

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: P546200

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-80-85-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: P546200
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-35-UNV-80-85-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

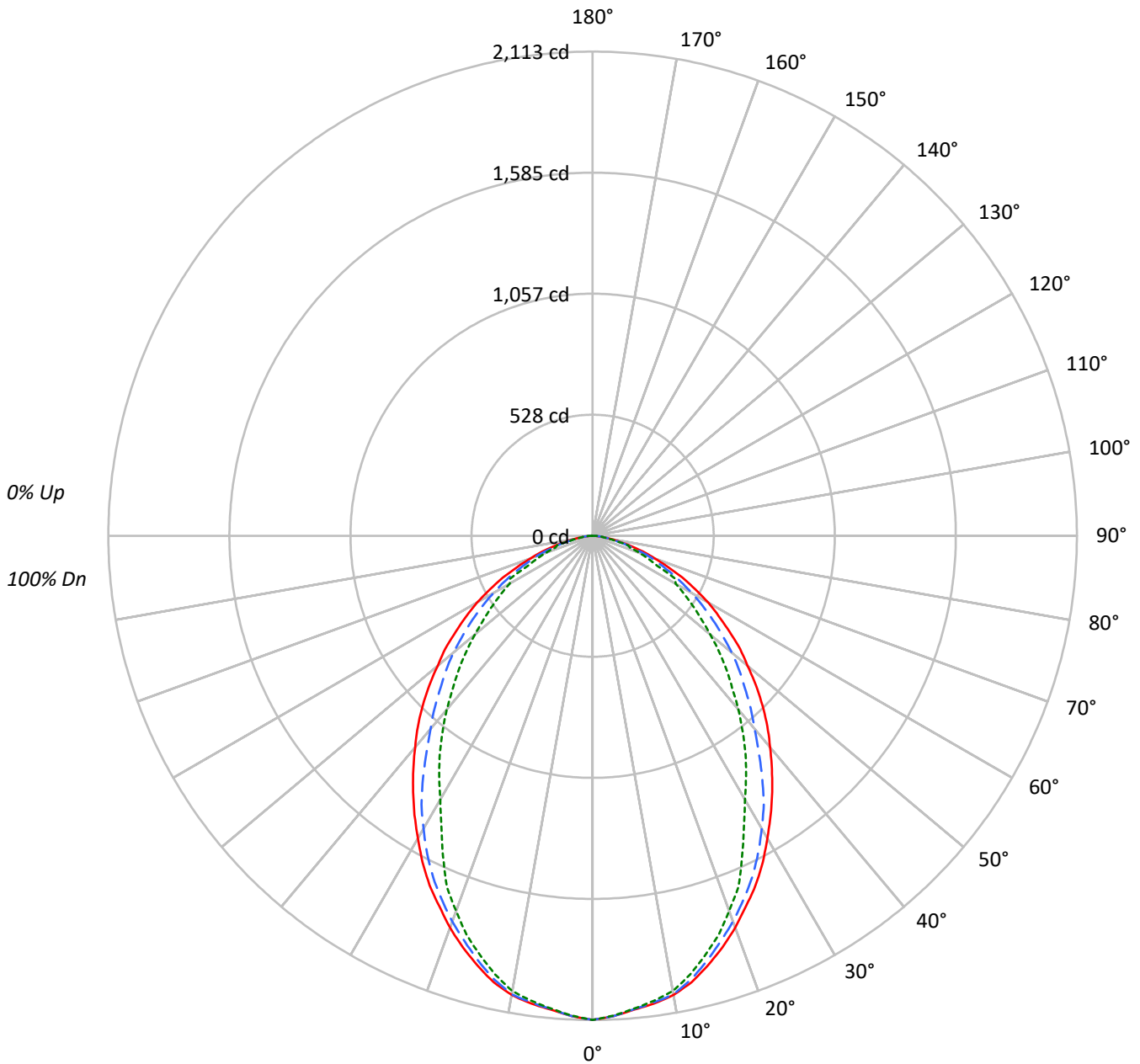
Lumens per Lamp: N/A
Luminaire Lumens: 4148.0 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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°	5686	5686	5686
5°	5609	5602	5595
10°	5560	5553	5513
15°	5410	5356	5281
20°	5211	5127	4987
25°	4997	4888	4584
30°	4736	4584	4129
35°	4486	4237	3820
40°	4230	3861	3475
45°	3988	3570	3142
50°	3692	3313	2802
55°	3415	3003	2510
60°	3129	2682	2248
65°	2753	2348	1991
70°	2268	2057	1692
75°	1803	1574	1651
80°	1212	1136	1060
85°	753	905	1056



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.7	4.7
10°-20°	539.8	13.0
20°-30°	747.3	18.0
30°-40°	796.8	19.2
40°-50°	726.9	17.5
50°-60°	569.5	13.7
60°-70°	371.2	8.9
70°-80°	164.4	4.0
80°-90°	35.3	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°	1483.8	35.8
0°-40°	2280.6	55.0
0°-60°	3577.1	86.2
0°-90°	4148.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4148.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2113	2113	2113	2113	2113	
5°	2076	2074	2074	2071	2071	197
15°	1942	1942	1922	1903	1896	546
25°	1683	1673	1646	1588	1544	773
35°	1366	1356	1290	1192	1163	854
45°	1048	1026	938	860	826	807
55°	728	706	640	564	535	653
65°	432	408	369	376	313	426
75°	173	161	151	144	159	186
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2112.9	2112.9	2112.9	2112.9	2112.9
2.5°	2098.3	2098.3	2098.3	2095.8	2095.8
5°	2076.3	2073.9	2073.9	2071.4	2071.4
7.5°	2059.2	2056.8	2054.3	2051.9	2047.0
10°	2034.8	2034.8	2032.3	2020.1	2017.7
12.5°	1995.7	1993.2	1983.5	1966.4	1961.5
15°	1941.9	1941.9	1922.4	1902.9	1895.5
17.5°	1883.3	1880.9	1856.5	1836.9	1827.1
20°	1819.8	1814.9	1790.5	1758.7	1741.6
22.5°	1749.0	1749.0	1719.7	1678.1	1661.0
25°	1683.0	1673.2	1646.4	1587.8	1543.8
27.5°	1607.3	1592.6	1563.3	1480.3	1429.0
30°	1524.2	1516.9	1475.4	1367.9	1328.8
32.5°	1446.1	1433.9	1389.9	1277.5	1245.8
35°	1365.5	1355.7	1289.7	1192.0	1162.7
37.5°	1284.9	1272.6	1189.6	1111.4	1074.8
40°	1204.3	1189.6	1099.2	1028.4	989.3
42.5°	1128.5	1109.0	1021.0	945.3	901.4
45°	1047.9	1025.9	938.0	859.8	825.6
47.5°	967.3	947.8	867.2	786.5	747.5
50°	881.8	864.7	791.4	710.8	669.3
52.5°	811.0	784.1	713.3	632.7	598.5
55°	727.9	705.9	640.0	564.3	535.0
57.5°	652.2	630.2	569.1	498.3	473.9
60°	581.4	549.6	498.3	437.2	417.7
62.5°	503.2	478.8	434.8	383.5	407.9
65°	432.4	407.9	368.8	376.2	312.7
67.5°	354.2	342.0	307.8	273.6	263.8
70°	288.2	273.6	261.4	224.7	215.0
72.5°	229.6	215.0	197.9	178.3	171.0
75°	173.4	161.2	151.4	144.1	158.8
77.5°	119.7	114.8	107.5	100.2	97.7
80°	78.2	75.7	73.3	70.8	68.4
82.5°	46.4	46.4	46.4	46.4	46.4
85°	24.4	26.9	29.3	31.8	34.2
87.5°	14.7	14.7	17.1	19.5	22.0
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)