

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: P544813

Luminaire Tested: **FMR-12-1-LD4-1LO-40-UNV-82-96-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: P544813  
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-LD4-1LO-40-UNV-82-96-EDD  
Description: 1X1 FMR TROFFER WITH .187 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**

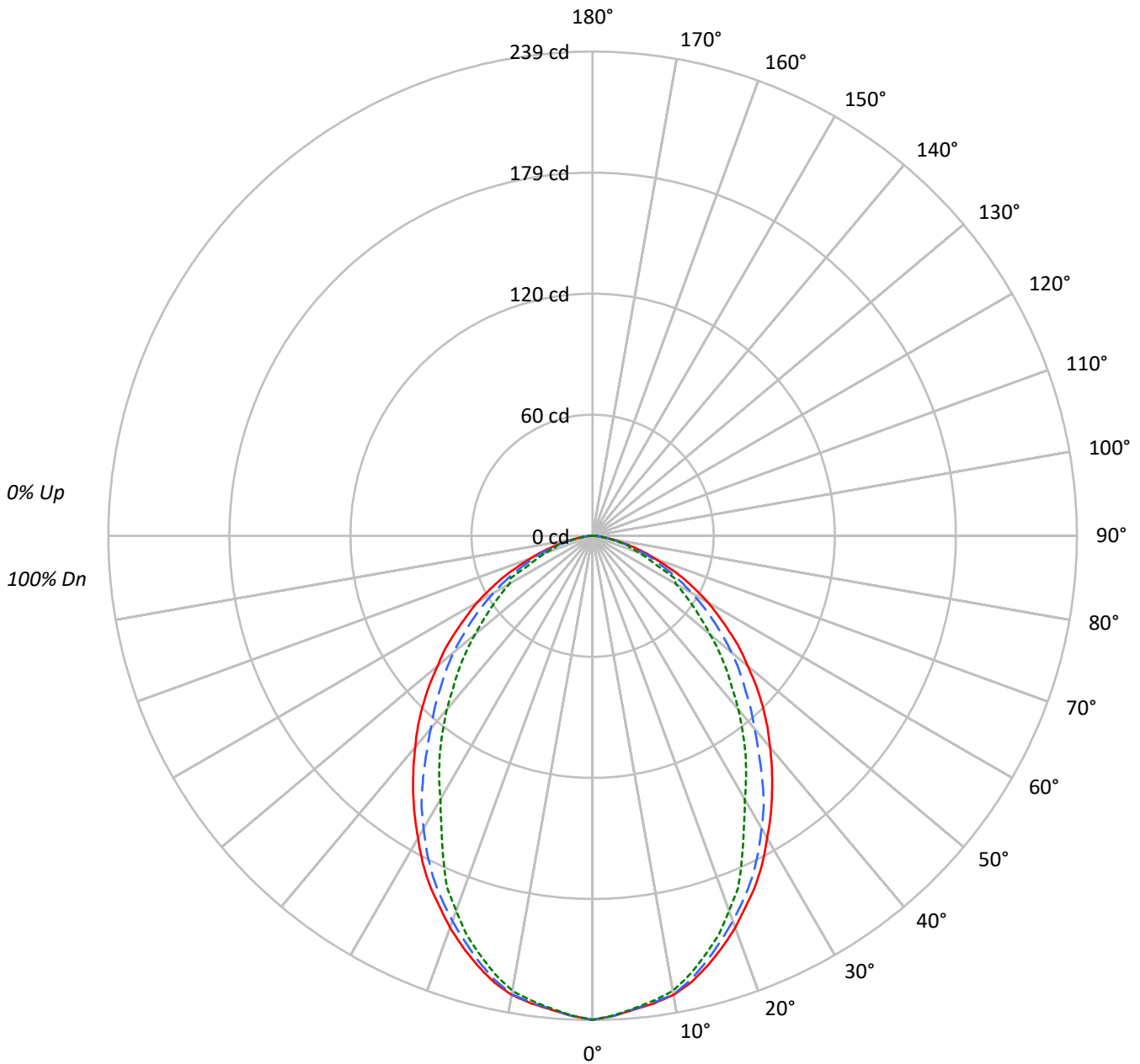
Lumens per Lamp: N/A  
Luminaire Lumens: 469.0 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 5.8  
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	39	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°	2571	2571	2571
5°	2537	2534	2531
10°	2515	2512	2493
15°	2447	2423	2388
20°	2357	2318	2255
25°	2260	2211	2074
30°	2142	2073	1867
35°	2029	1916	1728
40°	1914	1747	1572
45°	1804	1615	1422
50°	1670	1499	1268
55°	1544	1359	1135
60°	1414	1212	1016
65°	1245	1062	902
70°	1026	932	765
75°	815	711	749
80°	545	514	477
85°	346	408	482



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.2	4.7
10°-20°	61.0	13.0
20°-30°	84.5	18.0
30°-40°	90.1	19.2
40°-50°	82.2	17.5
50°-60°	64.4	13.7
60°-70°	42.0	8.9
70°-80°	18.6	4.0
80°-90°	4.0	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°	167.8	35.8
0°-40°	257.9	55.0
0°-60°	404.5	86.2
0°-90°	469.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	469.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	239	239	239	239	239	
5°	235	234	234	234	234	22
15°	220	220	217	215	214	62
25°	190	189	186	180	175	87
35°	154	153	146	135	132	97
45°	118	116	106	97	93	91
55°	82	80	72	64	60	74
65°	49	46	42	42	35	48
75°	20	18	17	16	18	21
85°	3	3	3	4	4	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	238.9	238.9	238.9	238.9	238.9
2.5°	237.2	237.2	237.2	237.0	237.0
5°	234.8	234.5	234.5	234.2	234.2
7.5°	232.8	232.6	232.3	232.0	231.4
10°	230.1	230.1	229.8	228.4	228.1
12.5°	225.6	225.4	224.3	222.3	221.8
15°	219.6	219.6	217.4	215.2	214.3
17.5°	212.9	212.7	209.9	207.7	206.6
20°	205.8	205.2	202.4	198.9	196.9
22.5°	197.8	197.8	194.4	189.7	187.8
25°	190.3	189.2	186.2	179.5	174.6
27.5°	181.7	180.1	176.8	167.4	161.6
30°	172.3	171.5	166.8	154.7	150.2
32.5°	163.5	162.1	157.2	144.4	140.9
35°	154.4	153.3	145.8	134.8	131.5
37.5°	145.3	143.9	134.5	125.7	121.5
40°	136.2	134.5	124.3	116.3	111.9
42.5°	127.6	125.4	115.4	106.9	101.9
45°	118.5	116.0	106.1	97.2	93.4
47.5°	109.4	107.2	98.0	88.9	84.5
50°	99.7	97.8	89.5	80.4	75.7
52.5°	91.7	88.7	80.6	71.5	67.7
55°	82.3	79.8	72.4	63.8	60.5
57.5°	73.7	71.3	64.4	56.3	53.6
60°	65.7	62.1	56.3	49.4	47.2
62.5°	56.9	54.1	49.2	43.4	46.1
65°	48.9	46.1	41.7	42.5	35.4
67.5°	40.0	38.7	34.8	30.9	29.8
70°	32.6	30.9	29.6	25.4	24.3
72.5°	26.0	24.3	22.4	20.2	19.3
75°	19.6	18.2	17.1	16.3	18.0
77.5°	13.5	13.0	12.2	11.3	11.0
80°	8.8	8.6	8.3	8.0	7.7
82.5°	5.2	5.2	5.2	5.2	5.2
85°	2.8	3.0	3.3	3.6	3.9
87.5°	1.7	1.7	1.9	2.2	2.5
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)