

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: P545411

Luminaire Tested: **FMR-12-2-LD4-1LO-50-UNV-81-88-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: P545411  
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-50-UNV-81-88-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

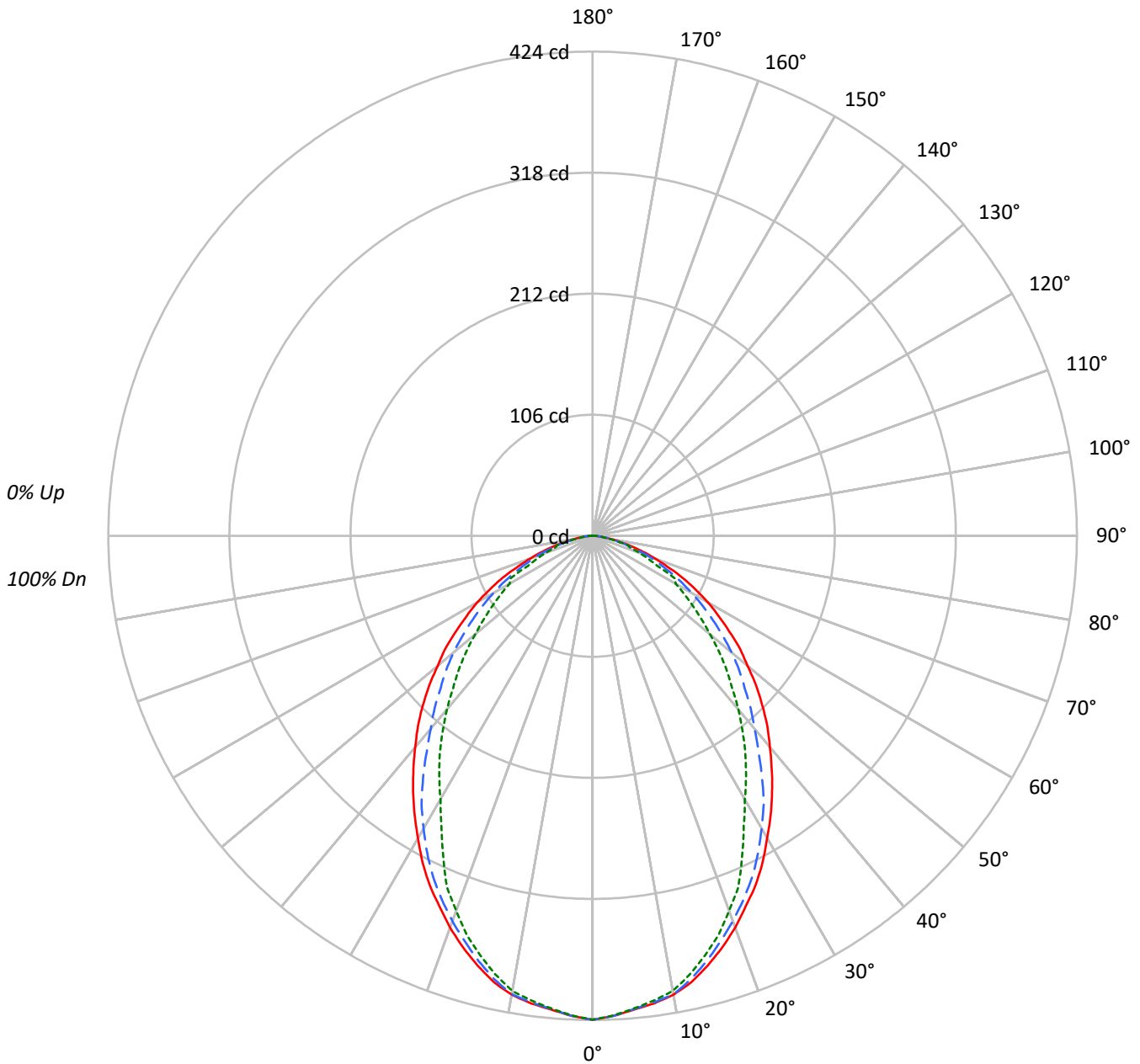
Lumens per Lamp: N/A  
Luminaire Lumens: 832.0 lumens  
Efficiency: N/A  
Efficacy: 71.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	2281	2281	2281
5°	2250	2247	2245
10°	2230	2228	2212
15°	2170	2148	2118
20°	2090	2057	2001
25°	2005	1961	1839
30°	1900	1839	1656
35°	1800	1700	1532
40°	1697	1549	1394
45°	1600	1432	1260
50°	1481	1329	1124
55°	1370	1205	1007
60°	1255	1076	902
65°	1104	942	798
70°	910	825	678
75°	724	632	661
80°	487	456	425
85°	303	364	426



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.5	4.7
10°-20°	108.3	13.0
20°-30°	149.9	18.0
30°-40°	159.8	19.2
40°-50°	145.8	17.5
50°-60°	114.2	13.7
60°-70°	74.4	8.9
70°-80°	33.0	4.0
80°-90°	7.1	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°	297.6	35.8
0°-40°	457.4	55.0
0°-60°	717.5	86.2
0°-90°	832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	832.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	424	424	424	424	424	
5°	416	416	416	416	416	40
15°	390	390	386	382	380	110
25°	338	336	330	318	310	155
35°	274	272	259	239	233	171
45°	210	206	188	172	166	162
55°	146	142	128	113	107	131
65°	87	82	74	76	63	85
75°	35	32	30	29	32	37
85°	5	5	6	6	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	423.8	423.8	423.8	423.8	423.8
2.5°	420.9	420.9	420.9	420.4	420.4
5°	416.5	416.0	416.0	415.5	415.5
7.5°	413.0	412.5	412.1	411.6	410.6
10°	408.1	408.1	407.6	405.2	404.7
12.5°	400.3	399.8	397.8	394.4	393.4
15°	389.5	389.5	385.6	381.7	380.2
17.5°	377.8	377.3	372.4	368.4	366.5
20°	365.0	364.0	359.1	352.8	349.3
22.5°	350.8	350.8	344.9	336.6	333.2
25°	337.6	335.6	330.2	318.5	309.7
27.5°	322.4	319.4	313.6	296.9	286.6
30°	305.7	304.3	295.9	274.4	266.5
32.5°	290.1	287.6	278.8	256.2	249.9
35°	273.9	271.9	258.7	239.1	233.2
37.5°	257.7	255.3	238.6	222.9	215.6
40°	241.5	238.6	220.5	206.3	198.4
42.5°	226.4	222.4	204.8	189.6	180.8
45°	210.2	205.8	188.1	172.5	165.6
47.5°	194.0	190.1	173.9	157.8	149.9
50°	176.9	173.4	158.7	142.6	134.2
52.5°	162.7	157.3	143.1	126.9	120.0
55°	146.0	141.6	128.4	113.2	107.3
57.5°	130.8	126.4	114.2	100.0	95.1
60°	116.6	110.2	100.0	87.7	83.8
62.5°	100.9	96.0	87.2	76.9	81.8
65°	86.7	81.8	74.0	75.5	62.7
67.5°	71.0	68.6	61.7	54.9	52.9
70°	57.8	54.9	52.4	45.1	43.1
72.5°	46.1	43.1	39.7	35.8	34.3
75°	34.8	32.3	30.4	28.9	31.8
77.5°	24.0	23.0	21.6	20.1	19.6
80°	15.7	15.2	14.7	14.2	13.7
82.5°	9.3	9.3	9.3	9.3	9.3
85°	4.9	5.4	5.9	6.4	6.9
87.5°	2.9	2.9	3.4	3.9	4.4
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)