

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: P544737

Luminaire Tested: **FMR-12-1-LD4-1HI-50-UNV-81-86-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: P544737  
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-50-UNV-81-86-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

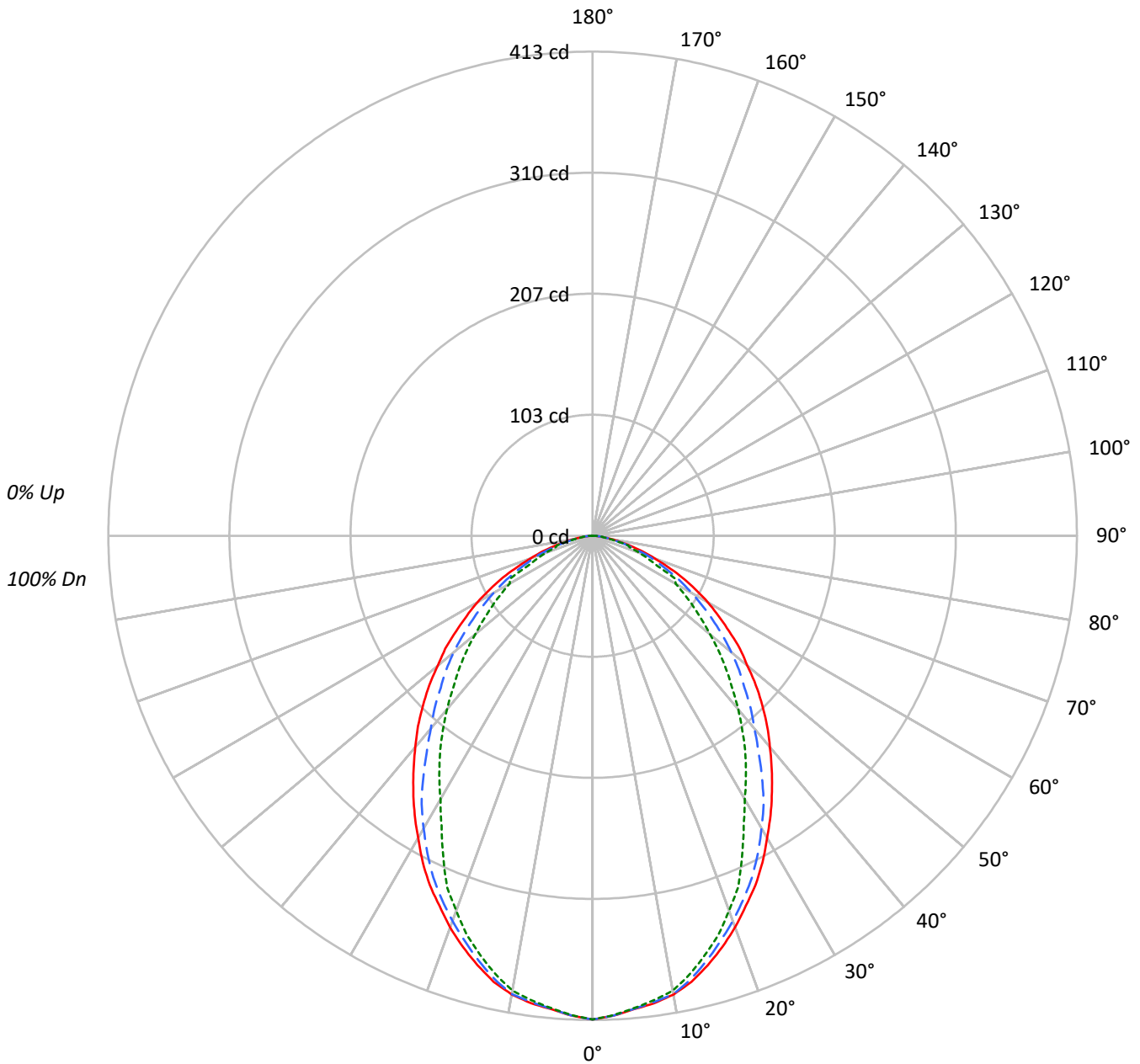
Lumens per Lamp: N/A  
Luminaire Lumens: 810.0 lumens  
Efficiency: N/A  
Efficacy: 75.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4441	4441	4441
5°	4380	4376	4371
10°	4342	4338	4306
15°	4226	4183	4125
20°	4071	4005	3896
25°	3904	3818	3581
30°	3699	3581	3225
35°	3503	3310	2984
40°	3305	3015	2715
45°	3115	2789	2454
50°	2884	2587	2189
55°	2667	2346	1961
60°	2443	2095	1757
65°	2150	1834	1556
70°	1772	1605	1322
75°	1410	1231	1289
80°	948	886	831
85°	593	704	827



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.4	4.7
10°-20°	105.4	13.0
20°-30°	145.9	18.0
30°-40°	155.6	19.2
40°-50°	142.0	17.5
50°-60°	111.2	13.7
60°-70°	72.5	8.9
70°-80°	32.1	4.0
80°-90°	6.9	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°	289.7	35.8
0°-40°	445.3	55.0
0°-60°	698.5	86.2
0°-90°	810.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	810.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	413	413	413	413	413	
5°	405	405	405	404	404	38
15°	379	379	375	372	370	107
25°	329	327	322	310	302	151
35°	267	265	252	233	227	167
45°	205	200	183	168	161	158
55°	142	138	125	110	104	127
65°	84	80	72	74	61	83
75°	34	32	30	28	31	36
85°	5	5	6	6	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	412.6	412.6	412.6	412.6	412.6
2.5°	409.7	409.7	409.7	409.3	409.3
5°	405.4	405.0	405.0	404.5	404.5
7.5°	402.1	401.6	401.2	400.7	399.7
10°	397.3	397.3	396.9	394.5	394.0
12.5°	389.7	389.2	387.3	384.0	383.0
15°	379.2	379.2	375.4	371.6	370.2
17.5°	367.8	367.3	362.5	358.7	356.8
20°	355.4	354.4	349.6	343.4	340.1
22.5°	341.5	341.5	335.8	327.7	324.4
25°	328.7	326.7	321.5	310.0	301.5
27.5°	313.9	311.0	305.3	289.1	279.0
30°	297.6	296.2	288.1	267.1	259.5
32.5°	282.4	280.0	271.4	249.5	243.3
35°	266.6	264.7	251.9	232.8	227.1
37.5°	250.9	248.5	232.3	217.0	209.9
40°	235.2	232.3	214.6	200.8	193.2
42.5°	220.4	216.6	199.4	184.6	176.0
45°	204.6	200.3	183.2	167.9	161.2
47.5°	188.9	185.1	169.3	153.6	146.0
50°	172.2	168.9	154.5	138.8	130.7
52.5°	158.4	153.1	139.3	123.5	116.9
55°	142.1	137.9	125.0	110.2	104.5
57.5°	127.4	123.1	111.1	97.3	92.5
60°	113.5	107.3	97.3	85.4	81.6
62.5°	98.3	93.5	84.9	74.9	79.7
65°	84.4	79.7	72.0	73.5	61.1
67.5°	69.2	66.8	60.1	53.4	51.5
70°	56.3	53.4	51.0	43.9	42.0
72.5°	44.8	42.0	38.6	34.8	33.4
75°	33.9	31.5	29.6	28.1	31.0
77.5°	23.4	22.4	21.0	19.6	19.1
80°	15.3	14.8	14.3	13.8	13.4
82.5°	9.1	9.1	9.1	9.1	9.1
85°	4.8	5.2	5.7	6.2	6.7
87.5°	2.9	2.9	3.3	3.8	4.3
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)