

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: P546002

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-93-87-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: P546002
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-LD4-1LO-50-UNV-93-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

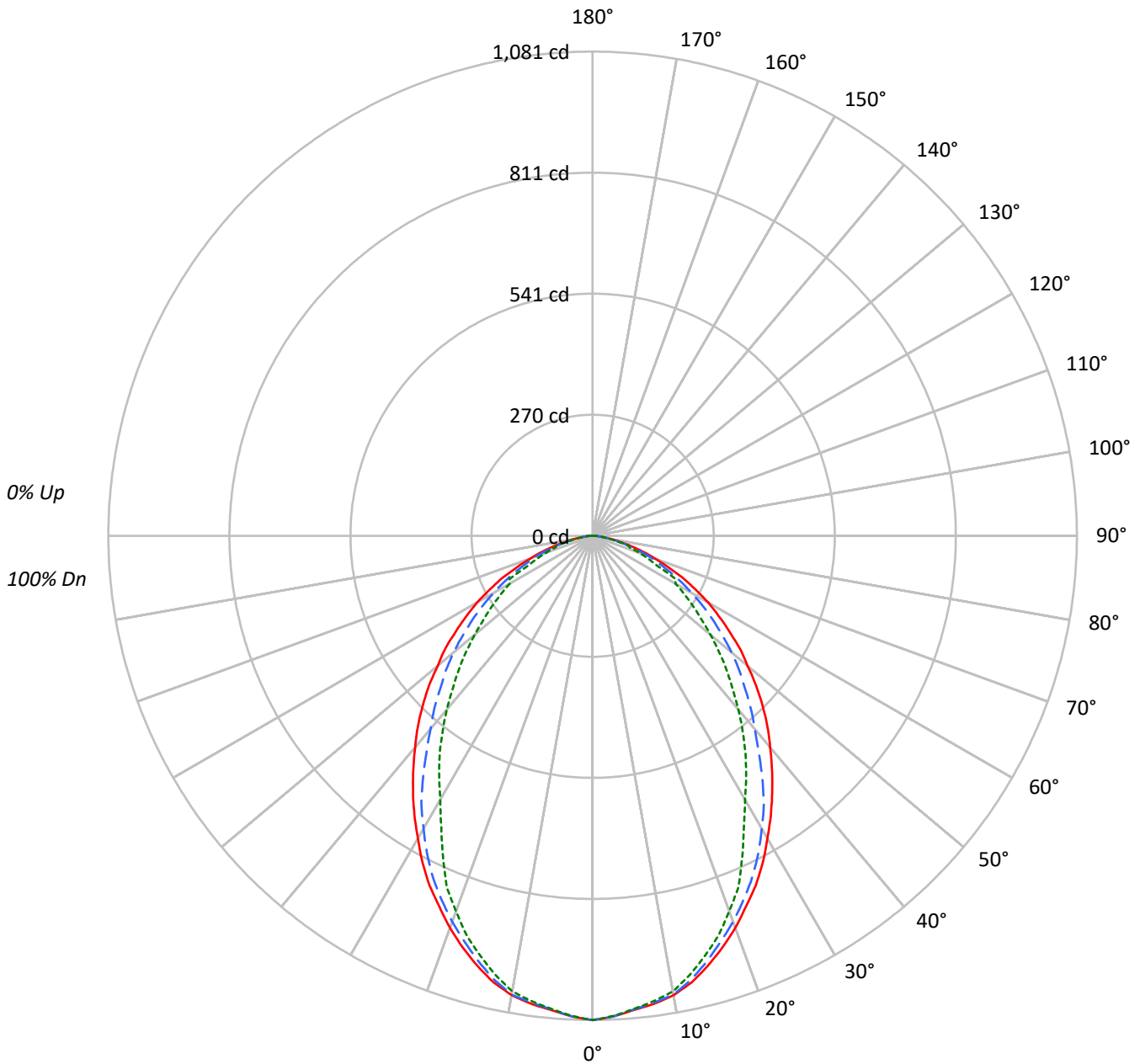
Lumens per Lamp: N/A
Luminaire Lumens: 2123.0 lumens
Efficiency: N/A
Efficacy: 90.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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: P546002

CATALOG NUMBER: FMR-12-4-LD4-1LO-50-UNV-93-87-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°	2910	2910	2910
5°	2871	2867	2864
10°	2846	2842	2822
15°	2769	2741	2703
20°	2667	2624	2553
25°	2558	2502	2346
30°	2424	2346	2113
35°	2296	2168	1955
40°	2165	1976	1779
45°	2041	1827	1608
50°	1889	1696	1434
55°	1748	1537	1285
60°	1601	1372	1151
65°	1409	1202	1019
70°	1161	1053	865
75°	923	806	845
80°	620	581	542
85°	386	463	540



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.7	4.7
10°-20°	276.3	13.0
20°-30°	382.5	18.0
30°-40°	407.8	19.2
40°-50°	372.1	17.5
50°-60°	291.5	13.7
60°-70°	190.0	8.9
70°-80°	84.2	4.0
80°-90°	18.1	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°	759.4	35.8
0°-40°	1167.2	55.0
0°-60°	1830.8	86.2
0°-90°	2123.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2123.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1081	1081	1081	1081	1081	
5°	1063	1061	1061	1060	1060	101
15°	994	994	984	974	970	279
25°	861	856	843	813	790	395
35°	699	694	660	610	595	437
45°	536	525	480	440	423	413
55°	373	361	328	289	274	334
65°	221	209	189	192	160	218
75°	89	82	78	74	81	95
85°	12	14	15	16	18	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1081.4	1081.4	1081.4	1081.4	1081.4
2.5°	1073.9	1073.9	1073.9	1072.7	1072.7
5°	1062.7	1061.4	1061.4	1060.2	1060.2
7.5°	1053.9	1052.7	1051.4	1050.2	1047.7
10°	1041.4	1041.4	1040.2	1033.9	1032.7
12.5°	1021.4	1020.2	1015.2	1006.4	1003.9
15°	993.9	993.9	983.9	973.9	970.2
17.5°	963.9	962.7	950.2	940.2	935.2
20°	931.4	928.9	916.4	900.1	891.4
22.5°	895.1	895.1	880.1	858.9	850.1
25°	861.4	856.4	842.6	812.6	790.1
27.5°	822.6	815.1	800.1	757.6	731.4
30°	780.1	776.4	755.1	700.1	680.1
32.5°	740.1	733.9	711.4	653.9	637.6
35°	698.9	693.9	660.1	610.1	595.1
37.5°	657.6	651.4	608.9	568.8	550.1
40°	616.4	608.9	562.6	526.3	506.3
42.5°	577.6	567.6	522.6	483.8	461.3
45°	536.3	525.1	480.1	440.1	422.6
47.5°	495.1	485.1	443.8	402.6	382.6
50°	451.3	442.6	405.1	363.8	342.6
52.5°	415.1	401.3	365.1	323.8	306.3
55°	372.6	361.3	327.6	288.8	273.8
57.5°	333.8	322.6	291.3	255.0	242.5
60°	297.5	281.3	255.0	223.8	213.8
62.5°	257.5	245.0	222.5	196.3	208.8
65°	221.3	208.8	188.8	192.5	160.0
67.5°	181.3	175.0	157.5	140.0	135.0
70°	147.5	140.0	133.8	115.0	110.0
72.5°	117.5	110.0	101.3	91.3	87.5
75°	88.8	82.5	77.5	73.8	81.3
77.5°	61.3	58.8	55.0	51.3	50.0
80°	40.0	38.8	37.5	36.3	35.0
82.5°	23.8	23.8	23.8	23.8	23.8
85°	12.5	13.8	15.0	16.3	17.5
87.5°	7.5	7.5	8.8	10.0	11.3
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)