## **SE SimpleSeal™** Red Series

Kenall's SimpleSeal™ Red Series features 630nm red LED light, which provides consistent, controllable red light to support the natural circadian rhythms of laboratory animals in research environments.



- Available in recessed ceiling (CSEDI, CSEDO) and surface ceiling (CSESO) configurations
- Narrow-spectrum 630nm red LED circuit provides only high-purity light for spectrally-sensitive applications.
- Dual-function white and red LED sources provide individually dimmable illumination. Also available in red only.
- Certified fixture-to-room seal with NSF P442 protocol
- $1' \times 4'$ ,  $2' \times 2'$  and  $2' \times 4'$  available

















## SimpleSeal™ Red Series Helps Preserve Animal Circadian Rhythms for Better Research Results

Research facilities commonly use rodents for study, and therefore have to address the issue of proper lighting for these nocturnal animals. Studies indicate that the timing and duration of light and dark cycles (called a photoperiod) influences the body weight and food intake of laboratory animals. It also can induce a shift in the circadian rhythms of blood pressure, heart rate and activity.

Since red light is invisible to rodents (and to some other research animals), it is used at times when white light would disrupt activity cycles. Historically, the industry has used filters in cleanroom fixtures to produce the desired color. The use of white light and red light is then automated to assure conformity to the correct schedule. If a fixture must generate both white and red light, typically one lamp would be fitted with a red-filtered lamp sleeve and a separate circuit. Over time, the filter's effectiveness degrades, allowing visible light, which erodes the effectiveness of the vivarium.

Red LEDs made with AllnGaP die chemistry have advantages that filters cannot provide. The use of 630nm red LEDs offers pure, consistent and controllable red light intensity over time. They do not degrade in purity, even when light output has degraded.

## Visible light spectrum showing the active element in SimpleSeal™ Red Series



