

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: P545002

Luminaire Tested: **FMR-12-1-LD4-2HI-40-UNV-82-87-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: P545002  
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-LD4-2HI-40-UNV-82-87-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

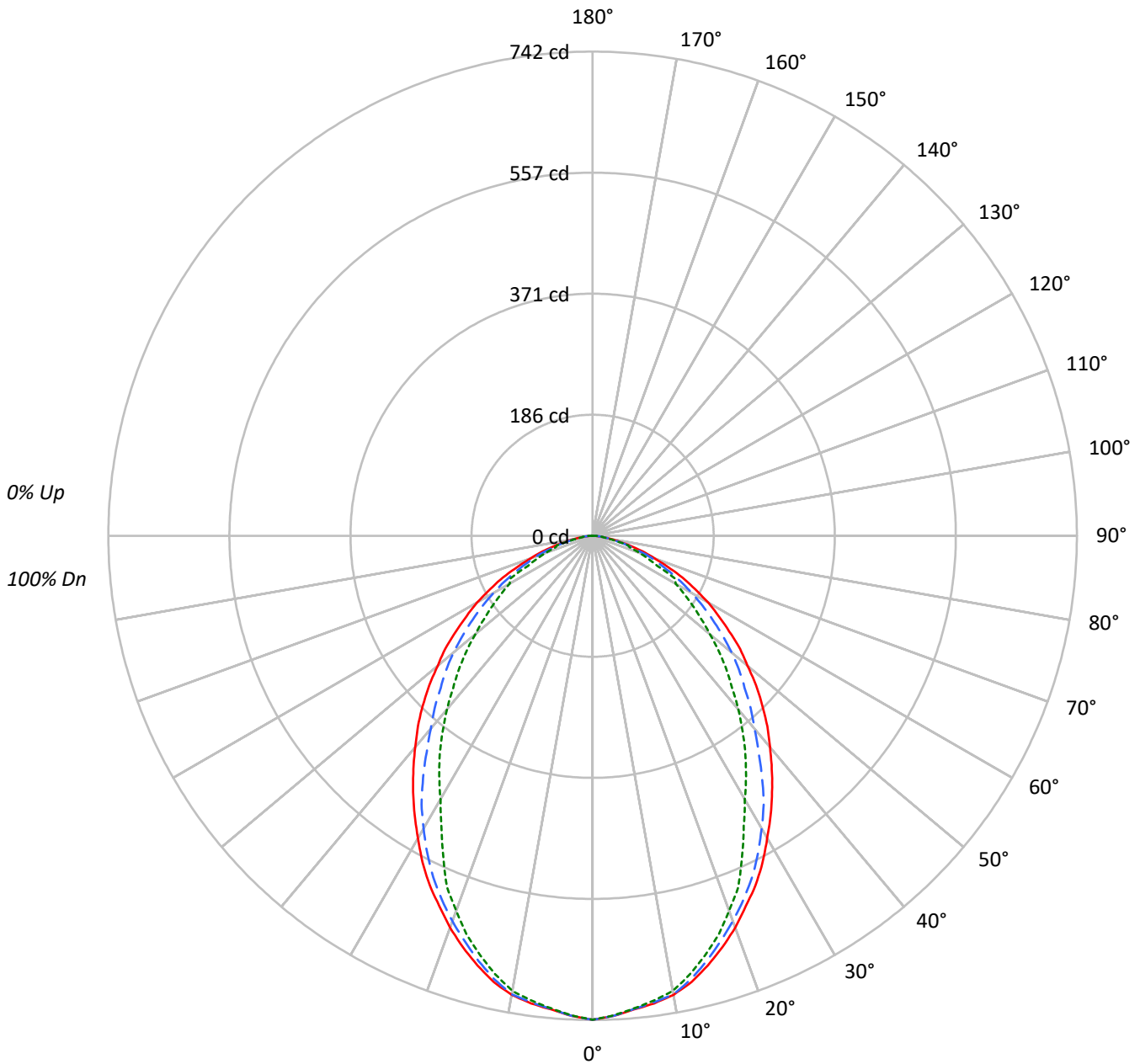
Lumens per Lamp: N/A  
Luminaire Lumens: 1456.0 lumens  
Efficiency: N/A  
Efficacy: 67.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	7984	7984	7984
5°	7875	7865	7856
10°	7806	7797	7741
15°	7595	7520	7415
20°	7317	7199	7002
25°	7017	6864	6436
30°	6650	6437	5797
35°	6298	5949	5363
40°	5939	5421	4880
45°	5599	5011	4411
50°	5183	4652	3934
55°	4795	4215	3524
60°	4394	3765	3156
65°	3866	3298	2794
70°	3185	2886	2376
75°	2533	2213	2316
80°	1698	1593	1488
85°	1062	1272	1482



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.0	4.7
10°-20°	189.5	13.0
20°-30°	262.3	18.0
30°-40°	279.7	19.2
40°-50°	255.2	17.5
50°-60°	199.9	13.7
60°-70°	130.3	8.9
70°-80°	57.7	4.0
80°-90°	12.4	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°	520.8	35.8
0°-40°	800.5	55.0
0°-60°	1255.6	86.2
0°-90°	1456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1456.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	742	742	742	742	742	
5°	729	728	728	727	727	69
15°	682	682	675	668	665	192
25°	591	587	578	557	542	271
35°	479	476	453	418	408	300
45°	368	360	329	302	290	283
55°	256	248	225	198	188	229
65°	152	143	130	132	110	150
75°	61	57	53	51	56	65
85°	9	9	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	741.7	741.7	741.7	741.7	741.7
2.5°	736.5	736.5	736.5	735.7	735.7
5°	728.8	727.9	727.9	727.1	727.1
7.5°	722.8	721.9	721.1	720.2	718.5
10°	714.2	714.2	713.4	709.1	708.2
12.5°	700.5	699.7	696.2	690.2	688.5
15°	681.6	681.6	674.8	667.9	665.4
17.5°	661.1	660.2	651.6	644.8	641.3
20°	638.8	637.1	628.5	617.3	611.3
22.5°	613.9	613.9	603.6	589.0	583.0
25°	590.8	587.3	577.9	557.3	541.9
27.5°	564.2	559.0	548.7	519.6	501.6
30°	535.0	532.5	517.9	480.2	466.4
32.5°	507.6	503.3	487.9	448.4	437.3
35°	479.3	475.9	452.7	418.4	408.1
37.5°	451.0	446.7	417.6	390.1	377.3
40°	422.7	417.6	385.8	361.0	347.3
42.5°	396.1	389.3	358.4	331.8	316.4
45°	367.8	360.1	329.2	301.8	289.8
47.5°	339.5	332.7	304.4	276.1	262.4
50°	309.5	303.5	277.8	249.5	234.9
52.5°	284.7	275.2	250.4	222.1	210.1
55°	255.5	247.8	224.6	198.1	187.8
57.5°	228.9	221.2	199.8	174.9	166.3
60°	204.1	192.9	174.9	153.5	146.6
62.5°	176.6	168.1	152.6	134.6	143.2
65°	151.8	143.2	129.5	132.0	109.7
67.5°	124.3	120.0	108.0	96.0	92.6
70°	101.2	96.0	91.7	78.9	75.5
72.5°	80.6	75.5	69.5	62.6	60.0
75°	60.9	56.6	53.2	50.6	55.7
77.5°	42.0	40.3	37.7	35.2	34.3
80°	27.4	26.6	25.7	24.9	24.0
82.5°	16.3	16.3	16.3	16.3	16.3
85°	8.6	9.4	10.3	11.1	12.0
87.5°	5.1	5.1	6.0	6.9	7.7
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)