

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: P546094

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-82-97-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: P546094  
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-82-97-EDD  
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

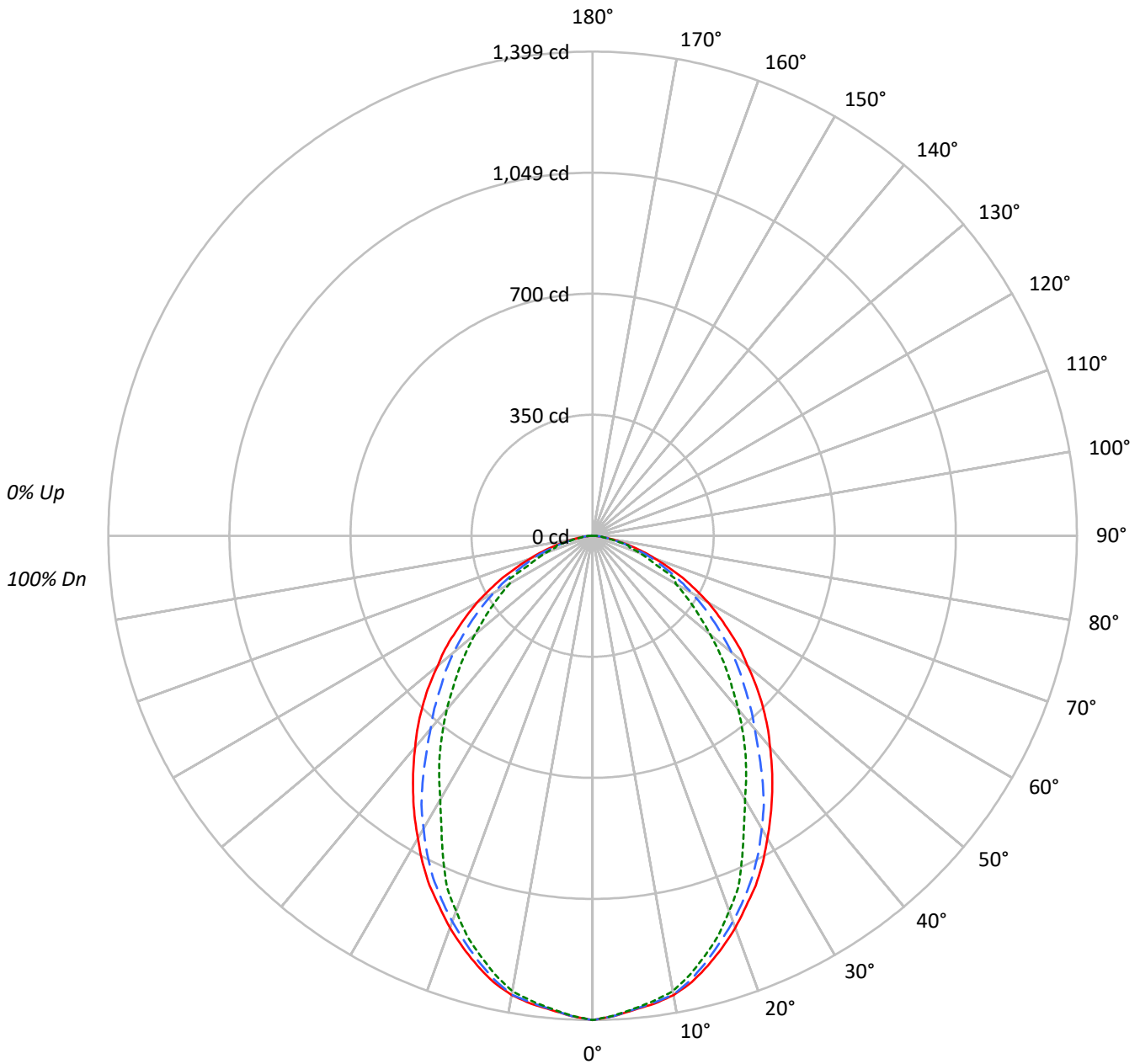
Lumens per Lamp: N/A  
Luminaire Lumens: 2747.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3765	3765	3765
5°	3714	3710	3706
10°	3682	3678	3651
15°	3583	3547	3497
20°	3451	3396	3303
25°	3309	3237	3036
30°	3136	3036	2734
35°	2971	2806	2530
40°	2801	2557	2302
45°	2641	2364	2081
50°	2445	2194	1855
55°	2262	1988	1662
60°	2072	1776	1489
65°	1823	1556	1319
70°	1502	1362	1120
75°	1195	1043	1093
80°	803	752	702
85°	500	599	698



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.3	4.7
10°-20°	357.5	13.0
20°-30°	494.9	18.0
30°-40°	527.7	19.2
40°-50°	481.4	17.5
50°-60°	377.2	13.7
60°-70°	245.8	8.9
70°-80°	108.9	4.0
80°-90°	23.4	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°	982.6	35.8
0°-40°	1510.3	55.0
0°-60°	2368.9	86.2
0°-90°	2747.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2747.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1399	1399	1399	1399	1399	
5°	1375	1373	1373	1372	1372	131
15°	1286	1286	1273	1260	1255	362
25°	1115	1108	1090	1052	1022	512
35°	904	898	854	789	770	565
45°	694	679	621	569	547	535
55°	482	468	424	374	354	432
65°	286	270	244	249	207	282
75°	115	107	100	95	105	123
85°	16	18	19	21	23	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1399.3	1399.3	1399.3	1399.3	1399.3
2.5°	1389.6	1389.6	1389.6	1388.0	1388.0
5°	1375.0	1373.4	1373.4	1371.8	1371.8
7.5°	1363.7	1362.1	1360.5	1358.8	1355.6
10°	1347.5	1347.5	1345.9	1337.8	1336.2
12.5°	1321.6	1320.0	1313.5	1302.2	1299.0
15°	1286.0	1286.0	1273.1	1260.2	1255.3
17.5°	1247.2	1245.6	1229.4	1216.5	1210.0
20°	1205.2	1201.9	1185.8	1164.7	1153.4
22.5°	1158.3	1158.3	1138.8	1111.3	1100.0
25°	1114.6	1108.1	1090.3	1051.5	1022.4
27.5°	1064.4	1054.7	1035.3	980.3	946.3
30°	1009.4	1004.6	977.1	905.9	880.0
32.5°	957.7	949.6	920.5	846.0	825.0
35°	904.3	897.8	854.1	789.4	770.0
37.5°	850.9	842.8	787.8	736.0	711.8
40°	797.5	787.8	728.0	681.0	655.2
42.5°	747.4	734.4	676.2	626.0	596.9
45°	694.0	679.4	621.2	569.4	546.8
47.5°	640.6	627.7	574.3	520.9	495.0
50°	584.0	572.7	524.1	470.7	443.2
52.5°	537.1	519.3	472.4	419.0	396.3
55°	482.1	467.5	423.8	373.7	354.3
57.5°	431.9	417.4	376.9	330.0	313.8
60°	385.0	364.0	330.0	289.6	276.6
62.5°	333.2	317.1	287.9	254.0	270.2
65°	286.3	270.2	244.3	249.1	207.1
67.5°	234.6	226.5	203.8	181.2	174.7
70°	190.9	181.2	173.1	148.8	142.4
72.5°	152.1	142.4	131.0	118.1	113.2
75°	114.9	106.8	100.3	95.4	105.1
77.5°	79.3	76.0	71.2	66.3	64.7
80°	51.8	50.1	48.5	46.9	45.3
82.5°	30.7	30.7	30.7	30.7	30.7
85°	16.2	17.8	19.4	21.0	22.6
87.5°	9.7	9.7	11.3	12.9	14.6
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)