

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: P547460

Luminaire Tested: **FMR-24-4-LD4-4STD-35-UNV-81-94-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: P547460  
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-LD4-4STD-35-UNV-81-94-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

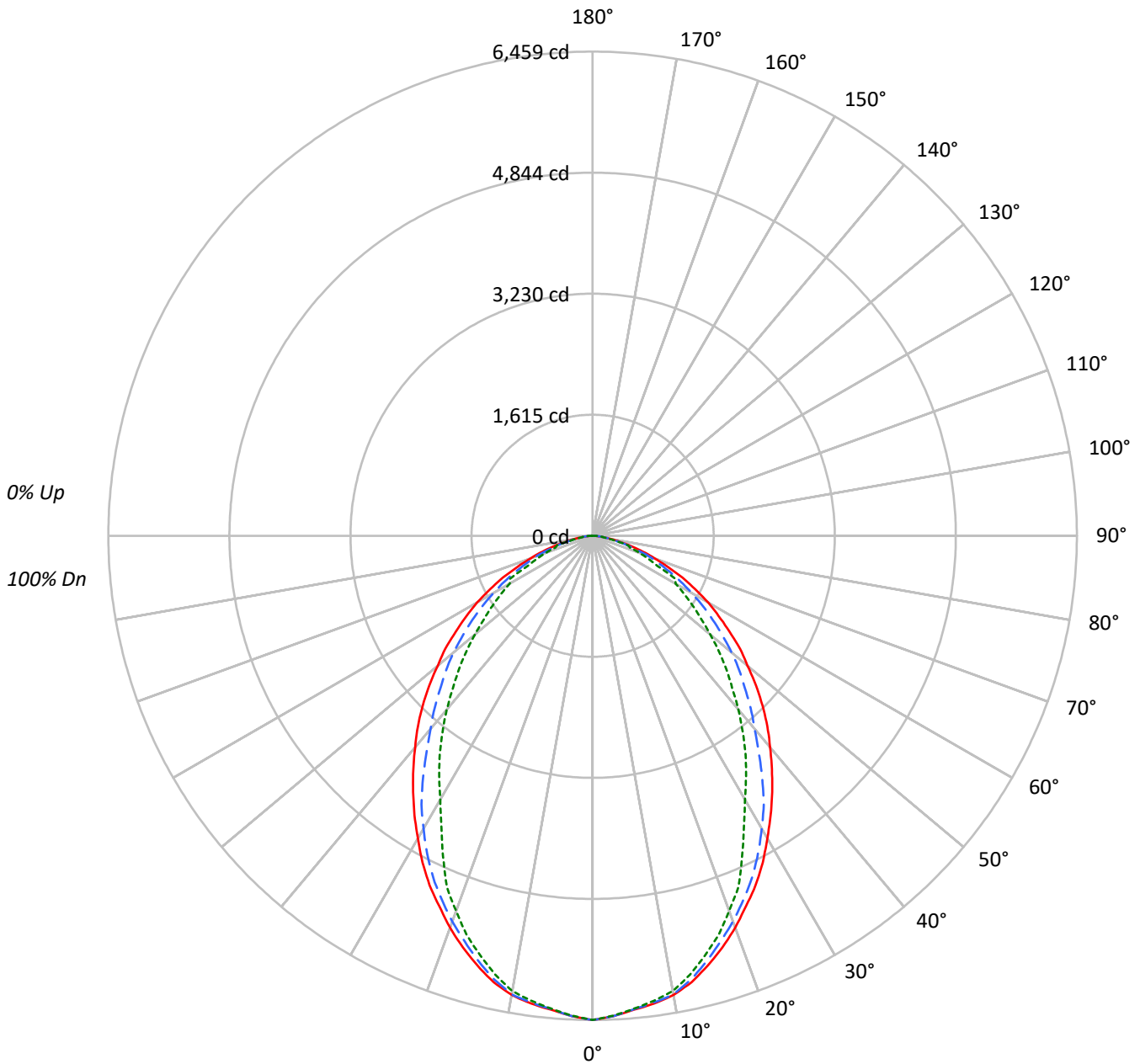
Lumens per Lamp: N/A  
Luminaire Lumens: 12680.0 lumens  
Efficiency: N/A  
Efficacy: 95.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 133.2  
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°	8691	8691	8691
5°	8572	8562	8552
10°	8498	8488	8427
15°	8269	8186	8071
20°	7965	7837	7623
25°	7638	7472	7006
30°	7239	7007	6311
35°	6856	6476	5838
40°	6466	5902	5312
45°	6095	5456	4803
50°	5642	5064	4283
55°	5220	4589	3836
60°	4782	4099	3436
65°	4208	3590	3043
70°	3466	3143	2585
75°	2756	2407	2523
80°	1851	1736	1620
85°	1153	1383	1613



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	601.2	4.7
10°-20°	1650.1	13.0
20°-30°	2284.4	18.0
30°-40°	2435.9	19.2
40°-50°	2222.2	17.5
50°-60°	1740.9	13.7
60°-70°	1134.6	8.9
70°-80°	502.7	4.0
80°-90°	107.9	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°	4535.7	35.8
0°-40°	6971.6	55.0
0°-60°	10934.7	86.2
0°-90°	12680.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12680.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6459	6459	6459	6459	6459	
5°	6347	6340	6340	6332	6332	602
15°	5936	5936	5877	5817	5794	1669
25°	5145	5115	5033	4854	4719	2362
35°	4174	4144	3943	3644	3554	2610
45°	3203	3136	2867	2628	2524	2468
55°	2225	2158	1956	1725	1635	1996
65°	1322	1247	1128	1150	956	1303
75°	530	493	463	441	485	568
85°	75	82	90	97	104	104
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6459.0	6459.0	6459.0	6459.0	6459.0
2.5°	6414.2	6414.2	6414.2	6406.8	6406.8
5°	6347.0	6339.5	6339.5	6332.1	6332.1
7.5°	6294.7	6287.3	6279.8	6272.3	6257.4
10°	6220.1	6220.1	6212.6	6175.3	6167.8
12.5°	6100.6	6093.1	6063.3	6011.0	5996.1
15°	5936.3	5936.3	5876.6	5816.9	5794.5
17.5°	5757.1	5749.7	5675.0	5615.2	5585.4
20°	5563.0	5548.0	5473.4	5376.3	5324.0
22.5°	5346.4	5346.4	5256.8	5129.9	5077.6
25°	5144.8	5114.9	5032.8	4853.6	4719.2
27.5°	4913.3	4868.5	4778.9	4525.0	4368.2
30°	4659.5	4637.1	4510.1	4181.6	4062.1
32.5°	4420.5	4383.2	4248.8	3905.3	3808.2
35°	4174.1	4144.2	3942.6	3643.9	3554.3
37.5°	3927.7	3890.3	3636.5	3397.5	3285.5
40°	3681.3	3636.5	3360.2	3143.6	3024.2
42.5°	3449.8	3390.1	3121.2	2889.8	2755.4
45°	3203.4	3136.2	2867.4	2628.4	2523.9
47.5°	2957.0	2897.2	2650.8	2404.4	2284.9
50°	2695.6	2643.3	2419.3	2172.9	2046.0
52.5°	2479.1	2396.9	2180.4	1934.0	1829.4
55°	2225.2	2158.0	1956.4	1724.9	1635.3
57.5°	1993.7	1926.5	1739.8	1523.3	1448.6
60°	1777.2	1680.1	1523.3	1336.6	1276.9
62.5°	1538.2	1463.5	1329.1	1172.3	1247.0
65°	1321.7	1247.0	1127.5	1149.9	955.8
67.5°	1082.7	1045.4	940.9	836.3	806.4
70°	881.1	836.3	799.0	687.0	657.1
72.5°	701.9	657.1	604.8	545.1	522.7
75°	530.2	492.8	463.0	440.6	485.4
77.5°	365.9	351.0	328.6	306.2	298.7
80°	238.9	231.5	224.0	216.5	209.1
82.5°	141.9	141.9	141.9	141.9	141.9
85°	74.7	82.1	89.6	97.1	104.5
87.5°	44.8	44.8	52.3	59.7	67.2
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)