

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: P546075

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-80-88-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: P546075  
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-LD4-1STD-50-UNV-80-88-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

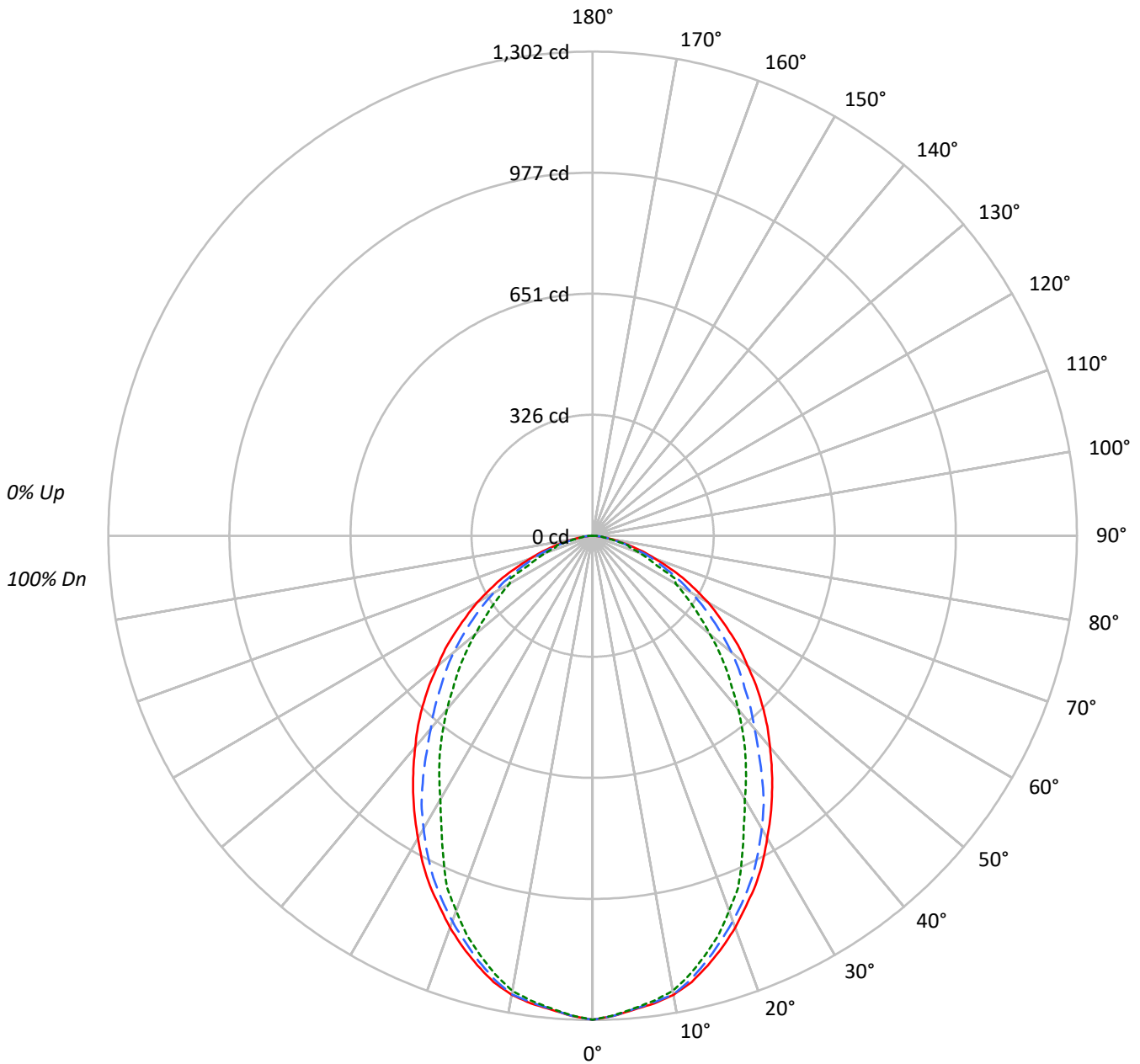
Lumens per Lamp: N/A  
Luminaire Lumens: 2555.0 lumens  
Efficiency: N/A  
Efficacy: 76.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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°	3502	3502	3502
5°	3455	3451	3447
10°	3425	3421	3396
15°	3333	3299	3253
20°	3210	3158	3072
25°	3078	3011	2823
30°	2917	2824	2543
35°	2763	2610	2353
40°	2606	2379	2141
45°	2457	2199	1936
50°	2274	2041	1726
55°	2104	1849	1546
60°	1927	1652	1385
65°	1696	1447	1226
70°	1397	1267	1042
75°	1110	970	1017
80°	745	699	652
85°	463	559	651



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.2	4.7
10°-20°	332.5	13.0
20°-30°	460.3	18.0
30°-40°	490.8	19.2
40°-50°	447.8	17.5
50°-60°	350.8	13.7
60°-70°	228.6	8.9
70°-80°	101.3	4.0
80°-90°	21.7	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°	913.9	35.8
0°-40°	1404.8	55.0
0°-60°	2203.3	86.2
0°-90°	2555.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2555.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1302	1302	1302	1302	1302	
5°	1279	1277	1277	1276	1276	121
15°	1196	1196	1184	1172	1168	336
25°	1037	1031	1014	978	951	476
35°	841	835	794	734	716	526
45°	646	632	578	530	509	497
55°	448	435	394	348	330	402
65°	266	251	227	232	193	262
75°	107	99	93	89	98	114
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1301.5	1301.5	1301.5	1301.5	1301.5
2.5°	1292.5	1292.5	1292.5	1291.0	1291.0
5°	1278.9	1277.4	1277.4	1275.9	1275.9
7.5°	1268.4	1266.9	1265.4	1263.9	1260.9
10°	1253.3	1253.3	1251.8	1244.3	1242.8
12.5°	1229.3	1227.8	1221.7	1211.2	1208.2
15°	1196.2	1196.2	1184.1	1172.1	1167.6
17.5°	1160.1	1158.5	1143.5	1131.5	1125.4
20°	1120.9	1117.9	1102.9	1083.3	1072.8
22.5°	1077.3	1077.3	1059.2	1033.7	1023.1
25°	1036.7	1030.7	1014.1	978.0	950.9
27.5°	990.0	981.0	962.9	911.8	880.2
30°	938.9	934.4	908.8	842.6	818.5
32.5°	890.7	883.2	856.1	786.9	767.3
35°	841.1	835.1	794.4	734.2	716.2
37.5°	791.4	783.9	732.7	684.6	662.0
40°	741.8	732.7	677.1	633.4	609.4
42.5°	695.1	683.1	628.9	582.3	555.2
45°	645.5	631.9	577.8	529.6	508.6
47.5°	595.8	583.8	534.1	484.5	460.4
50°	543.2	532.6	487.5	437.8	412.3
52.5°	499.5	483.0	439.3	389.7	368.6
55°	448.4	434.8	394.2	347.6	329.5
57.5°	401.7	388.2	350.6	306.9	291.9
60°	358.1	338.5	306.9	269.3	257.3
62.5°	309.9	294.9	267.8	236.2	251.3
65°	266.3	251.3	227.2	231.7	192.6
67.5°	218.2	210.6	189.6	168.5	162.5
70°	177.5	168.5	161.0	138.4	132.4
72.5°	141.4	132.4	121.9	109.8	105.3
75°	106.8	99.3	93.3	88.8	97.8
77.5°	73.7	70.7	66.2	61.7	60.2
80°	48.1	46.6	45.1	43.6	42.1
82.5°	28.6	28.6	28.6	28.6	28.6
85°	15.0	16.6	18.1	19.6	21.1
87.5°	9.0	9.0	10.5	12.0	13.5
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)