Not All LED Lights Are Created Equal

This article is an introduction to the world of LED Lighting and Controls. I will follow-up with more articles specific to various lighting and control issues that you may have in your environment. The technology discussed is truly leading to a sustainable lighting environment guiding away from the consumption model.

In 2007 anyone who could put a white LED onto a Printed Circuit Board tried to sell a light bulb replacement. Having been involved with laser diode design and in specific blue lasers in their early stages I had a high curiosity whether those devices could replace the light bulb or fluorescent tube.

Like others we attempted to make a light bulb replacement only to find out that the cost of the technology is still very high and in order to justify that cost the device would have to be more efficient than a fluorescent tube and keep its light output for a very long time to get a return of investment.

Deeply understanding the quantum physics involved I knew that the junction where the light is created, that is deep in the solid-state structure, had to be kept rather cool to not get damaged over time by heat and to perform with high-efficiency.

When we saw all players not to care about efficiency or keeping their devices cool but try to develop a light bulb with a slightly longer life but not too much longer, the opportunity arose to make a very long-lasting light fixture. We are talking 10 years plus without light degradation or change in color.

Fortunately, we also came from the networking arena so we developed a protocol of communication between the light fixtures that allows uniform dimming over an infinite number of devices by one low-cost dimming device.

Imagine that in future a supermarket does not have to change its' light fixtures every 3 years but can leave them in place for 15 years or more, no more light bulbs or tubes to be replaced and have no light loss.

Oh by the way, LEDs do not have Mercury like fluorescent tubes and "Energy Saving" lamps. The wattage on the fixture is the actual wattage consumed unlike your "Energy Saver" bulb that consumes between 30% and 50% more energy than advertised.

To further cement commitment to the environment manufacturers should recycle all their product as long as the user finds a way to get it to a recycling center and guarantee to pay back to the customer a recycling value on return.

However, it is difficult for the non-specialist person to understand that not all LED devices are created equal and to recognize what is marketing hype and what is real. The DOE or Energy Star are not helping as they lag years behind technology and generally support the consumption model brands rather than lasting and really efficient technology to the point of being hostile to new and better technologies.

Klaus Bollmann is a 30 year veteran in energy conservation, resource saving innovative products for a sustainable environment. Click the link If you are interested in ActiveLED high performance lighting products. All parts of ActiveLED light fixtures are 100% recyclable and in fact the aluminum used in ActiveLED lights is 100% recycled aluminum.

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