

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: P545901

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-82-96-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: P545901
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-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

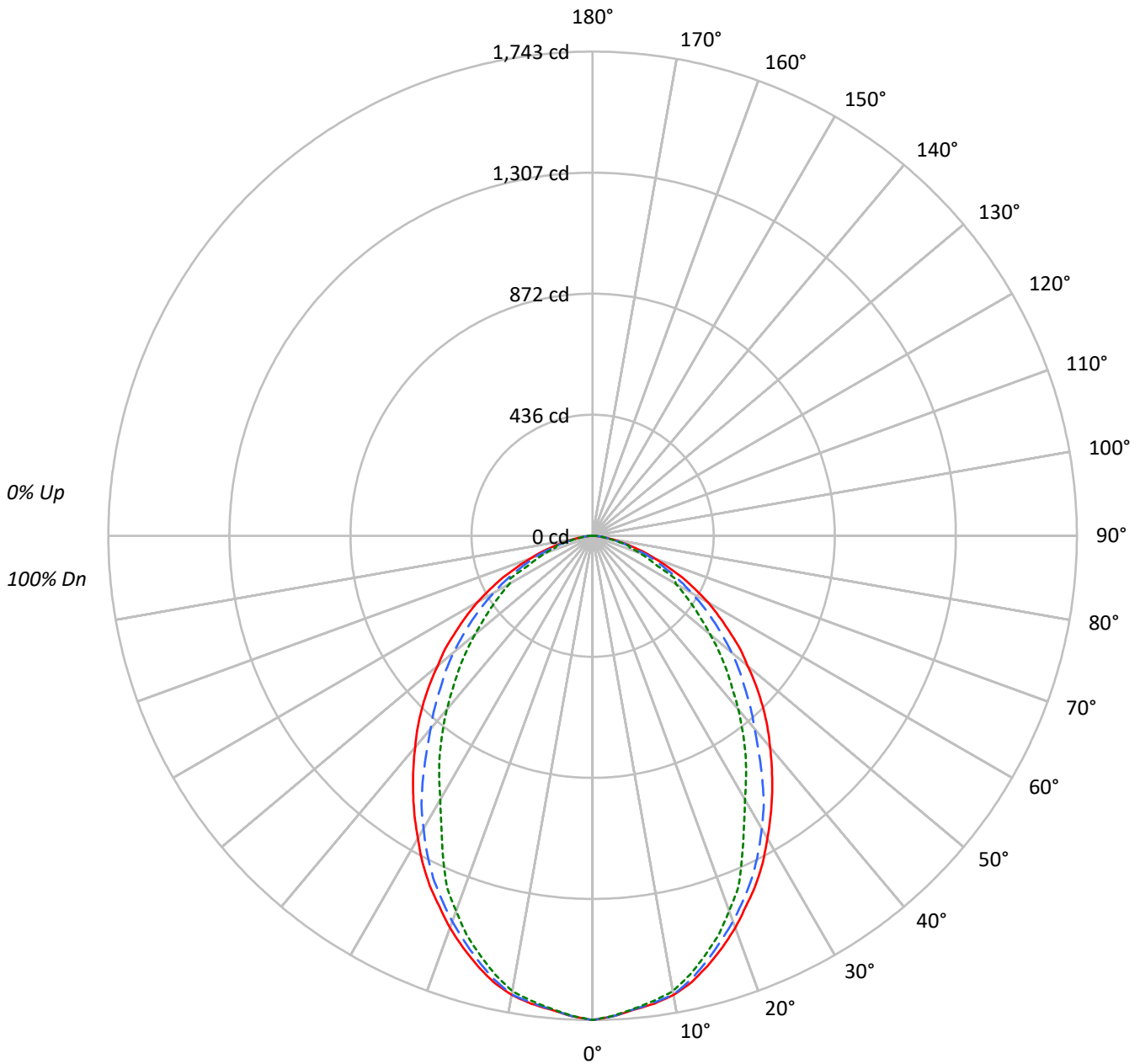
Lumens per Lamp: N/A
Luminaire Lumens: 3422.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4691	4691	4691
5°	4627	4622	4616
10°	4587	4581	4548
15°	4463	4418	4357
20°	4299	4230	4115
25°	4123	4033	3782
30°	3907	3782	3407
35°	3701	3495	3151
40°	3490	3185	2867
45°	3290	2945	2592
50°	3046	2733	2312
55°	2817	2477	2070
60°	2581	2213	1855
65°	2271	1938	1642
70°	1871	1696	1395
75°	1488	1299	1362
80°	1000	938	874
85°	624	747	871



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	4.7
10°-20°	445.3	13.0
20°-30°	616.5	18.0
30°-40°	657.4	19.2
40°-50°	599.7	17.5
50°-60°	469.8	13.7
60°-70°	306.2	8.9
70°-80°	135.7	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°	1224.1	35.8
0°-40°	1881.5	55.0
0°-60°	2951.0	86.2
0°-90°	3422.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3422.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1743	1743	1743	1743	1743	
5°	1713	1711	1711	1709	1709	163
15°	1602	1602	1586	1570	1564	450
25°	1388	1380	1358	1310	1274	637
35°	1126	1118	1064	983	959	704
45°	864	846	774	709	681	666
55°	600	582	528	466	441	539
65°	357	336	304	310	258	352
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°	1743.1	1743.1	1743.1	1743.1	1743.1
2.5°	1731.0	1731.0	1731.0	1729.0	1729.0
5°	1712.9	1710.9	1710.9	1708.9	1708.9
7.5°	1698.8	1696.8	1694.8	1692.7	1688.7
10°	1678.6	1678.6	1676.6	1666.5	1664.5
12.5°	1646.4	1644.4	1636.3	1622.2	1618.2
15°	1602.1	1602.1	1585.9	1569.8	1563.8
17.5°	1553.7	1551.7	1531.5	1515.4	1507.3
20°	1501.3	1497.3	1477.1	1450.9	1436.8
22.5°	1442.9	1442.9	1418.7	1384.4	1370.3
25°	1388.5	1380.4	1358.2	1309.9	1273.6
27.5°	1326.0	1313.9	1289.7	1221.2	1178.9
30°	1257.5	1251.4	1217.2	1128.5	1096.3
32.5°	1193.0	1182.9	1146.6	1053.9	1027.7
35°	1126.5	1118.4	1064.0	983.4	959.2
37.5°	1060.0	1049.9	981.4	916.9	886.7
40°	993.5	981.4	906.8	848.4	816.1
42.5°	931.0	914.9	842.3	779.9	743.6
45°	864.5	846.4	773.8	709.3	681.1
47.5°	798.0	781.9	715.4	648.9	616.6
50°	727.5	713.4	652.9	586.4	552.2
52.5°	669.0	646.9	588.4	521.9	493.7
55°	600.5	582.4	528.0	465.5	441.3
57.5°	538.1	519.9	469.5	411.1	390.9
60°	479.6	453.4	411.1	360.7	344.6
62.5°	415.1	395.0	358.7	316.4	336.5
65°	356.7	336.5	304.3	310.3	257.9
67.5°	292.2	282.1	253.9	225.7	217.6
70°	237.8	225.7	215.6	185.4	177.3
72.5°	189.4	177.3	163.2	147.1	141.1
75°	143.1	133.0	124.9	118.9	131.0
77.5°	98.7	94.7	88.7	82.6	80.6
80°	64.5	62.5	60.5	58.4	56.4
82.5°	38.3	38.3	38.3	38.3	38.3
85°	20.2	22.2	24.2	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)