

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: P544708

Luminaire Tested: **FMR-12-1-LD4-1HI-40-UNV-81-94-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: P544708  
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-81-94-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

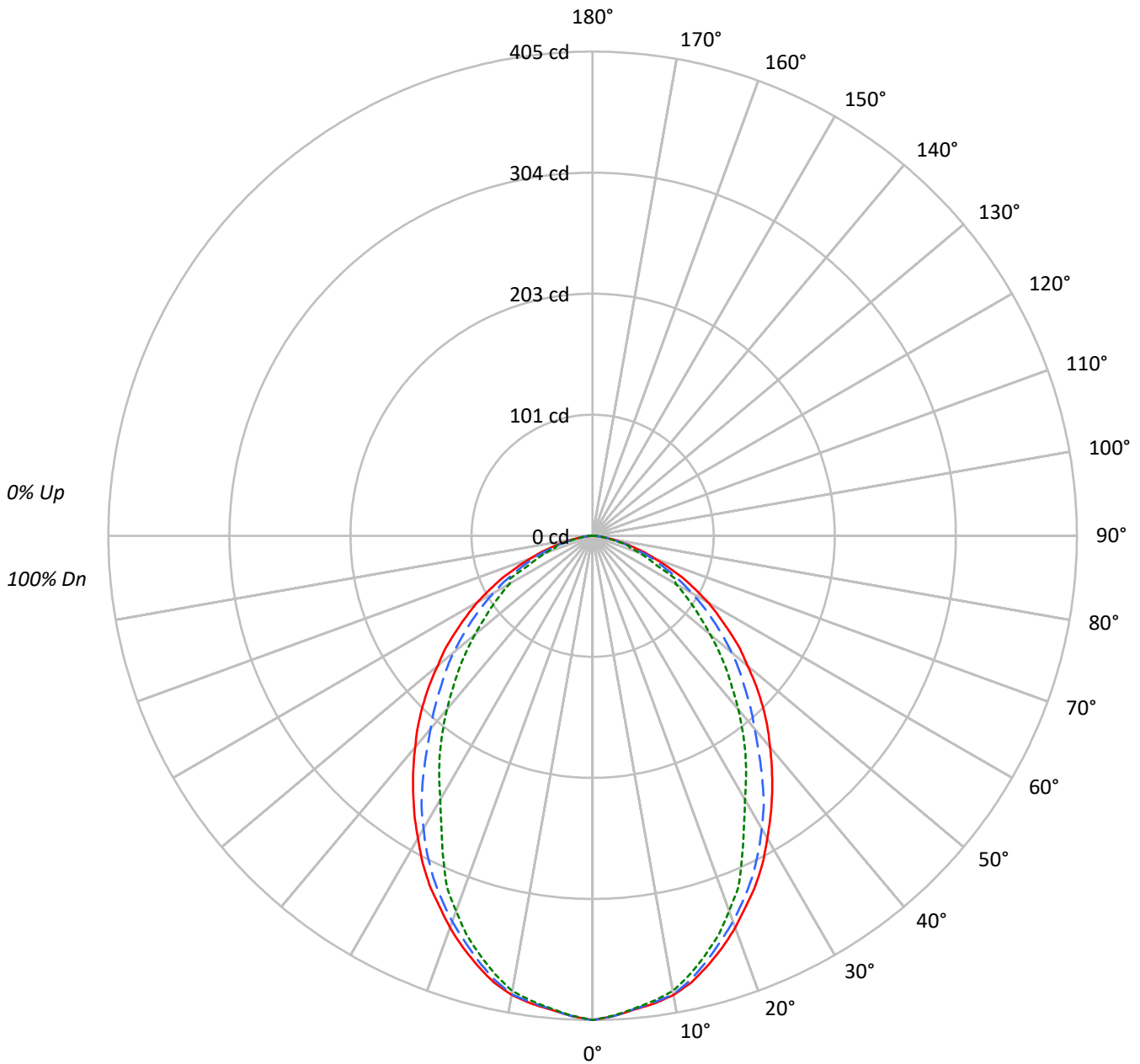
Lumens per Lamp: N/A  
Luminaire Lumens: 795.0 lumens  
Efficiency: N/A  
Efficacy: 73.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	4359	4359	4359
5°	4299	4295	4290
10°	4263	4257	4227
15°	4148	4105	4048
20°	3995	3931	3824
25°	3831	3747	3514
30°	3631	3515	3166
35°	3439	3248	2928
40°	3243	2961	2664
45°	3057	2737	2408
50°	2830	2540	2148
55°	2618	2303	1924
60°	2398	2056	1724
65°	2111	1801	1526
70°	1737	1577	1297
75°	1381	1206	1264
80°	930	868	812
85°	580	692	815



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.7	4.7
10°-20°	103.5	13.0
20°-30°	143.2	18.0
30°-40°	152.7	19.2
40°-50°	139.3	17.5
50°-60°	109.2	13.7
60°-70°	71.1	8.9
70°-80°	31.5	4.0
80°-90°	6.8	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°	284.4	35.8
0°-40°	437.1	55.0
0°-60°	685.6	86.2
0°-90°	795.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	795.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	405	405	405	405	405	
5°	398	398	398	397	397	38
15°	372	372	368	365	363	105
25°	323	321	316	304	296	148
35°	262	260	247	228	223	164
45°	201	197	180	165	158	155
55°	140	135	123	108	102	125
65°	83	78	71	72	60	82
75°	33	31	29	28	30	36
85°	5	5	6	6	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	405.0	405.0	405.0	405.0	405.0
2.5°	402.2	402.2	402.2	401.7	401.7
5°	397.9	397.5	397.5	397.0	397.0
7.5°	394.7	394.2	393.7	393.3	392.3
10°	390.0	390.0	389.5	387.2	386.7
12.5°	382.5	382.0	380.1	376.9	375.9
15°	372.2	372.2	368.4	364.7	363.3
17.5°	361.0	360.5	355.8	352.1	350.2
20°	348.8	347.8	343.2	337.1	333.8
22.5°	335.2	335.2	329.6	321.6	318.4
25°	322.6	320.7	315.5	304.3	295.9
27.5°	308.1	305.2	299.6	283.7	273.9
30°	292.1	290.7	282.8	262.2	254.7
32.5°	277.2	274.8	266.4	244.9	238.8
35°	261.7	259.8	247.2	228.5	222.8
37.5°	246.3	243.9	228.0	213.0	206.0
40°	230.8	228.0	210.7	197.1	189.6
42.5°	216.3	212.5	195.7	181.2	172.8
45°	200.8	196.6	179.8	164.8	158.2
47.5°	185.4	181.6	166.2	150.7	143.3
50°	169.0	165.7	151.7	136.2	128.3
52.5°	155.4	150.3	136.7	121.3	114.7
55°	139.5	135.3	122.7	108.1	102.5
57.5°	125.0	120.8	109.1	95.5	90.8
60°	111.4	105.3	95.5	83.8	80.1
62.5°	96.4	91.8	83.3	73.5	78.2
65°	82.9	78.2	70.7	72.1	59.9
67.5°	67.9	65.5	59.0	52.4	50.6
70°	55.2	52.4	50.1	43.1	41.2
72.5°	44.0	41.2	37.9	34.2	32.8
75°	33.2	30.9	29.0	27.6	30.4
77.5°	22.9	22.0	20.6	19.2	18.7
80°	15.0	14.5	14.0	13.6	13.1
82.5°	8.9	8.9	8.9	8.9	8.9
85°	4.7	5.1	5.6	6.1	6.6
87.5°	2.8	2.8	3.3	3.7	4.2
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)