

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: P545889

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-81-86-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: P545889
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-81-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

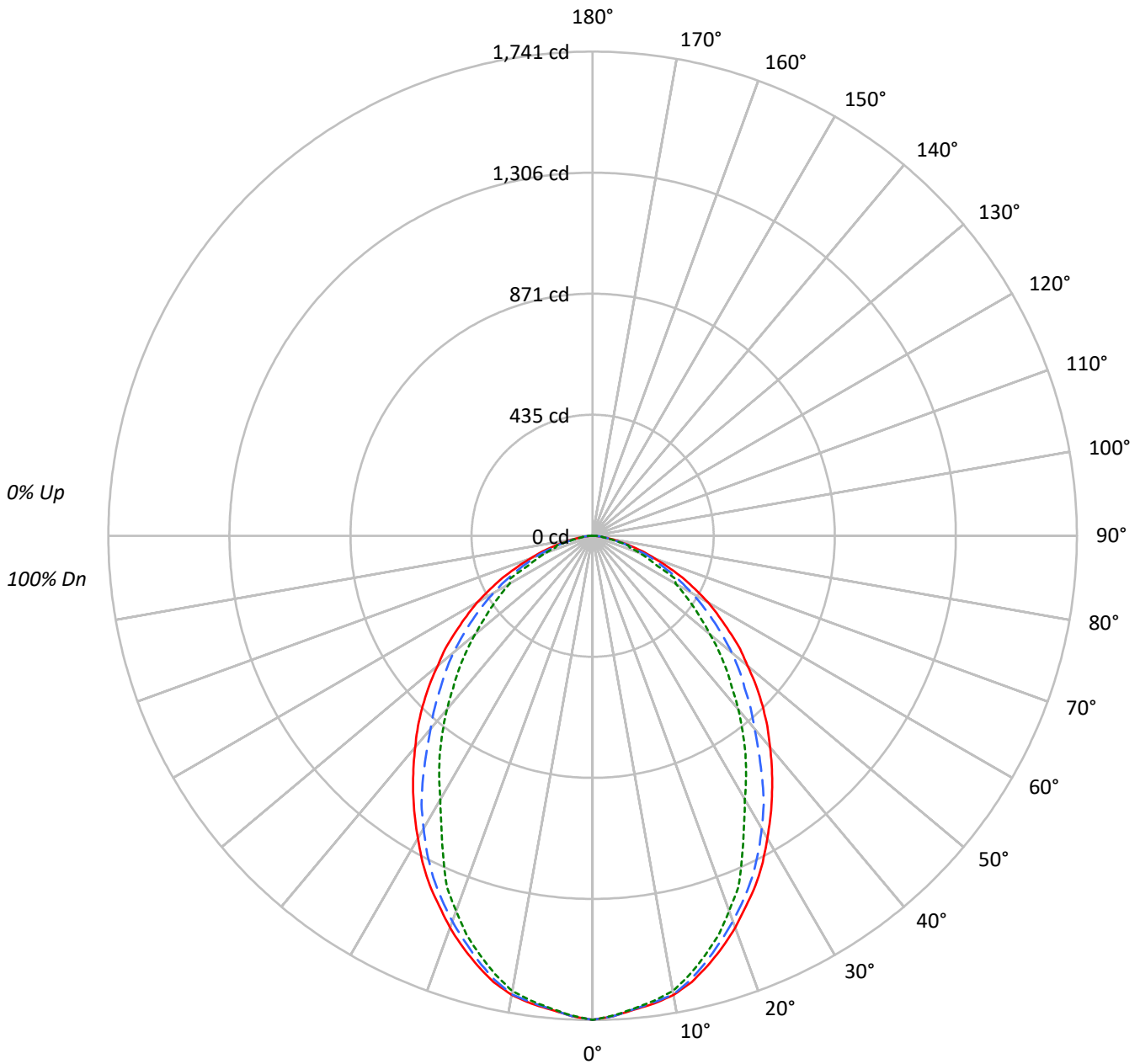
Lumens per Lamp: N/A
Luminaire Lumens: 3417.0 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4684	4684	4684
5°	4620	4615	4609
10°	4580	4575	4542
15°	4457	4412	4350
20°	4293	4224	4109
25°	4116	4027	3776
30°	3901	3777	3402
35°	3695	3490	3146
40°	3485	3181	2863
45°	3285	2941	2588
50°	3041	2730	2308
55°	2813	2473	2068
60°	2577	2209	1852
65°	2268	1934	1640
70°	1868	1694	1393
75°	1486	1298	1360
80°	998	936	872
85°	621	744	871



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.0	4.7
10°-20°	444.7	13.0
20°-30°	615.6	18.0
30°-40°	656.4	19.2
40°-50°	598.8	17.5
50°-60°	469.1	13.7
60°-70°	305.8	8.9
70°-80°	135.5	4.0
80°-90°	29.1	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°	1222.3	35.8
0°-40°	1878.7	55.0
0°-60°	2946.7	86.2
0°-90°	3417.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3417.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1741	1741	1741	1741	1741	
5°	1710	1708	1708	1706	1706	162
15°	1600	1600	1584	1568	1562	450
25°	1386	1378	1356	1308	1272	636
35°	1125	1117	1062	982	958	703
45°	863	845	773	708	680	665
55°	600	582	527	465	441	538
65°	356	336	304	310	258	351
75°	143	133	125	119	131	153
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°	1740.6	1740.6	1740.6	1740.6	1740.6
2.5°	1728.5	1728.5	1728.5	1726.5	1726.5
5°	1710.4	1708.4	1708.4	1706.4	1706.4
7.5°	1696.3	1694.3	1692.3	1690.3	1686.2
10°	1676.2	1676.2	1674.2	1664.1	1662.1
12.5°	1644.0	1642.0	1633.9	1619.8	1615.8
15°	1599.7	1599.7	1583.6	1567.5	1561.5
17.5°	1551.4	1549.4	1529.3	1513.2	1505.1
20°	1499.1	1495.1	1475.0	1448.8	1434.7
22.5°	1440.8	1440.8	1416.6	1382.4	1368.3
25°	1386.4	1378.4	1356.2	1307.9	1271.7
27.5°	1324.0	1312.0	1287.8	1219.4	1177.2
30°	1255.6	1249.6	1215.4	1126.8	1094.7
32.5°	1191.2	1181.2	1145.0	1052.4	1026.2
35°	1124.8	1116.8	1062.5	982.0	957.8
37.5°	1058.4	1048.4	980.0	915.6	885.4
40°	992.0	980.0	905.5	847.1	815.0
42.5°	929.6	913.5	841.1	778.7	742.5
45°	863.2	845.1	772.7	708.3	680.1
47.5°	796.8	780.7	714.3	647.9	615.7
50°	726.4	712.3	652.0	585.6	551.3
52.5°	668.1	645.9	587.6	521.2	493.0
55°	599.6	581.5	527.2	464.8	440.7
57.5°	537.3	519.2	468.8	410.5	390.4
60°	478.9	452.8	410.5	360.2	344.1
62.5°	414.5	394.4	358.2	315.9	336.0
65°	356.2	336.0	303.8	309.9	257.6
67.5°	291.8	281.7	253.5	225.4	217.3
70°	237.4	225.4	215.3	185.1	177.1
72.5°	189.1	177.1	163.0	146.9	140.9
75°	142.9	132.8	124.8	118.7	130.8
77.5°	98.6	94.6	88.5	82.5	80.5
80°	64.4	62.4	60.4	58.4	56.3
82.5°	38.2	38.2	38.2	38.2	38.2
85°	20.1	22.1	24.1	26.2	28.2
87.5°	12.1	12.1	14.1	16.1	18.1
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)