

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: P545678

Luminaire Tested: **FMR-12-2-LD4-2LO-40-UNV-82-97-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: P545678  
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-82-97-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

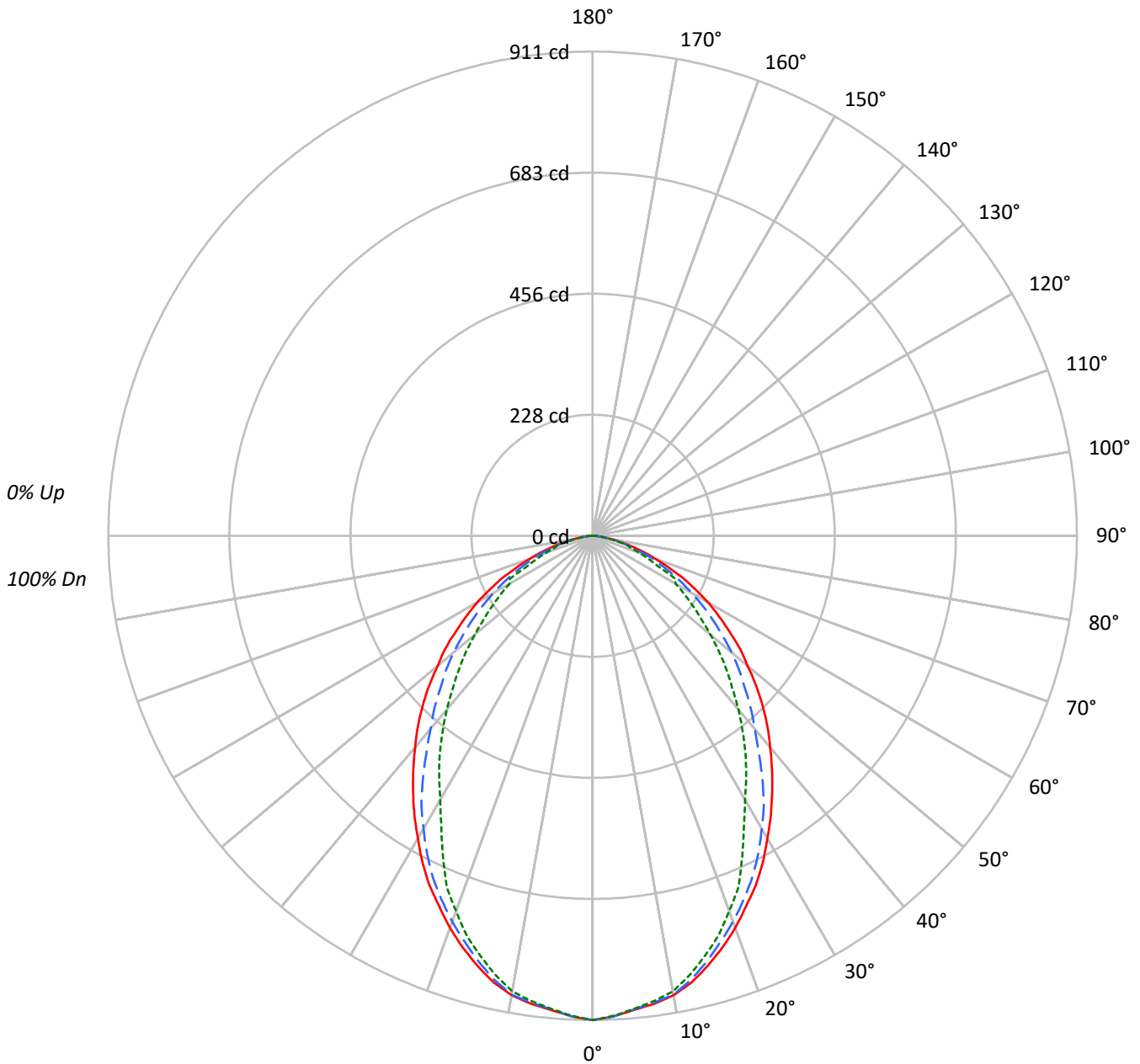
Lumens per Lamp: N/A  
Luminaire Lumens: 1789.0 lumens  
Efficiency: N/A  
Efficacy: 76.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	4905	4905	4905
5°	4838	4832	4827
10°	4796	4790	4756
15°	4666	4620	4555
20°	4495	4423	4302
25°	4311	4217	3954
30°	4085	3954	3562
35°	3869	3655	3295
40°	3649	3331	2998
45°	3440	3080	2710
50°	3184	2858	2417
55°	2945	2590	2165
60°	2699	2313	1940
65°	2375	2026	1718
70°	1956	1773	1459
75°	1555	1358	1424
80°	1044	979	914
85°	648	778	908



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.8	4.7
10°-20°	232.8	13.0
20°-30°	322.3	18.0
30°-40°	343.7	19.2
40°-50°	313.5	17.5
50°-60°	245.6	13.7
60°-70°	160.1	8.9
70°-80°	70.9	4.0
80°-90°	15.2	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°	639.9	35.8
0°-40°	983.6	55.0
0°-60°	1542.8	86.2
0°-90°	1789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1789.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	911	911	911	911	911	
5°	896	894	894	893	893	85
15°	838	838	829	821	818	235
25°	726	722	710	685	666	333
35°	589	585	556	514	502	368
45°	452	442	405	371	356	348
55°	314	304	276	243	231	282
65°	186	176	159	162	135	184
75°	75	70	65	62	68	80
85°	10	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°	911.3	911.3	911.3	911.3	911.3
2.5°	905.0	905.0	905.0	903.9	903.9
5°	895.5	894.4	894.4	893.4	893.4
7.5°	888.1	887.1	886.0	885.0	882.8
10°	877.6	877.6	876.5	871.3	870.2
12.5°	860.7	859.7	855.5	848.1	846.0
15°	837.5	837.5	829.1	820.7	817.5
17.5°	812.3	811.2	800.7	792.2	788.0
20°	784.9	782.8	772.2	758.5	751.2
22.5°	754.3	754.3	741.7	723.8	716.4
25°	725.9	721.7	710.1	684.8	665.8
27.5°	693.2	686.9	674.3	638.4	616.3
30°	657.4	654.2	636.3	590.0	573.1
32.5°	623.7	618.4	599.5	551.0	537.3
35°	588.9	584.7	556.3	514.1	501.5
37.5°	554.2	548.9	513.1	479.4	463.5
40°	519.4	513.1	474.1	443.5	426.7
42.5°	486.7	478.3	440.4	407.7	388.7
45°	452.0	442.5	404.6	370.8	356.1
47.5°	417.2	408.8	374.0	339.2	322.4
50°	380.3	372.9	341.3	306.6	288.7
52.5°	349.8	338.2	307.6	272.9	258.1
55°	313.9	304.5	276.0	243.4	230.7
57.5°	281.3	271.8	245.5	214.9	204.4
60°	250.7	237.0	214.9	188.6	180.2
62.5°	217.0	206.5	187.5	165.4	175.9
65°	186.5	175.9	159.1	162.2	134.9
67.5°	152.8	147.5	132.7	118.0	113.8
70°	124.3	118.0	112.7	96.9	92.7
72.5°	99.0	92.7	85.3	76.9	73.7
75°	74.8	69.5	65.3	62.2	68.5
77.5°	51.6	49.5	46.4	43.2	42.1
80°	33.7	32.7	31.6	30.6	29.5
82.5°	20.0	20.0	20.0	20.0	20.0
85°	10.5	11.6	12.6	13.7	14.7
87.5°	6.3	6.3	7.4	8.4	9.5
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)