

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: P546169

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-80-86-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: P546169
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-12-4-LD4-2HI-50-UNV-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

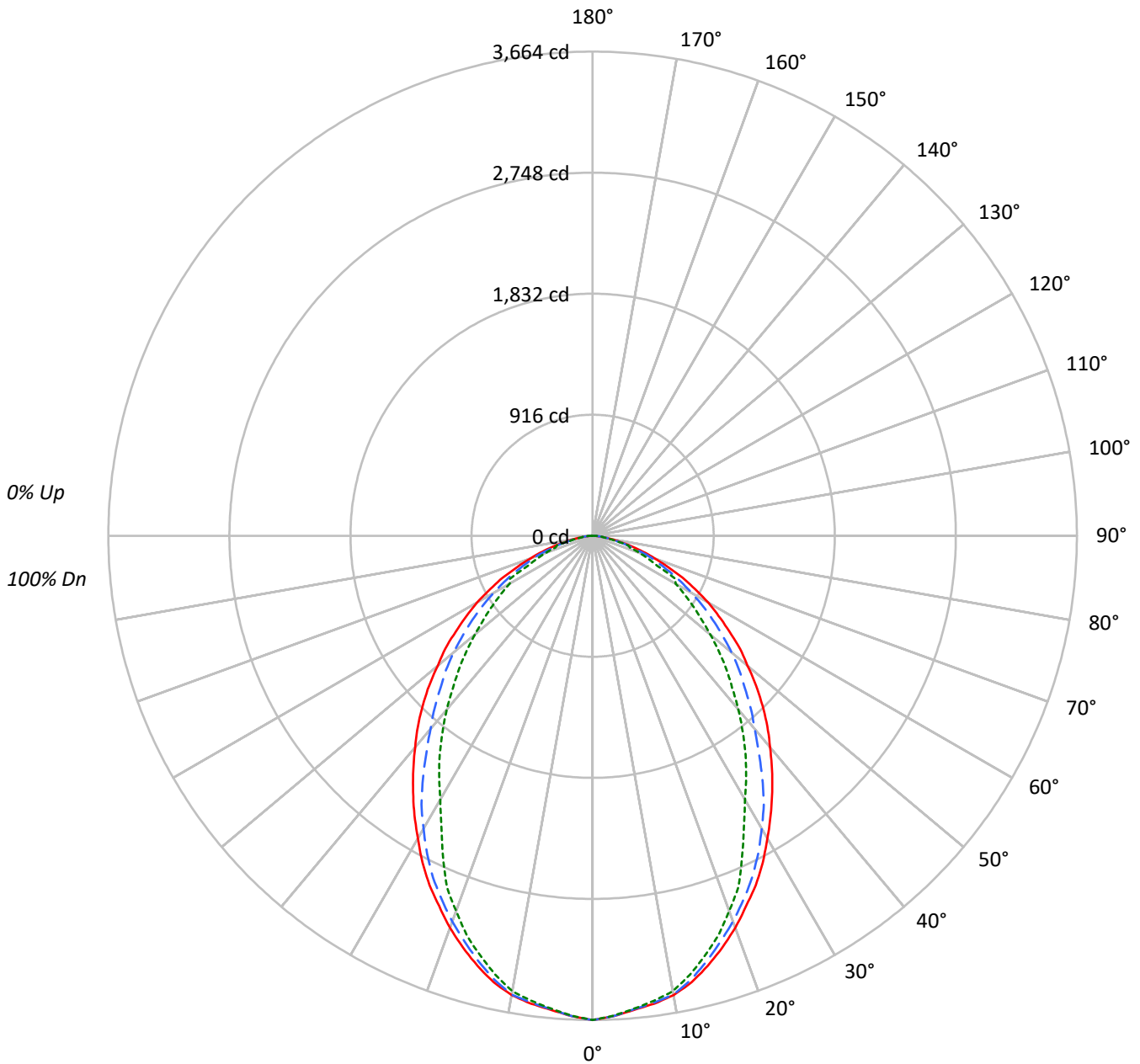
Lumens per Lamp: N/A
Luminaire Lumens: 7194.0 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P546169

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-80-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546169

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-80-86-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°	9861	9861	9861
5°	9727	9716	9704
10°	9643	9631	9562
15°	9383	9288	9159
20°	9038	8893	8650
25°	8667	8478	7950
30°	8214	7951	7161
35°	7780	7348	6624
40°	7337	6697	6027
45°	6916	6191	5449
50°	6403	5746	4860
55°	5923	5207	4353
60°	5427	4651	3899
65°	4775	4073	3453
70°	3933	3567	2933
75°	3127	2731	2863
80°	2101	1970	1838
85°	1309	1568	1831



TEST NUMBER: P546169

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-80-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	341.1	4.7
10°-20°	936.2	13.0
20°-30°	1296.1	18.0
30°-40°	1382.0	19.2
40°-50°	1260.8	17.5
50°-60°	987.7	13.7
60°-70°	643.7	8.9
70°-80°	285.2	4.0
80°-90°	61.2	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°	2573.4	35.8
0°-40°	3955.3	55.0
0°-60°	6203.8	86.2
0°-90°	7194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7194.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3664	3664	3664	3664	3664	
5°	3601	3597	3597	3592	3592	342
15°	3368	3368	3334	3300	3288	947
25°	2919	2902	2855	2754	2677	1340
35°	2368	2351	2237	2067	2016	1481
45°	1817	1779	1627	1491	1432	1400
55°	1262	1224	1110	979	928	1132
65°	750	708	640	652	542	739
75°	301	280	263	250	275	322
85°	42	47	51	55	59	59
90°	0	0	0	0	0	



TEST NUMBER: P546169

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-80-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3664.5	3664.5	3664.5	3664.5	3664.5
2.5°	3639.1	3639.1	3639.1	3634.9	3634.9
5°	3601.0	3596.7	3596.7	3592.5	3592.5
7.5°	3571.3	3567.1	3562.9	3558.6	3550.1
10°	3529.0	3529.0	3524.7	3503.5	3499.3
12.5°	3461.2	3456.9	3440.0	3410.3	3401.9
15°	3368.0	3368.0	3334.1	3300.2	3287.5
17.5°	3266.3	3262.1	3219.7	3185.8	3168.9
20°	3156.2	3147.7	3105.3	3050.2	3020.6
22.5°	3033.3	3033.3	2982.5	2910.4	2880.8
25°	2918.9	2902.0	2855.4	2753.7	2677.4
27.5°	2787.6	2762.2	2711.3	2567.3	2478.3
30°	2643.5	2630.8	2558.8	2372.4	2304.6
32.5°	2508.0	2486.8	2410.5	2215.7	2160.6
35°	2368.2	2351.2	2236.8	2067.4	2016.5
37.5°	2228.4	2207.2	2063.2	1927.6	1864.0
40°	2088.6	2063.2	1906.4	1783.5	1715.8
42.5°	1957.2	1923.3	1770.8	1639.5	1563.2
45°	1817.4	1779.3	1626.8	1491.2	1431.9
47.5°	1677.6	1643.7	1503.9	1364.1	1296.4
50°	1529.4	1499.7	1372.6	1232.8	1160.8
52.5°	1406.5	1359.9	1237.0	1097.2	1037.9
55°	1262.5	1224.3	1109.9	978.6	927.8
57.5°	1131.1	1093.0	987.1	864.2	821.9
60°	1008.3	953.2	864.2	758.3	724.4
62.5°	872.7	830.3	754.1	665.1	707.5
65°	749.9	707.5	639.7	652.4	542.3
67.5°	614.3	593.1	533.8	474.5	457.5
70°	499.9	474.5	453.3	389.8	372.8
72.5°	398.2	372.8	343.2	309.3	296.6
75°	300.8	279.6	262.7	250.0	275.4
77.5°	207.6	199.1	186.4	173.7	169.5
80°	135.6	131.3	127.1	122.9	118.6
82.5°	80.5	80.5	80.5	80.5	80.5
85°	42.4	46.6	50.8	55.1	59.3
87.5°	25.4	25.4	29.7	33.9	38.1
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)