

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: P545356

Luminaire Tested: **FMR-12-2-LD4-1LO-35-UNV-82-94-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: P545356  
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-LD4-1LO-35-UNV-82-94-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

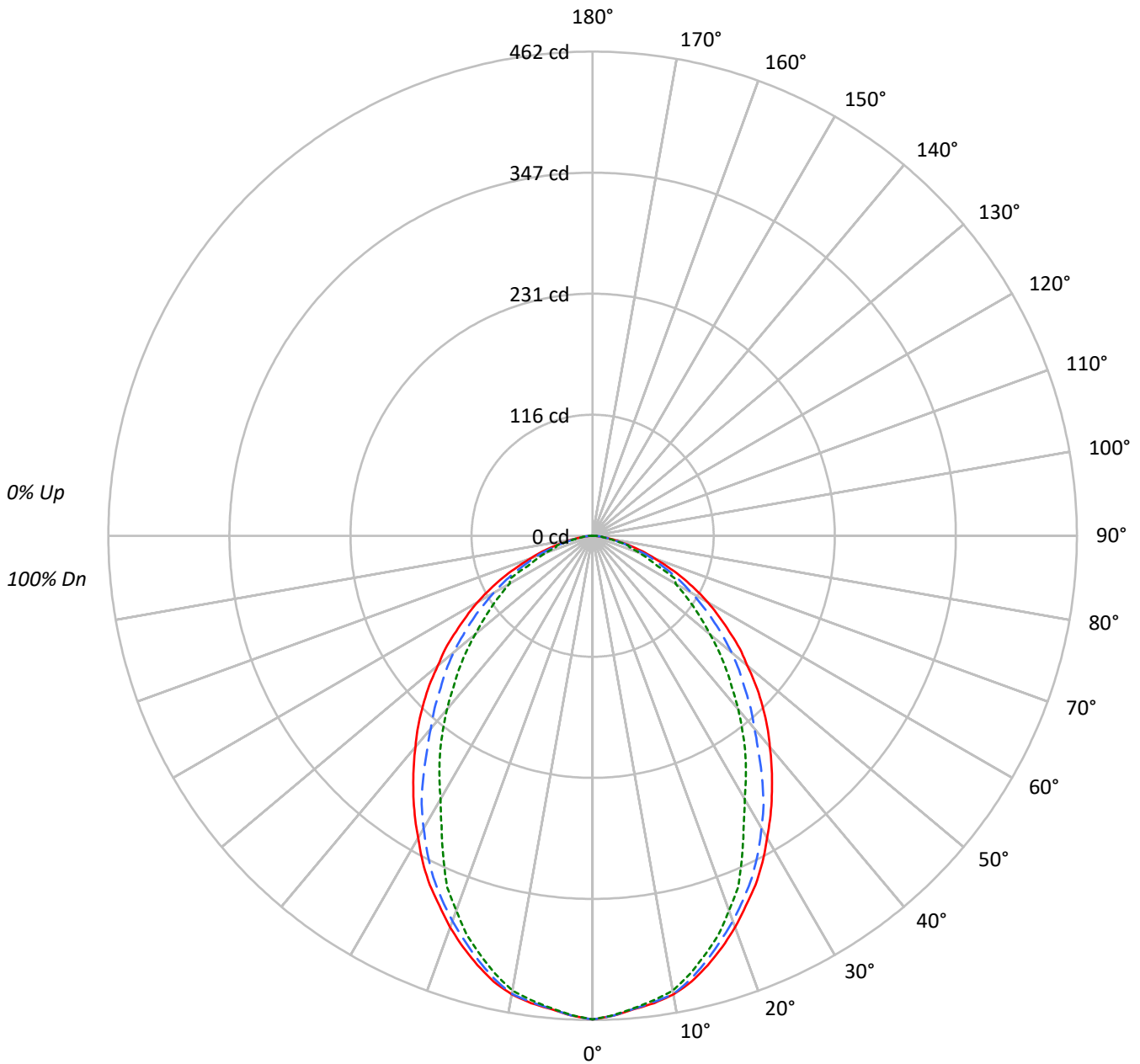
Lumens per Lamp: N/A  
Luminaire Lumens: 906.0 lumens  
Efficiency: N/A  
Efficacy: 77.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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°	2484	2484	2484
5°	2450	2447	2444
10°	2429	2426	2408
15°	2364	2340	2307
20°	2277	2240	2179
25°	2183	2135	2002
30°	2069	2003	1803
35°	1959	1851	1669
40°	1848	1687	1518
45°	1742	1560	1372
50°	1613	1448	1224
55°	1492	1312	1096
60°	1367	1171	982
65°	1202	1026	870
70°	991	899	740
75°	788	688	722
80°	530	496	462
85°	327	395	463



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.0	4.7
10°-20°	117.9	13.0
20°-30°	163.2	18.0
30°-40°	174.0	19.2
40°-50°	158.8	17.5
50°-60°	124.4	13.7
60°-70°	81.1	8.9
70°-80°	35.9	4.0
80°-90°	7.7	0.8
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°	324.1	35.8
0°-40°	498.1	55.0
0°-60°	781.3	86.2
0°-90°	906.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	906.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	462	462	462	462	462	
5°	454	453	453	452	452	43
15°	424	424	420	416	414	119
25°	368	366	360	347	337	169
35°	298	296	282	260	254	186
45°	229	224	205	188	180	176
55°	159	154	140	123	117	143
65°	94	89	81	82	68	93
75°	38	35	33	32	35	41
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	461.5	461.5	461.5	461.5	461.5
2.5°	458.3	458.3	458.3	457.8	457.8
5°	453.5	453.0	453.0	452.4	452.4
7.5°	449.8	449.2	448.7	448.2	447.1
10°	444.4	444.4	443.9	441.2	440.7
12.5°	435.9	435.4	433.2	429.5	428.4
15°	424.2	424.2	419.9	415.6	414.0
17.5°	411.4	410.8	405.5	401.2	399.1
20°	397.5	396.4	391.1	384.1	380.4
22.5°	382.0	382.0	375.6	366.5	362.8
25°	367.6	365.5	359.6	346.8	337.2
27.5°	351.1	347.9	341.5	323.3	312.1
30°	332.9	331.3	322.3	298.8	290.2
32.5°	315.9	313.2	303.6	279.0	272.1
35°	298.2	296.1	281.7	260.4	254.0
37.5°	280.6	278.0	259.8	242.8	234.8
40°	263.0	259.8	240.1	224.6	216.1
42.5°	246.5	242.2	223.0	206.5	196.9
45°	228.9	224.1	204.9	187.8	180.3
47.5°	211.3	207.0	189.4	171.8	163.3
50°	192.6	188.9	172.9	155.3	146.2
52.5°	177.1	171.3	155.8	138.2	130.7
55°	159.0	154.2	139.8	123.2	116.8
57.5°	142.5	137.7	124.3	108.8	103.5
60°	127.0	120.0	108.8	95.5	91.2
62.5°	109.9	104.6	95.0	83.8	89.1
65°	94.4	89.1	80.6	82.2	68.3
67.5°	77.4	74.7	67.2	59.8	57.6
70°	63.0	59.8	57.1	49.1	47.0
72.5°	50.2	47.0	43.2	38.9	37.3
75°	37.9	35.2	33.1	31.5	34.7
77.5°	26.1	25.1	23.5	21.9	21.3
80°	17.1	16.5	16.0	15.5	14.9
82.5°	10.1	10.1	10.1	10.1	10.1
85°	5.3	5.9	6.4	6.9	7.5
87.5°	3.2	3.2	3.7	4.3	4.8
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)