

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: P545641

Luminaire Tested: **FMR-12-2-LD4-2LO-35-UNV-82-86-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: P545641  
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-LD4-2LO-35-UNV-82-86-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

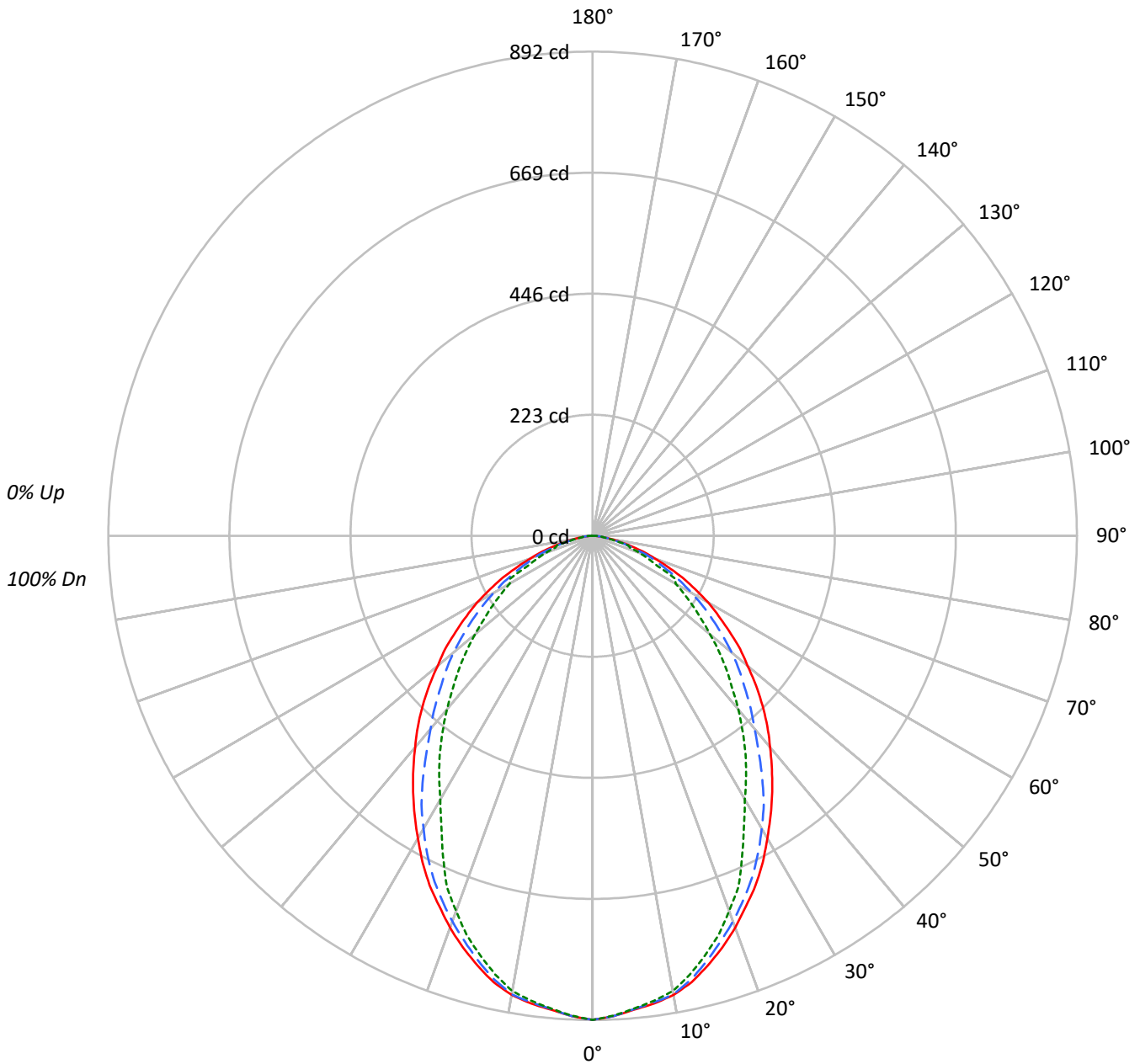
Lumens per Lamp: N/A  
Luminaire Lumens: 1751.0 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 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									
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°	4800	4800	4800
5°	4735	4729	4724
10°	4694	4688	4655
15°	4568	4522	4459
20°	4400	4329	4211
25°	4219	4127	3870
30°	3998	3870	3486
35°	3787	3577	3225
40°	3572	3260	2934
45°	3367	3014	2653
50°	3116	2797	2365
55°	2883	2535	2119
60°	2641	2265	1898
65°	2324	1983	1681
70°	1915	1736	1427
75°	1522	1329	1393
80°	1023	958	896
85°	636	766	889



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.0	4.7
10°-20°	227.9	13.0
20°-30°	315.5	18.0
30°-40°	336.4	19.2
40°-50°	306.9	17.5
50°-60°	240.4	13.7
60°-70°	156.7	8.9
70°-80°	69.4	4.0
80°-90°	14.9	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°	626.3	35.8
0°-40°	962.7	55.0
0°-60°	1510.0	86.2
0°-90°	1751.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1751.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	892	892	892	892	892	
5°	876	875	875	874	874	83
15°	820	820	812	803	800	230
25°	710	706	695	670	652	326
35°	576	572	544	503	491	360
45°	442	433	396	363	348	341
55°	307	298	270	238	226	276
65°	182	172	156	159	132	180
75°	73	68	64	61	67	78
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	891.9	891.9	891.9	891.9	891.9
2.5°	885.7	885.7	885.7	884.7	884.7
5°	876.5	875.4	875.4	874.4	874.4
7.5°	869.3	868.2	867.2	866.2	864.1
10°	858.9	858.9	857.9	852.8	851.7
12.5°	842.4	841.4	837.3	830.1	828.0
15°	819.8	819.8	811.5	803.3	800.2
17.5°	795.0	794.0	783.7	775.4	771.3
20°	768.2	766.1	755.8	742.4	735.2
22.5°	738.3	738.3	725.9	708.4	701.2
25°	710.5	706.3	695.0	670.2	651.7
27.5°	678.5	672.3	659.9	624.9	603.2
30°	643.4	640.3	622.8	577.4	560.9
32.5°	610.4	605.3	586.7	539.3	525.9
35°	576.4	572.3	544.4	503.2	490.8
37.5°	542.4	537.2	502.2	469.2	453.7
40°	508.4	502.2	464.0	434.1	417.6
42.5°	476.4	468.1	431.0	399.1	380.5
45°	442.4	433.1	396.0	363.0	348.5
47.5°	408.3	400.1	366.1	332.0	315.5
50°	372.2	365.0	334.1	300.1	282.5
52.5°	342.3	331.0	301.1	267.1	252.6
55°	307.3	298.0	270.2	238.2	225.8
57.5°	275.3	266.0	240.3	210.4	200.0
60°	245.4	232.0	210.4	184.6	176.3
62.5°	212.4	202.1	183.5	161.9	172.2
65°	182.5	172.2	155.7	158.8	132.0
67.5°	149.5	144.4	129.9	115.5	111.4
70°	121.7	115.5	110.3	94.9	90.7
72.5°	96.9	90.7	83.5	75.3	72.2
75°	73.2	68.1	63.9	60.8	67.0
77.5°	50.5	48.5	45.4	42.3	41.2
80°	33.0	32.0	30.9	29.9	28.9
82.5°	19.6	19.6	19.6	19.6	19.6
85°	10.3	11.3	12.4	13.4	14.4
87.5°	6.2	6.2	7.2	8.2	9.3
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)