

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: P545102

Luminaire Tested: **FMR-12-1-LD4-2LO-40-UNV-82-97-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: P545102  
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-82-97-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC 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**

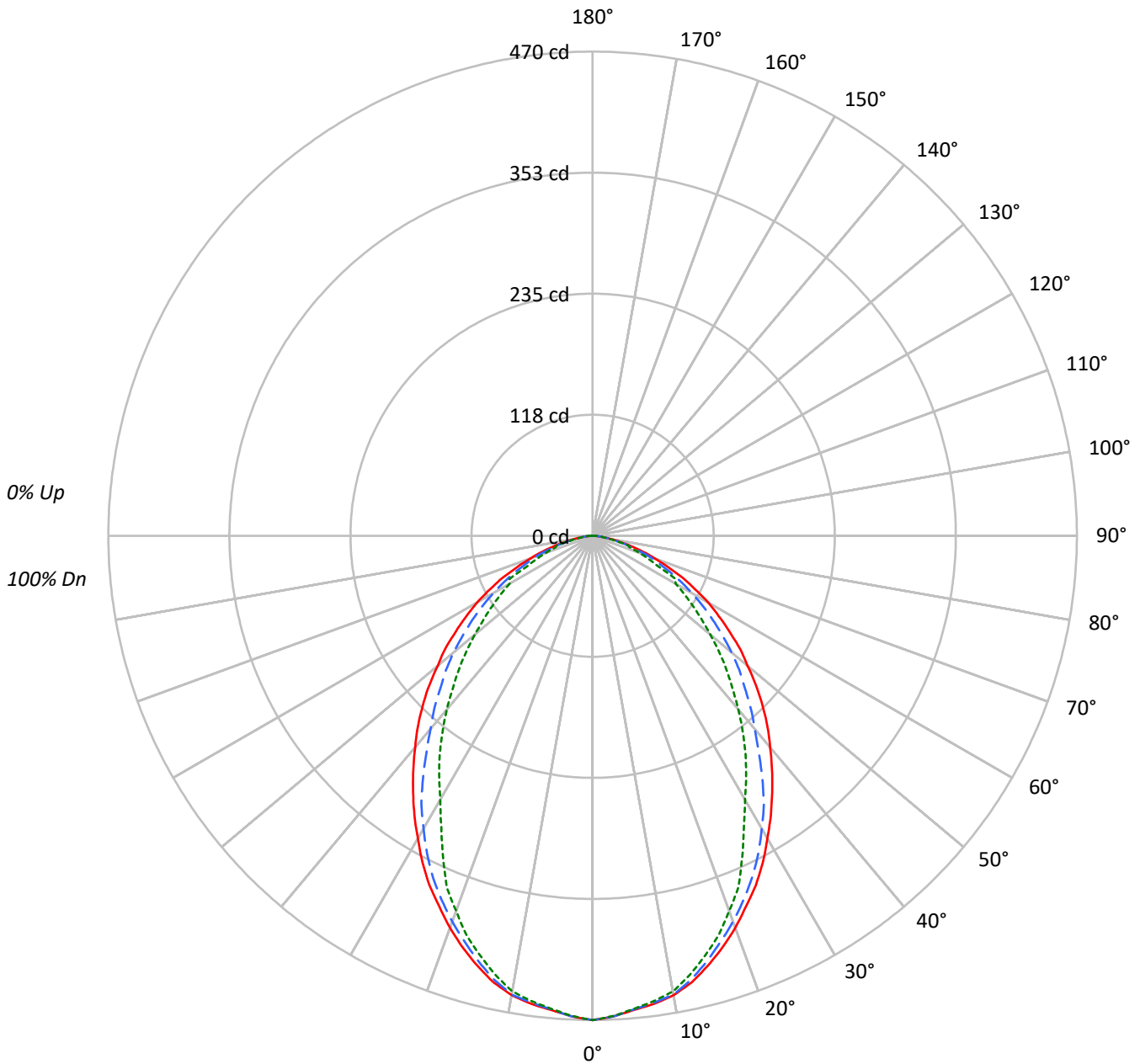
Lumens per Lamp: N/A  
Luminaire Lumens: 923.0 lumens  
Efficiency: N/A  
Efficacy: 78.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	5061	5061	5061
5°	4992	4987	4980
10°	4949	4943	4908
15°	4815	4767	4700
20°	4638	4564	4439
25°	4448	4350	4080
30°	4216	4080	3675
35°	3992	3771	3399
40°	3766	3437	3093
45°	3550	3177	2796
50°	3286	2949	2493
55°	3040	2672	2233
60°	2786	2387	2000
65°	2450	2091	1773
70°	2017	1832	1504
75°	1605	1402	1468
80°	1079	1010	942
85°	667	803	939



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.8	4.7
10°-20°	120.1	13.0
20°-30°	166.3	18.0
30°-40°	177.3	19.2
40°-50°	161.8	17.5
50°-60°	126.7	13.7
60°-70°	82.6	8.9
70°-80°	36.6	4.0
80°-90°	7.8	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°	330.2	35.8
0°-40°	507.5	55.0
0°-60°	796.0	86.2
0°-90°	923.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	923.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	470	470	470	470	470	
5°	462	462	462	461	461	44
15°	432	432	428	423	422	121
25°	374	372	366	353	344	172
35°	304	302	287	265	259	190
45°	233	228	209	191	184	180
55°	162	157	142	126	119	145
65°	96	91	82	84	70	95
75°	39	36	34	32	35	41
85°	5	6	6	7	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	470.2	470.2	470.2	470.2	470.2
2.5°	466.9	466.9	466.9	466.4	466.4
5°	462.0	461.5	461.5	460.9	460.9
7.5°	458.2	457.7	457.1	456.6	455.5
10°	452.8	452.8	452.2	449.5	449.0
12.5°	444.1	443.5	441.4	437.6	436.5
15°	432.1	432.1	427.8	423.4	421.8
17.5°	419.1	418.5	413.1	408.7	406.6
20°	404.9	403.9	398.4	391.4	387.5
22.5°	389.2	389.2	382.7	373.4	369.6
25°	374.5	372.3	366.3	353.3	343.5
27.5°	357.7	354.4	347.9	329.4	318.0
30°	339.2	337.5	328.3	304.4	295.7
32.5°	321.8	319.1	309.3	284.3	277.2
35°	303.8	301.7	287.0	265.2	258.7
37.5°	285.9	283.2	264.7	247.3	239.2
40°	268.0	264.7	244.6	228.8	220.1
42.5°	251.1	246.8	227.2	210.4	200.6
45°	233.2	228.3	208.7	191.3	183.7
47.5°	215.2	210.9	193.0	175.0	166.3
50°	196.2	192.4	176.1	158.2	148.9
52.5°	180.5	174.5	158.7	140.8	133.2
55°	162.0	157.1	142.4	125.6	119.0
57.5°	145.1	140.2	126.6	110.9	105.4
60°	129.4	122.3	110.9	97.3	92.9
62.5°	112.0	106.5	96.8	85.3	90.8
65°	96.2	90.8	82.1	83.7	69.6
67.5°	78.8	76.1	68.5	60.9	58.7
70°	64.1	60.9	58.2	50.0	47.8
72.5°	51.1	47.8	44.0	39.7	38.0
75°	38.6	35.9	33.7	32.1	35.3
77.5°	26.6	25.5	23.9	22.3	21.7
80°	17.4	16.8	16.3	15.8	15.2
82.5°	10.3	10.3	10.3	10.3	10.3
85°	5.4	6.0	6.5	7.1	7.6
87.5°	3.3	3.3	3.8	4.3	4.9
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)