

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: P545696

Luminaire Tested: **FMR-12-2-LD4-2LO-50-UNV-81-85-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: P545696  
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-50-UNV-81-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

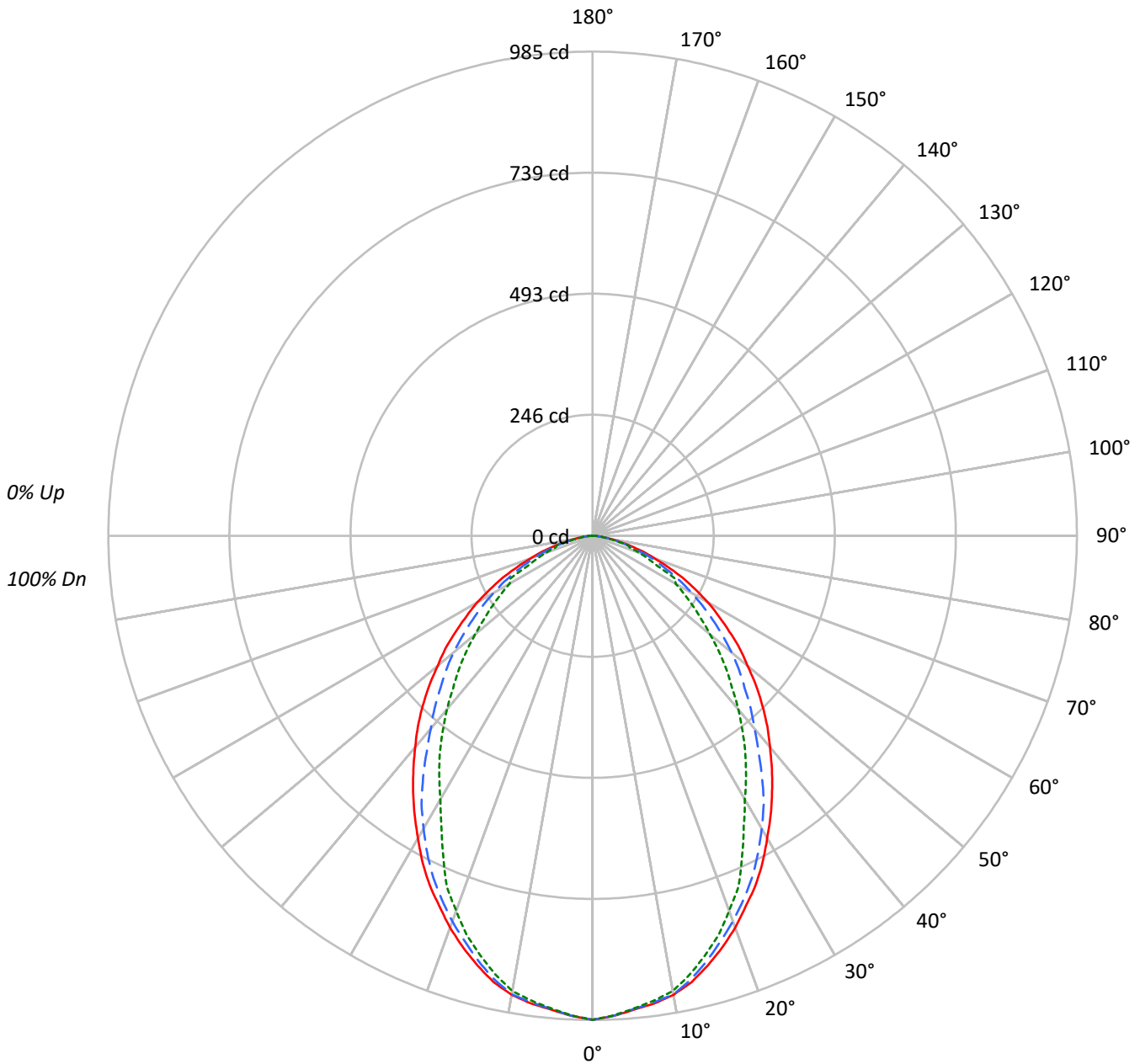
Lumens per Lamp: N/A  
Luminaire Lumens: 1933.0 lumens  
Efficiency: N/A  
Efficacy: 82.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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				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°	5299	5299	5299
5°	5227	5221	5215
10°	5182	5176	5139
15°	5042	4992	4922
20°	4857	4779	4648
25°	4657	4556	4272
30°	4414	4273	3848
35°	4181	3949	3560
40°	3943	3599	3239
45°	3717	3327	2929
50°	3440	3088	2611
55°	3183	2798	2339
60°	2916	2499	2096
65°	2566	2189	1855
70°	2113	1917	1577
75°	1680	1468	1539
80°	1128	1057	989
85°	704	846	982



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.7	4.7
10°-20°	251.5	13.0
20°-30°	348.2	18.0
30°-40°	371.3	19.2
40°-50°	338.8	17.5
50°-60°	265.4	13.7
60°-70°	173.0	8.9
70°-80°	76.6	4.0
80°-90°	16.4	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°	691.4	35.8
0°-40°	1062.8	55.0
0°-60°	1666.9	86.2
0°-90°	1933.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1933.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	985	985	985	985	985	
5°	968	966	966	965	965	92
15°	905	905	896	887	883	254
25°	784	780	767	740	719	360
35°	636	632	601	556	542	398
45°	488	478	437	401	385	376
55°	339	329	298	263	249	304
65°	202	190	172	175	146	199
75°	81	75	71	67	74	87
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	984.6	984.6	984.6	984.6	984.6
2.5°	977.8	977.8	977.8	976.7	976.7
5°	967.6	966.4	966.4	965.3	965.3
7.5°	959.6	958.5	957.3	956.2	953.9
10°	948.2	948.2	947.1	941.4	940.3
12.5°	930.0	928.9	924.3	916.3	914.1
15°	905.0	905.0	895.9	886.7	883.3
17.5°	877.6	876.5	865.1	856.0	851.5
20°	848.0	845.8	834.4	819.6	811.6
22.5°	815.0	815.0	801.4	782.0	774.1
25°	784.3	779.7	767.2	739.9	719.4
27.5°	749.0	742.2	728.5	689.8	665.9
30°	710.3	706.9	687.5	637.5	619.2
32.5°	673.9	668.2	647.7	595.3	580.5
35°	636.3	631.8	601.0	555.5	541.8
37.5°	598.8	593.1	554.4	517.9	500.9
40°	561.2	554.4	512.2	479.2	461.0
42.5°	525.9	516.8	475.8	440.5	420.0
45°	488.3	478.1	437.1	400.7	384.8
47.5°	450.8	441.7	404.1	366.5	348.3
50°	410.9	403.0	368.8	331.3	311.9
52.5°	377.9	365.4	332.4	294.8	278.9
55°	339.2	329.0	298.2	263.0	249.3
57.5°	303.9	293.7	265.2	232.2	220.8
60°	270.9	256.1	232.2	203.8	194.7
62.5°	234.5	223.1	202.6	178.7	190.1
65°	201.5	190.1	171.9	175.3	145.7
67.5°	165.1	159.4	143.4	127.5	122.9
70°	134.3	127.5	121.8	104.7	100.2
72.5°	107.0	100.2	92.2	83.1	79.7
75°	80.8	75.1	70.6	67.2	74.0
77.5°	55.8	53.5	50.1	46.7	45.5
80°	36.4	35.3	34.1	33.0	31.9
82.5°	21.6	21.6	21.6	21.6	21.6
85°	11.4	12.5	13.7	14.8	15.9
87.5°	6.8	6.8	8.0	9.1	10.2
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)