



Articles

Using LEDs for Uniform Illumination and Display

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Uniform light displays are important in production indication, marketing and lighting displays; it becomes critical for safety indication and communication. This means that the light sources used to create the illumination or display lighting must be bright, provide sufficient contrast and easily readable. Due to their reliability, variability, small size, long life, low power consumption and lower heat generation, LEDs are taking over more of this market everyday with no end in sight.

The available color rendering and uniformity of LEDs have essentially opened up a new palette of color for designers to use when designing an LED based color display. The added characteristics of saturation, sharpness and controllability allow for a display that is not only clear, attractive, attention grabbing and reliable but can be harmonized to complement the finished product. In cases where uniform illumination is required but not for display purposes, such as facility illumination or equipment indication, LEDs still offer increased benefits over other lighting types.

The ability of LEDs to produce an instant on and off, make them especially powerful when used with an automation system. Whether it is a full-fledged Building Automation System where the LED system is automated for increased power efficiency, in a factory where a PLC controller creates sequence understanding or communication displays that are changed regularly for public messages and information sharing, LEDs provide a flexible and fully programmable lighting source. The programming of the LED system can be set-up to the point where user's can access and adjust brightness, color and patterns from virtually and local PC or web address that has been tied into the automation system allowing 'on the fly' changes. This is particularly powerful in marketing, backlighting and both public and private safety or informative messages.

Uniformity can also be further increased when LEDs are used in conjunction with light tubes or pipes. Attaching a light pipe to the LED, provides a flexible means for extending the light to a panel or display in an even more uniform way. There is simply no lighting source available that will provide more uniform display and illumination options.

If your head is swimming just thinking of the possibilities and generating questions about specific applications, the knowledgeable professionals at VCC are here to assist. They can answer questions and will provide advice on which LEDs or LED/Litepipe configurations will meet your design requirements. Contact us today to get started.

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