

# Luxam

## Lighting for Museums

### Vision and Conservation with LED's

LED's are the top requested light source by our clients in museums, but there are lingering doubts about LED safety when conservation is discussed. LED's use little power, last for a very long time, and can be addressed electronically for interactive control. The problems arise when the LED fixture is installed INSIDE museum exhibits.

Heat can accumulate from the fixtures, electricity must be routed inside the enclosures and the size of fixtures can be overpowering.

LED's are an excellent source of soft diffused light but have proven difficult to precisely focus. When you look AT the fixture, as you would in signaling applications, they are extremely bright. When you turn the fixture around to light objects though, the practical output over distance and focus is greatly reduced.

Color rendering, color stability over time, and other issues historically a concern with LED's are quickly improving but museums have unique requirements for longevity and stability far exceeding architectural lighting. The average life expectancy of exhibits and showcases can be 10- 20 years; there is no budget for replacement of the entire lighting system if the sources become unstable or obsolete.

The correct approach for us is a HYBRID system, combining fiber optic delivery and focus inside the cases with remote light sources powered by LED's. The equipment within the exhibits remains technology neutral and timeless, and the light source is situated remotely where upgrades and service can be accomplished without removing the fixtures from the exhibits. No obsolescence, simply modify the portable illuminator. We can achieve excellent projection and focus thru the fiber and fixtures resident within the exhibit body.