

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: P544906

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-82-87-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: P544906  
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-LD4-1STD-40-UNV-82-87-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

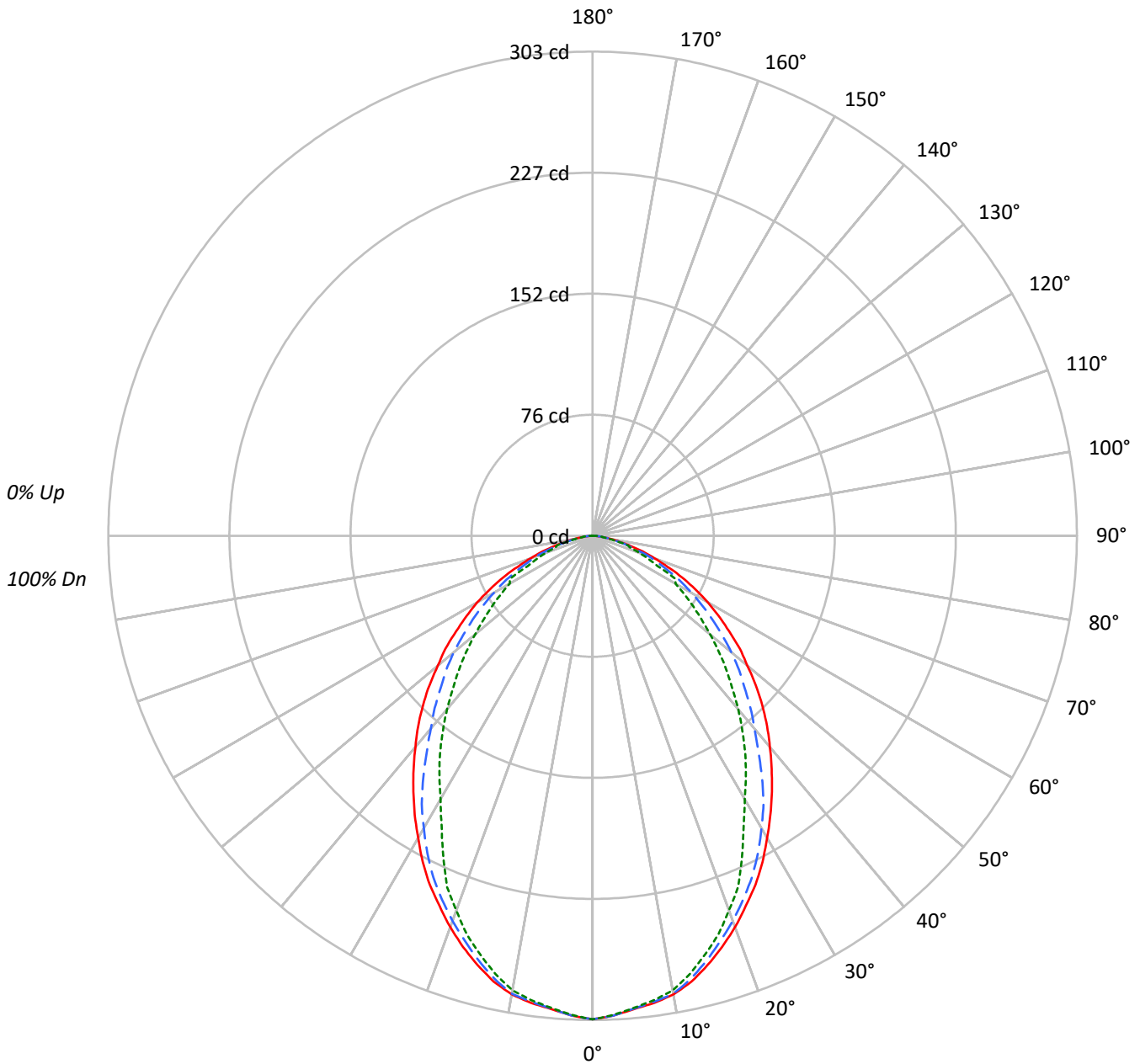
Lumens per Lamp: N/A  
Luminaire Lumens: 594.0 lumens  
Efficiency: N/A  
Efficacy: 71.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
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	39	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°	3257	3257	3257
5°	3212	3209	3205
10°	3185	3181	3158
15°	3099	3068	3024
20°	2985	2937	2857
25°	2862	2801	2626
30°	2713	2626	2365
35°	2569	2427	2188
40°	2424	2212	1991
45°	2285	2044	1799
50°	2115	1897	1604
55°	1955	1719	1437
60°	1793	1537	1287
65°	1577	1345	1141
70°	1300	1177	969
75°	1031	902	944
80°	694	651	607
85°	432	519	605



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.2	4.7
10°-20°	77.3	13.0
20°-30°	107.0	18.0
30°-40°	114.1	19.2
40°-50°	104.1	17.5
50°-60°	81.5	13.7
60°-70°	53.2	9.0
70°-80°	23.5	4.0
80°-90°	5.0	0.8
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°	212.5	35.8
0°-40°	326.6	55.0
0°-60°	512.2	86.2
0°-90°	594.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	594.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	303	303	303	303	303	
5°	297	297	297	297	297	28
15°	278	278	275	272	271	78
25°	241	240	236	227	221	111
35°	196	194	185	171	166	122
45°	150	147	134	123	118	116
55°	104	101	92	81	77	93
65°	62	58	53	54	45	61
75°	25	23	22	21	23	27
85°	4	4	4	4	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	302.6	302.6	302.6	302.6	302.6
2.5°	300.5	300.5	300.5	300.1	300.1
5°	297.3	297.0	297.0	296.6	296.6
7.5°	294.9	294.5	294.2	293.8	293.1
10°	291.4	291.4	291.0	289.3	288.9
12.5°	285.8	285.4	284.0	281.6	280.9
15°	278.1	278.1	275.3	272.5	271.4
17.5°	269.7	269.3	265.8	263.0	261.6
20°	260.6	259.9	256.4	251.9	249.4
22.5°	250.5	250.5	246.3	240.3	237.9
25°	241.0	239.6	235.8	227.4	221.1
27.5°	230.2	228.1	223.9	212.0	204.6
30°	218.3	217.2	211.3	195.9	190.3
32.5°	207.1	205.3	199.0	182.9	178.4
35°	195.5	194.1	184.7	170.7	166.5
37.5°	184.0	182.2	170.4	159.2	153.9
40°	172.5	170.4	157.4	147.3	141.7
42.5°	161.6	158.8	146.2	135.4	129.1
45°	150.1	146.9	134.3	123.1	118.2
47.5°	138.5	135.7	124.2	112.6	107.0
50°	126.3	123.8	113.3	101.8	95.8
52.5°	116.1	112.3	102.1	90.6	85.7
55°	104.2	101.1	91.6	80.8	76.6
57.5°	93.4	90.2	81.5	71.4	67.9
60°	83.3	78.7	71.4	62.6	59.8
62.5°	72.1	68.6	62.3	54.9	58.4
65°	61.9	58.4	52.8	53.9	44.8
67.5°	50.7	49.0	44.1	39.2	37.8
70°	41.3	39.2	37.4	32.2	30.8
72.5°	32.9	30.8	28.3	25.5	24.5
75°	24.8	23.1	21.7	20.6	22.7
77.5°	17.1	16.4	15.4	14.3	14.0
80°	11.2	10.8	10.5	10.1	9.8
82.5°	6.6	6.6	6.6	6.6	6.6
85°	3.5	3.8	4.2	4.5	4.9
87.5°	2.1	2.1	2.4	2.8	3.1
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)