

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: P546134

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-93-97-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: P546134
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-35-UNV-93-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

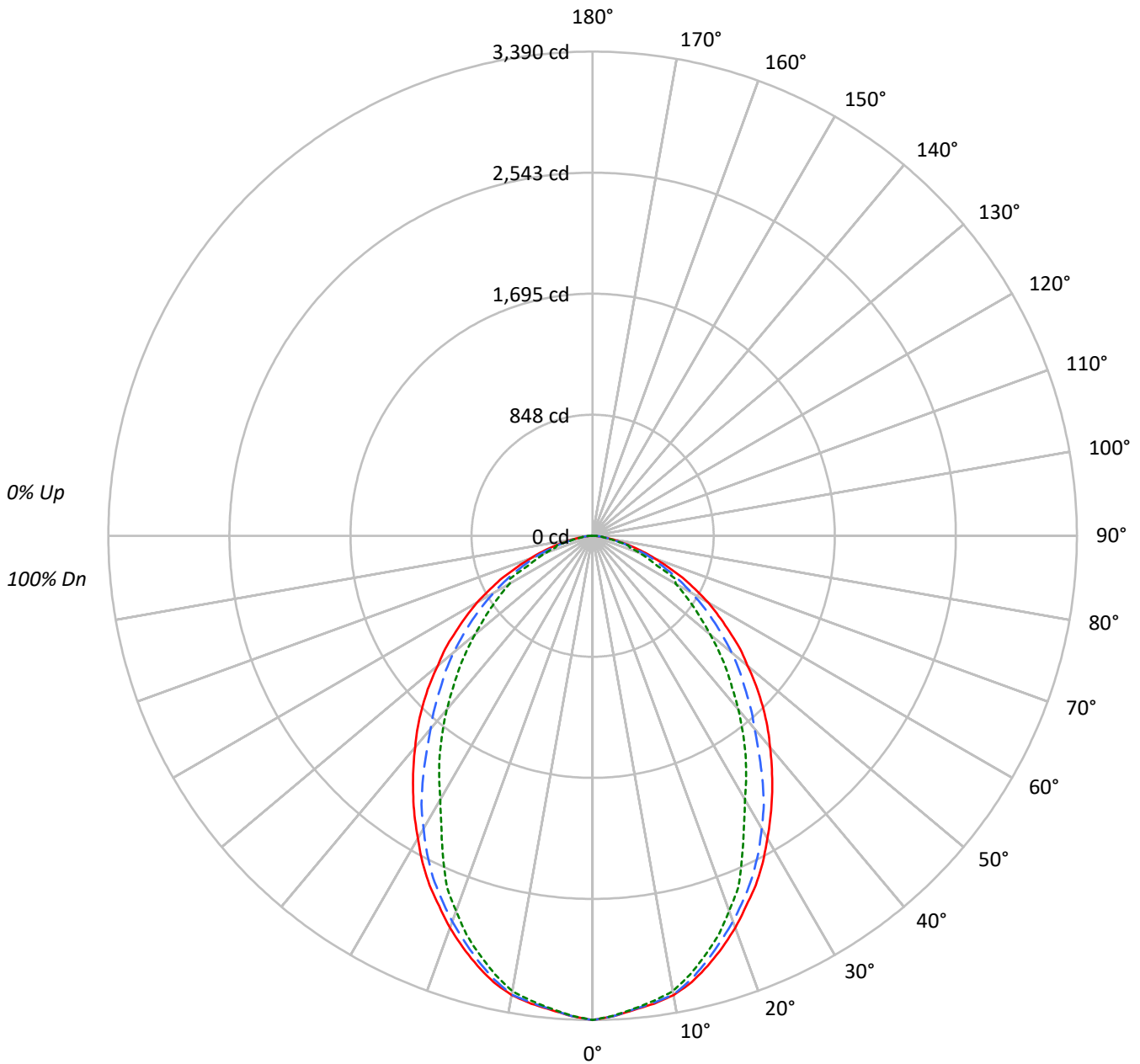
Lumens per Lamp: N/A
Luminaire Lumens: 6656.0 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P546134

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-93-97-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546134

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-93-97-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°	9124	9124	9124
5°	9000	8989	8978
10°	8922	8911	8847
15°	8681	8594	8474
20°	8362	8228	8003
25°	8019	7844	7355
30°	7600	7356	6626
35°	7198	6799	6129
40°	6788	6196	5576
45°	6399	5728	5042
50°	5924	5317	4496
55°	5480	4818	4027
60°	5021	4303	3608
65°	4418	3769	3195
70°	3639	3300	2714
75°	2894	2527	2649
80°	1943	1822	1700
85°	1210	1451	1695



TEST NUMBER: P546134

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-93-97-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.6	4.7
10°-20°	866.2	13.0
20°-30°	1199.1	18.0
30°-40°	1278.6	19.2
40°-50°	1166.5	17.5
50°-60°	913.8	13.7
60°-70°	595.6	8.9
70°-80°	263.9	4.0
80°-90°	56.7	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°	2380.9	35.8
0°-40°	3659.5	55.0
0°-60°	5739.9	86.2
0°-90°	6656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6656.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3390	3390	3390	3390	3390	
5°	3332	3328	3328	3324	3324	316
15°	3116	3116	3085	3053	3042	876
25°	2701	2685	2642	2548	2477	1240
35°	2191	2175	2070	1913	1866	1370
45°	1682	1646	1505	1380	1325	1295
55°	1168	1133	1027	905	858	1048
65°	694	655	592	604	502	684
75°	278	259	243	231	255	298
85°	39	43	47	51	55	54
90°	0	0	0	0	0	



TEST NUMBER: P546134

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-93-97-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3390.5	3390.5	3390.5	3390.5	3390.5
2.5°	3367.0	3367.0	3367.0	3363.0	3363.0
5°	3331.7	3327.8	3327.8	3323.8	3323.8
7.5°	3304.2	3300.3	3296.4	3292.5	3284.6
10°	3265.0	3265.0	3261.1	3241.5	3237.6
12.5°	3202.3	3198.4	3182.7	3155.3	3147.5
15°	3116.1	3116.1	3084.7	3053.4	3041.6
17.5°	3022.0	3018.1	2978.9	2947.6	2931.9
20°	2920.1	2912.3	2873.1	2822.1	2794.7
22.5°	2806.5	2806.5	2759.4	2692.8	2665.3
25°	2700.6	2684.9	2641.8	2547.8	2477.2
27.5°	2579.1	2555.6	2508.6	2375.3	2293.0
30°	2445.8	2434.1	2367.5	2195.0	2132.3
32.5°	2320.4	2300.8	2230.3	2050.0	1999.0
35°	2191.1	2175.4	2069.6	1912.8	1865.7
37.5°	2061.7	2042.1	1908.9	1783.4	1724.6
40°	1932.4	1908.9	1763.8	1650.2	1587.4
42.5°	1810.9	1779.5	1638.4	1516.9	1446.3
45°	1681.5	1646.2	1505.1	1379.7	1324.8
47.5°	1552.2	1520.8	1391.5	1262.1	1199.4
50°	1415.0	1387.5	1270.0	1140.6	1074.0
52.5°	1301.3	1258.2	1144.5	1015.2	960.3
55°	1168.0	1132.8	1026.9	905.4	858.4
57.5°	1046.5	1011.3	913.3	799.6	760.4
60°	932.9	881.9	799.6	701.6	670.3
62.5°	807.4	768.2	697.7	615.4	654.6
65°	693.8	654.6	591.9	603.6	501.7
67.5°	568.3	548.7	493.9	439.0	423.3
70°	462.5	439.0	419.4	360.6	344.9
72.5°	368.4	344.9	317.5	286.1	274.4
75°	278.3	258.7	243.0	231.3	254.8
77.5°	192.1	184.2	172.5	160.7	156.8
80°	125.4	121.5	117.6	113.7	109.7
82.5°	74.5	74.5	74.5	74.5	74.5
85°	39.2	43.1	47.0	51.0	54.9
87.5°	23.5	23.5	27.4	31.4	35.3
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)