

# SE SimpleSeal™ Amber Series

Kenall's SimpleSeal™ Amber Series features 570nm Phosphor-Converted (PC) amber LED light, which helps prevent negative outcomes resulting from overexposure to light. It provides visual acuity for detailed tasks without the damaging effects of white light to light-sensitive products and processes.



- Available in recessed (CSEDI, CSEDO) or surface mount (CSESO) configurations
- High-purity light for spectrally-sensitive applications
- Dual function white and amber LED sources provide individually dimmable illumination. Also available in amber only
- Diffused high-efficiency lens for reduced glare
- 1'× 4', 2'× 2' and 2'×4' available



## SimpleSeal™ Amber Series -- Light that Preserves Photo-Sensitive Processes and Products

It is well-known that UV light is damaging... but even normal light encompasses some damaging shorter wavelengths. Therefore, life sciences and manufacturing use narrow spectrum amber light to avoid negative outcomes resulting from overexposure to the shorter wavelength found in ordinary light.

### Uses for narrow-spectrum amber light:

- Increase cell viability at IVF clinics
- Reduce possible damage to delicate DNA during stem cell transplant procedures
- Prevent damage to light-sensitive ingredients in pharmaceutical manufacturing and compounding
- Protect photosensitive processes used in the semiconductor manufacturing industry and nanotechnology research

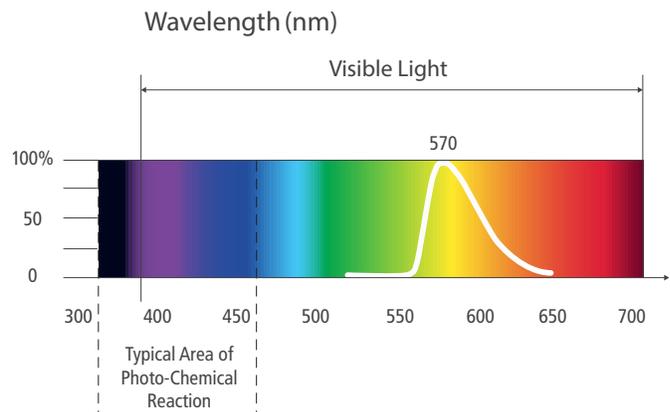
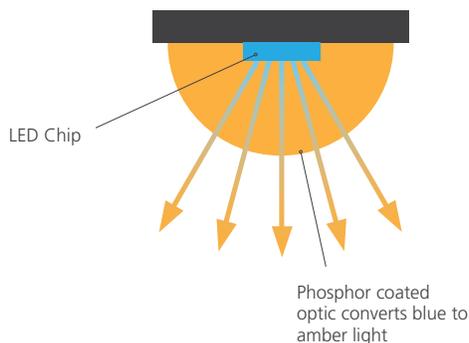
## Why use PC (InGaN) amber versus Native Amber?

Native amber LEDs perform poorly compared to other chemistries and produce less light per watt at room temperature. Native amber performs even worse when heated, causing designers to add extra LEDs to make up for the losses and adding heat and power.

Heat accelerates the aging of all LEDs, but this effect is magnified for native amber, reducing expected life to less than 15,000 hours (L70) in general illumination fixtures -- far below the 50,000 + hours expected from LED technology.

Phosphor-converted amber is light created using an LED chemistry called Indium gallium nitride (InGaN) with a phosphor to convert native blue light into longer wavelength amber light. PC amber provides the high performance and long life our industry has come to expect from LEDs without the weakness of native amber. An additional benefit of amber phosphor technology is very high efficiency, producing more lumens per watt than white LEDs, which is helpful for high illumination applications.

## How Blue LED Light is converted to Amber



www.kenall.com | P: 800-4-Kenall | F: 262-891-9701 | 10200 55th Street Kenosha, Wisconsin 53144, USA

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