

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: P545905

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-93-86-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: P545905
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-93-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

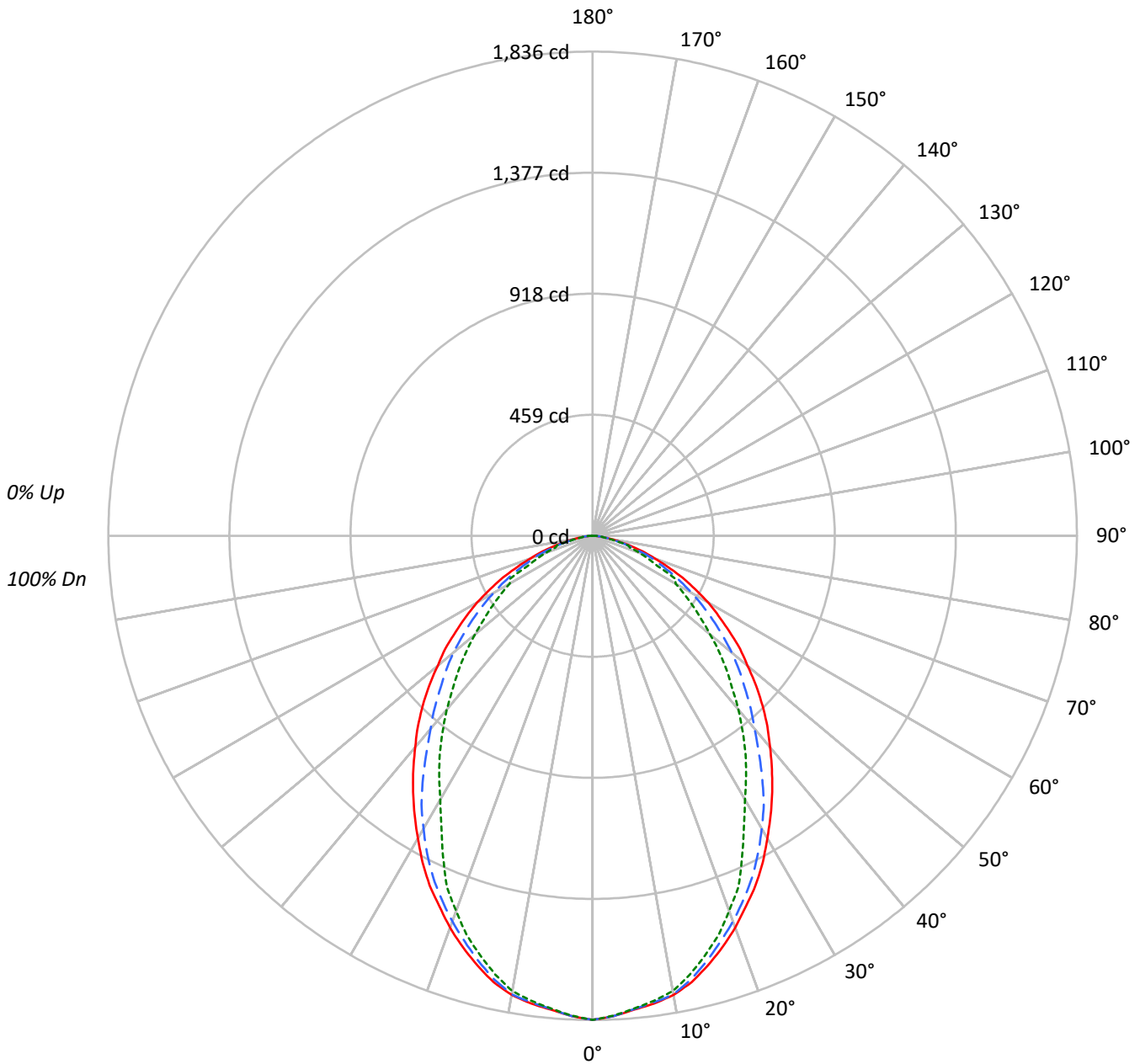
Lumens per Lamp: N/A
Luminaire Lumens: 3604.0 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4940	4940	4940
5°	4873	4867	4861
10°	4831	4825	4790
15°	4701	4653	4588
20°	4528	4455	4333
25°	4342	4247	3983
30°	4115	3983	3588
35°	3897	3681	3319
40°	3675	3355	3020
45°	3465	3102	2730
50°	3208	2879	2434
55°	2967	2609	2181
60°	2718	2330	1953
65°	2392	2041	1730
70°	1970	1787	1470
75°	1567	1368	1435
80°	1052	987	921
85°	655	787	917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.9	4.7
10°-20°	469.0	13.0
20°-30°	649.3	18.0
30°-40°	692.3	19.2
40°-50°	631.6	17.5
50°-60°	494.8	13.7
60°-70°	322.5	8.9
70°-80°	142.9	4.0
80°-90°	30.7	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°	1289.2	35.8
0°-40°	1981.5	55.0
0°-60°	3108.0	86.2
0°-90°	3604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3604.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1836	1836	1836	1836	1836	
5°	1804	1802	1802	1800	1800	171
15°	1687	1687	1670	1653	1647	474
25°	1462	1454	1430	1380	1341	671
35°	1186	1178	1121	1036	1010	742
45°	910	891	815	747	717	701
55°	632	613	556	490	465	567
65°	376	354	320	327	272	370
75°	151	140	132	125	138	161
85°	21	23	26	28	30	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1835.8	1835.8	1835.8	1835.8	1835.8
2.5°	1823.1	1823.1	1823.1	1821.0	1821.0
5°	1804.0	1801.9	1801.9	1799.7	1799.7
7.5°	1789.1	1787.0	1784.9	1782.8	1778.5
10°	1767.9	1767.9	1765.8	1755.2	1753.1
12.5°	1734.0	1731.8	1723.3	1708.5	1704.2
15°	1687.3	1687.3	1670.3	1653.3	1646.9
17.5°	1636.3	1634.2	1613.0	1596.0	1587.5
20°	1581.1	1576.9	1555.7	1528.1	1513.2
22.5°	1519.6	1519.6	1494.1	1458.1	1443.2
25°	1462.3	1453.8	1430.5	1379.5	1341.3
27.5°	1396.5	1383.8	1358.3	1286.1	1241.6
30°	1324.3	1318.0	1281.9	1188.5	1154.6
32.5°	1256.4	1245.8	1207.6	1110.0	1082.4
35°	1186.4	1177.9	1120.6	1035.7	1010.2
37.5°	1116.4	1105.7	1033.6	965.7	933.8
40°	1046.3	1033.6	955.1	893.5	859.6
42.5°	980.5	963.5	887.1	821.3	783.1
45°	910.5	891.4	815.0	747.1	717.4
47.5°	840.4	823.5	753.4	683.4	649.4
50°	766.2	751.3	687.6	617.6	581.5
52.5°	704.6	681.3	619.7	549.7	520.0
55°	632.5	613.4	556.1	490.3	464.8
57.5°	566.7	547.6	494.5	433.0	411.7
60°	505.1	477.5	433.0	379.9	362.9
62.5°	437.2	416.0	377.8	333.2	354.4
65°	375.7	354.4	320.5	326.8	271.7
67.5°	307.7	297.1	267.4	237.7	229.2
70°	250.4	237.7	227.1	195.3	186.8
72.5°	199.5	186.8	171.9	154.9	148.6
75°	150.7	140.1	131.6	125.2	138.0
77.5°	104.0	99.8	93.4	87.0	84.9
80°	67.9	65.8	63.7	61.5	59.4
82.5°	40.3	40.3	40.3	40.3	40.3
85°	21.2	23.3	25.5	27.6	29.7
87.5°	12.7	12.7	14.9	17.0	19.1
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)