

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: P546201

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-80-86-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: P546201
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-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

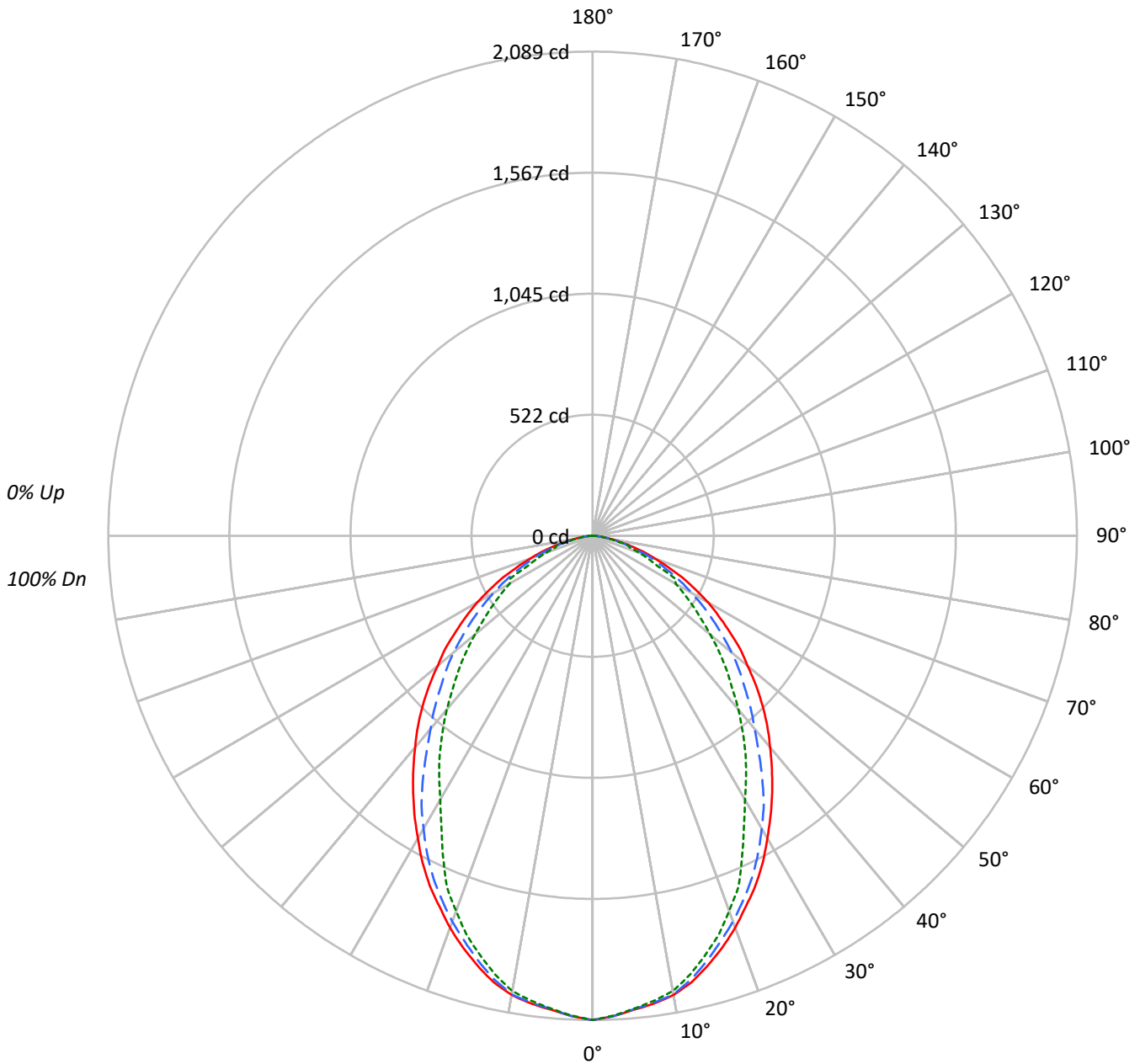
Lumens per Lamp: N/A
Luminaire Lumens: 4101.0 lumens
Efficiency: N/A
Efficacy: 87.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5621	5621	5621
5°	5545	5539	5532
10°	5497	5490	5451
15°	5349	5295	5221
20°	5152	5069	4931
25°	4941	4833	4532
30°	4683	4533	4082
35°	4435	4189	3777
40°	4182	3818	3436
45°	3943	3529	3107
50°	3650	3276	2770
55°	3377	2968	2481
60°	3094	2652	2223
65°	2722	2322	1968
70°	2242	2033	1672
75°	1783	1556	1632
80°	1198	1124	1048
85°	747	895	1044



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.5	4.7
10°-20°	533.7	13.0
20°-30°	738.8	18.0
30°-40°	787.8	19.2
40°-50°	718.7	17.5
50°-60°	563.1	13.7
60°-70°	367.0	8.9
70°-80°	162.6	4.0
80°-90°	34.9	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°	1467.0	35.8
0°-40°	2254.8	55.0
0°-60°	3536.5	86.2
0°-90°	4101.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4101.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2089	2089	2089	2089	2089	
5°	2053	2050	2050	2048	2048	195
15°	1920	1920	1901	1881	1874	540
25°	1664	1654	1628	1570	1526	764
35°	1350	1340	1275	1178	1150	844
45°	1036	1014	927	850	816	798
55°	720	698	633	558	529	646
65°	428	403	365	372	309	421
75°	172	159	150	142	157	184
85°	24	27	29	31	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2089.0	2089.0	2089.0	2089.0	2089.0
2.5°	2074.5	2074.5	2074.5	2072.1	2072.1
5°	2052.8	2050.4	2050.4	2047.9	2047.9
7.5°	2035.9	2033.4	2031.0	2028.6	2023.8
10°	2011.7	2011.7	2009.3	1997.2	1994.8
12.5°	1973.1	1970.7	1961.0	1944.1	1939.3
15°	1919.9	1919.9	1900.6	1881.3	1874.1
17.5°	1862.0	1859.6	1835.4	1816.1	1806.4
20°	1799.2	1794.4	1770.2	1738.8	1721.9
22.5°	1729.2	1729.2	1700.2	1659.1	1642.2
25°	1664.0	1654.3	1627.7	1569.8	1526.3
27.5°	1589.1	1574.6	1545.6	1463.5	1412.8
30°	1507.0	1499.7	1458.7	1352.4	1313.8
32.5°	1429.7	1417.6	1374.1	1263.1	1231.7
35°	1350.0	1340.3	1275.1	1178.5	1149.6
37.5°	1270.3	1258.2	1176.1	1098.8	1062.6
40°	1190.6	1176.1	1086.8	1016.7	978.1
42.5°	1115.7	1096.4	1009.5	934.6	891.1
45°	1036.0	1014.3	927.4	850.1	816.3
47.5°	956.3	937.0	857.3	777.6	739.0
50°	871.8	854.9	782.5	702.8	661.7
52.5°	801.8	775.2	705.2	625.5	591.7
55°	719.7	697.9	632.7	557.9	528.9
57.5°	644.8	623.1	562.7	492.7	468.5
60°	574.8	543.4	492.7	432.3	413.0
62.5°	497.5	473.3	429.9	379.2	403.3
65°	427.5	403.3	364.7	371.9	309.1
67.5°	350.2	338.1	304.3	270.5	260.8
70°	285.0	270.5	258.4	222.2	212.5
72.5°	227.0	212.5	195.6	176.3	169.1
75°	171.5	159.4	149.7	142.5	157.0
77.5°	118.3	113.5	106.3	99.0	96.6
80°	77.3	74.9	72.5	70.0	67.6
82.5°	45.9	45.9	45.9	45.9	45.9
85°	24.2	26.6	29.0	31.4	33.8
87.5°	14.5	14.5	16.9	19.3	21.7
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)