

Lifetime of High Output LEDs

LED light sources do not tend to fail catastrophically. Instead, the failure of an LED is observed primarily as a reduction in light output over time, as opposed to a sudden and complete failure. The technical term for this is lumen depreciation.

Smart Vision Lights rates product LED lifetime using lumen depreciation to 70% of original light output. A 70% lumen depreciation is a common standard in the high current LED industry. A light running at room temperature will have an LED lumen maintenance of no less than 70% intensity at 100,000 hours. This is based on LED manufacturers' test data.

All lifetime values are based on source testing by LED manufacturers. Smart Vision Lights designs, engineers and tests our lights to insure that LED device temperatures and electrical characteristics are within specified values so lumen maintenance and lifetime specifications are assured.

Temperature and LEDs

Lifetime and output power for LED lights are based on the junction temperature of the high output LED. The junction is the point where the light is generated inside the LED and the point of heat generation. To dissipate heat, Smart Vision Lights directly mounts high current LED's to an aluminum circuit board or backplate. In constant operation the backplate on Smart Vision Lights L300 series and S75 series lights will run at 50 to 60 C° in an ambient temperature of 25 C°. In strobe operation the backplate will run at 25 C° to 40 C° depending on duty cycle. Smart Vision Lights recommends additional heat sinking for lights used in constant "on" operation. Mounting the lights backplate to any heat sinking material (metal – aluminum or steel) will increase LED life and stability of light intensity. For more information on heat dissipation of lights see "Heat Dissipation sheet2a" located on Smart Vision Lights web page - http://smartvisionlights.com/Heat_Dissipation_sheet2a.pdf