

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: P546251

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-82-88-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: P546251
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-LD4-2LO-40-UNV-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

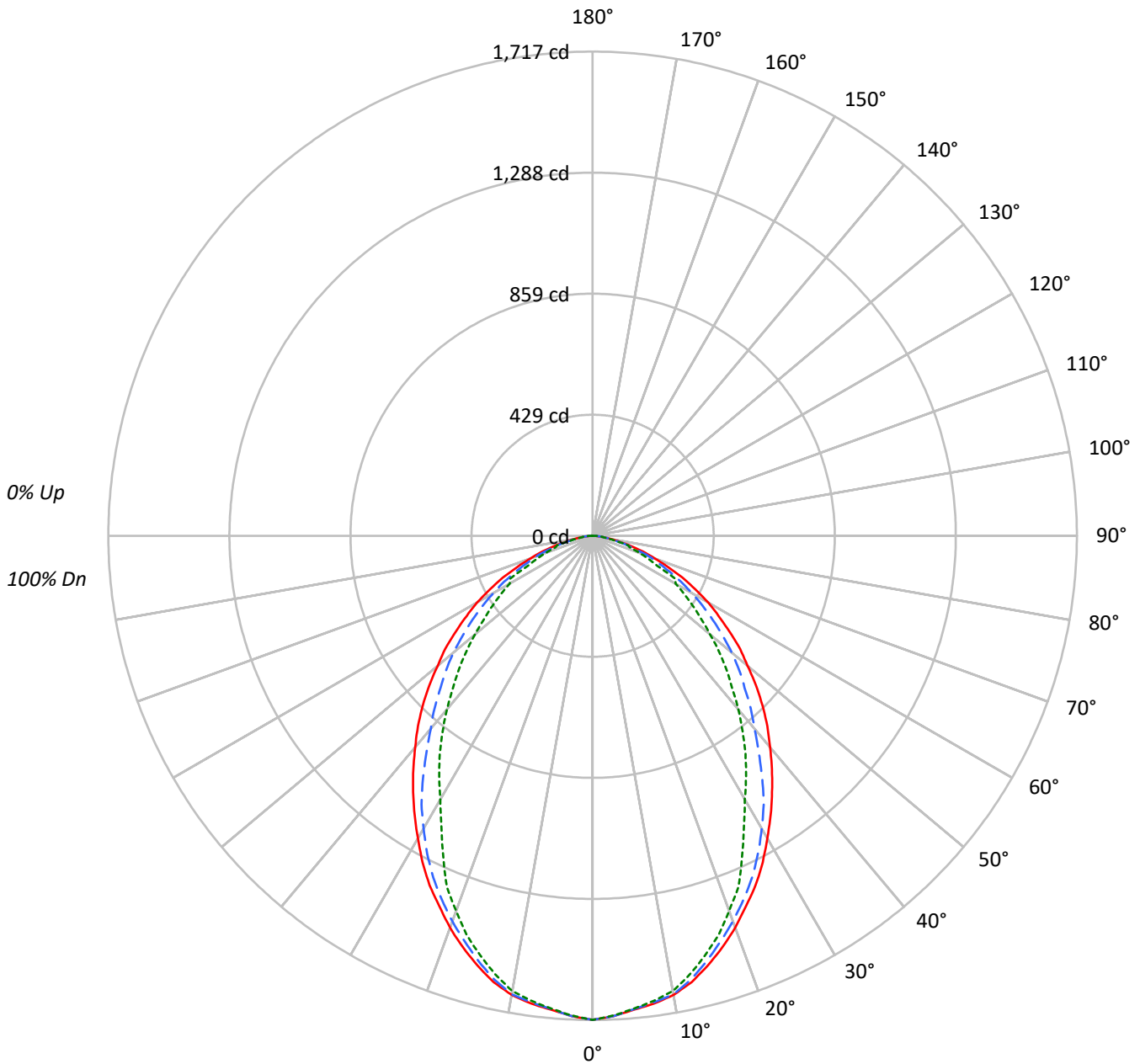
Lumens per Lamp: N/A
Luminaire Lumens: 3370.0 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (A_{in}): 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°	4619	4619	4619
5°	4557	4551	4546
10°	4517	4512	4479
15°	4395	4351	4290
20°	4234	4166	4052
25°	4060	3972	3724
30°	3848	3725	3355
35°	3644	3442	3103
40°	3437	3137	2823
45°	3240	2900	2553
50°	2999	2692	2277
55°	2775	2440	2039
60°	2542	2179	1827
65°	2237	1908	1617
70°	1843	1670	1374
75°	1465	1279	1341
80°	984	922	862
85°	611	735	858



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.8	4.7
10°-20°	438.5	13.0
20°-30°	607.1	18.0
30°-40°	647.4	19.2
40°-50°	590.6	17.5
50°-60°	462.7	13.7
60°-70°	301.6	8.9
70°-80°	133.6	4.0
80°-90°	28.7	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°	1205.5	35.8
0°-40°	1852.9	55.0
0°-60°	2906.1	86.2
0°-90°	3370.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3370.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1717	1717	1717	1717	1717	
5°	1687	1685	1685	1683	1683	160
15°	1578	1578	1562	1546	1540	444
25°	1367	1359	1338	1290	1254	628
35°	1109	1101	1048	968	945	694
45°	851	834	762	699	671	656
55°	591	574	520	458	435	530
65°	351	331	300	306	254	346
75°	141	131	123	117	129	151
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°	1716.6	1716.6	1716.6	1716.6	1716.6
2.5°	1704.7	1704.7	1704.7	1702.7	1702.7
5°	1686.9	1684.9	1684.9	1682.9	1682.9
7.5°	1673.0	1671.0	1669.0	1667.0	1663.1
10°	1653.1	1653.1	1651.1	1641.2	1639.2
12.5°	1621.4	1619.4	1611.5	1597.6	1593.6
15°	1577.7	1577.7	1561.8	1546.0	1540.0
17.5°	1530.1	1528.1	1508.3	1492.4	1484.4
20°	1478.5	1474.5	1454.7	1428.9	1415.0
22.5°	1420.9	1420.9	1397.1	1363.4	1349.5
25°	1367.4	1359.4	1337.6	1290.0	1254.2
27.5°	1305.8	1293.9	1270.1	1202.6	1161.0
30°	1238.4	1232.4	1198.7	1111.3	1079.6
32.5°	1174.9	1164.9	1129.2	1037.9	1012.1
35°	1109.4	1101.4	1047.8	968.5	944.6
37.5°	1043.9	1033.9	966.5	903.0	873.2
40°	978.4	966.5	893.0	835.5	803.7
42.5°	916.9	901.0	829.5	768.0	732.3
45°	851.4	833.5	762.1	698.6	670.8
47.5°	785.9	770.0	704.5	639.0	607.3
50°	716.4	702.5	643.0	577.5	543.8
52.5°	658.9	637.0	579.5	514.0	486.2
55°	591.4	573.5	520.0	458.4	434.6
57.5°	529.9	512.0	462.4	404.8	385.0
60°	472.3	446.5	404.8	355.2	339.4
62.5°	408.8	389.0	353.2	311.6	331.4
65°	351.3	331.4	299.7	305.6	254.0
67.5°	287.8	277.8	250.1	222.3	214.3
70°	234.2	222.3	212.3	182.6	174.6
72.5°	186.5	174.6	160.7	144.9	138.9
75°	140.9	131.0	123.0	117.1	129.0
77.5°	97.2	93.3	87.3	81.4	79.4
80°	63.5	61.5	59.5	57.6	55.6
82.5°	37.7	37.7	37.7	37.7	37.7
85°	19.8	21.8	23.8	25.8	27.8
87.5°	11.9	11.9	13.9	15.9	17.9
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)