

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: P546690

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-81-87-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: P546690
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-35-UNV-81-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

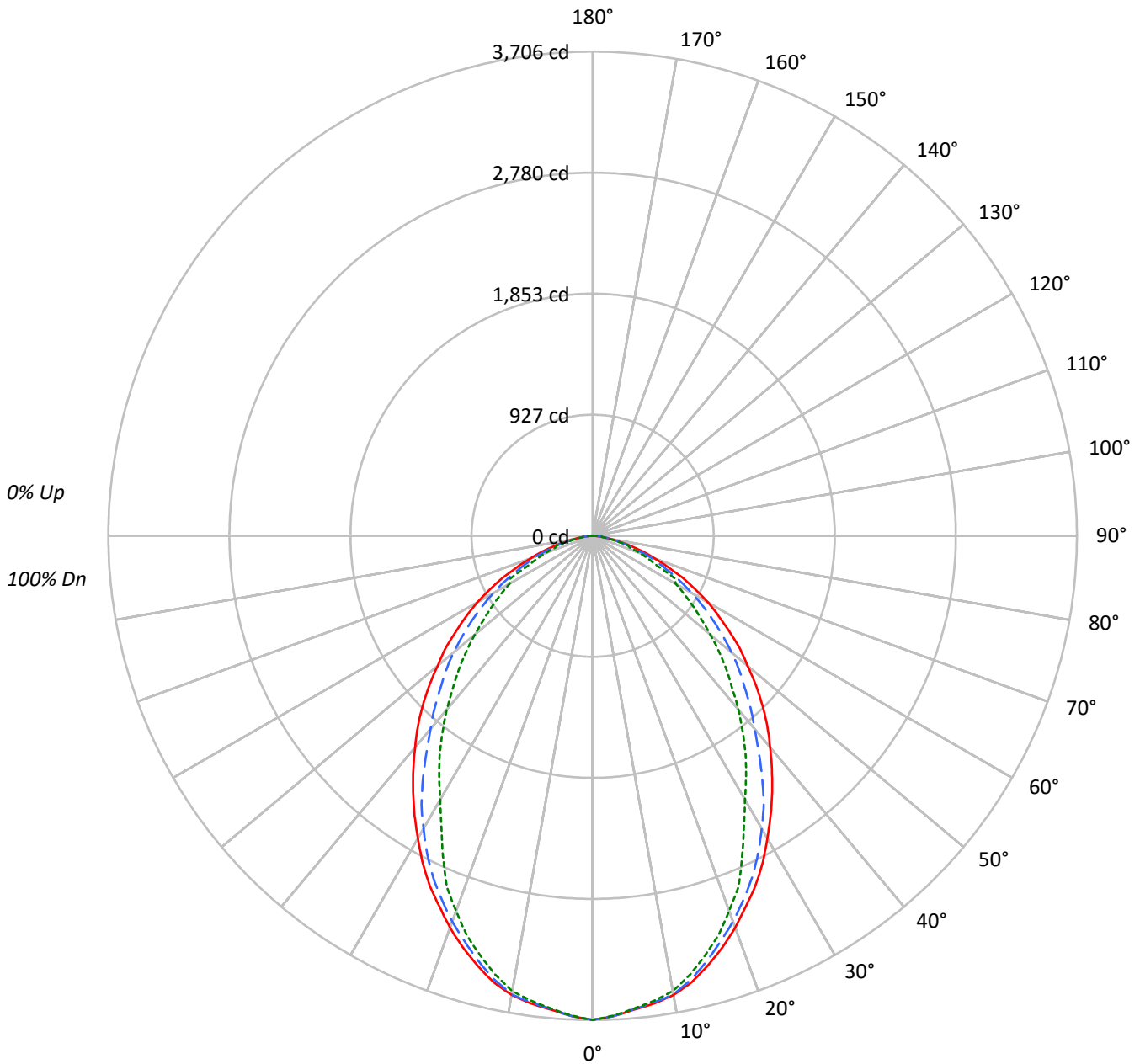
Lumens per Lamp: N/A
Luminaire Lumens: 7275.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P546690

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546690

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-87-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°	4986	4986	4986
5°	4918	4913	4907
10°	4876	4870	4835
15°	4744	4696	4631
20°	4570	4496	4374
25°	4382	4287	4020
30°	4153	4020	3621
35°	3934	3715	3350
40°	3710	3386	3048
45°	3497	3130	2755
50°	3237	2906	2457
55°	2995	2633	2201
60°	2744	2352	1971
65°	2414	2060	1746
70°	1989	1803	1483
75°	1581	1381	1448
80°	1062	996	930
85°	661	794	926



TEST NUMBER: P546690

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.0	4.7
10°-20°	946.7	13.0
20°-30°	1310.7	18.0
30°-40°	1397.5	19.2
40°-50°	1275.0	17.5
50°-60°	998.8	13.7
60°-70°	651.0	8.9
70°-80°	288.4	4.0
80°-90°	61.9	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°	2602.3	35.8
0°-40°	3999.9	55.0
0°-60°	6273.7	86.2
0°-90°	7275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3706	3706	3706	3706	3706	
5°	3642	3637	3637	3633	3633	346
15°	3406	3406	3372	3337	3324	957
25°	2952	2935	2888	2785	2708	1355
35°	2395	2378	2262	2091	2039	1497
45°	1838	1799	1645	1508	1448	1416
55°	1277	1238	1122	990	938	1145
65°	758	716	647	660	548	747
75°	304	283	266	253	278	326
85°	43	47	51	56	60	59
90°	0	0	0	0	0	



TEST NUMBER: P546690

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-81-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3705.8	3705.8	3705.8	3705.8	3705.8
2.5°	3680.1	3680.1	3680.1	3675.8	3675.8
5°	3641.5	3637.2	3637.2	3633.0	3633.0
7.5°	3611.5	3607.3	3603.0	3598.7	3590.1
10°	3568.7	3568.7	3564.4	3543.0	3538.7
12.5°	3500.1	3495.9	3478.7	3448.7	3440.2
15°	3405.9	3405.9	3371.6	3337.4	3324.5
17.5°	3303.1	3298.8	3256.0	3221.7	3204.5
20°	3191.7	3183.1	3140.3	3084.6	3054.6
22.5°	3067.4	3067.4	3016.0	2943.2	2913.2
25°	2951.8	2934.6	2887.5	2784.7	2707.6
27.5°	2819.0	2793.3	2741.9	2596.2	2506.2
30°	2673.3	2660.5	2587.6	2399.1	2330.6
32.5°	2536.2	2514.8	2437.7	2240.6	2184.9
35°	2394.8	2377.7	2262.0	2090.7	2039.3
37.5°	2253.5	2232.0	2086.4	1949.3	1885.0
40°	2112.1	2086.4	1927.9	1803.6	1735.1
42.5°	1979.3	1945.0	1790.8	1658.0	1580.9
45°	1837.9	1799.3	1645.1	1508.0	1448.0
47.5°	1696.5	1662.2	1520.9	1379.5	1310.9
50°	1546.6	1516.6	1388.1	1246.7	1173.9
52.5°	1422.3	1375.2	1251.0	1109.6	1049.6
55°	1276.7	1238.1	1122.4	989.6	938.2
57.5°	1143.9	1105.3	998.2	874.0	831.1
60°	1019.6	963.9	874.0	766.9	732.6
62.5°	882.5	839.7	762.6	672.6	715.5
65°	758.3	715.5	646.9	659.8	548.4
67.5°	621.2	599.8	539.8	479.8	462.7
70°	505.5	479.8	458.4	394.1	377.0
72.5°	402.7	377.0	347.0	312.7	299.9
75°	304.2	282.8	265.6	252.8	278.5
77.5°	209.9	201.4	188.5	175.7	171.4
80°	137.1	132.8	128.5	124.2	120.0
82.5°	81.4	81.4	81.4	81.4	81.4
85°	42.8	47.1	51.4	55.7	60.0
87.5°	25.7	25.7	30.0	34.3	38.6
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)