

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: P545390

Luminaire Tested: **FMR-12-2-LD4-1LO-40-UNV-82-97-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: P545390  
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-82-97-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

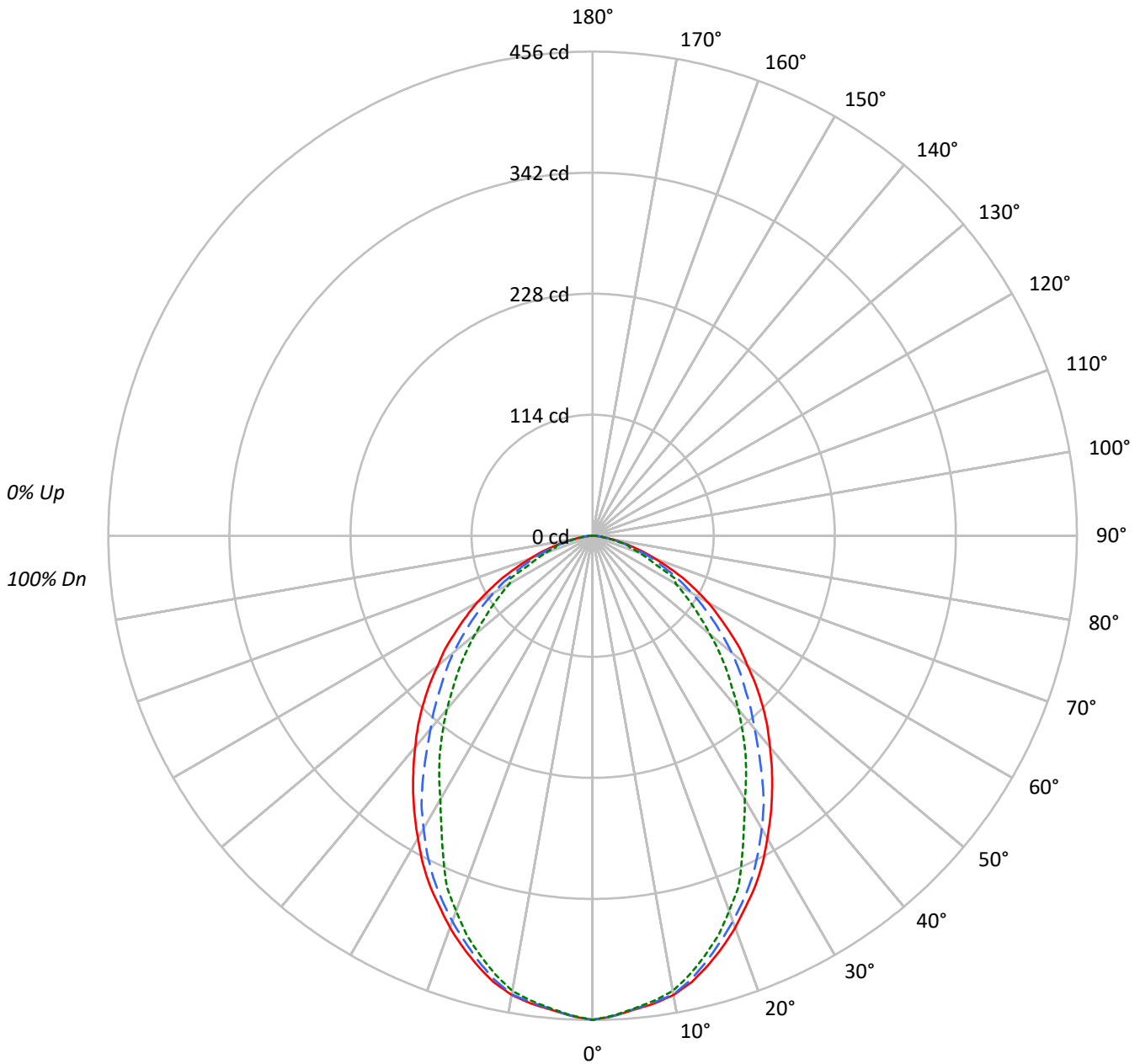
Lumens per Lamp: N/A  
Luminaire Lumens: 895.0 lumens  
Efficiency: N/A  
Efficacy: 76.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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					20					
RC	80					70					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				100				
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2454	2454	2454
5°	2420	2418	2414
10°	2399	2396	2379
15°	2335	2311	2279
20°	2249	2212	2152
25°	2156	2109	1978
30°	2044	1978	1782
35°	1936	1828	1648
40°	1825	1666	1500
45°	1721	1541	1356
50°	1593	1430	1209
55°	1474	1296	1083
60°	1350	1157	970
65°	1188	1014	860
70°	979	887	730
75°	778	680	713
80°	524	490	459
85°	327	389	457



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.4	4.7
10°-20°	116.5	13.0
20°-30°	161.2	18.0
30°-40°	171.9	19.2
40°-50°	156.9	17.5
50°-60°	122.9	13.7
60°-70°	80.1	8.9
70°-80°	35.5	4.0
80°-90°	7.6	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°	320.1	35.8
0°-40°	492.1	55.0
0°-60°	771.8	86.2
0°-90°	895.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	895.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	456	456	456	456	456	
5°	448	448	448	447	447	43
15°	419	419	415	411	409	118
25°	363	361	355	343	333	167
35°	295	292	278	257	251	184
45°	226	221	202	186	178	174
55°	157	152	138	122	115	141
65°	93	88	80	81	68	92
75°	37	35	33	31	34	40
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°	455.9	455.9	455.9	455.9	455.9
2.5°	452.7	452.7	452.7	452.2	452.2
5°	448.0	447.5	447.5	446.9	446.9
7.5°	444.3	443.8	443.3	442.7	441.7
10°	439.0	439.0	438.5	435.9	435.3
12.5°	430.6	430.1	428.0	424.3	423.2
15°	419.0	419.0	414.8	410.6	409.0
17.5°	406.4	405.8	400.6	396.3	394.2
20°	392.7	391.6	386.3	379.5	375.8
22.5°	377.4	377.4	371.0	362.1	358.4
25°	363.1	361.0	355.2	342.6	333.1
27.5°	346.8	343.6	337.3	319.4	308.3
30°	328.9	327.3	318.3	295.1	286.7
32.5°	312.0	309.4	299.9	275.6	268.8
35°	294.6	292.5	278.3	257.2	250.9
37.5°	277.2	274.6	256.7	239.8	231.9
40°	259.8	256.7	237.2	221.9	213.5
42.5°	243.5	239.3	220.3	204.0	194.5
45°	226.1	221.4	202.4	185.5	178.1
47.5°	208.7	204.5	187.1	169.7	161.3
50°	190.3	186.6	170.8	153.4	144.4
52.5°	175.0	169.2	153.9	136.5	129.1
55°	157.1	152.3	138.1	121.7	115.4
57.5°	140.7	136.0	122.8	107.5	102.2
60°	125.4	118.6	107.5	94.3	90.1
62.5°	108.6	103.3	93.8	82.7	88.0
65°	93.3	88.0	79.6	81.2	67.5
67.5°	76.4	73.8	66.4	59.0	56.9
70°	62.2	59.0	56.4	48.5	46.4
72.5°	49.5	46.4	42.7	38.5	36.9
75°	37.4	34.8	32.7	31.1	34.3
77.5°	25.8	24.8	23.2	21.6	21.1
80°	16.9	16.3	15.8	15.3	14.8
82.5°	10.0	10.0	10.0	10.0	10.0
85°	5.3	5.8	6.3	6.9	7.4
87.5°	3.2	3.2	3.7	4.2	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)