

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: P547210

Luminaire Tested: **FMR-24-4-LD4-3STD-40-UNV-82-87-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: P547210
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-LD4-3STD-40-UNV-82-87-EDD
Description: 2X4 FMR TROFFER WITH .187 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

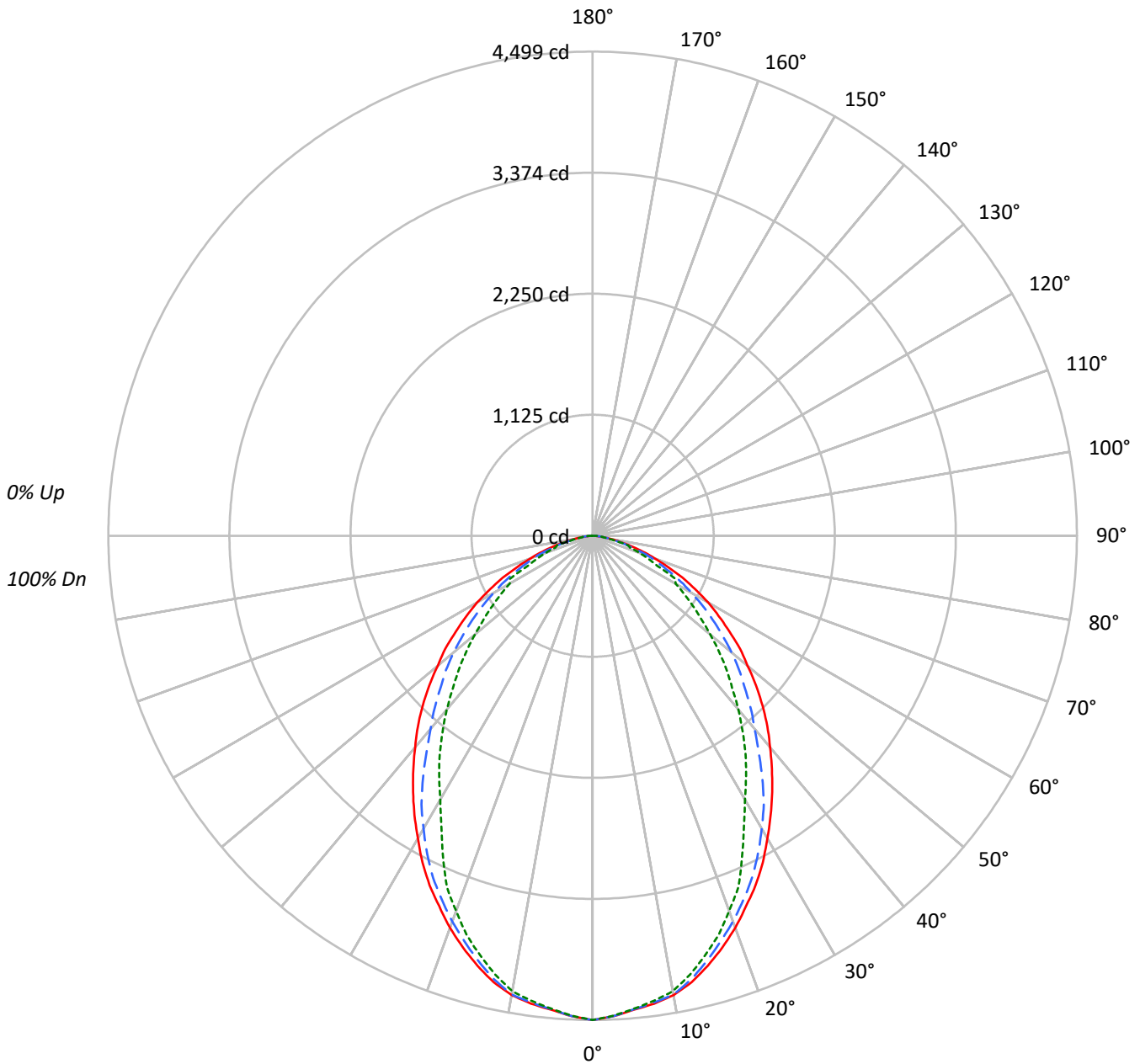
Lumens per Lamp: N/A
Luminaire Lumens: 8833.0 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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

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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°	6054	6054	6054
5°	5972	5965	5958
10°	5920	5913	5870
15°	5760	5702	5623
20°	5549	5459	5310
25°	5321	5205	4880
30°	5043	4881	4396
35°	4776	4511	4067
40°	4504	4111	3700
45°	4246	3801	3346
50°	3931	3528	2983
55°	3636	3197	2672
60°	3331	2855	2394
65°	2931	2500	2120
70°	2415	2190	1801
75°	1920	1677	1758
80°	1290	1209	1128
85°	803	963	1124



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	418.8	4.7
10°-20°	1149.5	13.0
20°-30°	1591.3	18.0
30°-40°	1696.8	19.2
40°-50°	1548.0	17.5
50°-60°	1212.7	13.7
60°-70°	790.4	8.9
70°-80°	350.2	4.0
80°-90°	75.2	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°	3159.6	35.8
0°-40°	4856.5	55.0
0°-60°	7617.2	86.2
0°-90°	8833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8833.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4499	4499	4499	4499	4499	
5°	4421	4416	4416	4411	4411	420
15°	4135	4135	4094	4052	4036	1163
25°	3584	3563	3506	3381	3287	1645
35°	2908	2887	2746	2538	2476	1818
45°	2232	2185	1997	1831	1758	1719
55°	1550	1503	1363	1202	1139	1390
65°	921	869	785	801	666	907
75°	369	343	322	307	338	396
85°	52	57	62	68	73	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4499.4	4499.4	4499.4	4499.4	4499.4
2.5°	4468.2	4468.2	4468.2	4463.0	4463.0
5°	4421.4	4416.2	4416.2	4411.0	4411.0
7.5°	4385.0	4379.8	4374.6	4369.4	4359.0
10°	4333.0	4333.0	4327.8	4301.8	4296.5
12.5°	4249.7	4244.5	4223.7	4187.3	4176.9
15°	4135.3	4135.3	4093.7	4052.1	4036.5
17.5°	4010.5	4005.3	3953.2	3911.6	3890.8
20°	3875.2	3864.8	3812.8	3745.2	3708.8
22.5°	3724.4	3724.4	3661.9	3573.5	3537.1
25°	3583.9	3563.1	3505.9	3381.1	3287.4
27.5°	3422.7	3391.5	3329.0	3152.2	3043.0
30°	3245.8	3230.2	3141.8	2912.9	2829.7
32.5°	3079.4	3053.4	2959.7	2720.5	2652.8
35°	2907.7	2886.9	2746.5	2538.4	2476.0
37.5°	2736.1	2710.1	2533.2	2366.7	2288.7
40°	2564.4	2533.2	2340.7	2189.9	2106.7
42.5°	2403.2	2361.5	2174.3	2013.0	1919.4
45°	2231.5	2184.7	1997.4	1831.0	1758.2
47.5°	2059.8	2018.2	1846.6	1674.9	1591.7
50°	1877.8	1841.4	1685.3	1513.7	1425.2
52.5°	1726.9	1669.7	1518.9	1347.2	1274.4
55°	1550.1	1503.3	1362.8	1201.6	1139.2
57.5°	1388.8	1342.0	1212.0	1061.1	1009.1
60°	1238.0	1170.4	1061.1	931.1	889.5
62.5°	1071.5	1019.5	925.9	816.7	868.7
65°	920.7	868.7	785.4	801.1	665.8
67.5°	754.2	728.2	655.4	582.6	561.8
70°	613.8	582.6	556.6	478.6	457.7
72.5°	489.0	457.7	421.3	379.7	364.1
75°	369.3	343.3	322.5	306.9	338.1
77.5°	254.9	244.5	228.9	213.3	208.1
80°	166.5	161.3	156.0	150.8	145.6
82.5°	98.8	98.8	98.8	98.8	98.8
85°	52.0	57.2	62.4	67.6	72.8
87.5°	31.2	31.2	36.4	41.6	46.8
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)