

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: P545025

Luminaire Tested: **FMR-12-1-LD4-2HI-50-UNV-81-86-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: P545025  
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-LD4-2HI-50-UNV-81-86-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

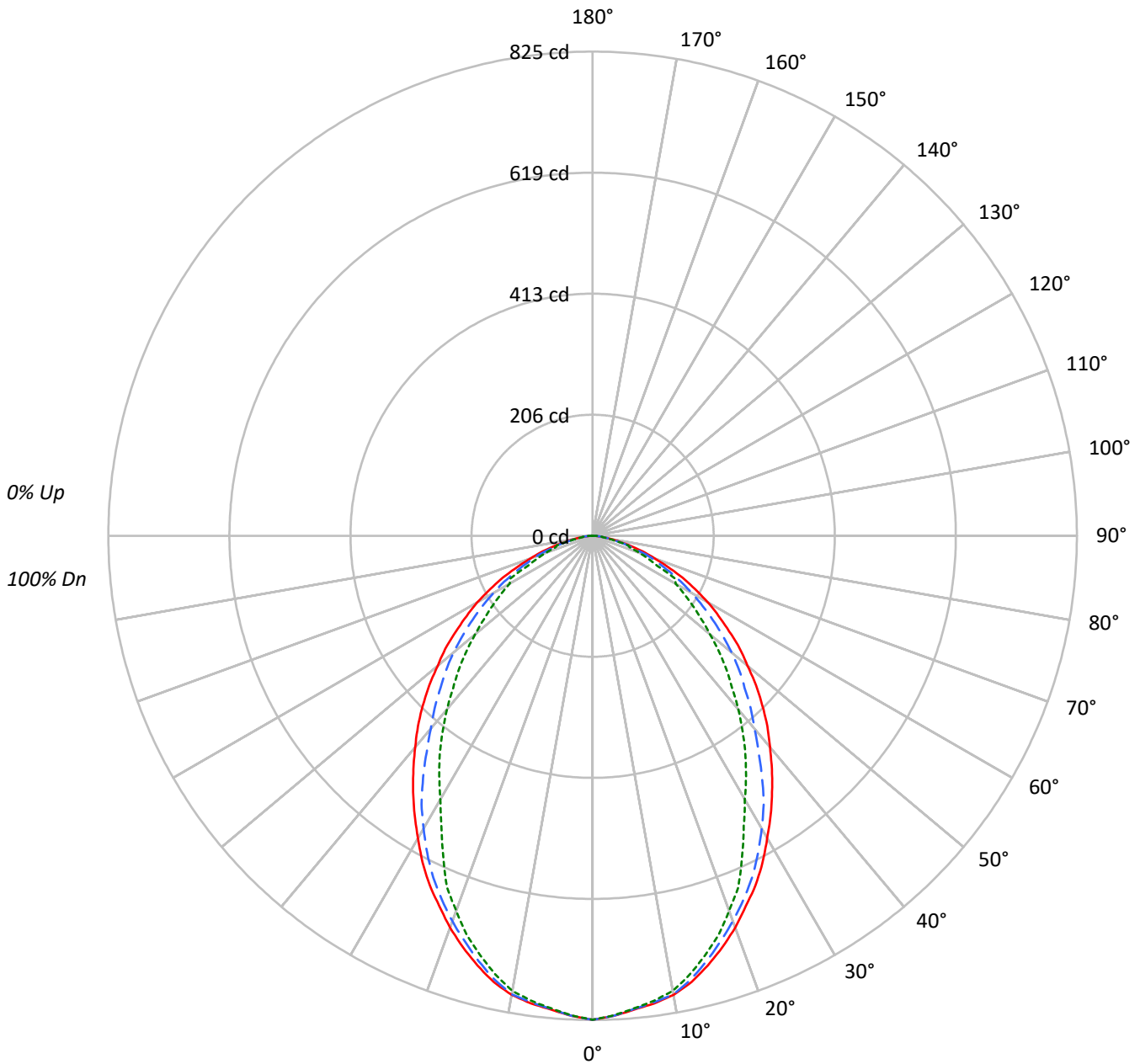
Lumens per Lamp: N/A  
Luminaire Lumens: 1619.0 lumens  
Efficiency: N/A  
Efficacy: 75.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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

TEST NUMBER: P545025

CATALOG NUMBER: FMR-12-1-LD4-2HI-50-UNV-81-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545025

CATALOG NUMBER: FMR-12-1-LD4-2HI-50-UNV-81-86-EDD

**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°	8877	8877	8877
5°	8756	8746	8736
10°	8681	8670	8607
15°	8447	8361	8244
20°	8136	8005	7787
25°	7802	7632	7157
30°	7394	7158	6447
35°	7004	6615	5963
40°	6604	6028	5425
45°	6226	5573	4906
50°	5764	5173	4374
55°	5332	4688	3918
60°	4885	4187	3509
65°	4299	3668	3107
70°	3541	3210	2640
75°	2816	2458	2578
80°	1891	1773	1655
85°	1173	1408	1643



TEST NUMBER: P545025

CATALOG NUMBER: FMR-12-1-LD4-2HI-50-UNV-81-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.8	4.7
10°-20°	210.7	13.0
20°-30°	291.7	18.0
30°-40°	311.0	19.2
40°-50°	283.7	17.5
50°-60°	222.3	13.7
60°-70°	144.9	8.9
70°-80°	64.2	4.0
80°-90°	13.8	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°	579.1	35.8
0°-40°	890.1	55.0
0°-60°	1396.1	86.2
0°-90°	1619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1619.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	810	809	809	808	808	77
15°	758	758	750	743	740	213
25°	657	653	643	620	603	302
35°	533	529	503	465	454	333
45°	409	400	366	336	322	315
55°	284	276	250	220	209	255
65°	169	159	144	147	122	166
75°	68	63	59	56	62	73
85°	10	10	11	12	13	13
90°	0	0	0	0	0	



TEST NUMBER: P545025

CATALOG NUMBER: FMR-12-1-LD4-2HI-50-UNV-81-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	824.7	824.7	824.7	824.7	824.7
2.5°	819.0	819.0	819.0	818.0	818.0
5°	810.4	809.4	809.4	808.5	808.5
7.5°	803.7	802.8	801.8	800.9	799.0
10°	794.2	794.2	793.2	788.5	787.5
12.5°	778.9	778.0	774.2	767.5	765.6
15°	758.0	758.0	750.3	742.7	739.8
17.5°	735.1	734.1	724.6	717.0	713.1
20°	710.3	708.4	698.8	686.5	679.8
22.5°	682.6	682.6	671.2	655.0	648.3
25°	656.9	653.1	642.6	619.7	602.6
27.5°	627.3	621.6	610.2	577.8	557.7
30°	594.9	592.1	575.9	533.9	518.7
32.5°	564.4	559.6	542.5	498.6	486.2
35°	533.0	529.1	503.4	465.3	453.8
37.5°	501.5	496.7	464.3	433.8	419.5
40°	470.0	464.3	429.0	401.4	386.1
42.5°	440.5	432.8	398.5	369.0	351.8
45°	409.0	400.4	366.1	335.6	322.3
47.5°	377.5	369.9	338.5	307.0	291.7
50°	344.2	337.5	308.9	277.4	261.2
52.5°	316.5	306.0	278.4	246.9	233.6
55°	284.1	275.5	249.8	220.2	208.8
57.5°	254.6	246.0	222.1	194.5	185.0
60°	226.9	214.5	194.5	170.7	163.0
62.5°	196.4	186.9	169.7	149.7	159.2
65°	168.8	159.2	144.0	146.8	122.0
67.5°	138.2	133.5	120.1	106.8	103.0
70°	112.5	106.8	102.0	87.7	83.9
72.5°	89.6	83.9	77.2	69.6	66.7
75°	67.7	62.9	59.1	56.3	62.0
77.5°	46.7	44.8	41.9	39.1	38.1
80°	30.5	29.6	28.6	27.6	26.7
82.5°	18.1	18.1	18.1	18.1	18.1
85°	9.5	10.5	11.4	12.4	13.3
87.5°	5.7	5.7	6.7	7.6	8.6
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)