

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: P546669

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-82-96-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: P546669
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-LD4-1STD-50-UNV-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

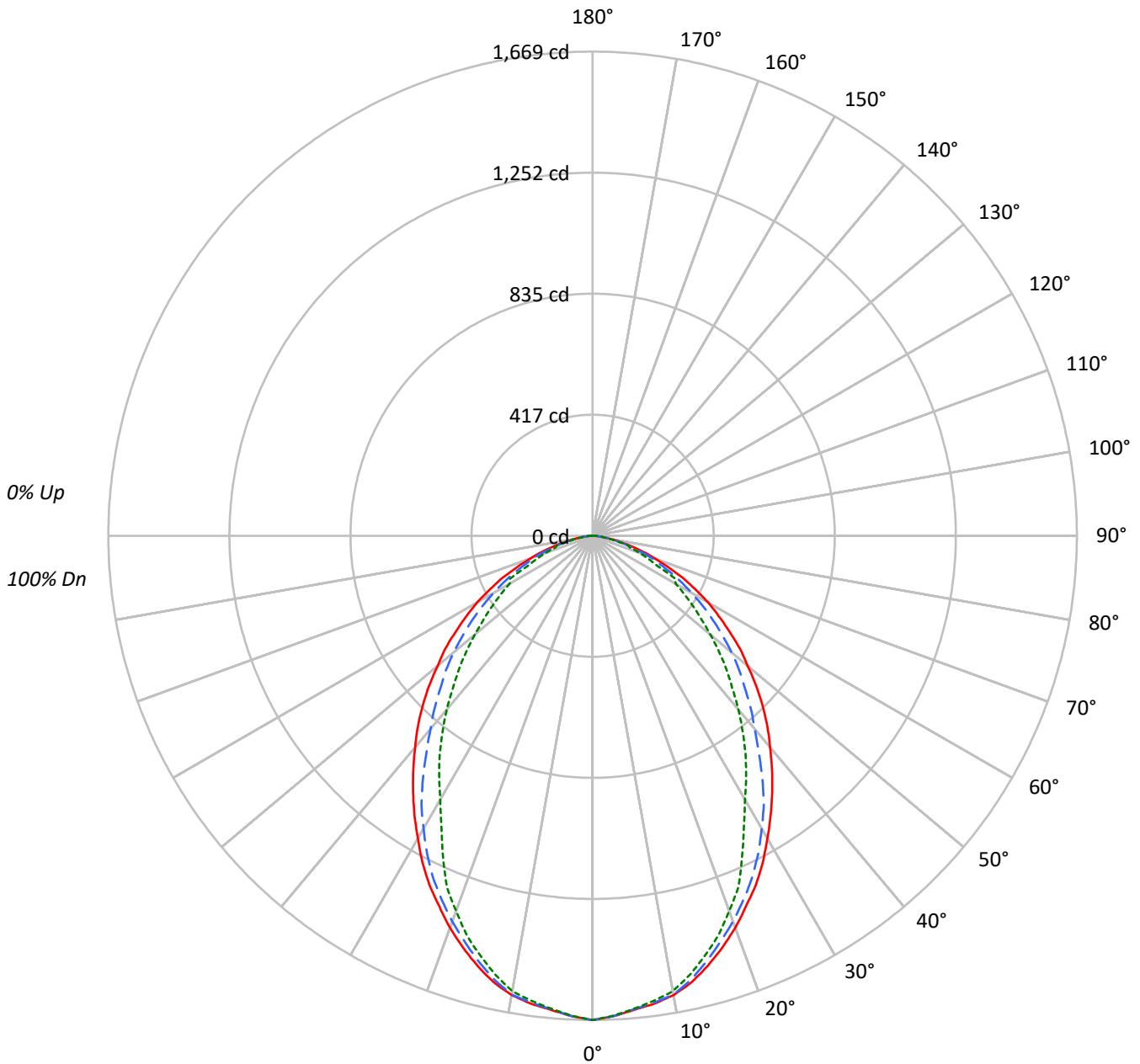
Lumens per Lamp: N/A
Luminaire Lumens: 3277.0 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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: P546669

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-82-96-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546669

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-82-96-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°	2246	2246	2246
5°	2215	2213	2210
10°	2196	2194	2178
15°	2137	2115	2086
20°	2059	2025	1970
25°	1974	1931	1811
30°	1871	1811	1631
35°	1772	1674	1509
40°	1671	1525	1373
45°	1575	1410	1241
50°	1458	1309	1107
55°	1349	1186	991
60°	1236	1059	888
65°	1088	928	786
70°	896	812	668
75°	712	622	652
80°	479	449	418
85°	298	358	417



TEST NUMBER: P546669

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-82-96-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.4	4.7
10°-20°	426.4	13.0
20°-30°	590.4	18.0
30°-40°	629.5	19.2
40°-50°	574.3	17.5
50°-60°	449.9	13.7
60°-70°	293.2	8.9
70°-80°	129.9	4.0
80°-90°	27.9	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°	1172.2	35.8
0°-40°	1801.7	55.0
0°-60°	2826.0	86.2
0°-90°	3277.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3277.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1669	1669	1669	1669	1669	
5°	1640	1638	1638	1636	1636	156
15°	1534	1534	1519	1503	1498	431
25°	1330	1322	1301	1254	1220	610
35°	1079	1071	1019	942	919	674
45°	828	810	741	679	652	638
55°	575	558	506	446	423	516
65°	342	322	291	297	247	337
75°	137	127	120	114	125	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



TEST NUMBER: P546669

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-82-96-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1669.3	1669.3	1669.3	1669.3	1669.3
2.5°	1657.7	1657.7	1657.7	1655.8	1655.8
5°	1640.3	1638.4	1638.4	1636.5	1636.5
7.5°	1626.8	1624.9	1622.9	1621.0	1617.2
10°	1607.5	1607.5	1605.6	1595.9	1594.0
12.5°	1576.6	1574.7	1567.0	1553.5	1549.6
15°	1534.2	1534.2	1518.7	1503.3	1497.5
17.5°	1487.9	1485.9	1466.6	1451.2	1443.5
20°	1437.7	1433.8	1414.5	1389.4	1375.9
22.5°	1381.7	1381.7	1358.6	1325.8	1312.3
25°	1329.6	1321.9	1300.7	1254.4	1219.6
27.5°	1269.8	1258.2	1235.1	1169.4	1128.9
30°	1204.2	1198.4	1165.6	1080.7	1049.8
32.5°	1142.4	1132.8	1098.0	1009.3	984.2
35°	1078.7	1071.0	1018.9	941.7	918.6
37.5°	1015.1	1005.4	939.8	878.1	849.1
40°	951.4	939.8	868.4	812.4	781.6
42.5°	891.6	876.1	806.6	746.8	712.1
45°	827.9	810.5	741.0	679.3	652.3
47.5°	764.2	748.8	685.1	621.4	590.5
50°	696.7	683.1	625.2	561.6	528.8
52.5°	640.7	619.5	563.5	499.8	472.8
55°	575.1	557.7	505.6	445.8	422.6
57.5°	515.3	497.9	449.6	393.7	374.4
60°	459.3	434.2	393.7	345.4	330.0
62.5°	397.5	378.2	343.5	303.0	322.3
65°	341.6	322.3	291.4	297.2	247.0
67.5°	279.8	270.2	243.2	216.1	208.4
70°	227.7	216.1	206.5	177.5	169.8
72.5°	181.4	169.8	156.3	140.9	135.1
75°	137.0	127.4	119.6	113.9	125.4
77.5°	94.6	90.7	84.9	79.1	77.2
80°	61.8	59.8	57.9	56.0	54.0
82.5°	36.7	36.7	36.7	36.7	36.7
85°	19.3	21.2	23.2	25.1	27.0
87.5°	11.6	11.6	13.5	15.4	17.4
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)