

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: P546348

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-94-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: P546348
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-40-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

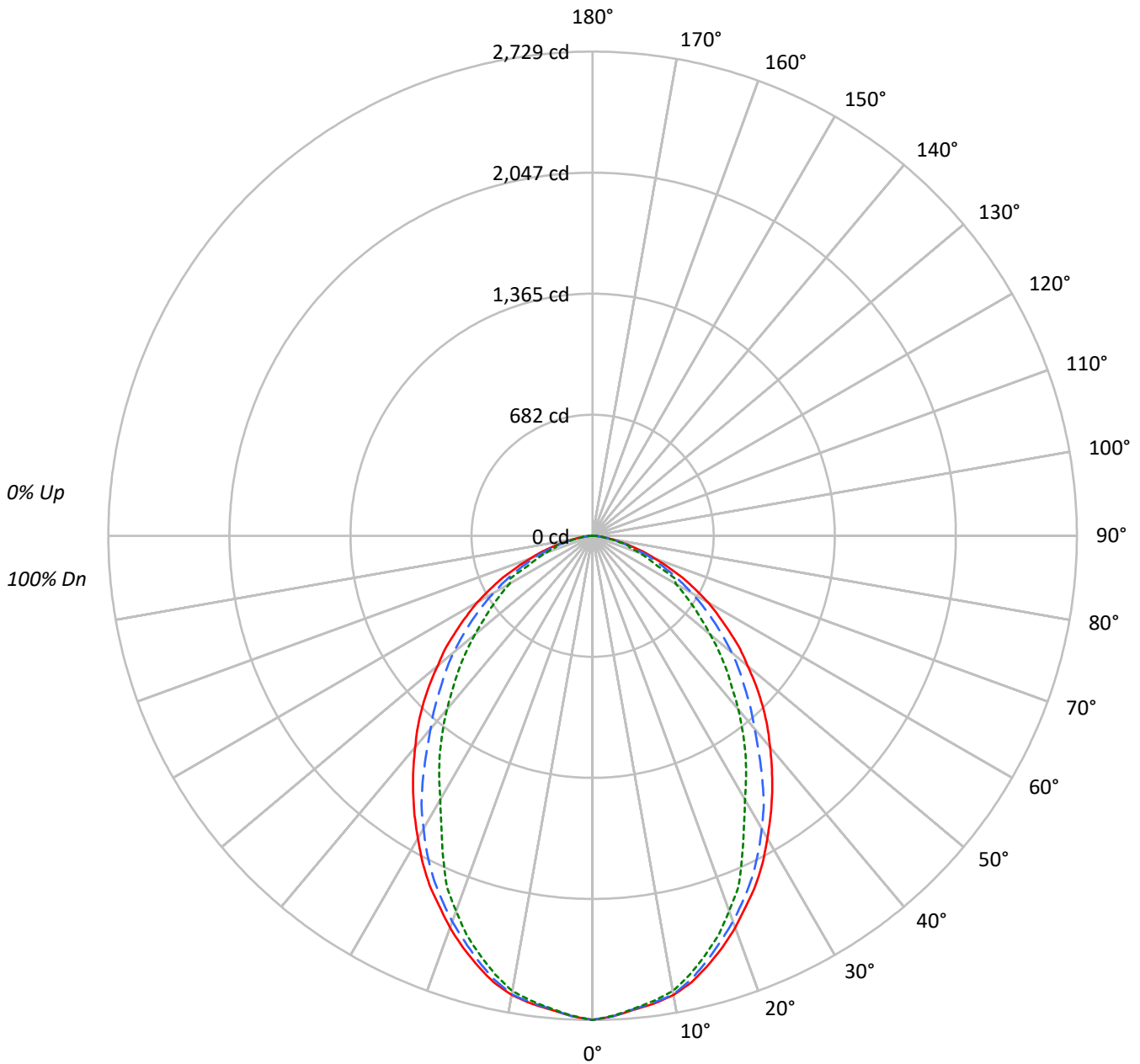
Lumens per Lamp: N/A
Luminaire Lumens: 5357.0 lumens
Efficiency: N/A
Efficacy: 80.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	7343	7343	7343
5°	7243	7235	7226
10°	7180	7172	7120
15°	6987	6917	6820
20°	6730	6622	6441
25°	6454	6313	5920
30°	6117	5921	5332
35°	5793	5472	4933
40°	5463	4987	4488
45°	5151	4610	4058
50°	4767	4279	3619
55°	4411	3878	3241
60°	4041	3464	2903
65°	3556	3033	2571
70°	2929	2655	2184
75°	2329	2034	2132
80°	1564	1466	1368
85°	973	1170	1365



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.0	4.7
10°-20°	697.1	13.0
20°-30°	965.1	18.0
30°-40°	1029.1	19.2
40°-50°	938.8	17.5
50°-60°	735.5	13.7
60°-70°	479.4	8.9
70°-80°	212.4	4.0
80°-90°	45.6	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°	1916.2	35.8
0°-40°	2945.3	55.0
0°-60°	4619.7	86.2
0°-90°	5357.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5357.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2729	2729	2729	2729	2729	
5°	2682	2678	2678	2675	2675	255
15°	2508	2508	2483	2458	2448	705
25°	2174	2161	2126	2050	1994	998
35°	1764	1751	1666	1540	1502	1102
45°	1353	1325	1211	1110	1066	1042
55°	940	912	826	729	691	843
65°	558	527	476	486	404	550
75°	224	208	196	186	205	240
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2728.8	2728.8	2728.8	2728.8	2728.8
2.5°	2709.9	2709.9	2709.9	2706.7	2706.7
5°	2681.5	2678.3	2678.3	2675.2	2675.2
7.5°	2659.4	2656.2	2653.1	2649.9	2643.6
10°	2627.8	2627.8	2624.7	2608.9	2605.8
12.5°	2577.4	2574.2	2561.6	2539.5	2533.2
15°	2508.0	2508.0	2482.7	2457.5	2448.0
17.5°	2432.2	2429.1	2397.5	2372.3	2359.7
20°	2350.2	2343.9	2312.4	2271.4	2249.3
22.5°	2258.7	2258.7	2220.9	2167.3	2145.2
25°	2173.6	2160.9	2126.2	2050.5	1993.7
27.5°	2075.8	2056.8	2019.0	1911.7	1845.5
30°	1968.5	1959.0	1905.4	1766.6	1716.1
32.5°	1867.6	1851.8	1795.0	1649.9	1608.9
35°	1763.5	1750.8	1665.7	1539.5	1501.6
37.5°	1659.4	1643.6	1536.3	1435.4	1388.1
40°	1555.2	1536.3	1419.6	1328.1	1277.6
42.5°	1457.5	1432.2	1318.6	1220.9	1164.1
45°	1353.4	1325.0	1211.4	1110.4	1066.3
47.5°	1249.2	1224.0	1119.9	1015.8	965.3
50°	1138.8	1116.8	1022.1	918.0	864.4
52.5°	1047.3	1012.6	921.2	817.1	772.9
55°	940.1	911.7	826.5	728.7	690.9
57.5°	842.3	813.9	735.0	643.6	612.0
60°	750.8	709.8	643.6	564.7	539.4
62.5°	649.9	618.3	561.5	495.3	526.8
65°	558.4	526.8	476.4	485.8	403.8
67.5°	457.4	441.7	397.5	353.3	340.7
70°	372.3	353.3	337.5	290.2	277.6
72.5°	296.5	277.6	255.5	230.3	220.8
75°	224.0	208.2	195.6	186.1	205.1
77.5°	154.6	148.3	138.8	129.3	126.2
80°	100.9	97.8	94.6	91.5	88.3
82.5°	59.9	59.9	59.9	59.9	59.9
85°	31.5	34.7	37.9	41.0	44.2
87.5°	18.9	18.9	22.1	25.2	28.4
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)