

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: P546276

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-81-94-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: P546276
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-50-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

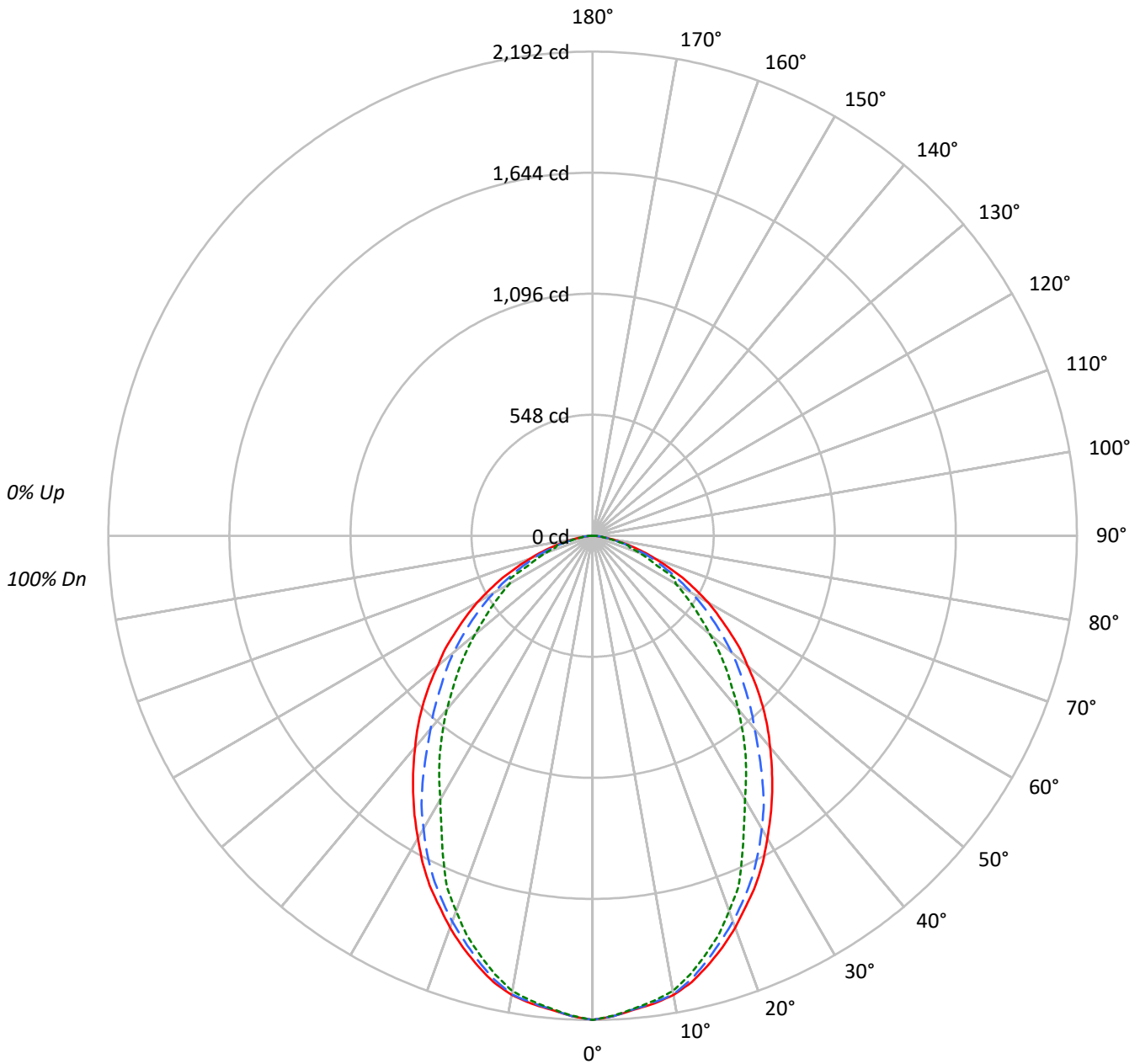
Lumens per Lamp: N/A
Luminaire Lumens: 4303.0 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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°	5898	5898	5898
5°	5818	5811	5804
10°	5768	5761	5719
15°	5612	5556	5478
20°	5406	5319	5174
25°	5184	5071	4755
30°	4913	4756	4283
35°	4653	4395	3962
40°	4389	4006	3605
45°	4137	3703	3260
50°	3830	3437	2907
55°	3543	3115	2603
60°	3246	2782	2332
65°	2856	2436	2065
70°	2353	2133	1755
75°	1870	1633	1712
80°	1257	1178	1100
85°	781	939	1096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.0	4.7
10°-20°	560.0	13.0
20°-30°	775.2	18.0
30°-40°	826.6	19.2
40°-50°	754.1	17.5
50°-60°	590.8	13.7
60°-70°	385.0	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°	1539.2	35.8
0°-40°	2365.8	55.0
0°-60°	3710.7	86.2
0°-90°	4303.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4303.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2192	2192	2192	2192	2192	
5°	2154	2151	2151	2149	2149	204
15°	2014	2014	1994	1974	1966	566
25°	1746	1736	1708	1647	1602	802
35°	1416	1406	1338	1237	1206	886
45°	1087	1064	973	892	856	837
55°	755	732	664	585	555	677
65°	448	423	383	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°	2191.9	2191.9	2191.9	2191.9	2191.9
2.5°	2176.7	2176.7	2176.7	2174.2	2174.2
5°	2153.9	2151.3	2151.3	2148.8	2148.8
7.5°	2136.1	2133.6	2131.1	2128.5	2123.5
10°	2110.8	2110.8	2108.3	2095.6	2093.1
12.5°	2070.3	2067.7	2057.6	2039.9	2034.8
15°	2014.5	2014.5	1994.2	1974.0	1966.4
17.5°	1953.7	1951.2	1925.8	1905.6	1895.4
20°	1887.8	1882.7	1857.4	1824.5	1806.7
22.5°	1814.3	1814.3	1783.9	1740.8	1723.1
25°	1745.9	1735.8	1707.9	1647.1	1601.5
27.5°	1667.4	1652.2	1621.7	1535.6	1482.4
30°	1581.2	1573.6	1530.5	1419.0	1378.5
32.5°	1500.1	1487.4	1441.8	1325.3	1292.3
35°	1416.5	1406.4	1337.9	1236.6	1206.2
37.5°	1332.9	1320.2	1234.0	1153.0	1115.0
40°	1249.3	1234.0	1140.3	1066.8	1026.3
42.5°	1170.7	1150.4	1059.2	980.6	935.0
45°	1087.1	1064.3	973.0	892.0	856.5
47.5°	1003.5	983.2	899.6	815.9	775.4
50°	914.8	897.0	821.0	737.4	694.3
52.5°	841.3	813.4	739.9	656.3	620.8
55°	755.1	732.3	663.9	585.3	554.9
57.5°	676.6	653.8	590.4	516.9	491.6
60°	603.1	570.1	516.9	453.6	433.3
62.5°	522.0	496.7	451.0	397.8	423.2
65°	448.5	423.2	382.6	390.2	324.3
67.5°	367.4	354.8	319.3	283.8	273.7
70°	299.0	283.8	271.1	233.1	223.0
72.5°	238.2	223.0	205.3	185.0	177.4
75°	179.9	167.2	157.1	149.5	164.7
77.5°	124.2	119.1	111.5	103.9	101.4
80°	81.1	78.6	76.0	73.5	71.0
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)