A New Generation of Museum Lighting: From Fiber Optics to LED Lighting Technology

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Nearly ten years ago, our company was retained by the National Archives to design, engineer and install fiber optic lighting systems to illuminate the Constitution, Bill of Rights and Declaration of Independence and the environs of the Rotunda. At that time, fiber optic lighting was considered by many in the museum lighting field as the state-of-the-art in exhibit lighting technology for safely and effectively illuminating rare artifacts and interpretative exhibit material.

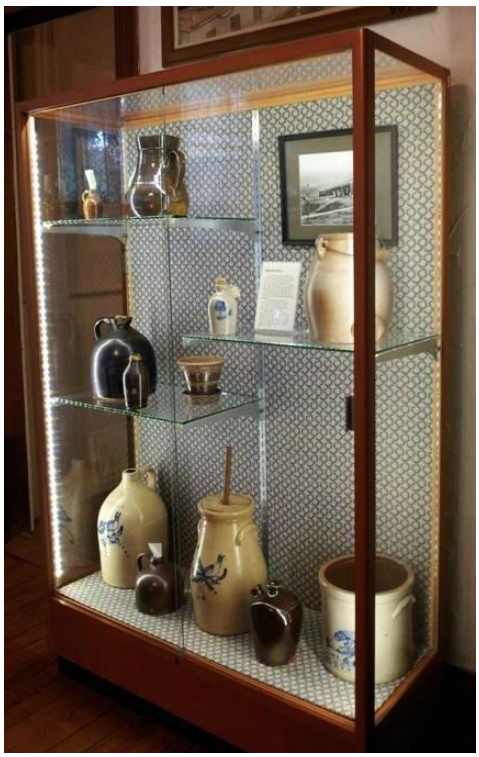
Ten years later, while fiber optics still has a place in museum exhibit lighting, LED technology has become the most versatile and least invasive lighting tool available. Due to their extremely flexible nature, LEDs can be manufactured in a variety of shapes and profiles known as 'form factors'. They range from slim strips ideal for case lighting to large scale track heads capable of illuminating entire galleries. LEDs are also ideally suited for retrofit applications where antiquated lighting systems need replacement without sacrificing the integrity of older exhibit cases.

A recent example is a project we just completed for the Ellenville Library. Through careful engineering and non-invasive carpentry, LEDs were successfully retrofitted into five of the library's existing exhibt cases with our exclusive 'Duet' LED lightbar system.

Left: Before; Right: After, with LED Lighting system hardware installed in back of case

This system permits the library staff to adjust the lighting outside the case with remote controlled color tuning and dimming capability. Utilizing state-of-the-art RF (radio frequency) controllers,

museums and historic homes can now individually on a case by case basis or en mass tune the color and intensity of the light in their exhibitions. Moreover, this new technology offers a large range of photometric performance ranging from precise pin spots to board wall washing. Combined with other LED luminaries, these slim profile LED strips can illuminate virtually any type of museum exhibit environment with minimal heat and ultra-violet exposure.



New Case LED Lighting System

In short, LEDs offer energy efficient alternatives to antiquated lighting specifically suited for museums, libraries and historic homes. Case in point, the Jamestown Yorktown Settlement recently hired Band NY to furnish a LED based fiber optic illuminator to replace their antiquated halogen bulb based units to save energy and money. It is now becoming obvious that LEDs can meet the demands for lower utility costs, replacing obsolete light bulbs and regardless of the pre-existing technology, the modern solution of LEDs offer more efficient, brighter and easier to control alternatives.

About LEDSpin

LEDspin is a woman owned, small business specializing in the development and creation of state-of-the-art integrated LED and fiber optic lighting solutions for museum, architectural and landscape applications. LEDspin's principals have a combined experience of over 35 years working in the museum lighting field. LEDspin offers comprehensive lighting design and fabrication services including lighting analysis, prototyping, custom metalwork, DMX Programming as well as installation.

The company offers project consultation and design support of its products and systems for curators, conservators, designers, architects and lighting specifiers upon request. The LEDspin product's group includes self-illuminating acrylic panels, LED light sources, LED retrofit fixtures, ceiling troughers, Lightolier-based track heads and Smart Streetlights. For more information, visit www.ledspin.com

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