

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: P545005

Luminaire Tested: **FMR-12-1-LD4-2HI-40-UNV-82-96-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: P545005  
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-82-96-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

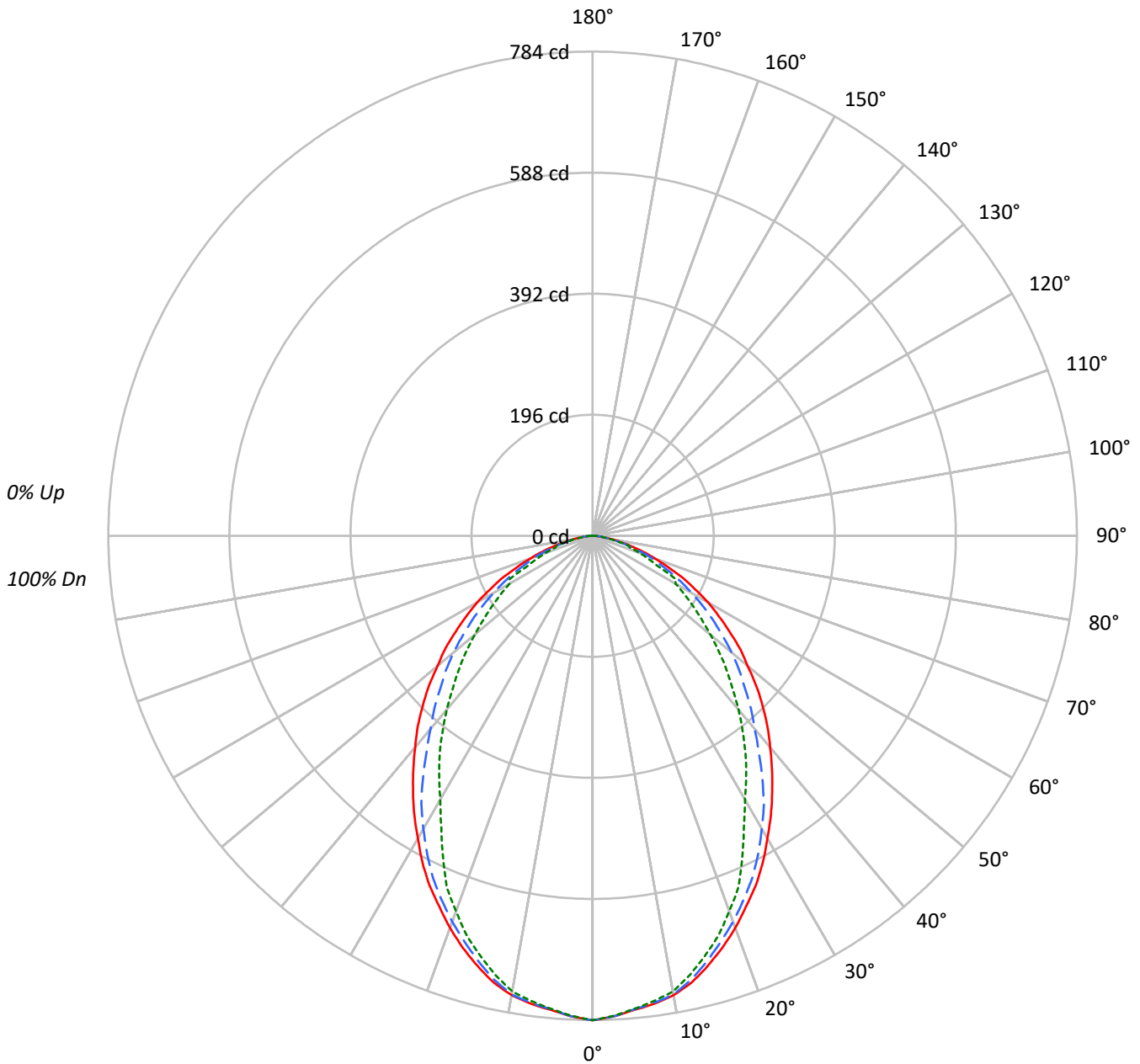
Lumens per Lamp: N/A  
Luminaire Lumens: 1540.0 lumens  
Efficiency: N/A  
Efficacy: 71.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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

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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	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°	8444	8444	8444
5°	8330	8319	8309
10°	8256	8247	8188
15°	8035	7953	7842
20°	7739	7614	7407
25°	7421	7259	6808
30°	7034	6809	6131
35°	6661	6292	5673
40°	6282	5734	5161
45°	5923	5300	4666
50°	5483	4920	4161
55°	5073	4459	3727
60°	4646	3983	3339
65°	4088	3487	2957
70°	3367	3053	2511
75°	2678	2337	2450
80°	1798	1686	1574
85°	1124	1346	1568



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.0	4.7
10°-20°	200.4	13.0
20°-30°	277.4	18.0
30°-40°	295.8	19.2
40°-50°	269.9	17.5
50°-60°	211.4	13.7
60°-70°	137.8	8.9
70°-80°	61.1	4.0
80°-90°	13.1	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°	550.9	35.8
0°-40°	846.7	55.0
0°-60°	1328.0	86.2
0°-90°	1540.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1540.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	784	784	784	784	784	
5°	771	770	770	769	769	73
15°	721	721	714	706	704	203
25°	625	621	611	590	573	287
35°	507	503	479	443	432	317
45°	389	381	348	319	306	300
55°	270	262	238	210	199	242
65°	160	151	137	140	116	158
75°	64	60	56	54	59	69
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	784.5	784.5	784.5	784.5	784.5
2.5°	779.0	779.0	779.0	778.1	778.1
5°	770.9	769.9	769.9	769.0	769.0
7.5°	764.5	763.6	762.7	761.8	760.0
10°	755.4	755.4	754.5	750.0	749.1
12.5°	740.9	740.0	736.4	730.0	728.2
15°	721.0	721.0	713.7	706.5	703.7
17.5°	699.2	698.3	689.2	682.0	678.3
20°	675.6	673.8	664.7	653.0	646.6
22.5°	649.3	649.3	638.4	623.0	616.7
25°	624.8	621.2	611.2	589.5	573.2
27.5°	596.7	591.3	580.4	549.6	530.5
30°	565.9	563.2	547.8	507.9	493.3
32.5°	536.9	532.3	516.0	474.3	462.5
35°	506.9	503.3	478.8	442.6	431.7
37.5°	477.0	472.5	441.7	412.6	399.0
40°	447.1	441.7	408.1	381.8	367.3
42.5°	419.0	411.7	379.1	351.0	334.6
45°	389.1	380.9	348.2	319.2	306.5
47.5°	359.1	351.9	321.9	292.0	277.5
50°	327.4	321.0	293.8	263.9	248.5
52.5°	301.1	291.1	264.8	234.9	222.2
55°	270.3	262.1	237.6	209.5	198.6
57.5°	242.1	234.0	211.3	185.0	175.9
60°	215.8	204.0	185.0	162.3	155.1
62.5°	186.8	177.7	161.4	142.4	151.4
65°	160.5	151.4	136.9	139.7	116.1
67.5°	131.5	127.0	114.3	101.6	97.9
70°	107.0	101.6	97.0	83.4	79.8
72.5°	85.2	79.8	73.5	66.2	63.5
75°	64.4	59.9	56.2	53.5	58.9
77.5°	44.4	42.6	39.9	37.2	36.3
80°	29.0	28.1	27.2	26.3	25.4
82.5°	17.2	17.2	17.2	17.2	17.2
85°	9.1	10.0	10.9	11.8	12.7
87.5°	5.4	5.4	6.3	7.3	8.2
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)