

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: P546255

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-93-84-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: P546255
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-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

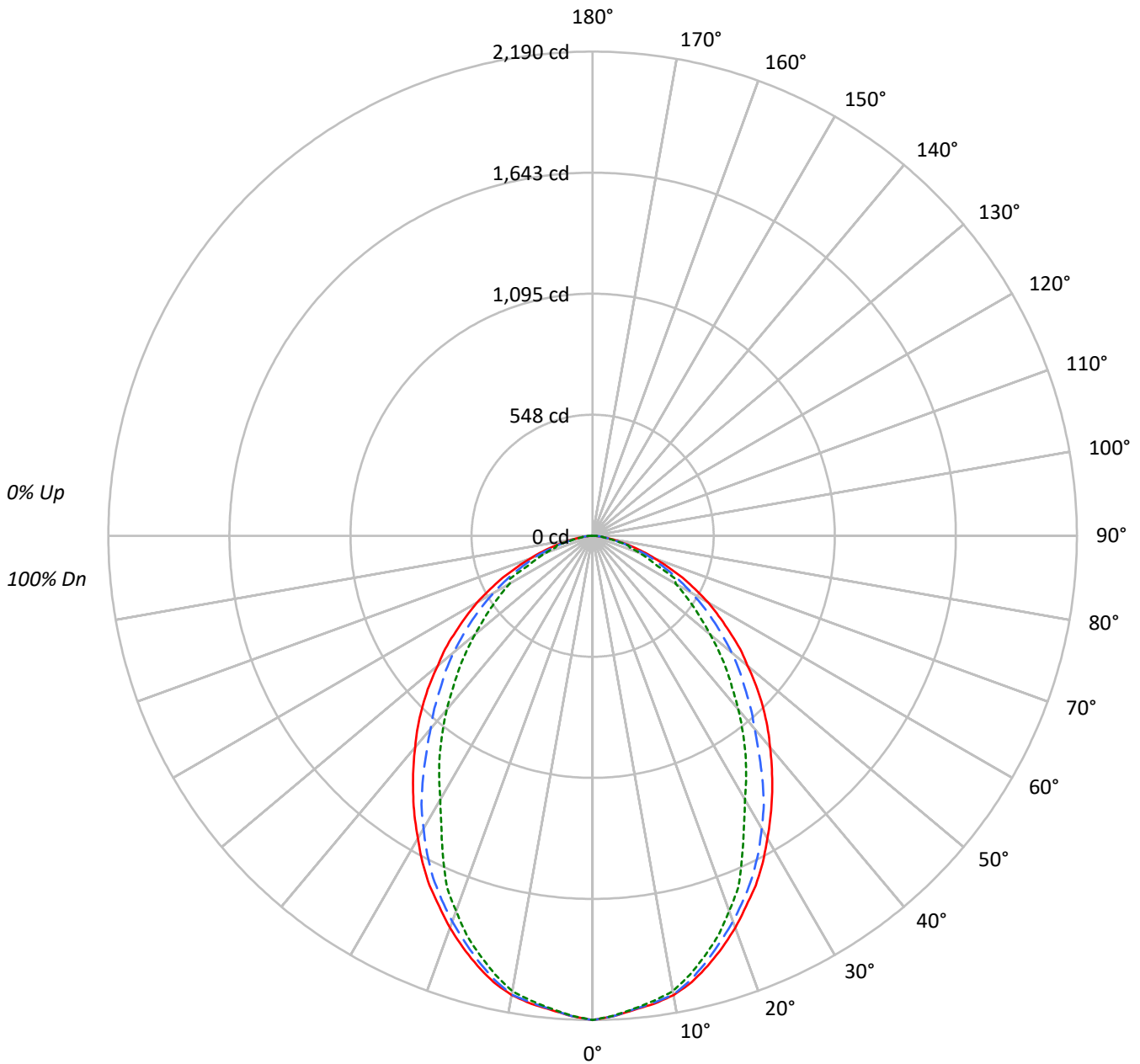
Lumens per Lamp: N/A
Luminaire Lumens: 4300.0 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5894	5894	5894
5°	5814	5807	5800
10°	5764	5757	5715
15°	5608	5552	5474
20°	5402	5315	5170
25°	5180	5067	4752
30°	4910	4753	4280
35°	4650	4392	3960
40°	4385	4003	3602
45°	4134	3701	3257
50°	3827	3435	2905
55°	3540	3112	2602
60°	3244	2780	2330
65°	2854	2435	2064
70°	2351	2131	1753
75°	1869	1632	1711
80°	1255	1178	1099
85°	781	939	1096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.9	4.7
10°-20°	559.6	13.0
20°-30°	774.7	18.0
30°-40°	826.0	19.2
40°-50°	753.6	17.5
50°-60°	590.4	13.7
60°-70°	384.8	8.9
70°-80°	170.5	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°	1538.1	35.8
0°-40°	2364.2	55.0
0°-60°	3708.1	86.2
0°-90°	4300.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4300.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2190	2190	2190	2190	2190	
5°	2152	2150	2150	2147	2147	204
15°	2013	2013	1993	1973	1965	566
25°	1745	1735	1707	1646	1600	801
35°	1416	1405	1337	1236	1205	885
45°	1086	1064	972	891	856	837
55°	755	732	663	585	555	677
65°	448	423	382	390	324	442
75°	180	167	157	149	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°	2190.4	2190.4	2190.4	2190.4	2190.4
2.5°	2175.2	2175.2	2175.2	2172.6	2172.6
5°	2152.4	2149.8	2149.8	2147.3	2147.3
7.5°	2134.7	2132.1	2129.6	2127.1	2122.0
10°	2109.3	2109.3	2106.8	2094.1	2091.6
12.5°	2068.8	2066.3	2056.2	2038.4	2033.4
15°	2013.1	2013.1	1992.9	1972.6	1965.0
17.5°	1952.3	1949.8	1924.5	1904.2	1894.1
20°	1886.5	1881.4	1856.1	1823.2	1805.5
22.5°	1813.1	1813.1	1782.7	1739.6	1721.9
25°	1744.7	1734.6	1706.7	1645.9	1600.4
27.5°	1666.2	1651.0	1620.6	1534.5	1481.3
30°	1580.1	1572.5	1529.5	1418.0	1377.5
32.5°	1499.1	1486.4	1440.8	1324.3	1291.4
35°	1415.5	1405.4	1337.0	1235.7	1205.3
37.5°	1331.9	1319.3	1233.2	1152.2	1114.2
40°	1248.4	1233.2	1139.5	1066.1	1025.5
42.5°	1169.9	1149.6	1058.5	980.0	934.4
45°	1086.3	1063.5	972.4	891.3	855.9
47.5°	1002.8	982.5	898.9	815.4	774.9
50°	914.1	896.4	820.4	736.9	693.8
52.5°	840.7	812.8	739.4	655.8	620.4
55°	754.6	731.8	663.4	584.9	554.6
57.5°	676.1	653.3	590.0	516.6	491.2
60°	602.7	569.7	516.6	453.3	433.0
62.5°	521.6	496.3	450.7	397.6	422.9
65°	448.2	422.9	382.4	390.0	324.1
67.5°	367.2	354.5	319.1	283.6	273.5
70°	298.8	283.6	270.9	233.0	222.8
72.5°	238.0	222.8	205.1	184.9	177.3
75°	179.8	167.1	157.0	149.4	164.6
77.5°	124.1	119.0	111.4	103.8	101.3
80°	81.0	78.5	76.0	73.4	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)