ElumTools™

Online Learning

"Revit Luminaire Families – Best Practices for Lighting Calculations"

Time:
2 hours

Prerequisite:
Basic Experience Working in the Revit Family Editor
Working understanding of Photometry and Lighting Calculations.

Description:
This session will provide an overview of constructing Revit Luminaire families for purposes of lighting calculations and photometrically accurate renderings using ElumTools.

Course outline:

Simple Luminaire Families (60 Minutes).
1. Getting started.
   - Overview of family templates.
   - Hosting recommended practices.
   - Tips for ensuring correct family orientation when loaded into Project.
   - Linked model issues.
2. Working in the family editor.
   - Basics of creating geometry.
   - Building families that flex.
3. Materials.
   - Using Material Libraries.
   - Choosing good Material names.
   - Recommended practices for luminous surfaces.
4. Basics of family photometry.
   - Options in the Light Source Dialog.
     - Assigning the correct source type.
     - Selecting an appropriate emit shape.
   - The Photometrics section of the family parameters dialog.
     - Tilt Angle.
     - Light Loss Factor.
     - "Emit Shape" dimensions. Best practices and limitations.
     - Color temperature and color filters.
   - Light Source placement & orientation.
     - Correct photometric insertion point for common luminaire types.
     - Parameterizing families with variable source position.
     - Common Light Source orientation issues such as the 1x4 / 4x1 problem.
   - Validating Families using the ElumTools Luminaire Manager.
     - Understanding photometric dimensions and interpreting the Luminous Box.
     - Assessing photometric dimension consistency with physical geometry of luminaire.

Complex Luminaire Families (45 minutes).
1. Nesting and Sharing.
   - Shared vs Non-Shared nesting.
     - Basics of sharing.
     - Understanding the interaction between the Light Source and the luminaire housing.
     - Recommended practices for exterior pole-mounted luminaires.
   - Nesting the Light Source.
     - Using nested sources for families with multiple sources.
     - Using nested sources to support complex light source parameterization such as orient and tilt.
     - Working with nested sources in the ElumTools Luminaire Manager.
2. Strategies for managing multiple photometric files for use with a single family.
   - Understanding the benefits and shortcomings of Type Catalogs.
   - Using Family Types.
   - Using a URL parameter.
   - Using a Family Type Parameter.

II.   **Q & A (15 Minutes).**