

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: P547258

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-80-87-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: P547258  
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-24-4-LD4-4HI-35-UNV-80-87-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

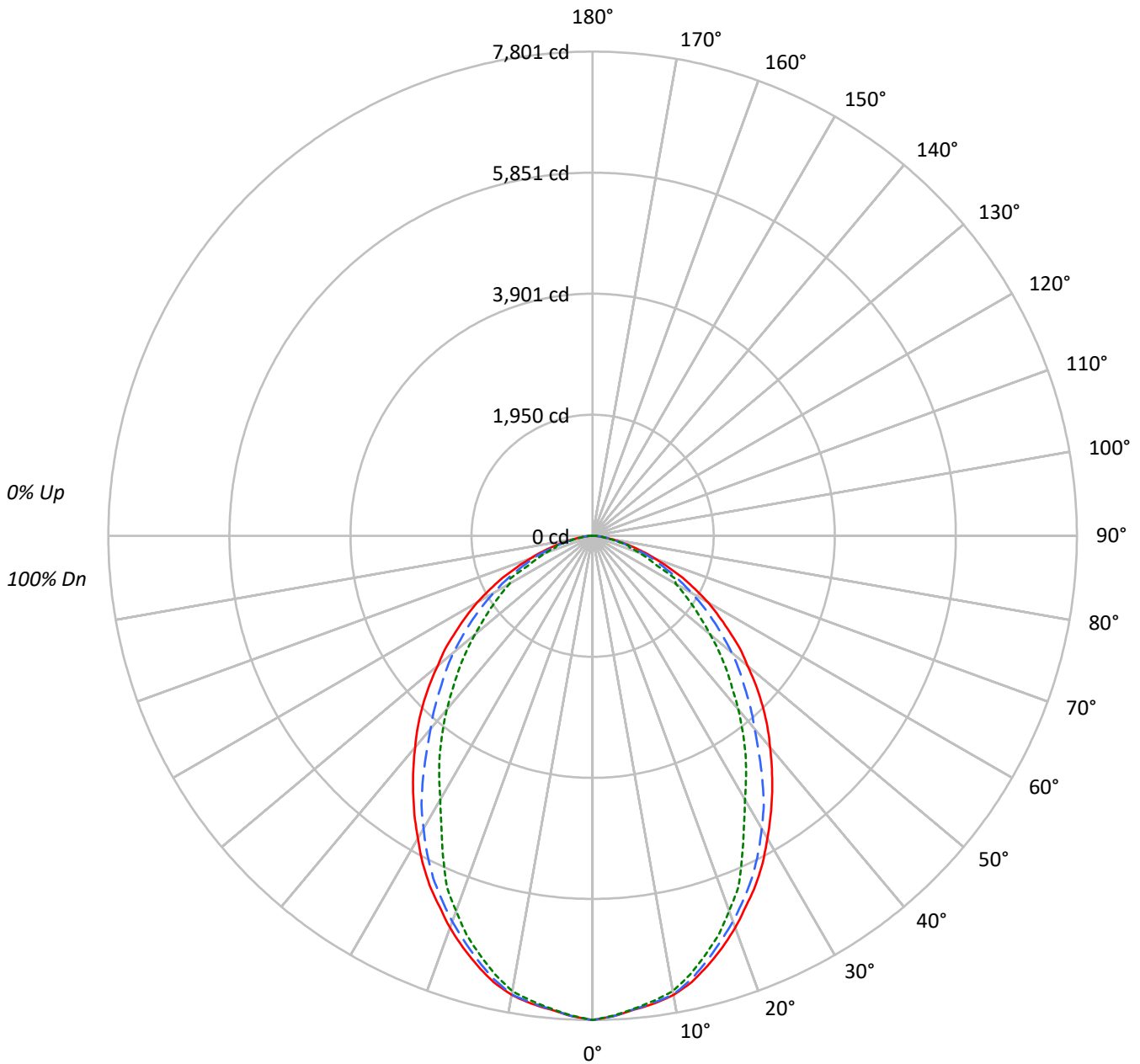
Lumens per Lamp: N/A  
Luminaire Lumens: 15315.0 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 172.8  
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°	10497	10497	10497
5°	10354	10342	10329
10°	10264	10252	10178
15°	9987	9887	9749
20°	9621	9466	9207
25°	9225	9024	8462
30°	8743	8463	7622
35°	8281	7822	7051
40°	7810	7128	6415
45°	7362	6590	5801
50°	6815	6117	5173
55°	6305	5543	4633
60°	5776	4951	4150
65°	5082	4336	3675
70°	4187	3796	3122
75°	3329	2907	3047
80°	2236	2097	1956
85°	1392	1670	1950



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	726.2	4.7
10°-20°	1993.0	13.0
20°-30°	2759.1	18.0
30°-40°	2942.0	19.2
40°-50°	2684.0	17.5
50°-60°	2102.7	13.7
60°-70°	1370.4	8.9
70°-80°	607.2	4.0
80°-90°	130.4	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°	5478.3	35.8
0°-40°	8420.4	55.0
0°-60°	13207.0	86.2
0°-90°	15315.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15315.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7801	7801	7801	7801	7801	
5°	7666	7657	7657	7648	7648	728
15°	7170	7170	7098	7026	6999	2016
25°	6214	6178	6079	5862	5700	2853
35°	5042	5005	4762	4401	4293	3152
45°	3869	3788	3463	3175	3048	2980
55°	2688	2606	2363	2083	1975	2411
65°	1596	1506	1362	1389	1154	1573
75°	640	595	559	532	586	686
85°	90	99	108	117	126	125
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7801.3	7801.3	7801.3	7801.3	7801.3
2.5°	7747.1	7747.1	7747.1	7738.1	7738.1
5°	7666.0	7657.0	7657.0	7647.9	7647.9
7.5°	7602.8	7593.8	7584.8	7575.8	7557.7
10°	7512.7	7512.7	7503.6	7458.5	7449.5
12.5°	7368.4	7359.3	7323.3	7260.1	7242.1
15°	7169.9	7169.9	7097.8	7025.6	6998.6
17.5°	6953.5	6944.5	6854.3	6782.1	6746.1
20°	6719.0	6701.0	6610.8	6493.5	6430.4
22.5°	6457.5	6457.5	6349.2	6195.9	6132.8
25°	6213.9	6177.9	6078.7	5862.2	5699.9
27.5°	5934.4	5880.3	5772.0	5465.4	5276.0
30°	5627.7	5600.7	5447.4	5050.5	4906.2
32.5°	5339.1	5294.0	5131.7	4716.8	4599.6
35°	5041.5	5005.4	4761.9	4401.2	4292.9
37.5°	4743.9	4698.8	4392.2	4103.6	3968.3
40°	4446.3	4392.2	4058.5	3796.9	3652.6
42.5°	4166.7	4094.5	3769.9	3490.3	3327.9
45°	3869.1	3787.9	3463.2	3174.6	3048.4
47.5°	3571.4	3499.3	3201.7	2904.1	2759.8
50°	3255.8	3192.7	2922.1	2624.5	2471.1
52.5°	2994.2	2895.0	2633.5	2335.9	2209.6
55°	2687.6	2606.4	2362.9	2083.3	1975.1
57.5°	2408.0	2326.8	2101.4	1839.8	1749.6
60°	2146.5	2029.2	1839.8	1614.4	1542.2
62.5°	1857.9	1767.7	1605.3	1416.0	1506.1
65°	1596.3	1506.1	1361.8	1388.9	1154.4
67.5°	1307.7	1262.6	1136.4	1010.1	974.0
70°	1064.2	1010.1	965.0	829.7	793.7
72.5°	847.8	793.7	730.5	658.4	631.3
75°	640.3	595.2	559.2	532.1	586.2
77.5°	441.9	423.9	396.8	369.8	360.8
80°	288.6	279.6	270.6	261.5	252.5
82.5°	171.4	171.4	171.4	171.4	171.4
85°	90.2	99.2	108.2	117.2	126.3
87.5°	54.1	54.1	63.1	72.2	81.2
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)