

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: P545224

Luminaire Tested: **FMR-12-1-LD4-2STD-50-UNV-82-85-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: P545224  
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-LD4-2STD-50-UNV-82-85-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

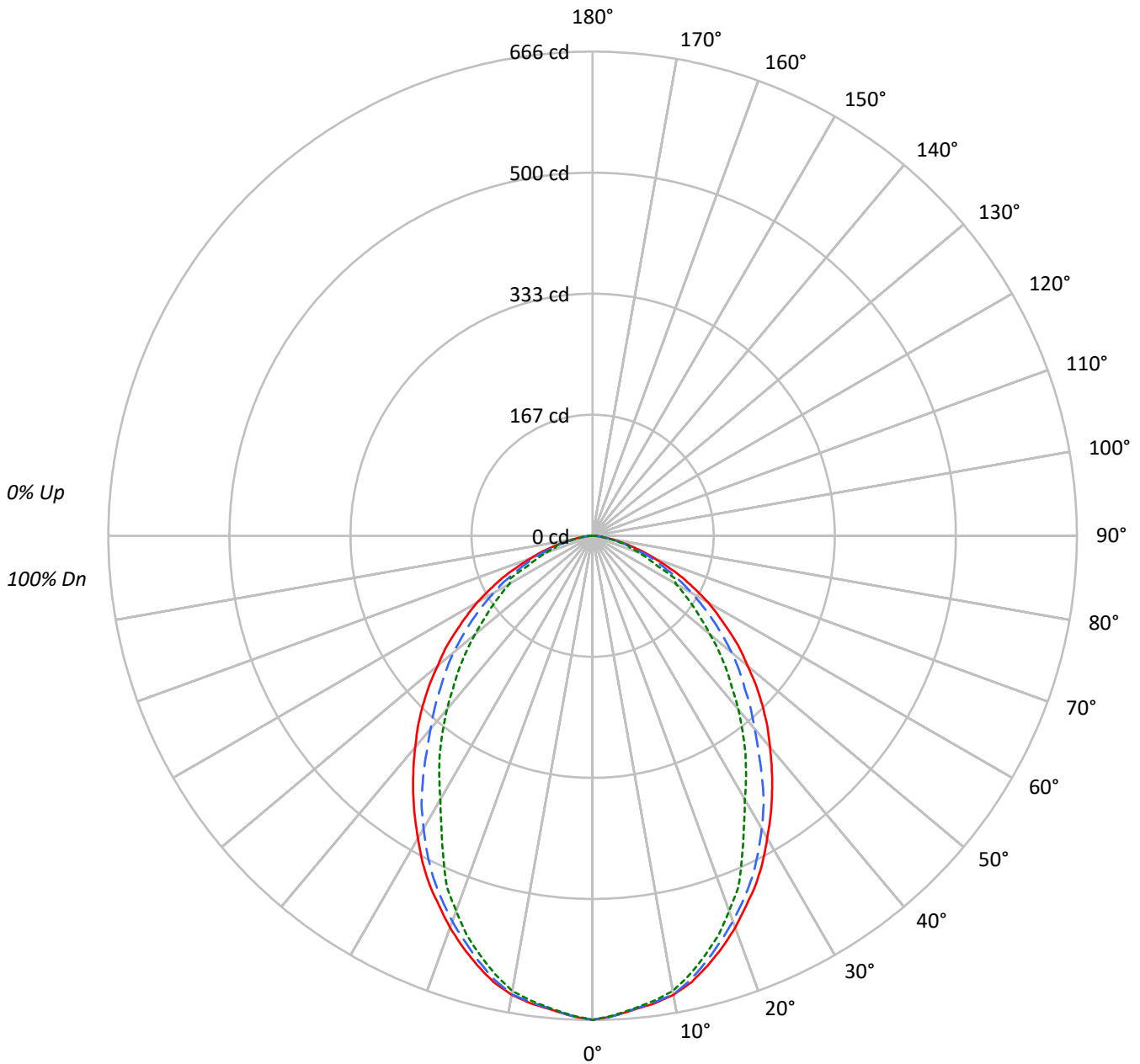
Lumens per Lamp: N/A  
Luminaire Lumens: 1307.0 lumens  
Efficiency: N/A  
Efficacy: 78.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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: P545224

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545224

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-85-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°	7167	7167	7167
5°	7069	7061	7052
10°	7007	7000	6949
15°	6819	6750	6656
20°	6568	6463	6286
25°	6298	6162	5777
30°	5970	5778	5204
35°	5653	5340	4815
40°	5331	4867	4380
45°	5026	4500	3959
50°	4654	4176	3532
55°	4305	3785	3164
60°	3944	3380	2833
65°	3469	2960	2509
70°	2858	2593	2131
75°	2271	1984	2079
80°	1525	1432	1339
85°	951	1136	1334



TEST NUMBER: P545224

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.0	4.7
10°-20°	170.1	13.0
20°-30°	235.5	18.0
30°-40°	251.1	19.2
40°-50°	229.1	17.5
50°-60°	179.4	13.7
60°-70°	117.0	8.9
70°-80°	51.8	4.0
80°-90°	11.1	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°	467.5	35.8
0°-40°	718.6	55.0
0°-60°	1127.1	86.2
0°-90°	1307.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1307.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	666	666	666	666	666	
5°	654	654	654	653	653	62
15°	612	612	606	600	597	172
25°	530	527	519	500	486	243
35°	430	427	406	376	366	269
45°	330	323	296	271	260	254
55°	229	222	202	178	169	206
65°	136	128	116	118	98	134
75°	55	51	48	45	50	59
85°	8	8	9	10	11	11
90°	0	0	0	0	0	



TEST NUMBER: P545224

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	665.8	665.8	665.8	665.8	665.8
2.5°	661.2	661.2	661.2	660.4	660.4
5°	654.2	653.5	653.5	652.7	652.7
7.5°	648.8	648.1	647.3	646.5	645.0
10°	641.1	641.1	640.4	636.5	635.8
12.5°	628.8	628.1	625.0	619.6	618.0
15°	611.9	611.9	605.7	599.6	597.3
17.5°	593.4	592.6	585.0	578.8	575.7
20°	573.4	571.9	564.2	554.2	548.8
22.5°	551.1	551.1	541.9	528.8	523.4
25°	530.3	527.2	518.8	500.3	486.4
27.5°	506.4	501.8	492.6	466.4	450.3
30°	480.3	478.0	464.9	431.0	418.7
32.5°	455.6	451.8	437.9	402.5	392.5
35°	430.2	427.2	406.4	375.6	366.4
37.5°	404.8	401.0	374.8	350.2	338.7
40°	379.4	374.8	346.4	324.0	311.7
42.5°	355.6	349.4	321.7	297.9	284.0
45°	330.2	323.3	295.6	270.9	260.1
47.5°	304.8	298.6	273.2	247.8	235.5
50°	277.9	272.5	249.4	224.0	210.9
52.5°	255.5	247.1	224.7	199.3	188.6
55°	229.4	222.4	201.7	177.8	168.6
57.5°	205.5	198.6	179.3	157.0	149.3
60°	183.2	173.2	157.0	137.8	131.6
62.5°	158.6	150.9	137.0	120.8	128.5
65°	136.2	128.5	116.2	118.5	98.5
67.5°	111.6	107.8	97.0	86.2	83.1
70°	90.8	86.2	82.4	70.8	67.7
72.5°	72.3	67.7	62.3	56.2	53.9
75°	54.6	50.8	47.7	45.4	50.0
77.5°	37.7	36.2	33.9	31.6	30.8
80°	24.6	23.9	23.1	22.3	21.6
82.5°	14.6	14.6	14.6	14.6	14.6
85°	7.7	8.5	9.2	10.0	10.8
87.5°	4.6	4.6	5.4	6.2	6.9
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)