

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: P547006

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-80-97-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: P547006  
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-LD4-3HI-40-UNV-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

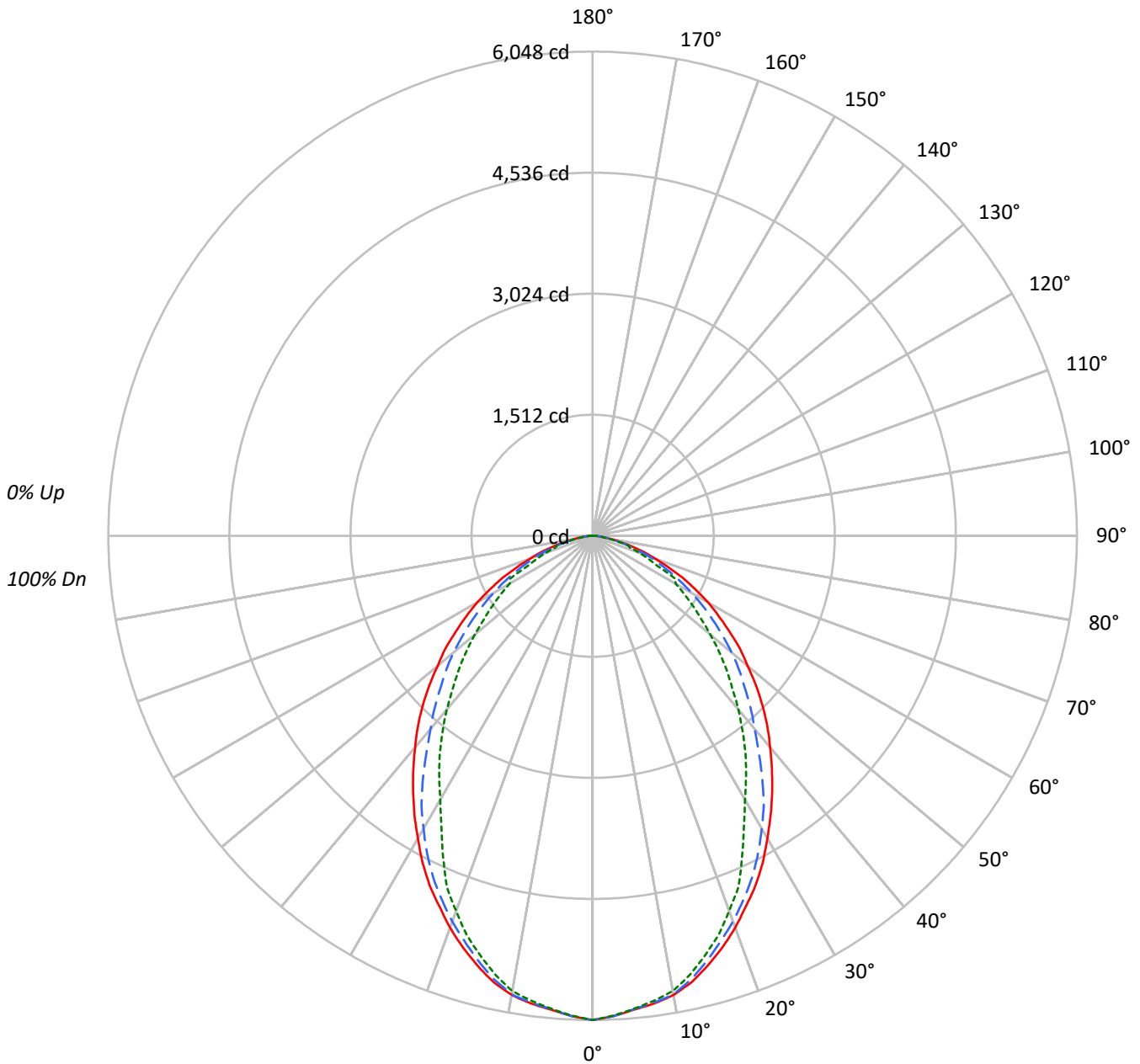
Lumens per Lamp: N/A  
Luminaire Lumens: 11873.0 lumens  
Efficiency: N/A  
Efficacy: 91.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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°	8137	8137	8137
5°	8027	8017	8008
10°	7957	7948	7890
15°	7743	7665	7558
20°	7458	7338	7138
25°	7152	6996	6560
30°	6778	6561	5909
35°	6420	6064	5467
40°	6054	5526	4974
45°	5707	5109	4497
50°	5283	4742	4010
55°	4888	4297	3592
60°	4478	3838	3217
65°	3940	3361	2849
70°	3246	2943	2421
75°	2581	2254	2363
80°	1733	1626	1517
85°	1079	1295	1511



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	563.0	4.7
10°-20°	1545.1	13.0
20°-30°	2139.0	18.0
30°-40°	2280.8	19.2
40°-50°	2080.8	17.5
50°-60°	1630.1	13.7
60°-70°	1062.4	8.9
70°-80°	470.7	4.0
80°-90°	101.0	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°	4247.1	35.8
0°-40°	6527.9	55.0
0°-60°	10238.8	86.2
0°-90°	11873.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11873.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6048	6048	6048	6048	6048	
5°	5943	5936	5936	5929	5929	564
15°	5558	5558	5503	5447	5426	1563
25°	4817	4789	4712	4545	4419	2212
35°	3908	3880	3692	3412	3328	2443
45°	3000	2937	2685	2461	2363	2311
55°	2084	2021	1832	1615	1531	1869
65°	1238	1168	1056	1077	895	1220
75°	496	462	434	412	454	532
85°	70	77	84	91	98	97
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6047.9	6047.9	6047.9	6047.9	6047.9
2.5°	6006.0	6006.0	6006.0	5999.0	5999.0
5°	5943.1	5936.1	5936.1	5929.1	5929.1
7.5°	5894.1	5887.1	5880.1	5873.2	5859.2
10°	5824.2	5824.2	5817.2	5782.3	5775.3
12.5°	5712.3	5705.3	5677.4	5628.4	5614.5
15°	5558.5	5558.5	5502.6	5446.6	5425.7
17.5°	5390.7	5383.7	5313.8	5257.9	5229.9
20°	5208.9	5194.9	5125.0	5034.1	4985.2
22.5°	5006.2	5006.2	4922.3	4803.4	4754.5
25°	4817.4	4789.4	4712.5	4544.7	4418.8
27.5°	4600.6	4558.7	4474.8	4237.1	4090.2
30°	4362.9	4341.9	4223.1	3915.4	3803.6
32.5°	4139.2	4104.2	3978.4	3656.7	3565.8
35°	3908.4	3880.5	3691.7	3412.0	3328.1
37.5°	3677.7	3642.8	3405.0	3181.3	3076.4
40°	3447.0	3405.0	3146.3	2943.6	2831.7
42.5°	3230.2	3174.3	2922.6	2705.8	2580.0
45°	2999.5	2936.6	2684.9	2461.1	2363.2
47.5°	2768.8	2712.8	2482.1	2251.4	2139.5
50°	2524.1	2475.1	2265.4	2034.6	1915.8
52.5°	2321.3	2244.4	2041.6	1810.9	1713.0
55°	2083.6	2020.6	1831.9	1615.1	1531.2
57.5°	1866.8	1803.9	1629.1	1426.3	1356.4
60°	1664.1	1573.2	1426.3	1251.5	1195.6
62.5°	1440.3	1370.4	1244.5	1097.7	1167.6
65°	1237.6	1167.6	1055.8	1076.7	895.0
67.5°	1013.8	978.9	881.0	783.1	755.1
70°	825.0	783.1	748.1	643.2	615.3
72.5°	657.2	615.3	566.3	510.4	489.4
75°	496.4	461.5	433.5	412.5	454.5
77.5°	342.6	328.6	307.6	286.7	279.7
80°	223.7	216.7	209.8	202.8	195.8
82.5°	132.8	132.8	132.8	132.8	132.8
85°	69.9	76.9	83.9	90.9	97.9
87.5°	42.0	42.0	48.9	55.9	62.9
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)