

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: P547266

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-81-87-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: P547266  
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-81-87-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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**

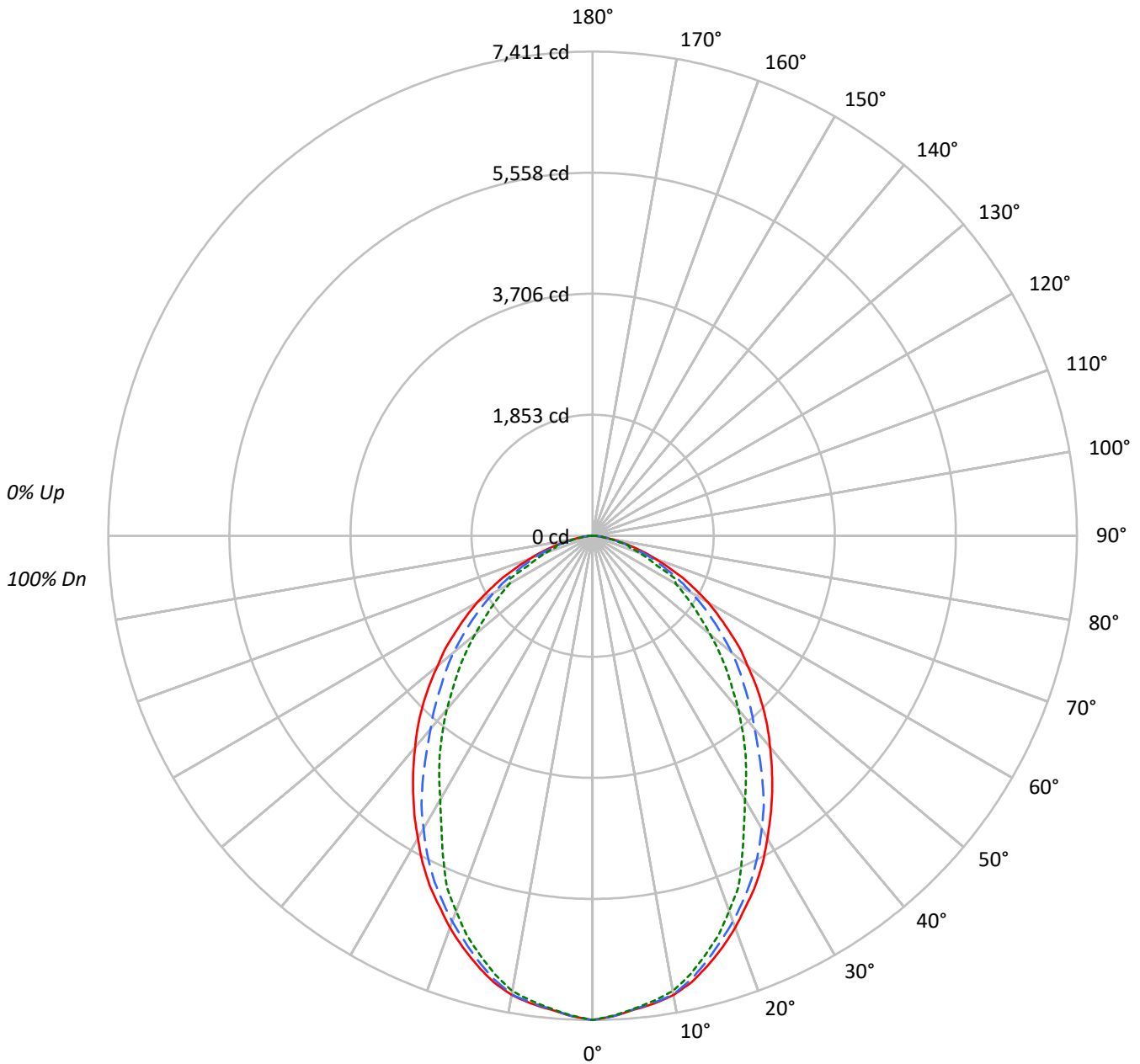
Lumens per Lamp: N/A  
Luminaire Lumens: 14549.0 lumens  
Efficiency: N/A  
Efficacy: 84.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	9972	9972	9972
5°	9836	9824	9813
10°	9751	9739	9669
15°	9488	9392	9261
20°	9139	8992	8747
25°	8764	8573	8039
30°	8306	8040	7241
35°	7867	7430	6699
40°	7419	6772	6095
45°	6994	6260	5510
50°	6474	5811	4914
55°	5989	5266	4401
60°	5487	4703	3943
65°	4828	4119	3492
70°	3977	3606	2966
75°	3162	2761	2895
80°	2125	1991	1859
85°	1323	1587	1851



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	689.9	4.7
10°-20°	1893.3	13.0
20°-30°	2621.1	18.0
30°-40°	2794.9	19.2
40°-50°	2549.8	17.5
50°-60°	1997.5	13.7
60°-70°	1301.9	8.9
70°-80°	576.8	4.0
80°-90°	123.8	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°	5204.3	35.8
0°-40°	7999.2	55.0
0°-60°	12546.5	86.2
0°-90°	14549.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14549.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7411	7411	7411	7411	7411	
5°	7283	7274	7274	7265	7265	691
15°	6811	6811	6743	6674	6648	1915
25°	5903	5869	5775	5569	5415	2710
35°	4789	4755	4524	4181	4078	2994
45°	3676	3598	3290	3016	2896	2831
55°	2553	2476	2245	1979	1876	2290
65°	1516	1431	1294	1319	1097	1494
75°	608	566	531	506	557	652
85°	86	94	103	111	120	119
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7411.1	7411.1	7411.1	7411.1	7411.1
2.5°	7359.7	7359.7	7359.7	7351.1	7351.1
5°	7282.6	7274.0	7274.0	7265.4	7265.4
7.5°	7222.6	7214.0	7205.4	7196.9	7179.7
10°	7136.9	7136.9	7128.3	7085.5	7076.9
12.5°	6999.8	6991.2	6957.0	6897.0	6879.9
15°	6811.3	6811.3	6742.8	6674.2	6648.5
17.5°	6605.7	6597.1	6511.5	6442.9	6408.6
20°	6382.9	6365.8	6280.1	6168.7	6108.8
22.5°	6134.5	6134.5	6031.7	5886.0	5826.0
25°	5903.1	5868.9	5774.6	5569.0	5414.8
27.5°	5637.6	5586.1	5483.3	5192.0	5012.1
30°	5346.2	5320.5	5174.9	4797.9	4660.8
32.5°	5072.1	5029.2	4875.0	4480.9	4369.5
35°	4789.3	4755.1	4523.7	4181.0	4078.2
37.5°	4506.6	4463.8	4172.5	3898.3	3769.8
40°	4223.9	4172.5	3855.5	3607.0	3469.9
42.5°	3958.3	3889.7	3581.3	3315.7	3161.5
45°	3675.5	3598.4	3290.0	3015.8	2895.9
47.5°	3392.8	3324.3	3041.5	2758.8	2621.7
50°	3092.9	3033.0	2775.9	2493.2	2347.6
52.5°	2844.5	2750.2	2501.8	2219.0	2099.1
55°	2553.2	2476.1	2244.7	1979.1	1876.3
57.5°	2287.6	2210.5	1996.3	1747.8	1662.1
60°	2039.1	1927.7	1747.8	1533.6	1465.1
62.5°	1764.9	1679.3	1525.1	1345.1	1430.8
65°	1516.5	1430.8	1293.7	1319.4	1096.7
67.5°	1242.3	1199.5	1079.5	959.6	925.3
70°	1011.0	959.6	916.7	788.2	754.0
72.5°	805.4	754.0	694.0	625.4	599.7
75°	608.3	565.5	531.2	505.5	556.9
77.5°	419.8	402.7	377.0	351.3	342.7
80°	274.2	265.6	257.0	248.5	239.9
82.5°	162.8	162.8	162.8	162.8	162.8
85°	85.7	94.2	102.8	111.4	119.9
87.5°	51.4	51.4	60.0	68.5	77.1
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)