

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: P545120

Luminaire Tested: **FMR-12-1-LD4-2LO-50-UNV-81-85-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: P545120  
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-50-UNV-81-85-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

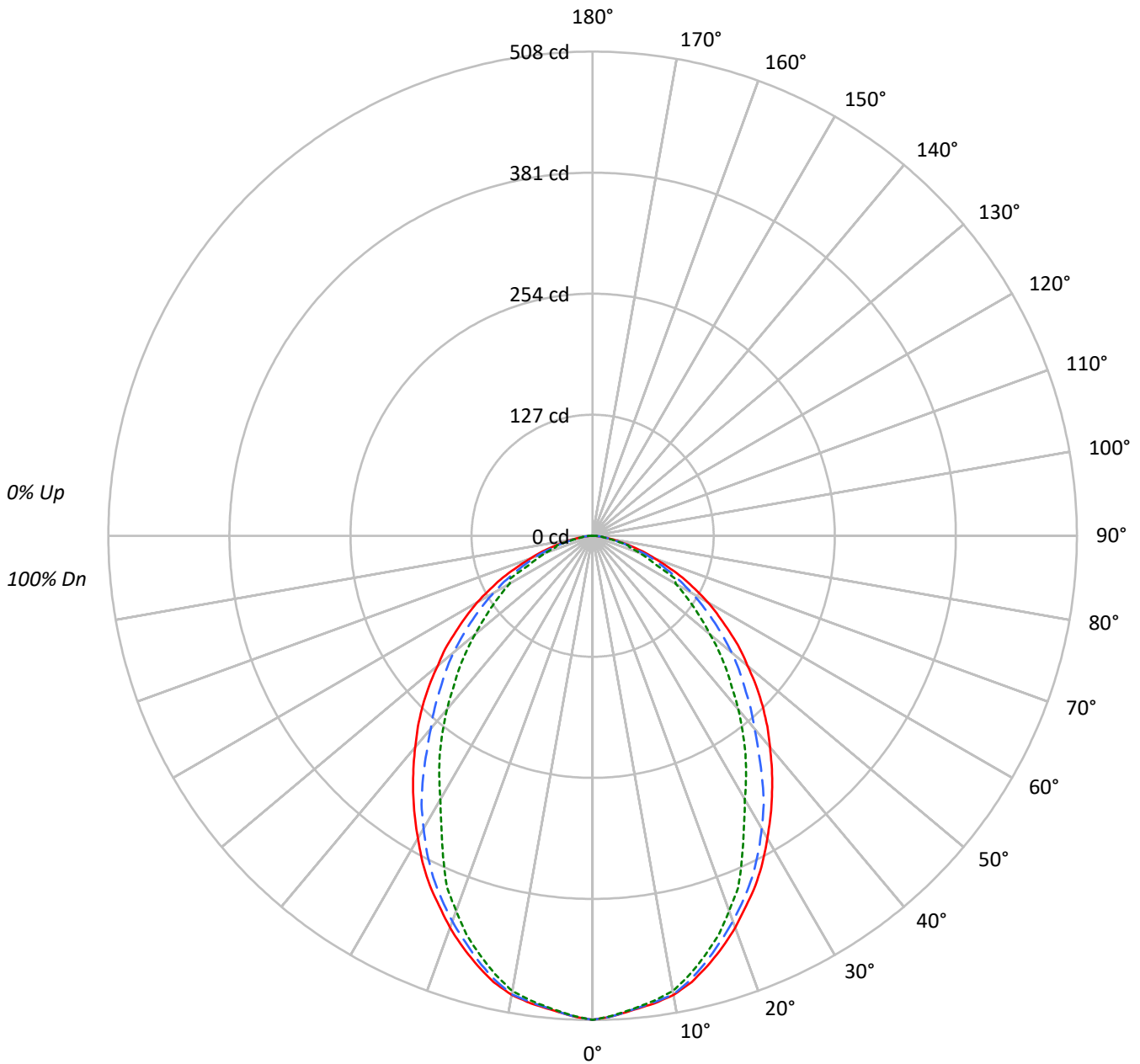
Lumens per Lamp: N/A  
Luminaire Lumens: 997.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	5467	5467	5467
5°	5393	5386	5380
10°	5346	5339	5301
15°	5202	5149	5077
20°	5010	4930	4795
25°	4804	4700	4407
30°	4554	4407	3970
35°	4313	4073	3673
40°	4066	3712	3341
45°	3835	3433	3020
50°	3550	3185	2694
55°	3284	2886	2413
60°	3007	2579	2161
65°	2646	2259	1915
70°	2181	1976	1627
75°	1734	1514	1589
80°	1165	1091	1017
85°	729	865	1013



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.3	4.7
10°-20°	129.7	13.0
20°-30°	179.6	18.0
30°-40°	191.5	19.2
40°-50°	174.7	17.5
50°-60°	136.9	13.7
60°-70°	89.2	8.9
70°-80°	39.5	4.0
80°-90°	8.5	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°	356.6	35.8
0°-40°	548.2	55.0
0°-60°	859.8	86.2
0°-90°	997.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	997.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	508	508	508	508	508	
5°	499	498	498	498	498	47
15°	467	467	462	457	456	131
25°	404	402	396	382	371	186
35°	328	326	310	286	280	205
45°	252	247	226	207	198	194
55°	175	170	154	136	129	157
65°	104	98	89	90	75	102
75°	42	39	36	35	38	45
85°	6	6	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	507.9	507.9	507.9	507.9	507.9
2.5°	504.3	504.3	504.3	503.7	503.7
5°	499.1	498.5	498.5	497.9	497.9
7.5°	494.9	494.4	493.8	493.2	492.0
10°	489.1	489.1	488.5	485.5	485.0
12.5°	479.7	479.1	476.7	472.6	471.5
15°	466.8	466.8	462.1	457.4	455.6
17.5°	452.7	452.1	446.2	441.5	439.2
20°	437.4	436.2	430.4	422.7	418.6
22.5°	420.4	420.4	413.3	403.4	399.2
25°	404.5	402.2	395.7	381.6	371.1
27.5°	386.3	382.8	375.8	355.8	343.5
30°	366.4	364.6	354.6	328.8	319.4
32.5°	347.6	344.6	334.1	307.1	299.4
35°	328.2	325.9	310.0	286.5	279.5
37.5°	308.8	305.9	285.9	267.1	258.3
40°	289.4	285.9	264.2	247.2	237.8
42.5°	271.2	266.6	245.4	227.2	216.6
45°	251.9	246.6	225.5	206.7	198.4
47.5°	232.5	227.8	208.4	189.1	179.7
50°	212.0	207.8	190.2	170.9	160.9
52.5°	194.9	188.5	171.4	152.1	143.8
55°	175.0	169.7	153.8	135.6	128.6
57.5°	156.8	151.5	136.8	119.8	113.9
60°	139.7	132.1	119.8	105.1	100.4
62.5°	120.9	115.1	104.5	92.2	98.0
65°	103.9	98.0	88.7	90.4	75.2
67.5°	85.1	82.2	74.0	65.8	63.4
70°	69.3	65.8	62.8	54.0	51.7
72.5°	55.2	51.7	47.6	42.9	41.1
75°	41.7	38.7	36.4	34.6	38.2
77.5°	28.8	27.6	25.8	24.1	23.5
80°	18.8	18.2	17.6	17.0	16.4
82.5°	11.2	11.2	11.2	11.2	11.2
85°	5.9	6.5	7.0	7.6	8.2
87.5°	3.5	3.5	4.1	4.7	5.3
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)