

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: P547000

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-80-85-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: P547000  
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-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

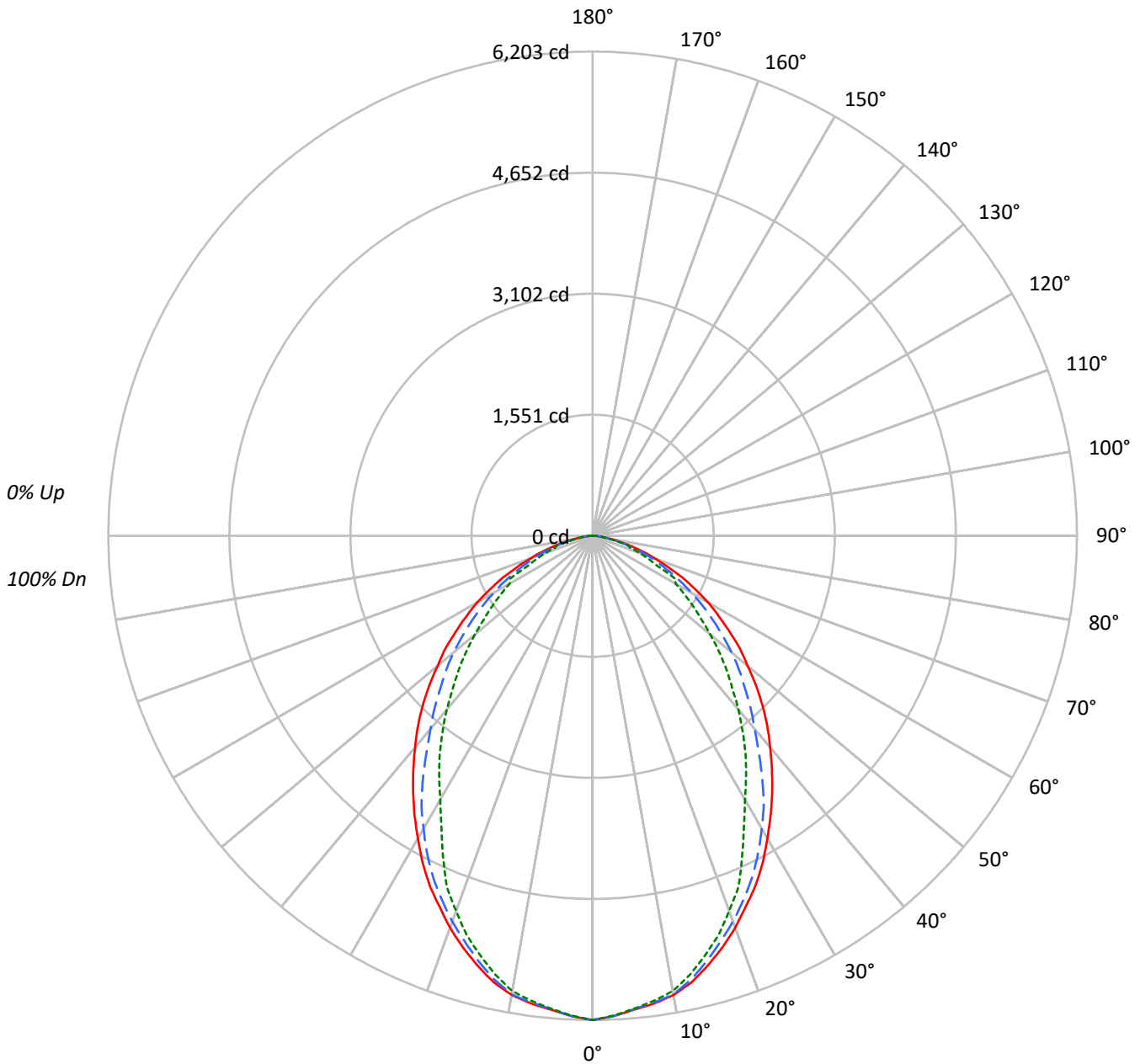
Lumens per Lamp: N/A  
Luminaire Lumens: 12177.0 lumens  
Efficiency: N/A  
Efficacy: 94.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
Input Voltage (V): NR  
Input Current (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°	8346	8346	8346
5°	8232	8223	8213
10°	8161	8151	8092
15°	7941	7861	7751
20°	7649	7526	7321
25°	7335	7175	6728
30°	6952	6729	6061
35°	6584	6219	5606
40°	6209	5668	5101
45°	5854	5240	4612
50°	5419	4863	4113
55°	5013	4407	3684
60°	4593	3937	3300
65°	4041	3447	2922
70°	3329	3019	2482
75°	2647	2311	2423
80°	1778	1667	1556
85°	1107	1329	1550



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	577.4	4.7
10°-20°	1584.6	13.0
20°-30°	2193.8	18.0
30°-40°	2339.2	19.2
40°-50°	2134.1	17.5
50°-60°	1671.9	13.7
60°-70°	1089.6	8.9
70°-80°	482.8	4.0
80°-90°	103.6	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°	4355.8	35.8
0°-40°	6695.0	55.0
0°-60°	10501.0	86.2
0°-90°	12177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12177.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6203	6203	6203	6203	6203	
5°	6095	6088	6088	6081	6081	579
15°	5701	5701	5644	5586	5565	1603
25°	4941	4912	4833	4661	4532	2268
35°	4008	3980	3786	3499	3413	2506
45°	3076	3012	2754	2524	2424	2370
55°	2137	2072	1879	1656	1570	1917
65°	1269	1198	1083	1104	918	1251
75°	509	473	445	423	466	546
85°	72	79	86	93	100	99
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6202.8	6202.8	6202.8	6202.8	6202.8
2.5°	6159.8	6159.8	6159.8	6152.6	6152.6
5°	6095.2	6088.1	6088.1	6080.9	6080.9
7.5°	6045.0	6037.9	6030.7	6023.5	6009.2
10°	5973.3	5973.3	5966.2	5930.3	5923.1
12.5°	5858.6	5851.4	5822.7	5772.5	5758.2
15°	5700.8	5700.8	5643.5	5586.1	5564.6
17.5°	5528.7	5521.6	5449.9	5392.5	5363.8
20°	5342.3	5328.0	5256.2	5163.0	5112.8
22.5°	5134.3	5134.3	5048.3	4926.4	4876.2
25°	4940.7	4912.0	4833.2	4661.1	4532.0
27.5°	4718.4	4675.4	4589.4	4345.5	4195.0
30°	4474.6	4453.1	4331.2	4015.7	3901.0
32.5°	4245.2	4209.3	4080.2	3750.4	3657.1
35°	4008.5	3979.8	3786.2	3499.4	3413.3
37.5°	3771.9	3736.0	3492.2	3262.7	3155.2
40°	3535.2	3492.2	3226.9	3018.9	2904.2
42.5°	3312.9	3255.6	2997.4	2775.1	2646.1
45°	3076.3	3011.8	2753.6	2524.1	2423.8
47.5°	2839.7	2782.3	2545.7	2309.0	2194.3
50°	2588.7	2538.5	2323.4	2086.7	1964.8
52.5°	2380.7	2301.8	2093.9	1857.3	1756.9
55°	2136.9	2072.4	1878.8	1656.5	1570.4
57.5°	1914.6	1850.1	1670.8	1462.9	1391.1
60°	1706.7	1613.4	1462.9	1283.6	1226.2
62.5°	1477.2	1405.5	1276.4	1125.8	1197.5
65°	1269.2	1197.5	1082.8	1104.3	917.9
67.5°	1039.8	1003.9	903.5	803.1	774.5
70°	846.2	803.1	767.3	659.7	631.0
72.5°	674.1	631.0	580.8	523.5	502.0
75°	509.1	473.3	444.6	423.1	466.1
77.5°	351.4	337.0	315.5	294.0	286.8
80°	229.5	222.3	215.1	208.0	200.8
82.5°	136.2	136.2	136.2	136.2	136.2
85°	71.7	78.9	86.1	93.2	100.4
87.5°	43.0	43.0	50.2	57.4	64.5
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)