

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: P545230

Luminaire Tested: **FMR-12-1-LD4-2STD-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: P545230  
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-82-97-EDD  
Description: 1X1 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**

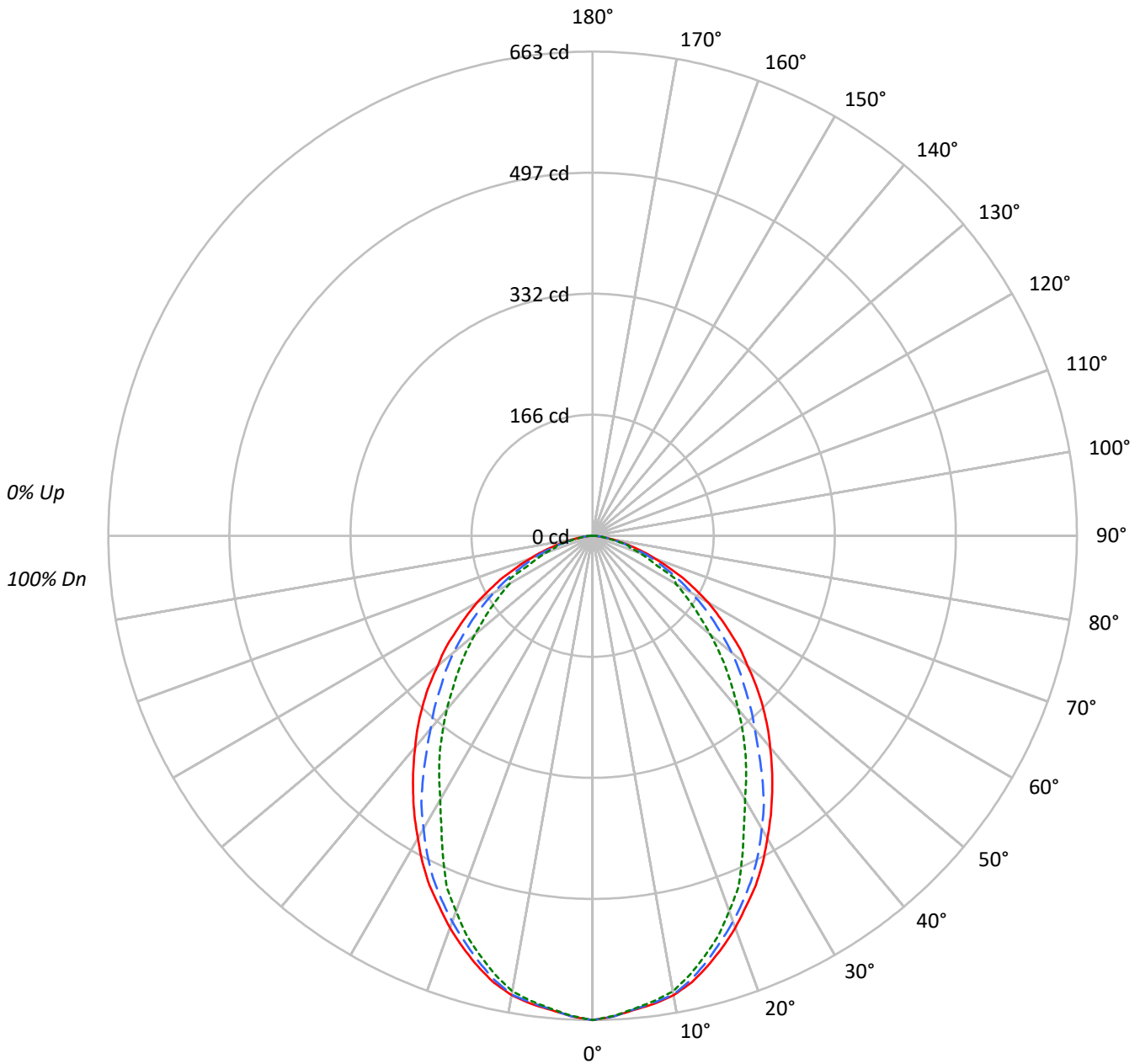
Lumens per Lamp: N/A  
Luminaire Lumens: 1302.0 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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: P545230

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-97-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545230

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-97-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°	7139	7139	7139
5°	7042	7034	7025
10°	6981	6972	6922
15°	6793	6724	6630
20°	6543	6438	6262
25°	6274	6138	5755
30°	5946	5756	5184
35°	5632	5319	4796
40°	5311	4848	4363
45°	5007	4481	3946
50°	4635	4160	3518
55°	4288	3770	3151
60°	3929	3367	2822
65°	3456	2949	2499
70°	2848	2581	2124
75°	2262	1975	2071
80°	1519	1426	1333
85°	951	1136	1321



TEST NUMBER: P545230

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-97-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.7	4.7
10°-20°	169.4	13.0
20°-30°	234.6	18.0
30°-40°	250.1	19.2
40°-50°	228.2	17.5
50°-60°	178.8	13.7
60°-70°	116.5	8.9
70°-80°	51.6	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°	465.7	35.8
0°-40°	715.9	55.0
0°-60°	1122.8	86.2
0°-90°	1302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1302.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	652	651	651	650	650	62
15°	610	610	603	597	595	171
25°	528	525	517	498	485	243
35°	429	426	405	374	365	268
45°	329	322	294	270	259	253
55°	228	222	201	177	168	205
65°	136	128	116	118	98	134
75°	54	51	48	45	50	58
85°	8	8	9	10	11	11
90°	0	0	0	0	0	



TEST NUMBER: P545230

CATALOG NUMBER: FMR-12-1-LD4-2STD-50-UNV-82-97-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	663.2	663.2	663.2	663.2	663.2
2.5°	658.6	658.6	658.6	657.9	657.9
5°	651.7	651.0	651.0	650.2	650.2
7.5°	646.4	645.6	644.8	644.1	642.5
10°	638.7	638.7	637.9	634.1	633.3
12.5°	626.4	625.7	622.6	617.2	615.7
15°	609.6	609.6	603.4	597.3	595.0
17.5°	591.1	590.4	582.7	576.6	573.5
20°	571.2	569.7	562.0	552.0	546.7
22.5°	549.0	549.0	539.8	526.7	521.4
25°	528.3	525.2	516.8	498.4	484.6
27.5°	504.5	499.9	490.7	464.6	448.5
30°	478.4	476.1	463.1	429.4	417.1
32.5°	453.9	450.1	436.3	401.0	391.0
35°	428.6	425.5	404.8	374.2	365.0
37.5°	403.3	399.5	373.4	348.9	337.4
40°	378.0	373.4	345.0	322.8	310.5
42.5°	354.2	348.1	320.5	296.7	282.9
45°	328.9	322.0	294.4	269.9	259.2
47.5°	303.6	297.5	272.2	246.9	234.6
50°	276.8	271.4	248.4	223.1	210.1
52.5°	254.6	246.1	223.9	198.6	187.8
55°	228.5	221.6	200.9	177.1	167.9
57.5°	204.7	197.8	178.6	156.4	148.7
60°	182.5	172.5	156.4	137.2	131.1
62.5°	157.9	150.3	136.5	120.4	128.0
65°	135.7	128.0	115.8	118.1	98.1
67.5°	111.2	107.3	96.6	85.9	82.8
70°	90.5	85.9	82.0	70.5	67.5
72.5°	72.1	67.5	62.1	56.0	53.7
75°	54.4	50.6	47.5	45.2	49.8
77.5°	37.6	36.0	33.7	31.4	30.7
80°	24.5	23.8	23.0	22.2	21.5
82.5°	14.6	14.6	14.6	14.6	14.6
85°	7.7	8.4	9.2	10.0	10.7
87.5°	4.6	4.6	5.4	6.1	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)