

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: P547418

Luminaire Tested: **FMR-24-4-LD4-4LO-50-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: P547418  
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-LD4-4LO-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

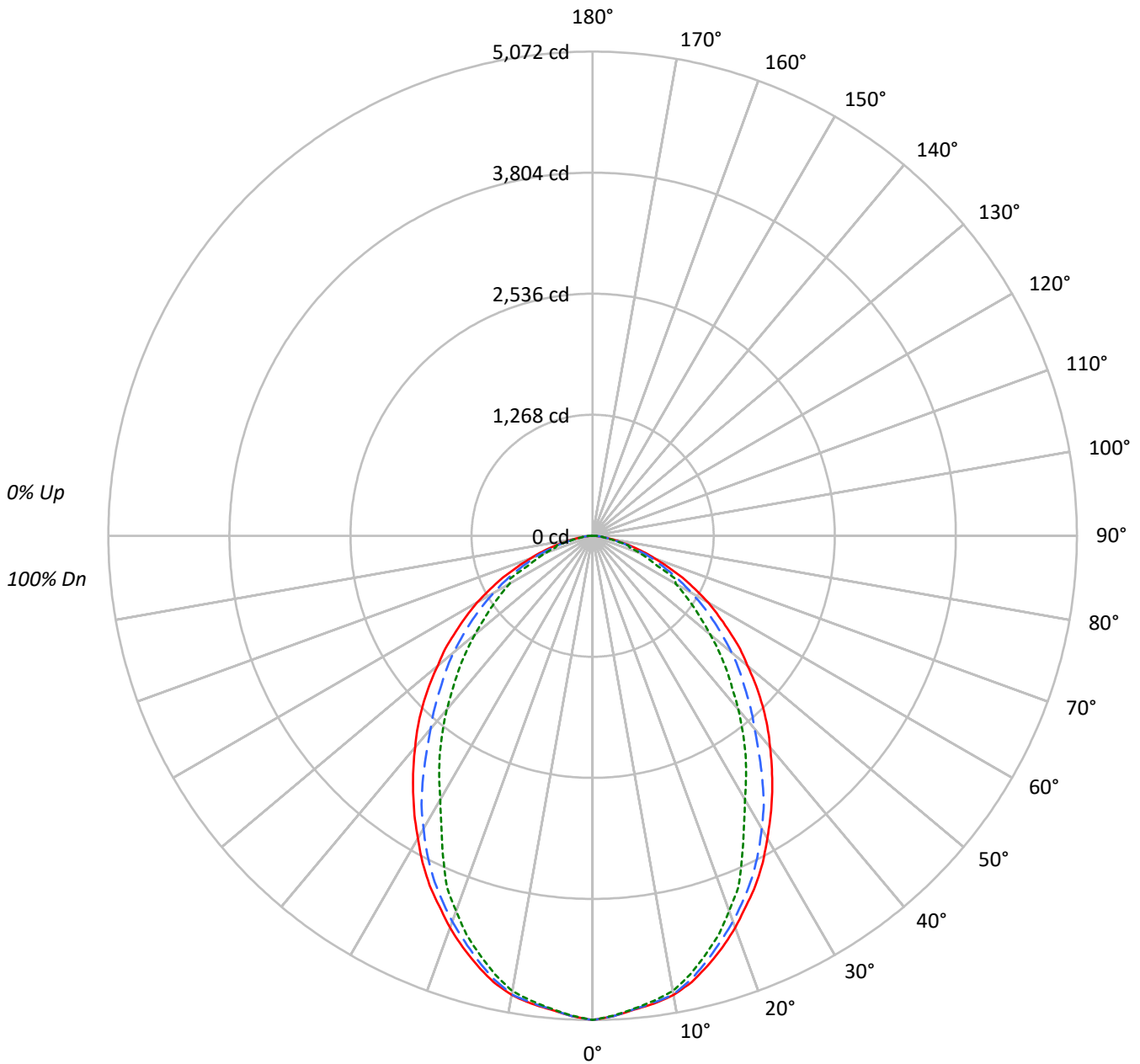
Lumens per Lamp: N/A  
Luminaire Lumens: 9957.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
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°	6824	6824	6824
5°	6732	6724	6716
10°	6673	6665	6617
15°	6493	6428	6338
20°	6255	6154	5986
25°	5998	5867	5502
30°	5684	5502	4956
35°	5384	5085	4584
40°	5077	4634	4171
45°	4787	4284	3771
50°	4431	3977	3363
55°	4099	3604	3012
60°	3755	3219	2698
65°	3304	2819	2389
70°	2722	2468	2030
75°	2164	1890	1981
80°	1454	1363	1272
85°	905	1087	1267



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	472.1	4.7
10°-20°	1295.7	13.0
20°-30°	1793.8	18.0
30°-40°	1912.8	19.2
40°-50°	1745.0	17.5
50°-60°	1367.1	13.7
60°-70°	891.0	8.9
70°-80°	394.7	4.0
80°-90°	84.7	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°	3561.7	35.8
0°-40°	5474.5	55.0
0°-60°	8586.5	86.2
0°-90°	9957.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9957.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5072	5072	5072	5072	5072	
5°	4984	4978	4978	4972	4972	473
15°	4662	4662	4615	4568	4550	1310
25°	4040	4016	3952	3811	3706	1855
35°	3278	3254	3096	2861	2791	2049
45°	2516	2463	2252	2064	1982	1938
55°	1747	1695	1536	1354	1284	1567
65°	1038	979	885	903	750	1023
75°	416	387	364	346	381	446
85°	59	64	70	76	82	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5072.0	5072.0	5072.0	5072.0	5072.0
2.5°	5036.8	5036.8	5036.8	5030.9	5030.9
5°	4984.0	4978.1	4978.1	4972.3	4972.3
7.5°	4943.0	4937.1	4931.2	4925.4	4913.6
10°	4884.3	4884.3	4878.5	4849.1	4843.3
12.5°	4790.5	4784.6	4761.2	4720.2	4708.4
15°	4661.5	4661.5	4614.6	4567.7	4550.1
17.5°	4520.8	4514.9	4456.3	4409.4	4385.9
20°	4368.3	4356.6	4298.0	4221.7	4180.7
22.5°	4198.3	4198.3	4127.9	4028.3	3987.2
25°	4040.0	4016.5	3952.0	3811.3	3705.8
27.5°	3858.2	3823.0	3752.7	3553.3	3430.2
30°	3658.8	3641.3	3541.6	3283.6	3189.8
32.5°	3471.2	3441.9	3336.4	3066.6	2990.4
35°	3277.7	3254.3	3095.9	2861.4	2791.0
37.5°	3084.2	3054.9	2855.5	2667.9	2580.0
40°	2890.7	2855.5	2638.6	2468.6	2374.7
42.5°	2709.0	2662.0	2451.0	2269.2	2163.6
45°	2515.5	2462.7	2251.6	2064.0	1981.9
47.5°	2322.0	2275.1	2081.6	1888.1	1794.2
50°	2116.7	2075.7	1899.8	1706.3	1606.6
52.5°	1946.7	1882.2	1712.2	1518.7	1436.6
55°	1747.3	1694.6	1536.2	1354.5	1284.1
57.5°	1565.6	1512.8	1366.2	1196.2	1137.5
60°	1395.5	1319.3	1196.2	1049.6	1002.7
62.5°	1207.9	1149.3	1043.7	920.6	979.2
65°	1037.8	979.2	885.4	903.0	750.5
67.5°	850.2	820.9	738.8	656.7	633.3
70°	691.9	656.7	627.4	539.4	516.0
72.5°	551.2	516.0	474.9	428.0	410.4
75°	416.3	387.0	363.5	345.9	381.1
77.5°	287.3	275.6	258.0	240.4	234.5
80°	187.6	181.8	175.9	170.0	164.2
82.5°	111.4	111.4	111.4	111.4	111.4
85°	58.6	64.5	70.4	76.2	82.1
87.5°	35.2	35.2	41.0	46.9	52.8
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)