

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: P545511

Luminaire Tested: **FMR-12-2-LD4-1STD-50-UNV-82-84-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: P545511  
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-12-2-LD4-1STD-50-UNV-82-84-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

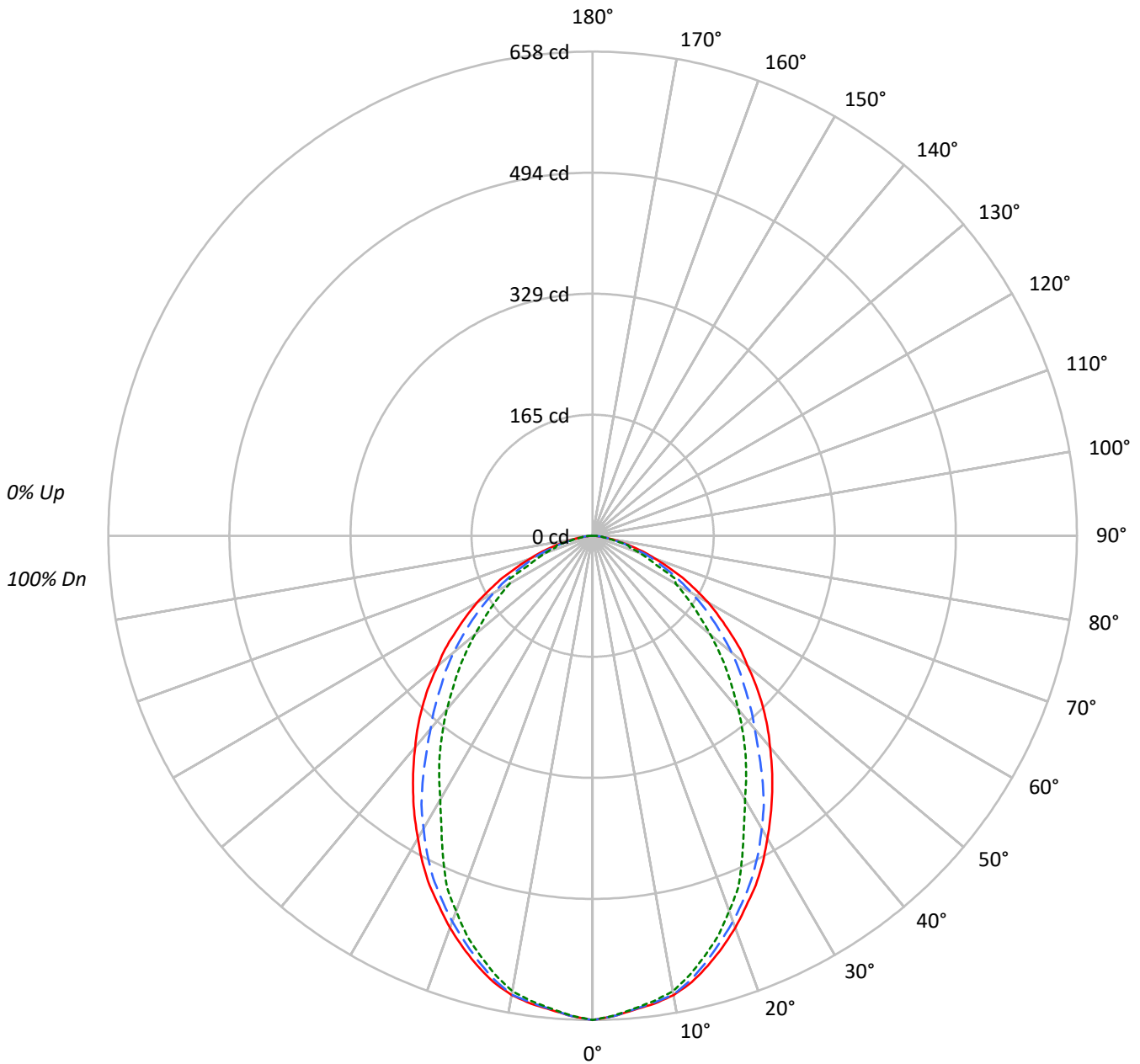
Lumens per Lamp: N/A  
Luminaire Lumens: 1292.0 lumens  
Efficiency: N/A  
Efficacy: 77.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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									
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°	3542	3542	3542
5°	3494	3490	3486
10°	3464	3459	3435
15°	3370	3336	3290
20°	3246	3194	3107
25°	3113	3045	2856
30°	2951	2856	2572
35°	2794	2639	2380
40°	2635	2406	2165
45°	2484	2224	1958
50°	2300	2064	1746
55°	2127	1870	1563
60°	1949	1671	1400
65°	1715	1463	1240
70°	1413	1281	1054
75°	1123	981	1029
80°	753	707	660
85°	469	562	661



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.3	4.7
10°-20°	168.1	13.0
20°-30°	232.8	18.0
30°-40°	248.2	19.2
40°-50°	226.4	17.5
50°-60°	177.4	13.7
60°-70°	115.6	8.9
70°-80°	51.2	4.0
80°-90°	11.0	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°	462.2	35.8
0°-40°	710.4	55.0
0°-60°	1114.2	86.2
0°-90°	1292.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1292.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	658	658	658	658	658	
5°	647	646	646	645	645	61
15°	605	605	599	593	590	170
25°	524	521	513	494	481	241
35°	425	422	402	371	362	266
45°	326	320	292	268	257	251
55°	227	220	199	176	167	203
65°	135	127	115	117	97	133
75°	54	50	47	45	50	58
85°	8	8	9	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	658.1	658.1	658.1	658.1	658.1
2.5°	653.6	653.6	653.6	652.8	652.8
5°	646.7	646.0	646.0	645.2	645.2
7.5°	641.4	640.6	639.9	639.1	637.6
10°	633.8	633.8	633.0	629.2	628.5
12.5°	621.6	620.8	617.8	612.5	611.0
15°	604.9	604.9	598.8	592.7	590.4
17.5°	586.6	585.8	578.2	572.2	569.1
20°	566.8	565.3	557.7	547.8	542.5
22.5°	544.8	544.8	535.6	522.7	517.4
25°	524.2	521.2	512.8	494.5	480.9
27.5°	500.6	496.1	486.9	461.1	445.1
30°	474.8	472.5	459.5	426.1	413.9
32.5°	450.4	446.6	432.9	397.9	388.0
35°	425.3	422.3	401.7	371.3	362.2
37.5°	400.2	396.4	370.5	346.2	334.8
40°	375.1	370.5	342.4	320.3	308.1
42.5°	351.5	345.4	318.0	294.4	280.8
45°	326.4	319.6	292.2	267.8	257.2
47.5°	301.3	295.2	270.1	245.0	232.8
50°	274.7	269.3	246.5	221.4	208.5
52.5°	252.6	244.2	222.2	197.1	186.4
55°	226.7	219.9	199.3	175.8	166.6
57.5°	203.1	196.3	177.3	155.2	147.6
60°	181.1	171.2	155.2	136.2	130.1
62.5°	156.7	149.1	135.4	119.5	127.1
65°	134.7	127.1	114.9	117.2	97.4
67.5°	110.3	106.5	95.9	85.2	82.2
70°	89.8	85.2	81.4	70.0	67.0
72.5°	71.5	67.0	61.6	55.5	53.3
75°	54.0	50.2	47.2	44.9	49.5
77.5°	37.3	35.8	33.5	31.2	30.4
80°	24.3	23.6	22.8	22.1	21.3
82.5°	14.5	14.5	14.5	14.5	14.5
85°	7.6	8.4	9.1	9.9	10.7
87.5°	4.6	4.6	5.3	6.1	6.8
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)