

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: P545642

Luminaire Tested: **FMR-12-2-LD4-2LO-35-UNV-82-87-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: P545642  
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-35-UNV-82-87-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

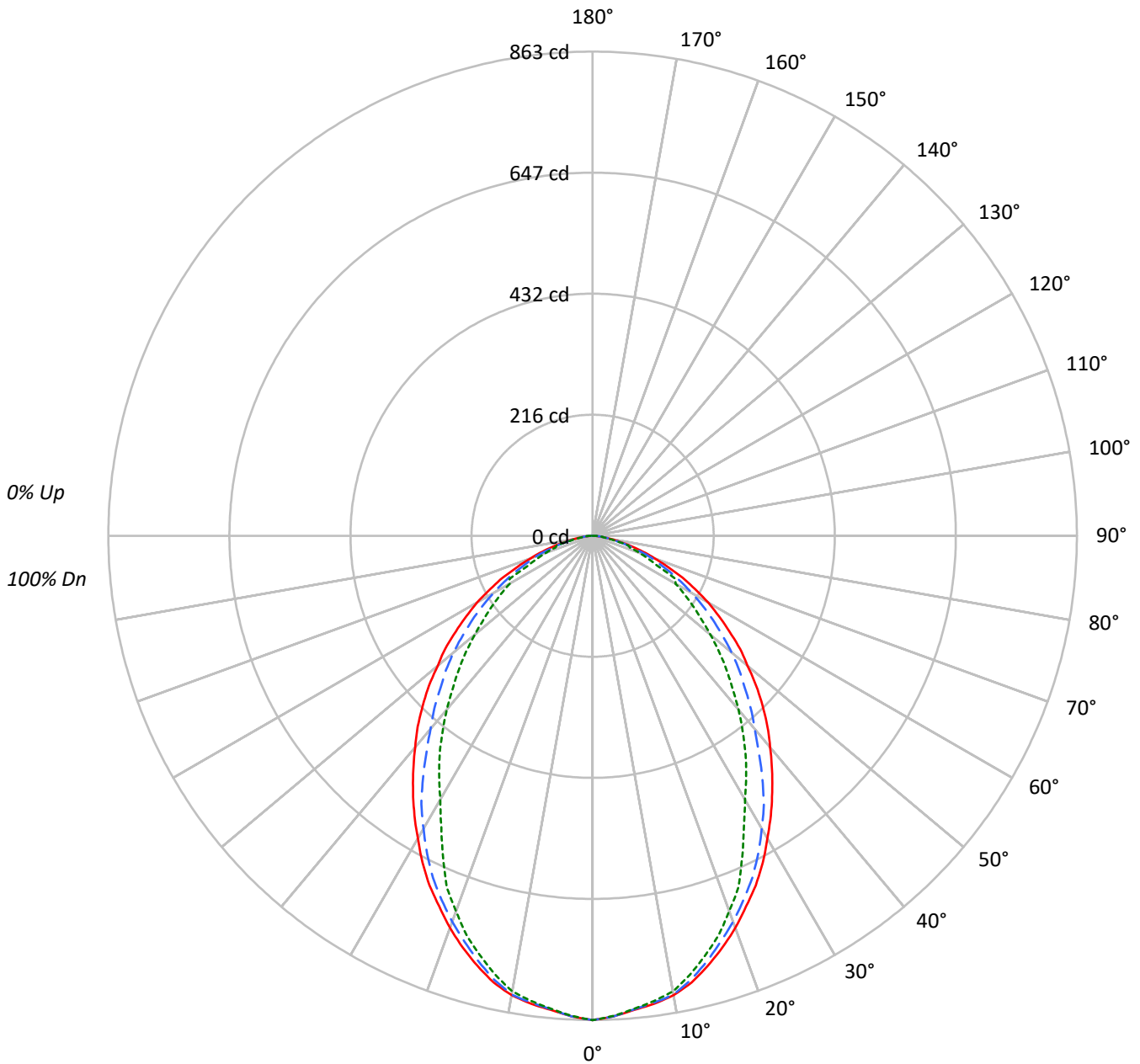
Lumens per Lamp: N/A  
Luminaire Lumens: 1695.0 lumens  
Efficiency: N/A  
Efficacy: 72.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	4647	4647	4647
5°	4583	4578	4573
10°	4544	4539	4506
15°	4421	4377	4316
20°	4259	4191	4076
25°	4084	3995	3746
30°	3871	3747	3375
35°	3666	3462	3121
40°	3457	3156	2840
45°	3259	2917	2568
50°	3017	2708	2290
55°	2791	2454	2051
60°	2558	2192	1837
65°	2250	1919	1628
70°	1854	1681	1382
75°	1474	1287	1350
80°	989	927	865
85°	618	741	865



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.4	4.7
10°-20°	220.6	13.0
20°-30°	305.4	18.0
30°-40°	325.6	19.2
40°-50°	297.1	17.5
50°-60°	232.7	13.7
60°-70°	151.7	8.9
70°-80°	67.2	4.0
80°-90°	14.4	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°	606.3	35.8
0°-40°	931.9	55.0
0°-60°	1461.7	86.2
0°-90°	1695.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1695.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	848	847	847	846	846	81
15°	794	794	786	778	775	223
25°	688	684	673	649	631	316
35°	558	554	527	487	475	349
45°	428	419	383	351	337	330
55°	298	288	262	231	219	267
65°	177	167	151	154	128	174
75°	71	66	62	59	65	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	863.4	863.4	863.4	863.4	863.4
2.5°	857.4	857.4	857.4	856.4	856.4
5°	848.4	847.4	847.4	846.4	846.4
7.5°	841.5	840.5	839.5	838.5	836.5
10°	831.5	831.5	830.5	825.5	824.5
12.5°	815.5	814.5	810.5	803.5	801.5
15°	793.5	793.5	785.6	777.6	774.6
17.5°	769.6	768.6	758.6	750.6	746.6
20°	743.6	741.6	731.7	718.7	711.7
22.5°	714.7	714.7	702.7	685.7	678.8
25°	687.7	683.7	672.8	648.8	630.8
27.5°	656.8	650.8	638.8	604.9	583.9
30°	622.9	619.9	602.9	559.0	543.0
32.5°	590.9	585.9	568.0	522.0	509.1
35°	558.0	554.0	527.0	487.1	475.1
37.5°	525.0	520.0	486.1	454.2	439.2
40°	492.1	486.1	449.2	420.2	404.3
42.5°	461.2	453.2	417.2	386.3	368.3
45°	428.2	419.2	383.3	351.4	337.4
47.5°	395.3	387.3	354.3	321.4	305.4
50°	360.3	353.3	323.4	290.5	273.5
52.5°	331.4	320.4	291.5	258.5	244.5
55°	297.5	288.5	261.5	230.6	218.6
57.5°	266.5	257.5	232.6	203.6	193.6
60°	237.6	224.6	203.6	178.7	170.7
62.5°	205.6	195.6	177.7	156.7	166.7
65°	176.7	166.7	150.7	153.7	127.8
67.5°	144.7	139.7	125.8	111.8	107.8
70°	117.8	111.8	106.8	91.8	87.8
72.5°	93.8	87.8	80.9	72.9	69.9
75°	70.9	65.9	61.9	58.9	64.9
77.5°	48.9	46.9	43.9	40.9	39.9
80°	31.9	30.9	29.9	28.9	27.9
82.5°	19.0	19.0	19.0	19.0	19.0
85°	10.0	11.0	12.0	13.0	14.0
87.5°	6.0	6.0	7.0	8.0	9.0
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)