Solid state lighting benefits the specialized medical illumination arena

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Excelitas Technologies envisions a broad spectrum of promising application areas that will benefit from the integration of solid state lighting but perhaps the most exciting and promising area is in the specialized medical illumination arena.

LED-based technology has moved rapidly into applications like surgical theater lighting for a variety of reasons including better “in-cavity” lighting and deep, saturated reds. Integration of LED lighting into the surgical suite - particularly with unique new LED arrays - provides a very high color rendering index (CRI) and the ability to control and vary the color temperature of the white lights without color fringing and color shadowing. In addition, it provides the high-intensity white light with less radiated heat and less energy consumption than incandescent alternatives, which greatly enhances the doctor’s experience in the surgical suite.

LED lighting in the dental operatory is another area benefitting from solid state lighting. In addition to the obvious benefits of reduced heat output, lower power consumption, and prolonged life, as compared to traditional halogen lights, LED lighting allows the ability to suppress blue light, which causes premature curing of dental resins. Integration of solid state lighting into the dental operatory is improving the patient experience as well as the dentist and hygienist’s user experience. Photodynamic therapy is another area of medical lighting that is benefiting from solid state lighting and improved patient experience. LED-based phototherapy is a noninvasive treatment modality for conditions such as hyperbilirubinema in newborns.

We believe that medical diagnostics is another area that will see continued benefits from solid state lighting in areas such as genomic sequencing, leading to tailored highly customized disease prevention protocols, which offer tremendous societal benefits.

At Excelitas, we are excited and gratified to be working with OEMs across the globe

to bring breakthroughs in solid state lighting to the rapidly evolving medical illumination area.

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