

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: P546865

Luminaire Tested: **FMR-24-4-LD4-2LO-50-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: P546865
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-LD4-2LO-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

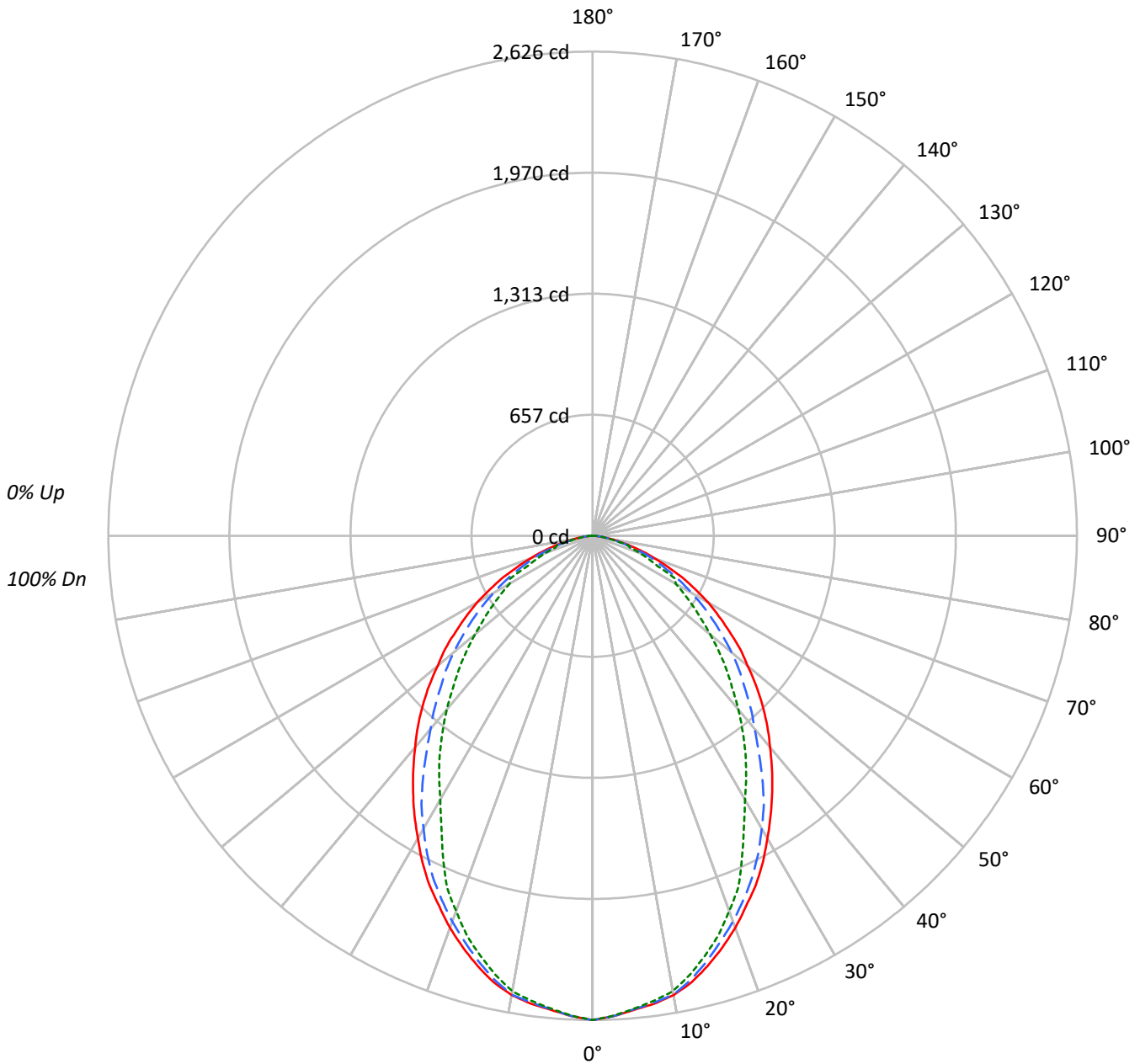
Lumens per Lamp: N/A
Luminaire Lumens: 5156.0 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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

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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°	3534	3534	3534
5°	3486	3482	3478
10°	3456	3451	3427
15°	3362	3329	3282
20°	3239	3187	3100
25°	3106	3038	2849
30°	2944	2849	2566
35°	2788	2633	2374
40°	2629	2400	2160
45°	2479	2218	1953
50°	2294	2059	1741
55°	2122	1866	1560
60°	1945	1667	1397
65°	1711	1460	1237
70°	1410	1278	1051
75°	1121	979	1026
80°	753	706	659
85°	469	562	656



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.5	4.7
10°-20°	671.0	13.0
20°-30°	928.9	18.0
30°-40°	990.5	19.2
40°-50°	903.6	17.5
50°-60°	707.9	13.7
60°-70°	461.4	8.9
70°-80°	204.4	4.0
80°-90°	43.9	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°	1844.3	35.8
0°-40°	2834.8	55.0
0°-60°	4446.3	86.2
0°-90°	5156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5156.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2626	2626	2626	2626	2626	
5°	2581	2578	2578	2575	2575	245
15°	2414	2414	2390	2365	2356	679
25°	2092	2080	2046	1974	1919	960
35°	1697	1685	1603	1482	1445	1061
45°	1303	1275	1166	1069	1026	1003
55°	905	878	796	701	665	812
65°	537	507	458	468	389	530
75°	216	200	188	179	197	231
85°	30	33	36	40	42	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2626.4	2626.4	2626.4	2626.4	2626.4
2.5°	2608.2	2608.2	2608.2	2605.1	2605.1
5°	2580.9	2577.8	2577.8	2574.8	2574.8
7.5°	2559.6	2556.6	2553.5	2550.5	2544.4
10°	2529.2	2529.2	2526.2	2511.0	2508.0
12.5°	2480.7	2477.6	2465.5	2444.2	2438.1
15°	2413.9	2413.9	2389.6	2365.3	2356.2
17.5°	2341.0	2337.9	2307.6	2283.3	2271.2
20°	2262.0	2256.0	2225.6	2186.1	2164.9
22.5°	2174.0	2174.0	2137.6	2085.9	2064.7
25°	2092.0	2079.9	2046.5	1973.6	1918.9
27.5°	1997.9	1979.7	1943.2	1840.0	1776.2
30°	1894.6	1885.5	1833.9	1700.3	1651.7
32.5°	1797.5	1782.3	1727.7	1588.0	1548.5
35°	1697.3	1685.1	1603.2	1481.7	1445.3
37.5°	1597.1	1581.9	1478.7	1381.5	1336.0
40°	1496.9	1478.7	1366.3	1278.3	1229.7
42.5°	1402.8	1378.5	1269.2	1175.0	1120.4
45°	1302.6	1275.2	1165.9	1068.8	1026.3
47.5°	1202.4	1178.1	1077.9	977.7	929.1
50°	1096.1	1074.8	983.8	883.6	831.9
52.5°	1008.1	974.7	886.6	786.4	743.9
55°	904.8	877.5	795.5	701.4	664.9
57.5°	810.7	783.4	707.5	619.4	589.0
60°	722.6	683.2	619.4	543.5	519.2
62.5°	625.5	595.1	540.5	476.7	507.1
65°	537.4	507.1	458.5	467.6	388.6
67.5°	440.3	425.1	382.6	340.1	327.9
70°	358.3	340.1	324.9	279.3	267.2
72.5°	285.4	267.2	245.9	221.6	212.5
75°	215.6	200.4	188.3	179.1	197.4
77.5°	148.8	142.7	133.6	124.5	121.5
80°	97.2	94.1	91.1	88.1	85.0
82.5°	57.7	57.7	57.7	57.7	57.7
85°	30.4	33.4	36.4	39.5	42.5
87.5°	18.2	18.2	21.3	24.3	27.3
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)