

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: P545480

Luminaire Tested: **FMR-12-2-LD4-1STD-40-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: P545480  
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-12-2-LD4-1STD-40-UNV-82-85-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

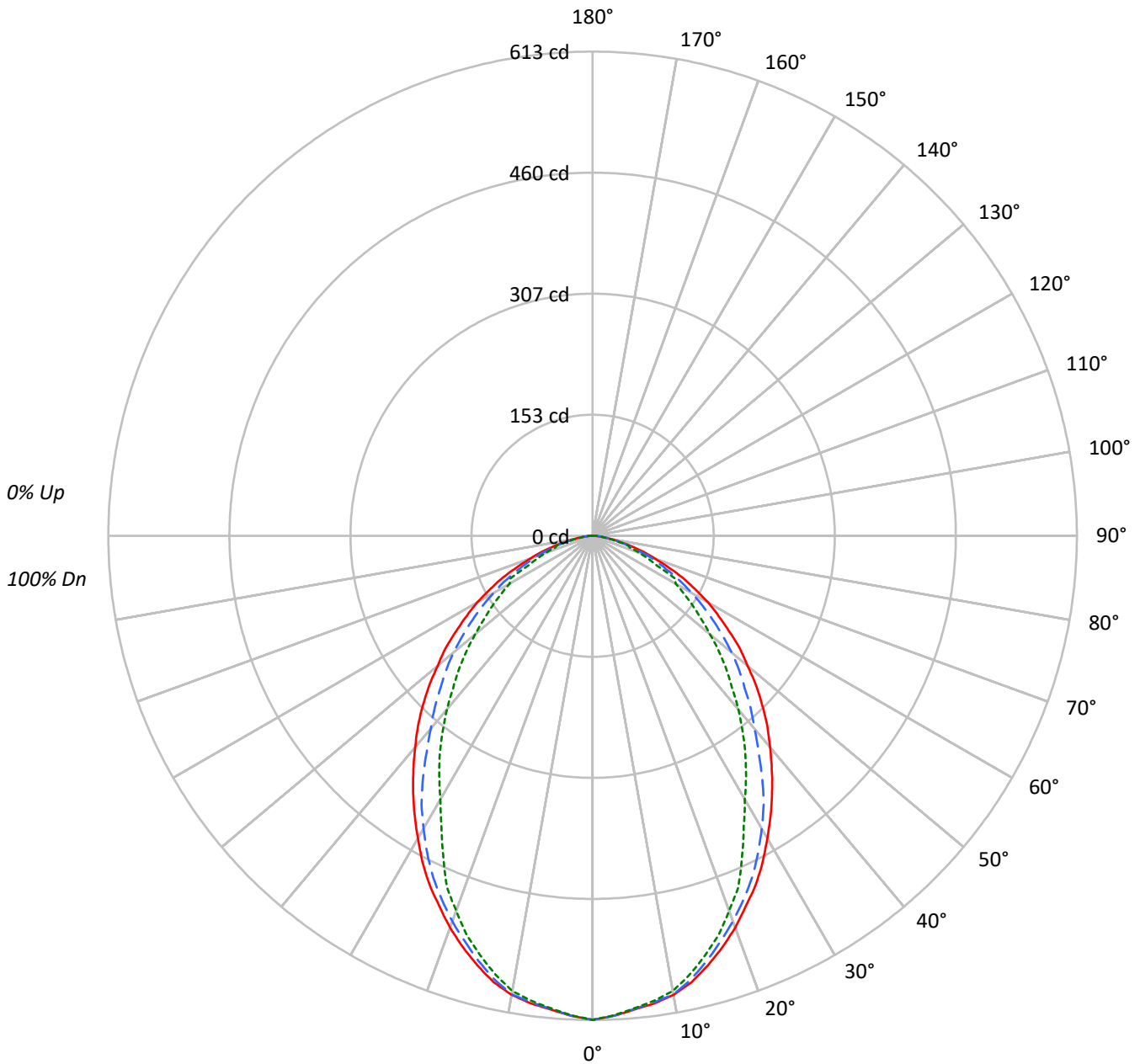
Lumens per Lamp: N/A  
Luminaire Lumens: 1203.0 lumens  
Efficiency: N/A  
Efficacy: 72.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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: P545480

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545480

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-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°	3298	3298	3298
5°	3253	3250	3245
10°	3225	3221	3198
15°	3138	3106	3063
20°	3023	2974	2893
25°	2899	2836	2659
30°	2747	2659	2395
35°	2602	2458	2215
40°	2454	2240	2016
45°	2313	2070	1822
50°	2141	1922	1625
55°	1981	1742	1455
60°	1815	1555	1304
65°	1597	1363	1155
70°	1316	1193	980
75°	1046	913	957
80°	704	660	614
85°	438	525	611



TEST NUMBER: P545480

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.0	4.7
10°-20°	156.5	13.0
20°-30°	216.7	18.0
30°-40°	231.1	19.2
40°-50°	210.8	17.5
50°-60°	165.2	13.7
60°-70°	107.6	8.9
70°-80°	47.7	4.0
80°-90°	10.3	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°	430.3	35.8
0°-40°	661.4	55.0
0°-60°	1037.4	86.2
0°-90°	1203.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1203.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	613	613	613	613	613	
5°	602	602	602	601	601	57
15°	563	563	558	552	550	158
25°	488	485	478	460	448	224
35°	396	393	374	346	337	248
45°	304	298	272	249	239	234
55°	211	205	186	164	155	189
65°	125	118	107	109	91	124
75°	50	47	44	42	46	54
85°	7	8	8	9	10	10
90°	0	0	0	0	0	



TEST NUMBER: P545480

CATALOG NUMBER: FMR-12-2-LD4-1STD-40-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	612.8	612.8	612.8	612.8	612.8
2.5°	608.5	608.5	608.5	607.8	607.8
5°	602.2	601.5	601.5	600.7	600.7
7.5°	597.2	596.5	595.8	595.1	593.7
10°	590.1	590.1	589.4	585.9	585.2
12.5°	578.8	578.1	575.2	570.3	568.9
15°	563.2	563.2	557.5	551.9	549.7
17.5°	546.2	545.5	538.4	532.7	529.9
20°	527.8	526.4	519.3	510.1	505.1
22.5°	507.2	507.2	498.7	486.7	481.7
25°	488.1	485.3	477.5	460.5	447.7
27.5°	466.1	461.9	453.4	429.3	414.4
30°	442.1	439.9	427.9	396.7	385.4
32.5°	419.4	415.8	403.1	370.5	361.3
35°	396.0	393.2	374.1	345.7	337.2
37.5°	372.6	369.1	345.0	322.3	311.7
40°	349.3	345.0	318.8	298.2	286.9
42.5°	327.3	321.6	296.1	274.2	261.4
45°	303.9	297.5	272.0	249.4	239.4
47.5°	280.5	274.9	251.5	228.1	216.8
50°	255.7	250.8	229.5	206.2	194.1
52.5°	235.2	227.4	206.9	183.5	173.6
55°	211.1	204.7	185.6	163.6	155.1
57.5°	189.2	182.8	165.1	144.5	137.4
60°	168.6	159.4	144.5	126.8	121.1
62.5°	145.9	138.9	126.1	111.2	118.3
65°	125.4	118.3	107.0	109.1	90.7
67.5°	102.7	99.2	89.3	79.3	76.5
70°	83.6	79.3	75.8	65.2	62.3
72.5°	66.6	62.3	57.4	51.7	49.6
75°	50.3	46.8	43.9	41.8	46.0
77.5°	34.7	33.3	31.2	29.0	28.3
80°	22.7	22.0	21.3	20.5	19.8
82.5°	13.5	13.5	13.5	13.5	13.5
85°	7.1	7.8	8.5	9.2	9.9
87.5°	4.3	4.3	5.0	5.7	6.4
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)