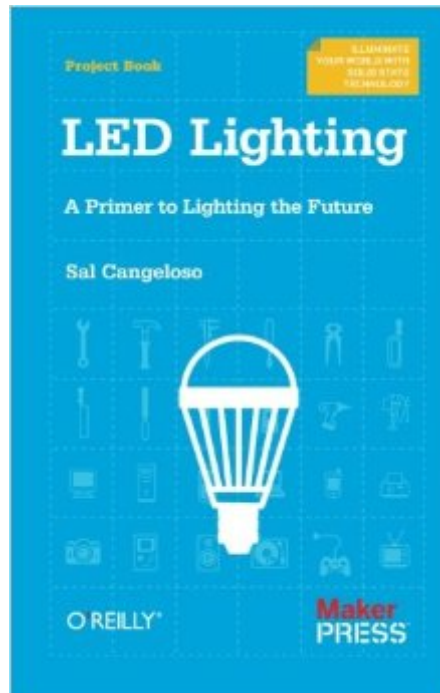


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# LED Lighting: A Primer To Lighting The Future



## Synopsis

We're on the brink of a lighting revolution with light-emitting diodes—the tiny LEDs you've seen in electronic devices for years. With this practical guide, you'll go behind the scenes to see how and why manufacturers are now designing LED devices to light everything from homes and offices to streets and warehouses. Author Sal Cangeloso shows you the working parts of a simple LED bulb and explains the challenges electronics companies face as they push LED lighting into the mainstream. You'll learn how you can use LEDs now, and why solid state lighting will bring dramatic changes in the near future. Explore the drivers, phosphors, and integrated circuits in a typical LED bulb. Understand the challenges in producing LED bulbs with acceptable brightness, color temperature, and power consumption. Learn about non-bulb LED applications, including lamps, street lights, and signage. Discover the market forces driving and impeding the adoption of LED lighting. Compare LEDs to compact fluorescent lamps (CFLs) and electron-stimulated luminescence (ESL) bulbs. Gaze into the future of intelligent lighting, including networked lighting systems.

## Book Information

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## Customer Reviews

LED Lighting is a nice introduction for consumer LED light bulbs. The writing strikes a nice balance by being approachable without being dumbed down. I'm a bit more familiar with lighting than the average consumer, and I learned something new on most pages. The book contains a significant amount of detail about how bulbs work and how performance is measured. The author expects that

LED lighting will take off when bulbs hit a price point of about \$10 to \$15 and speculates about potential future developments in home lighting. My only disappointment was that the book is a little less hands-on than I would expect from an O'Reilly book (particularly under the Maker Press mark). Clearly an editor felt the same way, as an appendix includes a "project" for hooking up an LED to a battery. Unfortunately, the book doesn't describe any real projects. LED Lighting is successful for what it is: an upscale consumer's guide to LED bulbs. However, you may be disappointed if you are looking for a "project book" (as it is termed on the cover). While informative and clearly written, the book lacks any DIY charm.

This book shows you the in and out of LEDs, compares the strengths and weakness of LEDs to other types of lighting. Points you to a couple of kits for DIY LED lighting. Overall is a smooth read, although at 70 pages, is really dense.

LED Lighting is a modern technology that appears to be on the verge of widespread acceptance as price points come down and less energy efficient incandescent bulbs are replaced by the solid state technology. As the title states, this book is a primer to the lighting technology of the future. LED lighting is already available but has yet to reach critical mass of widespread acceptance. This tipping point may not be far off as research advances and consumer products drop in price. LED Lighting is a small book that is loaded with information. I found it to be a quick read and highly informative. According to US Dept. of Energy statistics, lighting accounts for 14% of all electricity consumed in the US. Given the savings offered by solid state LED lights when compared to incandescent lighting we stand to decrease our lighting energy consumption by as much as 46% by 2030. This will provide substantial benefits to all of us. The book provides a good overview of LED technology without getting overly technical. The author links to resources and offers suggestions for those looking to delve deeper into the subject. The issue of being an early adopter versus waiting until the technology matures is discussed to allow the reader to form an opinion based upon their circumstance. For those who like to experiment the appendix features a section on Do It Yourself LEDs using a small battery, circuit breadboard and components that should be readily available at a hobby shop or electronics outlet. Overall I would recommend this book to anyone wanting to learn the basics about LED lighting. Disclosure: I received a free e-book copy for review purposes.

This nicely produced 58 page pamphlet illustrated with black and white photos, is authored by the manager of Geek.com and ExtremeTech.com, an enthusiastic technogeek who writes in a clear

manner about both the science of LED's and their practical applications. The book provides basic info on LED's for the general reader, plus all the technical info for those who take the authors suggestion for hands on learning with an LED kit. More than enough to jump start readers into the rapidly evolving world of LED's, and get them into the hands-on DIY mode.

I was tired of constantly changing burnt out spot flood lights in our kitchen. I had used CFL lights in many of our other lamps and greatly reduced the problems of short life of conventional incandescent bulbs. However, I did not have a good way to dispose of the bulbs which contain mercury.

Therefore, I was interested in finding a better solution for replacing old incandescent bulbs. I had been using a LED night light in our bathroom successfully for several years. After reading this book and its review of various bulbs, I ordered a bunch from Home Depot. The color of the CREE LED flood light matches warm white of our older bulbs.

This is a little book that contains a lot of information. I appreciate its brevity because I was able to finish it over the weekend, but I came away much better informed about the latest lighting technology and why it's important. It also gives some background on the history of the incandescent bulb and CFLs, which is necessary context if you want to fully understand today's technology. The language isn't overly technical, but it's not dumbed-down either; it presumes a savvy reader who keeps up with technology and current events in general, and does a good job of breaking down key terms at the beginning of the book so that you have a solid foundation for further reading. I will be interested to see if there will be any follow-up to this book, given the rapidly-changing environment. Perhaps most importantly, there is also a lot of practical information in here, even on things as seemingly-basic as how to buy a lightbulb, and how the choice you make can save money and electricity. It seems that the book is aiming to arm consumers with as much information as possible, so that they can make the best-informed decisions for their homes and offices.

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