

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: P546285

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-82-96-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: P546285
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-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

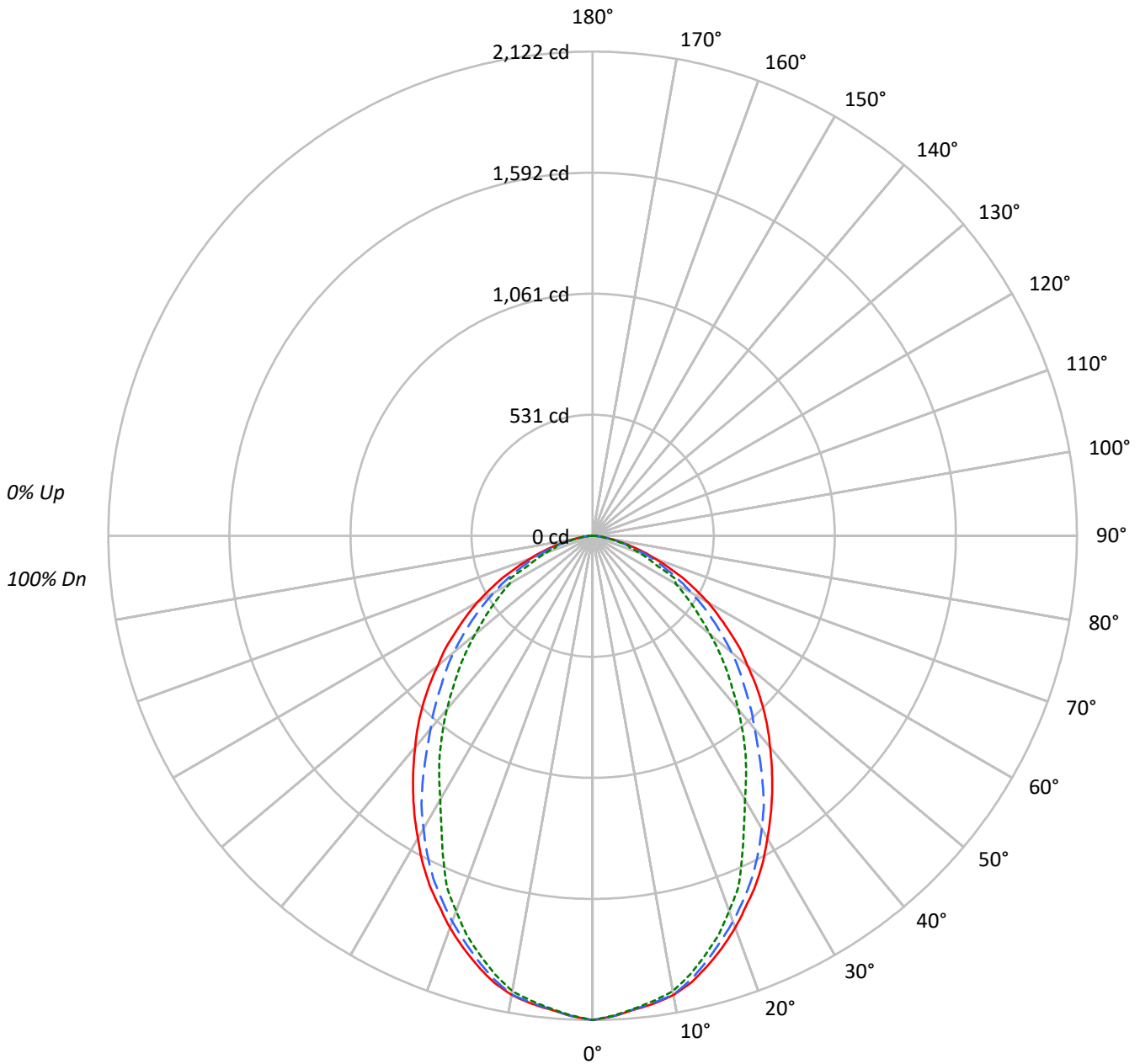
Lumens per Lamp: N/A
Luminaire Lumens: 4166.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5711	5711	5711
5°	5633	5626	5620
10°	5584	5577	5537
15°	5434	5379	5304
20°	5234	5150	5009
25°	5019	4910	4604
30°	4757	4604	4147
35°	4505	4255	3836
40°	4249	3878	3490
45°	4005	3585	3156
50°	3707	3328	2814
55°	3430	3016	2521
60°	3143	2694	2258
65°	2765	2358	1999
70°	2278	2065	1699
75°	1811	1581	1658
80°	1216	1141	1065
85°	756	908	1059



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.5	4.7
10°-20°	542.1	13.0
20°-30°	750.5	18.0
30°-40°	800.3	19.2
40°-50°	730.1	17.5
50°-60°	572.0	13.7
60°-70°	372.8	8.9
70°-80°	165.2	4.0
80°-90°	35.5	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°	1490.2	35.8
0°-40°	2290.5	55.0
0°-60°	3592.6	86.2
0°-90°	4166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4166.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2122	2122	2122	2122	2122	
5°	2085	2083	2083	2080	2080	198
15°	1950	1950	1931	1911	1904	548
25°	1690	1680	1654	1595	1550	776
35°	1371	1362	1295	1197	1168	857
45°	1052	1030	942	864	829	811
55°	731	709	643	567	537	656
65°	434	410	370	378	314	428
75°	174	162	152	145	160	187
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2122.1	2122.1	2122.1	2122.1	2122.1
2.5°	2107.4	2107.4	2107.4	2104.9	2104.9
5°	2085.3	2082.9	2082.9	2080.4	2080.4
7.5°	2068.1	2065.7	2063.2	2060.8	2055.9
10°	2043.6	2043.6	2041.1	2028.9	2026.4
12.5°	2004.3	2001.9	1992.1	1974.9	1970.0
15°	1950.4	1950.4	1930.7	1911.1	1903.8
17.5°	1891.5	1889.0	1864.5	1844.9	1835.1
20°	1827.7	1822.8	1798.3	1766.4	1749.2
22.5°	1756.6	1756.6	1727.1	1685.4	1668.2
25°	1690.3	1680.5	1653.5	1594.6	1550.5
27.5°	1614.3	1599.6	1570.1	1486.7	1435.2
30°	1530.9	1523.5	1481.8	1373.8	1334.6
32.5°	1452.4	1440.1	1395.9	1283.1	1251.2
35°	1371.4	1361.6	1295.3	1197.2	1167.8
37.5°	1290.4	1278.2	1194.8	1116.3	1079.5
40°	1209.5	1194.8	1104.0	1032.8	993.6
42.5°	1133.4	1113.8	1025.5	949.4	905.3
45°	1052.5	1030.4	942.1	863.6	829.2
47.5°	971.5	951.9	870.9	790.0	750.7
50°	885.6	868.5	794.9	713.9	672.2
52.5°	814.5	787.5	716.4	635.4	601.1
55°	731.1	709.0	642.8	566.7	537.3
57.5°	655.0	633.0	571.6	500.5	475.9
60°	583.9	552.0	500.5	439.1	419.5
62.5°	505.4	480.8	436.7	385.2	409.7
65°	434.2	409.7	370.4	377.8	314.0
67.5°	355.7	343.5	309.1	274.8	265.0
70°	289.5	274.8	262.5	225.7	215.9
72.5°	230.6	215.9	198.7	179.1	171.7
75°	174.2	161.9	152.1	144.7	159.5
77.5°	120.2	115.3	107.9	100.6	98.1
80°	78.5	76.1	73.6	71.1	68.7
82.5°	46.6	46.6	46.6	46.6	46.6
85°	24.5	27.0	29.4	31.9	34.3
87.5°	14.7	14.7	17.2	19.6	22.1
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)