

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: P546694

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-81-97-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: P546694
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-LD4-2HI-35-UNV-81-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

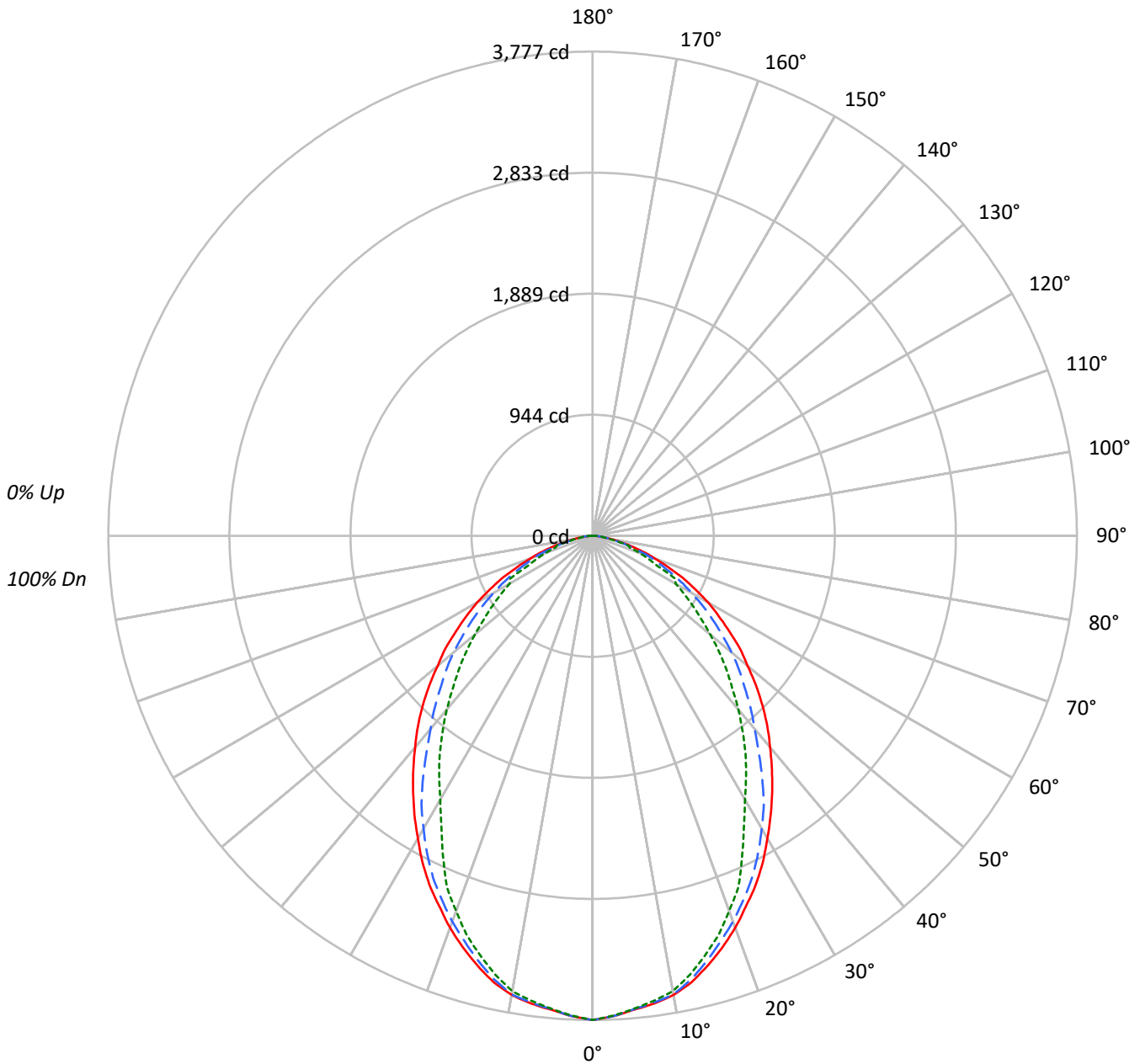
Lumens per Lamp: N/A
Luminaire Lumens: 7415.0 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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: P546694

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-97-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546694

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-97-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°	5082	5082	5082
5°	5013	5007	5001
10°	4970	4964	4928
15°	4835	4787	4720
20°	4658	4583	4458
25°	4467	4369	4097
30°	4233	4098	3691
35°	4009	3787	3414
40°	3781	3451	3106
45°	3565	3191	2808
50°	3300	2961	2504
55°	3052	2684	2243
60°	2796	2397	2009
65°	2461	2099	1779
70°	2027	1838	1512
75°	1612	1407	1475
80°	1082	1015	948
85°	675	809	943



TEST NUMBER: P546694

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-97-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.6	4.7
10°-20°	964.9	13.0
20°-30°	1335.9	18.0
30°-40°	1424.4	19.2
40°-50°	1299.5	17.5
50°-60°	1018.0	13.7
60°-70°	663.5	8.9
70°-80°	294.0	4.0
80°-90°	63.1	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°	2652.4	35.8
0°-40°	4076.8	55.0
0°-60°	6394.4	86.2
0°-90°	7415.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7415.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3777	3777	3777	3777	3777	
5°	3712	3707	3707	3703	3703	352
15°	3471	3471	3436	3402	3388	976
25°	3009	2991	2943	2838	2760	1381
35°	2441	2424	2306	2131	2078	1526
45°	1873	1834	1677	1537	1476	1443
55°	1301	1262	1144	1009	956	1167
65°	773	729	659	672	559	762
75°	310	288	271	258	284	332
85°	44	48	52	57	61	61
90°	0	0	0	0	0	



TEST NUMBER: P546694

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-97-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3777.1	3777.1	3777.1	3777.1	3777.1
2.5°	3750.9	3750.9	3750.9	3746.5	3746.5
5°	3711.6	3707.2	3707.2	3702.9	3702.9
7.5°	3681.0	3676.7	3672.3	3667.9	3659.2
10°	3637.4	3637.4	3633.0	3611.2	3606.8
12.5°	3567.5	3563.1	3545.7	3515.1	3506.4
15°	3471.4	3471.4	3436.5	3401.6	3388.5
17.5°	3366.6	3362.3	3318.6	3283.7	3266.2
20°	3253.1	3244.4	3200.7	3143.9	3113.4
22.5°	3126.5	3126.5	3074.1	2999.8	2969.3
25°	3008.6	2991.1	2943.1	2838.3	2759.7
27.5°	2873.2	2847.0	2794.6	2646.2	2554.5
30°	2724.8	2711.7	2637.4	2445.3	2375.4
32.5°	2585.0	2563.2	2484.6	2283.7	2227.0
35°	2440.9	2423.5	2305.6	2130.9	2078.5
37.5°	2296.8	2275.0	2126.5	1986.8	1921.3
40°	2152.7	2126.5	1965.0	1838.3	1768.5
42.5°	2017.4	1982.4	1825.2	1689.9	1611.3
45°	1873.3	1834.0	1676.8	1537.0	1475.9
47.5°	1729.2	1694.2	1550.1	1406.0	1336.2
50°	1576.3	1545.8	1414.8	1270.7	1196.4
52.5°	1449.7	1401.7	1275.0	1130.9	1069.8
55°	1301.2	1261.9	1144.0	1008.7	956.3
57.5°	1165.9	1126.6	1017.4	890.8	847.1
60°	1039.2	982.5	890.8	781.6	746.7
62.5°	899.5	855.9	777.3	685.6	729.2
65°	772.9	729.2	659.4	672.5	558.9
67.5°	633.2	611.3	550.2	489.1	471.6
70°	515.3	489.1	467.2	401.7	384.3
72.5°	410.5	384.3	353.7	318.8	305.7
75°	310.0	288.2	270.7	257.6	283.8
77.5°	214.0	205.2	192.1	179.0	174.7
80°	139.7	135.4	131.0	126.6	122.3
82.5°	83.0	83.0	83.0	83.0	83.0
85°	43.7	48.0	52.4	56.8	61.1
87.5°	26.2	26.2	30.6	34.9	39.3
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)