

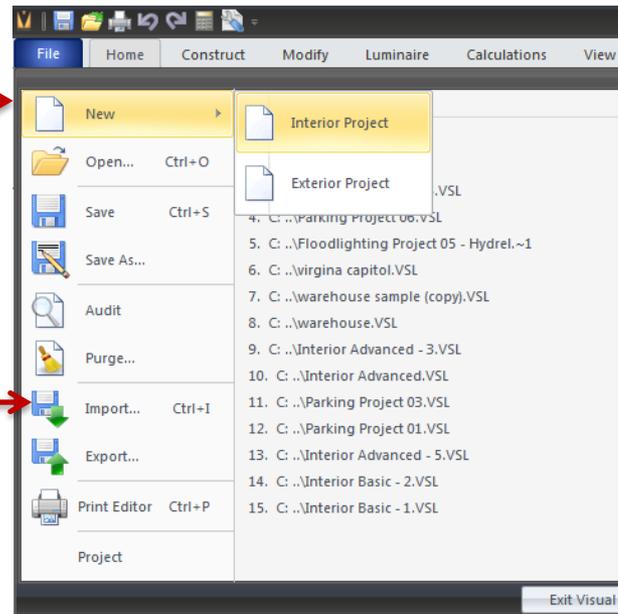


Visual 2012

Warehouse Project Tutorial

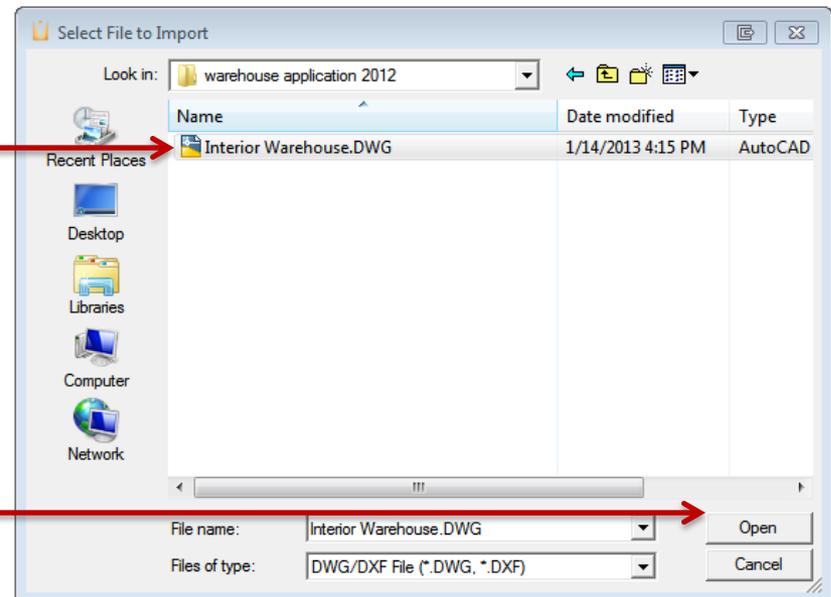
Import a DWG file into Visual

1. From the **File** tab, select **New->Interior Project**



2. From the File tab select Import

3. Select the **Interior Warehouse.DWG** file



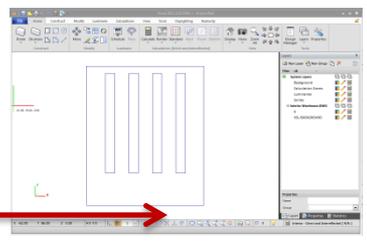
4. Select the **Open** button on the File Dialog box



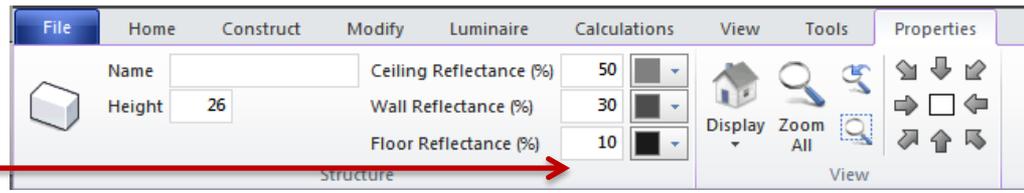
Creating The Warehouse Room



1. Left click on the Endpoint Snap symbol.

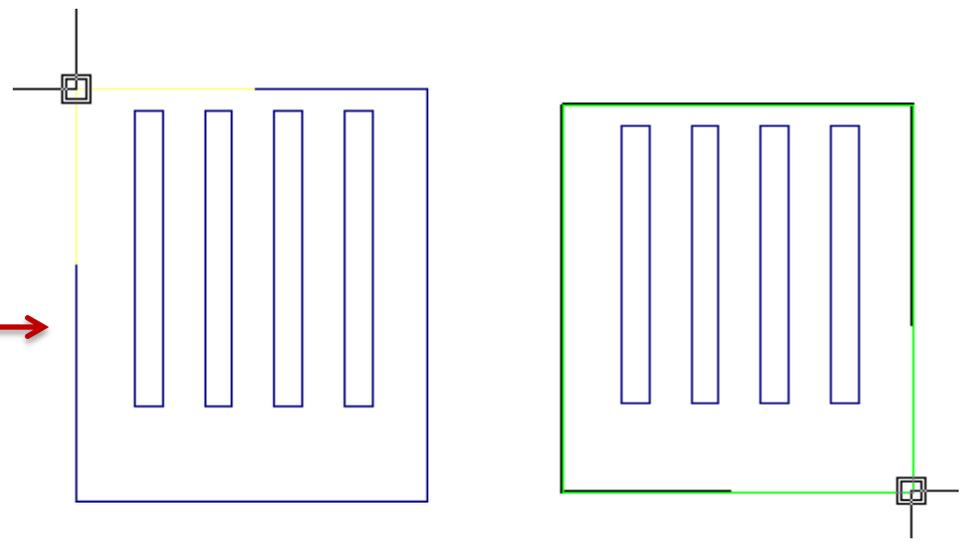


2. From Home tab in **Construct** section click > **Room > Rectangular**.

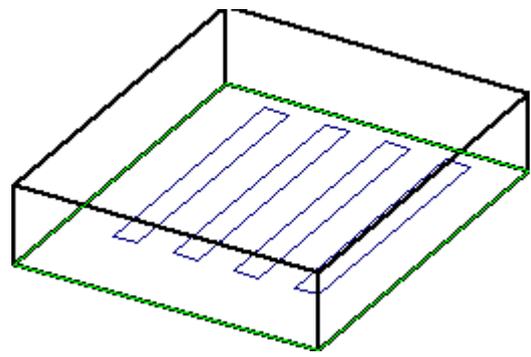
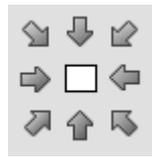


3. In the dynamic properties tab, enter a **Description** of Warehouse, a **Height** of 26, and **Reflectance** 50/30/10

4. In a **Plan View**, left click on the upper left hand corner edge of the Warehouse. Drag the mouse to the opposite end and left click.

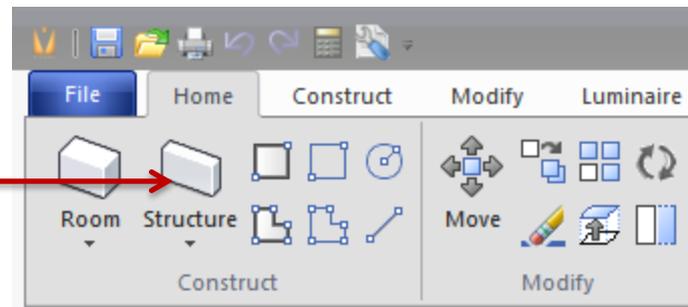


5. View the drawing in a 3D-View

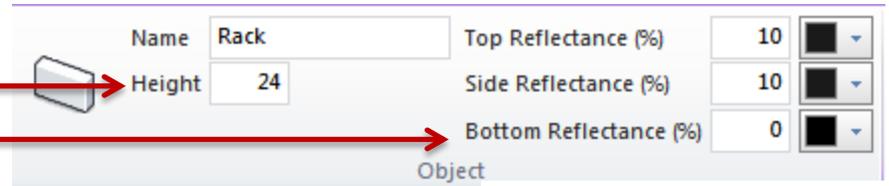


Creating Storage Racks

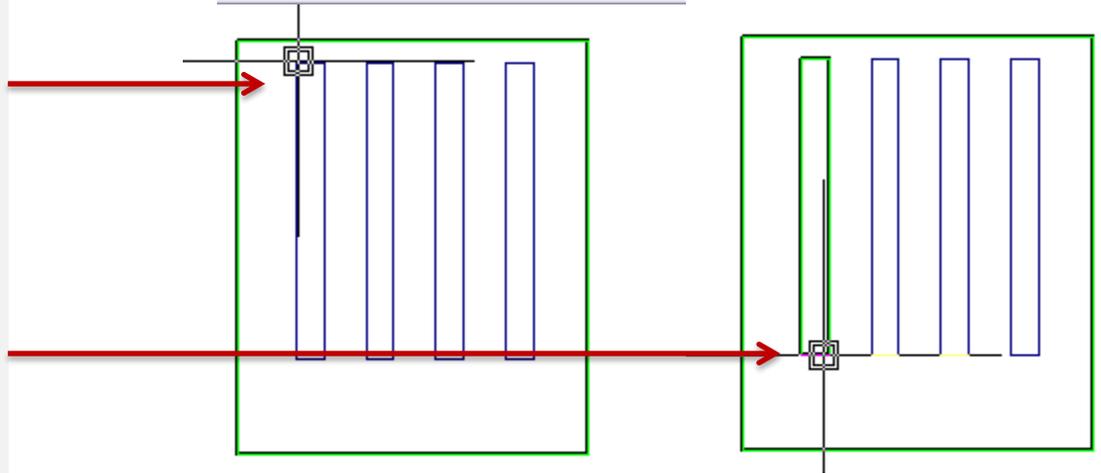
1. From Home tab in **Construct** section click > **Structure > Rectangle**



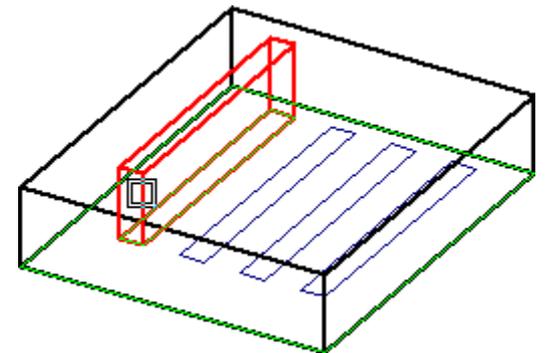
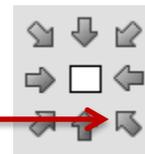
2. Dynamic properties tab, enter **Description:** Rack for, **Height:** 24, and **Reflectance:** 10/10/0



3. In a **Plan View**, left click on the upper left hand corner of the rack. Drag the mouse to the opposite corner and left click.

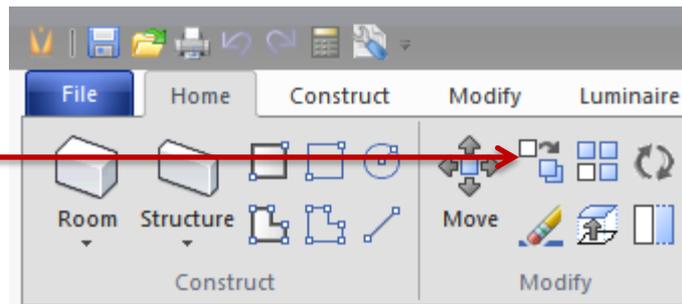


4. Click on the **SE** arrow located on the View toolbar.

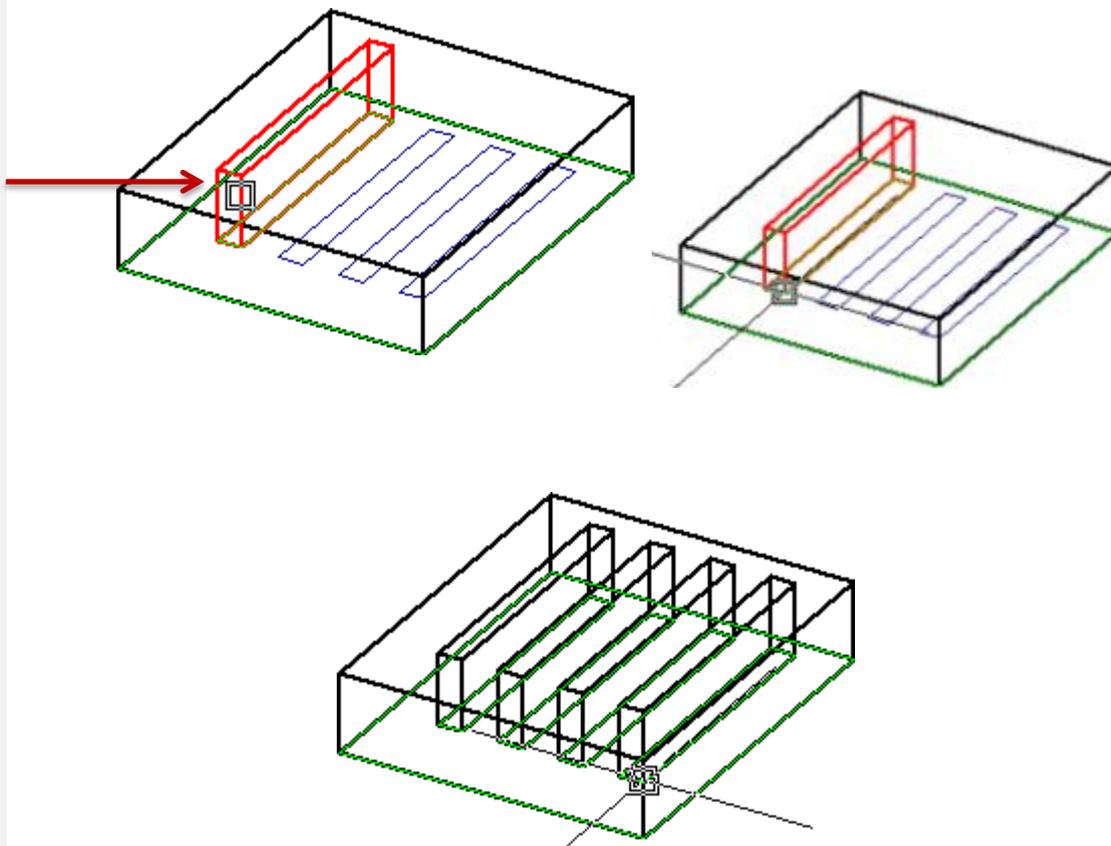


Copying the Storage Rack

1. In Home tab in Modify section click **Copy**. Left click on the edge of the rack you just made, right click and then left click at the bottom right corner of the rack to set your base point.



2. Left click on the bottom right corner of the remaining rack background locations then right click when done.



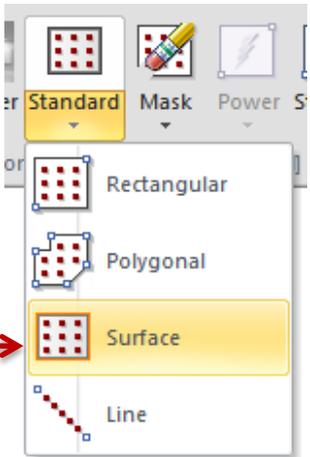
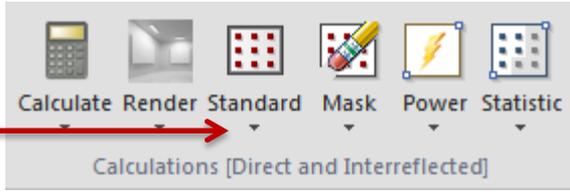


Calculation Zones

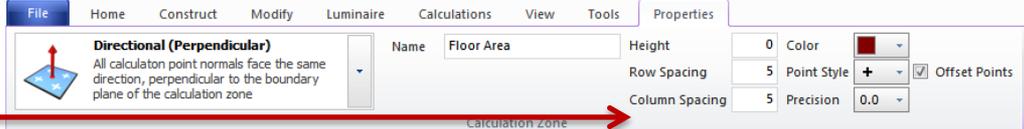
Standard

We will place calculation zones on the floor of the warehouse, in the aisle, and on the face of a rack.

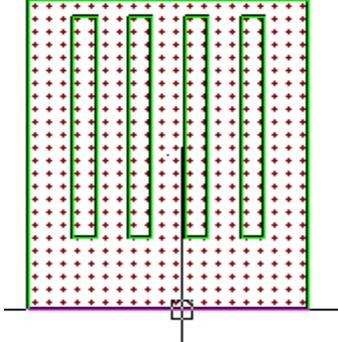
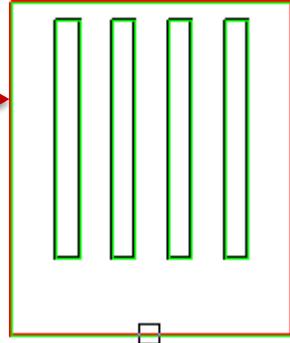
1. In a Plan View click on **Standard Calculation Zone > Surface**

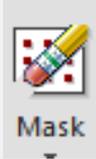


2. On the dynamic properties tab enter **Description: Floor Area, Height: 0, Row Spacing: 5, Column spacing: 5, Decimal: 0**

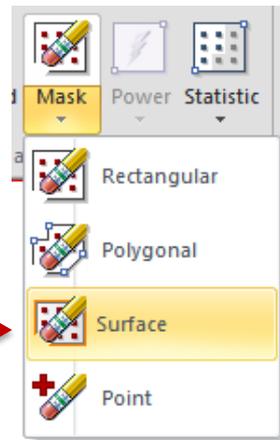


3. Left click on the edge of the warehouse then right click.





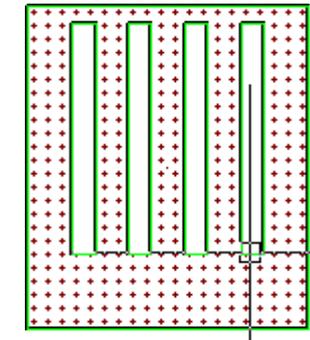
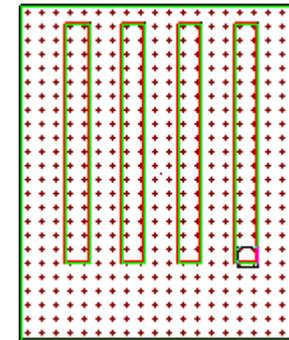
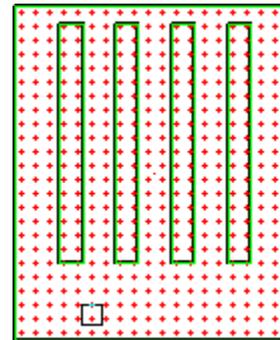
Making Calculation Grids



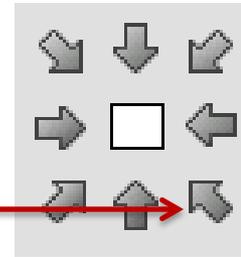
1. In home tab click in calculations panel select Mask > Surface.

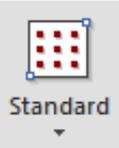


2. Left click on the calculation zone to select it then right click. Left click on the green outer edge of each rack then right click.

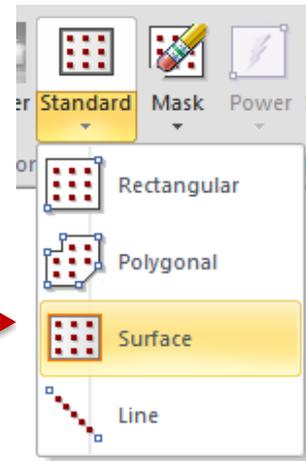


3. Change to South East View





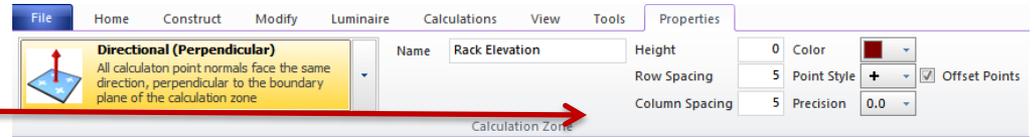
Creating Vertical Calculation Grid



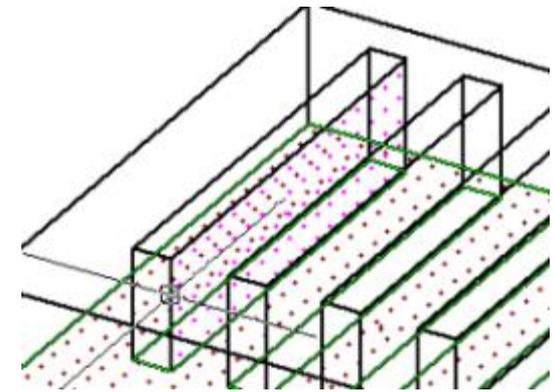
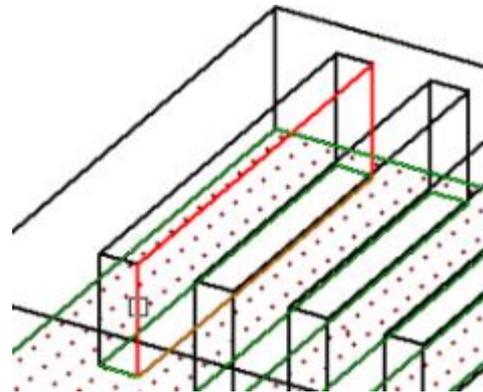
1. Select the Surface Calculation Grid Command

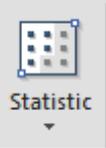


2. Enter the **Description: Rack**, **Height: 0**, **Row Spacing: 5**, **Column Spacing:5**, chose a color, **Decimal: 0**



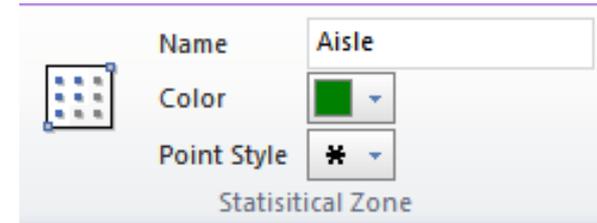
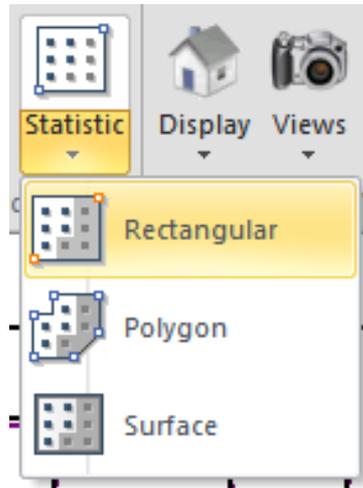
3. Left click on the outer edge of the rack then right click.





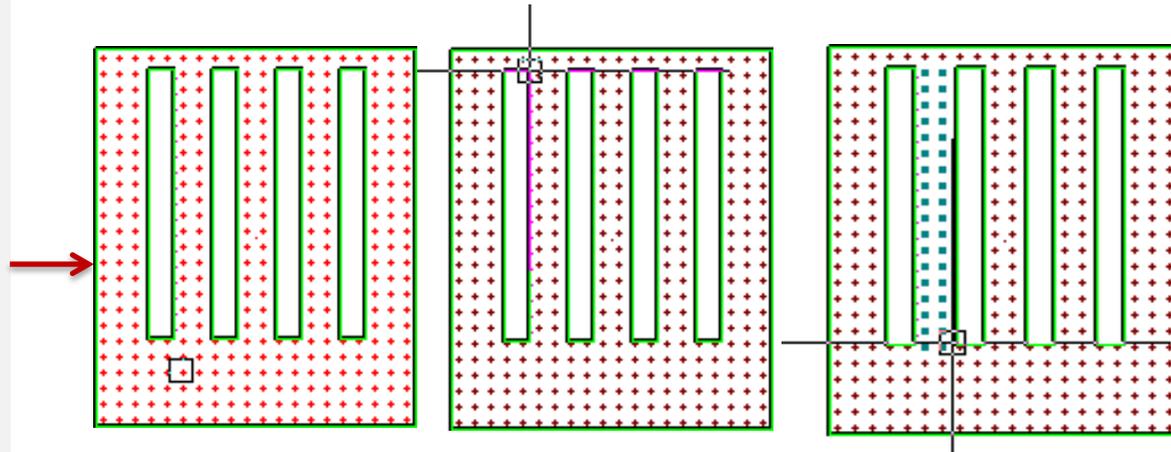
Creating Statistical Areas

1. In a **Plan View**, click on **Statistical Zone > Rectangular**.



2. On dynamic properties tap enter **Description:** Aisle: **chose a color, chose a shape.**

3. Left click on the calculation zone to select it then right click. Left click within the first and second racks on the upper left hand corner. Drag your mouse to the bottom opposite corner then left click.





Luminaire Schedule

Schedule

1. Click on **Luminaire > Schedule**.
2. Click **New**.
3. Search for product (**TH 400M PA22(Leg-8, SC-1.3).ies**)
4. Lithonia Lighting\Indoor HID\High Bay\TH PA22
5. LLF:.74
6. Click **New**. Search for product (**IB_654.ies**)
7. Lithonia Lighting\Fluorescent and LED high bay\General purpose \IB
8. LLF:.86

The screenshot shows the 'Luminaire Schedule' application window. The 'New' button in the top toolbar is highlighted with a red arrow. Below the main table, a 'Select a Photometric File' dialog box is open, showing a search for 'TH 400M PA22' in the 'Lithonia Lighting' folder. The search results show several files, with 'TH 400M PA22 (LEG 8, SC= 1.3)' selected. The dialog also displays a preview of the selected file, including a beam spread diagram and a photometric report.

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Filename	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
1	A	0	Lithonia Lighting	TH 400M PA22 (LEG 8, SC= 1.3)	OPEN ACRYLIC OPTICAL, 400 MH	ONE 400-WATT COATED BT-37 METAL HALIDE, VERTICAL BASE-UP POSITION.	PA22_(LEG_8_SC	1	36000	0.74	458.0
2	B	0	Lithonia Lighting	IB 654	I-BEAM FLUORESCENT HIGH BAY, 6 LAMP T8HO, NARROW DISTRIBUTION W/ UPLIGHT	SIX (6) 54 WATT T5 HIGH OUTPUT LINEAR FLUORESCENT RATED 4400 LUMENS IN 25 DEG. C. AMBIENT	IB_654.ies	6	4400	.86	369.0

The screenshot shows the 'Luminaire Schedule' application window. The 'New' button in the top toolbar is highlighted with a red arrow. Below the main table, a 'Select a Photometric File' dialog box is open, showing a search for 'IB_654' in the 'Lithonia Lighting' folder. The search results show several files, with 'IB_654.ies' selected. The dialog also displays a preview of the selected file, including a beam spread diagram and a photometric report.

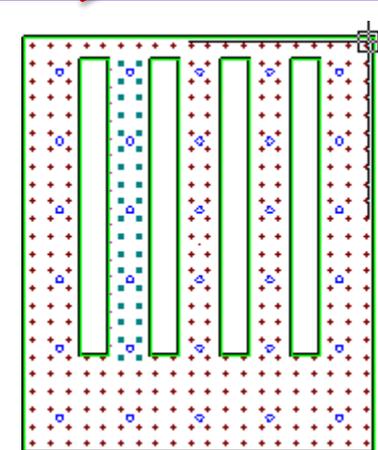
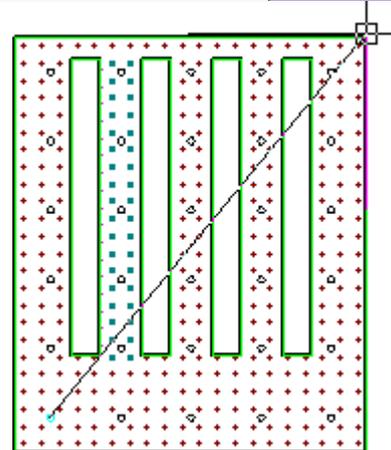
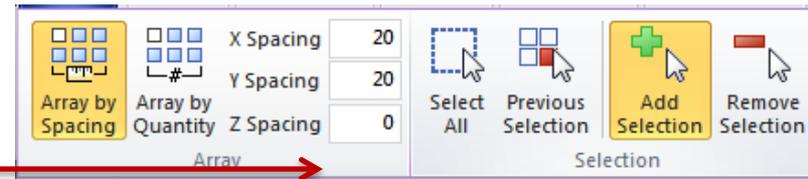
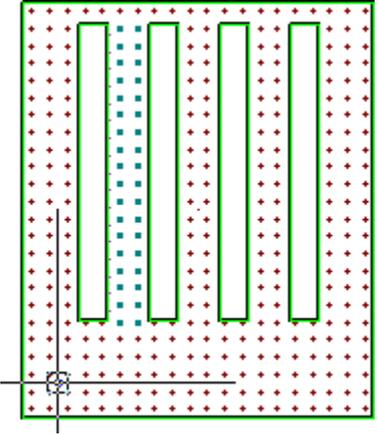
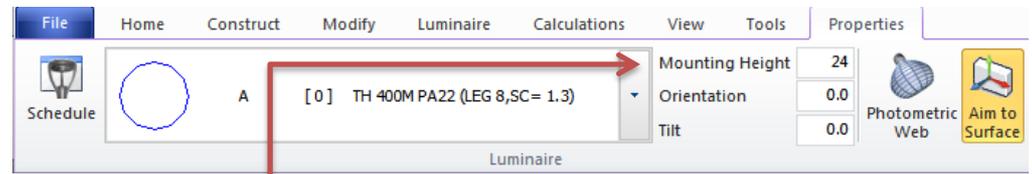
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Filename	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
1	A	0	Lithonia Lighting	TH 400M PA22 (LEG 8, SC= 1.3)	OPEN ACRYLIC OPTICAL, 400 MH	ONE 400-WATT COATED BT-37 METAL HALIDE, VERTICAL BASE-UP POSITION.	PA22_(LEG_8_SC	1	36000	0.74	458.0
2	B	0	Lithonia Lighting	IB 654	I-BEAM FLUORESCENT HIGH BAY, 6 LAMP T8HO, NARROW DISTRIBUTION W/ UPLIGHT	SIX (6) 54 WATT T5 HIGH OUTPUT LINEAR FLUORESCENT RATED 4400 LUMENS IN 25 DEG. C. AMBIENT	IB_654.ies	6	4400	.86	369.0

Light Loss Factor accounts for a combination of factors that will cause a luminaire to lose light over time. The main factors are LLD (Lamp Lumen Depreciation), LDD (Lamp Dirt Depreciation), and Ballast Factor.



Placing Luminaires

1. From the home tab select > **Place**
2. On the command line enter **Height:24**, **Luminaire Coordinates: 10,10,0**(global coordinates) then Enter.
3. From Home tab select Rectangular Array.
4. On the command line enter **X:20**, **Y:20**, **Z:0** and select **Array by Spacing** then right click.
5. Left click on the luminaire symbol then right click. Left click again and then drag your mouse diagonally to the opposite corner of the warehouse and then left click.

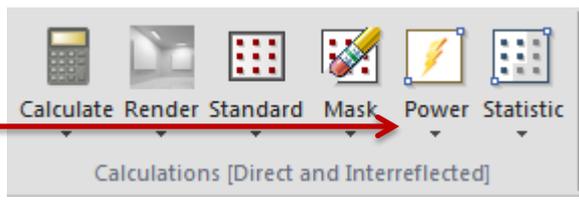




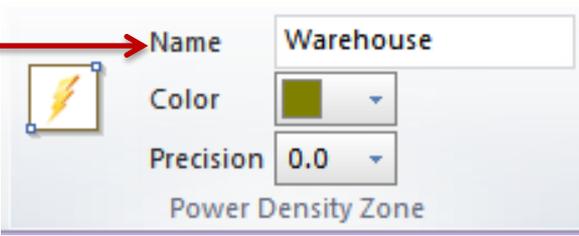
Power

Creating Power Zones

1. From the home tab select Power Zone

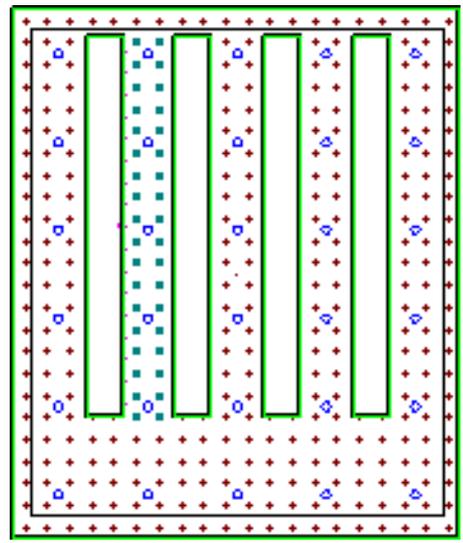
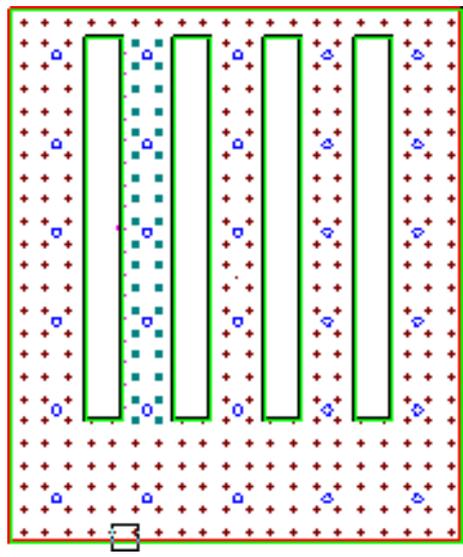


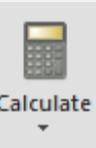
2. On the command line enter **Description:** Warehouse



3. Left click directly on the edge of the warehouse then right click.

4. Left click and draw a window around the luminaire symbols and left click then right click.

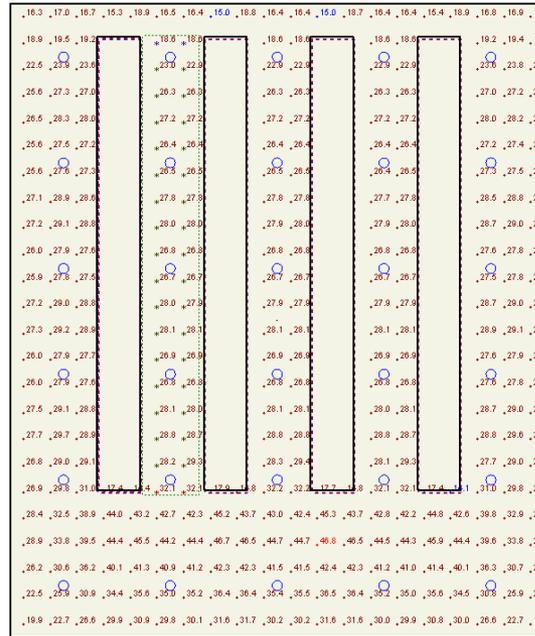




Calculate

1. Click the **Calculate** button in the calculations panel of the home tab

2. Click on Statistics sidebar.



Statistics		
Combine Filter X		
Aisle		
Average	26.9	fc
Maximum	32.1	fc
Minimum	18.6	fc
Max/Min	1.7:1	
Average/Min	1.4:1	
Floor Area		
Average	28.9	fc
Maximum	46.8	fc
Minimum	14.1	fc
Max/Min	3.3:1	
Average/Min	2.0:1	
Rack Elevation		
Average	17.8	fc
Maximum	55.1	fc
Minimum	6.9	fc
Max/Min	8.0:1	
Average/Min	2.6:1	
Warehouse LPD		
Luminaires	30	
Total Power	13740.0	W
Area	12000.0	ft²
Power Density	1.1	W/ft²



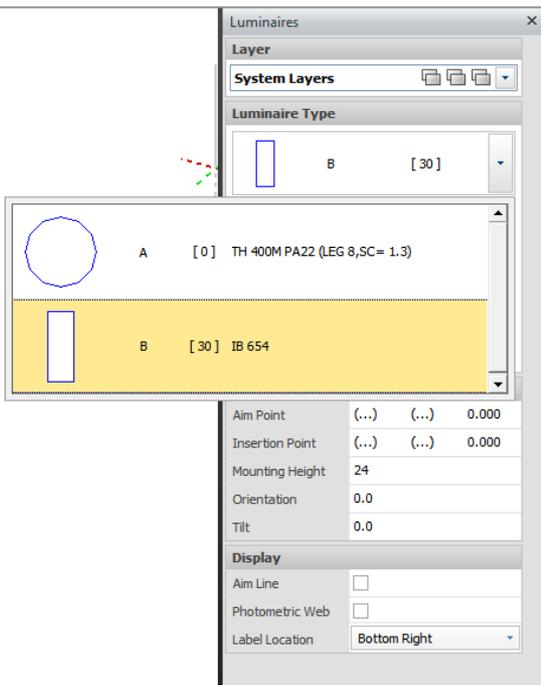
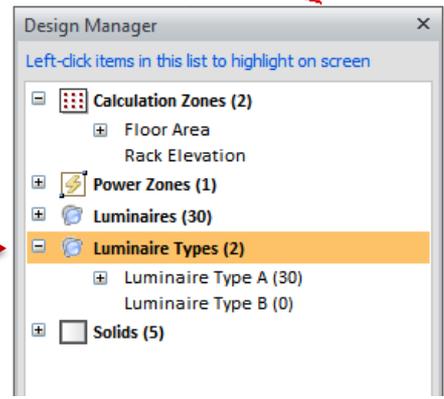
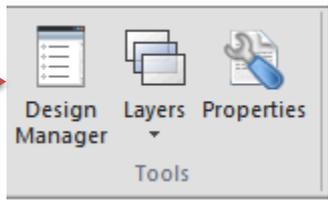


Design Manager

Comparing Luminaire Types

Now that we've taken a look at one type of luminaire. Let's place a different type of luminaire in the space and compare.

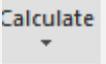
1. From the tools section of the home tab select the Design Manager.
2. Within the **Luminaire Types** group, left click on the first luminaire type A. Hold the Shift key down and scroll to the last luminaire in the list then left click on it.
3. In the Properties sidebar, change the **Luminaire Type** drop down type to **B**.



Acuity Brands



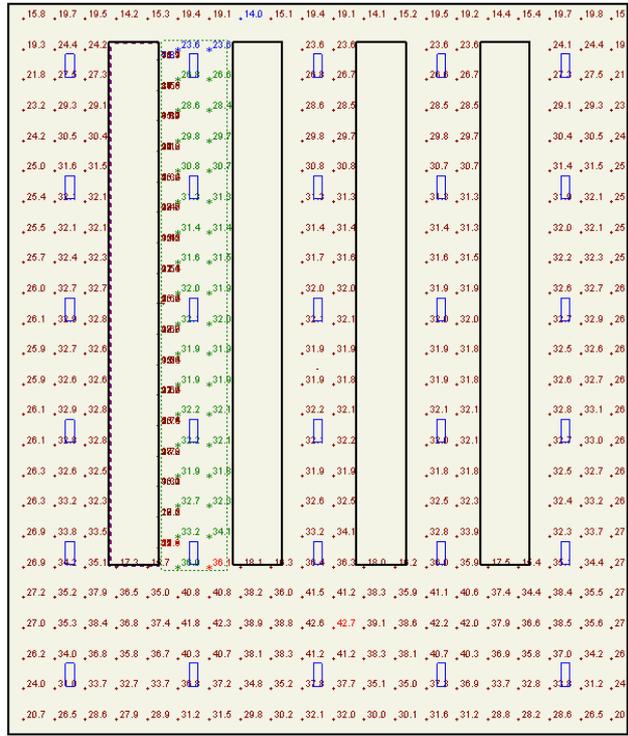
Calculate



1. Re calculate the Visual file and take a look at the statistics.

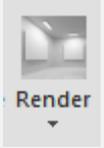
2. Compare the averages and energy savings with the previous luminaire used.

3. The average horizontal and vertical illuminance are higher with this 2nd design, and the LPD has been reduced.



Statistics		
Combine Filter		
Aisle		
Average	31.1	fc
Maximum	36.1	fc
Minimum	23.6	fc
Max/Min	1.5:1	
Average/Min	1.3:1	
Floor Area		
Average	30.5	fc
Maximum	42.7	fc
Minimum	14.0	fc
Max/Min	3.1:1	
Average/Min	2.2:1	
Rack Elevation		
Average	19.0	fc
Maximum	53.8	fc
Minimum	7.8	fc
Max/Min	6.9:1	
Average/Min	2.4:1	
Warehouse LPD		
Luminaires	30	
Total Power	11070.0	W
Area	12000.0	ft ²
Power Density	0.9	W/ft ²





Rendering

Renders require no additional work, just click the render button.

1. Click the Render button to view a rendering of the warehouse

