

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: P547525

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-81-96-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: P547525
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-50-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

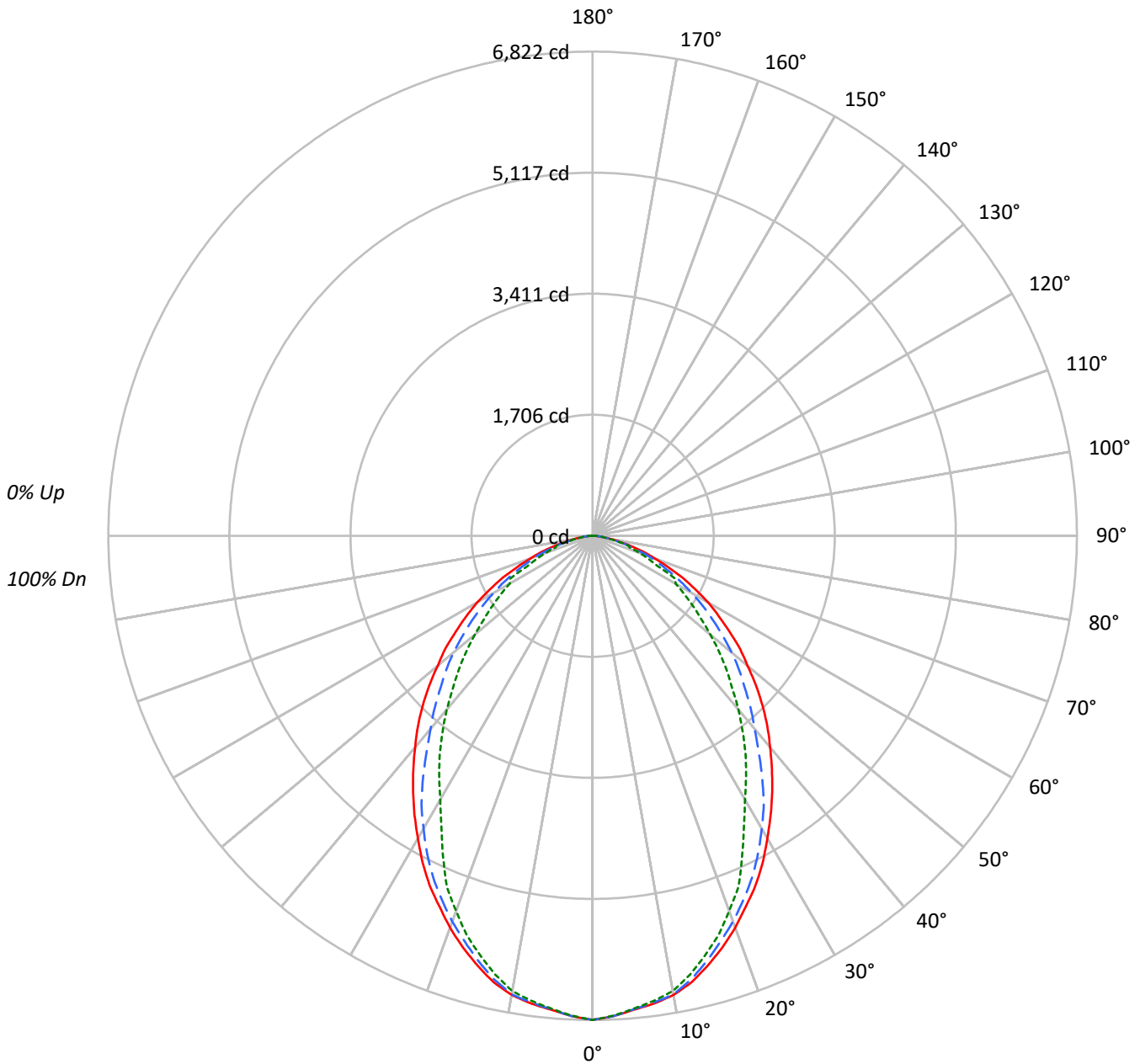
Lumens per Lamp: N/A
Luminaire Lumens: 13392.0 lumens
Efficiency: N/A
Efficacy: 100.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P547525

CATALOG NUMBER: FMR-24-4-LD4-4STD-50-UNV-81-96-EDD

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°	9179	9179	9179
5°	9054	9043	9032
10°	8975	8965	8900
15°	8733	8646	8525
20°	8412	8277	8051
25°	8067	7891	7399
30°	7646	7401	6665
35°	7241	6840	6166
40°	6829	6233	5610
45°	6438	5762	5072
50°	5959	5349	4523
55°	5513	4847	4051
60°	5051	4329	3629
65°	4444	3791	3214
70°	3661	3319	2730
75°	2911	2542	2665
80°	1956	1833	1711
85°	1218	1460	1704



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	635.0	4.7
10°-20°	1742.7	13.0
20°-30°	2412.7	18.0
30°-40°	2572.6	19.2
40°-50°	2347.0	17.5
50°-60°	1838.7	13.7
60°-70°	1198.4	8.9
70°-80°	530.9	4.0
80°-90°	114.0	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°	4790.4	35.8
0°-40°	7363.1	55.0
0°-60°	11548.7	86.2
0°-90°	13392.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13392.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6822	6822	6822	6822	6822	
5°	6703	6696	6696	6688	6688	636
15°	6270	6270	6207	6144	6120	1763
25°	5434	5402	5315	5126	4984	2495
35°	4408	4377	4164	3848	3754	2756
45°	3383	3312	3028	2776	2666	2606
55°	2350	2279	2066	1822	1727	2108
65°	1396	1317	1191	1214	1010	1376
75°	560	520	489	465	513	600
85°	79	87	95	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6821.7	6821.7	6821.7	6821.7	6821.7
2.5°	6774.4	6774.4	6774.4	6766.5	6766.5
5°	6703.4	6695.5	6695.5	6687.6	6687.6
7.5°	6648.2	6640.3	6632.4	6624.5	6608.8
10°	6569.3	6569.3	6561.5	6522.0	6514.1
12.5°	6443.2	6435.3	6403.7	6348.5	6332.8
15°	6269.7	6269.7	6206.6	6143.5	6119.8
17.5°	6080.4	6072.5	5993.6	5930.5	5899.0
20°	5875.3	5859.6	5780.7	5678.2	5623.0
22.5°	5646.6	5646.6	5552.0	5417.9	5362.7
25°	5433.7	5402.2	5315.4	5126.1	4984.2
27.5°	5189.2	5141.9	5047.3	4779.1	4613.5
30°	4921.1	4897.4	4763.4	4416.4	4290.2
32.5°	4668.7	4629.3	4487.3	4124.6	4022.0
35°	4408.5	4376.9	4164.0	3848.5	3753.9
37.5°	4148.2	4108.8	3840.7	3588.3	3470.0
40°	3888.0	3840.7	3548.9	3320.2	3194.0
42.5°	3643.5	3580.4	3296.5	3052.0	2910.1
45°	3383.3	3312.3	3028.4	2776.0	2665.6
47.5°	3123.0	3059.9	2799.7	2539.4	2413.2
50°	2847.0	2791.8	2555.2	2294.9	2160.9
52.5°	2618.3	2531.5	2302.8	2042.6	1932.2
55°	2350.1	2279.2	2066.2	1821.8	1727.1
57.5°	2105.7	2034.7	1837.5	1608.8	1530.0
60°	1877.0	1774.4	1608.8	1411.7	1348.6
62.5°	1624.6	1545.7	1403.8	1238.2	1317.0
65°	1395.9	1317.0	1190.8	1214.5	1009.5
67.5°	1143.5	1104.1	993.7	883.3	851.7
70°	930.6	883.3	843.8	725.5	694.0
72.5°	741.3	694.0	638.8	575.7	552.0
75°	559.9	520.5	489.0	465.3	512.6
77.5°	386.4	370.7	347.0	323.3	315.5
80°	252.4	244.5	236.6	228.7	220.8
82.5°	149.8	149.8	149.8	149.8	149.8
85°	78.9	86.8	94.6	102.5	110.4
87.5°	47.3	47.3	55.2	63.1	71.0
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)