

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: P544936

Luminaire Tested: **FMR-12-1-LD4-1STD-50-UNV-82-85-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: P544936  
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-50-UNV-82-85-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

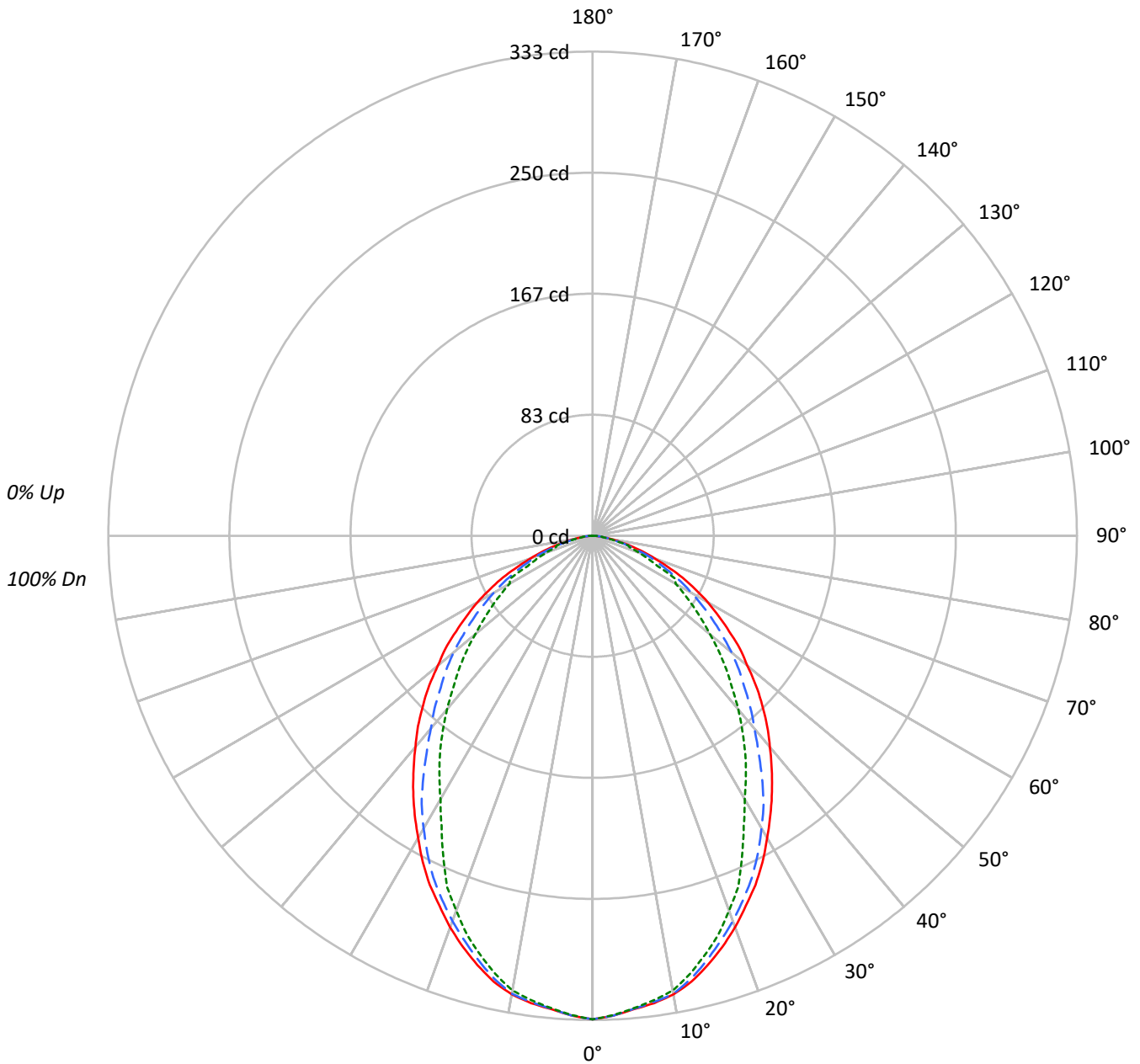
Lumens per Lamp: N/A  
Luminaire Lumens: 653.0 lumens  
Efficiency: N/A  
Efficacy: 78.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
Input Voltage (V): NR  
Input Current (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°	3580	3580	3580
5°	3532	3528	3524
10°	3501	3496	3471
15°	3407	3372	3325
20°	3282	3229	3141
25°	3146	3078	2886
30°	2983	2887	2600
35°	2825	2667	2405
40°	2664	2431	2188
45°	2512	2248	1979
50°	2324	2087	1765
55°	2151	1892	1580
60°	1970	1688	1417
65°	1734	1480	1253
70°	1429	1293	1064
75°	1135	990	1040
80°	762	713	669
85°	469	568	667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.0	4.7
10°-20°	85.0	13.0
20°-30°	117.6	18.0
30°-40°	125.4	19.2
40°-50°	114.4	17.5
50°-60°	89.6	13.7
60°-70°	58.4	8.9
70°-80°	25.9	4.0
80°-90°	5.6	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°	233.6	35.8
0°-40°	359.0	55.0
0°-60°	563.1	86.2
0°-90°	653.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	653.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	333	333	333	333	333	
5°	327	326	326	326	326	31
15°	306	306	303	300	298	86
25°	265	263	259	250	243	122
35°	215	213	203	188	183	134
45°	165	162	148	135	130	127
55°	115	111	101	89	84	103
65°	68	64	58	59	49	67
75°	27	25	24	23	25	29
85°	4	4	5	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	332.6	332.6	332.6	332.6	332.6
2.5°	330.3	330.3	330.3	329.9	329.9
5°	326.9	326.5	326.5	326.1	326.1
7.5°	324.2	323.8	323.4	323.0	322.2
10°	320.3	320.3	319.9	318.0	317.6
12.5°	314.2	313.8	312.2	309.6	308.8
15°	305.7	305.7	302.6	299.6	298.4
17.5°	296.5	296.1	292.3	289.2	287.6
20°	286.5	285.7	281.9	276.9	274.2
22.5°	275.3	275.3	270.7	264.2	261.5
25°	264.9	263.4	259.2	250.0	243.0
27.5°	253.0	250.7	246.1	233.0	225.0
30°	240.0	238.8	232.3	215.3	209.2
32.5°	227.6	225.7	218.8	201.1	196.1
35°	215.0	213.4	203.0	187.7	183.0
37.5°	202.3	200.3	187.3	175.0	169.2
40°	189.6	187.3	173.0	161.9	155.7
42.5°	177.7	174.6	160.7	148.8	141.9
45°	165.0	161.5	147.7	135.4	130.0
47.5°	152.3	149.2	136.5	123.8	117.7
50°	138.8	136.1	124.6	111.9	105.4
52.5°	127.7	123.4	112.3	99.6	94.2
55°	114.6	111.1	100.8	88.8	84.2
57.5°	102.7	99.2	89.6	78.4	74.6
60°	91.5	86.5	78.4	68.8	65.8
62.5°	79.2	75.4	68.4	60.4	64.2
65°	68.1	64.2	58.1	59.2	49.2
67.5°	55.8	53.8	48.5	43.1	41.5
70°	45.4	43.1	41.1	35.4	33.8
72.5°	36.1	33.8	31.1	28.1	26.9
75°	27.3	25.4	23.8	22.7	25.0
77.5°	18.8	18.1	16.9	15.8	15.4
80°	12.3	11.9	11.5	11.2	10.8
82.5°	7.3	7.3	7.3	7.3	7.3
85°	3.8	4.2	4.6	5.0	5.4
87.5°	2.3	2.3	2.7	3.1	3.5
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)