

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: P545381

Luminaire Tested: **FMR-12-2-LD4-1LO-40-UNV-81-96-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: P545381  
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-40-UNV-81-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

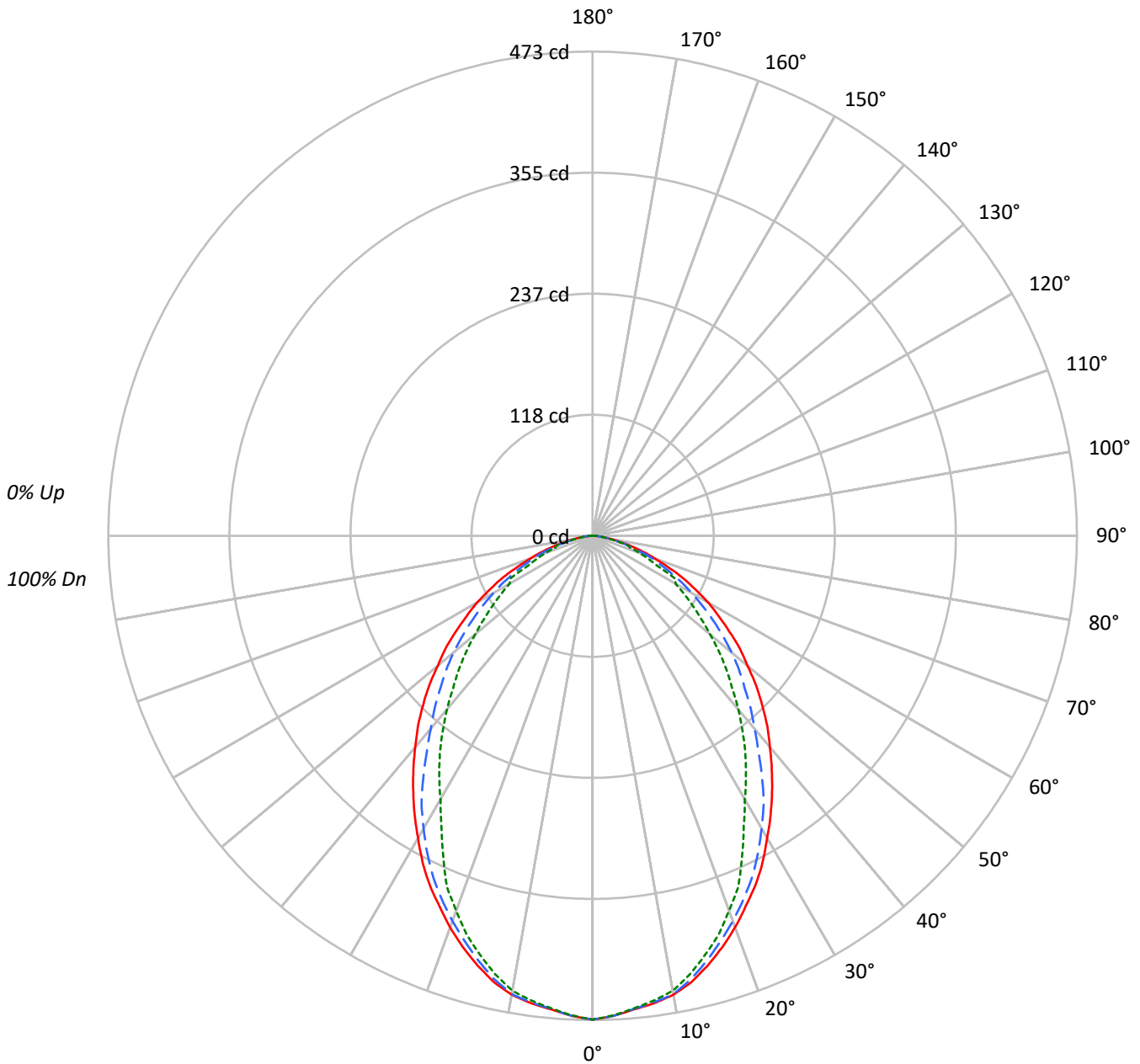
Lumens per Lamp: N/A  
Luminaire Lumens: 928.0 lumens  
Efficiency: N/A  
Efficacy: 79.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
Input Voltage (V): NR  
Input Current (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°	2544	2544	2544
5°	2509	2507	2504
10°	2488	2485	2467
15°	2421	2396	2363
20°	2332	2294	2231
25°	2236	2187	2051
30°	2119	2051	1848
35°	2007	1895	1709
40°	1893	1728	1555
45°	1784	1598	1406
50°	1652	1483	1253
55°	1529	1344	1123
60°	1400	1200	1005
65°	1231	1051	891
70°	1015	921	757
75°	807	705	738
80°	542	508	474
85°	340	408	475



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.0	4.7
10°-20°	120.8	13.0
20°-30°	167.2	18.0
30°-40°	178.3	19.2
40°-50°	162.6	17.5
50°-60°	127.4	13.7
60°-70°	83.1	8.9
70°-80°	36.8	4.0
80°-90°	7.9	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°	332.0	35.8
0°-40°	510.2	55.0
0°-60°	800.3	86.2
0°-90°	928.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	928.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	473	473	473	473	473	
5°	464	464	464	463	463	44
15°	434	434	430	426	424	122
25°	376	374	368	355	345	173
35°	306	303	288	267	260	191
45°	234	230	210	192	185	181
55°	163	158	143	126	120	146
65°	97	91	82	84	70	95
75°	39	36	34	32	36	42
85°	6	6	7	7	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	472.7	472.7	472.7	472.7	472.7
2.5°	469.4	469.4	469.4	468.9	468.9
5°	464.5	464.0	464.0	463.4	463.4
7.5°	460.7	460.1	459.6	459.0	458.0
10°	455.2	455.2	454.7	451.9	451.4
12.5°	446.5	445.9	443.7	439.9	438.8
15°	434.5	434.5	430.1	425.7	424.1
17.5°	421.3	420.8	415.3	411.0	408.8
20°	407.1	406.0	400.6	393.5	389.6
22.5°	391.3	391.3	384.7	375.4	371.6
25°	376.5	374.3	368.3	355.2	345.4
27.5°	359.6	356.3	349.8	331.2	319.7
30°	341.0	339.4	330.1	306.0	297.3
32.5°	323.5	320.8	311.0	285.8	278.7
35°	305.5	303.3	288.5	266.7	260.1
37.5°	287.5	284.7	266.1	248.7	240.5
40°	269.4	266.1	245.9	230.1	221.3
42.5°	252.5	248.1	228.4	211.5	201.7
45°	234.4	229.5	209.9	192.4	184.7
47.5°	216.4	212.0	194.0	176.0	167.2
50°	197.3	193.5	177.1	159.0	149.7
52.5°	181.4	175.4	159.6	141.5	133.9
55°	162.9	157.9	143.2	126.2	119.7
57.5°	145.9	141.0	127.3	111.5	106.0
60°	130.1	123.0	111.5	97.8	93.4
62.5°	112.6	107.1	97.3	85.8	91.3
65°	96.7	91.3	82.5	84.2	70.0
67.5°	79.2	76.5	68.9	61.2	59.0
70°	64.5	61.2	58.5	50.3	48.1
72.5°	51.4	48.1	44.3	39.9	38.3
75°	38.8	36.1	33.9	32.2	35.5
77.5°	26.8	25.7	24.0	22.4	21.9
80°	17.5	16.9	16.4	15.8	15.3
82.5°	10.4	10.4	10.4	10.4	10.4
85°	5.5	6.0	6.6	7.1	7.7
87.5°	3.3	3.3	3.8	4.4	4.9
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)