

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: P545903

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-93-84-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: P545903
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-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

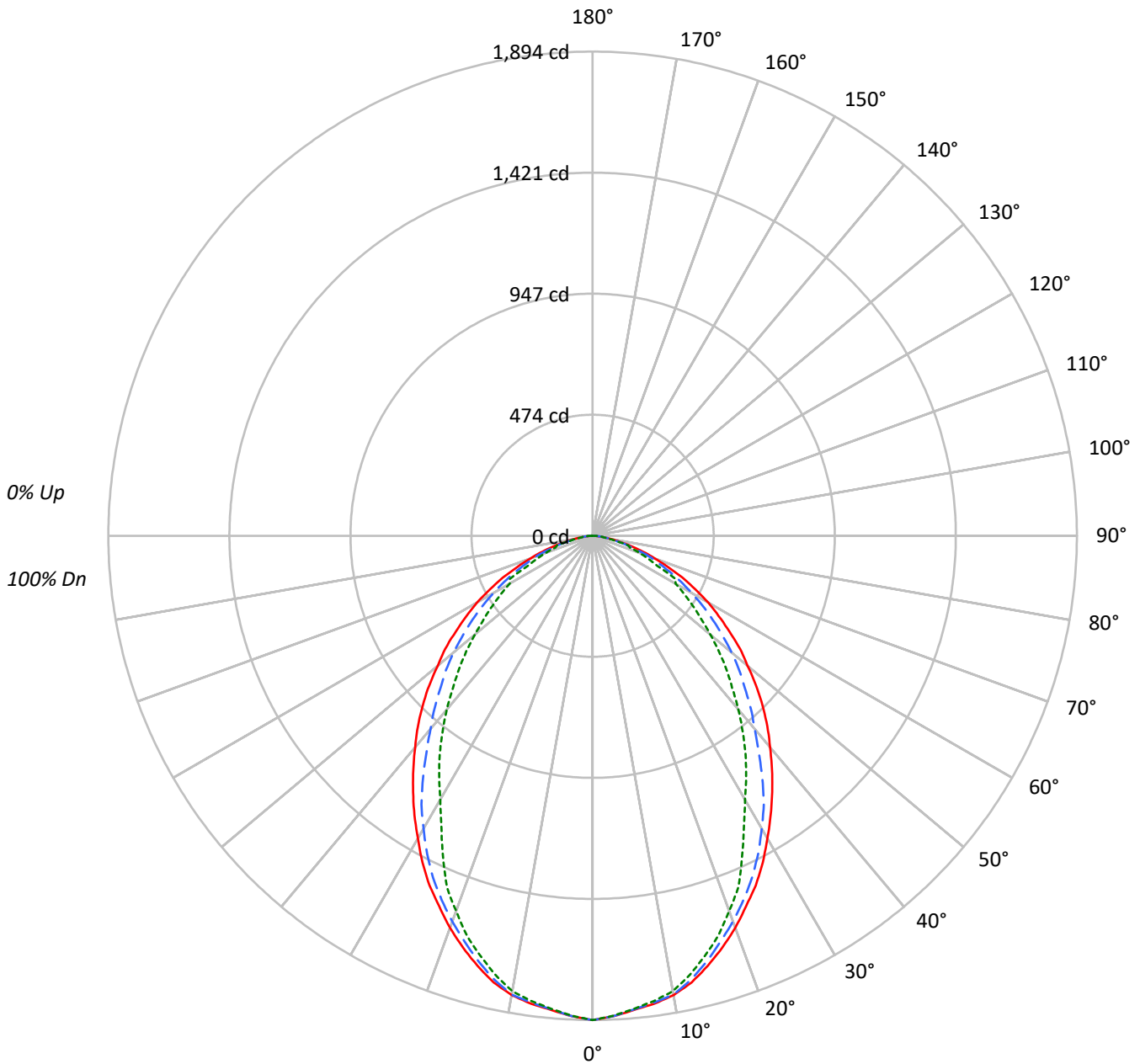
Lumens per Lamp: N/A
Luminaire Lumens: 3719.0 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5098	5098	5098
5°	5029	5023	5017
10°	4985	4979	4943
15°	4851	4802	4735
20°	4672	4597	4472
25°	4480	4383	4110
30°	4246	4110	3702
35°	4022	3799	3425
40°	3793	3462	3116
45°	3575	3201	2817
50°	3310	2971	2512
55°	3062	2692	2250
60°	2805	2405	2016
65°	2468	2106	1785
70°	2033	1843	1516
75°	1617	1412	1481
80°	1086	1018	950
85°	676	812	948



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.3	4.7
10°-20°	484.0	13.0
20°-30°	670.0	18.0
30°-40°	714.4	19.2
40°-50°	651.8	17.5
50°-60°	510.6	13.7
60°-70°	332.8	8.9
70°-80°	147.4	4.0
80°-90°	31.6	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°	1330.3	35.8
0°-40°	2044.7	55.0
0°-60°	3207.1	86.2
0°-90°	3719.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3719.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1894	1894	1894	1894	1894	
5°	1862	1859	1859	1857	1857	177
15°	1741	1741	1724	1706	1700	489
25°	1509	1500	1476	1424	1384	693
35°	1224	1216	1156	1069	1042	765
45°	940	920	841	771	740	724
55°	653	633	574	506	480	585
65°	388	366	331	337	280	382
75°	156	144	136	129	142	167
85°	22	24	26	28	31	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1894.4	1894.4	1894.4	1894.4	1894.4
2.5°	1881.3	1881.3	1881.3	1879.1	1879.1
5°	1861.6	1859.4	1859.4	1857.2	1857.2
7.5°	1846.2	1844.0	1841.8	1839.7	1835.3
10°	1824.3	1824.3	1822.1	1811.2	1809.0
12.5°	1789.3	1787.1	1778.3	1763.0	1758.6
15°	1741.1	1741.1	1723.6	1706.1	1699.5
17.5°	1688.5	1686.4	1664.5	1646.9	1638.2
20°	1631.6	1627.2	1605.3	1576.8	1561.5
22.5°	1568.1	1568.1	1541.8	1504.6	1489.2
25°	1509.0	1500.2	1476.1	1423.5	1384.1
27.5°	1441.1	1427.9	1401.6	1327.2	1281.2
30°	1366.6	1360.0	1322.8	1226.4	1191.4
32.5°	1296.5	1285.6	1246.1	1145.4	1116.9
35°	1224.2	1215.5	1156.4	1068.8	1042.5
37.5°	1152.0	1141.0	1066.6	996.5	963.6
40°	1079.7	1066.6	985.5	922.0	887.0
42.5°	1011.8	994.3	915.4	847.6	808.1
45°	939.5	919.8	841.0	770.9	740.2
47.5°	867.3	849.7	777.5	705.2	670.2
50°	790.6	775.3	709.6	637.3	600.1
52.5°	727.1	703.0	639.5	567.2	536.6
55°	652.6	632.9	573.8	505.9	479.6
57.5°	584.7	565.0	510.3	446.8	424.9
60°	521.2	492.8	446.8	392.0	374.5
62.5°	451.2	429.3	389.8	343.8	365.7
65°	387.6	365.7	330.7	337.3	280.3
67.5°	317.6	306.6	275.9	245.3	236.5
70°	258.4	245.3	234.3	201.5	192.7
72.5°	205.9	192.7	177.4	159.9	153.3
75°	155.5	144.5	135.8	129.2	142.4
77.5°	107.3	102.9	96.4	89.8	87.6
80°	70.1	67.9	65.7	63.5	61.3
82.5°	41.6	41.6	41.6	41.6	41.6
85°	21.9	24.1	26.3	28.5	30.7
87.5°	13.1	13.1	15.3	17.5	19.7
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)