

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: P546655

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-81-84-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: P546655
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-81-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

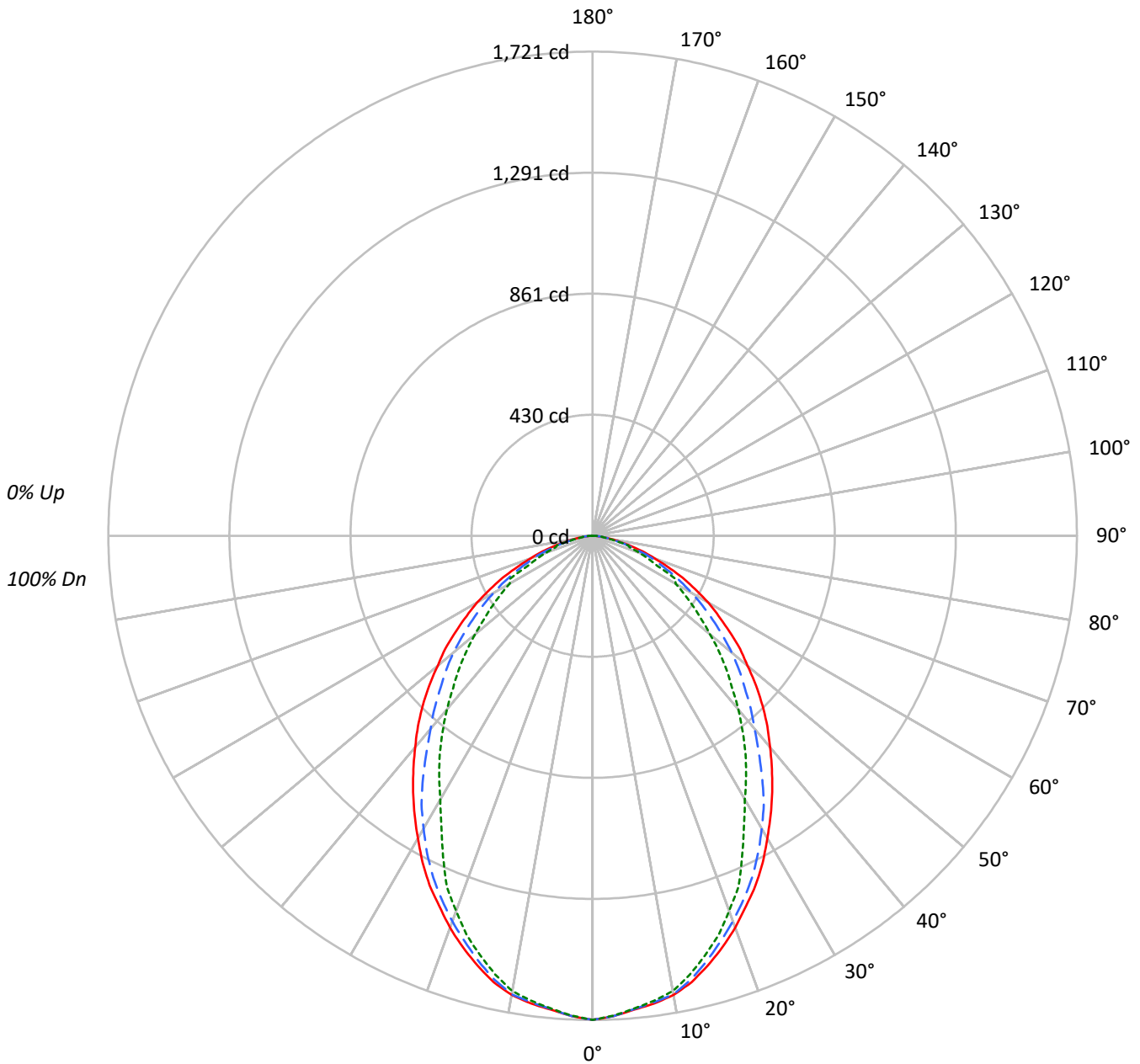
Lumens per Lamp: N/A
Luminaire Lumens: 3378.0 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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: P546655

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-81-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546655

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-81-84-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2315	2315	2315
5°	2284	2281	2278
10°	2264	2261	2245
15°	2203	2181	2150
20°	2122	2088	2031
25°	2035	1991	1866
30°	1929	1867	1681
35°	1827	1725	1555
40°	1723	1572	1415
45°	1624	1454	1279
50°	1503	1349	1141
55°	1391	1223	1022
60°	1274	1092	915
65°	1121	956	811
70°	923	838	689
75°	734	641	672
80°	494	463	432
85°	307	369	429



TEST NUMBER: P546655

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-81-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.2	4.7
10°-20°	439.6	13.0
20°-30°	608.6	18.0
30°-40°	648.9	19.2
40°-50°	592.0	17.5
50°-60°	463.8	13.7
60°-70°	302.3	8.9
70°-80°	133.9	4.0
80°-90°	28.8	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°	1208.3	35.8
0°-40°	1857.3	55.0
0°-60°	2913.0	86.2
0°-90°	3378.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3378.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1721	1721	1721	1721	1721	
5°	1691	1689	1689	1687	1687	161
15°	1582	1582	1566	1550	1544	445
25°	1371	1363	1341	1293	1257	629
35°	1112	1104	1050	971	947	695
45°	853	836	764	700	672	657
55°	593	575	521	460	436	532
65°	352	332	300	306	255	347
75°	141	131	123	117	129	151
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



TEST NUMBER: P546655

CATALOG NUMBER: FMR-24-4-LD4-1STD-50-UNV-81-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1720.7	1720.7	1720.7	1720.7	1720.7
2.5°	1708.8	1708.8	1708.8	1706.8	1706.8
5°	1690.9	1688.9	1688.9	1686.9	1686.9
7.5°	1676.9	1675.0	1673.0	1671.0	1667.0
10°	1657.1	1657.1	1655.1	1645.1	1643.1
12.5°	1625.2	1623.2	1615.3	1601.4	1597.4
15°	1581.5	1581.5	1565.5	1549.6	1543.7
17.5°	1533.7	1531.7	1511.8	1495.9	1488.0
20°	1482.0	1478.0	1458.1	1432.3	1418.3
22.5°	1424.3	1424.3	1400.4	1366.6	1352.7
25°	1370.6	1362.6	1340.8	1293.0	1257.2
27.5°	1308.9	1297.0	1273.1	1205.5	1163.7
30°	1241.3	1235.3	1201.5	1114.0	1082.2
32.5°	1177.6	1167.7	1131.9	1040.4	1014.5
35°	1112.0	1104.0	1050.3	970.8	946.9
37.5°	1046.3	1036.4	968.8	905.1	875.3
40°	980.7	968.8	895.2	837.5	805.6
42.5°	919.0	903.1	831.5	769.8	734.0
45°	853.4	835.5	763.9	700.2	672.4
47.5°	787.7	771.8	706.2	640.5	608.7
50°	718.1	704.2	644.5	578.9	545.1
52.5°	660.4	638.6	580.9	515.2	487.4
55°	592.8	574.9	521.2	459.5	435.6
57.5°	531.1	513.2	463.5	405.8	385.9
60°	473.4	447.6	405.8	356.1	340.2
62.5°	409.8	389.9	354.1	312.3	332.2
65°	352.1	332.2	300.4	306.3	254.6
67.5°	288.4	278.5	250.6	222.8	214.8
70°	234.7	222.8	212.9	183.0	175.1
72.5°	187.0	175.1	161.1	145.2	139.2
75°	141.2	131.3	123.3	117.4	129.3
77.5°	97.5	93.5	87.5	81.6	79.6
80°	63.7	61.7	59.7	57.7	55.7
82.5°	37.8	37.8	37.8	37.8	37.8
85°	19.9	21.9	23.9	25.9	27.8
87.5°	11.9	11.9	13.9	15.9	17.9
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)