

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: P545448

Luminaire Tested: **FMR-12-2-LD4-1STD-35-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: P545448  
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-35-UNV-82-85-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

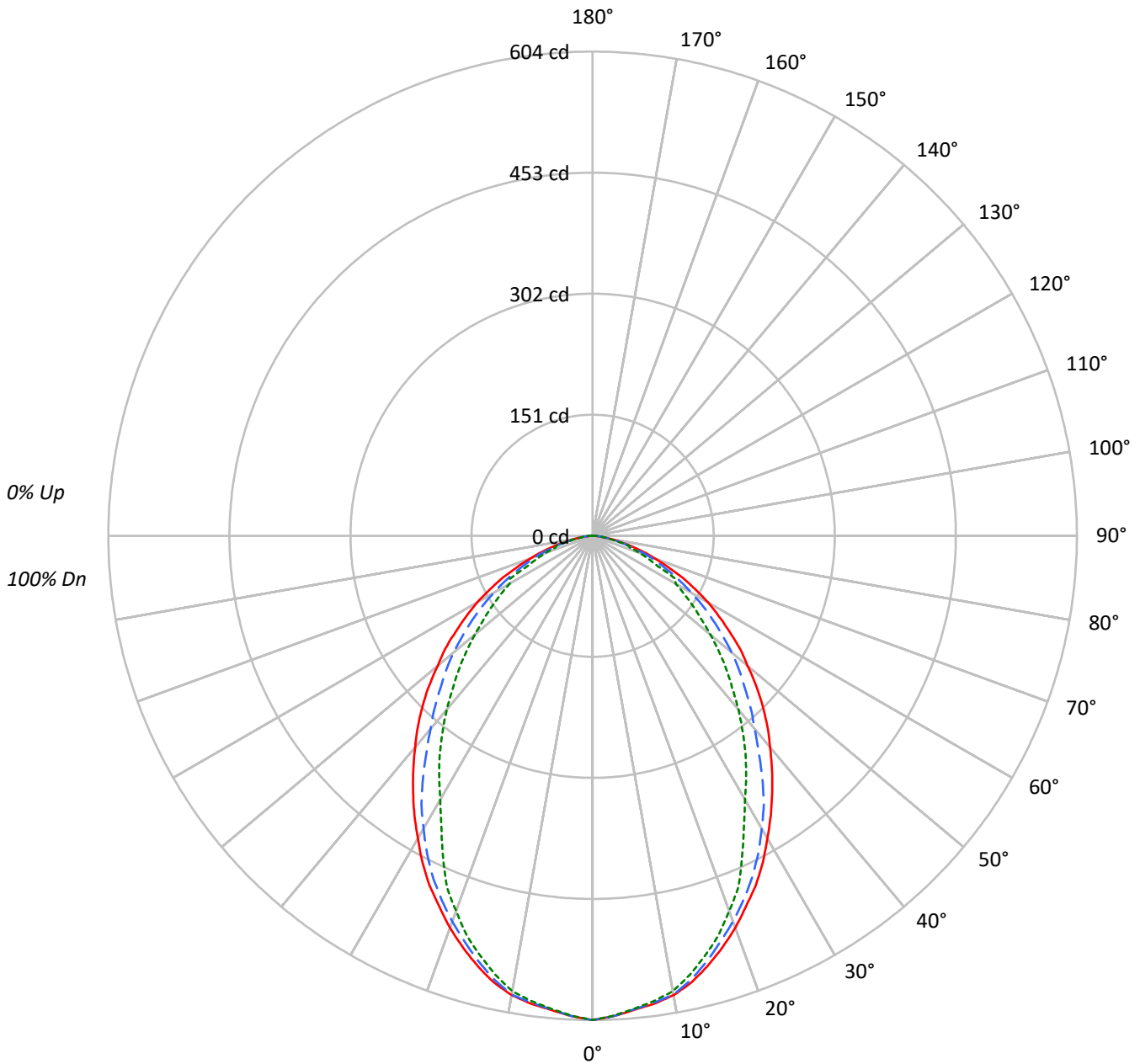
Lumens per Lamp: N/A  
Luminaire Lumens: 1186.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	3251	3251	3251
5°	3207	3204	3200
10°	3180	3176	3153
15°	3093	3063	3020
20°	2980	2932	2852
25°	2858	2795	2621
30°	2708	2621	2361
35°	2565	2423	2184
40°	2419	2208	1988
45°	2280	2041	1797
50°	2111	1895	1603
55°	1953	1717	1436
60°	1789	1534	1285
65°	1574	1344	1138
70°	1297	1175	968
75°	1031	900	944
80°	691	651	607
85°	432	519	605



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.2	4.7
10°-20°	154.3	13.0
20°-30°	213.7	18.0
30°-40°	227.8	19.2
40°-50°	207.8	17.5
50°-60°	162.8	13.7
60°-70°	106.1	8.9
70°-80°	47.0	4.0
80°-90°	10.1	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°	424.2	35.8
0°-40°	652.1	55.0
0°-60°	1022.7	86.2
0°-90°	1186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1186.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	604	604	604	604	604	
5°	594	593	593	592	592	56
15°	555	555	550	544	542	156
25°	481	478	471	454	441	221
35°	390	388	369	341	332	244
45°	300	293	268	246	236	231
55°	208	202	183	161	153	187
65°	124	117	106	108	89	122
75°	50	46	43	41	45	53
85°	7	8	8	9	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	604.1	604.1	604.1	604.1	604.1
2.5°	599.9	599.9	599.9	599.2	599.2
5°	593.7	593.0	593.0	592.3	592.3
7.5°	588.8	588.1	587.4	586.7	585.3
10°	581.8	581.8	581.1	577.6	576.9
12.5°	570.6	569.9	567.1	562.2	560.8
15°	555.2	555.2	549.7	544.1	542.0
17.5°	538.5	537.8	530.8	525.2	522.4
20°	520.3	518.9	511.9	502.9	498.0
22.5°	500.1	500.1	491.7	479.8	474.9
25°	481.2	478.4	470.7	454.0	441.4
27.5°	459.6	455.4	447.0	423.2	408.6
30°	435.8	433.7	421.8	391.1	379.9
32.5°	413.5	410.0	397.4	365.3	356.2
35°	390.4	387.6	368.8	340.8	332.4
37.5°	367.4	363.9	340.1	317.8	307.3
40°	344.3	340.1	314.3	294.0	282.9
42.5°	322.7	317.1	291.9	270.3	257.7
45°	299.6	293.3	268.2	245.8	236.1
47.5°	276.6	271.0	247.9	224.9	213.7
50°	252.1	247.2	226.3	203.2	191.4
52.5°	231.9	224.2	203.9	180.9	171.1
55°	208.1	201.8	183.0	161.3	153.0
57.5°	186.5	180.2	162.7	142.5	135.5
60°	166.2	157.1	142.5	125.0	119.4
62.5°	143.9	136.9	124.3	109.7	116.6
65°	123.6	116.6	105.5	107.6	89.4
67.5°	101.3	97.8	88.0	78.2	75.4
70°	82.4	78.2	74.7	64.3	61.5
72.5°	65.7	61.5	56.6	51.0	48.9
75°	49.6	46.1	43.3	41.2	45.4
77.5°	34.2	32.8	30.7	28.6	27.9
80°	22.3	21.7	21.0	20.3	19.6
82.5°	13.3	13.3	13.3	13.3	13.3
85°	7.0	7.7	8.4	9.1	9.8
87.5°	4.2	4.2	4.9	5.6	6.3
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)