

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: P545667

Luminaire Tested: **FMR-12-2-LD4-2LO-40-UNV-81-88-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: P545667  
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-81-88-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

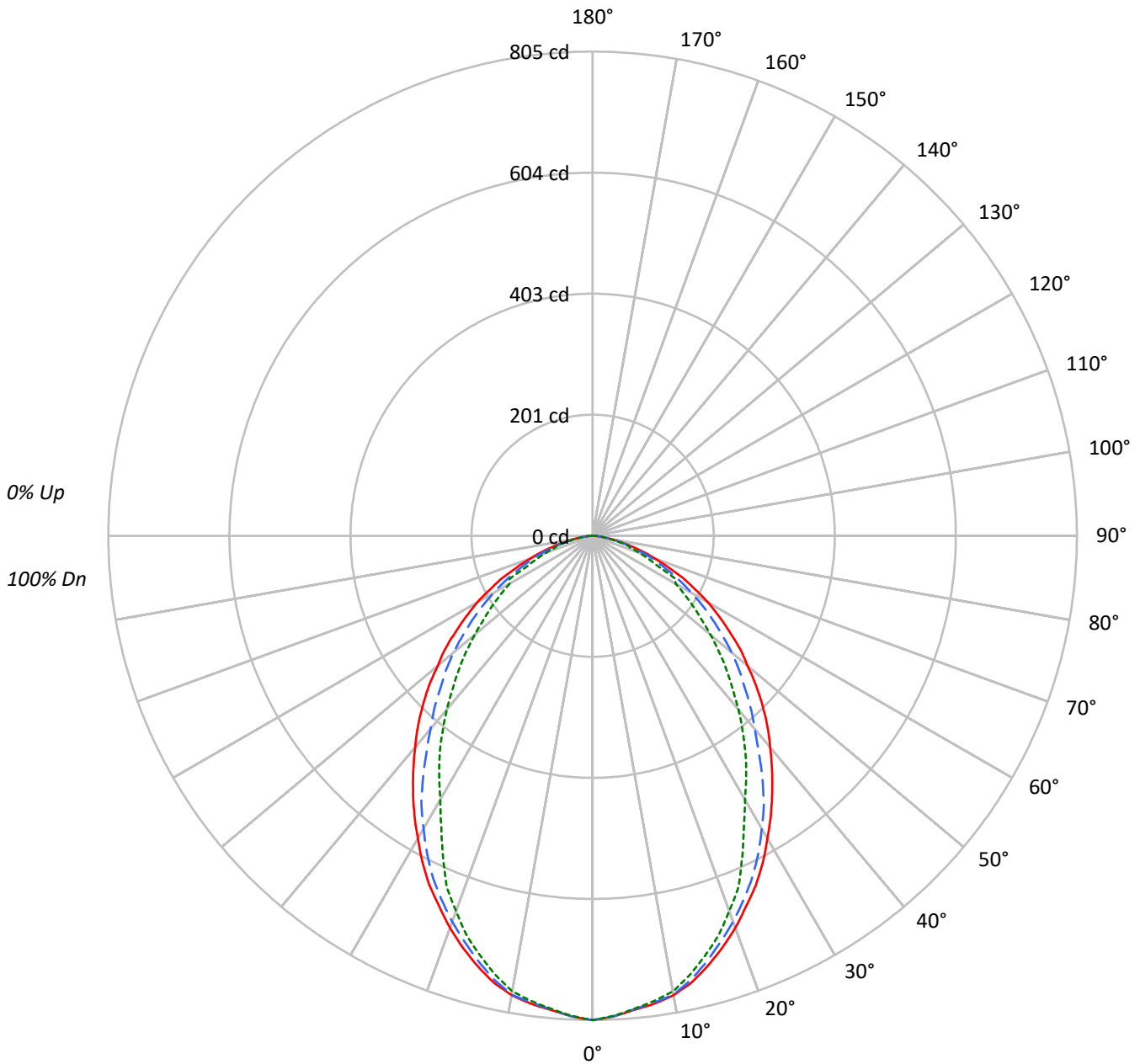
Lumens per Lamp: N/A  
Luminaire Lumens: 1581.0 lumens  
Efficiency: N/A  
Efficacy: 67.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (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°	4334	4334	4334
5°	4276	4270	4265
10°	4238	4233	4203
15°	4124	4082	4026
20°	3972	3908	3802
25°	3809	3726	3494
30°	3611	3494	3148
35°	3419	3230	2912
40°	3225	2944	2649
45°	3040	2721	2395
50°	2814	2526	2136
55°	2603	2289	1913
60°	2385	2044	1714
65°	2099	1791	1518
70°	1729	1567	1289
75°	1375	1200	1258
80°	924	865	809
85°	574	692	803



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.0	4.7
10°-20°	205.7	13.0
20°-30°	284.8	18.0
30°-40°	303.7	19.2
40°-50°	277.1	17.5
50°-60°	217.1	13.7
60°-70°	141.5	8.9
70°-80°	62.7	4.0
80°-90°	13.5	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°	565.5	35.8
0°-40°	869.3	55.0
0°-60°	1363.4	86.2
0°-90°	1581.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1581.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	805	805	805	805	805	
5°	791	790	790	790	790	75
15°	740	740	733	725	722	208
25°	642	638	628	605	588	295
35°	520	517	492	454	443	325
45°	399	391	358	328	315	308
55°	277	269	244	215	204	249
65°	165	156	141	143	119	162
75°	66	61	58	55	60	71
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	805.3	805.3	805.3	805.3	805.3
2.5°	799.8	799.8	799.8	798.8	798.8
5°	791.4	790.4	790.4	789.5	789.5
7.5°	784.9	783.9	783.0	782.1	780.2
10°	775.5	775.5	774.6	770.0	769.0
12.5°	760.7	759.7	756.0	749.5	747.6
15°	740.2	740.2	732.7	725.3	722.5
17.5°	717.8	716.9	707.6	700.1	696.4
20°	693.6	691.8	682.4	670.3	663.8
22.5°	666.6	666.6	655.4	639.6	633.1
25°	641.5	637.8	627.5	605.2	588.4
27.5°	612.6	607.0	595.9	564.2	544.7
30°	581.0	578.2	562.3	521.4	506.5
32.5°	551.2	546.5	529.8	486.9	474.8
35°	520.4	516.7	491.6	454.3	443.2
37.5°	489.7	485.1	453.4	423.6	409.7
40°	459.0	453.4	419.0	392.0	377.1
42.5°	430.1	422.7	389.2	360.3	343.5
45°	399.4	391.0	357.5	327.7	314.7
47.5°	368.7	361.2	330.5	299.8	284.9
50°	336.1	329.6	301.7	270.9	255.1
52.5°	309.1	298.9	271.9	241.1	228.1
55°	277.4	269.1	243.9	215.1	203.9
57.5°	248.6	240.2	216.9	189.9	180.6
60°	221.6	209.5	189.9	166.7	159.2
62.5°	191.8	182.5	165.7	146.2	155.5
65°	164.8	155.5	140.6	143.4	119.2
67.5°	135.0	130.3	117.3	104.3	100.6
70°	109.9	104.3	99.6	85.7	81.9
72.5°	87.5	81.9	75.4	68.0	65.2
75°	66.1	61.4	57.7	54.9	60.5
77.5°	45.6	43.8	41.0	38.2	37.2
80°	29.8	28.9	27.9	27.0	26.1
82.5°	17.7	17.7	17.7	17.7	17.7
85°	9.3	10.2	11.2	12.1	13.0
87.5°	5.6	5.6	6.5	7.4	8.4
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)