

Optimizing a LED Light Display for Scalable Manufacturing

Elish Warlop Design Studio provides custom designer LED lighting -- Line Light-- for the commercial and residential spaces. The first version of the Line Light, while fully functional and frankly rather beautiful, included a time-consuming assembly process, older components that created supply chain challenges, and installation issues. Elish Warlop approached Zebulon Solutions requesting a review of her design, looking for both process and design recommendations as well as a proposal for a scalable manufacturing process.

Design Review

Zebulon Solutions reviewed the assembly drawings, manufacturing process, and supply chain for the Line Light. Several prototype LED bars were constructed based on the existing process. Zebulon Solutions also experimented with alternative approaches to reduce manufacturing complexity and time, and considered alternative options for component suppliers.

Process & Design Recommendations

After working with Zebulon Solutions on various design and process options, Elish Warlop settled on a fixed number of LED tube lengths and standardized position of

the hanger and mounting holes to better assemble the displays in batches.

Scalable Manufacturing Process

Zebulon Solutions helped Elish Warlop work with her tube supplier to improve quality control and ship tubes based on the new specifications that Zebulon Solutions provided. This eliminated several time-consuming manufacturing steps and identified reliable long term supply chain sources for some of the materials. Zebulon Solutions also helped set up batch manufacturing steps based on the small number of standardized dimensions, and we achieved 100% yield with the first three installations built.



Application:

Light Fixture

Industry:

Art

Customer Needs:

- Design Review
- Process & Design Recommendations
- Scalable Manufacturing process

Outcome:

Optimized manufacturing process in addition to quality control, which allowed the designer to maintain artistic uniqueness

