

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: P546233

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-80-86-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: P546233
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-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

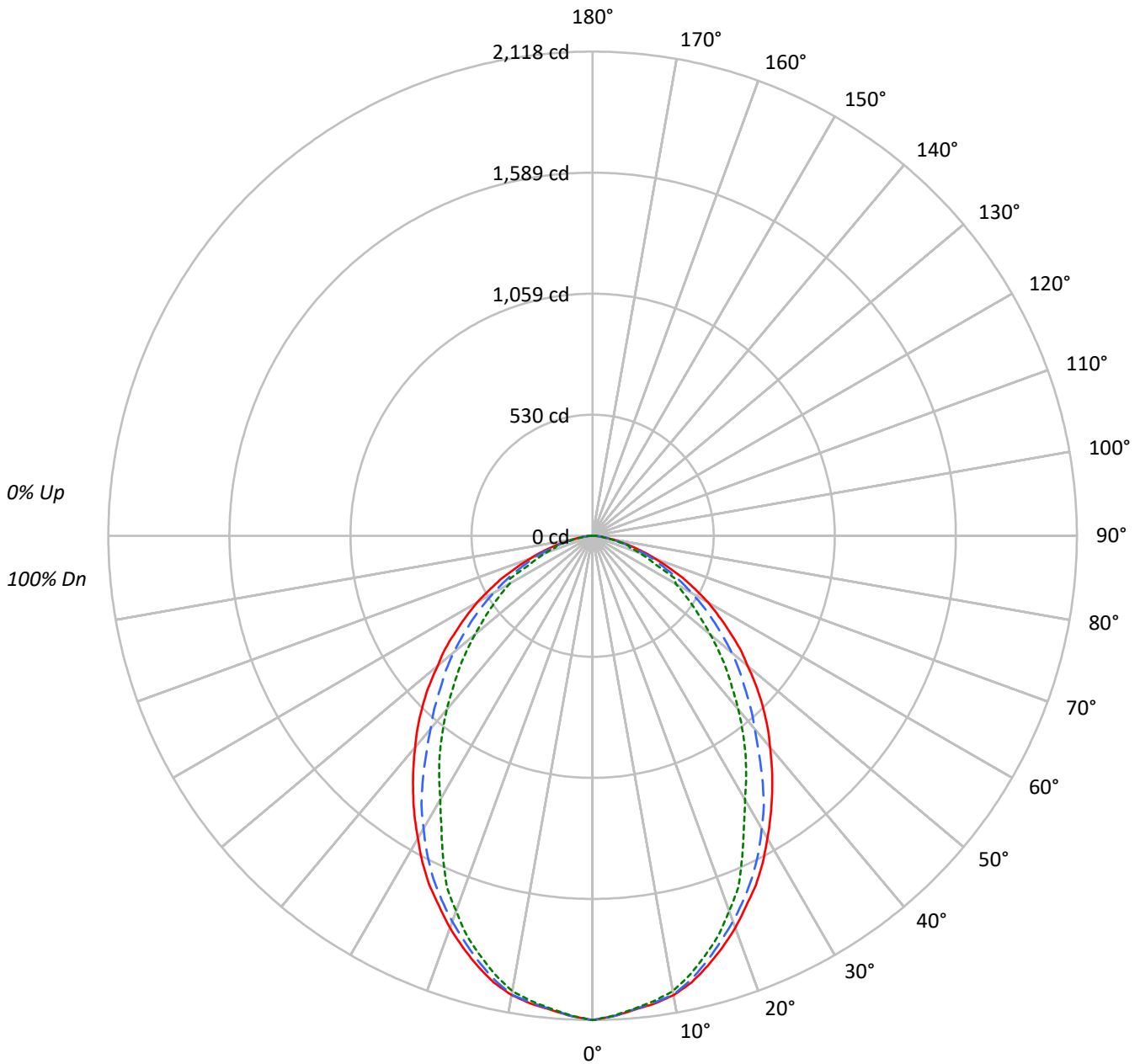
Lumens per Lamp: N/A
Luminaire Lumens: 4159.0 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5701	5701	5701
5°	5623	5617	5610
10°	5575	5568	5528
15°	5424	5370	5295
20°	5225	5141	5001
25°	5010	4901	4596
30°	4749	4597	4140
35°	4498	4248	3830
40°	4241	3871	3484
45°	3999	3579	3150
50°	3702	3322	2810
55°	3424	3011	2517
60°	3137	2689	2254
65°	2760	2355	1996
70°	2274	2062	1696
75°	1808	1578	1655
80°	1215	1139	1063
85°	756	908	1059



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.2	4.7
10°-20°	541.2	13.0
20°-30°	749.3	18.0
30°-40°	798.9	19.2
40°-50°	728.9	17.5
50°-60°	571.0	13.7
60°-70°	372.2	8.9
70°-80°	164.9	4.0
80°-90°	35.4	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°	1487.7	35.8
0°-40°	2286.7	55.0
0°-60°	3586.6	86.2
0°-90°	4159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4159.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2118	2118	2118	2118	2118	
5°	2082	2079	2079	2077	2077	198
15°	1947	1947	1928	1908	1901	547
25°	1688	1678	1651	1592	1548	775
35°	1369	1359	1293	1195	1166	856
45°	1051	1029	940	862	828	809
55°	730	708	642	566	536	655
65°	434	409	370	377	314	427
75°	174	162	152	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°	2118.5	2118.5	2118.5	2118.5	2118.5
2.5°	2103.8	2103.8	2103.8	2101.4	2101.4
5°	2081.8	2079.4	2079.4	2076.9	2076.9
7.5°	2064.7	2062.2	2059.8	2057.3	2052.4
10°	2040.2	2040.2	2037.7	2025.5	2023.0
12.5°	2001.0	1998.5	1988.7	1971.6	1966.7
15°	1947.1	1947.1	1927.5	1907.9	1900.6
17.5°	1888.3	1885.9	1861.4	1841.8	1832.0
20°	1824.6	1819.7	1795.2	1763.4	1746.3
22.5°	1753.6	1753.6	1724.2	1682.6	1665.4
25°	1687.5	1677.7	1650.7	1592.0	1547.9
27.5°	1611.6	1596.9	1567.5	1484.2	1432.8
30°	1528.3	1520.9	1479.3	1371.5	1332.4
32.5°	1449.9	1437.7	1393.6	1280.9	1249.1
35°	1369.1	1359.3	1293.2	1195.2	1165.8
37.5°	1288.3	1276.0	1192.7	1114.4	1077.6
40°	1207.4	1192.7	1102.1	1031.1	991.9
42.5°	1131.5	1111.9	1023.8	947.8	903.7
45°	1050.7	1028.7	940.5	862.1	827.8
47.5°	969.9	950.3	869.5	788.6	749.4
50°	884.2	867.0	793.5	712.7	671.1
52.5°	813.1	786.2	715.2	634.3	600.0
55°	729.9	707.8	641.7	565.8	536.4
57.5°	653.9	631.9	570.7	499.6	475.1
60°	582.9	551.1	499.6	438.4	418.8
62.5°	504.5	480.0	436.0	384.5	409.0
65°	433.5	409.0	369.8	377.2	313.5
67.5°	355.1	342.9	308.6	274.3	264.5
70°	289.0	274.3	262.1	225.3	215.5
72.5°	230.2	215.5	198.4	178.8	171.4
75°	173.9	161.6	151.8	144.5	159.2
77.5°	120.0	115.1	107.8	100.4	98.0
80°	78.4	75.9	73.5	71.0	68.6
82.5°	46.5	46.5	46.5	46.5	46.5
85°	24.5	26.9	29.4	31.8	34.3
87.5°	14.7	14.7	17.1	19.6	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)