

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: P545914

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-80-87-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: P545914  
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-12-4-LD4-1LO-35-UNV-80-87-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

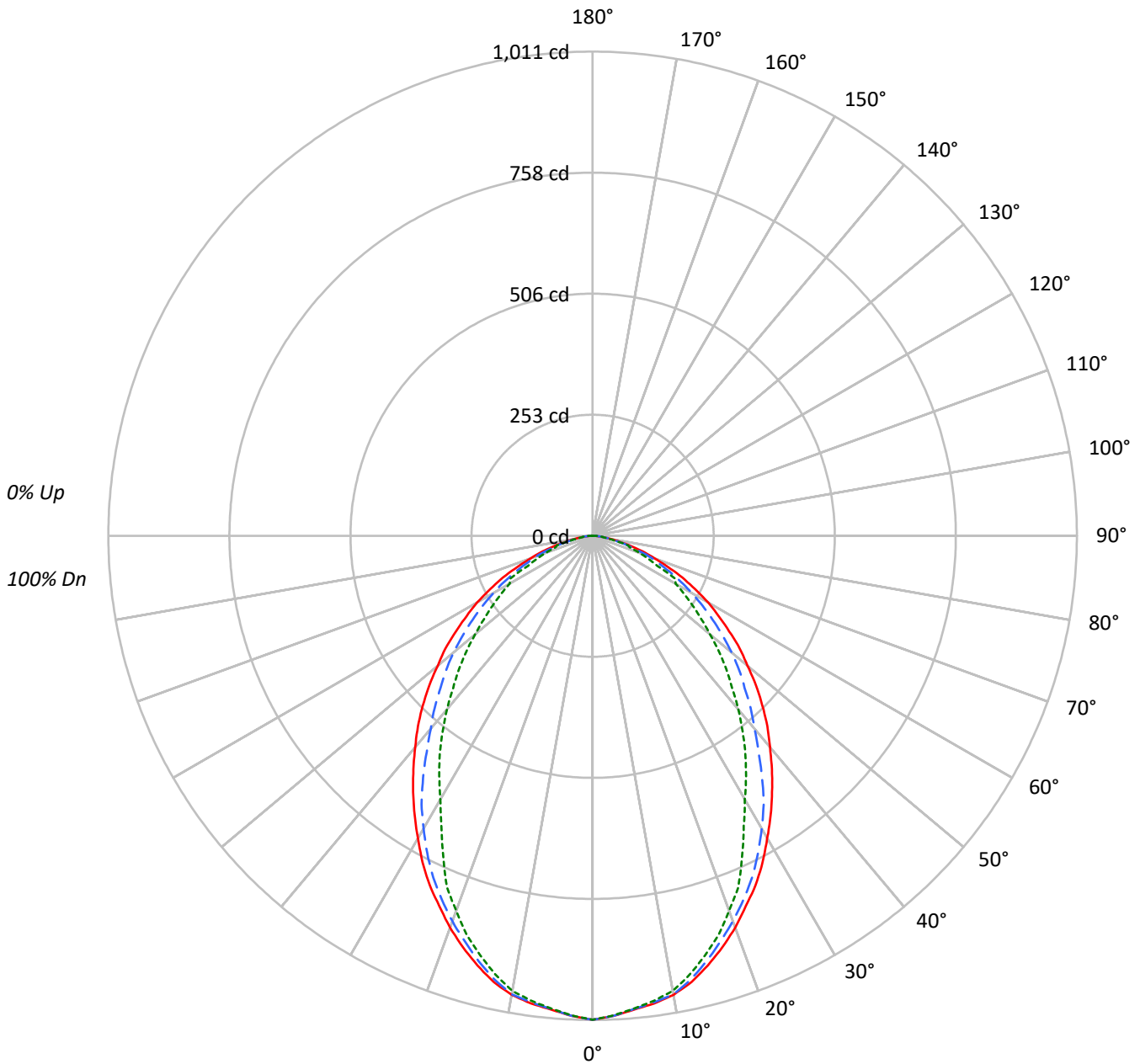
Lumens per Lamp: N/A  
Luminaire Lumens: 1984.0 lumens  
Efficiency: N/A  
Efficacy: 84.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	2720	2720	2720
5°	2683	2679	2676
10°	2659	2656	2637
15°	2588	2562	2526
20°	2493	2452	2385
25°	2390	2338	2192
30°	2266	2193	1975
35°	2145	2027	1827
40°	2023	1847	1662
45°	1907	1707	1503
50°	1766	1585	1340
55°	1634	1436	1201
60°	1497	1283	1075
65°	1317	1123	952
70°	1085	983	809
75°	863	753	789
80°	580	544	507
85°	361	432	506



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.1	4.7
10°-20°	258.2	13.0
20°-30°	357.4	18.0
30°-40°	381.1	19.2
40°-50°	347.7	17.5
50°-60°	272.4	13.7
60°-70°	177.5	8.9
70°-80°	78.6	4.0
80°-90°	16.9	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°	709.7	35.8
0°-40°	1090.8	55.0
0°-60°	1710.9	86.2
0°-90°	1984.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1984.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	993	992	992	991	991	94
15°	929	929	920	910	907	261
25°	805	800	788	759	738	370
35°	653	648	617	570	556	408
45°	501	491	449	411	395	386
55°	348	338	306	270	256	312
65°	207	195	176	180	150	204
75°	83	77	72	69	76	89
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1010.6	1010.6	1010.6	1010.6	1010.6
2.5°	1003.6	1003.6	1003.6	1002.4	1002.4
5°	993.1	991.9	991.9	990.8	990.8
7.5°	984.9	983.8	982.6	981.4	979.1
10°	973.2	973.2	972.1	966.2	965.1
12.5°	954.5	953.4	948.7	940.5	938.2
15°	928.8	928.8	919.5	910.1	906.6
17.5°	900.8	899.6	887.9	878.6	873.9
20°	870.4	868.1	856.4	841.2	833.0
22.5°	836.5	836.5	822.5	802.7	794.5
25°	805.0	800.3	787.5	759.4	738.4
27.5°	768.8	761.8	747.7	708.0	683.5
30°	729.1	725.5	705.7	654.3	635.6
32.5°	691.7	685.8	664.8	611.0	595.9
35°	653.1	648.4	616.9	570.2	556.1
37.5°	614.6	608.7	569.0	531.6	514.1
40°	576.0	569.0	525.8	491.9	473.2
42.5°	539.8	530.4	488.4	452.2	431.1
45°	501.2	490.7	448.6	411.3	394.9
47.5°	462.7	453.3	414.8	376.2	357.5
50°	421.8	413.6	378.5	340.0	320.1
52.5°	387.9	375.0	341.2	302.6	286.2
55°	348.2	337.7	306.1	269.9	255.9
57.5°	311.9	301.4	272.2	238.3	226.7
60°	278.1	262.9	238.3	209.1	199.8
62.5°	240.7	229.0	208.0	183.4	195.1
65°	206.8	195.1	176.4	179.9	149.5
67.5°	169.4	163.6	147.2	130.9	126.2
70°	137.9	130.9	125.0	107.5	102.8
72.5°	109.8	102.8	94.6	85.3	81.8
75°	83.0	77.1	72.4	68.9	75.9
77.5°	57.2	54.9	51.4	47.9	46.7
80°	37.4	36.2	35.1	33.9	32.7
82.5°	22.2	22.2	22.2	22.2	22.2
85°	11.7	12.9	14.0	15.2	16.4
87.5°	7.0	7.0	8.2	9.3	10.5
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)