

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: P547313

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-93-86-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: P547313
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-LD4-4HI-40-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

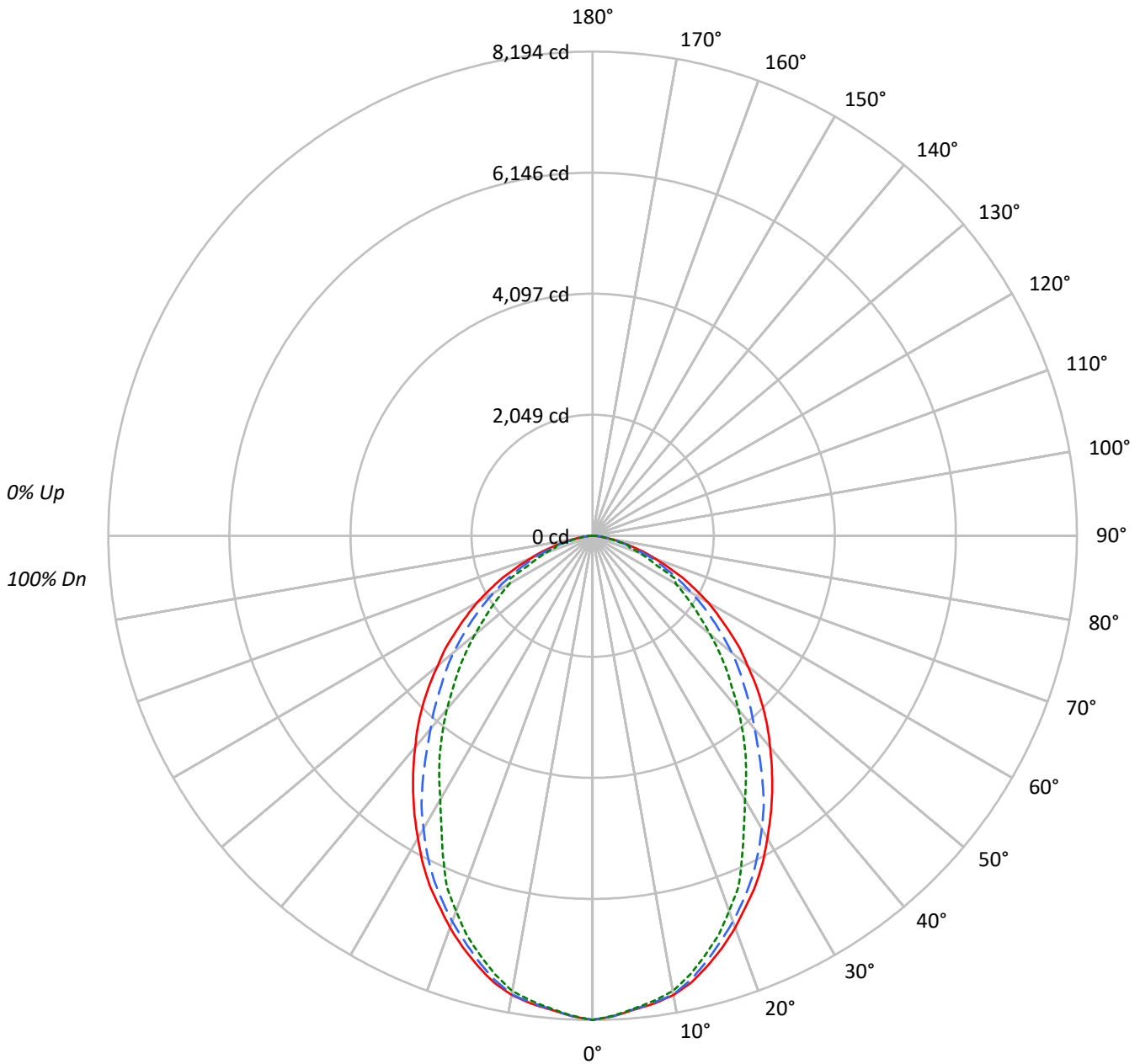
Lumens per Lamp: N/A
Luminaire Lumens: 16085.0 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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: P547313

CATALOG NUMBER: FMR-24-4-LD4-4HI-40-UNV-93-86-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°	11024	11024	11024
5°	10874	10862	10849
10°	10780	10767	10690
15°	10489	10384	10239
20°	10104	9941	9670
25°	9689	9478	8887
30°	9183	8889	8006
35°	8697	8215	7406
40°	8202	7487	6738
45°	7732	6921	6092
50°	7158	6424	5433
55°	6621	5822	4866
60°	6067	5200	4359
65°	5338	4554	3860
70°	4397	3987	3279
75°	3496	3053	3201
80°	2349	2202	2055
85°	1462	1755	2047



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	762.7	4.7
10°-20°	2093.2	13.0
20°-30°	2897.9	18.0
30°-40°	3090.0	19.2
40°-50°	2818.9	17.5
50°-60°	2208.4	13.7
60°-70°	1439.3	8.9
70°-80°	637.7	4.0
80°-90°	136.9	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°	5753.7	35.8
0°-40°	8843.7	55.0
0°-60°	13871.1	86.2
0°-90°	16085.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16085.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8194	8194	8194	8194	8194	
5°	8051	8042	8042	8032	8032	764
15°	7530	7530	7455	7379	7350	2117
25°	6526	6488	6384	6157	5986	2996
35°	5295	5257	5001	4622	4509	3310
45°	4064	3978	3637	3334	3202	3130
55°	2823	2738	2482	2188	2074	2532
65°	1677	1582	1430	1459	1212	1652
75°	672	625	587	559	616	721
85°	95	104	114	123	133	131
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8193.5	8193.5	8193.5	8193.5	8193.5
2.5°	8136.7	8136.7	8136.7	8127.2	8127.2
5°	8051.4	8041.9	8041.9	8032.5	8032.5
7.5°	7985.1	7975.6	7966.2	7956.7	7937.7
10°	7890.4	7890.4	7880.9	7833.5	7824.1
12.5°	7738.8	7729.3	7691.5	7625.1	7606.2
15°	7530.4	7530.4	7454.6	7378.9	7350.5
17.5°	7303.1	7293.6	7198.9	7123.1	7085.2
20°	7056.8	7037.9	6943.1	6820.0	6753.7
22.5°	6782.1	6782.1	6668.5	6507.4	6441.1
25°	6526.4	6488.5	6384.3	6157.0	5986.5
27.5°	6232.7	6175.9	6062.2	5740.2	5541.3
30°	5910.7	5882.3	5721.2	5304.5	5152.9
32.5°	5607.6	5560.2	5389.7	4954.0	4830.8
35°	5295.0	5257.1	5001.3	4622.5	4508.8
37.5°	4982.4	4935.0	4613.0	4309.9	4167.8
40°	4669.8	4613.0	4262.5	3987.8	3836.3
42.5°	4376.2	4300.4	3959.4	3665.8	3495.3
45°	4063.6	3978.3	3637.3	3334.2	3201.6
47.5°	3751.0	3675.2	3362.6	3050.1	2898.5
50°	3419.5	3353.2	3069.0	2756.4	2595.4
52.5°	3144.8	3040.6	2765.9	2453.3	2320.7
55°	2822.7	2737.5	2481.7	2188.1	2074.4
57.5°	2529.1	2443.8	2207.0	1932.3	1837.6
60°	2254.4	2131.3	1932.3	1695.5	1619.8
62.5°	1951.3	1856.6	1686.1	1487.1	1581.9
65°	1676.6	1581.9	1430.3	1458.7	1212.4
67.5°	1373.5	1326.1	1193.5	1060.9	1023.0
70°	1117.7	1060.9	1013.5	871.4	833.6
72.5°	890.4	833.6	767.3	691.5	663.1
75°	672.5	625.2	587.3	558.9	615.7
77.5°	464.1	445.2	416.8	388.4	378.9
80°	303.1	293.6	284.2	274.7	265.2
82.5°	180.0	180.0	180.0	180.0	180.0
85°	94.7	104.2	113.7	123.1	132.6
87.5°	56.8	56.8	66.3	75.8	85.3
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)