

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: P546260

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-93-94-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: P546260
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-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

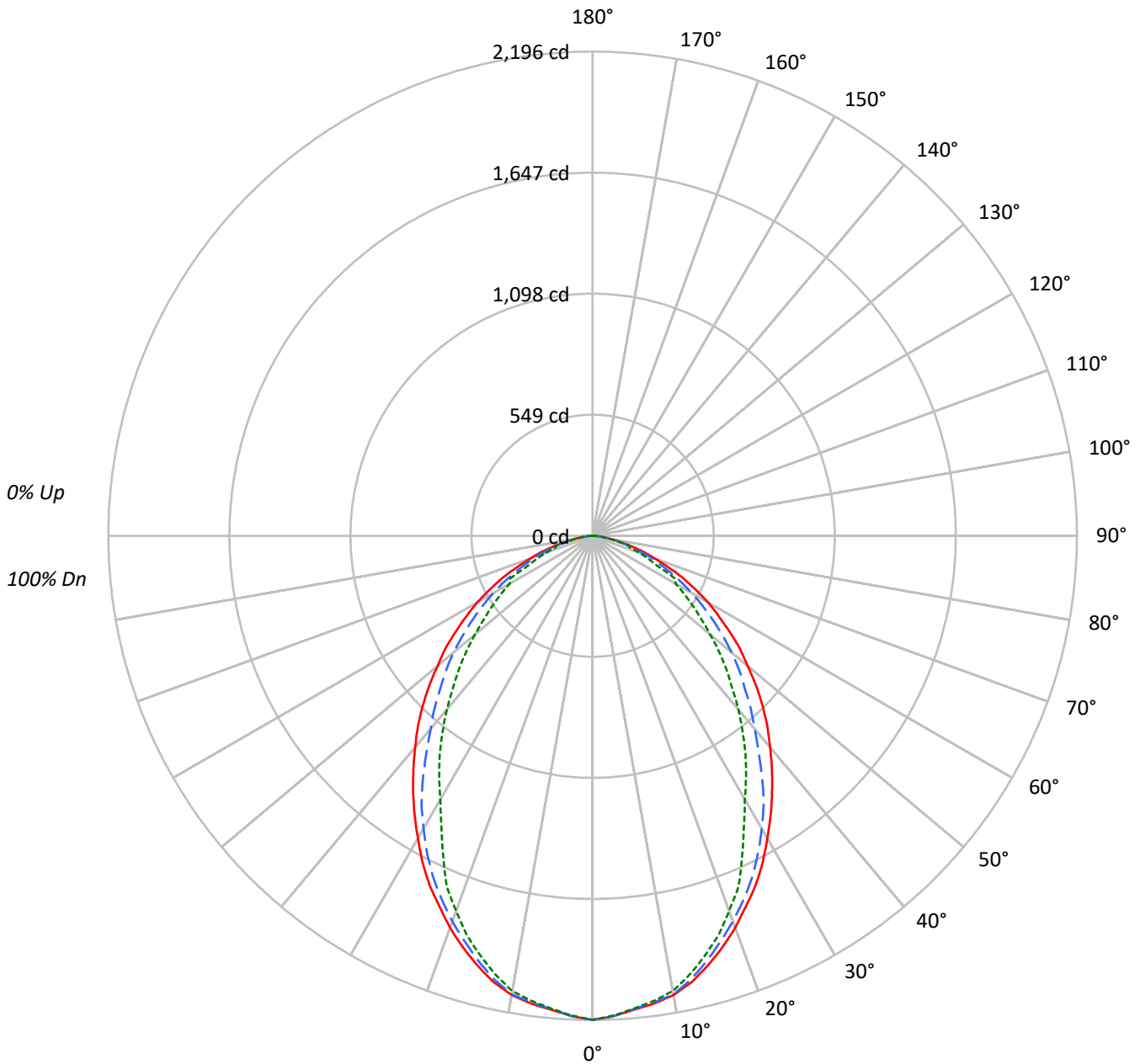
Lumens per Lamp: N/A
Luminaire Lumens: 4310.0 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5908	5908	5908
5°	5828	5821	5814
10°	5777	5770	5729
15°	5621	5565	5487
20°	5415	5328	5182
25°	5192	5079	4763
30°	4921	4763	4290
35°	4661	4402	3969
40°	4396	4012	3611
45°	4144	3709	3265
50°	3836	3442	2911
55°	3549	3120	2608
60°	3251	2787	2336
65°	2860	2441	2069
70°	2356	2137	1758
75°	1874	1637	1716
80°	1258	1179	1102
85°	784	942	1096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.4	4.7
10°-20°	560.9	13.0
20°-30°	776.5	18.0
30°-40°	828.0	19.2
40°-50°	755.3	17.5
50°-60°	591.7	13.7
60°-70°	385.7	8.9
70°-80°	170.9	4.0
80°-90°	36.7	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°	1541.7	35.8
0°-40°	2369.7	55.0
0°-60°	3716.8	86.2
0°-90°	4310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4310.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2196	2196	2196	2196	2196	
5°	2157	2155	2155	2152	2152	205
15°	2018	2018	1998	1977	1970	567
25°	1749	1739	1711	1650	1604	803
35°	1419	1409	1340	1239	1208	887
45°	1089	1066	975	893	858	839
55°	756	734	665	586	556	678
65°	449	424	383	391	325	443
75°	180	168	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°	2195.5	2195.5	2195.5	2195.5	2195.5
2.5°	2180.2	2180.2	2180.2	2177.7	2177.7
5°	2157.4	2154.8	2154.8	2152.3	2152.3
7.5°	2139.6	2137.1	2134.5	2132.0	2126.9
10°	2114.2	2114.2	2111.7	2099.0	2096.5
12.5°	2073.6	2071.1	2060.9	2043.2	2038.1
15°	2017.8	2017.8	1997.5	1977.2	1969.6
17.5°	1956.9	1954.3	1929.0	1908.7	1898.5
20°	1890.9	1885.8	1860.4	1827.4	1809.7
22.5°	1817.3	1817.3	1786.8	1743.7	1725.9
25°	1748.8	1738.6	1710.7	1649.8	1604.1
27.5°	1670.1	1654.8	1624.4	1538.1	1484.8
30°	1583.8	1576.2	1533.0	1421.3	1380.7
32.5°	1502.6	1489.9	1444.2	1327.4	1294.4
35°	1418.8	1408.6	1340.1	1238.6	1208.1
37.5°	1335.0	1322.4	1236.1	1154.8	1116.8
40°	1251.3	1236.1	1142.1	1068.5	1027.9
42.5°	1172.6	1152.3	1060.9	982.2	936.6
45°	1088.8	1066.0	974.6	893.4	857.9
47.5°	1005.1	984.8	901.0	817.3	776.7
50°	916.3	898.5	822.3	738.6	695.4
52.5°	842.6	814.7	741.1	657.4	621.8
55°	756.4	733.5	665.0	586.3	555.8
57.5°	677.7	654.8	591.4	517.8	492.4
60°	604.1	571.1	517.8	454.3	434.0
62.5°	522.8	497.5	451.8	398.5	423.9
65°	449.2	423.9	383.3	390.9	324.9
67.5°	368.0	355.3	319.8	284.3	274.1
70°	299.5	284.3	271.6	233.5	223.4
72.5°	238.6	223.4	205.6	185.3	177.7
75°	180.2	167.5	157.4	149.7	165.0
77.5°	124.4	119.3	111.7	104.1	101.5
80°	81.2	78.7	76.1	73.6	71.1
82.5°	48.2	48.2	48.2	48.2	48.2
85°	25.4	27.9	30.5	33.0	35.5
87.5°	15.2	15.2	17.8	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)