

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: P545888

Luminaire Tested: **FMR-12-4-LD4-1HI-50-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: P545888
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-LD4-1HI-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

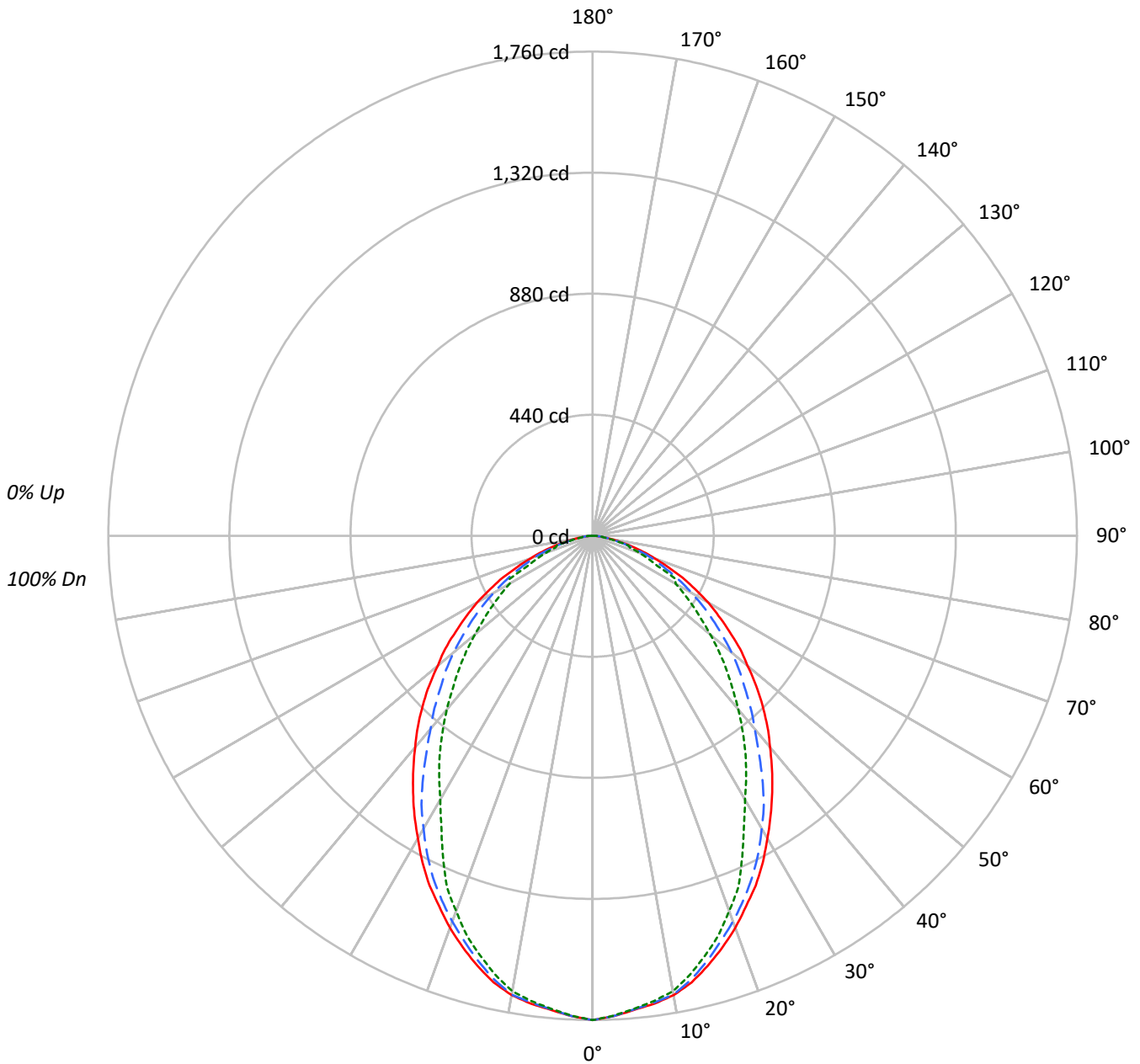
Lumens per Lamp: N/A
Luminaire Lumens: 3456.0 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (A_{in}): 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°	4737	4737	4737
5°	4673	4668	4662
10°	4632	4627	4594
15°	4508	4462	4400
20°	4342	4272	4155
25°	4163	4073	3819
30°	3946	3820	3440
35°	3737	3530	3183
40°	3524	3217	2896
45°	3323	2974	2618
50°	3076	2761	2334
55°	2845	2502	2091
60°	2607	2235	1873
65°	2294	1957	1659
70°	1890	1714	1409
75°	1502	1312	1376
80°	1009	947	883
85°	630	753	880



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.9	4.7
10°-20°	449.7	13.0
20°-30°	622.6	18.0
30°-40°	663.9	19.2
40°-50°	605.7	17.5
50°-60°	474.5	13.7
60°-70°	309.2	8.9
70°-80°	137.0	4.0
80°-90°	29.4	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°	1236.2	35.8
0°-40°	1900.1	55.0
0°-60°	2980.3	86.2
0°-90°	3456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3456.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1760	1760	1760	1760	1760	
5°	1730	1728	1728	1726	1726	164
15°	1618	1618	1602	1585	1579	455
25°	1402	1394	1372	1323	1286	644
35°	1138	1130	1075	993	969	711
45°	873	855	782	716	688	673
55°	606	588	533	470	446	544
65°	360	340	307	313	260	355
75°	144	134	126	120	132	155
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1760.4	1760.4	1760.4	1760.4	1760.4
2.5°	1748.2	1748.2	1748.2	1746.2	1746.2
5°	1729.9	1727.9	1727.9	1725.8	1725.8
7.5°	1715.7	1713.6	1711.6	1709.6	1705.5
10°	1695.3	1695.3	1693.3	1683.1	1681.1
12.5°	1662.8	1660.7	1652.6	1638.3	1634.3
15°	1618.0	1618.0	1601.7	1585.4	1579.3
17.5°	1569.1	1567.1	1546.7	1530.5	1522.3
20°	1516.2	1512.1	1491.8	1465.3	1451.1
22.5°	1457.2	1457.2	1432.8	1398.2	1383.9
25°	1402.2	1394.1	1371.7	1322.9	1286.2
27.5°	1339.2	1326.9	1302.5	1233.3	1190.6
30°	1270.0	1263.9	1229.3	1139.7	1107.1
32.5°	1204.8	1194.7	1158.0	1064.4	1037.9
35°	1137.7	1129.5	1074.6	993.2	968.8
37.5°	1070.5	1060.3	991.1	926.0	895.5
40°	1003.3	991.1	915.8	856.8	824.3
42.5°	940.3	924.0	850.7	787.6	751.0
45°	873.1	854.8	781.5	716.4	687.9
47.5°	805.9	789.7	722.5	655.3	622.8
50°	734.7	720.5	659.4	592.2	557.6
52.5°	675.7	653.3	594.3	527.1	498.6
55°	606.5	588.2	533.2	470.1	445.7
57.5°	543.4	525.1	474.2	415.2	394.8
60°	484.4	457.9	415.2	364.3	348.0
62.5°	419.2	398.9	362.3	319.5	339.9
65°	360.2	339.9	307.3	313.4	260.5
67.5°	295.1	284.9	256.4	227.9	219.8
70°	240.2	227.9	217.8	187.2	179.1
72.5°	191.3	179.1	164.9	148.6	142.5
75°	144.5	134.3	126.2	120.1	132.3
77.5°	99.7	95.7	89.5	83.4	81.4
80°	65.1	63.1	61.1	59.0	57.0
82.5°	38.7	38.7	38.7	38.7	38.7
85°	20.4	22.4	24.4	26.5	28.5
87.5°	12.2	12.2	14.2	16.3	18.3
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)