

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: P546712

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-80-85-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: P546712
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-LD4-2HI-40-UNV-80-85-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

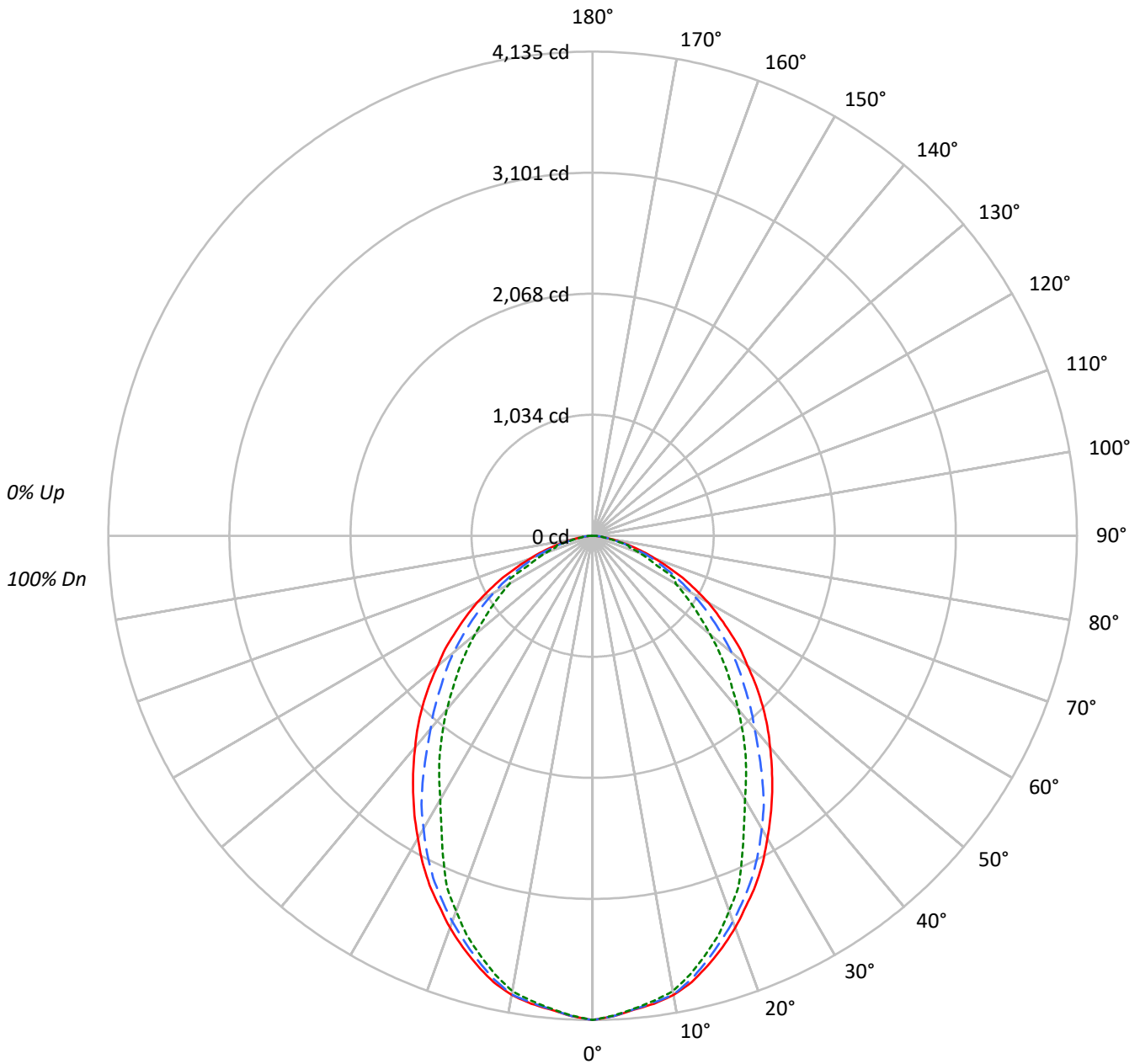
Lumens per Lamp: N/A
Luminaire Lumens: 8118.0 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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: P546712

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-80-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546712

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-80-85-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°	5564	5564	5564
5°	5488	5482	5475
10°	5441	5434	5395
15°	5294	5241	5167
20°	5099	5017	4881
25°	4890	4783	4485
30°	4635	4486	4040
35°	4389	4146	3738
40°	4140	3779	3401
45°	3902	3493	3075
50°	3612	3242	2742
55°	3342	2938	2456
60°	3062	2624	2200
65°	2694	2298	1948
70°	2219	2012	1655
75°	1764	1541	1615
80°	1185	1111	1038
85°	738	886	1033



TEST NUMBER: P546712

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-80-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	384.9	4.7
10°-20°	1056.4	13.0
20°-30°	1462.5	18.0
30°-40°	1559.5	19.2
40°-50°	1422.7	17.5
50°-60°	1114.6	13.7
60°-70°	726.4	8.9
70°-80°	321.8	4.0
80°-90°	69.1	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°	2903.9	35.8
0°-40°	4463.3	55.0
0°-60°	7000.6	86.2
0°-90°	8118.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8118.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4135	4135	4135	4135	4135	
5°	4064	4059	4059	4054	4054	386
15°	3801	3801	3762	3724	3710	1068
25°	3294	3275	3222	3107	3021	1512
35°	2672	2653	2524	2333	2276	1671
45°	2051	2008	1836	1683	1616	1580
55°	1425	1382	1252	1104	1047	1278
65°	846	798	722	736	612	834
75°	339	316	296	282	311	364
85°	48	53	57	62	67	66
90°	0	0	0	0	0	



TEST NUMBER: P546712

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-80-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4135.2	4135.2	4135.2	4135.2	4135.2
2.5°	4106.5	4106.5	4106.5	4101.7	4101.7
5°	4063.5	4058.7	4058.7	4053.9	4053.9
7.5°	4030.0	4025.2	4020.5	4015.7	4006.1
10°	3982.2	3982.2	3977.4	3953.5	3948.8
12.5°	3905.7	3901.0	3881.8	3848.4	3838.8
15°	3800.6	3800.6	3762.3	3724.1	3709.7
17.5°	3685.8	3681.0	3633.2	3595.0	3575.9
20°	3561.5	3552.0	3504.2	3442.0	3408.6
22.5°	3422.9	3422.9	3365.5	3284.3	3250.8
25°	3293.8	3274.7	3222.1	3107.4	3021.3
27.5°	3145.6	3116.9	3059.6	2897.0	2796.6
30°	2983.1	2968.7	2887.5	2677.1	2600.6
32.5°	2830.1	2806.2	2720.1	2500.2	2438.1
35°	2672.3	2653.2	2524.1	2332.9	2275.6
37.5°	2514.6	2490.7	2328.1	2175.2	2103.5
40°	2356.8	2328.1	2151.3	2012.6	1936.1
42.5°	2208.6	2170.4	1998.3	1850.1	1764.0
45°	2050.9	2007.8	1835.7	1682.8	1615.8
47.5°	1893.1	1854.9	1697.1	1539.3	1462.9
50°	1725.8	1692.3	1548.9	1391.1	1309.9
52.5°	1587.2	1534.6	1395.9	1238.2	1171.2
55°	1424.6	1381.6	1252.5	1104.3	1046.9
57.5°	1276.4	1233.4	1113.9	975.2	927.4
60°	1137.8	1075.6	975.2	855.7	817.5
62.5°	984.8	937.0	850.9	750.6	798.4
65°	846.2	798.4	721.9	736.2	611.9
67.5°	693.2	669.3	602.4	535.4	516.3
70°	564.1	535.4	511.5	439.8	420.7
72.5°	449.4	420.7	387.2	349.0	334.6
75°	339.4	315.5	296.4	282.1	310.7
77.5°	234.2	224.7	210.3	196.0	191.2
80°	153.0	148.2	143.4	138.6	133.9
82.5°	90.8	90.8	90.8	90.8	90.8
85°	47.8	52.6	57.4	62.1	66.9
87.5°	28.7	28.7	33.5	38.2	43.0
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)