# An Optimized LED to Reduce Light Discomfort in Photophobia

Members: Amber Lee, Marco-Antonio Sandoval, Montae Jenkins, Yadder Davis

Team 35: Luminous Solace

#### Introduction

Photophobia, or severe sensitivity to light, affects 10% of the global population. Individuals who experience this condition also suffer from pre diagnosed migraines, which can significantly impact their way of life. Our goal is to simulate a green-enriched white light at a wavelength between 520-540 nm that can alleviate light discomfort in patients experiencing photophobia.

### **Objective & Project Scope**

**Scope:** To find the appropriate light spectrum and SPD result for a green-enriched white light.

#### **Current Research**

Quality of life and improvement when photophobia patients expose themselves to green light therapy drastically increased compared to no therapy at all.





A search for a green-enriched white light is taking place today because patients want a light source that can be utilized in everyday spaces without the appearance of a heavy green tint. At the same time, this green-enriched white light will still provide the same health benefits as green light therapy.



		L
1.0	+	
0.9	_	
0.8		
0.7		
0.6		
0.5		
0.4		
0.3		
0.2		
0.1		
0		
_	380	

## Why Green-Enriched White Light?

#### Results



