

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: P545037

Luminaire Tested: **FMR-12-1-LD4-2HI-50-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: P545037  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

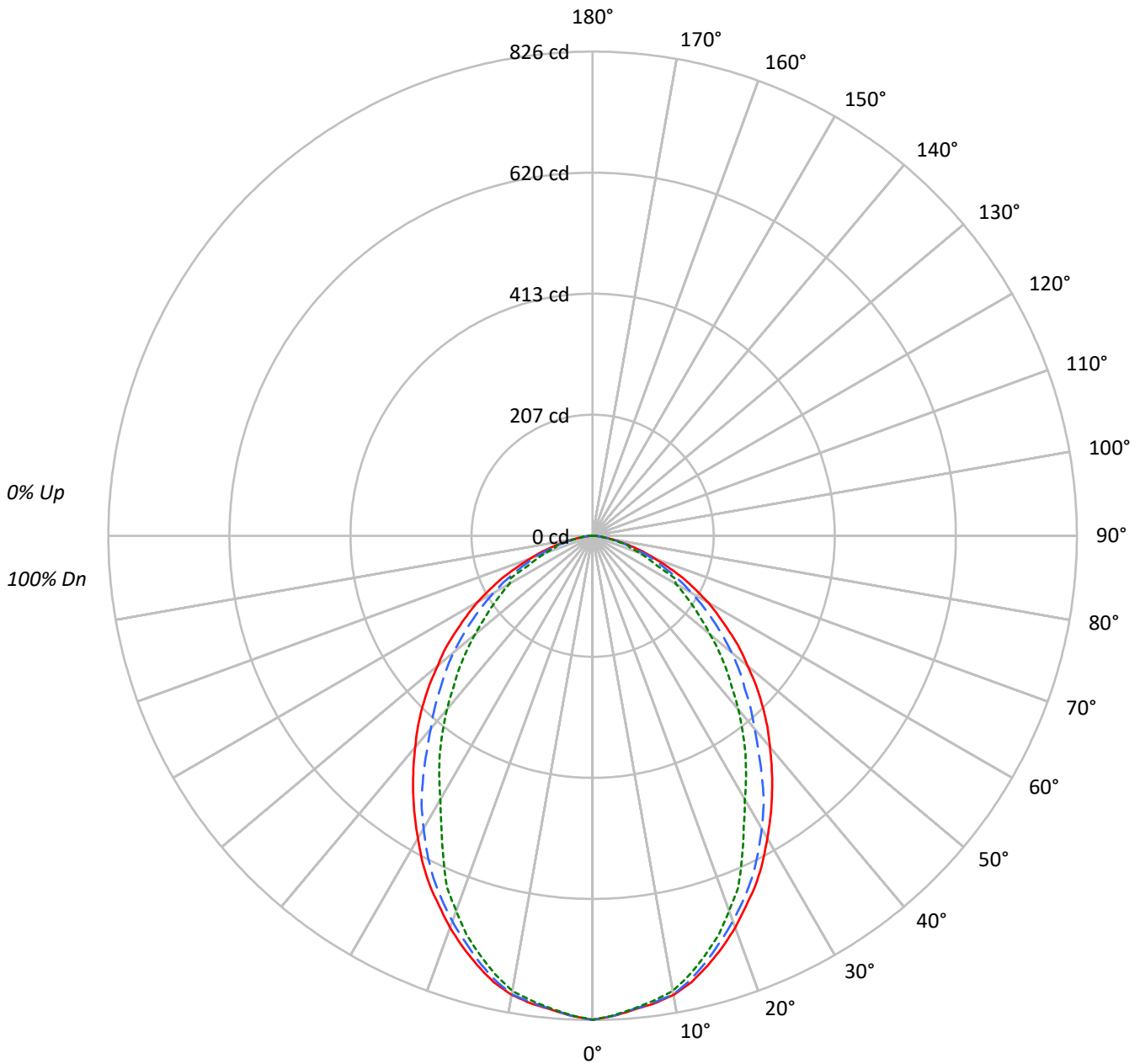
Lumens per Lamp: N/A  
Luminaire Lumens: 1621.0 lumens  
Efficiency: N/A  
Efficacy: 75.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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

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

	0°	45°	90°
0°	8888	8888	8888
5°	8767	8756	8747
10°	8692	8681	8618
15°	8457	8372	8255
20°	8147	8015	7796
25°	7811	7641	7165
30°	7404	7167	6454
35°	7012	6623	5971
40°	6613	6036	5432
45°	6234	5581	4911
50°	5771	5179	4381
55°	5339	4693	3924
60°	4891	4191	3513
65°	4304	3670	3112
70°	3544	3213	2644
75°	2820	2462	2578
80°	1891	1773	1655
85°	1173	1420	1655



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.9	4.7
10°-20°	210.9	13.0
20°-30°	292.0	18.0
30°-40°	311.4	19.2
40°-50°	284.1	17.5
50°-60°	222.6	13.7
60°-70°	145.0	8.9
70°-80°	64.3	4.0
80°-90°	13.8	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°	579.8	35.8
0°-40°	891.2	55.0
0°-60°	1397.9	86.2
0°-90°	1621.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1621.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	826	826	826	826	826	
5°	811	810	810	810	810	77
15°	759	759	751	744	741	213
25°	658	654	643	620	603	302
35°	534	530	504	466	454	334
45°	410	401	367	336	323	315
55°	284	276	250	220	209	255
65°	169	159	144	147	122	167
75°	68	63	59	56	62	73
85°	10	10	12	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	825.7	825.7	825.7	825.7	825.7
2.5°	820.0	820.0	820.0	819.0	819.0
5°	811.4	810.4	810.4	809.5	809.5
7.5°	804.7	803.8	802.8	801.9	799.9
10°	795.2	795.2	794.2	789.4	788.5
12.5°	779.9	778.9	775.1	768.4	766.5
15°	758.9	758.9	751.3	743.6	740.8
17.5°	736.0	735.0	725.5	717.8	714.0
20°	711.2	709.3	699.7	687.3	680.6
22.5°	683.5	683.5	672.0	655.8	649.1
25°	657.7	653.9	643.4	620.5	603.3
27.5°	628.1	622.4	610.9	578.5	558.4
30°	595.7	592.8	576.6	534.6	519.3
32.5°	565.1	560.3	543.2	499.2	486.8
35°	533.6	529.8	504.0	465.8	454.4
37.5°	502.1	497.3	464.9	434.3	420.0
40°	470.6	464.9	429.6	401.9	386.6
42.5°	441.0	433.4	399.0	369.4	352.2
45°	409.5	400.9	366.6	336.0	322.6
47.5°	378.0	370.4	338.9	307.4	292.1
50°	344.6	337.9	309.3	277.8	261.6
52.5°	316.9	306.4	278.7	247.2	233.9
55°	284.5	275.9	250.1	220.5	209.1
57.5°	254.9	246.3	222.4	194.7	185.2
60°	227.2	214.8	194.7	170.9	163.2
62.5°	196.6	187.1	169.9	149.9	159.4
65°	169.0	159.4	144.1	147.0	122.2
67.5°	138.4	133.6	120.3	106.9	103.1
70°	112.6	106.9	102.1	87.8	84.0
72.5°	89.7	84.0	77.3	69.7	66.8
75°	67.8	63.0	59.2	56.3	62.0
77.5°	46.8	44.9	42.0	39.1	38.2
80°	30.5	29.6	28.6	27.7	26.7
82.5°	18.1	18.1	18.1	18.1	18.1
85°	9.5	10.5	11.5	12.4	13.4
87.5°	5.7	5.7	6.7	7.6	8.6
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)