

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: P546180

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-81-94-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: P546180
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-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

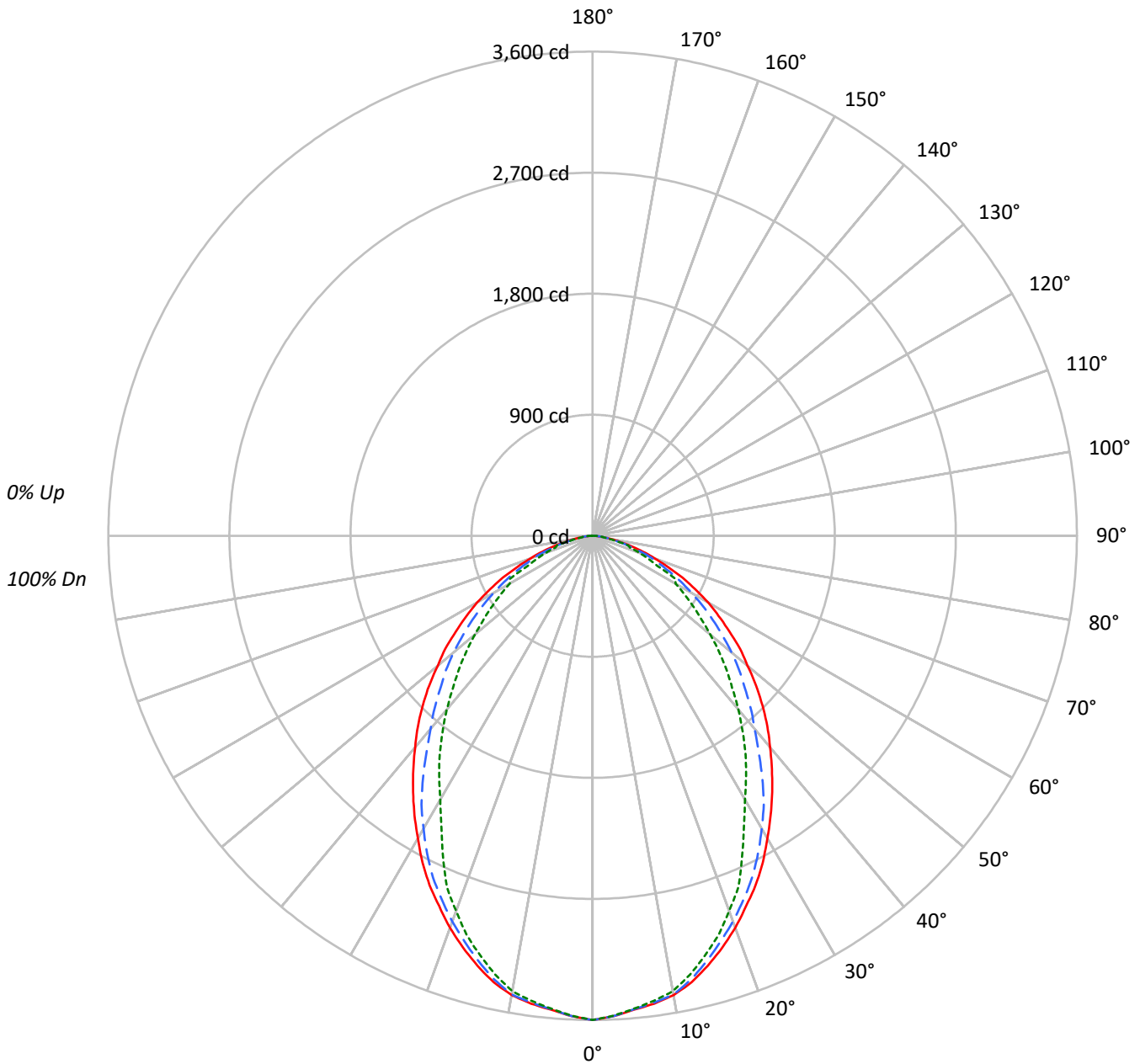
Lumens per Lamp: N/A
Luminaire Lumens: 7068.0 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P546180

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-81-94-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°	9688	9688	9688
5°	9557	9545	9534
10°	9474	9463	9394
15°	9219	9126	8998
20°	8880	8737	8499
25°	8515	8330	7810
30°	8070	7812	7036
35°	7643	7220	6508
40°	7208	6580	5922
45°	6795	6083	5354
50°	6291	5646	4775
55°	5819	5116	4276
60°	5331	4570	3830
65°	4691	4002	3393
70°	3864	3504	2882
75°	3072	2684	2812
80°	2064	1936	1805
85°	1284	1541	1800



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.1	4.7
10°-20°	919.8	13.0
20°-30°	1273.4	18.0
30°-40°	1357.8	19.2
40°-50°	1238.7	17.5
50°-60°	970.4	13.7
60°-70°	632.5	8.9
70°-80°	280.2	4.0
80°-90°	60.2	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°	2528.3	35.8
0°-40°	3886.1	55.0
0°-60°	6095.2	86.2
0°-90°	7068.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7068.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3600	3600	3600	3600	3600	
5°	3538	3534	3534	3530	3530	336
15°	3309	3309	3276	3242	3230	930
25°	2868	2851	2805	2706	2630	1317
35°	2327	2310	2198	2031	1981	1455
45°	1786	1748	1598	1465	1407	1375
55°	1240	1203	1090	962	912	1112
65°	737	695	628	641	533	726
75°	296	275	258	246	270	317
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3600.3	3600.3	3600.3	3600.3	3600.3
2.5°	3575.4	3575.4	3575.4	3571.2	3571.2
5°	3537.9	3533.7	3533.7	3529.6	3529.6
7.5°	3508.8	3504.6	3500.5	3496.3	3488.0
10°	3467.2	3467.2	3463.0	3442.2	3438.0
12.5°	3400.6	3396.4	3379.7	3350.6	3342.3
15°	3309.0	3309.0	3275.7	3242.4	3229.9
17.5°	3209.1	3204.9	3163.3	3130.0	3113.4
20°	3100.9	3092.6	3050.9	2996.8	2967.7
22.5°	2980.2	2980.2	2930.2	2859.5	2830.3
25°	2867.8	2851.1	2805.4	2705.5	2630.5
27.5°	2738.8	2713.8	2663.8	2522.3	2434.9
30°	2597.2	2584.8	2514.0	2330.9	2264.3
32.5°	2464.1	2443.2	2368.3	2176.9	2122.7
35°	2326.7	2310.0	2197.7	2031.2	1981.2
37.5°	2189.3	2168.5	2027.0	1893.8	1831.4
40°	2052.0	2027.0	1873.0	1752.3	1685.7
42.5°	1923.0	1889.7	1739.8	1610.8	1535.9
45°	1785.6	1748.1	1598.3	1465.1	1406.8
47.5°	1648.3	1615.0	1477.6	1340.2	1273.6
50°	1502.6	1473.4	1348.6	1211.2	1140.5
52.5°	1381.9	1336.1	1215.4	1078.0	1019.8
55°	1240.3	1202.9	1090.5	961.5	911.5
57.5°	1111.3	1073.9	969.8	849.1	807.5
60°	990.6	936.5	849.1	745.0	711.7
62.5°	857.4	815.8	740.9	653.5	695.1
65°	736.7	695.1	628.5	641.0	532.8
67.5°	603.5	582.7	524.4	466.2	449.5
70°	491.1	466.2	445.4	382.9	366.3
72.5°	391.3	366.3	337.1	303.8	291.4
75°	295.5	274.7	258.1	245.6	270.5
77.5°	204.0	195.6	183.1	170.7	166.5
80°	133.2	129.0	124.9	120.7	116.5
82.5°	79.1	79.1	79.1	79.1	79.1
85°	41.6	45.8	49.9	54.1	58.3
87.5°	25.0	25.0	29.1	33.3	37.5
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)