

An Innovative Lamp-Free Projector

HLD LED technology provides extra advantages and value



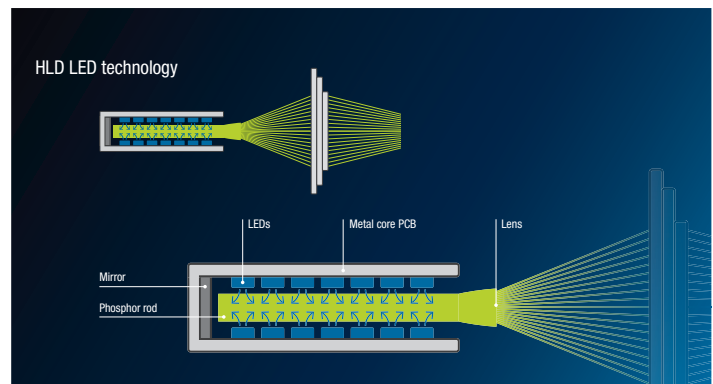
All projectors require a light source to present images on a screen or other surface. Projector lamps (similar to light bulbs) have been the traditional light source since the early days of projection technology. In recent years, however, the technology has evolved with laser projectors becoming widely popular. That's because, for many users, a laser light source offers significant advantages over lamp-based projectors.

If you're thinking about buying a projector without a lamp, there's a new type of lamp-free technology that you may want to evaluate. HLD LED is a patented, solid state light technology. Although similar to laser phosphor projectors in many respects, HLD LED projectors come with their own unique advantages. Let's see why they can be perfect choices for K12 classrooms and small conference rooms.

What is HLD LED?

HLD LED is an innovative type of light source for projectors. (HLD stands for "high lumen density," and LED is short for "light emitting diode.") Instead of using a traditional lamp or a modern laser as the lighting element, an HLD LED projector has multiple LEDs that are directed into a phosphor rod. This rod emits a narrow beam of light through a light tunnel, creating an extremely bright, efficient source of light.

This diagram shows the basic technology involved:



Similarities With Laser Technology

As a lamp-free technology, HLD LED shares many of the benefits of laser projectors. An HLD LED projector requires low-to-no maintenance because it has no lamp to replace. That saves you time, hassle, and expense. Like laser models, HLD LED projectors provide long life – up to 20,000 hours (to half brightness). They also maintain brightness throughout their life cycle better than lamp-based projectors. Other benefits include improved energy efficiency and quick on-and-off, so there's no waiting for a projector's lamp to start working or to cool down.

Higher Perceived Brightness

In addition to the benefits already mentioned, an HLD LED projector has another unique advantage over laser- and lamp-based technologies (with equivalent brightness ranges). Its light source produces more highly saturated colors and has a wider color gamut. As a result, it looks brighter than similar laser and lamp projectors.

Whether an object or image appears light or dark depends on several factors. Context can influence apparent brightness. An object will seem brighter if it's surrounded by darker items and, likewise, dimmer if lighter objects surround it.

Studies have also shown that the human eye perceives an object's colors as a component of its overall brightness. That means an object with more vivid colors will appear to be brighter than an object with less rich colors, even if their actual brightnesses are identical. The intensity level of colors in an image is known as color saturation. As color saturation increases, items appear to be brighter. When color saturation decreases, items appear to be more washed-out.

An HLD LED projector's light isn't actually brighter than a laser or lamp projector with the same light output, but the human eye senses LED's more highly saturated colors as being brighter. This interesting phenomenon is known as "higher perceived brightness."

Ease of Installation

Another difference between laser and HLD LED projectors is that HLD LED projectors are not subject to federal regulations. (FDA rules govern most laser products, including projectors.) Although this distinction has little impact on users, it will save your installer time and hassle when properly positioning an HLD LED projector.

A Fresh Approach

As a market leader and innovator, Sharp NEC is confident that HLD LED is a breakthrough technology that will provide projector users extra advantages and value. We're one of the few U.S. manufacturers currently offering an HLD LED projector.

The NEC UM383WL is a 3,800-lumen ultra short throw projector that has no lamps to replace. Its HLD LED light source offers 20,000 hours of life (to half brightness). The projector has higher perceived brightness than laser- and lamp-based projectors in the same category. Perfect for K12 classrooms and small conference rooms, its amazing image quality will engage students and other audiences.

For more information about this exciting new projector, visit us at <https://www.sharpnecdisplays.us/>.

