

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: P544707

Luminaire Tested: **FMR-12-1-LD4-1HI-40-UNV-81-88-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: P544707  
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-LD4-1HI-40-UNV-81-88-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

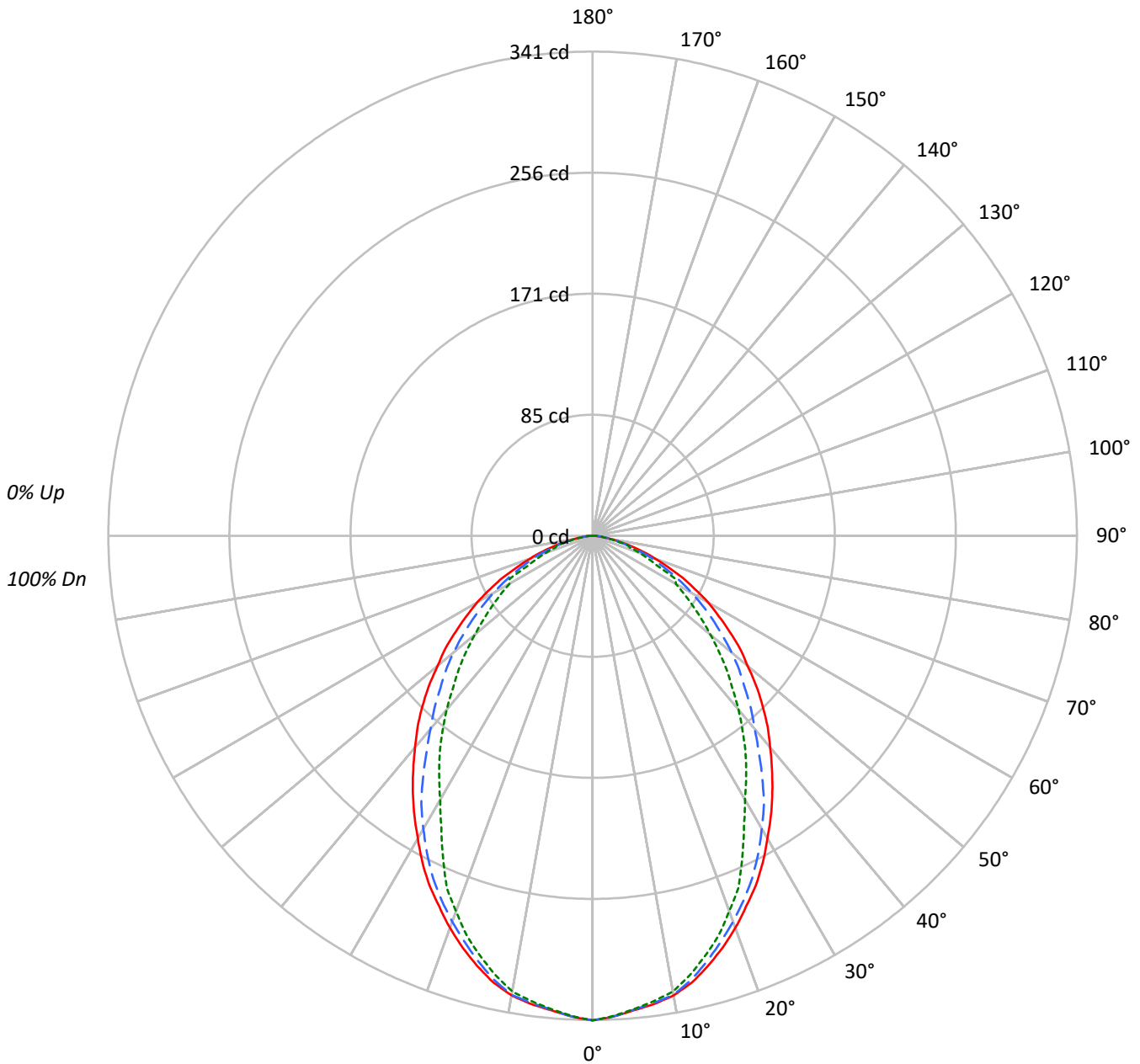
Lumens per Lamp: N/A  
Luminaire Lumens: 670.0 lumens  
Efficiency: N/A  
Efficacy: 62.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 10.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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

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### Luminous Intensity Polar Plot





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**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°	3674	3674	3674
5°	3624	3620	3615
10°	3593	3588	3562
15°	3496	3460	3412
20°	3367	3313	3222
25°	3228	3158	2962
30°	3060	2962	2667
35°	2899	2737	2468
40°	2733	2494	2245
45°	2577	2306	2031
50°	2385	2140	1810
55°	2207	1940	1621
60°	2021	1733	1453
65°	1778	1518	1286
70°	1467	1328	1092
75°	1164	1019	1065
80°	781	731	682
85°	482	580	679



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.8	4.7
10°-20°	87.2	13.0
20°-30°	120.7	18.0
30°-40°	128.7	19.2
40°-50°	117.4	17.5
50°-60°	92.0	13.7
60°-70°	59.9	8.9
70°-80°	26.6	4.0
80°-90°	5.7	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°	239.7	35.8
0°-40°	368.4	55.0
0°-60°	577.8	86.2
0°-90°	670.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	670.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	341	341	341	341	341	
5°	335	335	335	335	335	32
15°	314	314	310	307	306	88
25°	272	270	266	256	249	125
35°	221	219	208	192	188	138
45°	169	166	152	139	133	130
55°	118	114	103	91	86	105
65°	70	66	60	61	50	69
75°	28	26	24	23	26	30
85°	4	4	5	5	6	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	341.3	341.3	341.3	341.3	341.3
2.5°	338.9	338.9	338.9	338.5	338.5
5°	335.4	335.0	335.0	334.6	334.6
7.5°	332.6	332.2	331.8	331.4	330.6
10°	328.7	328.7	328.3	326.3	325.9
12.5°	322.4	322.0	320.4	317.6	316.8
15°	313.7	313.7	310.5	307.4	306.2
17.5°	304.2	303.8	299.9	296.7	295.1
20°	293.9	293.2	289.2	284.1	281.3
22.5°	282.5	282.5	277.8	271.1	268.3
25°	271.8	270.3	265.9	256.5	249.4
27.5°	259.6	257.2	252.5	239.1	230.8
30°	246.2	245.0	238.3	221.0	214.6
32.5°	233.6	231.6	224.5	206.4	201.2
35°	220.6	219.0	208.3	192.5	187.8
37.5°	207.5	205.6	192.1	179.5	173.6
40°	194.5	192.1	177.5	166.1	159.8
42.5°	182.3	179.1	164.9	152.7	145.6
45°	169.3	165.7	151.5	138.9	133.4
47.5°	156.2	153.1	140.1	127.0	120.7
50°	142.4	139.7	127.8	114.8	108.1
52.5°	131.0	126.7	115.2	102.2	96.7
55°	117.6	114.0	103.4	91.1	86.4
57.5°	105.3	101.8	91.9	80.5	76.5
60°	93.9	88.8	80.5	70.6	67.5
62.5°	81.3	77.3	70.2	61.9	65.9
65°	69.8	65.9	59.6	60.8	50.5
67.5°	57.2	55.2	49.7	44.2	42.6
70°	46.6	44.2	42.2	36.3	34.7
72.5°	37.1	34.7	32.0	28.8	27.6
75°	28.0	26.0	24.5	23.3	25.6
77.5°	19.3	18.5	17.4	16.2	15.8
80°	12.6	12.2	11.8	11.4	11.0
82.5°	7.5	7.5	7.5	7.5	7.5
85°	3.9	4.3	4.7	5.1	5.5
87.5°	2.4	2.4	2.8	3.2	3.6
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)