

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: P546236

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-80-94-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: P546236
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-80-94-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

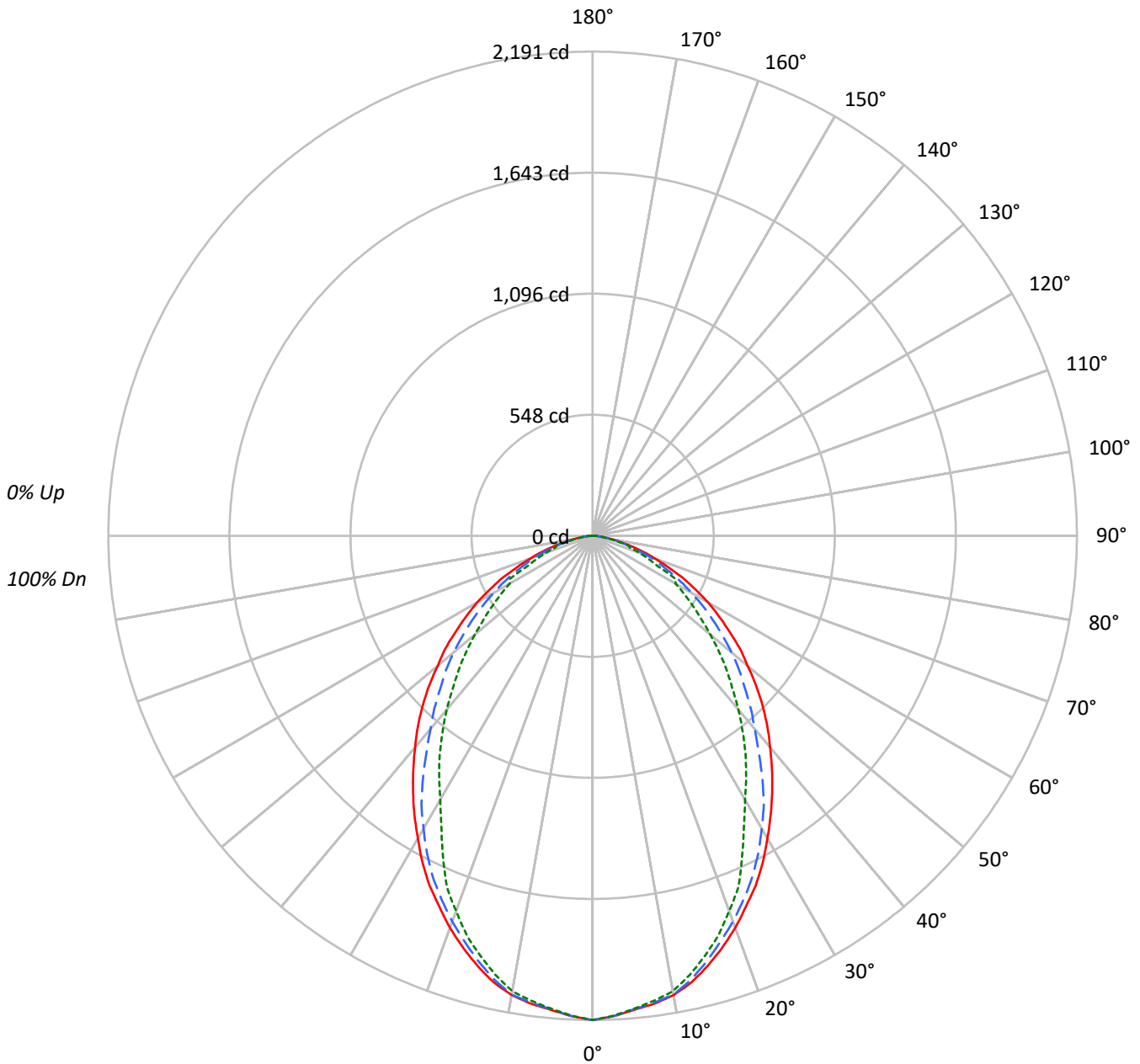
Lumens per Lamp: N/A
Luminaire Lumens: 4302.0 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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°	5897	5897	5897
5°	5817	5810	5803
10°	5766	5760	5718
15°	5611	5555	5477
20°	5405	5318	5173
25°	5183	5070	4754
30°	4912	4755	4282
35°	4652	4394	3961
40°	4388	4005	3604
45°	4136	3702	3259
50°	3829	3436	2906
55°	3542	3114	2603
60°	3245	2781	2331
65°	2855	2436	2065
70°	2352	2133	1754
75°	1870	1633	1712
80°	1257	1178	1099
85°	781	939	1096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.0	4.7
10°-20°	559.8	13.0
20°-30°	775.0	18.0
30°-40°	826.4	19.2
40°-50°	753.9	17.5
50°-60°	590.6	13.7
60°-70°	384.9	8.9
70°-80°	170.6	4.0
80°-90°	36.6	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°	1538.9	35.8
0°-40°	2365.3	55.0
0°-60°	3709.9	86.2
0°-90°	4302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4302.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2191	2191	2191	2191	2191	
5°	2153	2151	2151	2148	2148	204
15°	2014	2014	1994	1974	1966	566
25°	1746	1735	1708	1647	1601	801
35°	1416	1406	1338	1236	1206	885
45°	1087	1064	973	892	856	837
55°	755	732	664	585	555	677
65°	448	423	382	390	324	442
75°	180	167	157	150	165	193
85°	25	28	30	33	36	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2191.4	2191.4	2191.4	2191.4	2191.4
2.5°	2176.2	2176.2	2176.2	2173.6	2173.6
5°	2153.4	2150.8	2150.8	2148.3	2148.3
7.5°	2135.6	2133.1	2130.6	2128.0	2123.0
10°	2110.3	2110.3	2107.8	2095.1	2092.6
12.5°	2069.8	2067.2	2057.1	2039.4	2034.3
15°	2014.0	2014.0	1993.8	1973.5	1965.9
17.5°	1953.2	1950.7	1925.4	1905.1	1895.0
20°	1887.4	1882.3	1857.0	1824.0	1806.3
22.5°	1813.9	1813.9	1783.5	1740.4	1722.7
25°	1745.5	1735.4	1707.5	1646.7	1601.1
27.5°	1667.0	1651.8	1621.4	1535.2	1482.0
30°	1580.8	1573.2	1530.2	1418.7	1378.2
32.5°	1499.8	1487.1	1441.5	1325.0	1292.0
35°	1416.2	1406.0	1337.6	1236.3	1205.9
37.5°	1332.6	1319.9	1233.8	1152.7	1114.7
40°	1249.0	1233.8	1140.0	1066.6	1026.0
42.5°	1170.4	1150.2	1059.0	980.4	934.8
45°	1086.8	1064.0	972.8	891.8	856.3
47.5°	1003.2	983.0	899.4	815.8	775.2
50°	914.6	896.8	820.8	737.2	694.1
52.5°	841.1	813.2	739.7	656.1	620.7
55°	754.9	732.1	663.7	585.2	554.8
57.5°	676.4	653.6	590.3	516.8	491.5
60°	602.9	570.0	516.8	453.5	433.2
62.5°	521.9	496.5	450.9	397.7	423.1
65°	448.4	423.1	382.5	390.1	324.3
67.5°	367.3	354.7	319.2	283.7	273.6
70°	298.9	283.7	271.1	233.1	222.9
72.5°	238.1	222.9	205.2	184.9	177.3
75°	179.9	167.2	157.1	149.5	164.7
77.5°	124.1	119.1	111.5	103.9	101.3
80°	81.1	78.5	76.0	73.5	70.9
82.5°	48.1	48.1	48.1	48.1	48.1
85°	25.3	27.9	30.4	32.9	35.5
87.5°	15.2	15.2	17.7	20.3	22.8
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)