EXTERIOR LIGHTING, PHOTOMETRIC ("POINT X POINT") REPORT F.A.Q.

An optimally designed lighting system will: produce uniform illumination throughout the site (no dark or excessively bright areas), save money (by minimizing light fixture quantity, which will also reduce installation and energy costs), reduce crime, control illumination "spill" to adjacent properties, reduce the risk of liability associated with night-time accidents and conform to local City building code requirements. For these and other reasons, many Cities have building codes that include specific lighting and illumination requirements, with conformance including the submission of a photometric "point X point" lighting report.

Q. What is an Exterior Lighting Photometric report?

A. It is a scaled drawing of a site which includes all of the proposed exterior lighting fixtures as well as other pertinent features such as: buildings, property lines, parking spaces, etc. Additionally, there is a grid of footcandle numbers ("readings") superimposed on the site which depict the amount of illumination that will be present at each location on the grid. The numbers are based on multiple factors, taking into account: fixture locations, light source, performance, illumination distribution, aim, light fixture output, mounting height, and more.

Q. How are all of the factors converted into a grid of footcandle readings?

A. Light fixtures are tested under laboratory conditions in order to measure their specific illumination characteristics, with each attribute represented numerically. The numbers are then combined by the testing laboratory, to comprise a single computer data file that is referred to as an "IES" (Illuminating Engineering Society) file. Each brand and style of light fixture has its own IES file. Additionally, what often appears to be a single style of light fixture might actually contain one of multiple different internal optical systems that will each produce a distinct illumination distribution pattern, with each having its own representative IES file. Identical appearing light fixtures with different illumination distribution patterns are often used on the same site so that the illumination patterns can all be fit together in a way that conforms to the shape of the target areas. The concept is analogous to how individually shaped puzzle pieces can be fit together in order to form a complete puzzle. IES files are used to create photometric reports via the use of specialized software that employs "ray tracing" to model the results of the illumination created by all of the combined light fixtures on an installation site. By applying a repeating series of system design and virtual testing sequences, a Lighting Design Engineer can determine the best combination of constant and variable factors that will result in a final lighting configuration that will produce optimum results relative to the project goals.

Q. What elements on a photometric report are important to pass City building code requirements?

A. Each city has its own unique set of specifications that may include illumination parameters and/or ratios such as: minimum/maximum illumination, uniformity (the ratio of brightest to dimmest), average illumination, and light "spill" limitations (illumination that trespasses property lines).

Q. Where can I have an appropriate photometric "point X point" lighting design report created?

A. Combining lighting products from multiple manufacturers onto a single photometric report, typically requires the services of an independent Lighting Design Engineer. Being an independent lighting design and engineering company, Sterling Innovations is able to utilize the lighting fixtures made by a single or multiple different manufacturers and combine them into a single photometric lighting system configuration that optimizes their interaction. The final design will conform to all requirements while minimizing the quantity of light fixtures needed to achieve all objectives, thus also minimizing installation, maintenance and energy consumption costs.

For additional photometry related information, please see www.SterlingInnovations.Net or contact us at: Sterling Innovations LLC, Phone #(310) 274-6433 or via email to: Info@SterlingInnovations.Net

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