

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: P545887

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-81-84-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: P545887
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-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

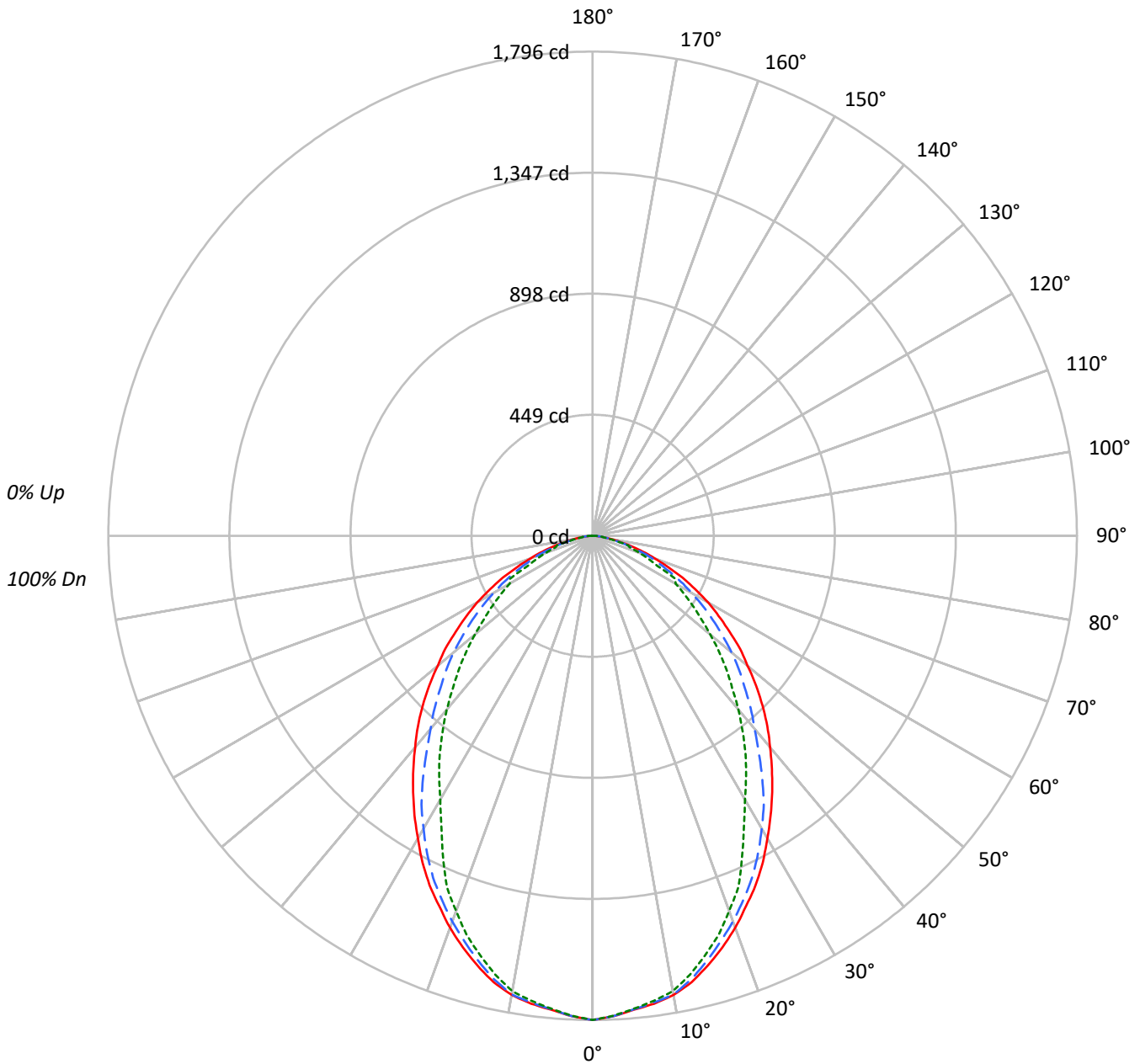
Lumens per Lamp: N/A
Luminaire Lumens: 3526.0 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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°	4833	4833	4833
5°	4768	4762	4756
10°	4726	4721	4686
15°	4599	4552	4489
20°	4430	4359	4240
25°	4248	4155	3896
30°	4026	3897	3510
35°	3813	3601	3247
40°	3596	3282	2954
45°	3390	3034	2671
50°	3138	2817	2382
55°	2903	2552	2133
60°	2660	2280	1911
65°	2340	1996	1692
70°	1928	1748	1437
75°	1533	1338	1404
80°	1029	965	900
85°	642	769	898



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.2	4.7
10°-20°	458.8	13.0
20°-30°	635.2	18.0
30°-40°	677.4	19.2
40°-50°	617.9	17.5
50°-60°	484.1	13.7
60°-70°	315.5	8.9
70°-80°	139.8	4.0
80°-90°	30.0	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°	1261.3	35.8
0°-40°	1938.6	55.0
0°-60°	3040.7	86.2
0°-90°	3526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3526.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1796	1796	1796	1796	1796	
5°	1765	1763	1763	1761	1761	168
15°	1651	1651	1634	1618	1611	464
25°	1431	1422	1400	1350	1312	657
35°	1161	1152	1096	1013	988	726
45°	891	872	797	731	702	686
55°	619	600	544	480	455	555
65°	368	347	314	320	266	362
75°	147	137	129	122	135	158
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1796.1	1796.1	1796.1	1796.1	1796.1
2.5°	1783.6	1783.6	1783.6	1781.6	1781.6
5°	1765.0	1762.9	1762.9	1760.8	1760.8
7.5°	1750.4	1748.3	1746.3	1744.2	1740.0
10°	1729.7	1729.7	1727.6	1717.2	1715.1
12.5°	1696.4	1694.4	1686.0	1671.5	1667.4
15°	1650.7	1650.7	1634.1	1617.5	1611.3
17.5°	1600.9	1598.8	1578.1	1561.5	1553.2
20°	1546.9	1542.8	1522.0	1495.0	1480.5
22.5°	1486.7	1486.7	1461.8	1426.5	1412.0
25°	1430.6	1422.3	1399.5	1349.7	1312.3
27.5°	1366.3	1353.8	1328.9	1258.3	1214.7
30°	1295.7	1289.5	1254.2	1162.8	1129.6
32.5°	1229.2	1218.9	1181.5	1086.0	1059.0
35°	1160.7	1152.4	1096.3	1013.3	988.4
37.5°	1092.2	1081.8	1011.2	944.8	913.6
40°	1023.7	1011.2	934.4	874.2	840.9
42.5°	959.3	942.7	867.9	803.6	766.2
45°	890.8	872.1	797.3	730.9	701.8
47.5°	822.3	805.6	737.1	668.6	635.4
50°	749.6	735.1	672.8	604.2	568.9
52.5°	689.4	666.5	606.3	537.8	508.7
55°	618.8	600.1	544.0	479.7	454.7
57.5°	554.4	535.7	483.8	423.6	402.8
60°	494.2	467.2	423.6	371.7	355.1
62.5°	427.7	407.0	369.6	326.0	346.8
65°	367.5	346.8	313.5	319.8	265.8
67.5°	301.1	290.7	261.6	232.6	224.3
70°	245.0	232.6	222.2	191.0	182.7
72.5°	195.2	182.7	168.2	151.6	145.3
75°	147.4	137.0	128.7	122.5	135.0
77.5°	101.7	97.6	91.4	85.1	83.1
80°	66.4	64.4	62.3	60.2	58.1
82.5°	39.5	39.5	39.5	39.5	39.5
85°	20.8	22.8	24.9	27.0	29.1
87.5°	12.5	12.5	14.5	16.6	18.7
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)