

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: P545229

Luminaire Tested: **FMR-12-1-LD4-2STD-50-UNV-82-96-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: P545229  
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-12-1-LD4-2STD-50-UNV-82-96-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

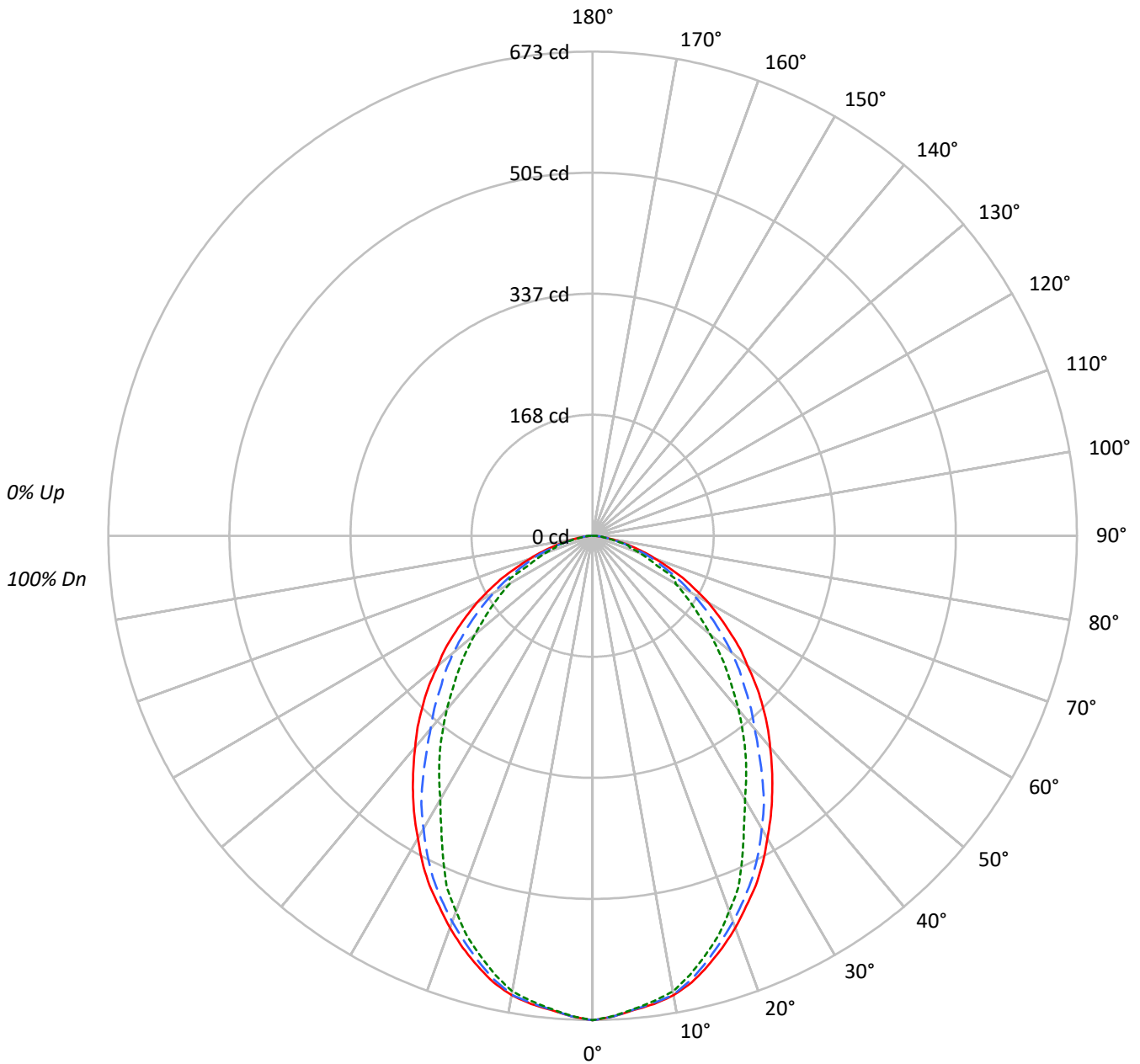
Lumens per Lamp: N/A  
Luminaire Lumens: 1322.0 lumens  
Efficiency: N/A  
Efficacy: 79.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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°	7248	7248	7248
5°	7150	7142	7133
10°	7088	7079	7028
15°	6897	6828	6732
20°	6644	6536	6359
25°	6371	6232	5843
30°	6038	5844	5264
35°	5719	5402	4870
40°	5393	4922	4430
45°	5084	4550	4005
50°	4706	4223	3572
55°	4354	3828	3200
60°	3989	3419	2865
65°	3510	2995	2537
70°	2892	2622	2156
75°	2300	2009	2104
80°	1543	1450	1351
85°	963	1149	1346



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.7	4.7
10°-20°	172.0	13.0
20°-30°	238.2	18.0
30°-40°	254.0	19.2
40°-50°	231.7	17.5
50°-60°	181.5	13.7
60°-70°	118.3	8.9
70°-80°	52.4	4.0
80°-90°	11.3	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°	472.9	35.8
0°-40°	726.9	55.0
0°-60°	1140.0	86.2
0°-90°	1322.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1322.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	673	673	673	673	673	
5°	662	661	661	660	660	63
15°	619	619	613	606	604	174
25°	536	533	525	506	492	246
35°	435	432	411	380	371	272
45°	334	327	299	274	263	257
55°	232	225	204	180	170	208
65°	138	130	118	120	100	136
75°	55	51	48	46	51	59
85°	8	9	9	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	673.4	673.4	673.4	673.4	673.4
2.5°	668.7	668.7	668.7	668.0	668.0
5°	661.7	661.0	661.0	660.2	660.2
7.5°	656.3	655.5	654.7	653.9	652.4
10°	648.5	648.5	647.7	643.8	643.0
12.5°	636.0	635.3	632.1	626.7	625.1
15°	618.9	618.9	612.7	606.5	604.1
17.5°	600.2	599.5	591.7	585.4	582.3
20°	580.0	578.4	570.6	560.5	555.1
22.5°	557.4	557.4	548.1	534.8	529.4
25°	536.4	533.3	524.7	506.0	492.0
27.5°	512.3	507.6	498.2	471.8	455.4
30°	485.8	483.5	470.2	436.0	423.5
32.5°	460.9	457.0	443.0	407.2	397.0
35°	435.2	432.1	411.1	379.9	370.6
37.5°	409.5	405.6	379.1	354.2	342.5
40°	383.8	379.1	350.3	327.8	315.3
42.5°	359.7	353.4	325.4	301.3	287.3
45°	334.0	327.0	298.9	274.0	263.1
47.5°	308.3	302.1	276.4	250.7	238.2
50°	281.0	275.6	252.2	226.5	213.3
52.5°	258.5	249.9	227.3	201.6	190.7
55°	232.0	225.0	204.0	179.8	170.5
57.5°	207.9	200.9	181.4	158.8	151.0
60°	185.3	175.2	158.8	139.4	133.1
62.5°	160.4	152.6	138.6	122.2	130.0
65°	137.8	130.0	117.6	119.9	99.6
67.5°	112.9	109.0	98.1	87.2	84.1
70°	91.9	87.2	83.3	71.6	68.5
72.5°	73.2	68.5	63.1	56.8	54.5
75°	55.3	51.4	48.3	45.9	50.6
77.5°	38.1	36.6	34.3	31.9	31.1
80°	24.9	24.1	23.4	22.6	21.8
82.5°	14.8	14.8	14.8	14.8	14.8
85°	7.8	8.6	9.3	10.1	10.9
87.5°	4.7	4.7	5.4	6.2	7.0
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)