

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: P546721

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-81-86-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: P546721
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-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

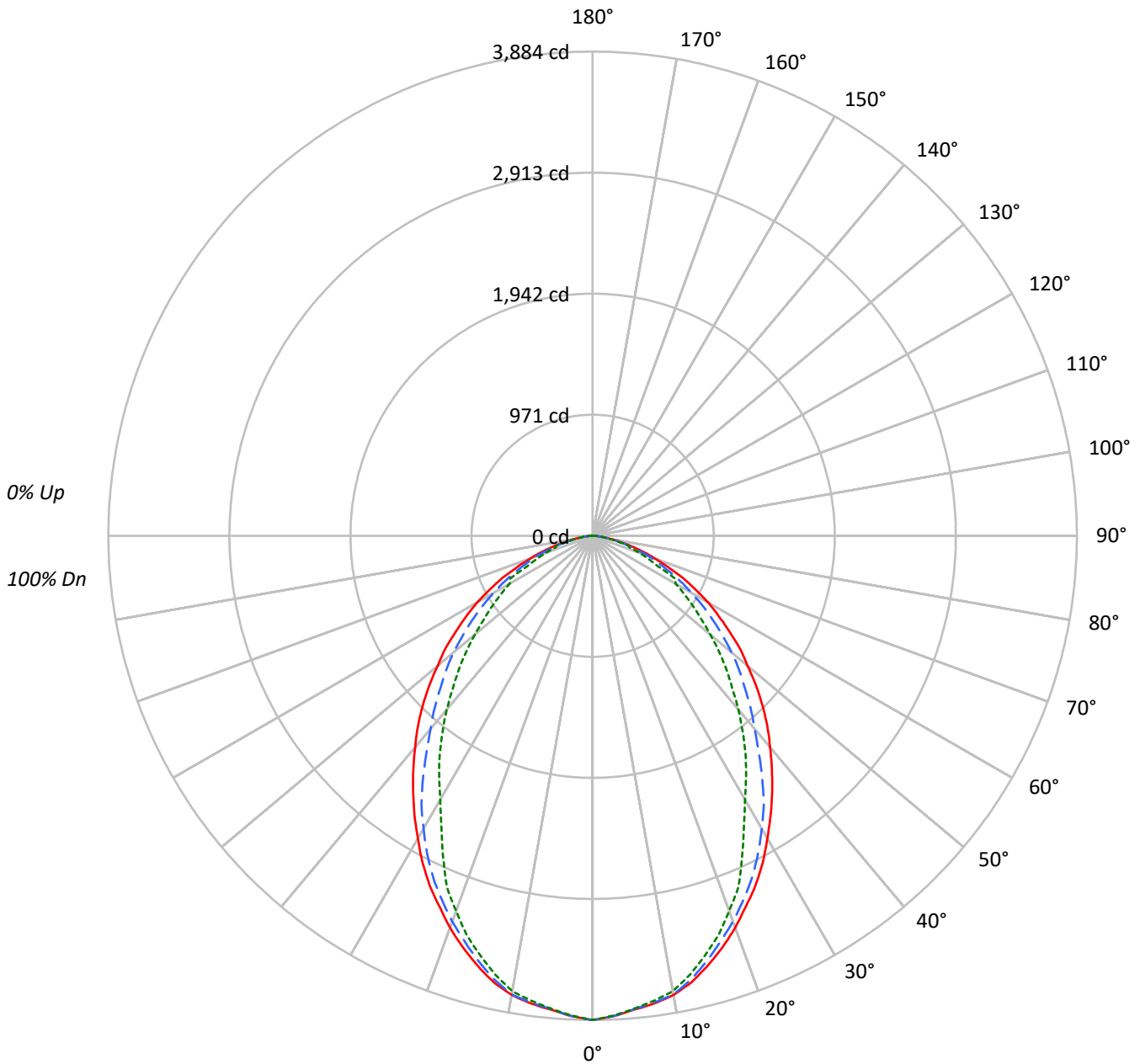
Lumens per Lamp: N/A
Luminaire Lumens: 7625.0 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P546721

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-81-86-EDD

Luminous Intensity Polar Plot





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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°	5226	5226	5226
5°	5155	5149	5143
10°	5110	5104	5067
15°	4973	4922	4854
20°	4790	4713	4584
25°	4593	4493	4213
30°	4353	4214	3795
35°	4123	3894	3511
40°	3888	3549	3194
45°	3665	3281	2888
50°	3393	3045	2575
55°	3139	2760	2307
60°	2876	2465	2066
65°	2530	2159	1830
70°	2085	1890	1554
75°	1657	1447	1517
80°	1113	1044	974
85°	693	832	971



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	361.6	4.7
10°-20°	992.3	13.0
20°-30°	1373.7	18.0
30°-40°	1464.8	19.2
40°-50°	1336.3	17.5
50°-60°	1046.9	13.7
60°-70°	682.3	8.9
70°-80°	302.3	4.0
80°-90°	64.9	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°	2727.5	35.8
0°-40°	4192.3	55.0
0°-60°	6575.5	86.2
0°-90°	7625.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7625.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3884	3884	3884	3884	3884	
5°	3817	3812	3812	3808	3808	362
15°	3570	3570	3534	3498	3484	1004
25°	3094	3076	3026	2919	2838	1420
35°	2510	2492	2371	2191	2137	1569
45°	1926	1886	1724	1581	1518	1484
55°	1338	1298	1176	1037	983	1200
65°	795	750	678	692	575	783
75°	319	296	278	265	292	342
85°	45	49	54	58	63	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3884.1	3884.1	3884.1	3884.1	3884.1
2.5°	3857.1	3857.1	3857.1	3852.6	3852.6
5°	3816.7	3812.2	3812.2	3807.7	3807.7
7.5°	3785.3	3780.8	3776.3	3771.8	3762.8
10°	3740.4	3740.4	3735.9	3713.4	3709.0
12.5°	3668.5	3664.1	3646.1	3614.7	3605.7
15°	3569.8	3569.8	3533.8	3497.9	3484.4
17.5°	3462.0	3457.5	3412.6	3376.7	3358.7
20°	3345.2	3336.3	3291.4	3233.0	3201.6
22.5°	3215.0	3215.0	3161.1	3084.8	3053.4
25°	3093.8	3075.8	3026.4	2918.7	2837.8
27.5°	2954.6	2927.6	2873.8	2721.1	2626.8
30°	2801.9	2788.5	2712.1	2514.5	2442.7
32.5°	2658.2	2635.8	2555.0	2348.4	2290.0
35°	2510.1	2492.1	2370.9	2191.2	2137.4
37.5°	2361.9	2339.4	2186.8	2043.1	1975.7
40°	2213.7	2186.8	2020.6	1890.4	1818.6
42.5°	2074.5	2038.6	1876.9	1737.7	1656.9
45°	1926.3	1885.9	1724.3	1580.6	1517.7
47.5°	1778.1	1742.2	1594.0	1445.9	1374.0
50°	1621.0	1589.6	1454.8	1306.7	1230.3
52.5°	1490.8	1441.4	1311.2	1163.0	1100.1
55°	1338.1	1297.7	1176.4	1037.2	983.4
57.5°	1198.9	1158.5	1046.2	916.0	871.1
60°	1068.7	1010.3	916.0	803.8	767.8
62.5°	925.0	880.1	799.3	705.0	749.9
65°	794.8	749.9	678.0	691.5	574.8
67.5°	651.1	628.6	565.8	502.9	484.9
70°	529.9	502.9	480.5	413.1	395.1
72.5°	422.1	395.1	363.7	327.8	314.3
75°	318.8	296.4	278.4	264.9	291.9
77.5°	220.0	211.0	197.6	184.1	179.6
80°	143.7	139.2	134.7	130.2	125.7
82.5°	85.3	85.3	85.3	85.3	85.3
85°	44.9	49.4	53.9	58.4	62.9
87.5°	26.9	26.9	31.4	35.9	40.4
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)