

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: P547232

Luminaire Tested: **FMR-24-4-LD4-3STD-50-UNV-81-85-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: P547232  
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-LD4-3STD-50-UNV-81-85-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

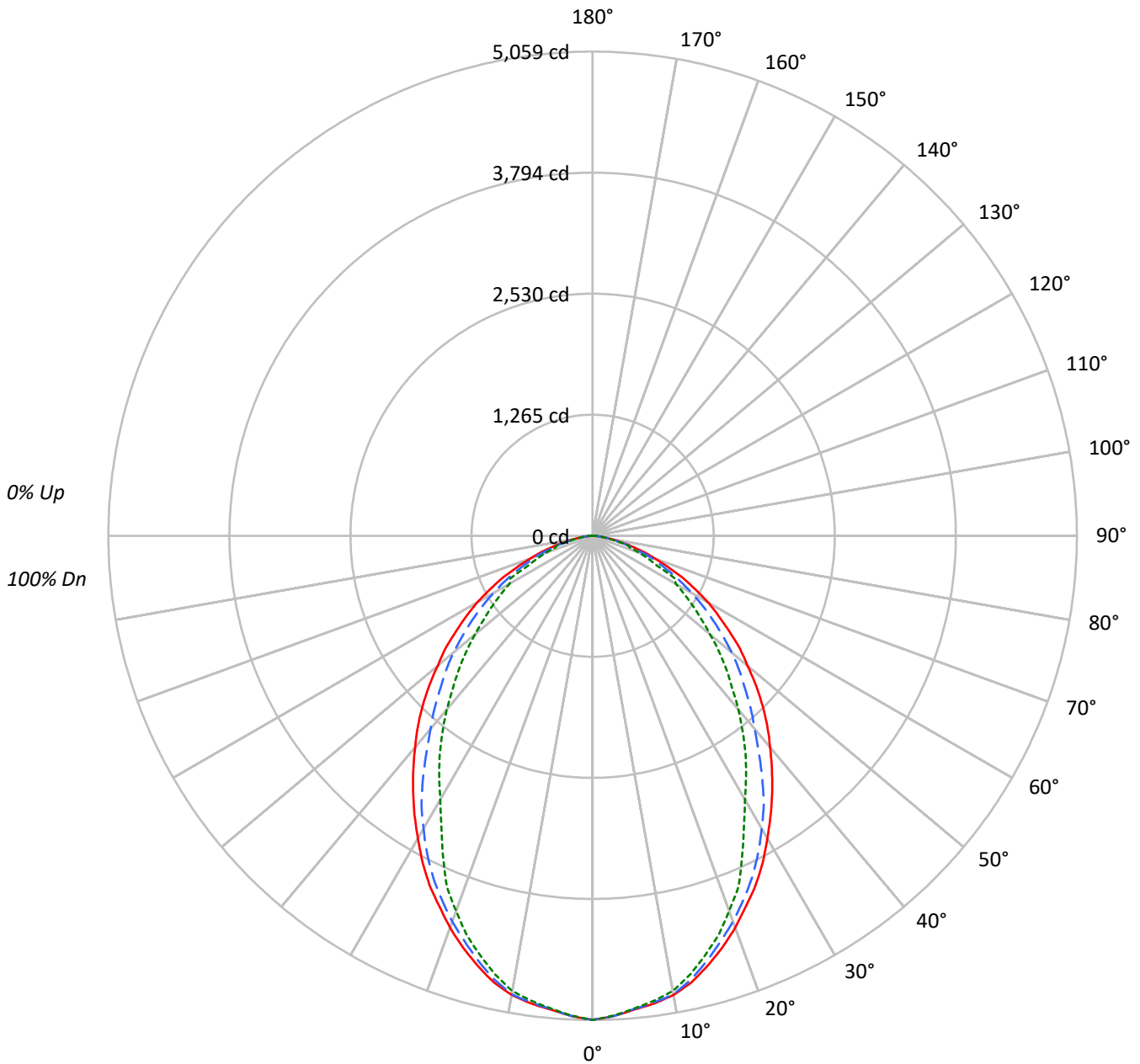
Lumens per Lamp: N/A  
Luminaire Lumens: 9931.0 lumens  
Efficiency: N/A  
Efficacy: 99.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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°	6806	6806	6806
5°	6714	6706	6698
10°	6656	6648	6600
15°	6476	6411	6321
20°	6238	6138	5970
25°	5982	5852	5487
30°	5670	5488	4943
35°	5370	5072	4573
40°	5064	4622	4160
45°	4774	4273	3761
50°	4419	3966	3354
55°	4088	3594	3004
60°	3746	3210	2691
65°	3295	2812	2383
70°	2715	2462	2024
75°	2158	1885	1976
80°	1450	1359	1269
85°	903	1084	1264



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	470.9	4.7
10°-20°	1292.3	13.0
20°-30°	1789.2	18.0
30°-40°	1907.8	19.2
40°-50°	1740.4	17.5
50°-60°	1363.5	13.7
60°-70°	888.7	8.9
70°-80°	393.7	4.0
80°-90°	84.5	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°	3552.4	35.8
0°-40°	5460.2	55.0
0°-60°	8564.1	86.2
0°-90°	9931.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9931.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5059	5059	5059	5059	5059	
5°	4971	4965	4965	4959	4959	472
15°	4649	4649	4603	4556	4538	1307
25°	4029	4006	3942	3801	3696	1850
35°	3269	3246	3088	2854	2784	2044
45°	2509	2456	2246	2059	1977	1933
55°	1743	1690	1532	1351	1281	1563
65°	1035	977	883	901	749	1020
75°	415	386	363	345	380	445
85°	58	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°	5058.7	5058.7	5058.7	5058.7	5058.7
2.5°	5023.6	5023.6	5023.6	5017.8	5017.8
5°	4971.0	4965.1	4965.1	4959.3	4959.3
7.5°	4930.1	4924.2	4918.4	4912.5	4900.8
10°	4871.6	4871.6	4865.7	4836.5	4830.6
12.5°	4778.0	4772.2	4748.8	4707.8	4696.1
15°	4649.3	4649.3	4602.6	4555.8	4538.2
17.5°	4509.0	4503.1	4444.7	4397.9	4374.5
20°	4356.9	4345.2	4286.8	4210.7	4169.8
22.5°	4187.3	4187.3	4117.2	4017.7	3976.8
25°	4029.4	4006.0	3941.7	3801.3	3696.1
27.5°	3848.1	3813.0	3742.9	3544.0	3421.2
30°	3649.3	3631.8	3532.3	3275.0	3181.4
32.5°	3462.2	3432.9	3327.6	3058.6	2982.6
35°	3269.2	3245.8	3087.9	2853.9	2783.8
37.5°	3076.2	3046.9	2848.1	2660.9	2573.2
40°	2883.2	2848.1	2631.7	2462.1	2368.5
42.5°	2701.9	2655.1	2444.6	2263.3	2158.0
45°	2508.9	2456.3	2245.7	2058.6	1976.7
47.5°	2315.9	2269.1	2076.1	1883.1	1789.6
50°	2111.2	2070.3	1894.8	1701.8	1602.4
52.5°	1941.6	1877.3	1707.7	1514.7	1432.8
55°	1742.8	1690.1	1532.2	1350.9	1280.8
57.5°	1561.5	1508.8	1362.6	1193.0	1134.6
60°	1391.9	1315.9	1193.0	1046.8	1000.0
62.5°	1204.7	1146.3	1041.0	918.2	976.7
65°	1035.1	976.7	883.1	900.6	748.6
67.5°	848.0	818.8	736.9	655.0	631.6
70°	690.1	655.0	625.8	538.0	514.6
72.5°	549.7	514.6	473.7	426.9	409.4
75°	415.2	386.0	362.6	345.0	380.1
77.5°	286.6	274.9	257.3	239.8	233.9
80°	187.1	181.3	175.4	169.6	163.8
82.5°	111.1	111.1	111.1	111.1	111.1
85°	58.5	64.3	70.2	76.0	81.9
87.5°	35.1	35.1	40.9	46.8	52.6
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)