

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: P546212

Luminaire Tested: **FMR-12-4-LD4-2LO-35-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: P546212
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

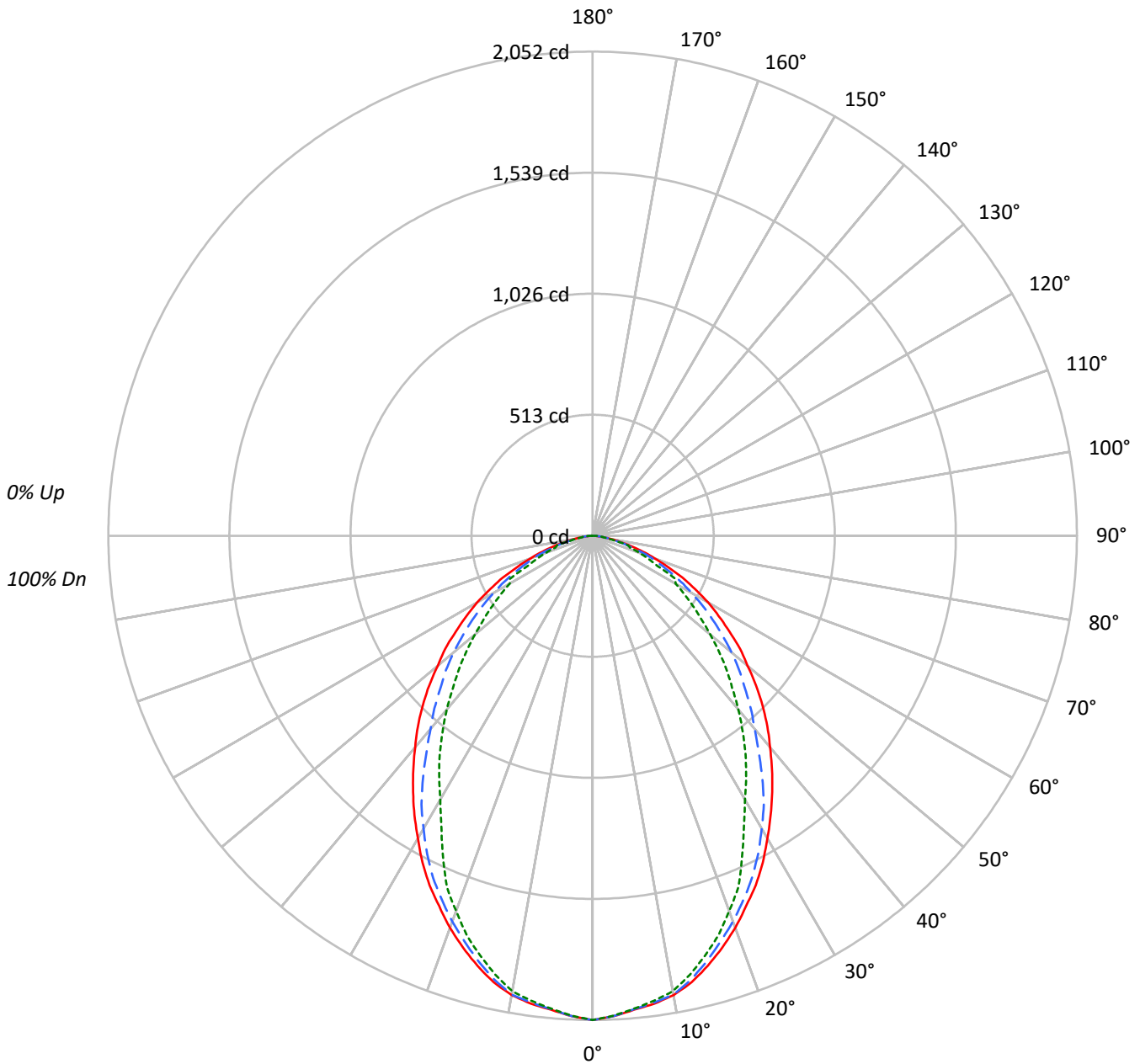
Lumens per Lamp: N/A
Luminaire Lumens: 4029.0 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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°	5523	5523	5523
5°	5448	5441	5435
10°	5400	5394	5355
15°	5255	5202	5129
20°	5062	4980	4844
25°	4854	4748	4452
30°	4600	4453	4011
35°	4357	4115	3710
40°	4109	3751	3375
45°	3874	3467	3052
50°	3586	3218	2722
55°	3317	2916	2438
60°	3039	2605	2183
65°	2674	2281	1934
70°	2203	1998	1643
75°	1752	1529	1603
80°	1176	1103	1029
85°	732	880	1025



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.0	4.7
10°-20°	524.3	13.0
20°-30°	725.9	18.0
30°-40°	774.0	19.2
40°-50°	706.1	17.5
50°-60°	553.2	13.7
60°-70°	360.5	8.9
70°-80°	159.7	4.0
80°-90°	34.3	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°	1441.2	35.8
0°-40°	2215.2	55.0
0°-60°	3474.4	86.2
0°-90°	4029.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4029.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2052	2052	2052	2052	2052	
5°	2017	2014	2014	2012	2012	191
15°	1886	1886	1867	1848	1841	530
25°	1635	1625	1599	1542	1500	751
35°	1326	1317	1253	1158	1129	829
45°	1018	996	911	835	802	784
55°	707	686	622	548	520	634
65°	420	396	358	365	304	414
75°	168	157	147	140	154	181
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2052.3	2052.3	2052.3	2052.3	2052.3
2.5°	2038.1	2038.1	2038.1	2035.7	2035.7
5°	2016.7	2014.4	2014.4	2012.0	2012.0
7.5°	2000.1	1997.7	1995.4	1993.0	1988.3
10°	1976.4	1976.4	1974.0	1962.2	1959.8
12.5°	1938.4	1936.1	1926.6	1910.0	1905.2
15°	1886.2	1886.2	1867.3	1848.3	1841.2
17.5°	1829.3	1826.9	1803.2	1784.2	1774.7
20°	1767.6	1762.9	1739.1	1708.3	1691.7
22.5°	1698.8	1698.8	1670.3	1630.0	1613.4
25°	1634.7	1625.2	1599.1	1542.2	1499.5
27.5°	1561.2	1547.0	1518.5	1437.8	1388.0
30°	1480.5	1473.4	1433.1	1328.7	1290.7
32.5°	1404.6	1392.7	1350.0	1240.9	1210.0
35°	1326.3	1316.8	1252.7	1157.8	1129.4
37.5°	1248.0	1236.1	1155.5	1079.5	1044.0
40°	1169.7	1155.5	1067.7	998.9	960.9
42.5°	1096.2	1077.2	991.8	918.2	875.5
45°	1017.9	996.5	911.1	835.2	801.9
47.5°	939.6	920.6	842.3	764.0	726.0
50°	856.5	839.9	768.7	690.4	650.1
52.5°	787.7	761.6	692.8	614.5	581.3
55°	707.0	685.7	621.6	548.1	519.6
57.5°	633.5	612.1	552.8	484.0	460.3
60°	564.7	533.8	484.0	424.7	405.7
62.5°	488.8	465.0	422.3	372.5	396.2
65°	420.0	396.2	358.3	365.4	303.7
67.5°	344.0	332.2	299.0	265.7	256.2
70°	280.0	265.7	253.9	218.3	208.8
72.5°	223.0	208.8	192.2	173.2	166.1
75°	168.5	156.6	147.1	140.0	154.2
77.5°	116.3	111.5	104.4	97.3	94.9
80°	75.9	73.6	71.2	68.8	66.4
82.5°	45.1	45.1	45.1	45.1	45.1
85°	23.7	26.1	28.5	30.8	33.2
87.5°	14.2	14.2	16.6	19.0	21.4
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)