

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: P545107

Luminaire Tested: **FMR-12-1-LD4-2LO-40-UNV-93-88-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: P545107  
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-LD4-2LO-40-UNV-93-88-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

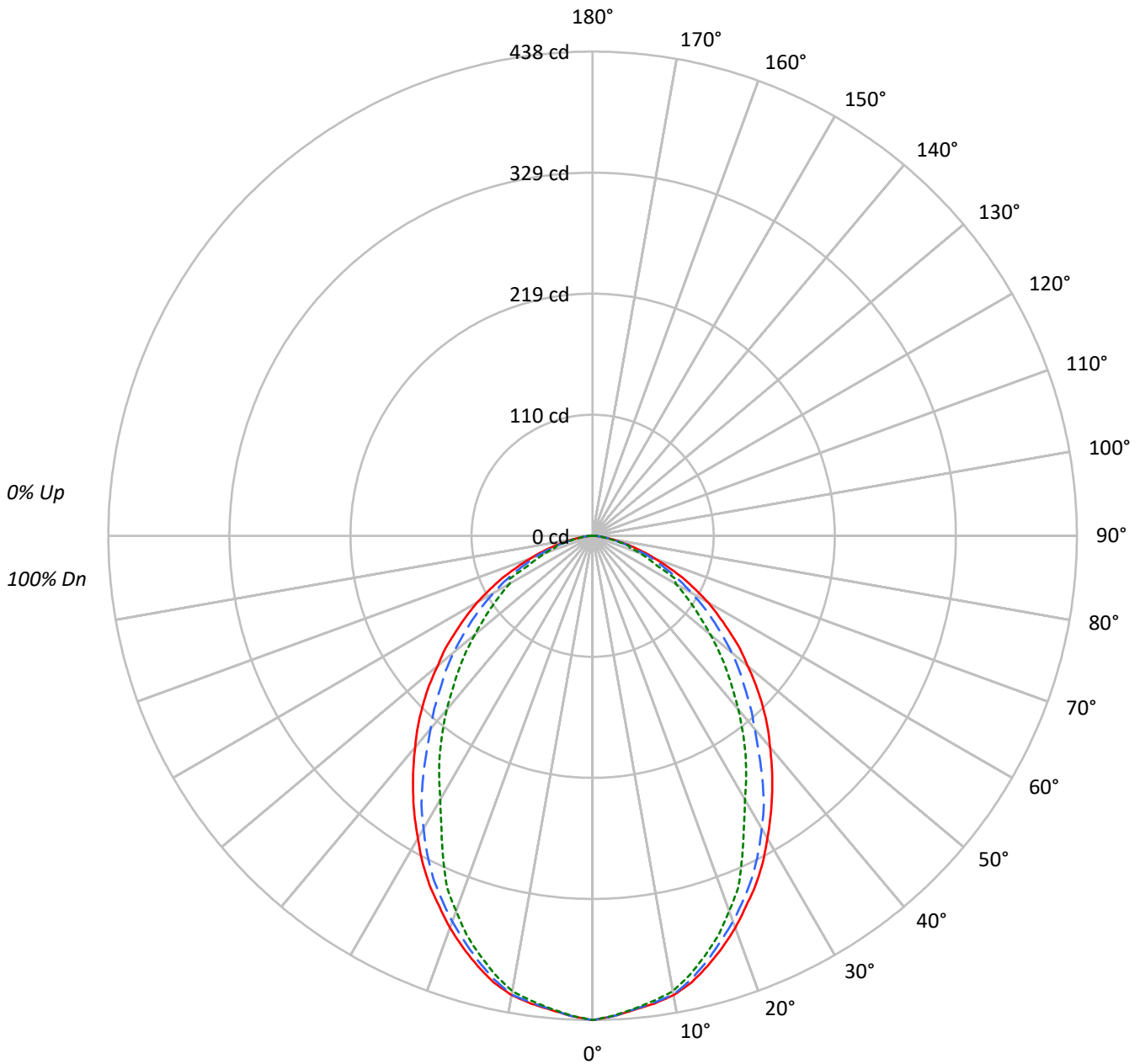
Lumens per Lamp: N/A  
Luminaire Lumens: 860.0 lumens  
Efficiency: N/A  
Efficacy: 73.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	4716	4716	4716
5°	4652	4646	4641
10°	4611	4606	4572
15°	4486	4442	4379
20°	4322	4252	4136
25°	4144	4054	3802
30°	3928	3802	3424
35°	3720	3514	3168
40°	3509	3202	2882
45°	3308	2961	2606
50°	3061	2748	2324
55°	2832	2490	2081
60°	2594	2224	1864
65°	2282	1948	1650
70°	1882	1706	1404
75°	1497	1306	1368
80°	1004	942	880
85°	630	753	877



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.8	4.7
10°-20°	111.9	13.0
20°-30°	154.9	18.0
30°-40°	165.2	19.2
40°-50°	150.7	17.5
50°-60°	118.1	13.7
60°-70°	77.0	8.9
70°-80°	34.1	4.0
80°-90°	7.3	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°	307.6	35.8
0°-40°	472.8	55.0
0°-60°	741.6	86.2
0°-90°	860.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	860.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	438	438	438	438	438	
5°	430	430	430	430	430	41
15°	403	403	399	394	393	113
25°	349	347	341	329	320	160
35°	283	281	267	247	241	177
45°	217	213	194	178	171	167
55°	151	146	133	117	111	135
65°	90	85	76	78	65	88
75°	36	33	31	30	33	39
85°	5	6	6	7	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	438.1	438.1	438.1	438.1	438.1
2.5°	435.0	435.0	435.0	434.5	434.5
5°	430.5	430.0	430.0	429.5	429.5
7.5°	426.9	426.4	425.9	425.4	424.4
10°	421.9	421.9	421.4	418.8	418.3
12.5°	413.8	413.3	411.2	407.7	406.7
15°	402.6	402.6	398.6	394.5	393.0
17.5°	390.5	390.0	384.9	380.8	378.8
20°	377.3	376.3	371.2	364.6	361.1
22.5°	362.6	362.6	356.5	347.9	344.4
25°	348.9	346.9	341.3	329.2	320.1
27.5°	333.2	330.2	324.1	306.9	296.3
30°	316.0	314.5	305.9	283.6	275.5
32.5°	299.8	297.3	288.2	264.9	258.3
35°	283.1	281.1	267.4	247.1	241.1
37.5°	266.4	263.9	246.6	230.4	222.8
40°	249.7	246.6	227.9	213.2	205.1
42.5°	234.0	229.9	211.7	196.0	186.9
45°	217.3	212.7	194.5	178.3	171.2
47.5°	200.6	196.5	179.8	163.1	155.0
50°	182.8	179.3	164.1	147.4	138.8
52.5°	168.1	162.6	147.9	131.2	124.1
55°	150.9	146.4	132.7	117.0	110.9
57.5°	135.2	130.7	118.0	103.3	98.2
60°	120.5	113.9	103.3	90.7	86.6
62.5°	104.3	99.3	90.1	79.5	84.6
65°	89.6	84.6	76.5	78.0	64.8
67.5°	73.4	70.9	63.8	56.7	54.7
70°	59.8	56.7	54.2	46.6	44.6
72.5°	47.6	44.6	41.0	37.0	35.5
75°	36.0	33.4	31.4	29.9	32.9
77.5°	24.8	23.8	22.3	20.8	20.3
80°	16.2	15.7	15.2	14.7	14.2
82.5°	9.6	9.6	9.6	9.6	9.6
85°	5.1	5.6	6.1	6.6	7.1
87.5°	3.0	3.0	3.5	4.1	4.6
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)