

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: P545129

Luminaire Tested: **FMR-12-1-LD4-2LO-50-UNV-82-86-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: P545129  
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-LD4-2LO-50-UNV-82-86-EDD  
Description: 1X1 FMR TROFFER WITH .187 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**

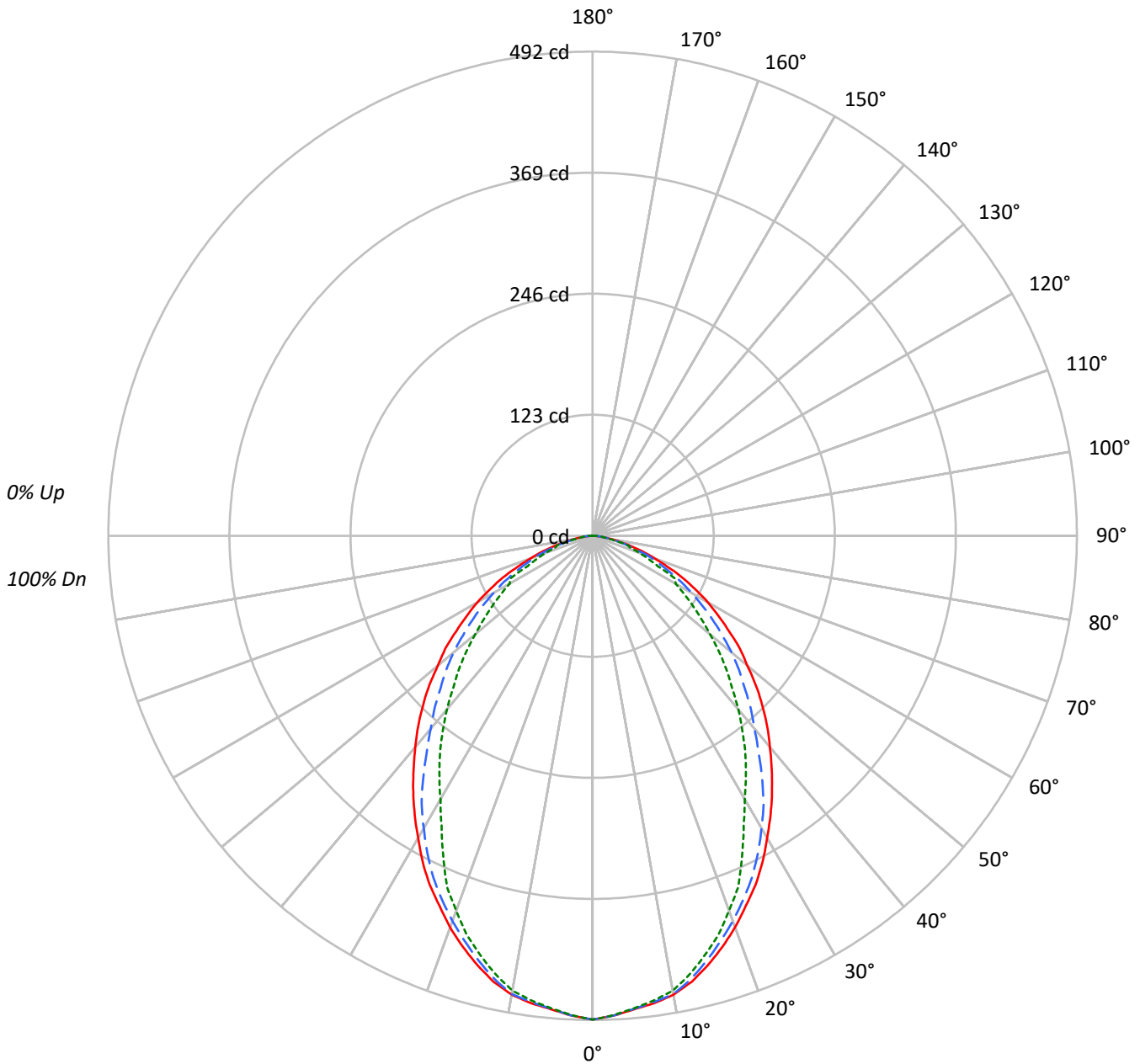
Lumens per Lamp: N/A  
Luminaire Lumens: 965.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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: P545129

CATALOG NUMBER: FMR-12-1-LD4-2LO-50-UNV-82-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545129

CATALOG NUMBER: FMR-12-1-LD4-2LO-50-UNV-82-86-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°	5292	5292	5292
5°	5219	5213	5207
10°	5174	5168	5131
15°	5035	4983	4914
20°	4850	4771	4641
25°	4650	4549	4265
30°	4407	4266	3842
35°	4175	3942	3554
40°	3937	3593	3235
45°	3711	3322	2924
50°	3435	3083	2607
55°	3177	2794	2336
60°	2911	2495	2093
65°	2562	2185	1852
70°	2112	1913	1574
75°	1676	1464	1535
80°	1128	1054	986
85°	704	840	988



TEST NUMBER: P545129

CATALOG NUMBER: FMR-12-1-LD4-2LO-50-UNV-82-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.8	4.7
10°-20°	125.6	13.0
20°-30°	173.9	18.0
30°-40°	185.4	19.2
40°-50°	169.1	17.5
50°-60°	132.5	13.7
60°-70°	86.4	8.9
70°-80°	38.2	4.0
80°-90°	8.2	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°	345.2	35.8
0°-40°	530.6	55.0
0°-60°	832.2	86.2
0°-90°	965.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	965.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	492	492	492	492	492	
5°	483	482	482	482	482	46
15°	452	452	447	443	441	127
25°	392	389	383	369	359	180
35°	318	315	300	277	270	199
45°	244	239	218	200	192	188
55°	169	164	149	131	124	152
65°	101	95	86	88	73	99
75°	40	38	35	34	37	43
85°	6	6	7	7	8	8
90°	0	0	0	0	0	



TEST NUMBER: P545129

CATALOG NUMBER: FMR-12-1-LD4-2LO-50-UNV-82-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	491.6	491.6	491.6	491.6	491.6
2.5°	488.1	488.1	488.1	487.6	487.6
5°	483.0	482.5	482.5	481.9	481.9
7.5°	479.1	478.5	477.9	477.4	476.2
10°	473.4	473.4	472.8	470.0	469.4
12.5°	464.3	463.7	461.4	457.5	456.3
15°	451.8	451.8	447.2	442.7	441.0
17.5°	438.1	437.6	431.9	427.3	425.1
20°	423.4	422.2	416.5	409.2	405.2
22.5°	406.9	406.9	400.1	390.4	386.4
25°	391.5	389.3	383.0	369.4	359.1
27.5°	373.9	370.5	363.7	344.4	332.4
30°	354.6	352.9	343.2	318.2	309.1
32.5°	336.4	333.6	323.3	297.2	289.8
35°	317.7	315.4	300.0	277.3	270.5
37.5°	298.9	296.1	276.8	258.6	250.0
40°	280.2	276.8	255.7	239.2	230.2
42.5°	262.5	258.0	237.5	219.9	209.7
45°	243.8	238.7	218.2	200.0	192.1
47.5°	225.0	220.5	201.7	183.0	173.9
50°	205.1	201.2	184.1	165.4	155.7
52.5°	188.7	182.4	165.9	147.2	139.2
55°	169.3	164.2	148.9	131.3	124.5
57.5°	151.7	146.6	132.4	115.9	110.2
60°	135.2	127.9	115.9	101.7	97.2
62.5°	117.1	111.4	101.2	89.2	94.9
65°	100.6	94.9	85.8	87.5	72.7
67.5°	82.4	79.6	71.6	63.6	61.4
70°	67.1	63.6	60.8	52.3	50.0
72.5°	53.4	50.0	46.0	41.5	39.8
75°	40.3	37.5	35.2	33.5	36.9
77.5°	27.8	26.7	25.0	23.3	22.7
80°	18.2	17.6	17.0	16.5	15.9
82.5°	10.8	10.8	10.8	10.8	10.8
85°	5.7	6.3	6.8	7.4	8.0
87.5°	3.4	3.4	4.0	4.5	5.1
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)