

safeLumin®

UNINTERRUPTED LIGHT SYSTEMS

Safelumin has developed an LED emergency light that is packaged in the form of a regular shaped light bulb. The Safelumin bulb is equipped with a rechargeable lithium-ion battery that is rated to provide up to 3 hours of emergency light during a power outage.



UNINTERRUPTED LIGHT SYSTEMS®

Safelumin's patented power sensing technology is smart and knows the difference between purposely turning off the light switch and suffering a power failure.

Design and Development Challenges

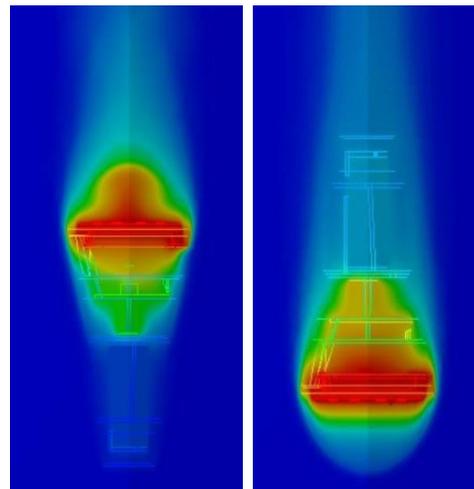
One of the major challenges during the design was protecting the lithium-ion battery from the heat generated by the LED. The lifespan of the battery would be shortened if the heat was not dissipated and the bulb backup light would not function unless the battery is healthy.

In past designs of LEDs, heat sinks had to be external in order to maximize the life of the LED light bulb. Safelumin wanted to design a product where the heatsink was enclosed.

Six years ago LEDs were quite inefficient: 80% of the energy was heat and only 20% light. Although LEDs are now more efficient they still generate a lot of heat.

Looking at competitive designs, Safelumin noticed that many competitors were not handling the heat problem effectively and felt they could greatly improve performance and longevity.

The aim was to create a high quality, reliable and long-lasting product for customers.



Sim Specialists

a division of
HAGERMAN & COMPANY®

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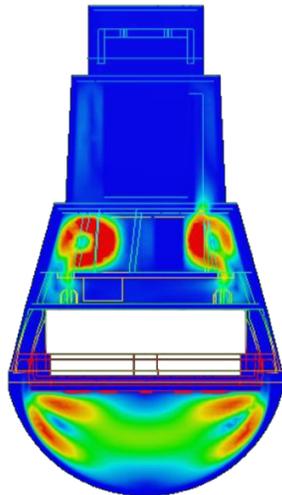
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How Sim Specialists Helped

Simulation Specialists (SSD), a division of Hagerman & Company, utilized prior experience in working with LEDs and became an extension to Safelumin's design and engineering team. Once the initial design was presented, SSD performed a baseline thermal CFD simulation. Based on these results, Safelumin and SSD revised the design to optimize the battery location within the bulb.



Benefits

The simulation process took approximately two weeks and was highly collaborative. The alternative for Safelumin was to continue the on-going physical testing and guess work. The virtual simulation performed by SSD sped up the process by at least 4 months and helped to get not only a working product to market, but also an optimized product to market faster.

Summary

Chamy Lutz, Designer and President of the Safelumin bulb, would sum up the experience of working with Hagerman's SSD in three words: professional, knowledgeable and helpful.

If you're interested in purchasing the Safelumin bulb you can buy it on [Amazon](https://www.amazon.com). For more information about Safelumin check out their website at <https://safelumin.com/>.

With family at the heart of our company, you can trust us to make your projects more efficient, productive and, most of all, profitable.

IMAGINE IT. DESIGN IT. BUILD IT. WE'LL HELP.