Catch rate test with TLED UVA – description and results

Special Lighting

SL Pila, 09.08.2025

Catch rate test

The slides provide in a nutshell the catch rate test methodology. Signify conducted execution of the tests at specialized external laboratory.

Introduction

This study evaluated the efficacy of different fly light traps using one-choice tests method and it was performed in a controlled test chamber environment.

Test formulation

A couple of fly light traps were provided by Signify, and were evaluated using seven different setups with lamps:

- Sample A, reference: PHILIPS Actinic TL-D 15W/10, UVA conventional lamp
- Sample B: TLED UVA 5W lamp coated
- A few fixtures with competitor lamps

- Each fly trap was fitted with an internal glue board to cover the back, and new glue boards were used for each test.

Test Insects

Hundred flies (50 males and 50 females) age 3-7 days were used for each testing.

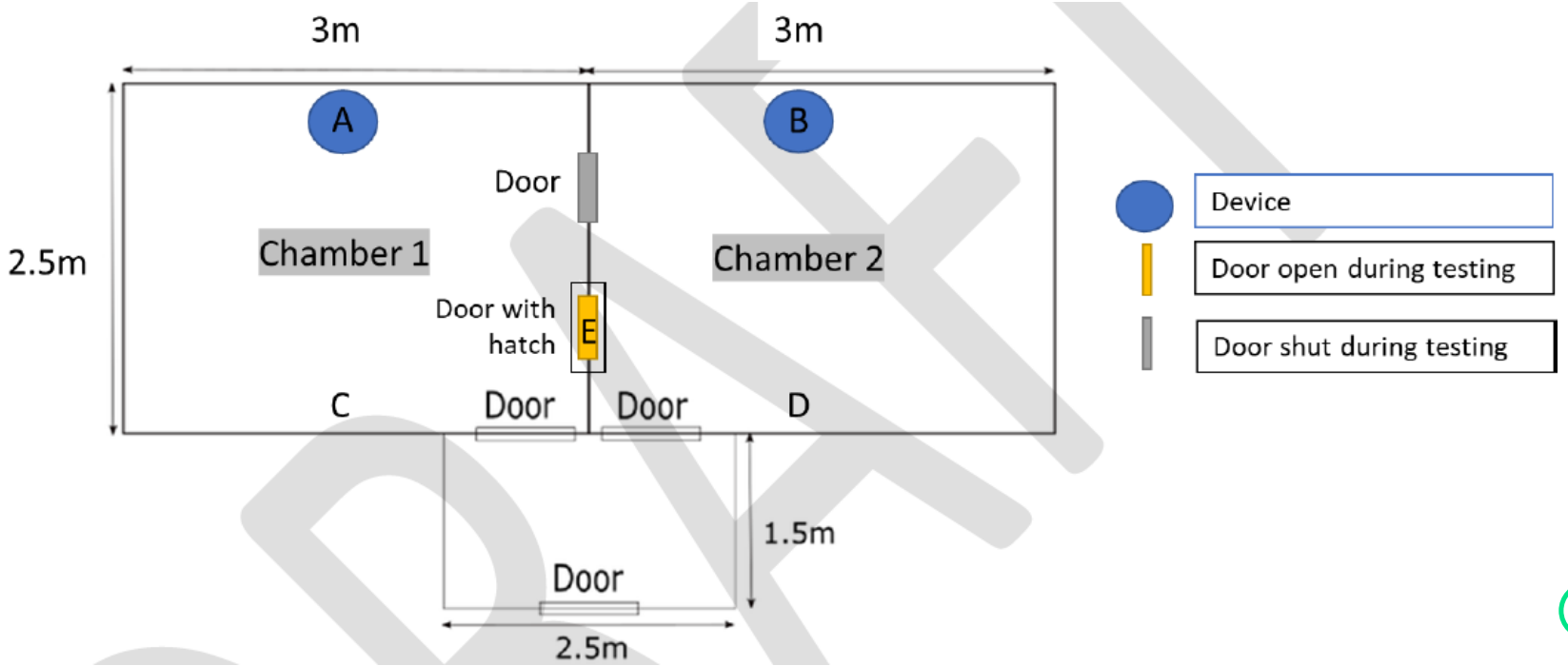
Method

Study design

All tests were conducted in a test chamber size 6m x 2.5m x 2.1m, L x W x H (see figure). All surfaces of the chamber were wiped down, and the room was ventilated for 15 minutes to remove any volatiles prior to testing. The environment conditions were maintained at 24±2°C and 50±10% RH. Door E was opened when the test was running and shut at the end, while the second door remained shut throughout the test.

A lux meter was used to measure the light intensity in the test chambers, measurements were taken at position C, D before each test. Temperature and humidity were measured at positions A and B.

Traps were placed at either position A or B, and flies were released at point E.



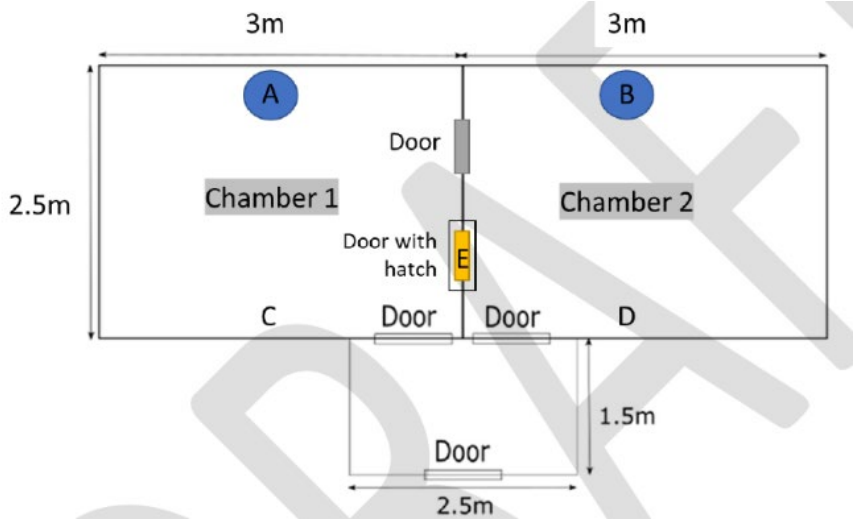
Method

One Choice Test

A single trap unit was mounted to the wall of the test chamber at either position A or position B, such that the top of the unit was 2 m from ground level. One hundred adult flies (50 females and 50 males) aged 3-7 days were collected by motor aspirator and placed into a lidded paper cup. The cup was then placed in the test chamber for at least 5 minutes to allow the flies to acclimatize and settle. The test unit was then switched on, and the flies were released at ground level at Position E (see figure).

To monitor the number of flies caught, the test operator entered the test chamber precisely 15 minutes after the flies were released. The fly trap was momentarily switched off to enable the number of flies on the glue board to be counted. The fly trap was then switched back on to allow testing to resume, and the operator exited the room carefully, ensuring no flies escaped. The number of flies caught was monitored at 15, 30, 60, and 90 minutes after fly release. Testing was complete when 50% of the released flies had been caught (C50) during the monitoring intervals or at the end of 90 minutes test time. When testing was complete, door E linking both chambers was closed, and the flies remaining in each chamber were collected and counted. The test was repeated for all the different fly traps.

Three replicates were performed per setup for the one-choice test with a new glue board fitted for each test, and the position of the trap in the one-choice test had at least a single replicate in either positions A or B.

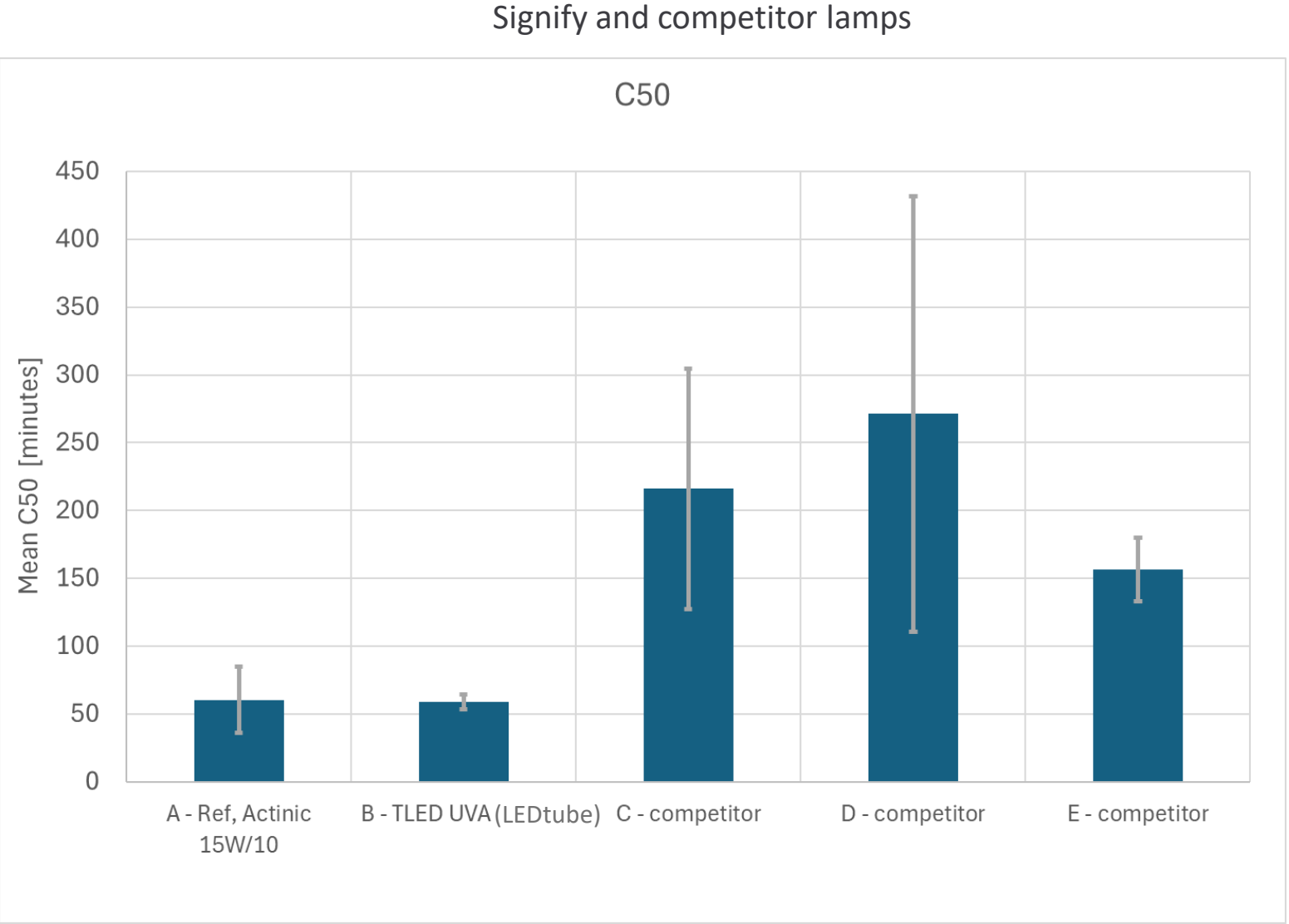


Fixture used for testing Signify lamps

- Signify products (both conventional and TLED UVA) were tested with two-lamp fixture Halo

One-choice test results

- C50 - the average time (in minutes) for 50% of the fly population sample to be caught in a trap – the shorter the time, the more efficient the solution is



Lamp sample	Mean [min]	Standard error (+/-) [min]
A - Ref, Philips Actinic 15W/10	60.5	24.2
B – Philips Actinic LEDtube (TLED) 5W	58.9	5.4
C – *competitor*	216.2	88.6
D – *competitor*	271.2	160.7
E – *competitor*	156.3	23.5

The gray lines represent the spread in the results of the 3 different test replicants

It can be observed that the test results of A (Philips conventional UVA lamps) and B (Signify TLED UVA) are on par.