

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: P546282

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-82-87-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: P546282
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-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

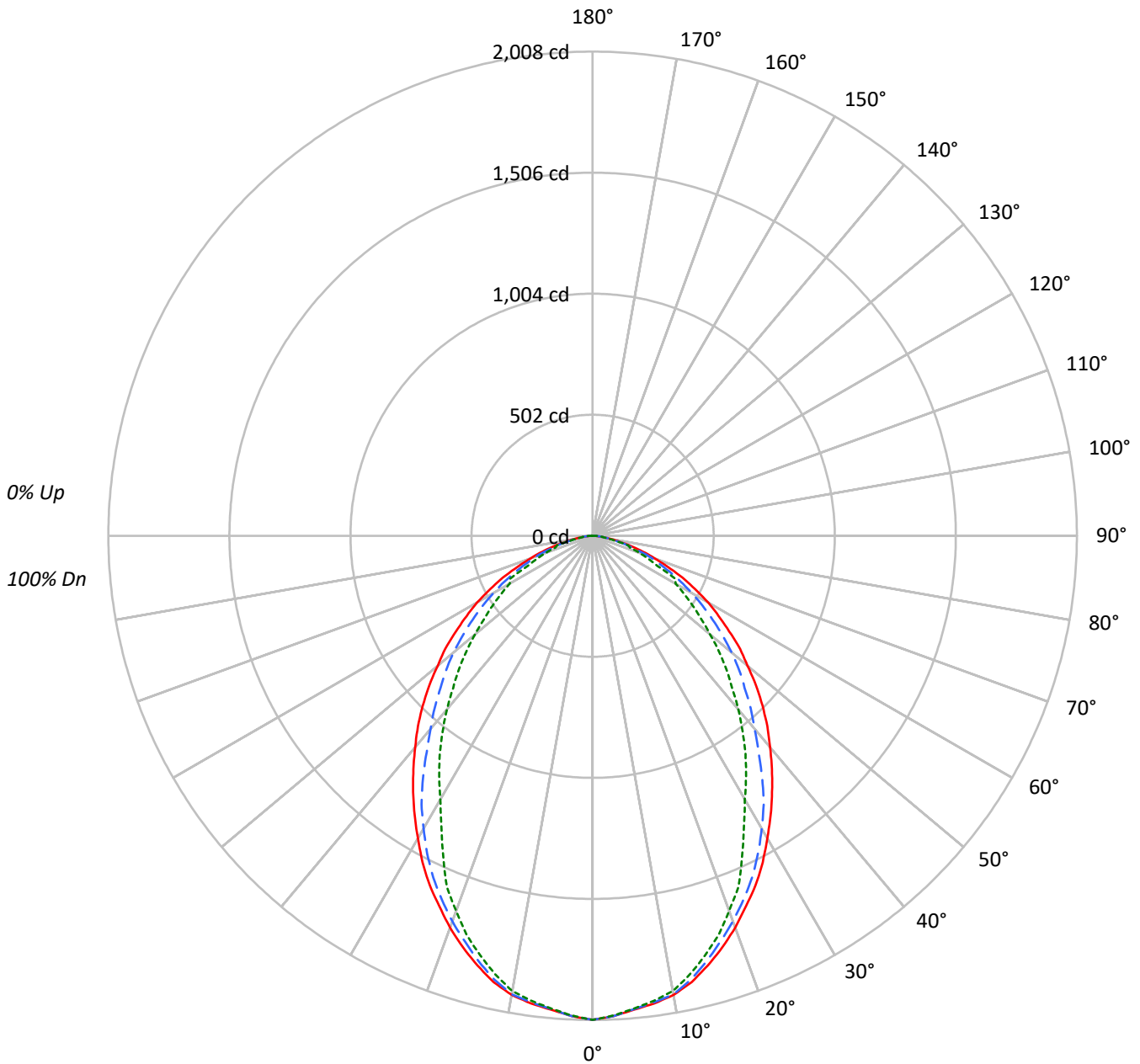
Lumens per Lamp: N/A
Luminaire Lumens: 3941.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5402	5402	5402
5°	5329	5323	5316
10°	5282	5276	5238
15°	5140	5088	5017
20°	4951	4871	4739
25°	4748	4644	4355
30°	4500	4356	3923
35°	4262	4026	3629
40°	4019	3669	3302
45°	3789	3392	2985
50°	3507	3148	2662
55°	3245	2852	2385
60°	2973	2548	2136
65°	2616	2231	1892
70°	2155	1954	1607
75°	1713	1496	1569
80°	1151	1079	1007
85°	716	858	1003



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.9	4.7
10°-20°	512.8	13.0
20°-30°	710.0	18.0
30°-40°	757.1	19.2
40°-50°	690.7	17.5
50°-60°	541.1	13.7
60°-70°	352.7	8.9
70°-80°	156.2	4.0
80°-90°	33.5	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°	1409.7	35.8
0°-40°	2166.8	55.0
0°-60°	3398.5	86.2
0°-90°	3941.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3941.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2008	2008	2008	2008	2008	
5°	1973	1970	1970	1968	1968	187
15°	1845	1845	1826	1808	1801	519
25°	1599	1590	1564	1508	1467	734
35°	1297	1288	1225	1133	1105	811
45°	996	975	891	817	784	767
55°	692	671	608	536	508	620
65°	411	388	350	357	297	405
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2007.5	2007.5	2007.5	2007.5	2007.5
2.5°	1993.6	1993.6	1993.6	1991.2	1991.2
5°	1972.7	1970.4	1970.4	1968.0	1968.0
7.5°	1956.4	1954.1	1951.8	1949.5	1944.8
10°	1933.2	1933.2	1930.9	1919.3	1917.0
12.5°	1896.1	1893.8	1884.5	1868.2	1863.6
15°	1845.0	1845.0	1826.5	1807.9	1800.9
17.5°	1789.3	1787.0	1763.8	1745.2	1736.0
20°	1729.0	1724.4	1701.1	1671.0	1654.7
22.5°	1661.7	1661.7	1633.8	1594.4	1578.1
25°	1599.0	1589.7	1564.2	1508.5	1466.7
27.5°	1527.1	1513.2	1485.3	1406.4	1357.7
30°	1448.2	1441.2	1401.8	1299.6	1262.5
32.5°	1373.9	1362.3	1320.5	1213.8	1183.6
35°	1297.3	1288.0	1225.4	1132.6	1104.7
37.5°	1220.7	1209.1	1130.2	1056.0	1021.2
40°	1144.2	1130.2	1044.4	977.1	939.9
42.5°	1072.2	1053.6	970.1	898.1	856.4
45°	995.6	974.7	891.2	816.9	784.4
47.5°	919.0	900.5	823.9	747.3	710.2
50°	837.8	821.6	751.9	675.4	635.9
52.5°	770.5	745.0	677.7	601.1	568.6
55°	691.6	670.7	608.0	536.1	508.3
57.5°	619.7	598.8	540.7	473.4	450.2
60°	552.4	522.2	473.4	415.4	396.9
62.5°	478.1	454.9	413.1	364.4	387.6
65°	410.8	387.6	350.4	357.4	297.1
67.5°	336.5	324.9	292.4	259.9	250.6
70°	273.9	259.9	248.3	213.5	204.2
72.5°	218.2	204.2	188.0	169.4	162.5
75°	164.8	153.2	143.9	136.9	150.9
77.5°	113.7	109.1	102.1	95.2	92.8
80°	74.3	71.9	69.6	67.3	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.8	30.2	32.5
87.5°	13.9	13.9	16.2	18.6	20.9
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)