

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: P545915

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-80-88-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: P545915  
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-12-4-LD4-1LO-35-UNV-80-88-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

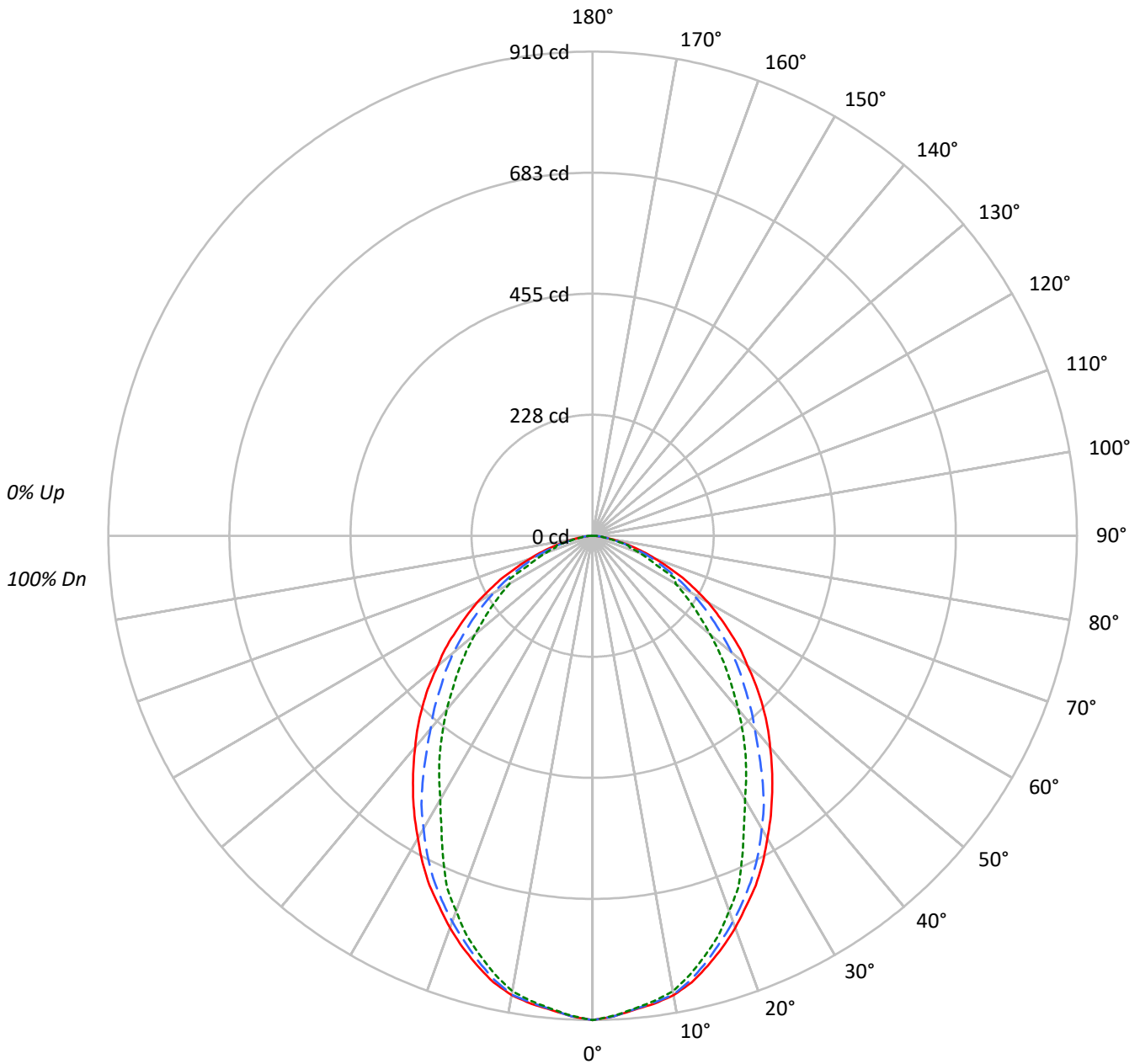
Lumens per Lamp: N/A  
Luminaire Lumens: 1787.0 lumens  
Efficiency: N/A  
Efficacy: 76.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

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

	0°	45°	90°
0°	2450	2450	2450
5°	2416	2413	2411
10°	2395	2392	2375
15°	2331	2307	2275
20°	2245	2209	2149
25°	2153	2106	1975
30°	2041	1975	1779
35°	1933	1825	1645
40°	1822	1664	1497
45°	1718	1538	1354
50°	1590	1428	1207
55°	1471	1293	1081
60°	1348	1156	969
65°	1186	1012	858
70°	977	886	729
75°	777	678	711
80°	522	490	457
85°	324	389	454



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.7	4.7
10°-20°	232.5	13.0
20°-30°	321.9	18.0
30°-40°	343.3	19.2
40°-50°	313.2	17.5
50°-60°	245.4	13.7
60°-70°	159.9	8.9
70°-80°	70.8	4.0
80°-90°	15.2	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°	639.2	35.8
0°-40°	982.5	55.0
0°-60°	1541.1	86.2
0°-90°	1787.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1787.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	894	893	893	892	892	85
15°	837	837	828	820	817	235
25°	725	721	709	684	665	333
35°	588	584	556	514	501	368
45°	452	442	404	370	356	348
55°	314	304	276	243	230	281
65°	186	176	159	162	135	184
75°	75	70	65	62	68	80
85°	10	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	910.3	910.3	910.3	910.3	910.3
2.5°	904.0	904.0	904.0	902.9	902.9
5°	894.5	893.4	893.4	892.4	892.4
7.5°	887.1	886.1	885.0	884.0	881.9
10°	876.6	876.6	875.5	870.3	869.2
12.5°	859.8	858.7	854.5	847.1	845.0
15°	836.6	836.6	828.2	819.8	816.6
17.5°	811.4	810.3	799.8	791.4	787.2
20°	784.0	781.9	771.4	757.7	750.3
22.5°	753.5	753.5	740.8	723.0	715.6
25°	725.1	720.9	709.3	684.0	665.1
27.5°	692.4	686.1	673.5	637.7	615.6
30°	656.7	653.5	635.6	589.3	572.5
32.5°	623.0	617.7	598.8	550.4	536.7
35°	588.3	584.0	555.6	513.5	500.9
37.5°	553.5	548.3	512.5	478.8	463.0
40°	518.8	512.5	473.6	443.0	426.2
42.5°	486.2	477.8	439.9	407.3	388.3
45°	451.5	442.0	404.1	370.4	355.7
47.5°	416.7	408.3	373.6	338.9	322.0
50°	379.9	372.5	341.0	306.2	288.3
52.5°	349.4	337.8	307.3	272.6	257.8
55°	313.6	304.1	275.7	243.1	230.5
57.5°	281.0	271.5	245.2	214.7	204.2
60°	250.5	236.8	214.7	188.4	180.0
62.5°	216.8	206.3	187.3	165.2	175.7
65°	186.3	175.7	158.9	162.1	134.7
67.5°	152.6	147.3	132.6	117.9	113.7
70°	124.2	117.9	112.6	96.8	92.6
72.5°	98.9	92.6	85.2	76.8	73.7
75°	74.7	69.5	65.2	62.1	68.4
77.5°	51.6	49.5	46.3	43.1	42.1
80°	33.7	32.6	31.6	30.5	29.5
82.5°	20.0	20.0	20.0	20.0	20.0
85°	10.5	11.6	12.6	13.7	14.7
87.5°	6.3	6.3	7.4	8.4	9.5
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)