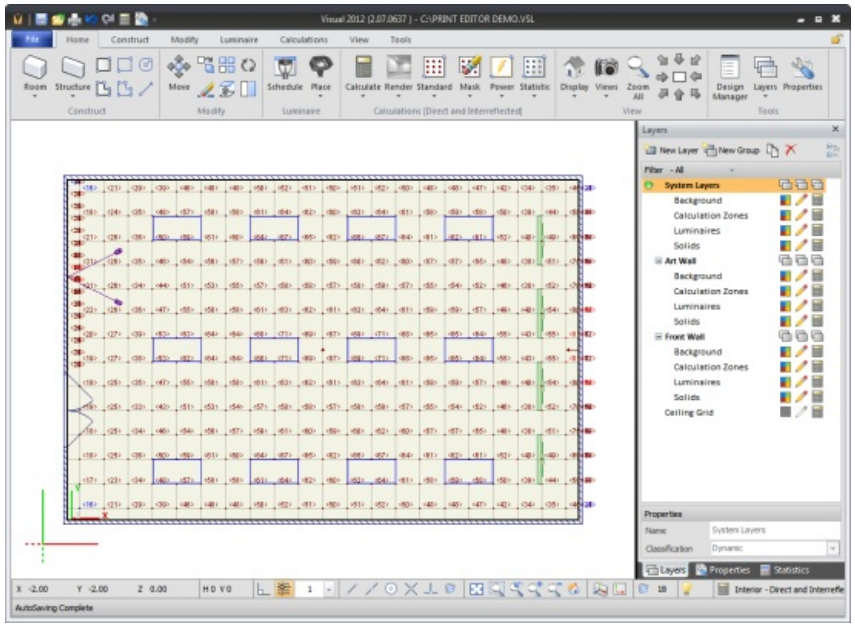
Chapter 1 - Visual Interface

The Visual interface consists of the **Ribbonbar**, **Design Window**, **Status Bar**, and **Sidebar**. The following chapter is meant to provide an overview of the basic functionality and graphical layout of each of these program components. Details will be discussed in subsequent chapters.

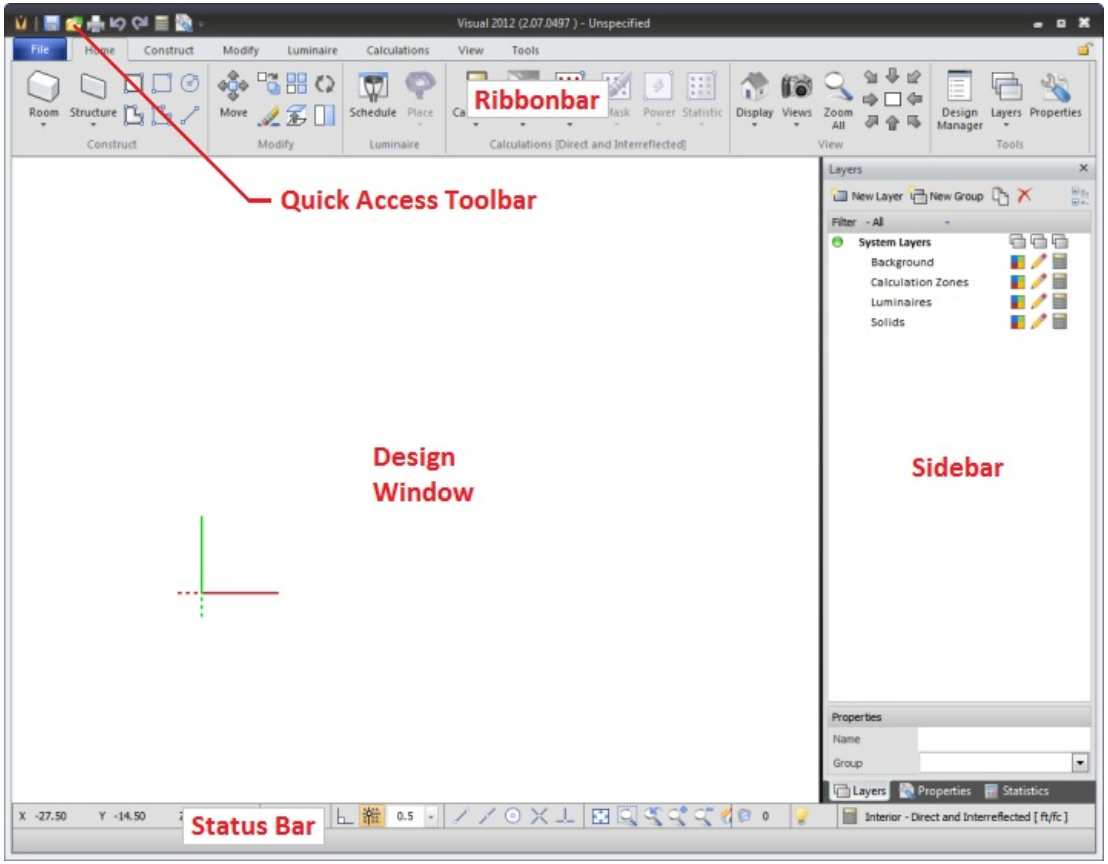


1.1 Design Environment

The **Design Environment** is the central element of the Visual interface and is where most user interaction takes place. It also serves as the gateway to all of the other elements. This is where the lighting *model* is constructed and analyzed to develop a final design.

The **Design Environment** has four components; **Ribbonbar**, **Design Window**, **Sidebar**, and **Status** bar. The **Quick Access Toolbar** is additionally located at the upper left to hold common commands. Each element handles a specific function that remains consistent throughout program operation.

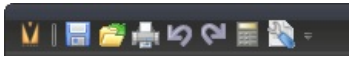
An overview discussion of each is provided in this chapter, while specific command execution is discussed in other chapters.



1.1.1 Quick Access Toolbar

The **Quick Access Toolbar** in the upper left corner of the **Design Environment** provides convenient access to common commands in the Visual title bar.

Default commands are **Save**, **Open**, **Print Editor**, **Undo**, **Redo**, **Calculate**, and **Properties**. The **Quick Access Toolbar** can be customized with commands useful to each user by clicking the down arrow on the right side of the buttons.

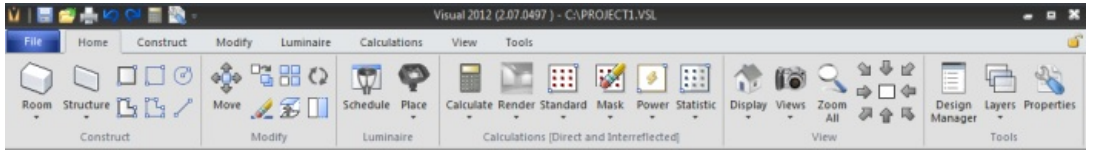


See Customize Dialog for more information.

1.1.2 Ribbonbar

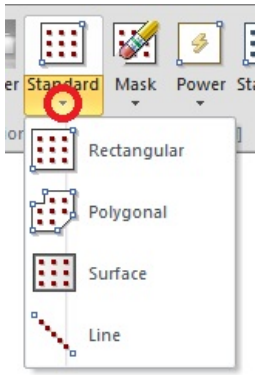
The **Ribbonbar** is the graphical menu interface housing all Visual commands. The commands on each *tab* are sub-grouped into *panels* to make navigation easier. Using a **Ribbonbar** style allows easier location of commands via images and text that then allows for more commands to be shown.

Common commands are located on the **Home** *tab*. Subsequent *tabs* group commands into different function families.



The presence of a small downward arrow below the button graphic indicates a sub-menu is available for more detailed selection.

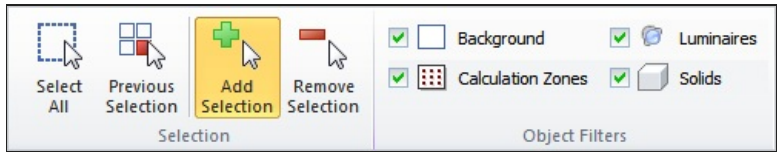
For example, there are four options for placing a **Calculation Zone** as shown at right.



When executing a command, the *context-sensitive* **Properties** *tab* will appear. The **Properties** *tab* provides an interface for the specification of command parameters. As an example, the **Properties** *tab* that appears after executing the **Line** command is shown at right. This allows for the specification of object parameters at creation.

The **Lock** in the upper right corner of the **Ribbonbar** makes the **Ribbonbar** behave more like a menu system in that after navigating to a *tab* and executing a command, Visual will return to the **Home** *tab*. Otherwise, the selected *tab* continues to have focus.

While executing **Modify** commands (**Copy**, **Move**, **Erase**, etc) the **Properties** *tab* will display the **Selection** and **Object Filters** *panels*. These buttons and checkboxes allow you to decide which objects Visual will "grab" if selected. For more information about object selection, reference Selecting Objects.



On command *tabs*, the **View** *panel* is shown to enable quick use of those functions as the design is completed.

Visual shows the **Instructions** *panel* on the **Properties** *tab* to provide step-by-step instructions related to commands.

For more information about navigation, reference Getting Started. For more information on each *tab* see The Command Tabs.

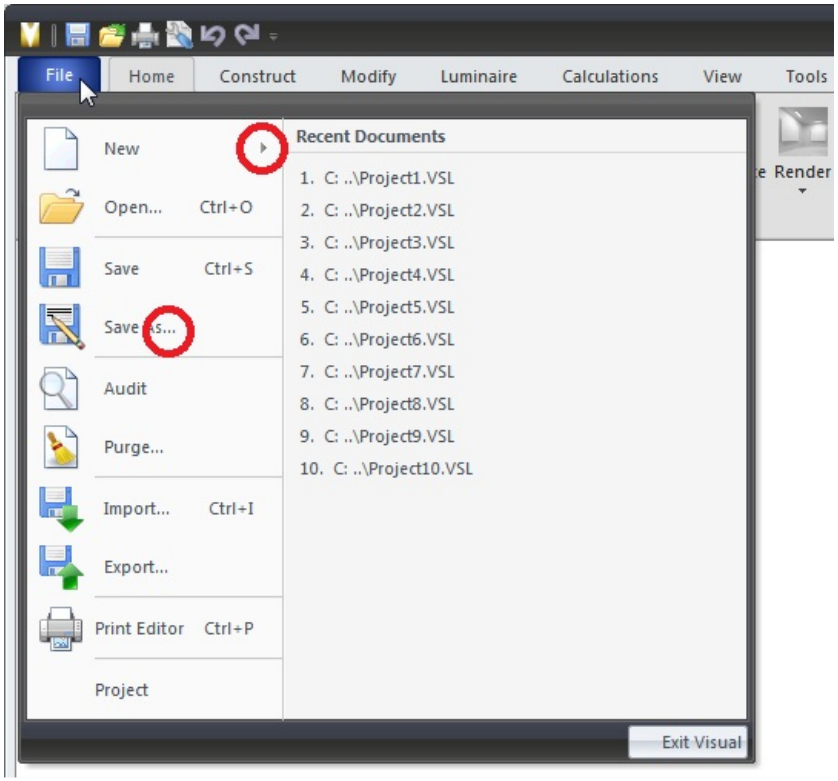
1.1.3 File Menu

The **File** menu is a part of the **Ribbonbar** but functions like a traditional menu instead of as part of the ribbon. The **File** menu is where new projects are created, VSL files are opened and saved, projects are verified with the **Audit** command, *DWG* and *DXF* files are imported and exported, and the **Print Editor** is accessed.

After clicking the **File** menu button, a drop-down menu will appear allowing further selection of several commands.

The presence of an ellipsis (...) following a menu command indicates that the command provides access to a *dialog* form, most of which should be familiar to users of other Windows-based applications.

The presence of a small right-arrow indicates that further command specification is required in the form of a sub-menu, and placing your mouse over that item will cause the sub-menu to appear at which point a selection can be made.

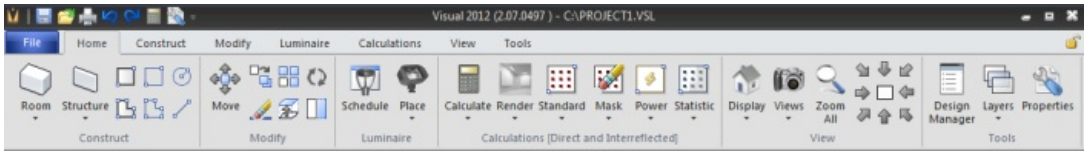


For more information see specific File Commands in the Chapter 12.

1.1.4 Command Tabs

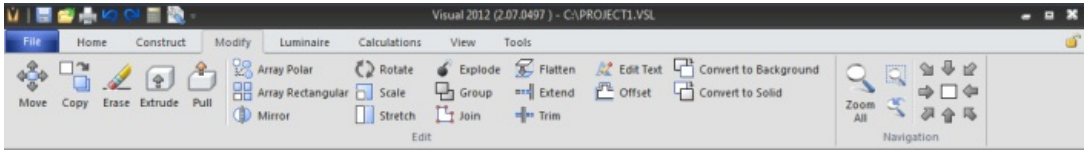
Tabs group commands into different function families that align with the modeling process; construct objects, possibly modify them, then define *luminaires*, place calculation zones, and finally view the *model*. The commands on each *tab* are sub-grouped into *panels* to make navigation easier.

The **Home** *tab* contains common commands and sub-menus used the most. Remember that the presence of a down arrow means there is a sub-menu present; hover the mouse over buttons to see the sub-menu.



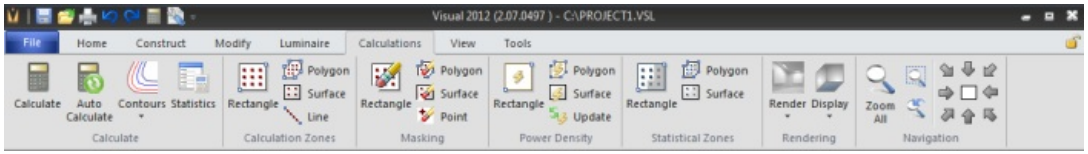
The **Construct** *tab* contains commands used to build a *model*. There a *panels* for both solid object commands and reference object commands. The Navigation *panel* is included to change the view.

The **Modify** *tab* contains two kinds of commands to modify the design: some commands create objects from other objects and others modify the base object. The **Navigation** *panel* is included to change the view.



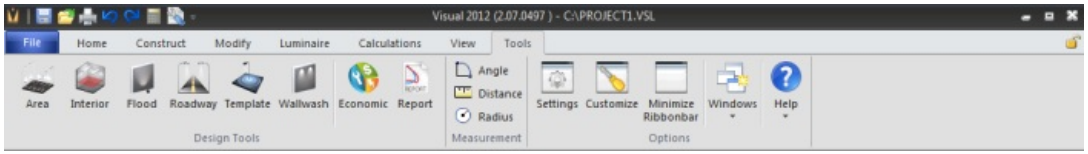
The **Luminaire** *tab* contains commands to build a **Luminaire Schedule**, place **Luminaires**, and modify **Luminaire** display. The **View** *panel* is included to change the view.

The **Calculations** *tab* contains commands to place **Calculation Zones** and remove (**Mask**) points from those zones to fit detailed scenarios, insert **Power Density Zones**, and sub-divide **Calculation Zones** into different **Statistical Zones** if necessary. This is also where the design is **Calculated** and **Rendered**. The **Navigation** *panel* is included to change the view.



The **View** *tab* contains commands to change how the *model* appears, provides access to saved views, and provides in-depth navigation commands to manipulate how the *model* is viewed.

The **Tools** *tab* contains links to web-based design tools, measurement commands, and buttons to initiate dialogs to change Visual options.



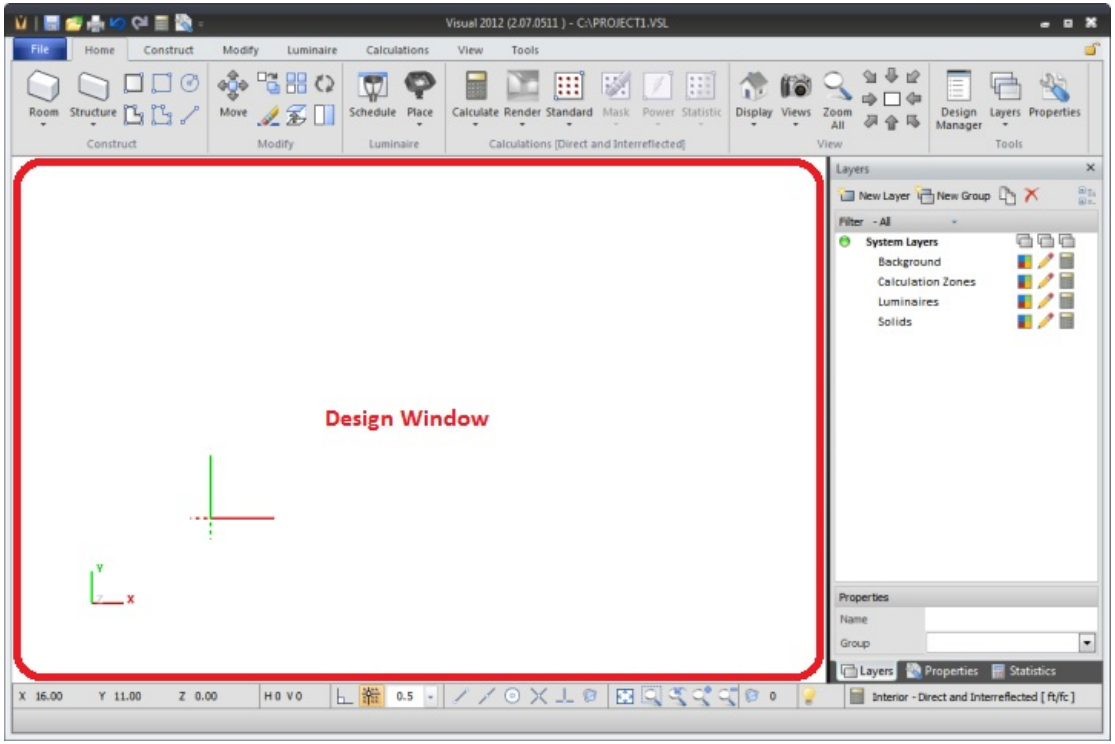
1.1.5 Design Window

The **Design Window** comprises the majority of the **Design Environment** screen. This is where lighting *models* are constructed, displayed and analyzed.

Think of the **Design Window** as the view port to the lighting *model*. There are a number of ways to manipulate the view port. It can be translated (left, right, up, or down), moved rotationally around the lighting *model* (also referred to as "orbiting"), and zoomed in and out. See View.

In Visual, the mouse cursor is a set of *crosshairs* colored for identification. The cursor changes to the standard arrow when it is outside the **Design Window**. See Mouse Pointer Navigation.

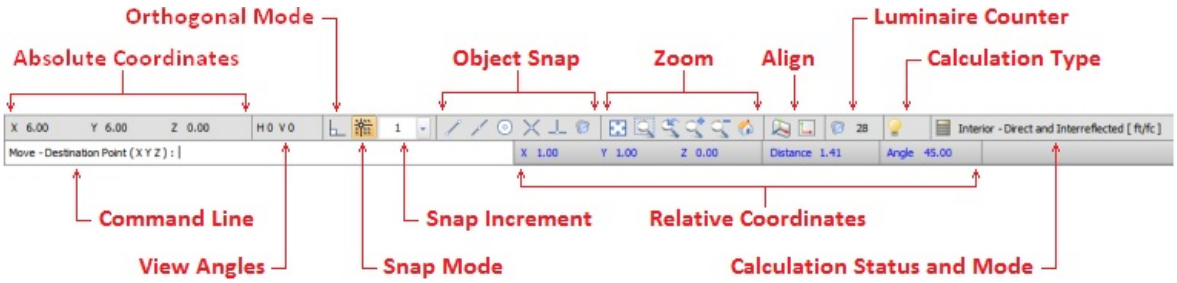
The **Global Axis** *icon* in the lower left of the **Design Window** can be turned on or off as desired. See Environment Settings.



For more information, reference Getting Started.

1.1.6 Status Bar

The **Status** bar is located at the bottom of the **Design Environment** screen, and provides continual feedback, handy tools, and command entry. The **Status** bar is always present at the bottom of the screen and contains various buttons and feedback mechanisms to make designing easier. A *toggle button* with a gold color indicates the mode associated with that button is in operation as is shown below for **Snap Mode**.



The purpose of the **Command Line** is to provide dynamic feedback and allow *coordinate* entry related to commands during program operation. Once a command has been initiated, the **Command Line** prompts the user for subsequent information such as *coordinate* and object selection. In certain cases, numerical *coordinate* entry is supported and the **Command Line** will convert to a *text box* to allow such data to be entered manually (as shown for the **Move** command). For more information, reference Entering Coordinates.

Absolute Coordinates reports the exact location (*Cartesian* X,Y,Z) of the mouse *crosshairs* within the modeling space with respect to the origin (0,0,0). For more information see Cartesian Coordinates.

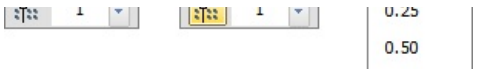
Relative Coordinates reports the location (*Cartesian* X,Y,Z) of the *crosshairs* within the *model* space relative to a previously selected *coordinate* while in a command. Visual additionally displays polar *coordinates* (distance and an angle). **Relative Coordinates** are only reported for subsequent *coordinate* selections and are useful when relative distances are more convenient or intuitive than absolute locations. For more information also see Cartesian Coordinates.

The **View Angles** section shows reference angles for how the lighting *model* is currently being viewed.

The **Orthogonal Mode** button allows the **Orthogonal Mode** to be turned on or off and indicates the mode is active when it has a gold background. This mode restricts movement to being perpendicular or parallel to the *coordinate* axes.

The **Snap Mode** button is a *toggle button* that allows the **Snap Mode** to be turned on or off and indicates the mode is active when it has a gold background. The **Snap**

Increment *combo box* indicates what increment Visual will use if that mode is activated. Clicking the small down arrow initiates the list box for common selections (part of which is shown at far right. Custom values can be typed into the box. See Incremental Snap for more information.

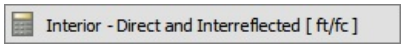


The **Object Snap** buttons allow specific modes to be activated that help to draw objects more accurately. The icons provide visual cues to the modes of: endpoint, midpoint, center, intersection, and perpendicular. A mode is active when it has a gold background. See Entering Coordinates for more information.

The **Zoom** buttons allow the quick change of the view by: **Zoom All**, **Zoom Window**, **Zoom Previous**, **Zoom In**, **Zoom Out**, and **Zoom to Center**. For more information see Zoom and Basic Viewing.

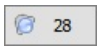
The **Align Cursor to Plane** and **Align Cursor and Plane to Current View** buttons allow for easier construction of objects in specific *planes*. See

The **Calculation Status and Mode** indicates whether an interior or an exterior scheme will be used and if only direct *illuminance* will be calculated or if *interreflected illuminance* will also be calculated and presented. This field also displays units that are used; this can be feet or meters for length and footcandles or *lux* for *illuminance*. Left-click this field to display information about the last calculation time.



Calculation Type shows if electric lighting only or electric and daylighting is/are calculated. Daylighting is an additional module that can be included in Visual. See www.visual-3d.com for more information on installing daylighting capability.

***Luminaire* Counter** as the name implies, provides an up-to-date count of the total number of *luminaires* in the lighting *model*.



1.1.7 Properties Tab

When executing commands, Visual will display the **Properties** *tab* in the **Ribbonbar**. This part of the **Ribbonbar** is a dynamic feature that allows unique attributes such as text description, *reflectance*, and height to be assigned to objects as they are being created.

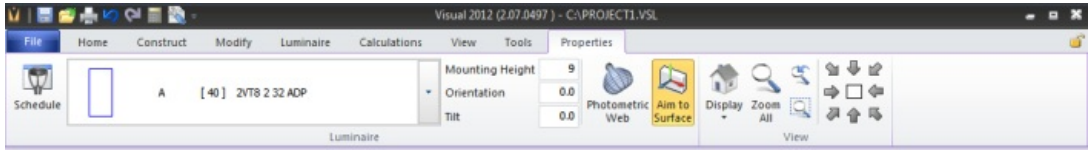
The **Properties** *tab* is considered dynamic because its contents change depending on the active command.

Specific elements of the **Properties** *tab* are discussed in the related section for each command that displays the *tab*.

The **Properties** *tab* works in conjunction with the **Command Line** in the **Status** bar to provide complete command specification while holding parameters constant that might be used with that command upon the next execution.

For example, specifying a 9ft *luminaire mounting height* when placing *luminaires* in one instance is likely to be applicable the next time the command is used.

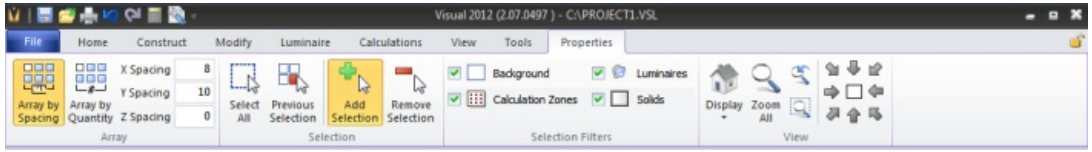
Specifying a parameter does not change the Visual defaults.



In commands where objects need to be selected, the **Properties** *tab* will include the **Selection**, **Selection Filters**, and **View** *panels*.

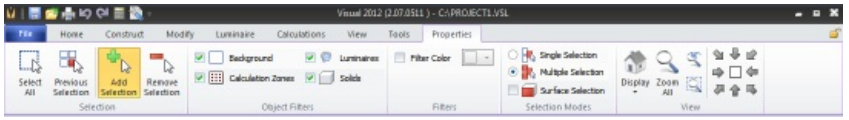
The **Selection** and **Selection Filters** *panels* assist in selecting objects. See Selecting Objects for more information.

The **View** *panel* is simply the **Navigation** *panel* as described in Basic Viewing.



The **Properties** *tab* is separately shown when executing the **Properties** command. In this mode, additional tools are provided for advanced object selection.

In addition to the **Selection** and **Selection Filters** *panels*, the **Properties** *tab* will contain the **Filters** and **Selection Modes** *panels* that allow for further refinement of what objects Visual will add to the selection set. See Ribbonbar Properties Tab for more information.



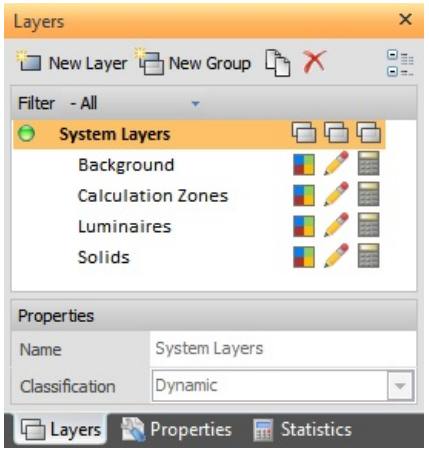
More information on specific **Properties** *tab* tools and function is included as necessary in this document as commands are discussed.

1.1.8 Sidebar

The **Sidebar** provides convenient access to three *tabs* of information that also allow for the modification of *model* object parameters and the display of calculation results.

The **Layers** *tab* contains the **Layer Manager** that controls the basic system layers as well as user-defined layers related to properties and visibility. See Layer Manager for more information.

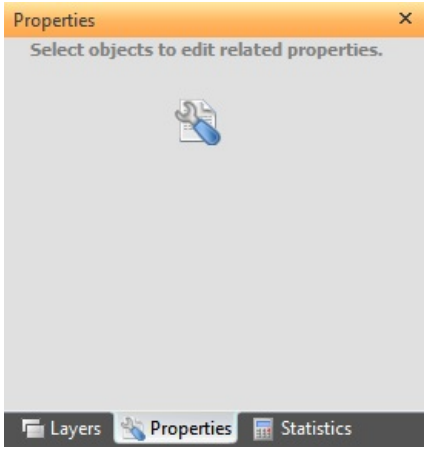
Most layer functionality is considered an advanced topic; layer functionality in Visual can be quite robust and complex. Complex designs can however be completed with simply the default **System Layers** and modest if any use of this *dialog*.



The **Properties** *tab* displays *context-sensitive* fields to control the four object types individually or in groups. When objects are selected, all parameters that can be user-modified will be displayed. See Properties for more information.

As with the **Layers** *tab*, most use of this *dialog* is an advanced topic.

The display name on the *tab* itself will change depending on which object type is being edited; for example, the *tab* will display "Luminaires" when ***Luminaires*** have been selected for modification. When different object types are selected, the *tab* will display "Shared Properties".

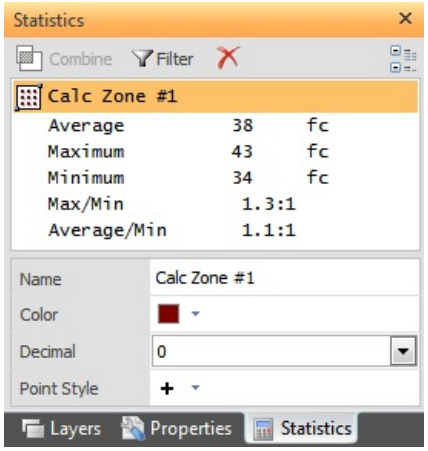


The **Statistics** *tab* displays information related to the various **Calculation Zones** and **Statistical Zones** placed in the *model*.

The typical statistical information is displayed, but additional fields can be added in the Settings *dialog*. See Calculations Settings.

Clicking on a zone name will show the basic properties for that zone at the bottom of the *tab*. See Statistics for more information.

Use of the **Statistics** *tab* is a basic function in the use of Visual.



The **Sidebar** can be resized by left-click-drag after clicking the divider between the **Design Window** and the **Sidebar**. The cursor will change to a "double slider" to indicate the operation can occur.


(shown 2x normal size)

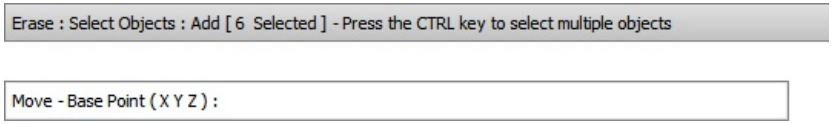
On occasion, Microsoft Windows and Visual don't communicate properly. This most often results in the *tabs* at the bottom of the **Sidebar** disappearing. To fix this issue see Reset Windows. This also resets the width of the **Sidebar** if it has been changed.

1.1.9 Command Line

One of the most important parts of the **Status Bar** is the **Command Line**. The **Command Line** provides feedback for each command related to necessary user inputs and allows for the input of *coordinate* information if desired.

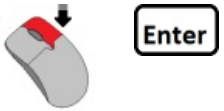
Commands have a step-by-step process that must be followed. The **Command Line** provides text cues related to what type of input Visual needs to proceed. Examples being "Select Objects" and "*Base Point* (X Y Z)".

Reading the **Command Line** provides on-the-fly command reference as does the **Instructions** *panel* on the **Properties** *tab* of the **Ribbonbar**. Related information can be found in Selecting Objects.



Note that all commands are moved from one step to the next by right-clicking the mouse or pressing the *Enter* key.

See Using the Mouse and Keyboard Commands for detailed information.



The **Command Line** is where *coordinate* information is input via the keyboard. It may be necessary to left-click on the **Command Line** to tell Visual to place focus there to accept input if focus has been previously placed somewhere in the Properties *tab*.

See Command Line Entry for detailed information.

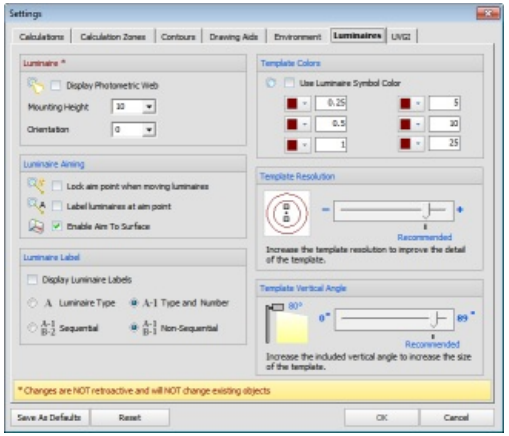
1.2 Settings Form

The **Settings** form is accessed through the **Tools** *tab* of the **Ribbonbar**. This is where parameters affecting the global operation of Visual are found.

The **Settings** form provides a means for customizing the interface to meet specific needs and/or user preferences.

Category selection is made from the *tabs* and the available options are shown in *panels* in each *tab*. **Settings** are logically grouped and labeled for easy identification within each category *tab*.

Graphics are included where appropriate.

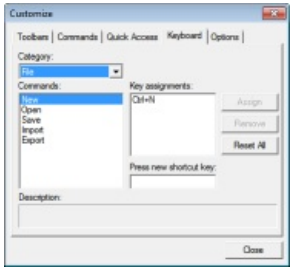


For more specific information related to the use of the **Settings** form or any of the Visual options, reference Settings Dialog.

1.3 Customize Form

The **Customize** form is accessed through the **Tools** *tab* of the **Ribbonbar**.

This multi-*tab* form is where you set the more program-specific options such as making a custom toolbar, modify Quick Access toolbar buttons, assign or change keyboard shortcuts, and change how menus behave.



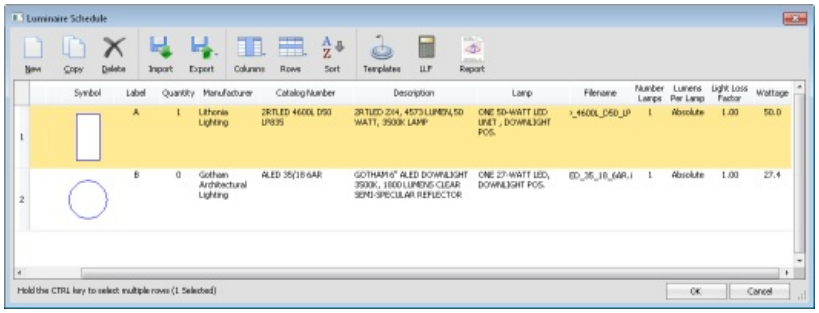
For more specific information related to the use of the **Customize** form or any of the Visual options, reference Customize Dialog.

1.4 Luminaire Schedule

The **Luminaire Schedule** is accessed through the **Luminaire** *tab* of the **Ribbonbar**. This is where the *luminaire* schedule is constructed to establish the various *luminaire* configurations available for use within the **Design Environment**.

Luminaire Types are arranged in a scrolling spreadsheet format for easy and intuitive assignment of *photometric* information, symbols, descriptions, and design templates.

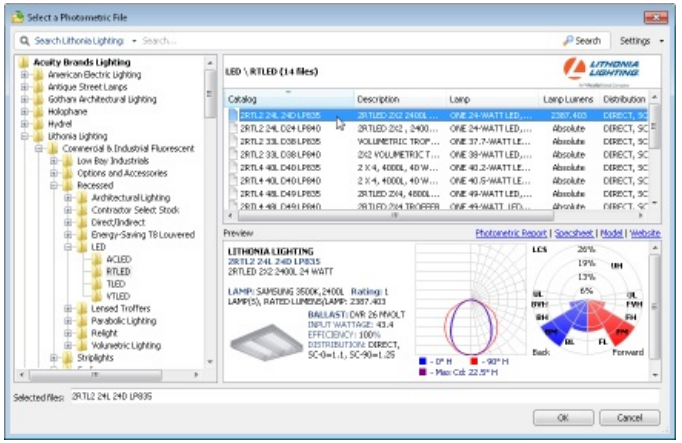
Photometric and descriptive information is accessed by selection of a valid *photometric file*, and you may then modify the *symbol*, assign templates as appropriate, and view a *photometric* report. **Schedules** can also be imported and exported in a VSC format only useful in Visual or exported in a CSV format for use in various spreadsheet programs.



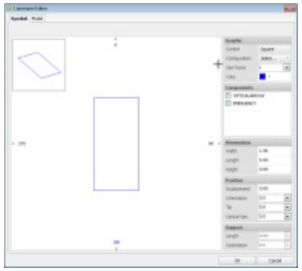
When selecting a new ***Luminaire***, Visual opens the **Select a *Photometric* File** *dialog* that is more complex but yet considerably more useful than the standard Windows *dialog* used for file selection elsewhere.

Visual includes an Acuity Brands *photometric* database but IES files from any manufacturer can be selected. When using Acuity Brands files, the *dialog* shows additional product information and graphics to make selection easier.

All IES files in a directory chosen in the left pane will be displayed in the upper right pane in a list format showing key parameters. After left-clicking a filename, Visual will display basic *photometric* information in the lower *panel*.

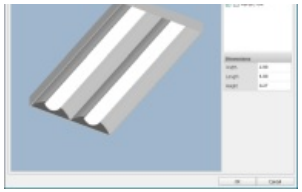


Once a *photometric file* has been chosen, it is possible to modify the ***Symbol*** by left-clicking the ***Symbol*** in the **Luminaire Schedule**, which initiates the **Luminaire Editor**. Visual chooses a ***Symbol*** that most closely resembles the basic form of the *luminaire* based on the luminous dimensions in the IES file, but any ***Symbol*** can be chosen.



The **Luminaire Editor** additionally allows for the selection and basic modification of complex solid *models* for **Shaded** and **Rendered** views. *Models* are included and automatically selected for Acuity Brands products. The inclusion of *models* for other

manufacturers is a manual process that first requires a valid *model* file to be available; creation is explained in the Luminaire Solid Models appendix.



For more specific information related to the use of the **Luminaire Schedule**, reference the Luminaire chapter.

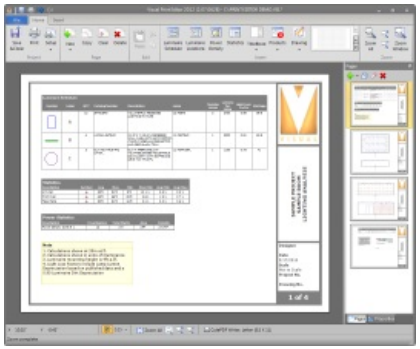
1.5 Print Editor

The **Print Editor** is accessed through the **File** option in the main menu. This separate window that opens on top of the main Visual window is where printable **Pages** are composed to illustrate the lighting design built in the **Design Environment**.

Multiple **Pages** can be built with different to-a-scale views, snapshots, schedules, notes, and statistics. Images, text, and PDF files can be placed, as well as specification sheets and images for Acuity Brands products.

The **Title Block** is customizable with graphics, borders, and other elements to provide a unique printed **Pages** if desired.

The layout and content of some elements can be saved as the default for future use.



For more specific information related to the use of the **Print Editor**, reference Print Editor.

1.6 Updating Visual

Updates to Visual are continually posted in order to improve program performance and address issues related to specific lighting *model* creation resulting from different user approaches to construction.

When Visual is started, a license check is done via the internet. In that process, version numbers are compared and Visual will display an **Update Available** button at the right end of the **Ribbonbar**.

Clicking the button launches the Visual download *page* in a web browser to allow for download.