

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: P547410

Luminaire Tested: **FMR-24-4-LD4-4LO-40-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: P547410
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-LD4-4LO-40-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

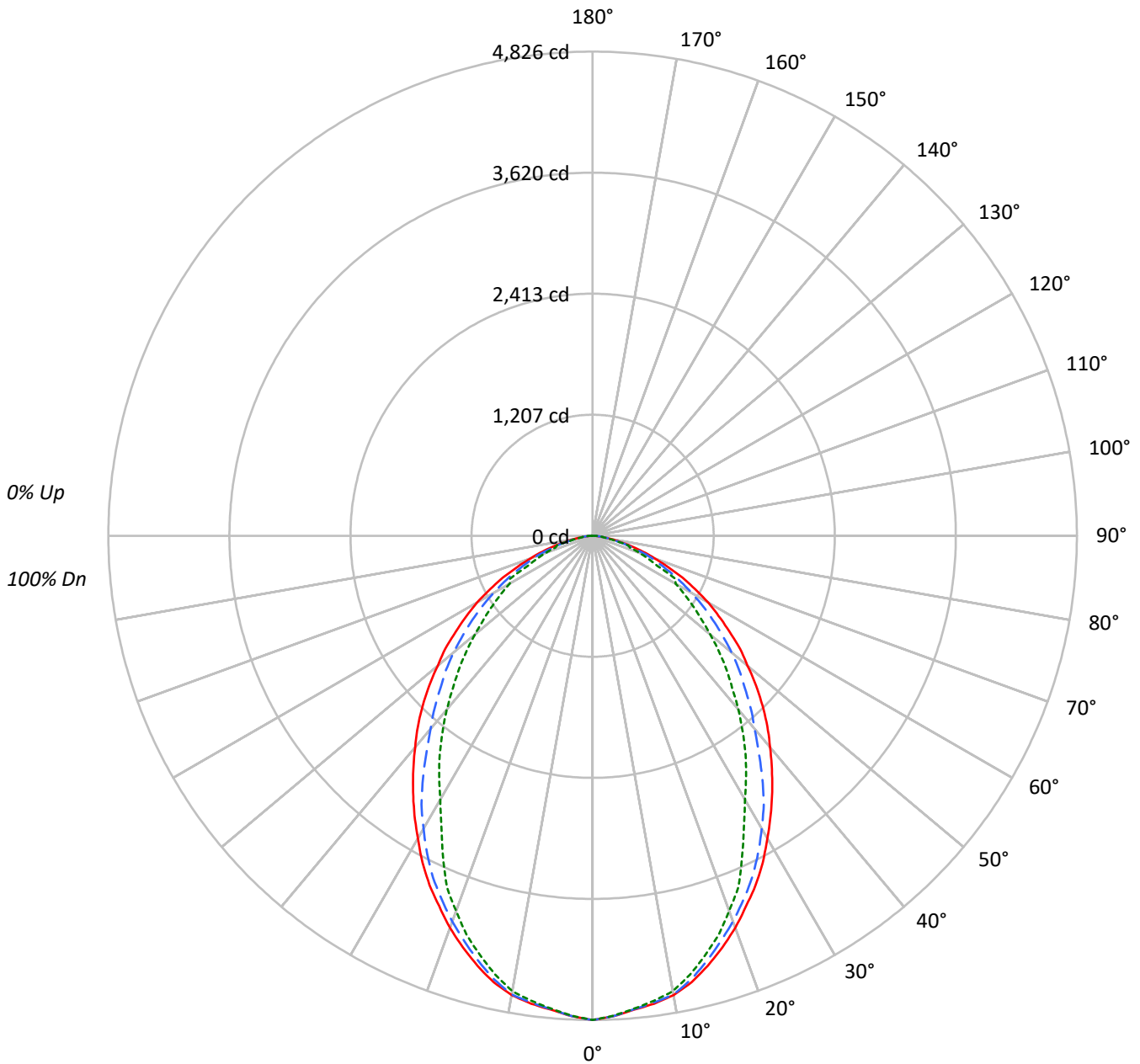
Lumens per Lamp: N/A
Luminaire Lumens: 9475.0 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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: P547410

CATALOG NUMBER: FMR-24-4-LD4-4LO-40-UNV-93-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P547410

CATALOG NUMBER: FMR-24-4-LD4-4LO-40-UNV-93-87-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°	6494	6494	6494
5°	6406	6398	6391
10°	6350	6343	6297
15°	6179	6117	6031
20°	5952	5856	5696
25°	5707	5583	5235
30°	5409	5236	4716
35°	5123	4839	4362
40°	4832	4410	3969
45°	4555	4077	3589
50°	4216	3784	3200
55°	3900	3429	2867
60°	3574	3063	2567
65°	3144	2682	2274
70°	2590	2349	1932
75°	2060	1798	1886
80°	1384	1297	1210
85°	861	1034	1206



TEST NUMBER: P547410

CATALOG NUMBER: FMR-24-4-LD4-4LO-40-UNV-93-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	449.3	4.7
10°-20°	1233.0	13.0
20°-30°	1707.0	18.0
30°-40°	1820.2	19.2
40°-50°	1660.5	17.5
50°-60°	1300.9	13.7
60°-70°	847.8	8.9
70°-80°	375.6	4.0
80°-90°	80.7	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°	3389.3	35.8
0°-40°	5209.5	55.0
0°-60°	8170.9	86.2
0°-90°	9475.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9475.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4826	4826	4826	4826	4826	
5°	4743	4737	4737	4732	4732	450
15°	4436	4436	4391	4347	4330	1247
25°	3844	3822	3761	3627	3526	1765
35°	3119	3097	2946	2723	2656	1950
45°	2394	2344	2143	1964	1886	1844
55°	1663	1612	1462	1289	1222	1491
65°	988	932	842	859	714	973
75°	396	368	346	329	363	425
85°	56	61	67	72	78	77
90°	0	0	0	0	0	



TEST NUMBER: P547410

CATALOG NUMBER: FMR-24-4-LD4-4LO-40-UNV-93-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4826.4	4826.4	4826.4	4826.4	4826.4
2.5°	4793.0	4793.0	4793.0	4787.4	4787.4
5°	4742.7	4737.2	4737.2	4731.6	4731.6
7.5°	4703.7	4698.1	4692.5	4686.9	4675.8
10°	4647.9	4647.9	4642.3	4614.4	4608.8
12.5°	4558.6	4553.0	4530.7	4491.7	4480.5
15°	4435.9	4435.9	4391.2	4346.6	4329.8
17.5°	4301.9	4296.4	4240.6	4195.9	4173.6
20°	4156.9	4145.7	4089.9	4017.4	3978.3
22.5°	3995.1	3995.1	3928.1	3833.3	3794.2
25°	3844.4	3822.1	3760.7	3626.8	3526.4
27.5°	3671.4	3638.0	3571.0	3381.3	3264.1
30°	3481.7	3465.0	3370.1	3124.6	3035.4
32.5°	3303.2	3275.3	3174.8	2918.2	2845.6
35°	3119.1	3096.7	2946.1	2722.9	2655.9
37.5°	2934.9	2907.0	2717.3	2538.8	2455.1
40°	2750.8	2717.3	2510.9	2349.1	2259.8
42.5°	2577.8	2533.2	2332.3	2159.3	2058.9
45°	2393.7	2343.5	2142.6	1964.1	1885.9
47.5°	2209.6	2164.9	1980.8	1796.7	1707.4
50°	2014.3	1975.2	1807.8	1623.7	1528.8
52.5°	1852.5	1791.1	1629.3	1445.1	1367.0
55°	1662.7	1612.5	1461.9	1288.9	1222.0
57.5°	1489.8	1439.6	1300.1	1138.3	1082.5
60°	1328.0	1255.4	1138.3	998.8	954.1
62.5°	1149.4	1093.6	993.2	876.0	931.8
65°	987.6	931.8	842.5	859.3	714.2
67.5°	809.1	781.2	703.0	624.9	602.6
70°	658.4	624.9	597.0	513.3	491.0
72.5°	524.5	491.0	452.0	407.3	390.6
75°	396.2	368.3	345.9	329.2	362.7
77.5°	273.4	262.2	245.5	228.8	223.2
80°	178.6	173.0	167.4	161.8	156.2
82.5°	106.0	106.0	106.0	106.0	106.0
85°	55.8	61.4	67.0	72.5	78.1
87.5°	33.5	33.5	39.1	44.6	50.2
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)