0	409.0
22.5°	410.7	410.7	403.8	394.0	390.0
25°	395.2	392.9	386.6	372.8	362.5
27.5°	377.4	374.0	367.1	347.6	335.5
30°	357.9	356.2	346.4	321.2	312.0
32.5°	339.6	336.7	326.4	300.0	292.5
35°	320.6	318.3	302.8	279.9	273.0
37.5°	301.7	298.8	279.3	261.0	252.4
40°	282.8	279.3	258.1	241.5	232.3
42.5°	265.0	260.4	239.8	222.0	211.6
45°	246.1	240.9	220.3	201.9	193.9
47.5°	227.1	222.5	203.6	184.7	175.5
50°	207.1	203.0	185.8	166.9	157.2
52.5°	190.4	184.1	167.5	148.6	140.5
55°	170.9	165.8	150.3	132.5	125.6
57.5°	153.1	148.0	133.6	117.0	111.3
60°	136.5	129.1	117.0	102.7	98.1
62.5°	118.2	112.4	102.1	90.1	95.8
65°	101.5	95.8	86.6	88.3	73.4
67.5°	83.2	80.3	72.3	64.2	61.9
70°	67.7	64.2	61.4	52.8	50.5
72.5°	53.9	50.5	46.5	41.9	40.2
75°	40.7	37.9	35.6	33.8	37.3
77.5°	28.1	27.0	25.2	23.5	22.9
80°	18.4	17.8	17.2	16.6	16.1
82.5°	10.9	10.9	10.9	10.9	10.9
85°	5.7	6.3	6.9	7.5	8.0
87.5°	3.4	3.4	4.0	4.6	5.2
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)