

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: P545378

Luminaire Tested: **FMR-12-2-LD4-1LO-40-UNV-81-87-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: P545378  
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-12-2-LD4-1LO-40-UNV-81-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 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**

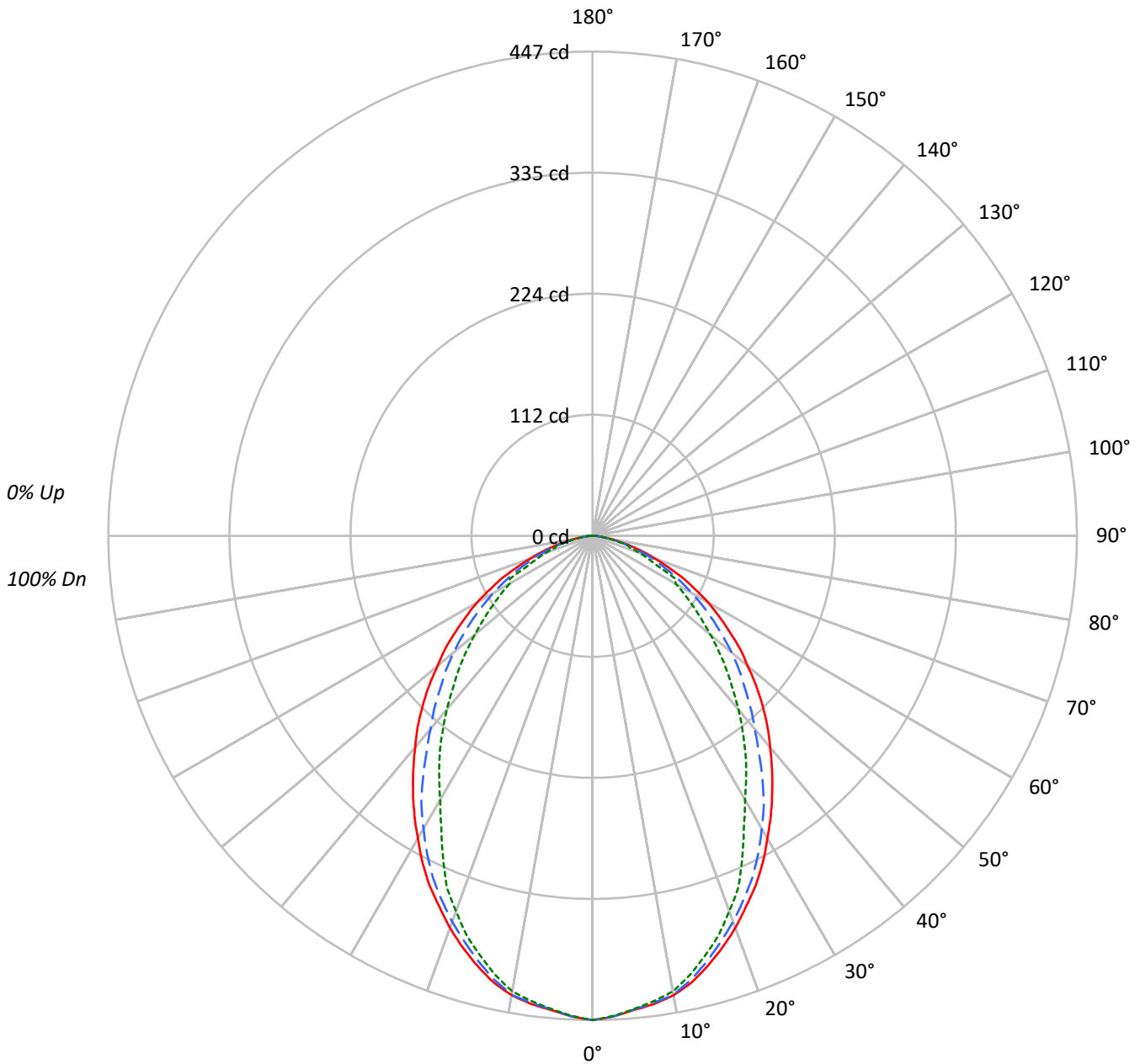
Lumens per Lamp: N/A  
Luminaire Lumens: 878.0 lumens  
Efficiency: N/A  
Efficacy: 75.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	2407	2407	2407
5°	2374	2372	2369
10°	2354	2351	2334
15°	2290	2267	2235
20°	2206	2171	2112
25°	2115	2070	1941
30°	2005	1941	1748
35°	1899	1794	1617
40°	1791	1635	1471
45°	1688	1511	1330
50°	1563	1402	1186
55°	1446	1271	1062
60°	1325	1136	952
65°	1165	995	843
70°	960	870	716
75°	763	667	699
80°	511	480	449
85°	321	383	445



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.6	4.7
10°-20°	114.3	13.0
20°-30°	158.2	18.0
30°-40°	168.7	19.2
40°-50°	153.9	17.5
50°-60°	120.6	13.7
60°-70°	78.6	8.9
70°-80°	34.8	4.0
80°-90°	7.5	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°	314.1	35.8
0°-40°	482.7	55.0
0°-60°	757.2	86.2
0°-90°	878.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	878.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	447	447	447	447	447	
5°	440	439	439	438	438	42
15°	411	411	407	403	401	116
25°	356	354	348	336	327	164
35°	289	287	273	252	246	181
45°	222	217	198	182	175	171
55°	154	149	136	119	113	138
65°	92	86	78	80	66	90
75°	37	34	32	30	34	39
85°	5	6	6	7	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	447.2	447.2	447.2	447.2	447.2
2.5°	444.1	444.1	444.1	443.6	443.6
5°	439.5	439.0	439.0	438.5	438.5
7.5°	435.9	435.3	434.8	434.3	433.3
10°	430.7	430.7	430.2	427.6	427.1
12.5°	422.4	421.9	419.8	416.2	415.2
15°	411.0	411.0	406.9	402.8	401.2
17.5°	398.6	398.1	393.0	388.8	386.7
20°	385.2	384.2	379.0	372.3	368.7
22.5°	370.2	370.2	364.0	355.2	351.6
25°	356.2	354.2	348.5	336.1	326.8
27.5°	340.2	337.1	330.9	313.3	302.5
30°	322.6	321.1	312.3	289.5	281.3
32.5°	306.1	303.5	294.2	270.4	263.7
35°	289.0	287.0	273.0	252.3	246.1
37.5°	272.0	269.4	251.8	235.3	227.5
40°	254.9	251.8	232.7	217.7	209.4
42.5°	238.9	234.7	216.1	200.1	190.8
45°	221.8	217.2	198.5	182.0	174.8
47.5°	204.7	200.6	183.5	166.5	158.2
50°	186.7	183.0	167.5	150.5	141.7
52.5°	171.7	166.0	151.0	133.9	126.7
55°	154.1	149.4	135.5	119.4	113.2
57.5°	138.1	133.4	120.5	105.5	100.3
60°	123.1	116.3	105.5	92.6	88.4
62.5°	106.5	101.3	92.0	81.2	86.3
65°	91.5	86.3	78.1	79.6	66.2
67.5°	75.0	72.4	65.1	57.9	55.8
70°	61.0	57.9	55.3	47.6	45.5
72.5°	48.6	45.5	41.9	37.7	36.2
75°	36.7	34.1	32.1	30.5	33.6
77.5°	25.3	24.3	22.7	21.2	20.7
80°	16.5	16.0	15.5	15.0	14.5
82.5°	9.8	9.8	9.8	9.8	9.8
85°	5.2	5.7	6.2	6.7	7.2
87.5°	3.1	3.1	3.6	4.1	4.7
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)