

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: P546304

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-81-85-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: P546304
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-12-4-LD4-2STD-35-UNV-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

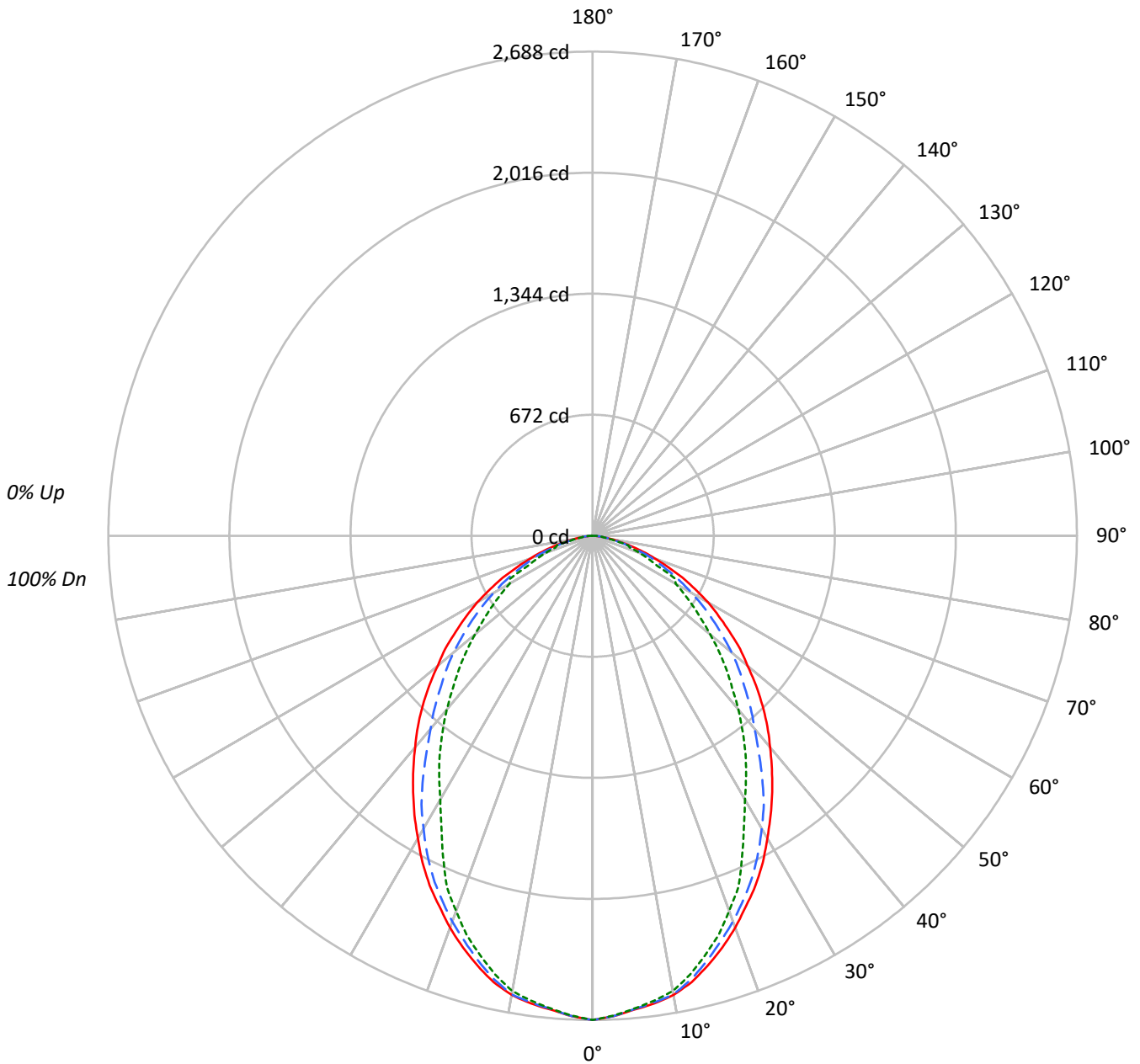
Lumens per Lamp: N/A
Luminaire Lumens: 5277.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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

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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°	7233	7233	7233
5°	7135	7127	7118
10°	7073	7065	7014
15°	6883	6813	6718
20°	6630	6523	6345
25°	6357	6219	5831
30°	6025	5832	5253
35°	5707	5390	4859
40°	5382	4912	4421
45°	5073	4541	3997
50°	4696	4215	3565
55°	4345	3820	3193
60°	3980	3412	2860
65°	3502	2988	2533
70°	2885	2616	2152
75°	2294	2004	2100
80°	1540	1444	1348
85°	960	1152	1343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.2	4.7
10°-20°	686.7	13.0
20°-30°	950.7	18.0
30°-40°	1013.7	19.2
40°-50°	924.8	17.5
50°-60°	724.5	13.7
60°-70°	472.2	8.9
70°-80°	209.2	4.0
80°-90°	44.9	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°	1887.6	35.8
0°-40°	2901.3	55.0
0°-60°	4550.7	86.2
0°-90°	5277.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5277.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2688	2688	2688	2688	2688	
5°	2641	2638	2638	2635	2635	251
15°	2470	2470	2446	2421	2412	695
25°	2141	2129	2094	2020	1964	983
35°	1737	1725	1641	1516	1479	1086
45°	1333	1305	1193	1094	1050	1027
55°	926	898	814	718	681	831
65°	550	519	469	479	398	542
75°	221	205	193	183	202	236
85°	31	34	37	40	44	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2688.0	2688.0	2688.0	2688.0	2688.0
2.5°	2669.4	2669.4	2669.4	2666.3	2666.3
5°	2641.4	2638.3	2638.3	2635.2	2635.2
7.5°	2619.7	2616.6	2613.5	2610.3	2604.1
10°	2588.6	2588.6	2585.5	2569.9	2566.8
12.5°	2538.9	2535.8	2523.3	2501.6	2495.4
15°	2470.5	2470.5	2445.6	2420.8	2411.5
17.5°	2395.9	2392.8	2361.7	2336.9	2324.4
20°	2315.1	2308.9	2277.8	2237.4	2215.7
22.5°	2225.0	2225.0	2187.7	2134.9	2113.1
25°	2141.1	2128.7	2094.5	2019.9	1964.0
27.5°	2044.8	2026.1	1988.8	1883.2	1817.9
30°	1939.1	1929.8	1877.0	1740.2	1690.5
32.5°	1839.7	1824.1	1768.2	1625.3	1584.9
35°	1737.1	1724.7	1640.8	1516.5	1479.2
37.5°	1634.6	1619.0	1513.4	1413.9	1367.3
40°	1532.0	1513.4	1398.4	1308.3	1258.6
42.5°	1435.7	1410.8	1299.0	1202.6	1146.7
45°	1333.1	1305.2	1193.3	1093.9	1050.4
47.5°	1230.6	1205.7	1103.2	1000.6	950.9
50°	1121.8	1100.1	1006.8	904.3	851.5
52.5°	1031.7	997.5	907.4	804.9	761.4
55°	926.1	898.1	814.2	717.8	680.6
57.5°	829.7	801.7	724.1	633.9	602.9
60°	739.6	699.2	633.9	556.3	531.4
62.5°	640.2	609.1	553.1	487.9	519.0
65°	550.0	519.0	469.2	478.6	397.8
67.5°	450.6	435.1	391.6	348.0	335.6
70°	366.7	348.0	332.5	285.9	273.5
72.5°	292.1	273.5	251.7	226.9	217.5
75°	220.6	205.1	192.7	183.3	202.0
77.5°	152.3	146.1	136.7	127.4	124.3
80°	99.4	96.3	93.2	90.1	87.0
82.5°	59.0	59.0	59.0	59.0	59.0
85°	31.1	34.2	37.3	40.4	43.5
87.5°	18.6	18.6	21.8	24.9	28.0
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)