

Supplemental notes:

Video (time lapsed)

(The mosquitoes move from the the far side to the middle and the near side)

Detail information for the material and method.

:

The setting:



The picture is with the front cardboard open.

Chamber:

Igloo Polar 120 Quart Cooler with acrylic top where holes were cut for utility purpose and air pump interfaces

Air pump:

Tetra Whisper 100 gallon aquarium air pump with 2 outputs that were hoses into the chamber.

Enclosure:

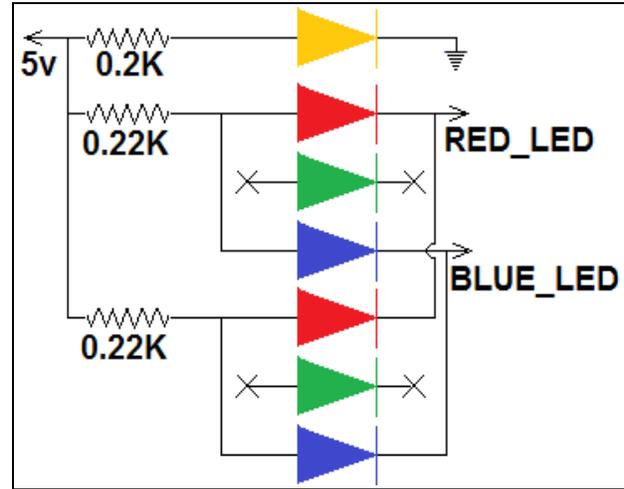
44' x 22' x 48' brown cardboard box with the ceiling and the vertical shade covered by bubble reflective foil.

Electronic components:

1 Control light and 2 experimental lights.



One control and two experimental lights.



Schematic

Specifications of the LEDs:

Pulsing LED: $\frac{1}{4}$ W, 5050 footprint RGB LED.

Yellow LED: $\frac{1}{2}$ W, 3.1 V, 5730 footprint, yellow at 3500 cctk .

MCU sample source code: (Arduino sketch).

```
#define RED_LED 4
#define BLUE_LED 5
// Per schematic the LEDs pins, set low to turn ON.
#define RED_ON digitalWrite(RED_LED, false)
#define RED_OFF digitalWrite(RED_LED, true)
#define BLUE_ON digitalWrite(BLUE_LED, false)
#define BLUE_OFF digitalWrite(BLUE_LED, true)

void setup() {
  pinMode(RED_LED, OUTPUT);
  RED_OFF;
  pinMode(BLUE_LED, OUTPUT);
  BLUE_OFF;
}

void loop() {
  // optional testing procedures
  while(1){
    RED_ON;
    delayMicroseconds(500);
    RED_OFF;
    delayMicroseconds(500);
    BLUE_ON;
    delayMicroseconds(500);
    BLUE_OFF;
    delayMicroseconds(500);
  }
}
```

Detail result (data & method).

Raw data, the images:

The samples: [For session 1 & 2](#), [3,4,5,6 & Video](#) (347 counts)

Results or session ends: [1](#), [2](#), [3](#), [4](#), [5](#) & [6](#).

For references at the start of the session: : [1](#), [2](#), [3](#), [4](#), [5](#).

Counting method:

The sample:

The second image represented the actual count for the last 4 sessions and the video. It was the remain from the previous with some clean up and add-on.

Per session; the result:

Only those at the furthest 1/3 part of the chamber.

Conclusion:

Although the functionality of the lights is only to introduce discomfort, deterring mosquitoes to come to the line of sight. Clearly, with the few exceptions (less than 30) the vast majority either moved out or stayed away from the fully treated area.

Miscellaneous:

The article mentioned slow motion video and close-up pictures in regard to reactions of the mosquitoes under light on and light off.

For the video. It served as raw data, the scenarios with and without the pulsing light. However it's still to fast to see difference. The followings are the images taken from some of its frames.

[*Under the pulsing light*](#)

[*Normal \(light off\)*](#)

[*\(Raw Video\)*](#)

And the close-up pictures: [1](#) & [2](#)

Notes:

The pulsing system is enough for everyday usages or live test when: The LEDs are next to each other and it generously covers the footprint of the shadow of the subject; or having extra(s) to have the very shadow shined by the other.

Personal note: They sink our hearts: [1](#), [2](#), [3](#), [4](#).