

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: P545658

Luminaire Tested: **FMR-12-2-LD4-2LO-40-UNV-80-87-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: P545658  
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-40-UNV-80-87-EDD  
Description: 1X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

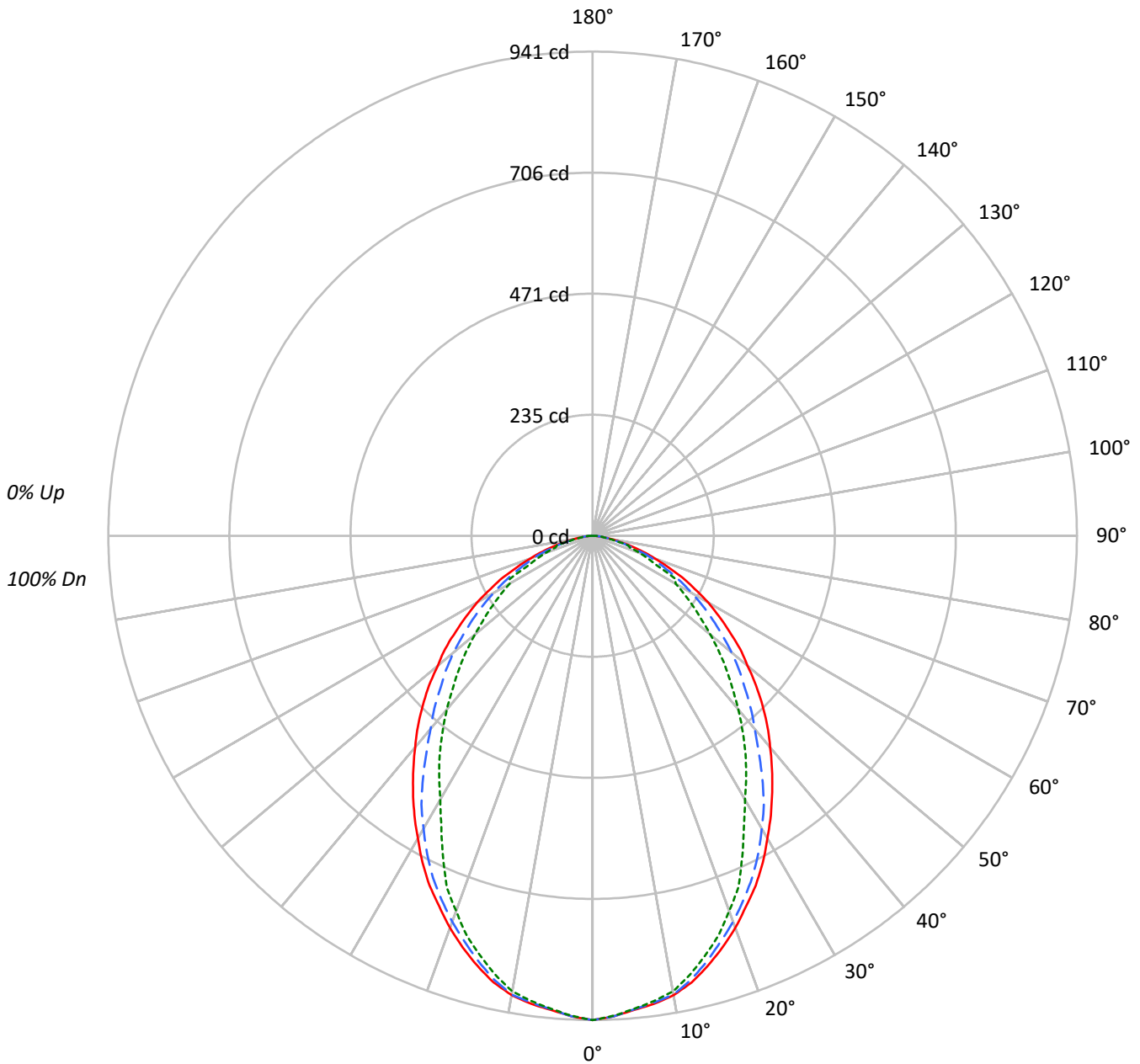
Lumens per Lamp: N/A  
Luminaire Lumens: 1848.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	5066	5066	5066
5°	4997	4991	4985
10°	4954	4948	4912
15°	4821	4772	4705
20°	4644	4569	4444
25°	4453	4356	4084
30°	4220	4085	3679
35°	3997	3775	3403
40°	3769	3440	3096
45°	3554	3181	2799
50°	3290	2952	2497
55°	3043	2675	2236
60°	2788	2390	2003
65°	2453	2092	1774
70°	2020	1832	1507
75°	1607	1404	1470
80°	1079	1010	945
85°	673	809	939



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.6	4.7
10°-20°	240.5	13.0
20°-30°	332.9	18.0
30°-40°	355.0	19.2
40°-50°	323.9	17.5
50°-60°	253.7	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°	661.0	35.8
0°-40°	1016.1	55.0
0°-60°	1593.7	86.2
0°-90°	1848.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1848.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	941	941	941	941	941	
5°	925	924	924	923	923	88
15°	865	865	856	848	844	243
25°	750	746	734	707	688	344
35°	608	604	575	531	518	380
45°	467	457	418	383	368	360
55°	324	314	285	251	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°	941.3	941.3	941.3	941.3	941.3
2.5°	934.8	934.8	934.8	933.7	933.7
5°	925.0	923.9	923.9	922.8	922.8
7.5°	917.4	916.3	915.2	914.1	912.0
10°	906.5	906.5	905.4	900.0	898.9
12.5°	889.1	888.0	883.7	876.1	873.9
15°	865.2	865.2	856.5	847.8	844.5
17.5°	839.0	838.0	827.1	818.4	814.0
20°	810.8	808.6	797.7	783.5	775.9
22.5°	779.2	779.2	766.1	747.6	740.0
25°	749.8	745.5	733.5	707.4	687.8
27.5°	716.1	709.5	696.5	659.5	636.6
30°	679.1	675.8	657.3	609.4	592.0
32.5°	644.3	638.8	619.2	569.2	555.0
35°	608.3	604.0	574.6	531.1	518.0
37.5°	572.4	567.0	530.0	495.2	478.8
40°	536.5	530.0	489.7	458.2	440.7
42.5°	502.8	494.1	454.9	421.2	401.6
45°	466.9	457.1	417.9	383.1	367.8
47.5°	431.0	422.2	386.3	350.4	333.0
50°	392.9	385.2	352.6	316.7	298.2
52.5°	361.3	349.3	317.8	281.9	266.6
55°	324.3	314.5	285.1	251.4	238.3
57.5°	290.6	280.8	253.6	222.0	211.1
60°	259.0	244.9	222.0	194.8	186.1
62.5°	224.2	213.3	193.7	170.9	181.7
65°	192.6	181.7	164.3	167.6	139.3
67.5°	157.8	152.4	137.1	121.9	117.5
70°	128.4	121.9	116.4	100.1	95.8
72.5°	102.3	95.8	88.1	79.4	76.2
75°	77.3	71.8	67.5	64.2	70.7
77.5°	53.3	51.1	47.9	44.6	43.5
80°	34.8	33.7	32.6	31.6	30.5
82.5°	20.7	20.7	20.7	20.7	20.7
85°	10.9	12.0	13.1	14.1	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)