

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: P545065

Luminaire Tested: **FMR-12-1-LD4-2LO-35-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: P545065  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

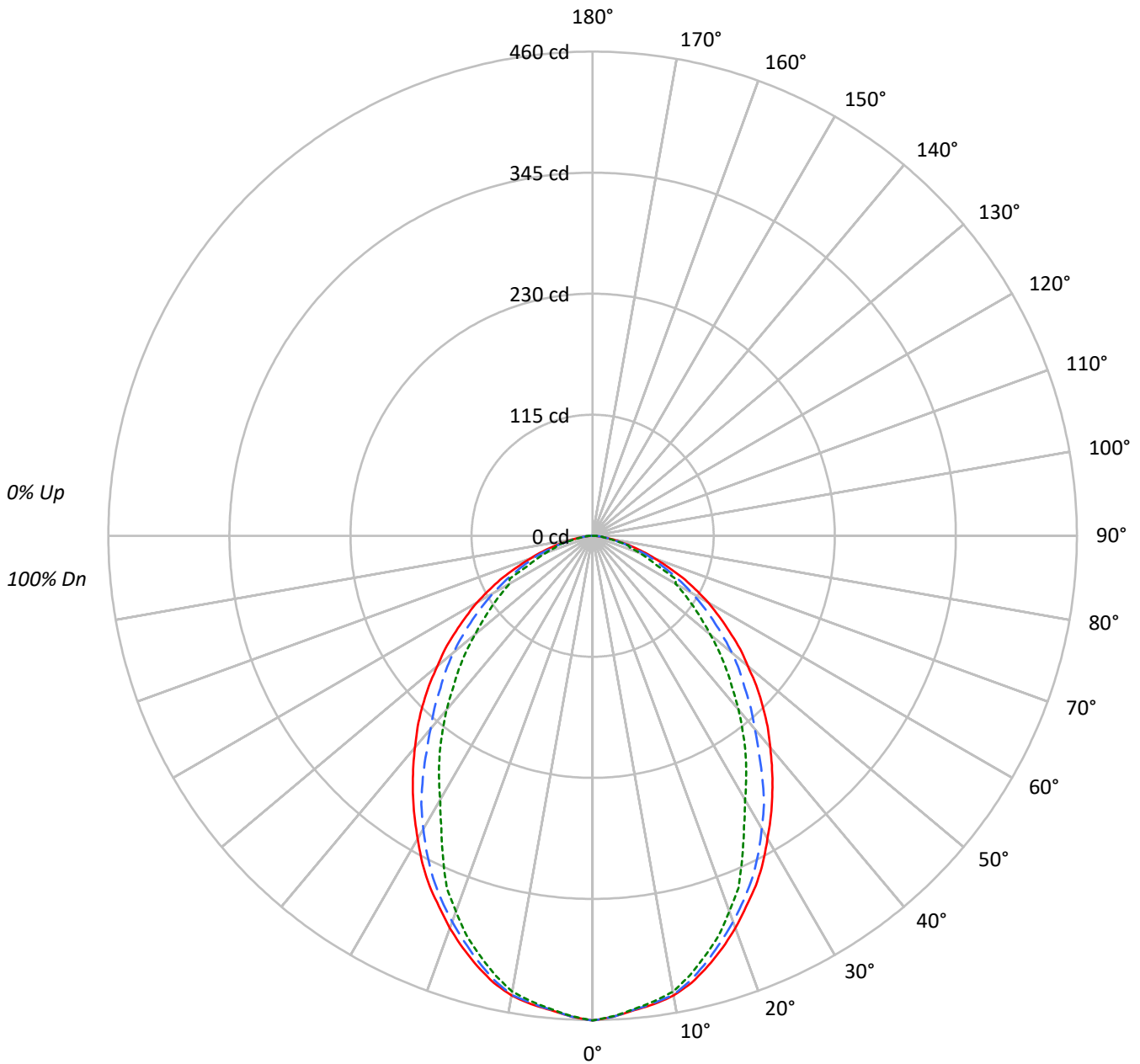
Lumens per Lamp: N/A  
Luminaire Lumens: 904.0 lumens  
Efficiency: N/A  
Efficacy: 77.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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: P545065

CATALOG NUMBER: FMR-12-1-LD4-2LO-35-UNV-82-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545065

CATALOG NUMBER: FMR-12-1-LD4-2LO-35-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°	4957	4957	4957
5°	4889	4884	4877
10°	4847	4841	4806
15°	4716	4669	4603
20°	4543	4470	4348
25°	4356	4261	3995
30°	4129	3996	3599
35°	3911	3694	3330
40°	3688	3367	3029
45°	3477	3111	2739
50°	3219	2889	2443
55°	2976	2618	2188
60°	2728	2338	1959
65°	2399	2048	1734
70°	1976	1794	1473
75°	1572	1372	1439
80°	1054	992	924
85°	655	790	926



TEST NUMBER: P545065

CATALOG NUMBER: FMR-12-1-LD4-2LO-35-UNV-82-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.9	4.7
10°-20°	117.6	13.0
20°-30°	162.9	18.0
30°-40°	173.7	19.2
40°-50°	158.4	17.5
50°-60°	124.1	13.7
60°-70°	80.9	8.9
70°-80°	35.8	4.0
80°-90°	7.7	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°	323.4	35.8
0°-40°	497.0	55.0
0°-60°	779.6	86.2
0°-90°	904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	904.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	460	460	460	460	460	
5°	452	452	452	451	451	43
15°	423	423	419	415	413	119
25°	367	365	359	346	336	168
35°	298	296	281	260	253	186
45°	228	224	204	187	180	176
55°	159	154	140	123	117	142
65°	94	89	80	82	68	93
75°	38	35	33	31	35	40
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



TEST NUMBER: P545065

CATALOG NUMBER: FMR-12-1-LD4-2LO-35-UNV-82-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	460.5	460.5	460.5	460.5	460.5
2.5°	457.3	457.3	457.3	456.8	456.8
5°	452.5	452.0	452.0	451.4	451.4
7.5°	448.8	448.2	447.7	447.2	446.1
10°	443.5	443.5	442.9	440.3	439.7
12.5°	434.9	434.4	432.3	428.5	427.5
15°	423.2	423.2	419.0	414.7	413.1
17.5°	410.4	409.9	404.6	400.3	398.2
20°	396.6	395.5	390.2	383.3	379.6
22.5°	381.2	381.2	374.8	365.7	362.0
25°	366.8	364.7	358.8	346.0	336.4
27.5°	350.3	347.1	340.7	322.6	311.4
30°	332.2	330.6	321.5	298.1	289.6
32.5°	315.2	312.5	302.9	278.4	271.5
35°	297.6	295.5	281.1	259.8	253.4
37.5°	280.0	277.4	259.3	242.2	234.2
40°	262.5	259.3	239.6	224.1	215.6
42.5°	245.9	241.7	222.5	206.0	196.4
45°	228.4	223.6	204.4	187.4	179.9
47.5°	210.8	206.6	189.0	171.4	162.9
50°	192.2	188.5	172.5	154.9	145.9
52.5°	176.7	170.9	155.4	137.9	130.4
55°	158.6	153.9	139.5	123.0	116.6
57.5°	142.1	137.3	124.0	108.6	103.3
60°	126.7	119.8	108.6	95.3	91.0
62.5°	109.7	104.3	94.8	83.6	88.9
65°	94.2	88.9	80.4	82.0	68.1
67.5°	77.2	74.5	67.1	59.6	57.5
70°	62.8	59.6	57.0	49.0	46.8
72.5°	50.0	46.8	43.1	38.9	37.3
75°	37.8	35.1	33.0	31.4	34.6
77.5°	26.1	25.0	23.4	21.8	21.3
80°	17.0	16.5	16.0	15.4	14.9
82.5°	10.1	10.1	10.1	10.1	10.1
85°	5.3	5.9	6.4	6.9	7.5
87.5°	3.2	3.2	3.7	4.3	4.8
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)