Audit

Check the *model* for known and potential issues and errors

Instructions:
1. Select **Audit** from the **File Menu**
2. Visual will check the *model*
3. If conflicts are found, Visual displays the yellow warning bar at the top of the **Design Window**
4. Click **View Audit Results** to launch the **Audit *Dialog***
5. Review and make necessary changes
6. Close the *dialog* by clicking the red X in the upper-right corner

Command Keys:
 None

Related Commands:
 Design Manager

Related Help:
 Audit

Related Videos:
 None

Exit
Close Visual

Instructions:
1. Select **Exit** from the **File Menu**
2. If the current file has not been saved Visual will prompt to save any new changes
3. Click OK to save changes

Command Keys:
  None

Related Commands:
  None

Related Help:
  None

Related Videos:
  None

Export

Export a Visual File (*.VSL) as a *CAD* File (*.*DWG*, *.*DXF*)

Instructions:
1. Select **Export** from the **File Menu**
2. The **File Selection** *Dialog* will display
3. Select the directory in which to save the file
4. Type the desired filename in the Filename textbox or choose an existing filename
5. Click OK

Command Keys:
  None

Related Commands:
  Import
  Save As

Related Help:
  Importing and Exporting Files

Related Videos:
  None

Import

Import a *CAD* File *DWG*, *DXF*) or Visual File (*.VSL)

Instructions:

1. Select **Import** from the **File Menu**
2. The **File Selection *Dialog*** will display
3. Select the file type (.*DXF* or .*DWG*) of the *CAD* file
4. Select the file from the appropriate directory
5. Click OK

Command Keys:

   Ctrl+I

Related Commands:

   Export

Related Help:

   Importing and Exporting Files

Related Videos:

   Importing 3-D Geometry

New
Start a new Visual (*.VSL) file

Instructions:
1. Select **New** from the **File Menu**
2. Select **Interior Project** or **Exterior Project**
3. Visual will prompt to save changes in the existing if applicable
4. Click **Yes** or **No** to save changes as desired
5. Click Cancel to revert to the current file and do nothing

Command Keys:
None

Related Commands:
None

Related Help:
Opening a Project
Saving a Project

Related Videos:
None

Open

Open a Visual file (*.VSL)

Instructions:
1. Select **Open** from the **File Menu**
2. The **File Selection** *Dialog* will display
3. Select a Visual file to open
4. Click OK

Command Keys:
  None

Related Commands:
  None

Related Help:
  Opening a Project

Related Videos:
  None

Print Editor
Create printed output

Instructions:
1. Select **Print Editor** from the **File Menu**
2. The **Print Editor** will open on top of the **Design Environment** in a separate window
3. To return to the **Design Environment**, select **Save&Close** or **Close** from the **Print Editor File Menu**

Command Keys:
Ctrl+P

Related Commands:
None

Related Help:
Print Editor

Related Videos:
Print Editor I
Print Editor II

Project
Assign and/or edit properties for the current project

Instructions:
1. Select **Project** from the **File Menu**
2. The **Project Properties Dalog** will appear
3. Edit the **Project Properties** text boxes as desired
4. Click OK

Command Keys:
   None

Related Commands:
   None

Related Help:
   Opening a Project

Related Videos:
   None

Purge

Reduce file size by removing unused or unnecessary information

Instructions:
1. Select **Purge** from the **File Menu**
2. The **Purge File *Dialog*** will appear
3. Select any or all of the data types as described
4. Click OK

Command Keys:
  None

Related Commands:
  None

Related Help:
  None

Related Videos:
  None

Recent Documents

The 15 most recently opened files are cataloged

Instructions:
1. Select the desired file from the **Recent Documents** section of the **File Menu**
2. Visual will prompt to save changes in the existing file if applicable

Command Keys:
  None

Related Commands:
  Open

Related Help:
  None

Related Videos:
  None

Save

Save the current Visual file (*.VSL)

Instructions:
1. Select **Save** from the **File Menu**
2. If the current Visual file has not been previously saved the **File Selection _Dialog_** will appear so that a directory and filename may be specified
3. If the file has been previously saved, Visual will save the most recent information
4. The progress in the save process is shown in the **Status Bar**

Command Keys:
  Ctrl+S

Related Commands:
  Save As

Related Help:
  Saving a Project

Related Videos:
  None

Save As

Save the current file as a new file (rename the file)

Instructions:
1. Select **Save As** from the **File Menu**
2. The **File Selection** *Dialog* will appear
3. Select the directory in which to save the file
4. Type the desired filename in the Filename textbox or chose an existing file
5. Click OK

Command Keys:
  None

Related Commands:
  Save

Related Help:
  Saving a Project

Related Videos:
  None

Auto Calculate

Tell Visual to initiate a calculation automatically after every change to the *model*

Instructions:
1. Select **Auto Calculate** from the **Calculation** *tab* of the **Ribbonbar**
2. Click the button again to turn the feature off
3. Visual will end the command

Command Keys:
  None

Related Commands:
  Calculate

Related Help:
  Automatic Calculation Feature

Related Videos:
  None

Calculate

Initiate a calculation

Instructions:
1. Select **Calculate** from the **Calculation** *tab* of the **Ribbonbar**
2. The **Calculations** *Dialog* will appear and progress in the calculation process is shown
3. If Visual completes the **Audit** and finds issues, the warning bar may appear
4. Select the lower half of the button for a sub-menu
5. Select **Interior**, **Exterior**, or **Sign Mode** if desired from the sub-menu
6. Select **Direct and** *Interreflected* or **Direct Only** if desired from the sub-menu

Command Keys:
Shift+C

Related Commands:
Audit
Auto Calculate

Related Help:
Audit
Initiating a Calculation

Related Videos:
Calculation Zones

Calculation Zone, Line

Insert a calculation zone along a line having one or more segments

Instructions:
1. Select **Line** from the **Calculation Zones** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Specify the **Calculation Type** in the sub-menu in the **Properties** *tab* of the **Ribbonbar**
3. **S**pecify the **Name**, **Height**, and **Point Spacing** in the **Properties** *tab* of the **Ribbonbar**
4. **S**pecify the **Color**, **Point Style**, and **Precision** if desired in the **Properties** *tab* of the **Ribbonbar**
5. Locate the beginning point of the line on which the calculations should be performed by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Select additional points as necessary by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Right-click the mouse to end the command and Visual places the points

Command Keys:
   None

Related Commands:
   Calculation Zone, Polygon
   Calculation Zone, Rectangle
   Calculation Zone, Surface

Related Help:
   Calculation Types
   Calculation Zone Parameters
   Entering Coordinates
   Line Calculation Zones

Related Videos:
   Calculation Zones

Calculation Zone, Polygon

Insert a calculation zone defined by a *polygonal* shape

Instructions:
1. Select *Polygon* from the **Calculation Zones** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Specify the **Calculation Type** in the sub-menu in the **Properties** *tab* of the **Ribbonbar**
3. **S**pecify the **Name**, **Height**, and **Point Spacing** in the **Properties** *tab* of the **Ribbonbar**
4. **S**pecify the **Color**, **Point Style**, and **Precision** if desired in the **Properties** *tab* of the **Ribbonbar**
5. If it is desired to have calculation points offset from the bounding *polygon*, check the box in the **Properties** *tab* of the **Ribbonbar**
6. Locate the beginning point of the *polygon* in which the calculations should be performed by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Select additional points as necessary by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
8. Right-click the mouse to close the *polygon* and end the command and Visual places the points

Command Keys:
  None

Related Commands:
  Calculation Zone, Line
  Calculation Zone, Rectangle
  Calculation Zone, Surface

Related Help:
  Calculation Types
  Calculation Zone Parameters
  Entering Coordinates
  Rectangular and Polygonal Calculation Zones

Related Videos:
  Calculation Zones

Calculation Zone, Rectangle

Insert a calculation zone defined by a rectangular shape

Instructions:
1. Select **Rectangle** from the **Calculation Zones** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Specify the **Calculation Type** in the sub-menu in the **Properties** *tab* of the **Ribbonbar**
3. **S**pecify the **Name**, **Height**, and **Point Spacing** in the **Properties** *tab* of the **Ribbonbar**
4. **S**pecify the **Color**, **Point Style**, and **Precision** if desired in the **Properties** *tab* of the **Ribbonbar**
5. If it is desired to have calculation points offset from the bounding rectangle, check the box in the **Properties** *tab* of the **Ribbonbar**
6. Locate the beginning point of the rectangle in which the calculations should be performed by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Select the diagonally opposite corner of the rectangle by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
8. Visual automatically ends the command and places the points

Command Keys:
  None

Related Commands:
  Calculation Zone, Line
  Calculation Zone, Polygon
  Calculation Zone, Surface

Related Help:
  Calculation Types
  Calculation Zone Parameters
  Entering Coordinates
  Rectangular and Polygonal Calculation Zones

Related Videos:
  Calculation Zones

Calculation Zone, Surface

Insert a calculation zone defined by an existing **Solid Object**

Instructions:
1. Select **Surface** from the **Calculation Zones** *panel* of the **Calculation** tab of the **Ribbonbar**
2. Specify the **Calculation Type** in the sub-menu in the **Properties** tab of the **Ribbonbar**
3. **S**pecify the **Name**, **Height**, and **Point Spacing** in the **Properties** tab of the **Ribbonbar**
4. **S**pecify the **Color**, **Point Style**, and **Precision** if desired in the **Properties** tab of the **Ribbonbar**
5. If it is desired to have calculation points offset from the bounding rectangle, check the box in the **Properties** tab of the **Ribbonbar**
6. Select a Solid Object on which to place points by left-clicking
7. Select additional Solid Objects on which to place points by left-clicking
8. Right-click to end the command and Visual places the points

Command Keys:
None

Related Commands:
Calculation Zone, Line
Calculation Zone, Polygon
Calculation Zone, Rectangle

Related Help:
Calculation Types
Calculation Zone Parameters
Placing Calculation Zones on Existing Solid Objects

Related Videos:
Calculation Zones

Contours

Display and control iso-*illuminance* contour lines for defined **Calculation Zones**

Instructions:
1. Select **Contours** from the **Calculation** *tab* of the **Ribbonbar**
2. From the sub-menu, place checks to display the desired contour lines
3. From the sub-menu, edit contour line values as necessary
4. From the sub-menu, select to display **Contour Labels** if desired
5. From the sub-menu, choose **Show** or **Hide All Contours**
6. Left-click in the **Design Environment** to close the sub-menu

Command Keys:
  None

Related Commands:
  Calculation Zone, Polygon
  Calculation Zone, Rectangle
  Calculation Zone, Surface

Related Help:
  Setting and Displaying Contours

Related Videos:
  Calculation Zones

Display

Control what lighting quantities are displayed in **Renderings**

Instructions:
1.   Select **Display** from the **Calculation** *tab* of the **Ribbonbar**
2.   From the sub-menu, select the desired lighting quantity to be displayed in **Rendered Display Mode**
3.   Visual will change the display

Command Keys:
  None

Related Commands:
  Render
  Rendered Display Mode

Related Help:
  Display Mode
  Rendering

Related Videos:
  Changing Shading and Using Views

Masking, Point

Remove single calculation points from a **Calculation Zone**

Instructions:
1. Select **Point** from the ***Masking*** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Left-click calculation points to be removed
3. Right-click to end the command

Command Keys:
None

Related Commands:
Masking, Polygon
Masking, Rectangle
Masking, Surface

Related Help:
Masking Calculation Zones
Unmasking Calculation Zones

Related Videos:
Masking Calculation Zones

Masking, Polygon

Remove calculation points from a **Calculation Zone** based on a *polygonal* shape

Instructions:
1. Select ***Polygon*** from the ***Masking*** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Locate the start point of the *polygon* enclosing points to be removed by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
3. Locate additional points to define the *polygon* by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Right-click to close the *polygon*, end the command, and remove the points

Command Keys:
   None

Related Commands:
   Masking, Point
   Masking, Rectangle
   Masking, Surface

Related Help:
   Entering Coordinates
   Masking Calculation Zones
   Unmasking Calculation Zones

Related Videos:
   Masking Calculation Zones

Masking, Rectangle

Remove calculation points from a **Calculation Zone** based on a rectangular shape

Instructions:

1. Select **Rectangle** from the ***Masking*** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Locate the start point of the rectangle enclosing points to be removed by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
3. Locate the diagonally opposite corner of the rectangle by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Visual automatically ends the command and removes the points

Command Keys:

None

Related Commands:

Masking, Point
Masking, Polygon
Masking, Surface

Related Help:

Entering Coordinates
Masking Calculation Zones
Unmasking Calculation Zones

Related Videos:

Masking Calculation Zones

Masking, Surface

Remove calculation points from a **Calculation Zone** based on an existing **Solid Object**

Instructions:
1. Select **Surface** from the ***Masking* panel** of the **Calculation *tab*** of the **Ribbonbar**
2. Select one or more **Solid Objects** that define an area where points are to be removed, noting that all points "above" and "below" the selection will be removed based on the current view
3. Visual automatically ends the command and removes the points

Command Keys:
None

Related Commands:
Masking, Point
Masking, Polygon
Masking, Rectangle

Related Help:
Masking Calculation Zones
Selecting Objects
Unmasking Calculation Zones

Related Videos:
Masking Calculation Zones

Power Density, Polygon

Define a zone for calculation of lighting power density based on a *polygonal* shape

Instructions:

1. Select **Polygon** from the **Power Density** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Locate the start point of the *polygon* defining the area of interest by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
3. Locate additional points to define the *polygon* by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Right-click to close the *polygon* and end that portion of the command
5. Specify the **Luminaires** to be assigned to the **Power Density Zone** by left-clicking
6. Right-click to end the command

Command Keys:
None

Related Commands:
Power Density, Rectangle
Power Density, Surface
Power Density, Update

Related Help:
Entering Coordinates
Power Zones

Related Videos:
None

Power Density, Rectangle

Define a zone for calculation of lighting power density based on a rectangular shape

Instructions:
1. Select **Rectangle** from the **Power Density** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Locate the start point of the rectangle defining the area of interest by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
3. Locate the diagonally opposite corner of the rectangle by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Specify the *Luminaires* to be assigned to the **Power Density Zone** by left-clicking
5. Right-click to end the command

Command Keys:
None

Related Commands:
Power Density, Polygon
Power Density, Surface
Power Density, Update

Related Help:
Entering Coordinates
Power Zones

Related Videos:
None

Power Density, Surface

Define a zone for calculation of lighting power density based on an existing **Solid Object**

Instructions:
1. Select **Surface** from the **Power Density** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Select a **Solid Object** that defines the area of interest by left-clicking in the **Design Window**
3. Right-click to end the selection portion of the command
4. Specify the *Luminaires* to be assigned to the **Power Density Zone** by left-clicking
5. Right-click to end the command

Command Keys:
None

Related Commands:
Power Density, Polygon
Power Density, Rectangle
Power Density, Update

Related Help:
Selecting Objects
Power Zones

Related Videos:
None

Power Density, Update

Update existing **Power Density Zones** to add or remove assigned *Luminaires*

Instructions:
1. Select **Update** from the **Calculation** *tab* of the **Ribbonbar**
2. Select an existing **Power Density Zone** by left-clicking in the **Design Window**
3. Right-click to end zone selection
4. Visual displays the currently assigned *Luminaires*
5. Add or remove *Luminaires* by choosing the appropriate mode from the **Selection Filters** *panel* of the **Properties** *tab* in the **Ribbonbar** and left-clicking the desired *Luminaires* as necessary
6. Right-click the mouse to end the command

Command Keys:
   None

Related Commands:
   Power Density, Polygon
   Power Density, Rectangle
   Power Density, Surface

Related Help:
   Power Zones
   Selecting Objects

Related Videos:
   None

Render

Calculate and display a rendering of the lighting *model*

Instructions:

1. Select **Render** from the **Calculation** tab of the **Ribbonbar**
2. Visual will perform necessary calculations and display progress in a *dialog*
3. Once the first pass is complete, the **Rendering** will display
4. Visual will complete successive passes to refine and improve the **Rendering** and display changes
5. The view can be changed in the **Design Environment** while the refinements are calculating
6. Clicking the lower portion of the button initiates a sub-menu allowing for parameter choices related to curved surfaces and performing a quick single-pass rendering, make choices as desired

Command Keys:
  None

Related Commands:
  Calculate

Related Help:
  Rendering

Related Videos:
  None

Statistical Zone, Polygon

Calculate statistics for a *polygonal* portion of a **Calculation Zone**

Instructions:

1. Select ***Polygon*** from the **Statistical Zones** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Select the **Calculation Zone** to be used as the basis for the sub-set
3. Right-click to end selection
4. Locate the start point of the *polygon* enclosing points of interest by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
5. Locate additional points to define the *polygon* by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Right-click to close the *polygon* and end the command

Command Keys:

None

Related Commands:

Statistical Zone, Rectangle
Statistical Zone, Surface
Statistics

Related Help:

Entering Coordinates
Creating a Statistical Zone

Related Videos:

Creating Statistical Zones

Statistical Zone, Rectangle

Calculate statistics for a rectangular portion of a **Calculation Zone**

Instructions:
1. Select **Rectangle** from the **Statistical Zones** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Select the **Calculation Zone** to be used as the basis for the sub-set
3. Right-click to end selection
4. Locate the start point of the rectangle enclosing points of interest by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
5. Locate the diagonally opposite corner by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Visual automatically ends the command

Command Keys:
None

Related Commands:
Statistical Zone, Polygon
Statistical Zone, Surface
Statistics

Related Help:
Entering Coordinates
Creating a Statistical Zone

Related Videos:
Creating Statistical Zones

Statistical Zone, Surface

Calculate statistics for a portion of a **Calculation Zone** based on an existing **Solid Object**

Instructions:
1. Select **Surface** from the **Statistical Zones** *panel* of the **Calculation** *tab* of the **Ribbonbar**
2. Select the **Calculation Zone** to be used as the basis for the sub-set
3. Right-click to end selection
4. Select the **Solid Object** to be used as the boundary for the sub-set
5. Right-click to end the command

Command Keys:
None

Related Commands:
Statistical Zone, Polygon
Statistical Zone, Rectangle
Statistics

Related Help:
Creating a Statistical Zone
Selecting Objects

Related Videos:
Creating Statistical Zones

Statistics

Display statistical information for defined **Calculation Zones**

Instructions:
1. Select **Statistics** from the **Calculation** *tab* of the **Ribbonbar**
2. Visual will display the Sidebar if it is not displayed
3. Visual will change focus to display the Statistics *tab* in the Sidebar

Command Keys:
Shift+S

Related Commands:
None

Related Help:
Statistics Sidebar Tab

Related Videos:
Creating Statistical Zones

Arc

Construct an arc as a background object

Instructions:
1. Select **Arc** from the **Construct** *tab* of the **Ribbonbar**
2. Specify **Color**, **Weight**, and **Style** in the **Properties** *tab* of the **Ribbonbar**
3. Locate the beginning point of the **Arc** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Locate the finish point of the **Arc** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
5. The implied shape of an **Arc** is shown as well as the *bulge vector* (*tangent* line) to the **Arc**
6. Move the mouse crosshairs to change the *radius* of the **Arc** by moving the endpoint of the *bulge vector*
7. Left-click when the desired shape has been achieved or by entering *coordinates* at the **Command Line** in the **Status Bar**
8. Visual will draw the **Arc** with a faceted approximation based on system settings

Command Keys:
None

Related Commands:
Circle, Background

Related Help:
Arcs
Drawing Aids
Entering Coordinates

Related Videos:
None

Axis

Construct a reference axis in one of the *Cartesian* directions (parallel to the X, Y, or Z-axis) with user-specified tick mark increments

Instructions:
1. Select **Axis** from the **Construct** *tab* of the **Ribbonbar**
2. Choose **Global** or **Relative** numbering and **Axis Increment** (in system units of feet or meters) in the **Properties** *tab* of the **Ribbonbar**
3. Select the first *coordinate* by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Select the end *coordinate* and **Axis** direction by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**

Command Keys:
  None

Related Commands:
  None

Related Help:
  Axis
  Environment
  Entering Coordinates

Related Videos:
  None

Circle, Background

Draw a circle as a background object

Instructions:
1. Select **Circle** from the **Reference** *panel* of the **Construct** *tab* of the **Ribbonbar**
2. Specify **Color**, **Weight**, and **Style** in the **Properties** *tab* of the **Ribbonbar**
3. Locate the center of the **Circle** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Visual draws the implied **Circle** and the *radius* line from the center to the mouse *crosshairs*
5. Locate the endpoint of the *radius* line by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Visual will draw the **Circle** with a faceted approximation based on system settings

Command Keys:
  Ctrl+C

Related Commands:
  Circle, Solid

Related Help:
  Background Circles
  Environment
  Entering Coordinates

Related Videos:
  None

Circle, Solid
Draw a circle as a solid object

Instructions:
1. Select **Circle** from the **Solids** *panel* of the **Construct** *tab* of the **Ribbonbar**
2. Name the object if desired
3. Specify **Color/*Reflectance*** in the **Properties** *tab* of the **Ribbonbar**
4. Locate the center of the **Circle** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
5. Visual draws the implied **Circle** and the *radius* line from the center to the mouse *crosshairs*
6. Locate the endpoint of the *radius* line by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Visual will draw the **Circle** with a faceted approximation based on system settings

Command Keys:
   Ctrl+C

Related Commands:
   Circle, Background

Related Help:
   Solid Circles
   Environment
   Entering Coordinates

Related Videos:
   Arched Ceiling
   Creating Coves
   Curved Walls

Line

Draw a line with one segment or a *polyline* with multiple segments

Instructions:
1. Select **Line** from the **Construct** *tab* of the **Ribbonbar**
2. Specify **Color**, **Weight**, and **Style** in the **Properties** *tab* of the **Ribbonbar**
3. Locate the beginning point of the **Line** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Visual draws the implied **Line** between the last point and the mouse *crosshairs*
5. Select additional *vertices* to create a **Polyline**
6. If additional segments are not desired or all segments have been created, click OK

Command Keys:
   L

Related Commands:
   None

Related Help:
   Lines and Polylines
   Entering Coordinates

Related Videos:
   None

Polygon, Background

Draw a closed *polygon* as a background object

Instructions:
1. Select **_Polygon_** from the **Reference** *panel* of the **Construct** *tab* of the **Ribbonbar**
2. Specify **Color**, **Weight**, and **Style** in the **Properties** *tab* of the **Ribbonbar**
3. Locate the beginning point of the **_Polygon_** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Locate additional points (*vertices*) of the **_Polygon_** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
5. Right click the mouse to end the command or click the first point and Visual automatically ends the command
6. Visual will automatically close the **_Polygon_** if it was not closed by the user

Command Keys:
  None

Related Commands:
  Polygon, Solid
  Background Rectangles

Related Help:
  Background Polygons
  Entering Coordinates

Related Videos:
  None

Polygon, Solid
Draw a closed *polygon* as a solid object

Instructions:
1. Select **Polygon** from the **Solids** *panel* of the **Construct** tab of the **Ribbonbar**
2. Name the object if desired
3. Specify **Color/*Reflectance*** in the **Properties** tab of the **Ribbonbar**
4. Locate the beginning point of the **Polygon** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
5. Locate additional points (*vertices*) of the **Polygon** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Right click the mouse to end the command or click the first point and Visual automatically ends the command
7. Visual will automatically close the **Polygon** if it was not closed by the user

Command Keys:
  None

Related Commands:
  Polygon, Background
  Rectangle, Solid

Related Help:
  Solid Polygons
  Entering Coordinates

Related Videos:
  Arched Ceiling
  Creating Coves
  Curved Walls

Rectangle, Background

Draw a closed rectangle as a background object

Instructions:
1. Select **Rectangle** from the **Reference** *panel* of the **Construct** *tab* of the **Ribbonbar**
2. Specify **Color**, **Weight**, and **Style** in the **Properties** *tab* of the **Ribbonbar**
3. Locate the beginning point of the **Rectangle** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4. Visual draws the implied **Rectangle** with the second corner at the mouse *crosshairs*
5. Locate the diagonally opposite corner of the **Rectangle** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Visual will automatically end the command

Command Keys:
  None

Related Commands:
  Polygon, Background
  Rectangle, Solid

Related Help:
  Background Rectangles
  Entering Coordinates

Related Videos:
  None

Rectangle, Solid

Draw a closed rectangle as a solid object

Instructions:
1. Select **Rectangle** from the **Solids** *panel* of the **Construct** *tab* of the **Ribbonbar**
2. Name the object if desired
3. Specify **Color/*Reflectance*** in the **Properties** *tab* of the **Ribbonbar**
4. Locate the beginning point of the **Rectangle** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
5. Visual draws the implied **Rectangle** with the second corner at the mouse *crosshairs*
6. Locate the diagonally opposite corner of the **Rectangle** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Visual will automatically end the command

Command Keys:
  None

Related Commands:
  Polygon, Solid
  Rectangle, Background

Related Help:
  Background Rectangles
  Entering Coordinates

Related Videos:
  Arched Ceiling
  Creating Coves
  Curved Walls

Room, Polygonal

Construct a *polygonal* (multi-sided) room with surface normals pointing inward

Instructions:
1. Select *Polygonal* in the **Room** sub-menu on the **Construct** *tab* of the **Ribbonbar**
2. Name the **Room** if desired
3. Specify the **Height** of the **Room**
4. Specify **Color/*Reflectance*** in the **Properties** *tab* of the **Ribbonbar** for all surfaces
5. Locate the beginning point of the **Room** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Locate additional points (*vertices*) of the **Room** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Right click the mouse to end the command or click the first point and Visual automatically ends the command
8. Visual will automatically close the **Room** if it was not closed by the user

Command Keys:
None

Related Commands:
Polygon, Solid
Structure, Polygonal

Related Help:
Rooms and Structures
Entering Coordinates

Related Videos:
Arched Ceiling
Creating Coves
Curved Walls

Room, Rectangular

Construct a rectangular room with surface normals pointing inward

Instructions:
1. Select **Rectangular** in the **Room** sub-menu on the **Construct** *tab* of the **Ribbonbar**
2. Name the **Room** if desired
3. Specify the **Height** of the **Room**
4. Specify **Color/*Reflectance*** in the **Properties** *tab* of the **Ribbonbar** for all surfaces
5. Locate the beginning point of the **Room** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Visual draws the implied **Room** with the second corner at the mouse *crosshairs*
7. Locate the diagonally opposite corner of the **Room** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
8. Visual will automatically end the command

Command Keys:
  None

Related Commands:
  Rectangle, Solid
  Structure, Rectanglular

Related Help:
  Rooms and Structures
  Entering Coordinates

Related Videos:
  Arched Ceiling
  Creating Coves
  Curved Walls

Structure, Polygonal

Construct a *polygonal* (multi-sided) structure with surface normals pointing outward

Instructions:
1. Select ***Polygonal*** in the **Structure** sub-menu on the **Construct** *tab* of the **Ribbonbar**
2. Name the **Structure** if desired
3. Specify the **Height** of the **Structure**
4. Specify **Color/*Reflectance*** in the **Properties** *tab* of the **Ribbonbar** for all surfaces
5. Locate the beginning point of the **Structure** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Locate additional points (*vertices*) of the **Structure** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Right click the mouse to end the command or click the first point and Visual automatically ends the command
8. Visual will automatically close the **Structure** if it was not closed by the user

Command Keys:
　None

Related Commands:
　Polygon, Solid
　Room, Polygonal

Related Help:
　Rooms and Structures
　Entering Coordinates

Related Videos:
　Arched Ceiling
　Creating Coves
　Curved Walls

Structure, Rectangular

Construct a rectangular structure with surface normals pointing outward

Instructions:
1. Select **Rectangular** in the **Structure** sub-menu on the **Construct** *tab* of the **Ribbonbar**
2. Name the **Structure** if desired
3. Specify the **Height** of the **Structure**
4. Specify **Color/*Reflectance*** in the **Properties** *tab* of the **Ribbonbar** for all surfaces
5. Locate the beginning point of the **Structure** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Visual draws the implied **Structure** with the second corner at the mouse *crosshairs*
7. Locate the diagonally opposite corner of the **Structure** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
8. Visual will automatically end the command

Command Keys:
  None

Related Commands:
  Rectangle, Solid
  Room, Rectanglular

Related Help:
  Rooms and Structures
  Entering Coordinates

Related Videos:
  Arched Ceiling
  Creating Coves
  Curved Walls

Structure, Wall

Construct one or more walls of a single height based on a specified line or *polyline*

Instructions:
1. Select **Wall** in the **Structure** sub-menu on the **Construct** *tab* of the **Ribbonbar**
2. Name the **Wall** if desired
3. Specify the **Height** of the **Wall**
4. Specify **Color/*Reflectance*** in the **Properties** *tab* of the **Ribbonbar** to be applied to all surfaces
5. Locate the beginning point of the **Wall** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
6. Locate additional points (*vertices*) of the **Wall** by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Right click the mouse to end the command

Command Keys:
  None

Related Commands:
  Polygon, Solid
  Room, Polygonal
  Structure, Polygonal
  Structure, Rectangular

Related Help:
  Rooms and Structures
  Entering Coordinates

Related Videos:
  Arched Ceiling
  Creating Coves
  Curved Walls

Text
Construct text in the **Visual Font** as a background object

Instructions:
1. Select **Text** from the **Construct** *tab* of the **Ribbonbar**
2. The **Text Editor** will appear
3. Enter the desired text in the main portion of the *dialog*
4. Specify **Height**, **Alignment**, and **Wrapping** at the top of the *dialog*
5. Click OK
6. Locate the beginning point of an imaginary line where the **Text** is to be placed by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Locate the end point of the imaginary line by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
8. Visual will end the command and place the text

Command Keys:
   None

Related Commands:
   None

Related Help:
   Text
   Entering Coordinates

Related Videos:
   None

Distribution

Display a representation of *photometric* output for all **Luminaire** Types placed in the **Design Environment**

Instructions:
1. Select **Distribution** from the *Luminaire tab* of the **Ribbonbar**
2. From the sub-menu, choose to display or hide **Photometric** **Webs**
3. Visual will make the change and close the sub-menu

Command Keys:
   None

Related Commands:
   None

Related Help:
   Luminaire Display Options

Related Videos:
   Luminaires

Labels

Display alphanumeric information to identify *Luminaire* **Types** placed in the **Design Environment**

Instructions:
1. Select **Labels** from the *Luminaire tab* of the **Ribbonbar**
2. Select *Luminaire* **Type** or *Luminaire* **Type** **and Number** from the sub-menu
3. If *Luminaire* **Type and Number** is chosen, select the desired **Sequence** from the sub-menu
4. If *Luminaire* **Type and Number** is chosen, numbering can be reset by selecting **Sort by Creation Order** or **Sort By Location Order**
5. Visual will make the changes
6. Left-click anywhere in Visual to close the sub-menu

Command Keys:
  None

Related Commands:
  None

Related Help:
  Luminaire Display Options

Related Videos:
  None

Luminous Volume

Display a representation of the luminous dimensions for all *Luminaire* **Types** placed in the **Design Environment**

Instructions:
1. Select **Luminous Volume** from the *Luminaire tab* of the **Ribbonbar**
2. Select **Luminous Volume** again to turn the feature off
3. Visual displays the **Luminous Volumes**

Command Keys:
　None

Related Commands:
　None

Related Help:
　Luminaire Display Options

Related Videos:
　Luminaires

Photometric Webs

Display a representation of the *candlepower* output for all *Luminaire* **Types** placed in the **Design Environment**

Instructions:
1. Select *Photometric* **Webs** from the *Luminaire tab* of the **Ribbonbar**
2. **S**elect *Photometric* **Webs** again to turn the feature off
3. Visual displays the *Photometric* **Webs**

Command Keys:
  None

Related Commands:
  None

Related Help:
  Luminaire Display Options

Related Videos:
  Luminaires

Place

Insert a defined *Luminaire* **Type** in the **Design Environment**

Instructions:
1. Select **Place** from the *Luminaire tab* of the **Ribbonbar**
2. Select the desired *Luminaire* **Type** from the sub-menu list in the **Properties** *tab* of the **Ribbonbar**
3. Specify the **Mounting Height**, **Orientation**, and **Tilt** in the **Properties** *tab* of the **Ribbonbar**
4. Select to display *Photometric* **Web** in the **Properties** *tab* of the **Ribbonbar**
5. Visual will attach the *Luminaire* **Type** to the mouse *crosshairs*
6. Left-click at the desired location or enter *coordinates* at the **Command Line** in the **Status** bar
7. Left-click to place additional *Luminaires*, noting that all parameters in the **Properties** *tab* can be changed without ending the command
8. Right-click to end the command

Command Keys:
  None

Related Commands:
  Place and Aim
  Place and Orient
  Re-Aim

Related Help:
  Luminaire Display Options
  Luminaire Schedule
  Place Luminaires

Related Videos:
  Luminaires

Place and Aim

Insert a defined *Luminaire Type* in the **Design Environment** by aiming

Instructions:
1. Select **Place and Aim** from the *Luminaire tab* of the **Ribbonbar**
2. Select the desired *Luminaire* **Type** from the sub-menu list in the **Properties** *tab* of the **Ribbonbar**
3. Specify the **Mounting Height** in the **Properties** *tab* of the **Ribbonbar**
4. Select to display *Photometric* **Web** or **Aim to Surface** in the **Properties** *tab* of the **Ribbonbar**
5. Visual will attach the *Luminaire* **Type** to the mouse *crosshairs*
6. Left-click at the desired location or enter *coordinates* at the **Command Line** in the **Statusbar**
7. Left-click to locate the aiming point as desired, Visual will show the **Aiming Line** as the mouse is moved
8. If **Aim to Surface** has been chosen, Visual will highlight **Solid Objects** as the mouse is moved to indicate the **Aiming Point** will be placed on that surface
9. Left-click to place and aim additional *Luminaires*
10. Right-click to end the command

Command Keys:
None

Related Commands:
Place
Place and Orient
Re-Aim

Related Help:
Luminaire Display Options
Luminaire Schedule
Place and Aim Luminaires

Related Videos:
Luminaires

Place and Orient

Insert a defined *Luminaire Type* in the **Design Environment** and specify orientation

Instructions:
1. Select **Place and Orient** from the *Luminaire tab* of the **Ribbonbar**
2. Select the desired *Luminaire* **Type** from the sub-menu list in the **Properties** *tab* of the **Ribbonbar**
3. Specify the **Mounting Height** and **Tilt** in the **Properties** *tab* of the **Ribbonbar**
4. Select to display *Photometric* **Web** or **Aim to Surface** in the **Properties** *tab* of the **Ribbonbar**
5. Visual will attach the *Luminaire* **Type** to the mouse *crosshairs*
6. Left-click at the desired location or enter *coordinates* at the **Command Line** in the **Statusbar**
7. Left-click to specify the angular orientation
8. Left-click to place and orient additional *Luminaires*
9. Right-click to end the command

Command Keys:
None

Related Commands:
Place Luminaires
Place and Aim
Re-Aim

Related Help:
Luminaire Display Options
Luminaire Schedule
Place and Orient Luminaires

Related Videos:
Luminaires

Reaim

Change the aiming point for a previously inserted *Luminaire* **Type** in the **Design Environment**

Instructions:

1. Select **Reaim** from the *Luminaire tab* of the **Ribbonbar**
2. Left-click the *Luminaire* to be changed
3. Visual will attach the mouse *crosshairs* to the **Aiming Point** of the chosen *Luminaire* and show the new **Aiming Line** as the mouse is moved
4. Left-click to locate the new **Aiming Point**
5. Left-click additional *Luminaires* to change aiming as desired
6. Right-click to end the command

Command Keys:

None

Related Commands:

Place and Aim

Related Help:

Luminaire Display Options
Luminaire Schedule
Place and Aim Luminaires
Reaiming Luminaires

Related Videos:

Luminaires

Schedule

Create or modify *Luminaire* Types

Instructions:

1. Select **Schedule** from the *Luminaire tab* of the **Ribbonbar**
2. Select **New** to create a *Luminaire Type*
3. Left-click and entry to modify current content
4. Click OK to save changes and exit to the **Design Environment**
5. Click Cancel to exit without saving changes

Command Keys:

None

Related Commands:

None

Related Help:

Creating a Schedule Entry
Modifying a Schedule Entry
Copying a Schedule Entry

Related Videos:

Luminaire Schedule
Selecting Products

Templates

Turn off or on the display of iso-*illuminance* templates for all **Luminaire Types** that have them defined

Instructions:
1. **Templates** are on by default
2. Turn **Templates** off by selecting **Templates** from the ***Luminaire tab*** of the **Ribbonbar**
3. Visual will make the change
4. Turn on **Templates** by clicking the button again

Command Keys:
  None

Related Commands:
  None

Related Help:
  Luminaire Templates

Related Videos:
  Luminaires

Array Polar

Make multiple copies of objects at a regular angular spacing

Instructions:
1. Select **Array Polar** from the **Modify** *tab* of the **Ribbonbar**
2. Select the **Angular Separation** or **Angular Extent** method on the **Properties** *tab* of the **Ribbonbar**
3. Specify **Angle** and **Quantity** on the **Properties** *tab* of the **Ribbonbar**
4. Select the desired objects by left-clicking the mouse
5. Right-click the mouse or press *Enter* to end the selection portion of the command
6. Specify the basepoint (center) about which the objects will be arrayed by left-clicking the with the mouse or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Visual automatically creates the objects and ends the command

Command Keys:
None

Related Commands:
Array Rectangular

Related Help:
Array Polar
Selecting Objects
Entering Coordinates

Related Videos:
Modify Commands

Array Rectangular

Make multiple copies of objects at a regular spacing parallel to the *Cartesian* axes

Instructions:
1. Select **Array Rectangular** from the **Modify** *tab* of the **Ribbonbar**
2. Select the **Array by Spacing** or **Array by Quantity** method on the **Properties** *tab* of the **Ribbonbar**
3. Specify **X Spacing**, **Y Spacing**, and/or **Z Spacing** as desired on the **Properties** *tab* of the **Ribbonbar**
4. Select the desired objects by left-clicking the mouse
5. Right-click the mouse or press *Enter* to end the selection portion of the command
6. Specify the basepoint about which the objects will be arrayed by left-clicking the with the mouse or entering *coordinates* at the **Command Line** in the **Status Bar**
7. Move the mouse to see the implied **Array** of objects and left-click when the desired **Array** has been achieved
8. Visual ends the command and creates the additional objects

Command Keys:
A

Related Commands:
Array Polar

Related Help:
Array Rectangular
Selecting Objects
Entering Coordinates

Related Videos:
Modify Commands

Convert to Background

Convert one or more **Solid Objects** to **Background Objects**

Instructions:
1. Select **Convert to Background** from the **Modify** *tab* of the **Ribbonbar**
2. Select the desired objects to convert by left-clicking with the mouse
3. Right-click or press *Enter* to end the command and apply changes

Command Keys:
 None

Related Commands:
 Convert to Solid

Related Help:
 Selecting Objects

Related Videos:
 None

Convert to Solid

Convert one or more closed and *polygonal* **Background Objects** to **Solid Objects**

Instructions:
1. Select **Convert to Solid** from the **Modify** tab of the **Ribbonbar**
2. Specify **Name** (if desired) and **Color/*Reflectance*** on the **Properties** tab of the **Ribbonbar**
3. Select the desired objects to convert by left-clicking with the mouse
4. Right-click or press *Enter* to end the command and apply changes

Command Keys:
   None

Related Commands:
   Convert to Solid

Related Help:
   Selecting Objects

Related Videos:
   None

Copy
Duplicate existing objects

Instructions:
1.   Select **Copy** from the **Modify** *tab* of the **Ribbonbar**
2.   Select the objects to be copied by left-clicking
3.   Locate the basepoint for copying by left-clicking in the **Design Window** or entering *coordinates* at the **Command Line** in the **Status Bar**
4.   Specify *destination point*(s) as necessary
5.   Right-click the mouse or press *Enter* to end the command

Command Keys:
   C

Related Commands:
   Array Polar
   Array Rectangular
   Mirror

Related Help:
   Copy
   Selecting Objects
   Entering Coordinates

Related Videos:
   Modify Commands

Edit Text

Modify previously created text

Instructions:
1. Select **Edit Text** from the **Modify** *tab* of the **Ribbonbar**
2. Select the text objects to be modified by left-clicking
3. The **Text Editor** will appear
4. Edit the text content as desired text in the main portion of the *dialog*
5. Edit the **Height**, **Alignment**, and **Wrapping** at the top of the *dialog* as desired
6. Click OK
7. Visual will end the command and modify the text, noting that text location cannot be changed

Command Keys:
　None

Related Commands:
　Move
　Text

Related Help:
　Edit Text
　Selecting Objects
　Entering Coordinates

Related Videos:
　None

Erase
Remove objects

Instructions:
1. Select **Erase** from the **Modify** *tab* of the **Ribbonbar**
2. Select the objects to be removed by left-clicking
3. Right-click the mouse or press *Enter* to end the command

Command Keys:
E

Related Commands:
None

Related Help:
6.7 Erase
Selecting Objects

Related Videos:
None

Explode

Explode a multi-surface **Solid Object** into single surfaces or a **Background** *Polygon* into single **Lines**

Instructions:
1. Select **Explode** from the **Modify** *tab* of the **Ribbonbar**
2. Select the objects to be exploded by left-clicking
3. Right-click the mouse or press *Enter* to end the command

Command Keys:
   Shift+E

Related Commands:
   Group
   Join

Related Help:
   Explode
   Selecting Objects

Related Videos:
   None

Extrude

Expand a two-dimension object to three-dimensions, or a **Line** to a **Rectangle**

Instructions:
1. Select **Extrude** from the **Modify** *tab* of the **Ribbonbar**
2. Select **Default Extrusion** (perpendicular to the *plane* of the base object) or **Directional Extrusion** on the **Properties** *tab* of the **Ribbonbar**
3. Specify the **Extrusion Distance** on the **Properties** *tab* of the **Ribbonbar**
4. Select the object to be extruded by left-clicking the mouse
5. For **Directional Extrusion**, Visual will prompt for the start and end of a *vector* that specifies the extrusion direction
6. Right-click the mouse or press *Enter* to end the command

Command Keys:
Ctrl+E

Related Commands:
Explode
Pull

Related Help:
Extrude
Selecting Objects

Related Videos:
None

Extend

Increase the length of a **Line** or *Polyline* to meet an object

Instructions:
1. Select **Extend** from the **Modify** *tab* of the **Ribbonbar**
2. Select the **Background** or **Solid Object(s)** to extend to
3. Right-click to end object selection
4. Left-click the **Line** or *Polyline* to be extended, noting that the end closest to the boundary object should be clicked
5. Right-click the mouse to end the command

Command Keys:
   X

Related Commands:
   Trim

Related Help:
   Extend
   Selecting Objects

Related Videos:
   None

Flatten

Modify selected **Background Objects** to change all Z *coordinates* to Z = 0

Instructions:
1. Select **Flatten** from the **Modify** *tab* of the **Ribbonbar**
2. Select the objects to be removed by left-clicking
3. Right-click the mouse or press *Enter* to end the command

Command Keys:
  None

Related Commands:
  None

Related Help:
  Flatten
  Selecting Objects

Related Videos:
  None

Group

Connect single **Solid Objects** into a multi-surface object

Instructions:
1. Select **Group** from the **Modify** *tab* of the **Ribbonbar**
2. Select the **Solid Objects** to be connected by left-clicking, noting that objects do not need to touch
3. Right-click the mouse or press *Enter* to end the command

Command Keys:
  G

Related Commands:
  Explode
  Join

Related Help:
  Group
  Selecting Objects

Related Videos:
  None

Join
Connect **Lines** or **Polylines** that share endpoints

Instructions:
1. Select **Join** from the **Modify** *tab* of the **Ribbonbar**
2. Select the **Lines** or **Polylines** to be connected by left-clicking, noting that they must share endpoints
3. Right-click the mouse or press *Enter* to end the command

Command Keys:
  J

Related Commands:
  Explode
  Group
  Trim
  Extend

Related Help:
  Join
  Selecting Objects

Related Videos:
  None