

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: P544709

Luminaire Tested: **FMR-12-1-LD4-1HI-40-UNV-81-96-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: P544709  
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-81-96-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

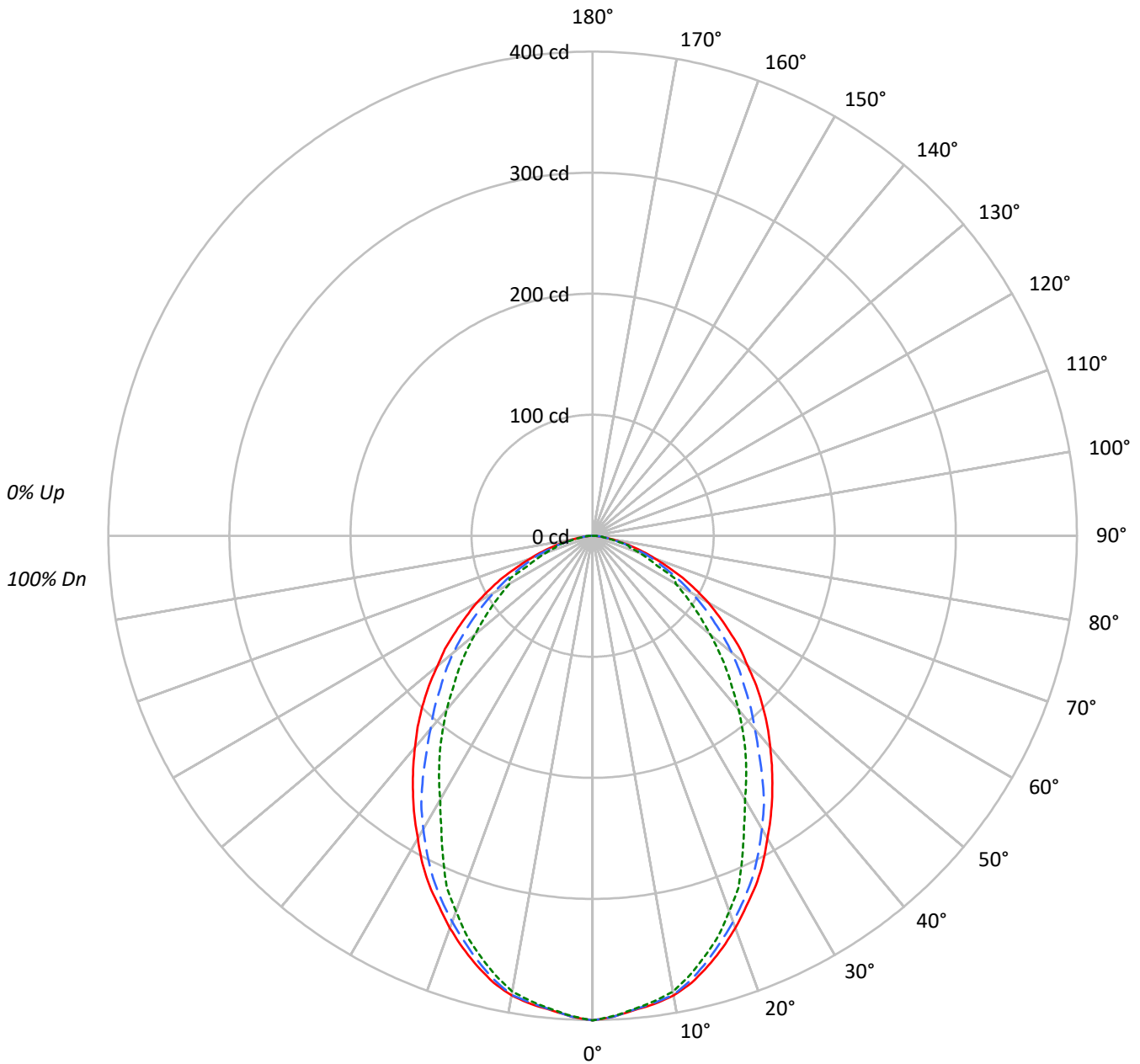
Lumens per Lamp: N/A  
Luminaire Lumens: 786.0 lumens  
Efficiency: N/A  
Efficacy: 72.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	4310	4310	4310
5°	4251	4246	4241
10°	4215	4209	4179
15°	4101	4060	4003
20°	3950	3887	3780
25°	3787	3706	3474
30°	3590	3475	3130
35°	3399	3211	2895
40°	3207	2927	2635
45°	3023	2705	2381
50°	2798	2512	2123
55°	2588	2276	1903
60°	2372	2032	1703
65°	2086	1780	1508
70°	1718	1558	1281
75°	1368	1194	1252
80°	917	862	806
85°	568	692	803



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.3	4.7
10°-20°	102.3	13.0
20°-30°	141.6	18.0
30°-40°	151.0	19.2
40°-50°	137.7	17.5
50°-60°	107.9	13.7
60°-70°	70.3	8.9
70°-80°	31.2	4.0
80°-90°	6.7	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°	281.2	35.8
0°-40°	432.2	55.0
0°-60°	677.8	86.2
0°-90°	786.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	786.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	400	400	400	400	400	
5°	393	393	393	392	392	37
15°	368	368	364	361	359	103
25°	319	317	312	301	292	146
35°	259	257	244	226	220	162
45°	199	194	178	163	156	153
55°	138	134	121	107	101	124
65°	82	77	70	71	59	81
75°	33	30	29	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°	400.4	400.4	400.4	400.4	400.4
2.5°	397.6	397.6	397.6	397.1	397.1
5°	393.4	393.0	393.0	392.5	392.5
7.5°	390.2	389.7	389.3	388.8	387.9
10°	385.6	385.6	385.1	382.8	382.3
12.5°	378.2	377.7	375.8	372.6	371.7
15°	368.0	368.0	364.3	360.6	359.2
17.5°	356.9	356.4	351.8	348.1	346.2
20°	344.8	343.9	339.3	333.3	330.0
22.5°	331.4	331.4	325.9	318.0	314.7
25°	318.9	317.1	312.0	300.9	292.5
27.5°	304.6	301.8	296.2	280.5	270.8
30°	288.8	287.4	279.6	259.2	251.8
32.5°	274.0	271.7	263.4	242.1	236.1
35°	258.7	256.9	244.4	225.9	220.3
37.5°	243.5	241.2	225.4	210.6	203.7
40°	228.2	225.4	208.3	194.9	187.5
42.5°	213.8	210.1	193.5	179.1	170.8
45°	198.6	194.4	177.7	162.9	156.4
47.5°	183.3	179.6	164.3	149.0	141.6
50°	167.1	163.9	150.0	134.7	126.8
52.5°	153.7	148.6	135.2	119.9	113.4
55°	137.9	133.8	121.3	106.9	101.4
57.5°	123.6	119.4	107.8	94.4	89.8
60°	110.2	104.1	94.4	82.9	79.1
62.5°	95.4	90.7	82.4	72.7	77.3
65°	81.9	77.3	69.9	71.3	59.2
67.5°	67.1	64.8	58.3	51.8	50.0
70°	54.6	51.8	49.5	42.6	40.7
72.5°	43.5	40.7	37.5	33.8	32.4
75°	32.9	30.5	28.7	27.3	30.1
77.5°	22.7	21.8	20.4	19.0	18.5
80°	14.8	14.3	13.9	13.4	13.0
82.5°	8.8	8.8	8.8	8.8	8.8
85°	4.6	5.1	5.6	6.0	6.5
87.5°	2.8	2.8	3.2	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)