

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: P547394

Luminaire Tested: **FMR-24-4-LD4-4LO-40-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: P547394
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-LD4-4LO-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

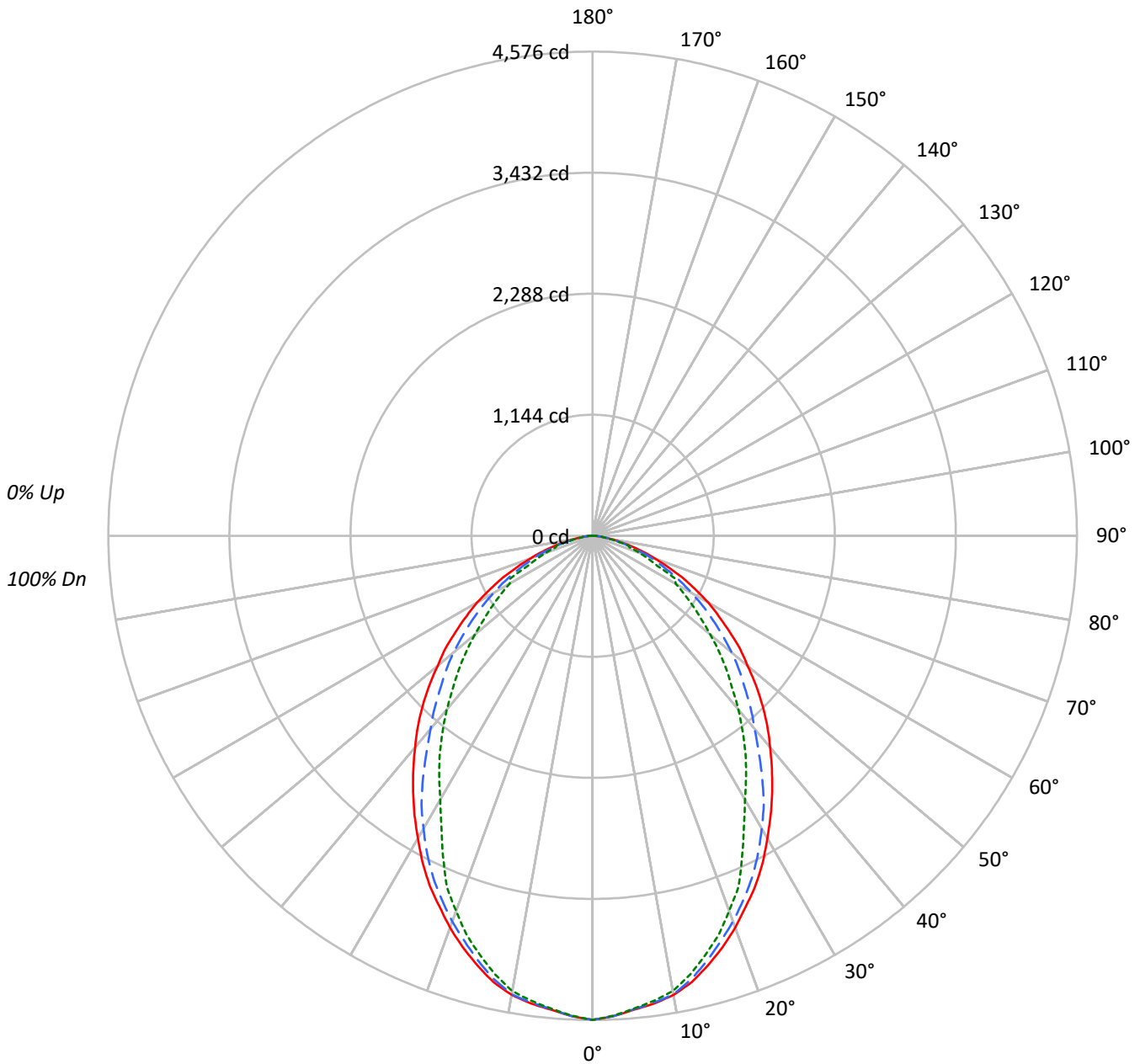
Lumens per Lamp: N/A
Luminaire Lumens: 8983.0 lumens
Efficiency: N/A
Efficacy: 96.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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: P547394

CATALOG NUMBER: FMR-24-4-LD4-4LO-40-UNV-81-87-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°	6157	6157	6157
5°	6073	6066	6059
10°	6020	6013	5970
15°	5858	5799	5718
20°	5643	5552	5400
25°	5411	5293	4963
30°	5128	4964	4471
35°	4857	4588	4136
40°	4581	4181	3763
45°	4318	3865	3402
50°	3997	3588	3034
55°	3698	3251	2718
60°	3388	2904	2434
65°	2981	2543	2156
70°	2456	2227	1831
75°	1953	1705	1787
80°	1312	1230	1148
85°	817	980	1144



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	425.9	4.7
10°-20°	1169.0	13.0
20°-30°	1618.4	18.0
30°-40°	1725.7	19.2
40°-50°	1574.3	17.5
50°-60°	1233.3	13.7
60°-70°	803.8	8.9
70°-80°	356.1	4.0
80°-90°	76.5	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°	3213.3	35.8
0°-40°	4938.9	55.0
0°-60°	7746.6	86.2
0°-90°	8983.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8983.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4576	4576	4576	4576	4576	
5°	4496	4491	4491	4486	4486	427
15°	4206	4206	4163	4121	4105	1182
25°	3645	3624	3565	3438	3343	1673
35°	2957	2936	2793	2582	2518	1849
45°	2269	2222	2031	1862	1788	1748
55°	1576	1529	1386	1222	1158	1414
65°	936	883	799	815	677	923
75°	376	349	328	312	344	403
85°	53	58	64	69	74	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4575.8	4575.8	4575.8	4575.8	4575.8
2.5°	4544.1	4544.1	4544.1	4538.8	4538.8
5°	4496.5	4491.2	4491.2	4485.9	4485.9
7.5°	4459.4	4454.2	4448.9	4443.6	4433.0
10°	4406.5	4406.5	4401.3	4374.8	4369.5
12.5°	4321.9	4316.6	4295.5	4258.4	4247.8
15°	4205.5	4205.5	4163.2	4120.9	4105.0
17.5°	4078.6	4073.3	4020.4	3978.1	3956.9
20°	3941.0	3930.4	3877.5	3808.8	3771.7
22.5°	3787.6	3787.6	3724.1	3634.2	3597.2
25°	3644.8	3623.6	3565.4	3438.5	3343.3
27.5°	3480.8	3449.1	3385.6	3205.7	3094.6
30°	3300.9	3285.1	3195.1	2962.4	2877.7
32.5°	3131.7	3105.2	3010.0	2766.7	2697.9
35°	2957.1	2935.9	2793.1	2581.5	2518.0
37.5°	2782.5	2756.1	2576.2	2406.9	2327.6
40°	2608.0	2576.2	2380.5	2227.1	2142.4
42.5°	2444.0	2401.6	2211.2	2047.2	1952.0
45°	2269.4	2221.8	2031.3	1862.1	1788.0
47.5°	2094.8	2052.5	1877.9	1703.4	1618.7
50°	1909.7	1872.6	1713.9	1539.4	1449.5
52.5°	1756.3	1698.1	1544.7	1370.1	1296.0
55°	1576.4	1528.8	1386.0	1222.0	1158.5
57.5°	1412.4	1364.8	1232.6	1079.2	1026.3
60°	1259.0	1190.2	1079.2	946.9	904.6
62.5°	1089.7	1036.8	941.6	830.5	883.4
65°	936.3	883.4	798.8	814.7	677.1
67.5°	767.0	740.6	666.5	592.5	571.3
70°	624.2	592.5	566.0	486.7	465.5
72.5°	497.3	465.5	428.5	386.2	370.3
75°	375.6	349.1	328.0	312.1	343.8
77.5°	259.2	248.6	232.8	216.9	211.6
80°	169.3	164.0	158.7	153.4	148.1
82.5°	100.5	100.5	100.5	100.5	100.5
85°	52.9	58.2	63.5	68.8	74.1
87.5°	31.7	31.7	37.0	42.3	47.6
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)