

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: P546168

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-80-85-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: P546168
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-LD4-2HI-50-UNV-80-85-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

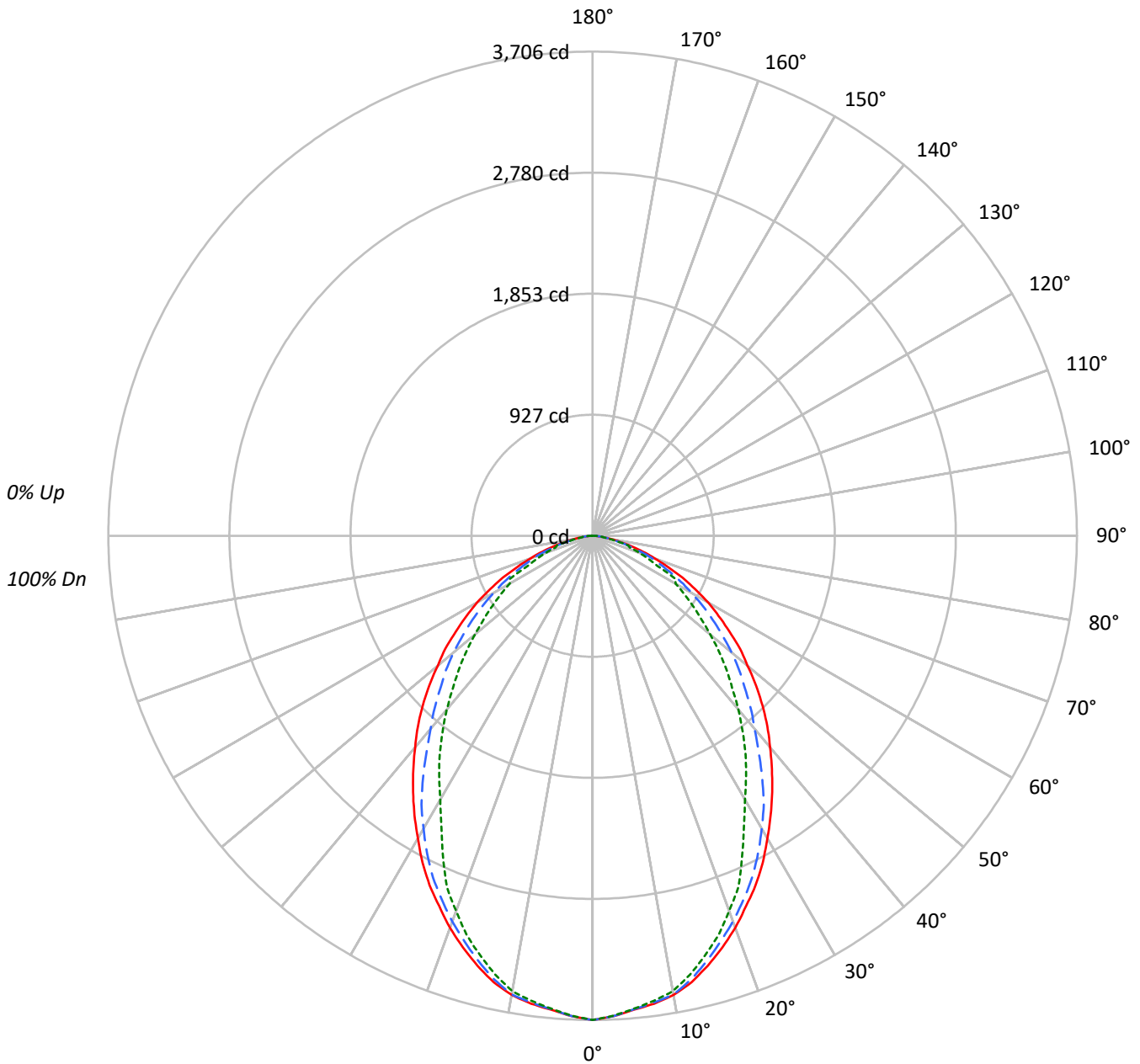
Lumens per Lamp: N/A
Luminaire Lumens: 7276.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	9974	9974	9974
5°	9838	9826	9815
10°	9753	9741	9671
15°	9490	9394	9263
20°	9141	8994	8749
25°	8766	8575	8041
30°	8308	8042	7243
35°	7868	7432	6700
40°	7420	6773	6096
45°	6995	6261	5511
50°	6476	5812	4915
55°	5991	5267	4403
60°	5489	4704	3943
65°	4829	4120	3492
70°	3978	3607	2967
75°	3163	2763	2896
80°	2125	1991	1860
85°	1321	1587	1853



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.0	4.7
10°-20°	946.8	13.0
20°-30°	1310.8	18.0
30°-40°	1397.7	19.2
40°-50°	1275.1	17.5
50°-60°	999.0	13.7
60°-70°	651.1	8.9
70°-80°	288.5	4.0
80°-90°	61.9	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°	2602.7	35.8
0°-40°	4000.4	55.0
0°-60°	6274.5	86.2
0°-90°	7276.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7276.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3706	3706	3706	3706	3706	
5°	3642	3638	3638	3634	3634	346
15°	3406	3406	3372	3338	3325	958
25°	2952	2935	2888	2785	2708	1355
35°	2395	2378	2262	2091	2040	1497
45°	1838	1800	1645	1508	1448	1416
55°	1277	1238	1123	990	938	1145
65°	758	716	647	660	548	747
75°	304	283	266	253	278	326
85°	43	47	51	56	60	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3706.3	3706.3	3706.3	3706.3	3706.3
2.5°	3680.6	3680.6	3680.6	3676.3	3676.3
5°	3642.0	3637.7	3637.7	3633.5	3633.5
7.5°	3612.0	3607.7	3603.5	3599.2	3590.6
10°	3569.2	3569.2	3564.9	3543.5	3539.2
12.5°	3500.6	3496.3	3479.2	3449.2	3440.6
15°	3406.4	3406.4	3372.1	3337.8	3325.0
17.5°	3303.5	3299.2	3256.4	3222.1	3205.0
20°	3192.1	3183.6	3140.7	3085.0	3055.0
22.5°	3067.9	3067.9	3016.5	2943.6	2913.6
25°	2952.2	2935.0	2887.9	2785.1	2708.0
27.5°	2819.4	2793.6	2742.2	2596.6	2506.6
30°	2673.7	2660.8	2588.0	2399.5	2330.9
32.5°	2536.6	2515.1	2438.0	2240.9	2185.2
35°	2395.2	2378.0	2262.3	2091.0	2039.5
37.5°	2253.8	2232.3	2086.7	1949.6	1885.3
40°	2112.4	2086.7	1928.1	1803.9	1735.3
42.5°	1979.5	1945.3	1791.0	1658.2	1581.1
45°	1838.2	1799.6	1645.3	1508.2	1448.2
47.5°	1696.8	1662.5	1521.1	1379.7	1311.1
50°	1546.8	1516.8	1388.3	1246.9	1174.0
52.5°	1422.5	1375.4	1251.1	1109.7	1049.8
55°	1276.9	1238.3	1122.6	989.8	938.4
57.5°	1144.0	1105.5	998.3	874.1	831.2
60°	1019.8	964.1	874.1	767.0	732.7
62.5°	882.7	839.8	762.7	672.7	715.6
65°	758.4	715.6	647.0	659.8	548.4
67.5°	621.3	599.9	539.9	479.9	462.8
70°	505.6	479.9	458.5	394.2	377.1
72.5°	402.8	377.1	347.1	312.8	299.9
75°	304.2	282.8	265.7	252.8	278.5
77.5°	210.0	201.4	188.5	175.7	171.4
80°	137.1	132.8	128.5	124.3	120.0
82.5°	81.4	81.4	81.4	81.4	81.4
85°	42.8	47.1	51.4	55.7	60.0
87.5°	25.7	25.7	30.0	34.3	38.6
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)