

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: P544711

Luminaire Tested: **FMR-12-1-LD4-1HI-40-UNV-82-84-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: P544711  
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-LD4-1HI-40-UNV-82-84-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

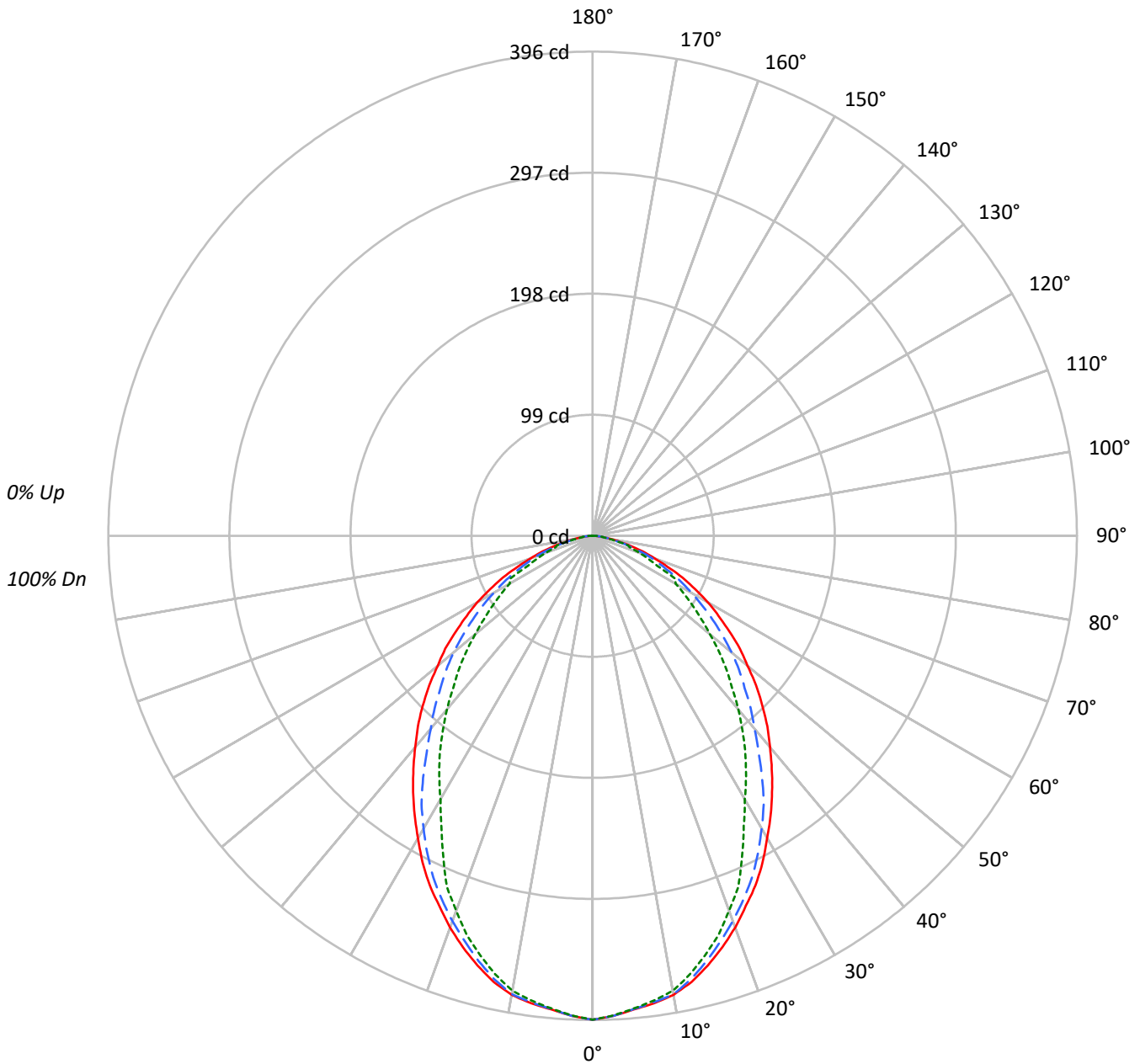
Lumens per Lamp: N/A  
Luminaire Lumens: 777.0 lumens  
Efficiency: N/A  
Efficacy: 71.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 10.8  
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°	4260	4260	4260
5°	4202	4198	4192
10°	4167	4161	4130
15°	4054	4013	3957
20°	3905	3842	3737
25°	3745	3663	3435
30°	3549	3435	3094
35°	3361	3175	2862
40°	3170	2893	2604
45°	2988	2675	2355
50°	2766	2483	2100
55°	2560	2250	1880
60°	2344	2009	1683
65°	2063	1760	1493
70°	1699	1542	1268
75°	1352	1181	1235
80°	905	849	793
85°	568	679	790



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.8	4.7
10°-20°	101.1	13.0
20°-30°	140.0	18.0
30°-40°	149.3	19.2
40°-50°	136.2	17.5
50°-60°	106.7	13.7
60°-70°	69.5	8.9
70°-80°	30.8	4.0
80°-90°	6.6	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°	277.9	35.8
0°-40°	427.2	55.0
0°-60°	670.1	86.2
0°-90°	777.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	777.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	396	396	396	396	396	
5°	389	388	388	388	388	37
15°	364	364	360	356	355	102
25°	315	313	308	297	289	145
35°	256	254	242	223	218	160
45°	196	192	176	161	155	151
55°	136	132	120	106	100	122
65°	81	76	69	70	59	80
75°	32	30	28	27	30	35
85°	5	5	6	6	6	6
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	395.8	395.8	395.8	395.8	395.8
2.5°	393.0	393.0	393.0	392.6	392.6
5°	388.9	388.5	388.5	388.0	388.0
7.5°	385.7	385.3	384.8	384.4	383.4
10°	381.2	381.2	380.7	378.4	377.9
12.5°	373.8	373.4	371.5	368.3	367.4
15°	363.8	363.8	360.1	356.4	355.1
17.5°	352.8	352.3	347.7	344.1	342.3
20°	340.9	340.0	335.4	329.4	326.2
22.5°	327.6	327.6	322.1	314.3	311.1
25°	315.3	313.4	308.4	297.4	289.2
27.5°	301.1	298.3	292.8	277.3	267.7
30°	285.5	284.1	276.4	256.2	248.9
32.5°	270.9	268.6	260.4	239.3	233.4
35°	255.8	253.9	241.6	223.3	217.8
37.5°	240.7	238.4	222.8	208.2	201.3
40°	225.6	222.8	205.9	192.6	185.3
42.5°	211.4	207.7	191.3	177.1	168.8
45°	196.3	192.2	175.7	161.1	154.7
47.5°	181.2	177.5	162.4	147.3	140.0
50°	165.2	162.0	148.3	133.2	125.4
52.5°	151.9	146.9	133.6	118.5	112.1
55°	136.4	132.2	119.9	105.7	100.2
57.5°	122.2	118.1	106.6	93.3	88.8
60°	108.9	103.0	93.3	81.9	78.2
62.5°	94.3	89.7	81.4	71.8	76.4
65°	81.0	76.4	69.1	70.5	58.6
67.5°	66.3	64.1	57.7	51.2	49.4
70°	54.0	51.2	49.0	42.1	40.3
72.5°	43.0	40.3	37.1	33.4	32.0
75°	32.5	30.2	28.4	27.0	29.7
77.5°	22.4	21.5	20.1	18.8	18.3
80°	14.6	14.2	13.7	13.3	12.8
82.5°	8.7	8.7	8.7	8.7	8.7
85°	4.6	5.0	5.5	5.9	6.4
87.5°	2.7	2.7	3.2	3.7	4.1
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)