

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: P545826

Luminaire Tested: **FMR-12-4-LD4-1HI-35-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: P545826
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

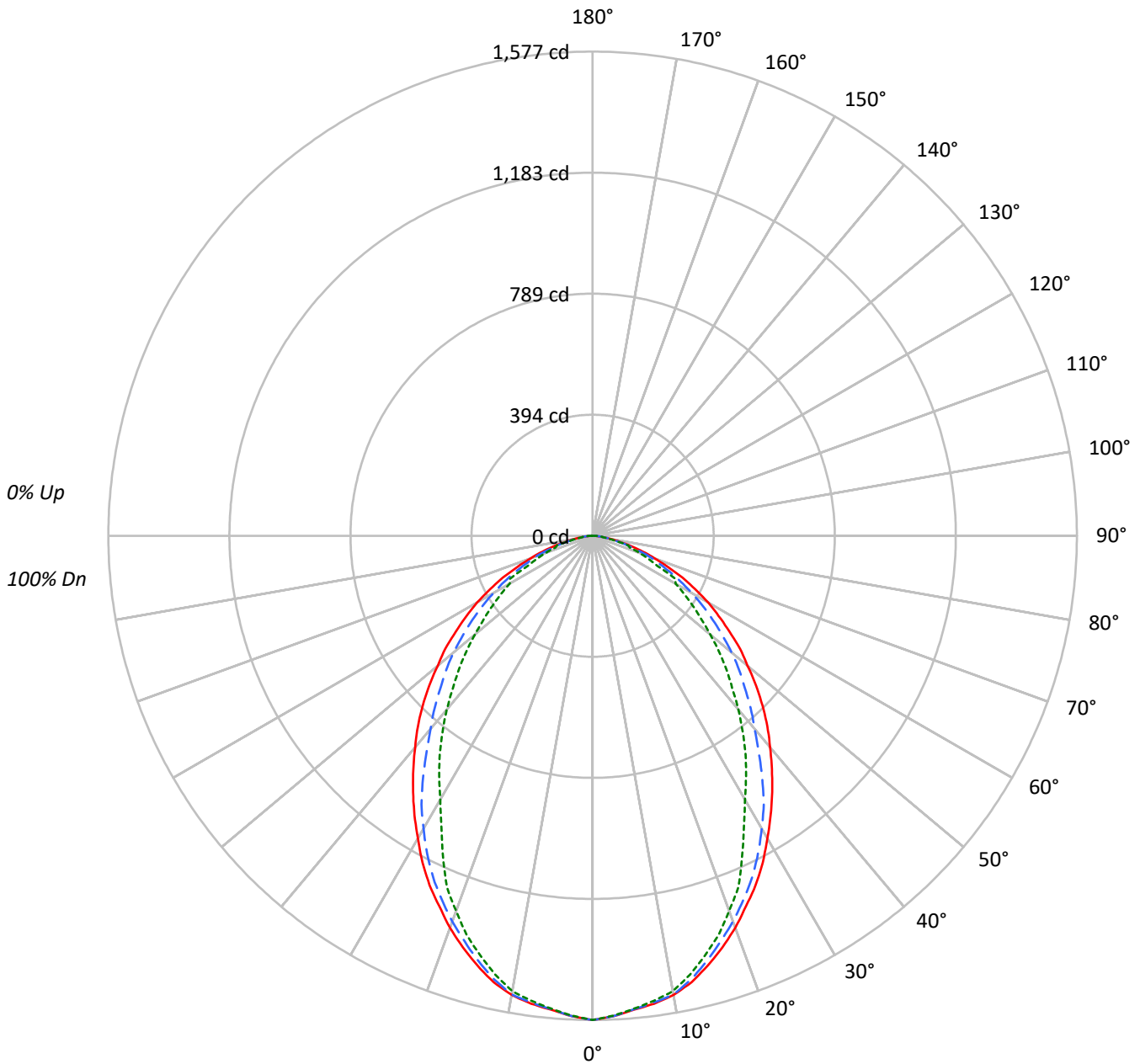
Lumens per Lamp: N/A
Luminaire Lumens: 3096.0 lumens
Efficiency: N/A
Efficacy: 71.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4244	4244	4244
5°	4186	4181	4176
10°	4150	4145	4115
15°	4038	3997	3942
20°	3890	3827	3722
25°	3730	3649	3421
30°	3535	3422	3082
35°	3348	3162	2851
40°	3157	2882	2594
45°	2976	2664	2345
50°	2756	2473	2092
55°	2549	2241	1873
60°	2335	2002	1678
65°	2055	1753	1486
70°	1692	1535	1262
75°	1345	1175	1232
80°	903	848	790
85°	562	676	787



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.8	4.7
10°-20°	402.9	13.0
20°-30°	557.8	18.0
30°-40°	594.7	19.2
40°-50°	542.6	17.5
50°-60°	425.1	13.7
60°-70°	277.0	8.9
70°-80°	122.7	4.0
80°-90°	26.3	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°	1107.5	35.8
0°-40°	1702.2	55.0
0°-60°	2669.9	86.2
0°-90°	3096.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1577	1577	1577	1577	1577	
5°	1550	1548	1548	1546	1546	147
15°	1449	1449	1435	1420	1415	407
25°	1256	1249	1229	1185	1152	577
35°	1019	1012	963	890	868	637
45°	782	766	700	642	616	602
55°	543	527	478	421	399	487
65°	323	304	275	281	233	318
75°	129	120	113	108	118	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1577.1	1577.1	1577.1	1577.1	1577.1
2.5°	1566.1	1566.1	1566.1	1564.3	1564.3
5°	1549.7	1547.9	1547.9	1546.1	1546.1
7.5°	1537.0	1535.1	1533.3	1531.5	1527.8
10°	1518.7	1518.7	1516.9	1507.8	1506.0
12.5°	1489.5	1487.7	1480.4	1467.7	1464.0
15°	1449.4	1449.4	1434.9	1420.3	1414.8
17.5°	1405.7	1403.9	1385.6	1371.0	1363.7
20°	1358.3	1354.6	1336.4	1312.7	1299.9
22.5°	1305.4	1305.4	1283.5	1252.5	1239.8
25°	1256.2	1248.9	1228.8	1185.1	1152.3
27.5°	1199.7	1188.7	1166.8	1104.9	1066.6
30°	1137.7	1132.2	1101.2	1021.0	991.8
32.5°	1079.3	1070.2	1037.4	953.5	929.8
35°	1019.2	1011.9	962.6	889.7	867.8
37.5°	959.0	949.9	887.9	829.6	802.2
40°	898.8	887.9	820.4	767.6	738.4
42.5°	842.3	827.7	762.1	705.6	672.8
45°	782.1	765.7	700.1	641.8	616.2
47.5°	722.0	707.4	647.2	587.1	557.9
50°	658.2	645.4	590.7	530.5	499.6
52.5°	605.3	585.2	532.4	472.2	446.7
55°	543.3	526.9	477.7	421.2	399.3
57.5°	486.8	470.4	424.8	371.9	353.7
60°	433.9	410.2	371.9	326.4	311.8
62.5°	375.6	357.3	324.5	286.2	304.5
65°	322.7	304.5	275.3	280.8	233.4
67.5°	264.4	255.2	229.7	204.2	196.9
70°	215.1	204.2	195.1	167.7	160.4
72.5°	171.4	160.4	147.7	133.1	127.6
75°	129.4	120.3	113.0	107.6	118.5
77.5°	89.3	85.7	80.2	74.8	72.9
80°	58.3	56.5	54.7	52.9	51.0
82.5°	34.6	34.6	34.6	34.6	34.6
85°	18.2	20.1	21.9	23.7	25.5
87.5°	10.9	10.9	12.8	14.6	16.4
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)