

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: P547194

Luminaire Tested: **FMR-24-4-LD4-3STD-40-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: P547194  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

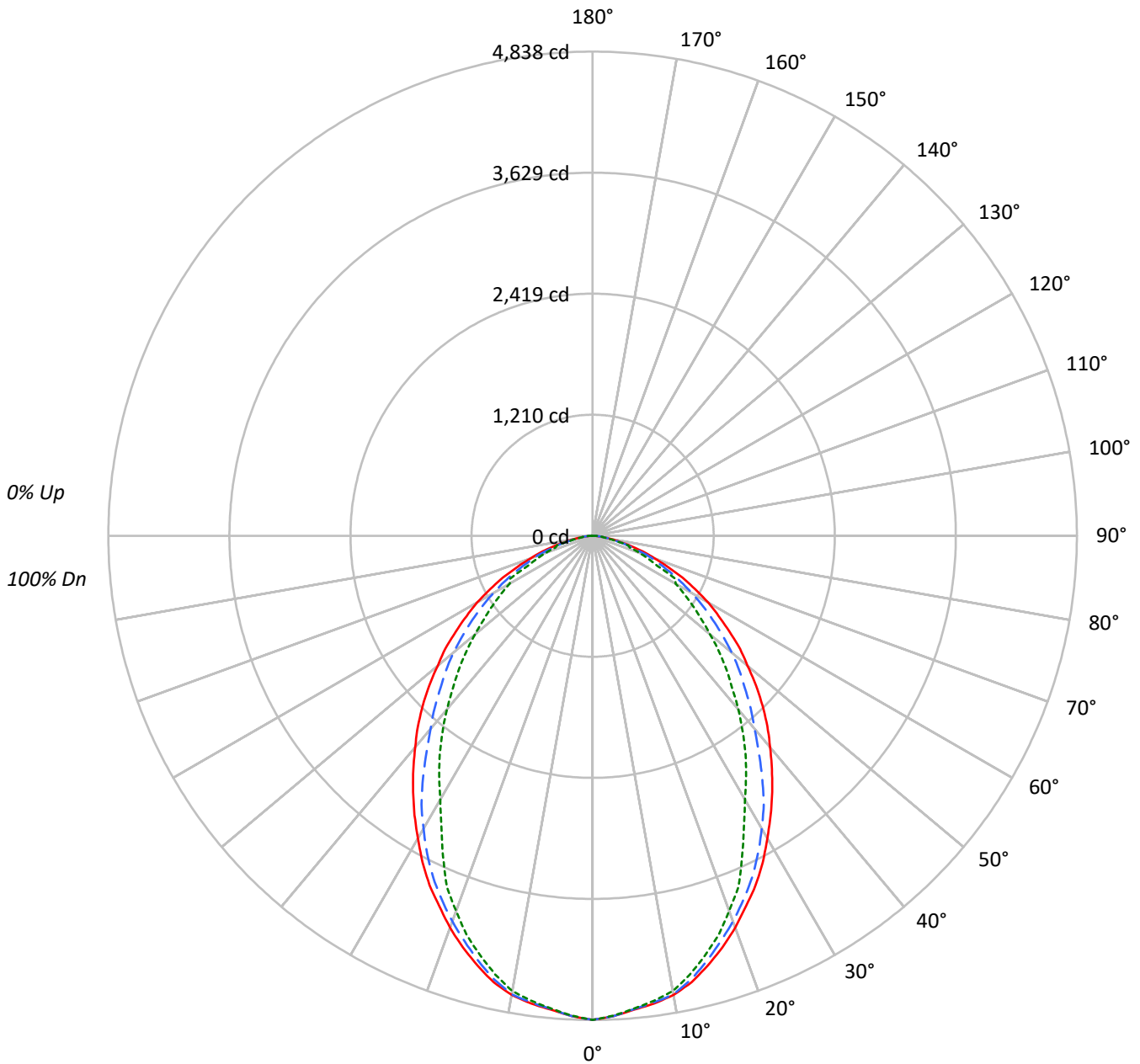
Lumens per Lamp: N/A  
Luminaire Lumens: 9497.0 lumens  
Efficiency: N/A  
Efficacy: 95.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	6509	6509	6509
5°	6421	6413	6405
10°	6365	6357	6311
15°	6193	6131	6045
20°	5966	5870	5710
25°	5721	5596	5247
30°	5422	5248	4727
35°	5135	4850	4373
40°	4843	4420	3978
45°	4565	4086	3597
50°	4226	3793	3208
55°	3909	3437	2873
60°	3582	3070	2573
65°	3152	2689	2279
70°	2596	2354	1936
75°	2064	1802	1890
80°	1387	1300	1213
85°	863	1036	1209



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	450.3	4.7
10°-20°	1235.9	13.0
20°-30°	1711.0	18.0
30°-40°	1824.4	19.2
40°-50°	1664.4	17.5
50°-60°	1303.9	13.7
60°-70°	849.8	8.9
70°-80°	376.5	4.0
80°-90°	80.8	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°	3397.1	35.8
0°-40°	5221.5	55.0
0°-60°	8189.8	86.2
0°-90°	9497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9497.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4838	4838	4838	4838	4838	
5°	4754	4748	4748	4743	4743	451
15°	4446	4446	4401	4357	4340	1250
25°	3853	3831	3769	3635	3535	1769
35°	3126	3104	2953	2729	2662	1955
45°	2399	2349	2148	1969	1890	1848
55°	1667	1616	1465	1292	1225	1495
65°	990	934	844	861	716	976
75°	397	369	347	330	364	426
85°	56	62	67	73	78	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4837.6	4837.6	4837.6	4837.6	4837.6
2.5°	4804.1	4804.1	4804.1	4798.5	4798.5
5°	4753.8	4748.2	4748.2	4742.6	4742.6
7.5°	4714.6	4709.0	4703.4	4697.8	4686.6
10°	4658.7	4658.7	4653.1	4625.1	4619.5
12.5°	4569.2	4563.6	4541.2	4502.1	4490.9
15°	4446.2	4446.2	4401.4	4356.7	4339.9
17.5°	4311.9	4306.3	4250.4	4205.7	4183.3
20°	4166.5	4155.3	4099.4	4026.7	3987.6
22.5°	4004.3	4004.3	3937.2	3842.2	3803.0
25°	3853.3	3831.0	3769.4	3635.2	3534.6
27.5°	3680.0	3646.4	3579.3	3389.1	3271.7
30°	3489.8	3473.0	3378.0	3131.9	3042.4
32.5°	3310.9	3282.9	3182.2	2925.0	2852.3
35°	3126.3	3103.9	2952.9	2729.2	2662.1
37.5°	2941.7	2913.8	2723.6	2544.7	2460.8
40°	2757.2	2723.6	2516.7	2354.5	2265.0
42.5°	2583.8	2539.1	2337.7	2164.4	2063.7
45°	2399.2	2348.9	2147.6	1968.6	1890.3
47.5°	2214.7	2169.9	1985.4	1800.8	1711.4
50°	2018.9	1979.8	1812.0	1627.5	1532.4
52.5°	1856.8	1795.2	1633.1	1448.5	1370.2
55°	1666.6	1616.3	1465.3	1291.9	1224.8
57.5°	1493.2	1442.9	1303.1	1140.9	1085.0
60°	1331.1	1258.3	1140.9	1001.1	956.3
62.5°	1152.1	1096.2	995.5	878.0	934.0
65°	989.9	934.0	844.5	861.3	715.9
67.5°	810.9	783.0	704.7	626.4	604.0
70°	659.9	626.4	598.4	514.5	492.2
72.5°	525.7	492.2	453.0	408.3	391.5
75°	397.1	369.1	346.7	330.0	363.5
77.5°	274.0	262.9	246.1	229.3	223.7
80°	179.0	173.4	167.8	162.2	156.6
82.5°	106.3	106.3	106.3	106.3	106.3
85°	55.9	61.5	67.1	72.7	78.3
87.5°	33.6	33.6	39.1	44.7	50.3
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)