



Professional Street Lighting Design Software





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What is Street Lighting Design Software?

Street Lighting design software helps street lighting engineers draft and create working drawings of proposed street lighting schemes. There are several different offerings, with [AutoCAD](#) based applications being popular. These types of software can range in capability from laying out simple street lighting plans to orchestrating complex proposals which include custom symbol building and electrical calculations that are essential for highway lighting contractors to implement the designs efficiently. Some of the more advanced design features might include the ability to work with Civil 3D surface and road models, roadway calculations and support for sign, beacon and pedestrian lighting.

Who uses Street Lighting Design Software?

Professionals with varying levels of skill and experience, and who work across many different industries and company sizes can find value in street lighting design software.

Lighting engineers depend on efficient design software to help them propose, design, deliver, and execute projects. Smaller, local companies that may have fewer staff can benefit from the compatibility and scalability, while larger lighting design organisations and local authorities use software to increase efficiency by streamlining existing design processes.

Benefits of Street Lighting Software

There is an understanding that modern-day, [professional-grade lighting design](#) is difficult, if not impossible, without the use of tailored software. Powerful highway lighting software gives designers and engineers the tools to not only portray an accurate depiction of what a project's final result will look like, but also a proposal on how the lighting scheme will be constructed. It can also help with project collaboration and make it easier to ensure that issued drawings comply with office and projects standards.

Why is Collaboration and 3D Visualization Essential for Professionals?

If you are considering purchasing street lighting software, your first consideration should be your typical scope of work. There are [many highway lighting design](#) software options on the market, each with different features, capabilities, prices and usability. Finding the right solution for your needs depends on your experience with computer aided design (CAD), the level of detail and accuracy that your projects demand, and the specific types of work you are conducting.

For professional street lighting engineers working on proposed designs for a major lighting project, the scope of work goes beyond mere aesthetics. Professional lighting design on a computer usually requires electrical calculations, reading photometry files, custom symbol building, civil works such as ducting, light level calculations, and the ability to visualise the design in 3D.

In the last few years, professional lighting engineers have more frequently set a standard of using collaboration friendly, Building Information Modeling (BIM) data in their projects' CAD files to reveal more information about the object, for example, the supplier, product specification, or required maintenance. BIM is an "Intelligent 3D model-based process that gives architectural, engineering and construction professionals the insight and tools to more efficiently plan, design, construct, and manage buildings and infrastructure."



This level of detail in a design requires [advanced software](#) capable of storing the data, visualizing and analyzing 3D, incorporating lighting calculations, contour details, lighting column placements and much more. This extended data helps with project collaboration and coordination as you reduce any uncertainty that can arise. Read more about BIM specifically for highway lighting design in the next section.

For organisations looking to differentiate themselves in the market and stand out amongst the competition, having some 3D capability is essential. Not only will your team be able to verify that they are capable of meeting compliance requirements for a wider array of clientele, but adhering to BIM standards sets the bar higher for competing organisations. 3D renderings are useful to show client or general public what the result will look like. Normally used for marketing and positioning reasons, the 3D visuals give your company the ability to present well against the competition.

If your design work in the past has typically been limited to 2D CAD plans it may make sense to start incorporating more advanced detail and data into your designs to gain a competitive edge. 3D surface and road models, foundation dimensions and bracket out-reach and height are all good places to start.

Uses for Street Lighting Design Software

Street lighting design software has [a variety of different uses](#) and meanings among UK organisations and local authorities. Highlights can include anything from BIM for lighting engineers to the availability of Highway Power Cable calculations, creating lighting calculations, detailed ducting and cabling designs, reading photometry files, or generating quantity take-offs.

Let us take a closer look at a few of these.

BIM for Lighting Engineers

While the lighting industry looks somewhat different from building construction, there are nevertheless many advantages to building [digital highway lighting](#) information model

Traditionally, scheme implementation and contract drawings have provided little value after installation, however, lighting design is highly data driven. A Geographic Information System (GIS) often maintains lighting assets so BIM can provide clear benefits by linking information defined at the time of design, such as photometric data, and data captured during the scheme implementation, with the maintenance phase. Most highway lighting designers will determine the appropriate selection of luminaires against the backdrop of real, to scale mapping, giving the opportunity for all aspects of a lighting scheme to be calculated. For example, map-based designs can assist with power, cabling and ducting designs, as voltage drops are based on actual physical distances read directly from the map. Cable lengths and other design parameters can then be taken forward along with other aspects of the scheme design to assist with testing and commission of lighting schemes.

Highway Power Cable Calculations

Some highway lighting design software providers offer the option to customise the software even further by adding on optional modules. For example, if adhering to standards is a key factor in your design processes, then having the ability to work out Highway Power Cable calculations (HPC) may be essential to ensure all cable and fuse requirements are calculated to meet the 17th Edition IEE Wiring Regulations (BS 7671).

Comprehensive Lighting Application

Another popular feature of some professional highway lighting design software is the ability to create accurate lighting calculations that are dynamically updated as the design is being worked on.

If this were a requirement then using a built in lighting calculation module would be essential. With this, light levels and contours can be dynamically updated if lighting column-placing needs to be altered allowing lighting columns, power cabinets and civil works, such as ducting to be set out in one package, eliminating the need for cumbersome data exchange between software. This not only saves lighting engineers time but also streamlines the process of creating lighting calculations, making errors less likely and lighting plans more accurate.

Usability and Lighting Software Plugins

There are numerous highway lighting design software options for professional professional lighting engineers, but one common theme shared among them all is that with more flexibility comes rising price tags and steeper learning curves

When selecting the best software option for your specific needs, the tools versatility and usability as they relate to your needs should be two primary considerations. These two variables are frequently inversely correlated. For example, the dominant platform for lighting design software for years has been AutoCAD. AutoCAD allows designers to portray many aspects of their design in detail. However, jumping into AutoCAD with little to no CAD experience is daunting. Most professional lighting engineers spend years learning the ins and outs of AutoCAD's versatile features and functions through formal schooling, on the job learning or accredited training programs.

If you are making the decision between detailed functionality and ease of use, it is important to identify what components of the design process you plan to own yourself. Say you are part of a small design team at a local lighting design company. In this scenario, the amount of detail in your design is important because there are still certain calculations and measurements that are pertinent to the construction process once the design is complete.

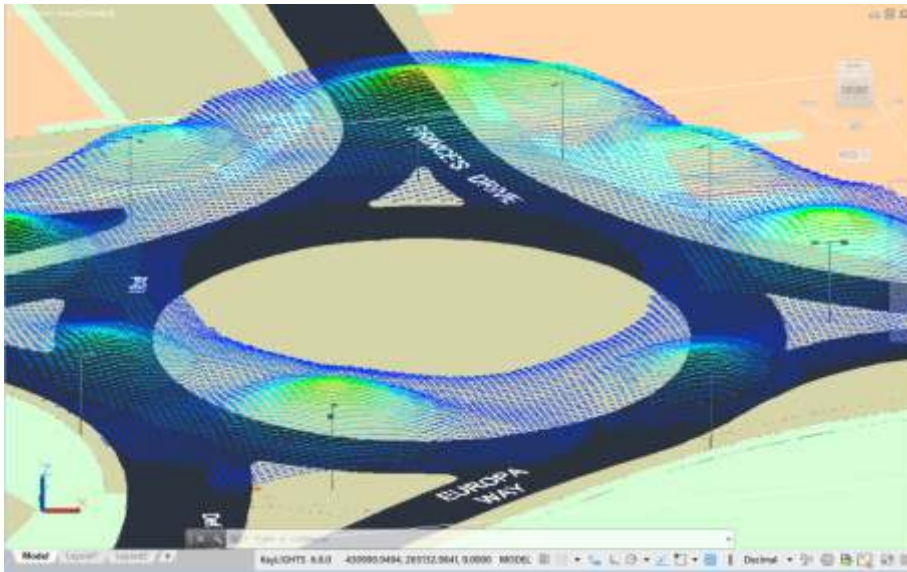


However, as a smaller organisation with fewer engineers, the number of projects and the bandwidth your team has to accurately complete those in a timely fashion can create a point of friction. With a powerful solution like AutoCAD, you can certainly achieve any level of detail required for a competitive proposal, but your organisation should be prepared to allocate the time and resources necessary to meet higher expectations of quality and detail. Therefore, with fewer engineers at your company, being able to complete detailed, quality designs in a timely fashion requires significant CAD experience.

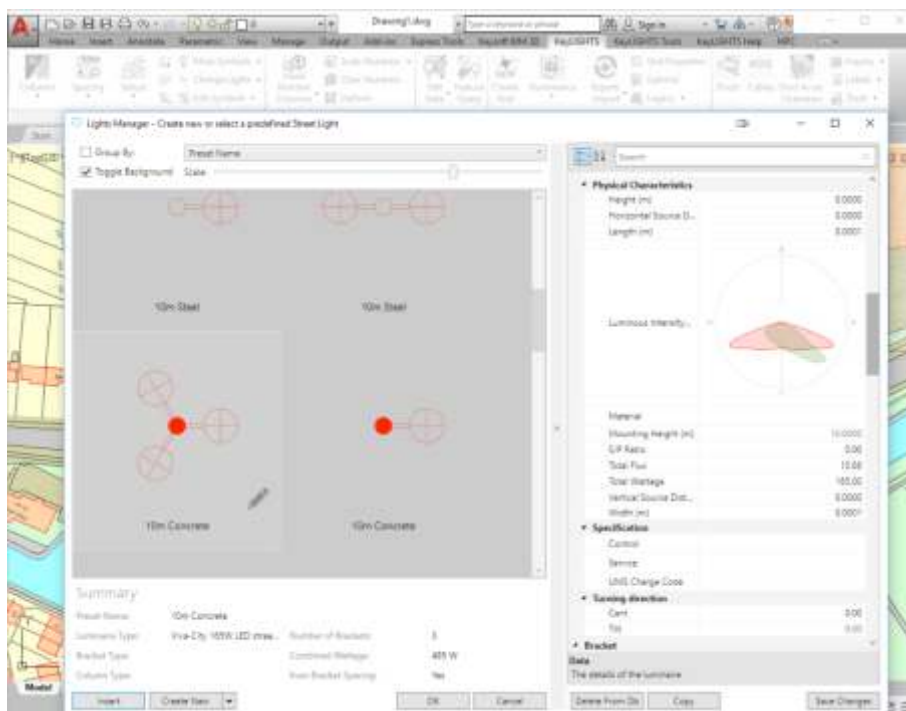
This is a scenario where the introduction of plugins to existing lighting design software like AutoCAD becomes a valuable option to allow your team to work faster and smarter.

For example, with a solution like [KeyLIGHTS from Transoft Solutions](#), lighting engineers and CAD designers have the ability to create designs using the familiar AutoCAD environment, while also having the customisable, enhanced utilities of a program specifically developed to speed up the CAD design process for a lighting engineer.

Below is an example of how the KeyLIGHTS plugin allows its user to customise data fields and how 3D models can be dynamically generated from the data stored such as foundation dimensions or bracket out-reach and height.



In the lights manager dialog you can decide on any property you require and these are then used as presets for insertion into your scheme design.





Deciding what street lighting software to buy is not an easy decision. Depending on your scenario or role, the amount of variables to consider can be infinite; everything from 3D visualisation functionality to the bandwidth of your design team can have an impact on your final results and competitive edge.

To learn more about what options exist for making your CAD design processes easier or more detailed, download a free subscription to KeyLIGHTS.

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