

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: P545890

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-81-87-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: P545890
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-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

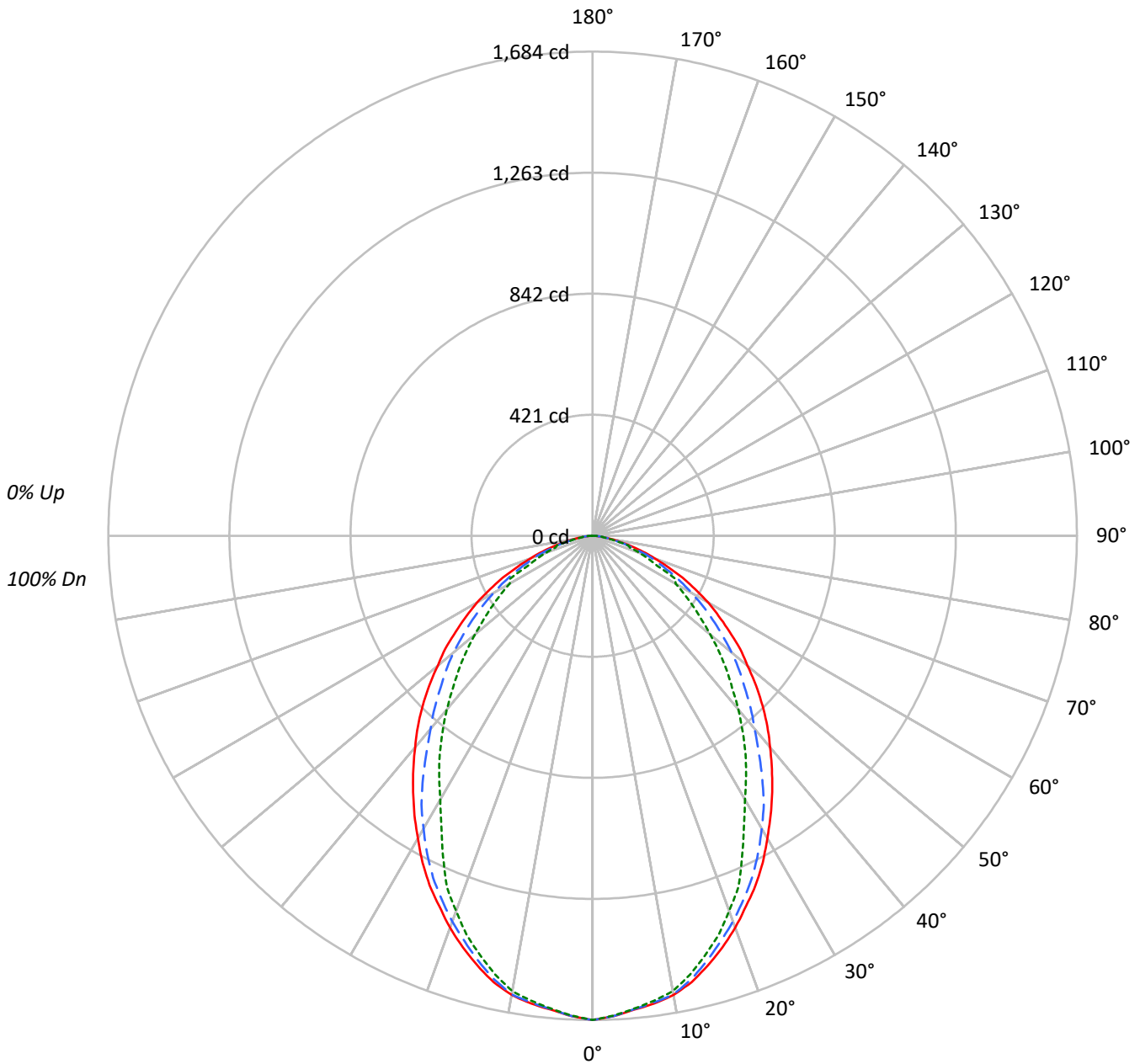
Lumens per Lamp: N/A
Luminaire Lumens: 3306.0 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4532	4532	4532
5°	4470	4465	4460
10°	4431	4426	4394
15°	4312	4269	4209
20°	4153	4086	3975
25°	3983	3896	3653
30°	3775	3654	3291
35°	3575	3377	3044
40°	3372	3078	2770
45°	3178	2845	2504
50°	2942	2641	2233
55°	2722	2393	2000
60°	2494	2138	1792
65°	2194	1872	1587
70°	1807	1639	1348
75°	1437	1255	1315
80°	965	905	845
85°	602	722	843



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.8	4.7
10°-20°	430.2	13.0
20°-30°	595.6	18.0
30°-40°	635.1	19.2
40°-50°	579.4	17.5
50°-60°	453.9	13.7
60°-70°	295.8	8.9
70°-80°	131.1	4.0
80°-90°	28.1	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°	1182.6	35.8
0°-40°	1817.7	55.0
0°-60°	2851.0	86.2
0°-90°	3306.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3306.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1684	1684	1684	1684	1684	
5°	1655	1653	1653	1651	1651	157
15°	1548	1548	1532	1517	1511	435
25°	1341	1334	1312	1266	1230	616
35°	1088	1080	1028	950	927	680
45°	835	818	748	685	658	643
55°	580	563	510	450	426	520
65°	345	325	294	300	249	340
75°	138	128	121	115	126	148
85°	20	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1684.0	1684.0	1684.0	1684.0	1684.0
2.5°	1672.4	1672.4	1672.4	1670.4	1670.4
5°	1654.8	1652.9	1652.9	1650.9	1650.9
7.5°	1641.2	1639.3	1637.3	1635.4	1631.5
10°	1621.7	1621.7	1619.8	1610.1	1608.1
12.5°	1590.6	1588.6	1580.8	1567.2	1563.3
15°	1547.8	1547.8	1532.2	1516.6	1510.8
17.5°	1501.0	1499.1	1479.6	1464.0	1456.2
20°	1450.4	1446.5	1427.0	1401.7	1388.1
22.5°	1394.0	1394.0	1370.6	1337.5	1323.9
25°	1341.4	1333.6	1312.2	1265.5	1230.4
27.5°	1281.0	1269.4	1246.0	1179.8	1138.9
30°	1214.8	1209.0	1175.9	1090.2	1059.1
32.5°	1152.5	1142.8	1107.8	1018.2	992.9
35°	1088.3	1080.5	1027.9	950.1	926.7
37.5°	1024.0	1014.3	948.1	885.8	856.6
40°	959.8	948.1	876.1	819.6	788.5
42.5°	899.4	883.9	813.8	753.4	718.4
45°	835.2	817.7	747.6	685.3	658.0
47.5°	771.0	755.4	691.1	626.9	595.7
50°	702.8	689.2	630.8	566.5	533.4
52.5°	646.4	624.9	568.5	504.2	477.0
55°	580.2	562.6	510.1	449.7	426.4
57.5°	519.8	502.3	453.6	397.2	377.7
60°	463.4	438.0	397.2	348.5	332.9
62.5°	401.1	381.6	346.5	305.7	325.1
65°	344.6	325.1	294.0	299.8	249.2
67.5°	282.3	272.6	245.3	218.0	210.3
70°	229.7	218.0	208.3	179.1	171.3
72.5°	183.0	171.3	157.7	142.1	136.3
75°	138.2	128.5	120.7	114.9	126.5
77.5°	95.4	91.5	85.7	79.8	77.9
80°	62.3	60.4	58.4	56.5	54.5
82.5°	37.0	37.0	37.0	37.0	37.0
85°	19.5	21.4	23.4	25.3	27.3
87.5°	11.7	11.7	13.6	15.6	17.5
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)