

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: P545160

Luminaire Tested: **FMR-12-1-LD4-2STD-35-UNV-82-85-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: P545160  
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-35-UNV-82-85-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

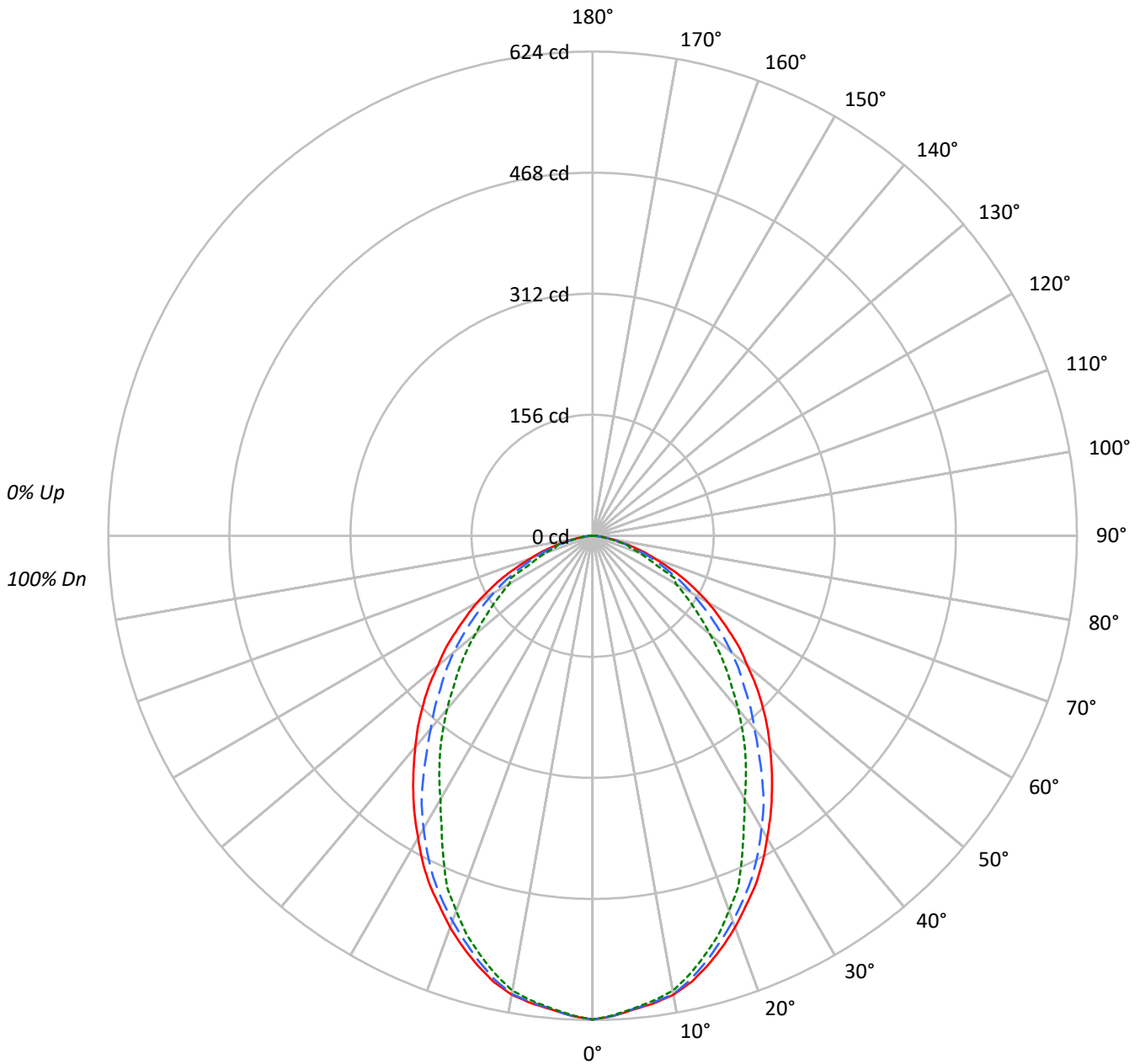
Lumens per Lamp: N/A  
Luminaire Lumens: 1224.0 lumens  
Efficiency: N/A  
Efficacy: 73.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
Input Voltage (V): NR  
Input Current (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									
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°	6711	6711	6711
5°	6620	6613	6604
10°	6562	6555	6508
15°	6385	6322	6233
20°	6151	6052	5887
25°	5898	5770	5410
30°	5591	5412	4873
35°	5294	5001	4508
40°	4994	4558	4102
45°	4707	4214	3708
50°	4357	3910	3307
55°	4031	3543	2963
60°	3692	3165	2654
65°	3250	2771	2351
70°	2678	2426	1995
75°	2129	1859	1951
80°	1432	1339	1252
85°	889	1062	1247



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.0	4.7
10°-20°	159.3	13.0
20°-30°	220.5	18.0
30°-40°	235.1	19.2
40°-50°	214.5	17.5
50°-60°	168.0	13.7
60°-70°	109.5	8.9
70°-80°	48.5	4.0
80°-90°	10.4	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°	437.8	35.8
0°-40°	673.0	55.0
0°-60°	1055.5	86.2
0°-90°	1224.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1224.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	613	612	612	611	611	58
15°	573	573	567	562	559	161
25°	497	494	486	468	456	228
35°	403	400	381	352	343	252
45°	309	303	277	254	244	238
55°	215	208	189	166	158	193
65°	128	120	109	111	92	126
75°	51	48	45	42	47	55
85°	7	8	9	9	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	623.5	623.5	623.5	623.5	623.5
2.5°	619.2	619.2	619.2	618.4	618.4
5°	612.7	612.0	612.0	611.2	611.2
7.5°	607.6	606.9	606.2	605.5	604.0
10°	600.4	600.4	599.7	596.1	595.4
12.5°	588.9	588.2	585.3	580.2	578.8
15°	573.0	573.0	567.3	561.5	559.3
17.5°	555.7	555.0	547.8	542.0	539.2
20°	537.0	535.6	528.3	519.0	513.9
22.5°	516.1	516.1	507.4	495.2	490.1
25°	496.6	493.7	485.8	468.5	455.5
27.5°	474.3	470.0	461.3	436.8	421.7
30°	449.8	447.6	435.4	403.6	392.1
32.5°	426.7	423.1	410.1	377.0	367.6
35°	402.9	400.0	380.6	351.7	343.1
37.5°	379.1	375.5	351.0	328.0	317.2
40°	355.4	351.0	324.4	303.5	291.9
42.5°	333.0	327.2	301.3	278.9	266.0
45°	309.2	302.7	276.8	253.7	243.6
47.5°	285.4	279.7	255.9	232.1	220.6
50°	260.2	255.2	233.5	209.8	197.5
52.5°	239.3	231.4	210.5	186.7	176.6
55°	214.8	208.3	188.8	166.5	157.9
57.5°	192.5	186.0	167.9	147.0	139.8
60°	171.5	162.2	147.0	129.0	123.3
62.5°	148.5	141.3	128.3	113.2	120.4
65°	127.6	120.4	108.8	111.0	92.3
67.5°	104.5	100.9	90.8	80.7	77.8
70°	85.1	80.7	77.1	66.3	63.4
72.5°	67.8	63.4	58.4	52.6	50.5
75°	51.2	47.6	44.7	42.5	46.9
77.5°	35.3	33.9	31.7	29.6	28.8
80°	23.1	22.3	21.6	20.9	20.2
82.5°	13.7	13.7	13.7	13.7	13.7
85°	7.2	7.9	8.6	9.4	10.1
87.5°	4.3	4.3	5.0	5.8	6.5
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)