Eight Facts About LED Lamps and Their Use in Color Matching

1. LED lamps achieve the same correlated color temperature of the typical fluorescent “store” light that they are replacing, but generate a significantly different spectral power distribution, thus a different color rendition. This means that once a retail LED has been specified to replace a fluorescent lamp the entire supply chain needs to switch to that LED source.
2. As more retail, office, and home environments switch to LED lighting it is becoming increasingly necessary to evaluate color in standardized LED viewing conditions. To help manufacturers meet this requirement GTI offers D65 LED lamps and optional source LED lamps for multi-source viewers. D65 LED lamps establish standardized viewing conditions and the optional source LED lamps simulate end use environments and assist with metamerism testing.
3. LED is an attractive choice because it reduces energy cost, has a significantly longer use time in both daylight and retail applications, no warmup time, and is more environmentally friendly. You can also reduce the number of lamps required and achieve the same lighting conditions.
4. With the rapid advancement of LED lamp technology, it is difficult to ensure consistency of color temperature from lamp-to-lamp. GTI’s spectroradiometric laboratory and a 100% measurement and verification production process help ensure that the LED lamps GTI sells are accurate and reliable.
5. All stakeholders in the supply chain need to evaluate color under a consistent light source that is compliant with published industry standards. These standards include ASTM D1729, SAE J361, AATCC Procedure #9, and ISO 3668. All GTI D65 LED daylight lamps are compliant with these viewing standards.
6. In addition to standardized CIE D65 viewing, LED lamps can be utilized as an optional light source to gauge how a product will appear in an end use environment. Optional LED sources available include CIE D50 LED, 2700K LED (CIE B1), 3000K LED (CIE B2), 3500K LED, 4000K LED (CIE B3), and black light blue UV LED.
7. Older color matching booths can be upgraded to LED technology by purchasing a new GTI LED luminaire that can easily be installed into an existing booth. Contact GTI for more information.
8. Color quality of LED lamps continues to improve. GTI is committed to bringing you the best LED products at an affordable price.

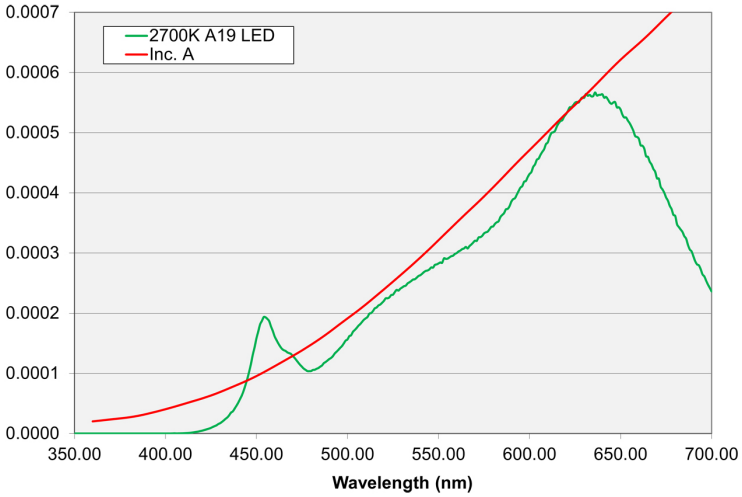
All of GTI’s Color Matching and Viewing Systems are available with LED lamp technology.

GTI Graphic Technology, Inc. | 211 Dupont Avenue | Newburgh, NY 12550 | 845-562-7066 | www.gtilite.com

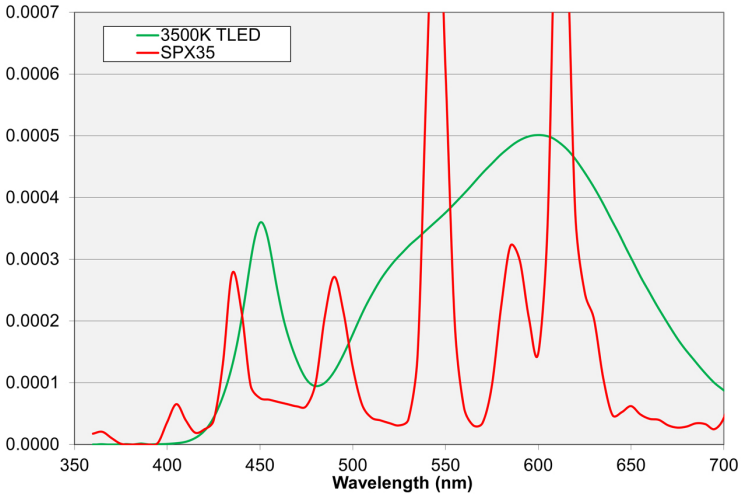
Eight Facts About LED Lamps and Their Use in Color Matching

The graphs below show the spectral characteristics of several optional LED light sources compared to their "traditional fluorescent" standard illuminants. Notice how an LED lamp can achieve the same correlated color temperature of a typical store light while generating a significantly different spectral power distribution, thus a different color rendition. For this reason, when a retailer changes to an LED source the entire supply chain needs to implement the same LED lamp in order to maintain visual agreement.

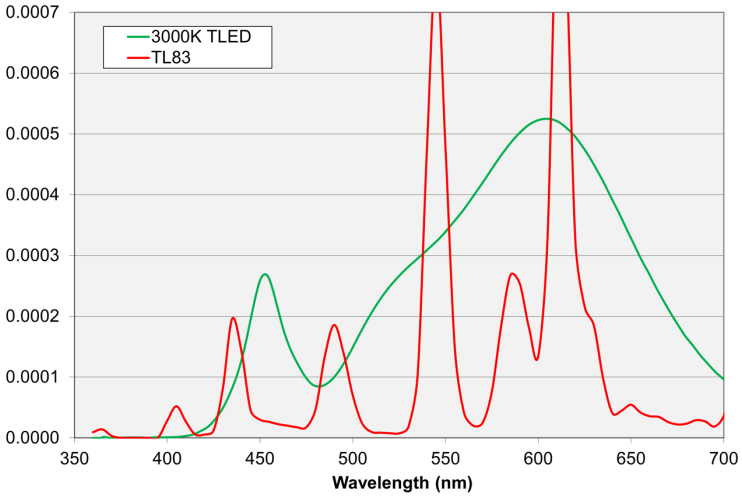
2700K LED (CIE B1) vs. Incandescent A



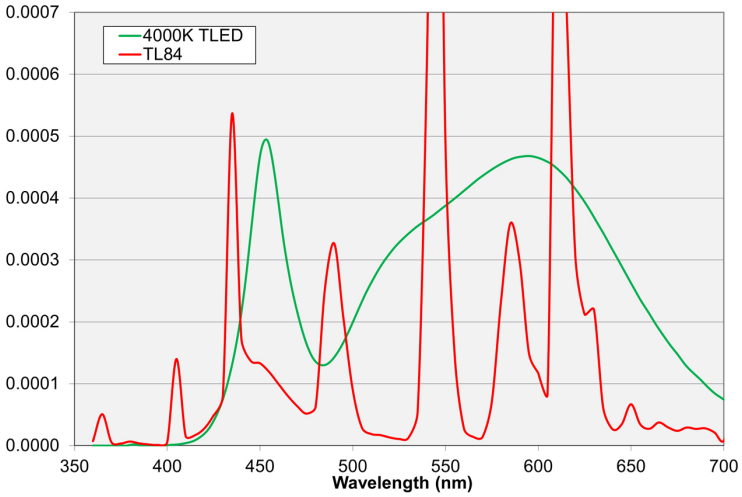
3500K LED vs. SPX-35



3000K LED (CIE B2) vs. TL-83



4000K LED (CIE B3) vs. TL-84



"GTI is excited about LED lighting technology. We are pleased that our complete portfolio of products is available with LED lamps. We are equally excited to offer an affordable upgrade path for current users to transition to LED technology. *Robert McCurdy President, GTI*

03-12-25

GTI Graphic Technology, Inc. | 211 Dupont Avenue | Newburgh, NY 12550 | 845-562-7066 | www.gtilite.com