

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: P546523

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-80-88-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: P546523
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-LD4-1LO-40-UNV-80-88-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

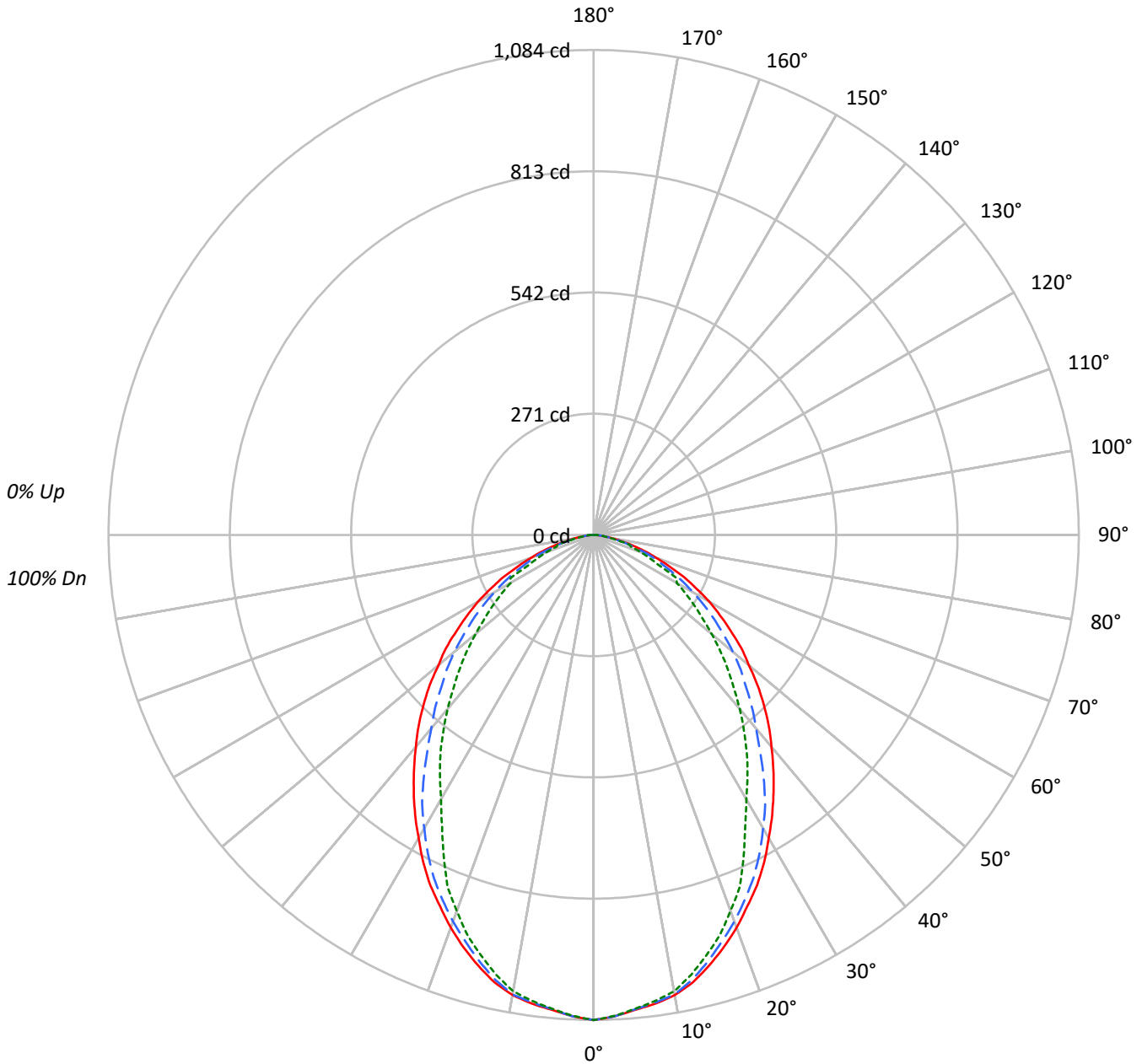
Lumens per Lamp: N/A
Luminaire Lumens: 2129.0 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P546523

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546523

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-88-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°	1459	1459	1459
5°	1439	1438	1436
10°	1427	1425	1415
15°	1388	1374	1355
20°	1337	1316	1280
25°	1282	1254	1176
30°	1215	1177	1060
35°	1151	1087	980
40°	1086	991	892
45°	1024	916	806
50°	947	850	719
55°	876	771	644
60°	803	688	577
65°	706	603	511
70°	582	528	434
75°	463	404	424
80°	311	291	272
85°	193	232	272



TEST NUMBER: P546523

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	4.7
10°-20°	277.1	13.0
20°-30°	383.6	18.0
30°-40°	409.0	19.2
40°-50°	373.1	17.5
50°-60°	292.3	13.7
60°-70°	190.5	8.9
70°-80°	84.4	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°	761.6	35.8
0°-40°	1170.5	55.0
0°-60°	1836.0	86.2
0°-90°	2129.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2129.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1084	1084	1084	1084	1084	
5°	1066	1064	1064	1063	1063	101
15°	997	997	987	977	973	280
25°	864	859	845	815	792	397
35°	701	696	662	612	597	438
45°	538	527	481	441	424	414
55°	374	362	328	290	275	335
65°	222	209	189	193	160	219
75°	89	83	78	74	82	95
85°	12	14	15	16	18	17
90°	0	0	0	0	0	



TEST NUMBER: P546523

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-80-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1084.5	1084.5	1084.5	1084.5	1084.5
2.5°	1077.0	1077.0	1077.0	1075.7	1075.7
5°	1065.7	1064.4	1064.4	1063.2	1063.2
7.5°	1056.9	1055.6	1054.4	1053.1	1050.6
10°	1044.4	1044.4	1043.1	1036.8	1035.6
12.5°	1024.3	1023.1	1018.0	1009.3	1006.8
15°	996.7	996.7	986.7	976.7	972.9
17.5°	966.6	965.4	952.8	942.8	937.8
20°	934.0	931.5	919.0	902.7	893.9
22.5°	897.7	897.7	882.6	861.3	852.5
25°	863.8	858.8	845.0	814.9	792.4
27.5°	825.0	817.4	802.4	759.8	733.4
30°	782.3	778.6	757.3	702.1	682.0
32.5°	742.2	735.9	713.4	655.7	639.4
35°	700.8	695.8	662.0	611.8	596.8
37.5°	659.5	653.2	610.6	570.5	551.6
40°	618.1	610.6	564.2	527.8	507.8
42.5°	579.2	569.2	524.1	485.2	462.6
45°	537.9	526.6	481.4	441.3	423.8
47.5°	496.5	486.5	445.1	403.7	383.6
50°	452.6	443.8	406.2	364.8	343.5
52.5°	416.2	402.5	366.1	324.7	307.2
55°	373.6	362.3	328.5	289.6	274.6
57.5°	334.7	323.5	292.1	255.8	243.2
60°	298.4	282.1	255.8	224.4	214.4
62.5°	258.3	245.7	223.2	196.8	209.4
65°	221.9	209.4	189.3	193.1	160.5
67.5°	181.8	175.5	158.0	140.4	135.4
70°	147.9	140.4	134.2	115.3	110.3
72.5°	117.9	110.3	101.6	91.5	87.8
75°	89.0	82.7	77.7	74.0	81.5
77.5°	61.4	58.9	55.2	51.4	50.1
80°	40.1	38.9	37.6	36.4	35.1
82.5°	23.8	23.8	23.8	23.8	23.8
85°	12.5	13.8	15.0	16.3	17.6
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)