

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: P545698

Luminaire Tested: **FMR-12-2-LD4-2LO-50-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: P545698  
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-81-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

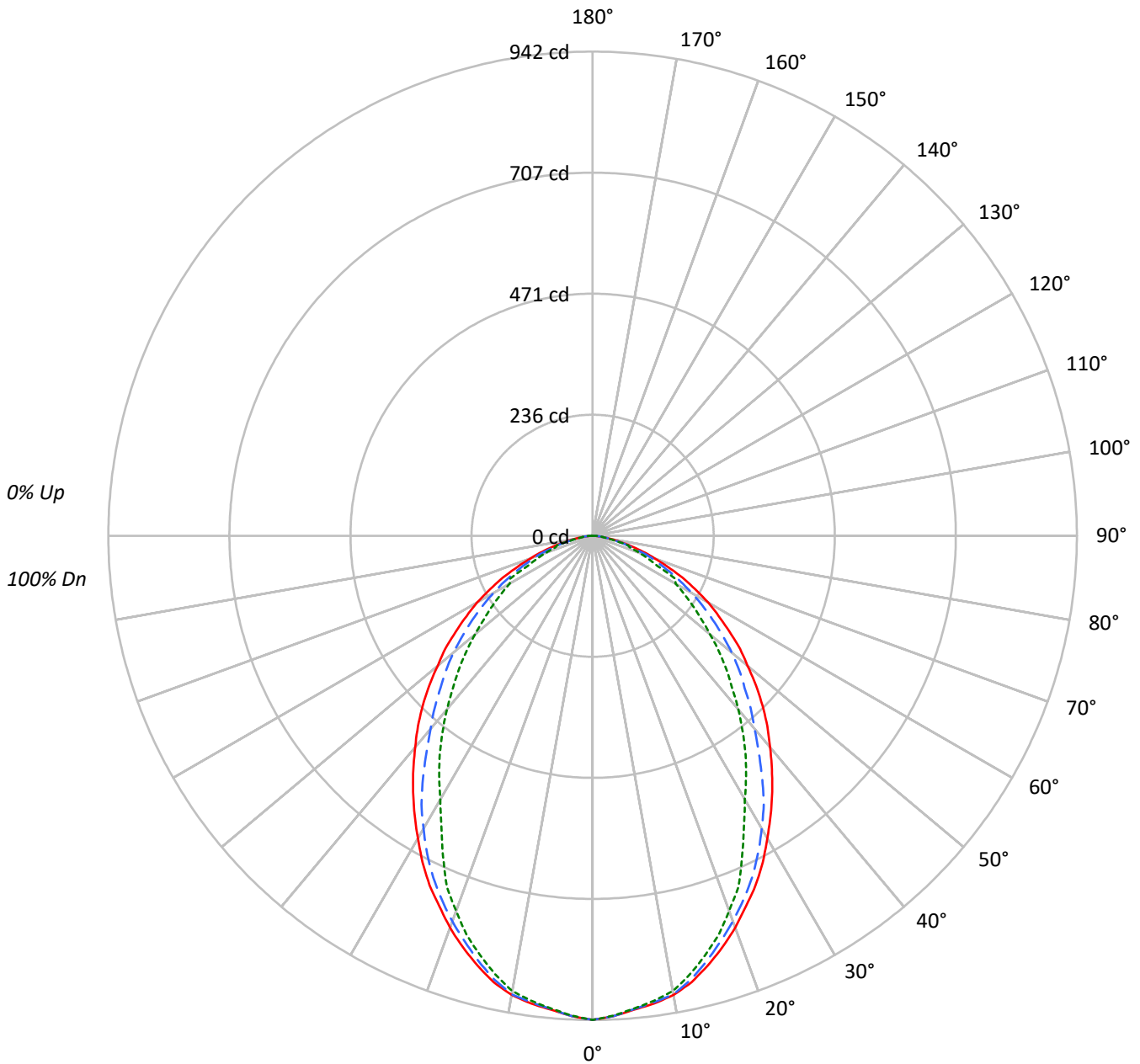
Lumens per Lamp: N/A  
Luminaire Lumens: 1849.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	5069	5069	5069
5°	5000	4994	4988
10°	4957	4951	4915
15°	4823	4774	4708
20°	4646	4571	4447
25°	4455	4358	4087
30°	4222	4087	3681
35°	3999	3777	3405
40°	3771	3443	3098
45°	3555	3182	2801
50°	3291	2954	2498
55°	3045	2677	2238
60°	2789	2391	2004
65°	2454	2094	1775
70°	2022	1833	1507
75°	1607	1404	1472
80°	1079	1013	945
85°	673	809	939



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.7	4.7
10°-20°	240.6	13.0
20°-30°	333.1	18.0
30°-40°	355.2	19.2
40°-50°	324.0	17.5
50°-60°	253.9	13.7
60°-70°	165.4	8.9
70°-80°	73.3	4.0
80°-90°	15.7	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°	661.4	35.8
0°-40°	1016.6	55.0
0°-60°	1594.5	86.2
0°-90°	1849.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1849.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	942	942	942	942	942	
5°	926	924	924	923	923	88
15°	866	866	857	848	845	243
25°	750	746	734	708	688	344
35°	609	604	575	531	518	381
45°	467	457	418	383	368	360
55°	324	315	285	252	238	291
65°	193	182	164	168	139	190
75°	77	72	68	64	71	83
85°	11	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°	941.9	941.9	941.9	941.9	941.9
2.5°	935.3	935.3	935.3	934.2	934.2
5°	925.5	924.4	924.4	923.3	923.3
7.5°	917.9	916.8	915.7	914.6	912.5
10°	907.0	907.0	905.9	900.5	899.4
12.5°	889.6	888.5	884.1	876.5	874.3
15°	865.6	865.6	856.9	848.2	844.9
17.5°	839.5	838.4	827.5	818.8	814.5
20°	811.2	809.0	798.1	784.0	776.4
22.5°	779.6	779.6	766.6	748.0	740.4
25°	750.2	745.9	733.9	707.8	688.2
27.5°	716.5	709.9	696.9	659.8	637.0
30°	679.4	676.2	657.7	609.8	592.3
32.5°	644.6	639.2	619.6	569.5	555.3
35°	608.7	604.3	574.9	531.4	518.3
37.5°	572.7	567.3	530.3	495.4	479.1
40°	536.8	530.3	490.0	458.4	441.0
42.5°	503.0	494.3	455.1	421.4	401.8
45°	467.1	457.3	418.1	383.3	368.0
47.5°	431.2	422.5	386.5	350.6	333.2
50°	393.1	385.5	352.8	316.9	298.3
52.5°	361.5	349.5	317.9	282.0	266.8
55°	324.5	314.7	285.3	251.5	238.5
57.5°	290.7	280.9	253.7	222.1	211.2
60°	259.1	245.0	222.1	194.9	186.2
62.5°	224.3	213.4	193.8	170.9	181.8
65°	192.7	181.8	164.4	167.7	139.4
67.5°	157.9	152.4	137.2	122.0	117.6
70°	128.5	122.0	116.5	100.2	95.8
72.5°	102.4	95.8	88.2	79.5	76.2
75°	77.3	71.9	67.5	64.2	70.8
77.5°	53.4	51.2	47.9	44.6	43.6
80°	34.8	33.8	32.7	31.6	30.5
82.5°	20.7	20.7	20.7	20.7	20.7
85°	10.9	12.0	13.1	14.2	15.2
87.5°	6.5	6.5	7.6	8.7	9.8
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)