

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: P547431

Luminaire Tested: **FMR-24-4-LD4-4LO-50-UNV-82-84-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: P547431
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-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

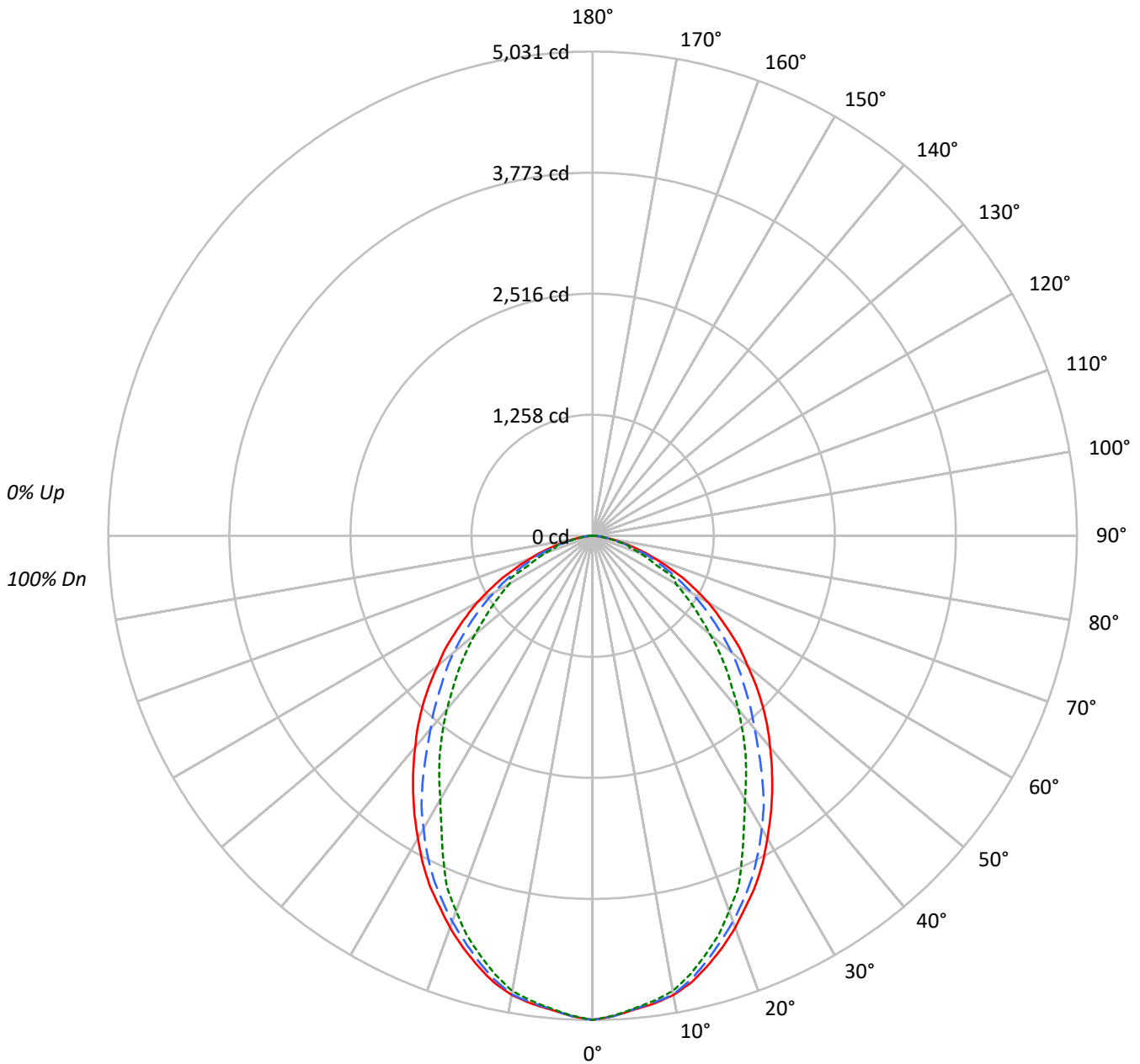
Lumens per Lamp: N/A
Luminaire Lumens: 9876.0 lumens
Efficiency: N/A
Efficacy: 105.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
Input Voltage (V): NR
Input Current (A_{in}): 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: P547431

CATALOG NUMBER: FMR-24-4-LD4-4LO-50-UNV-82-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P547431

CATALOG NUMBER: FMR-24-4-LD4-4LO-50-UNV-82-84-EDD

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°	6769	6769	6769
5°	6677	6669	6661
10°	6619	6611	6563
15°	6440	6376	6287
20°	6204	6104	5937
25°	5949	5819	5457
30°	5638	5458	4915
35°	5340	5044	4547
40°	5036	4597	4137
45°	4748	4250	3741
50°	4395	3944	3336
55°	4065	3575	2988
60°	3725	3193	2676
65°	3277	2796	2370
70°	2700	2448	2013
75°	2146	1875	1965
80°	1442	1352	1261
85°	898	1078	1257



TEST NUMBER: P547431

CATALOG NUMBER: FMR-24-4-LD4-4LO-50-UNV-82-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	468.3	4.7
10°-20°	1285.2	13.0
20°-30°	1779.3	18.0
30°-40°	1897.2	19.2
40°-50°	1730.8	17.5
50°-60°	1355.9	13.7
60°-70°	883.7	8.9
70°-80°	391.5	4.0
80°-90°	84.1	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°	3532.7	35.8
0°-40°	5429.9	55.0
0°-60°	8516.7	86.2
0°-90°	9876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9876.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5031	5031	5031	5031	5031	
5°	4944	4938	4938	4932	4932	469
15°	4624	4624	4577	4530	4513	1300
25°	4007	3984	3920	3780	3676	1840
35°	3251	3228	3071	2838	2768	2033
45°	2495	2443	2233	2047	1966	1922
55°	1733	1681	1524	1344	1274	1554
65°	1029	971	878	896	744	1014
75°	413	384	361	343	378	443
85°	58	64	70	76	81	81
90°	0	0	0	0	0	



TEST NUMBER: P547431

CATALOG NUMBER: FMR-24-4-LD4-4LO-50-UNV-82-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5030.7	5030.7	5030.7	5030.7	5030.7
2.5°	4995.8	4995.8	4995.8	4990.0	4990.0
5°	4943.5	4937.6	4937.6	4931.8	4931.8
7.5°	4902.8	4896.9	4891.1	4885.3	4873.7
10°	4844.6	4844.6	4838.8	4809.7	4803.9
12.5°	4751.5	4745.7	4722.5	4681.8	4670.1
15°	4623.6	4623.6	4577.1	4530.5	4513.1
17.5°	4484.0	4478.2	4420.0	4373.5	4350.2
20°	4332.8	4321.2	4263.0	4187.4	4146.7
22.5°	4164.1	4164.1	4094.4	3995.5	3954.8
25°	4007.1	3983.9	3919.9	3780.3	3675.6
27.5°	3826.8	3791.9	3722.1	3524.4	3402.3
30°	3629.1	3611.6	3512.8	3256.9	3163.8
32.5°	3443.0	3413.9	3309.2	3041.7	2966.1
35°	3251.1	3227.8	3070.8	2838.1	2768.3
37.5°	3059.1	3030.1	2832.3	2646.2	2559.0
40°	2867.2	2832.3	2617.1	2448.5	2355.4
42.5°	2686.9	2640.4	2431.0	2250.7	2146.0
45°	2495.0	2442.7	2233.3	2047.2	1965.8
47.5°	2303.1	2256.5	2064.6	1872.7	1779.6
50°	2099.5	2058.8	1884.3	1692.4	1593.5
52.5°	1930.9	1866.9	1698.2	1506.3	1424.9
55°	1733.1	1680.8	1523.8	1343.5	1273.7
57.5°	1552.8	1500.5	1355.1	1186.4	1128.3
60°	1384.2	1308.6	1186.4	1041.0	994.5
62.5°	1198.1	1139.9	1035.2	913.1	971.2
65°	1029.4	971.2	878.2	895.6	744.4
67.5°	843.3	814.2	732.8	651.4	628.1
70°	686.3	651.4	622.3	535.1	511.8
72.5°	546.7	511.8	471.1	424.6	407.1
75°	412.9	383.8	360.6	343.1	378.0
77.5°	285.0	273.3	255.9	238.4	232.6
80°	186.1	180.3	174.5	168.7	162.8
82.5°	110.5	110.5	110.5	110.5	110.5
85°	58.2	64.0	69.8	75.6	81.4
87.5°	34.9	34.9	40.7	46.5	52.3
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)