

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: P544901

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-81-96-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: P544901  
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-LD4-1STD-40-UNV-81-96-EDD  
Description: 1X1 FMR TROFFER WITH .156 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**

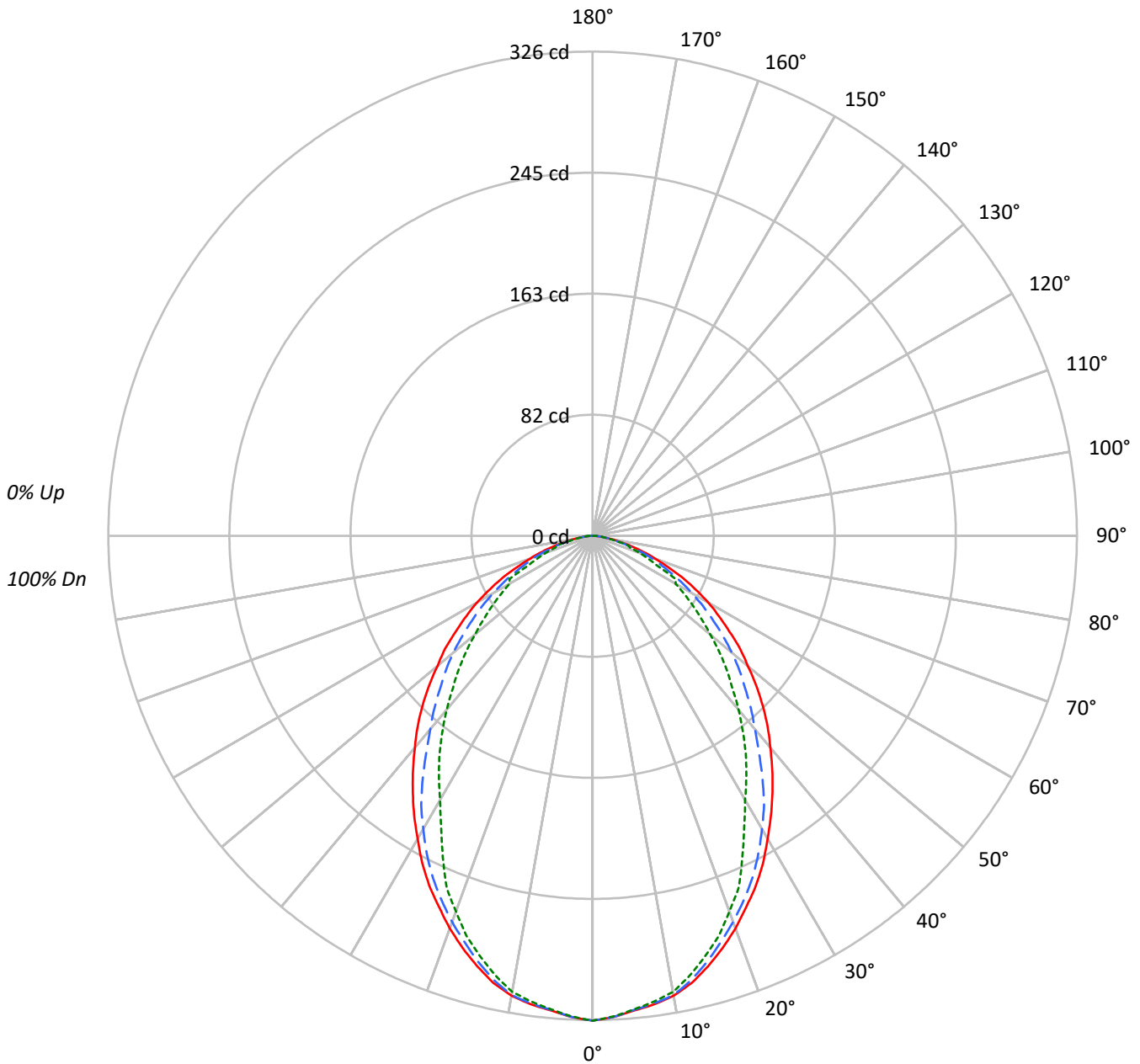
Lumens per Lamp: N/A  
Luminaire Lumens: 641.0 lumens  
Efficiency: N/A  
Efficacy: 77.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
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				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
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°	3514	3514	3514
5°	3467	3463	3459
10°	3436	3433	3408
15°	3344	3311	3264
20°	3221	3170	3082
25°	3089	3021	2834
30°	2927	2834	2552
35°	2773	2619	2361
40°	2615	2387	2148
45°	2465	2207	1942
50°	2282	2048	1732
55°	2111	1856	1552
60°	1933	1658	1389
65°	1701	1452	1230
70°	1400	1271	1045
75°	1115	973	1019
80°	750	700	657
85°	469	556	655



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.4	4.7
10°-20°	83.4	13.0
20°-30°	115.5	18.0
30°-40°	123.1	19.2
40°-50°	112.3	17.5
50°-60°	88.0	13.7
60°-70°	57.4	8.9
70°-80°	25.4	4.0
80°-90°	5.5	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°	229.3	35.8
0°-40°	352.4	55.0
0°-60°	552.8	86.2
0°-90°	641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	641.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	326	326	326	326	326	
5°	321	320	320	320	320	30
15°	300	300	297	294	293	84
25°	260	259	254	245	239	119
35°	211	210	199	184	180	132
45°	162	158	145	133	128	125
55°	112	109	99	87	83	101
65°	67	63	57	58	48	66
75°	27	25	23	22	24	29
85°	4	4	4	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	326.5	326.5	326.5	326.5	326.5
2.5°	324.3	324.3	324.3	323.9	323.9
5°	320.9	320.5	320.5	320.1	320.1
7.5°	318.2	317.8	317.5	317.1	316.3
10°	314.4	314.4	314.1	312.2	311.8
12.5°	308.4	308.0	306.5	303.9	303.1
15°	300.1	300.1	297.1	294.1	292.9
17.5°	291.0	290.7	286.9	283.9	282.4
20°	281.2	280.5	276.7	271.8	269.1
22.5°	270.3	270.3	265.7	259.3	256.7
25°	260.1	258.6	254.4	245.4	238.6
27.5°	248.4	246.1	241.6	228.8	220.8
30°	235.5	234.4	228.0	211.4	205.3
32.5°	223.5	221.6	214.8	197.4	192.5
35°	211.0	209.5	199.3	184.2	179.7
37.5°	198.6	196.7	183.8	171.8	166.1
40°	186.1	183.8	169.9	158.9	152.9
42.5°	174.4	171.4	157.8	146.1	139.3
45°	161.9	158.5	145.0	132.9	127.6
47.5°	149.5	146.5	134.0	121.5	115.5
50°	136.3	133.6	122.3	109.8	103.4
52.5°	125.3	121.2	110.2	97.8	92.5
55°	112.5	109.1	98.9	87.2	82.7
57.5°	100.8	97.4	88.0	77.0	73.2
60°	89.8	84.9	77.0	67.6	64.5
62.5°	77.8	74.0	67.2	59.3	63.0
65°	66.8	63.0	57.0	58.1	48.3
67.5°	54.7	52.8	47.6	42.3	40.8
70°	44.5	42.3	40.4	34.7	33.2
72.5°	35.5	33.2	30.6	27.6	26.4
75°	26.8	24.9	23.4	22.3	24.5
77.5°	18.5	17.7	16.6	15.5	15.1
80°	12.1	11.7	11.3	10.9	10.6
82.5°	7.2	7.2	7.2	7.2	7.2
85°	3.8	4.2	4.5	4.9	5.3
87.5°	2.3	2.3	2.6	3.0	3.4
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)