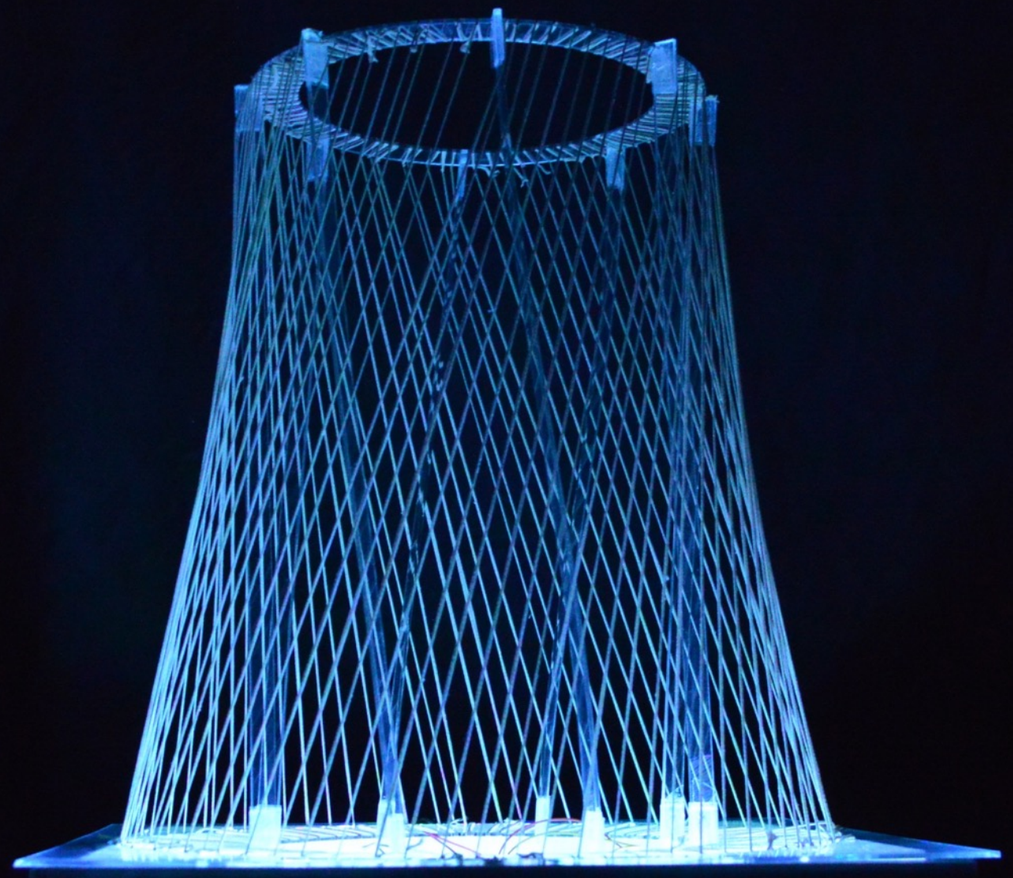
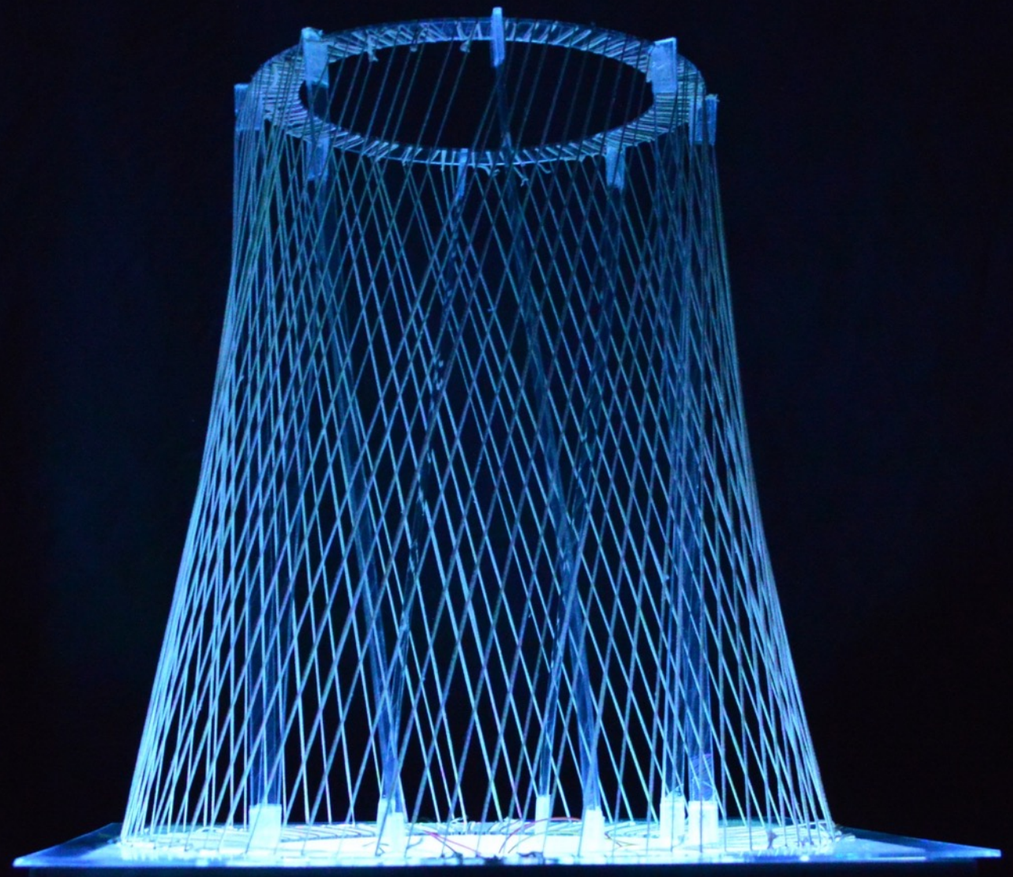


HYPERBOLIC PARABOLOID LUMINAIRE

TEAM 22 - MAYARA ARAUJO & THALES PACHECO



Our lighting final project primary idea was to create a hyperbolic paraboloid with pantyhose as strings. The idea of the material came from the thought of using a more see-through material that could reflect the LED strip light in the dark. The structure is based on a plywood square base and was made with an acrylic material that is twisted by the strings. This model treats the study of assorted organic forms to achieve a final modern design that incorporates all the elements in one composition.

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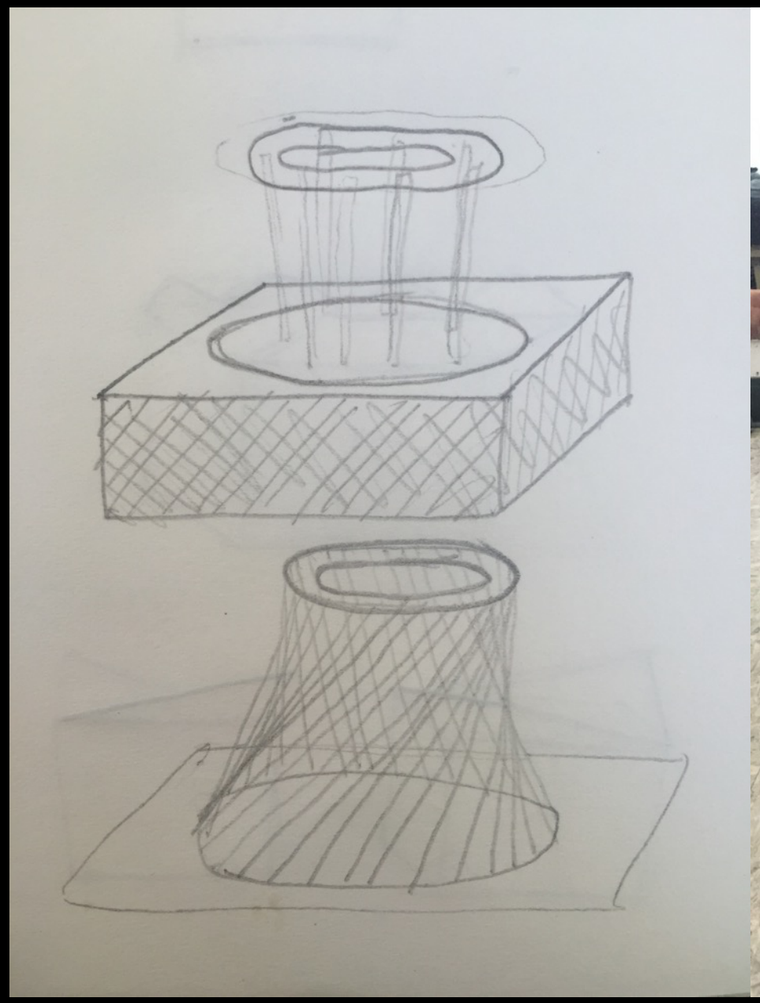
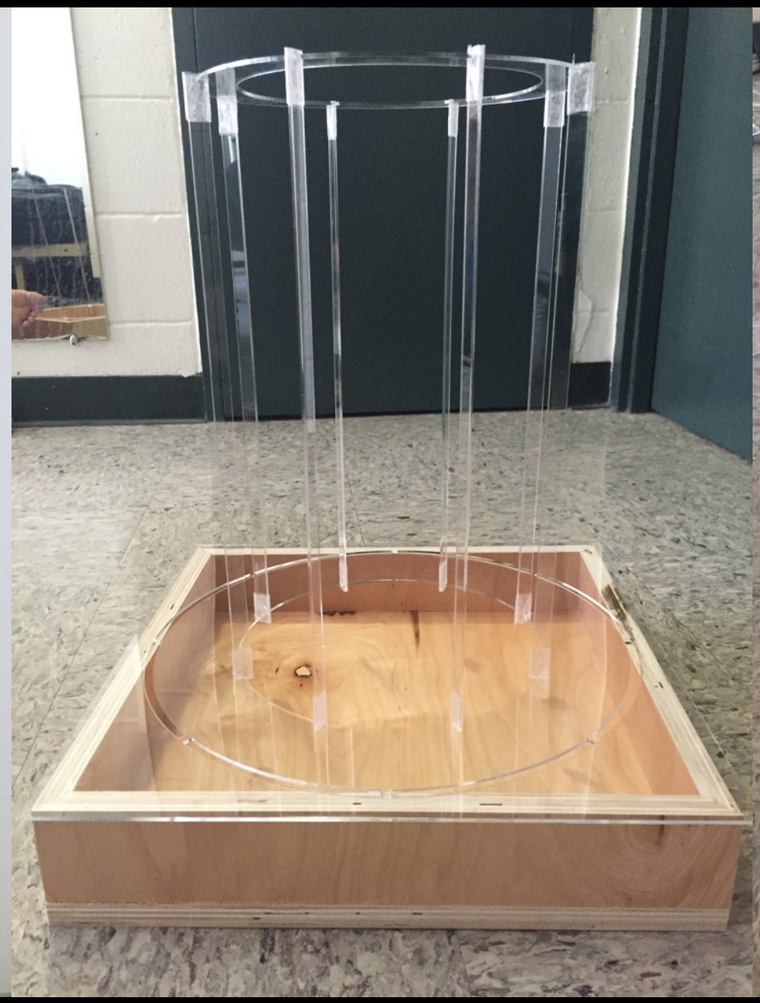
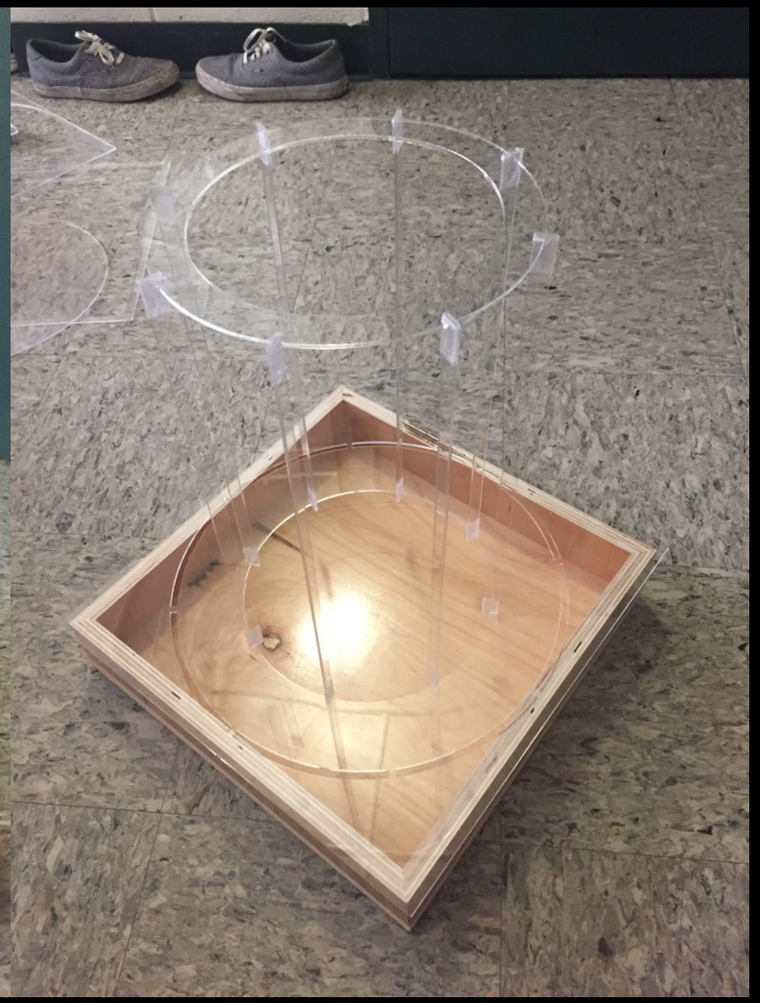
SKETCHES AND PROGRESS



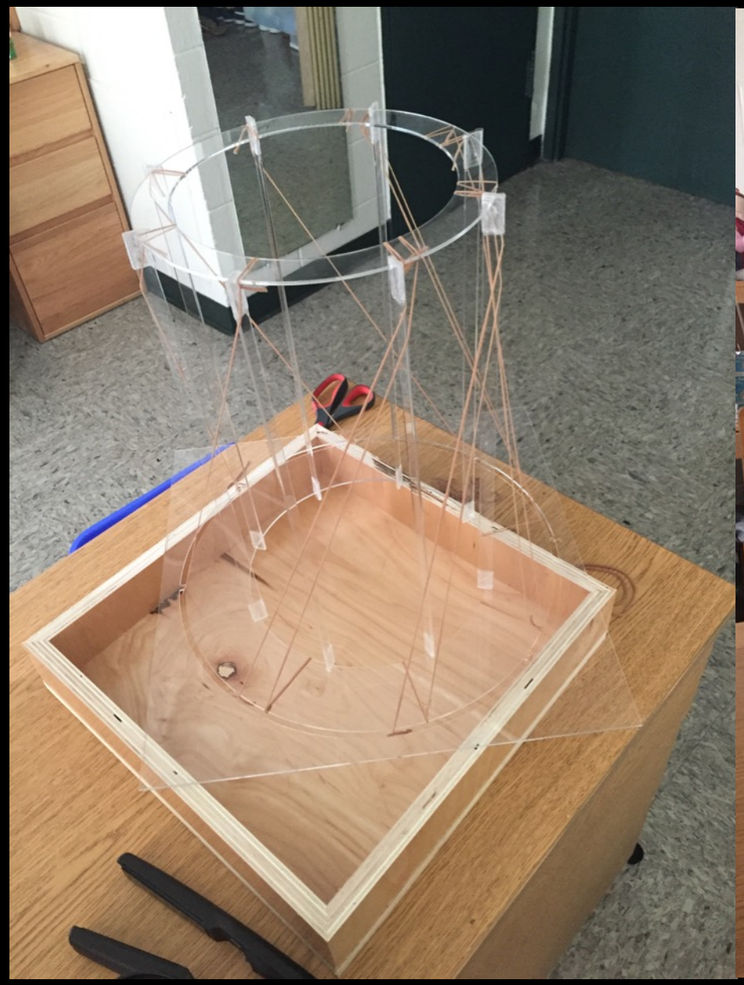
First Sketches





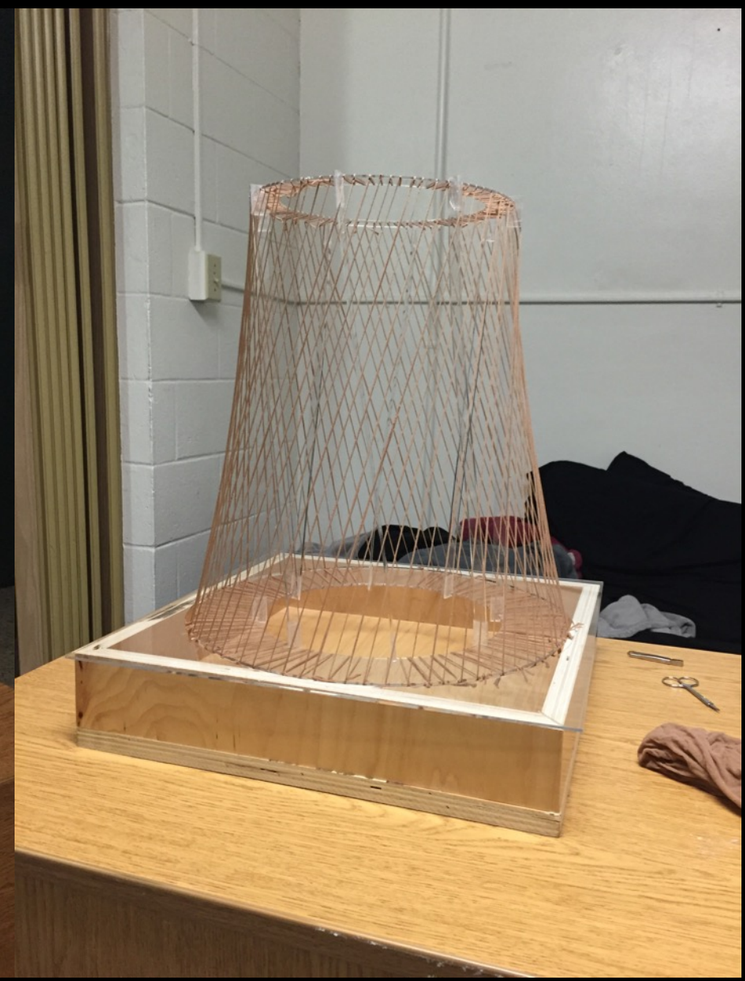
Acrylic Structure and Plywood Base

SKETCHES AND PROGRESS



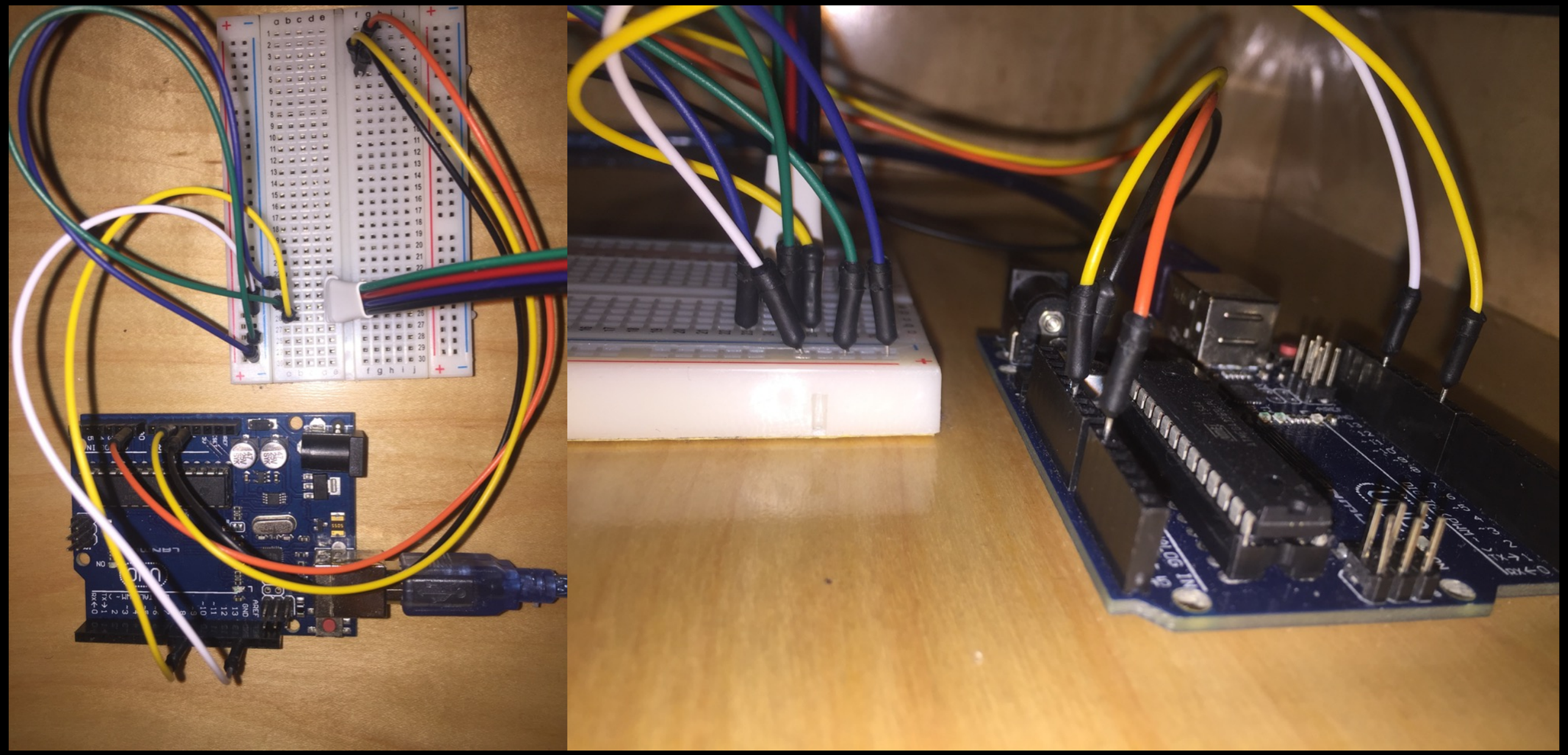
The first strings started to be installed

Symmetrically, we added more and more



Until we reached 80 strings

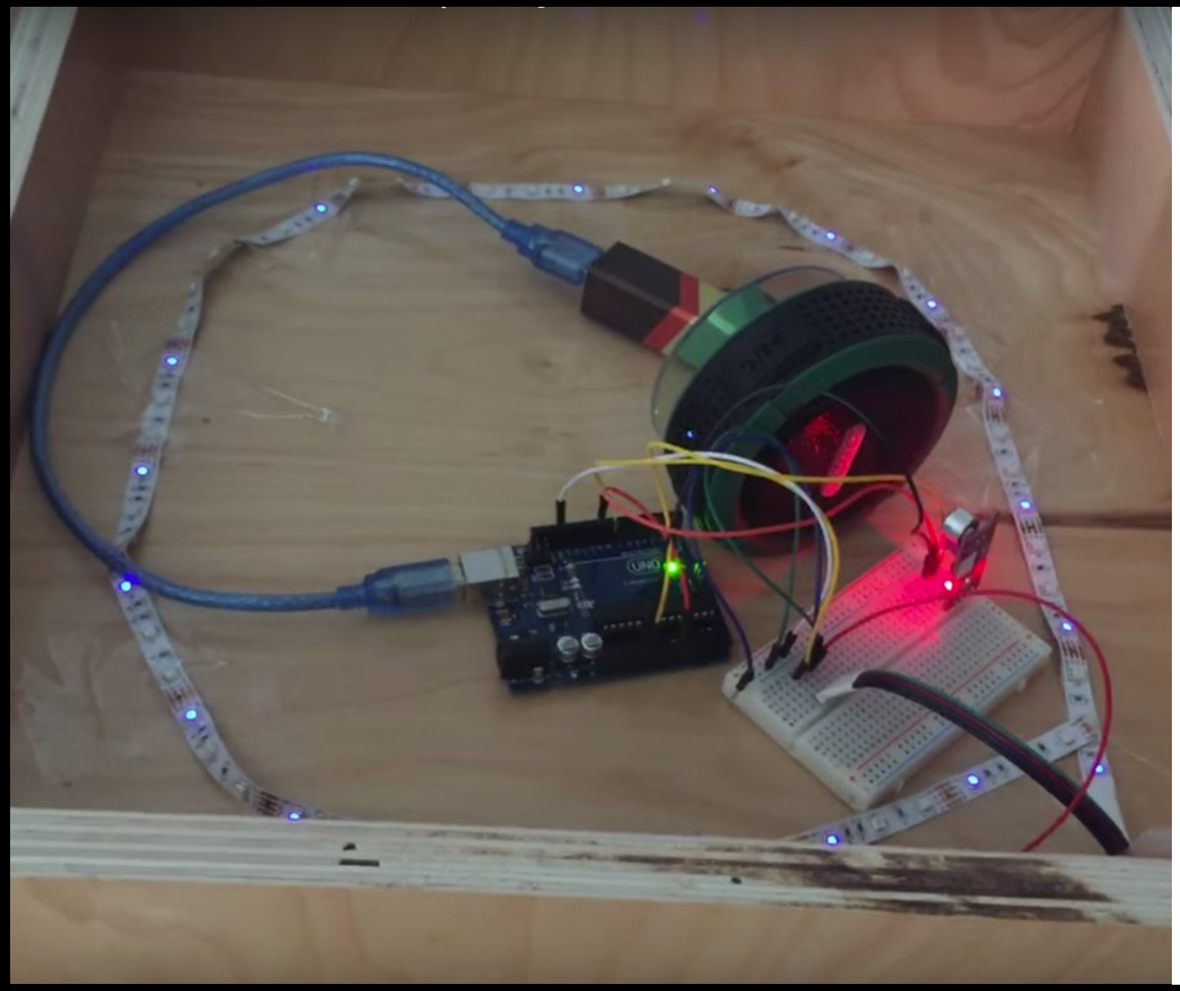
INSTALLATIONS AND DIAGRAMS



The LED strip* connected to the BreadBoard with the Sound Sensor, connected to the Arduino.

** For the presentation we didn't connect the red wire of the strip, so we could achieve the desired bluish green.*

INSTALLATIONS AND DIAGRAMS



Entire installation on the base, with the LED strip and speaker placed

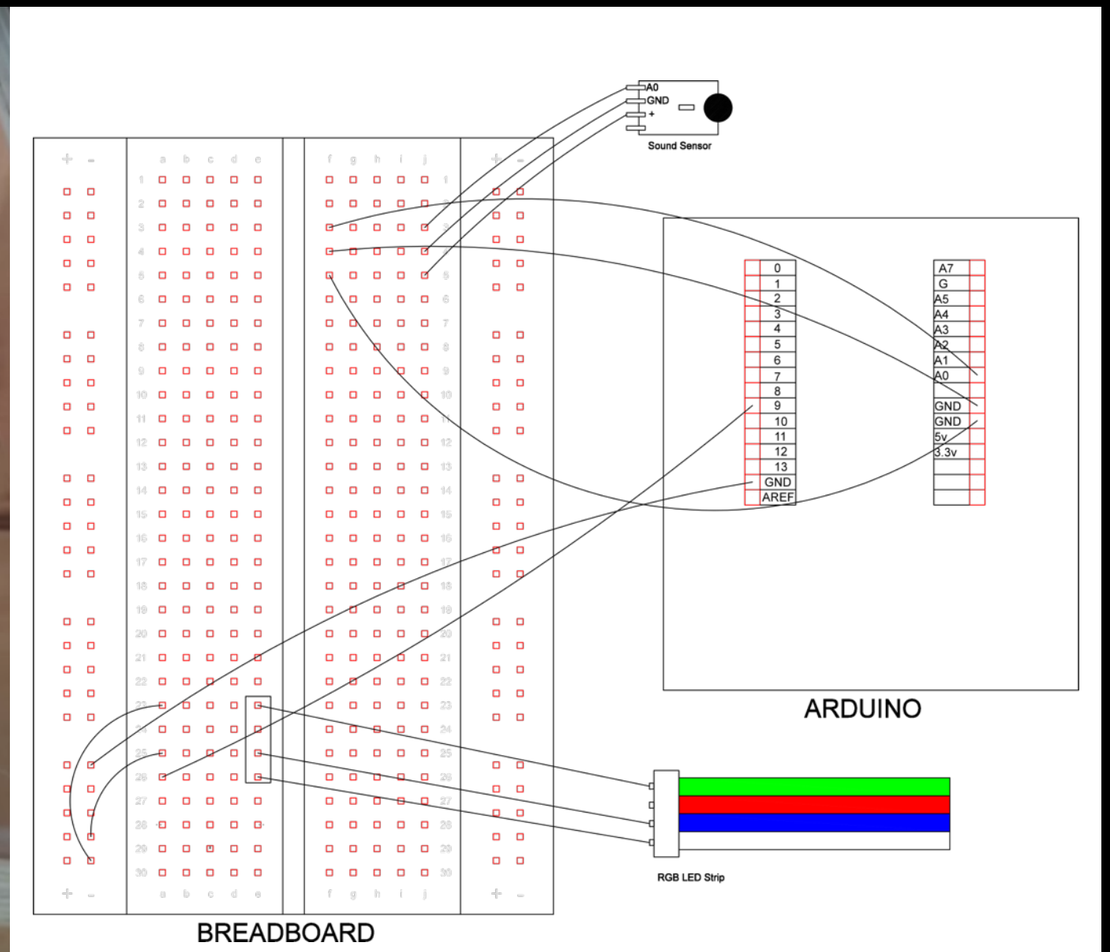


Diagram of the entire installation

ARDUINO CODE

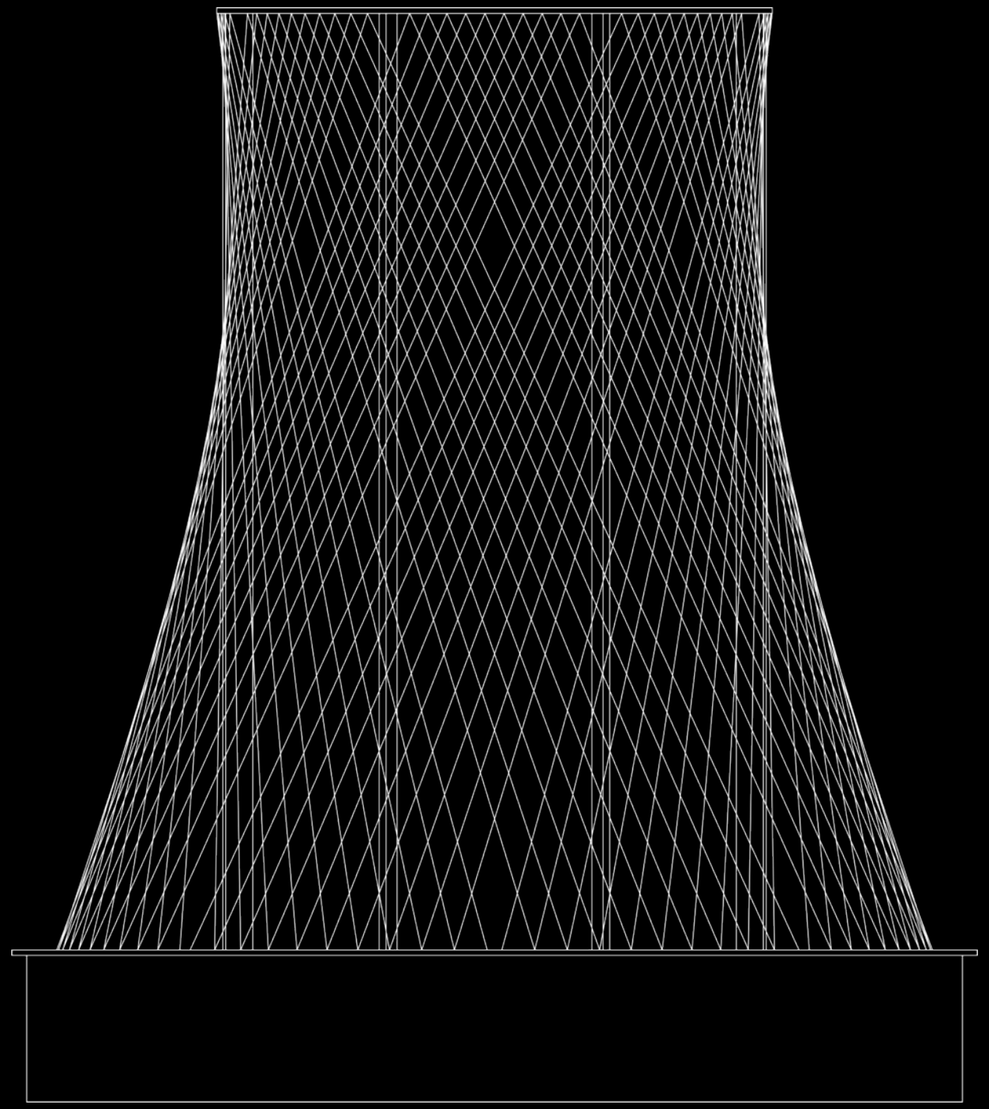
SoundSensor | Arduino 1.6.7

SoundSensor

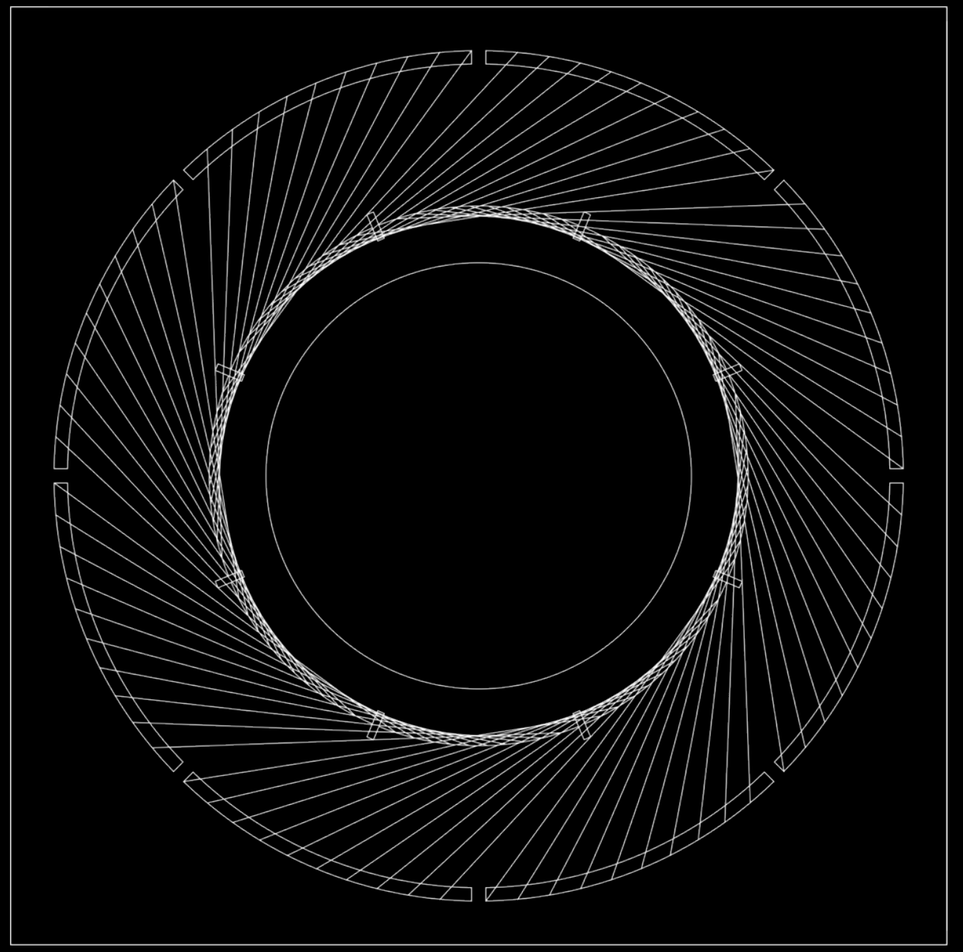
```
void setup() {

   pinMode(9, OUTPUT);
   pinMode(A0, INPUT);
   Serial.begin(9600);
}
void loop()
{
int sensorValue = analogRead(A0);
int ledValue = map(sensorValue, 30,33, 0,255);
analogWrite(9, ledValue);
Serial.println(ledValue);
delay(50);
}
```

Arduino/Genuino Uno on /dev/cu.usbmodem1421

DRAWINGS

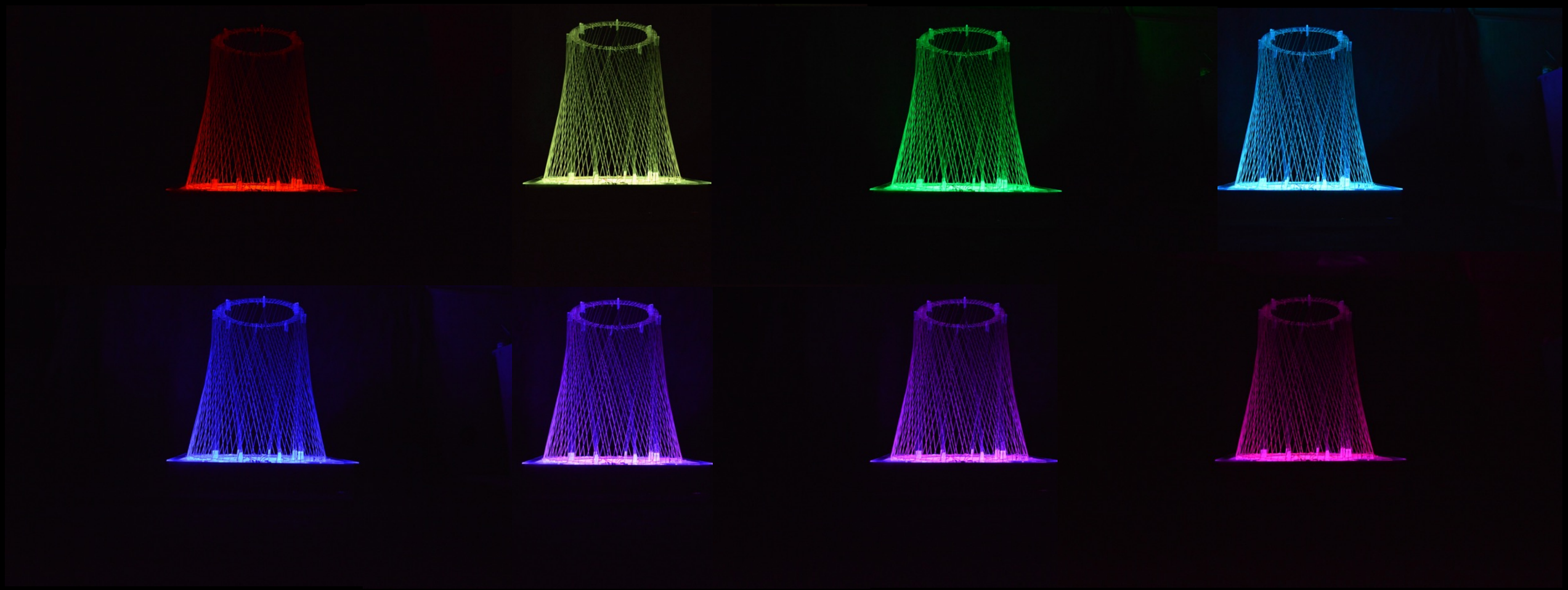


ELEVATION



PLAN

FINAL MODEL



FINAL MODEL