ArcheType® X Advantage

Creating Custom Type X Files Using AGi32

type X distribution

Infinite adjustability…

KIM LIGHTING

HUBBELL® Lighting

INTRODUCTION

Maintaining our reputation for delivering the lighting industry's highest quality and innovation, Kim Lighting now brings you Type X. Type X is going to revolutionize the way we think about outdoor illumination to deliver unlimited possibilities for custom light distributions.

TERMINOLOGY

Group Files

Group files are files that allow for individual module aiming in AGi32 to obtain custom distributions of the Type X. The Group files can be identified as a group under in the Define Luminaire tab in AGi32. These files consist of 9, 16 and 25 line items depending on the size of the fixture - 3x3, 4x4 and 5x5 respectively. These line items represent the individual LEAR modules that make up the fixture. The Group files are available as an AGi32 file and will need to be imported into your project. These files are ***not available*** on the Kim Website.
Please reach out to a Kim representative to obtain these files.

Composite Files

Composite files are non-aimable IES files. These are typical IES files that you download off the Kim Website. You can also generate a composite file from a Group file. This will behave like a typical IES file and will not allow for individual module aiming.

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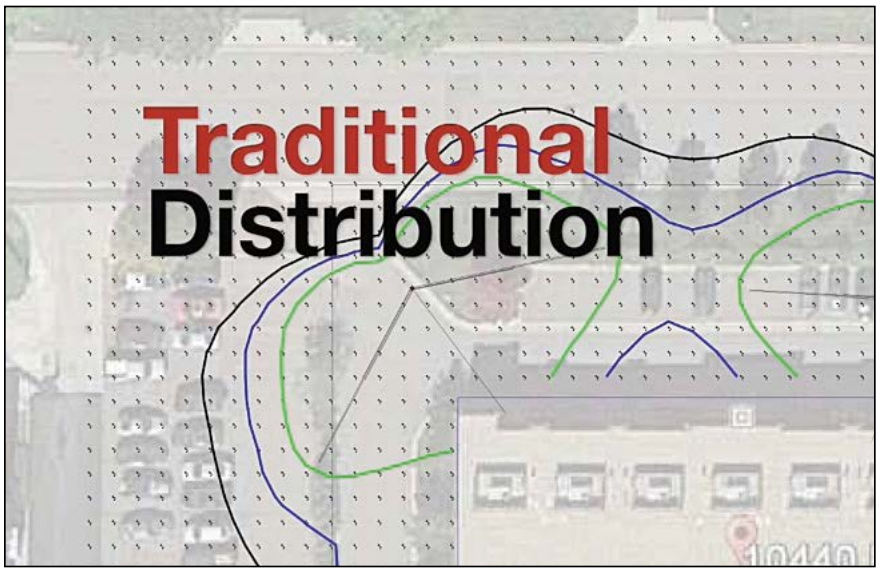
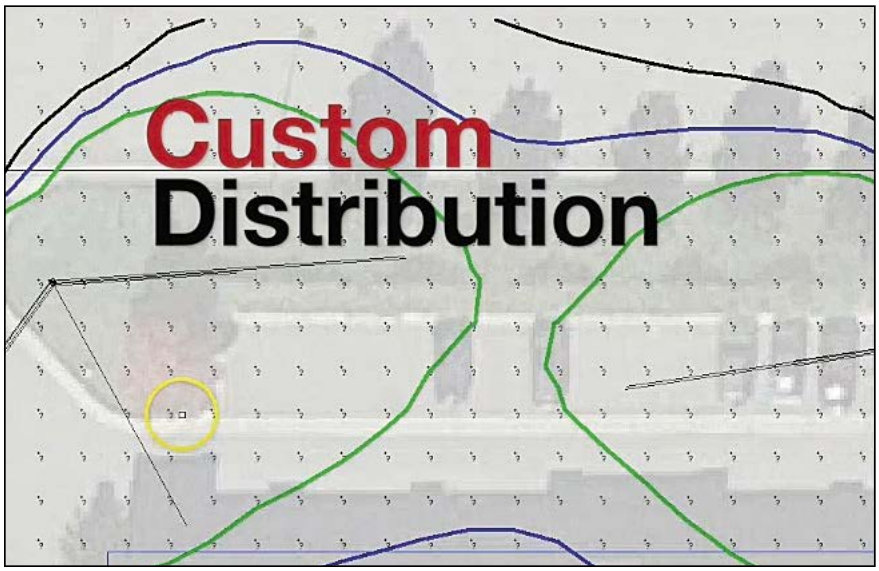
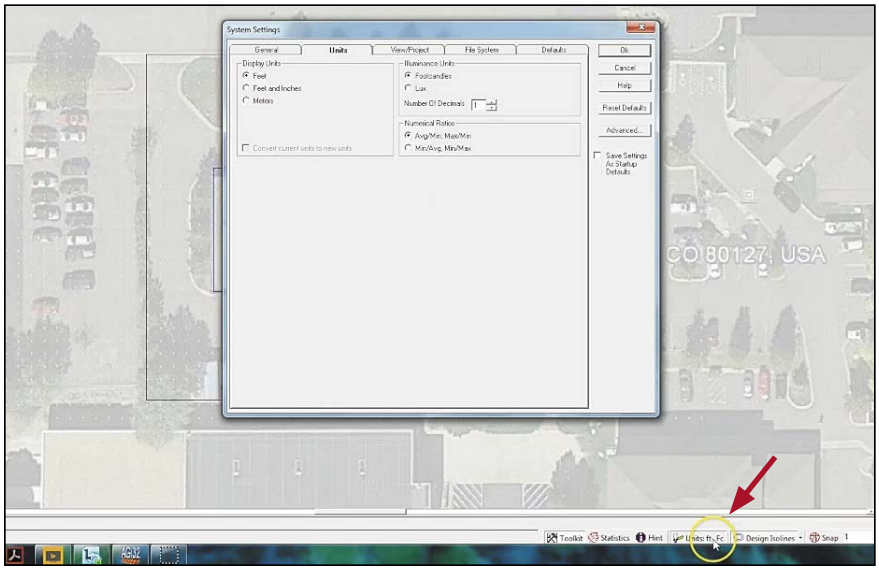


(1) Today, to achieve your lighting goals, you use the standard IES Type 1, 2, 3, 4, and 5 distributions. This requires a tradeoff between light trespass and meeting minimum light levels all while maintaining uniform illumination. Often this requires adding poles and fixtures to avoid dark spots or to maintain the minimum required light levels of the project. Why compromise?



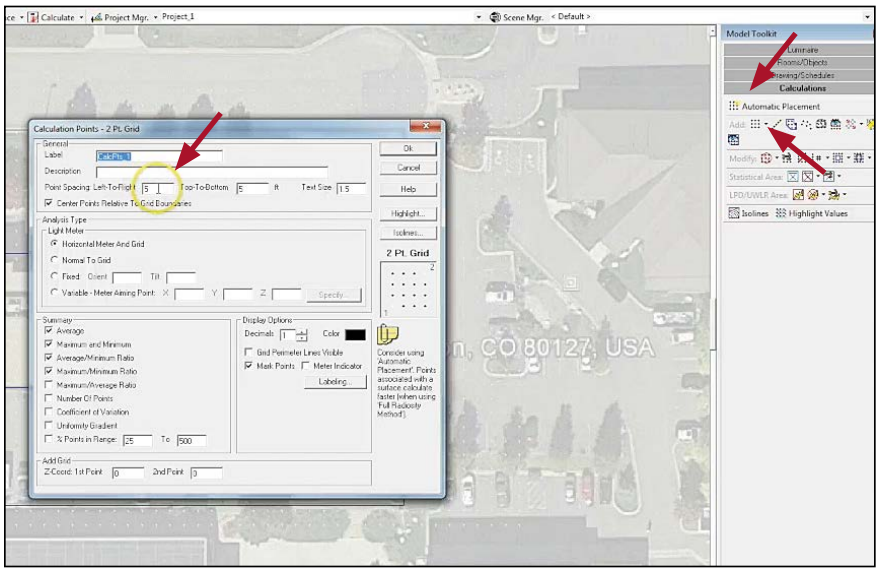
Benefits of Custom Type X

(2) With Type X, you are in control and have the ability to put light were you want it, providing a level of precision illumination previously only dreamed of. Today we are going to show you how to design your layouts faster, how you can use less poles and luminaires than the competition to achieve better results, and how to eliminate light trespass while achieving the highest efficacy possible.



Starting a Layout

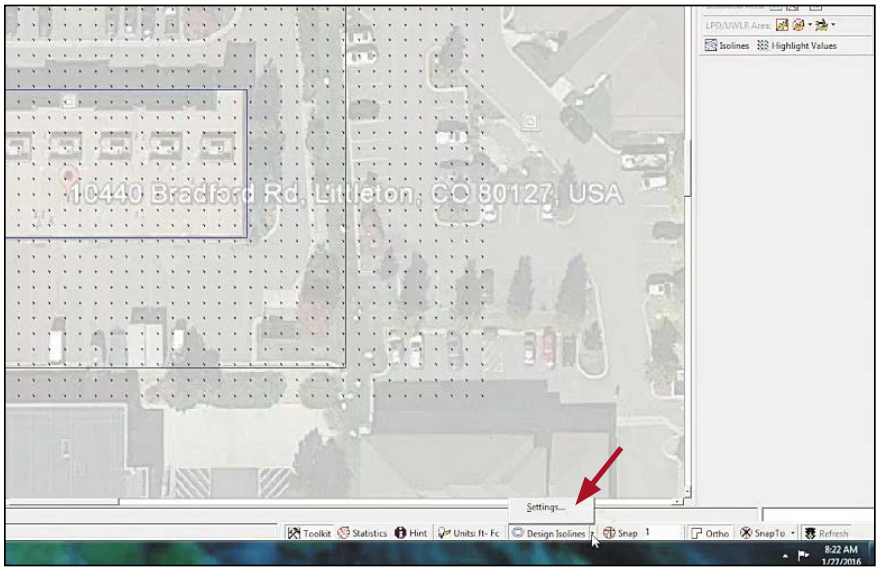
(3) To start creating custom distributions in AGi32, you need to ensure that you have version 16.3 or higher. Start by changing the units to feet by selecting the Units button at the bottom of the screen. You can also choose "Feet and inches" or "Meters" if you would like. In this example, we will be using feet. Hit Ok.



(4) Next, click on the Calculations Tab and add a 2 point grid. This is where you set the point spacing as required for your layout. In this case, we are choosing a 5 ft by 5 ft grid.

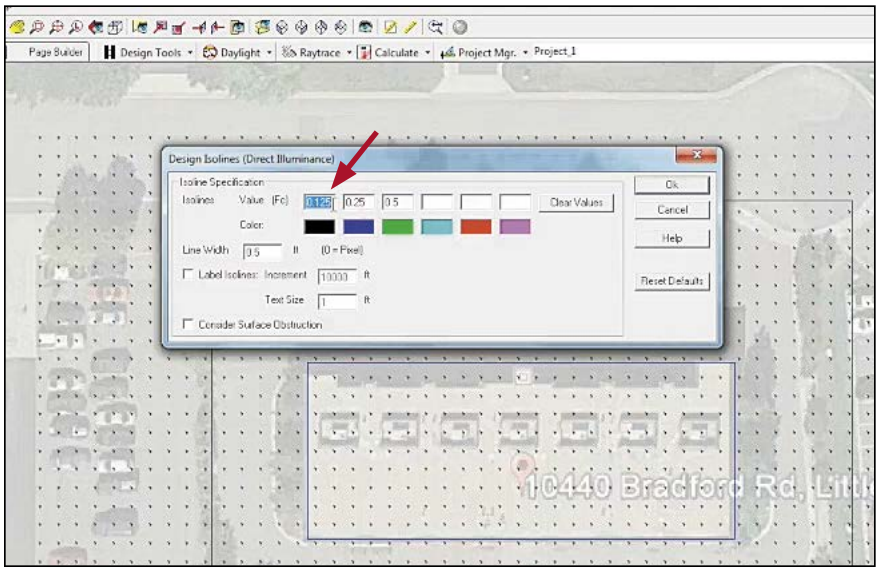
(5) Now, specify the dimensions of the grid.

(5a)

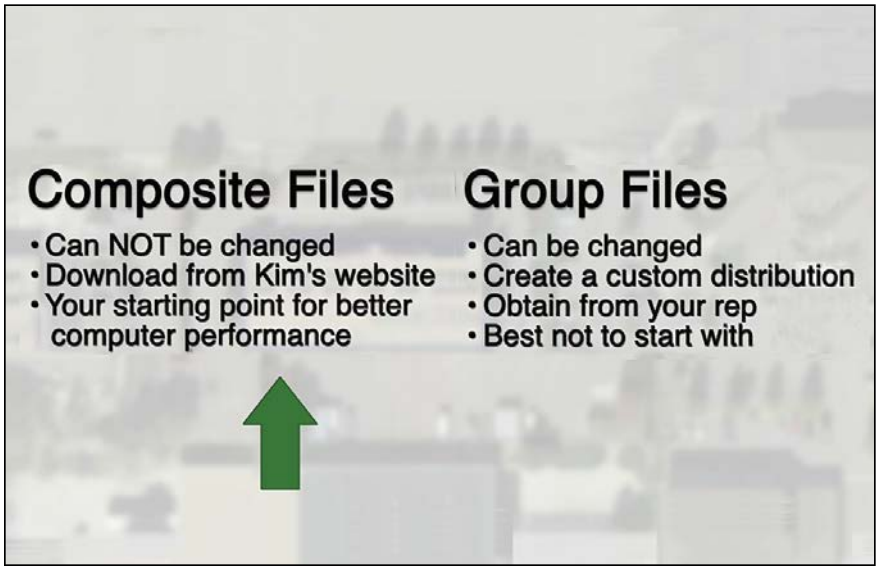


Design Isolines Definition

(6) Once you've done that, define the Design Isolines by clicking on the drop down arrow next to the Design Isolines tab at bottom right and click on settings.

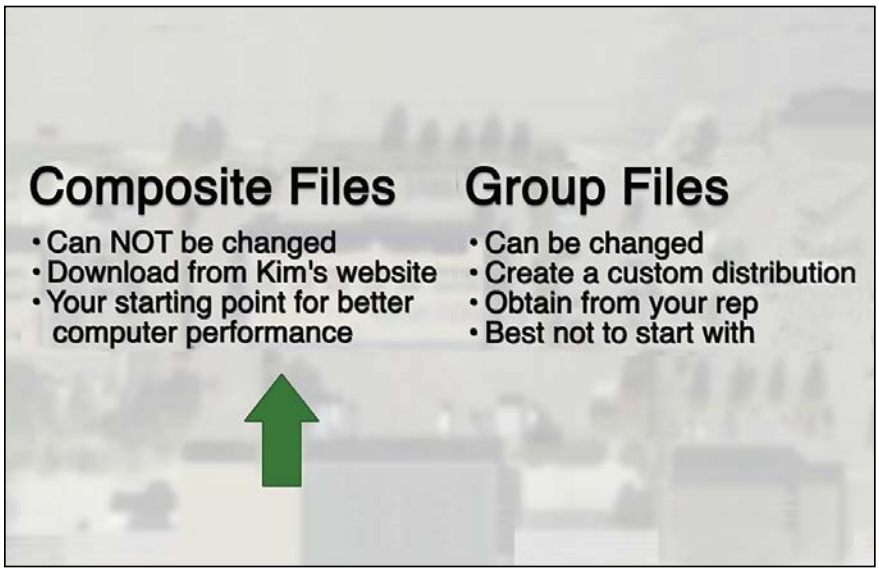


(7) Now, specify the footcandle values of the Isolines in the box that popped up. Plug in desired footcandle values. Here, we are going to choose 0.125, 0.25 and 0.5 fc., and click OK. In this case, the 0.5 fc line is represented by the green line. Colors can be customized to your liking. We have chosen green in this example. Next, click on the Luminaire Tab at the top right hand corner of the screen and select the Define button. Plug in the desired footcandle values. Here we are going to choose 0.125, 0.25, and 0.5 fc.

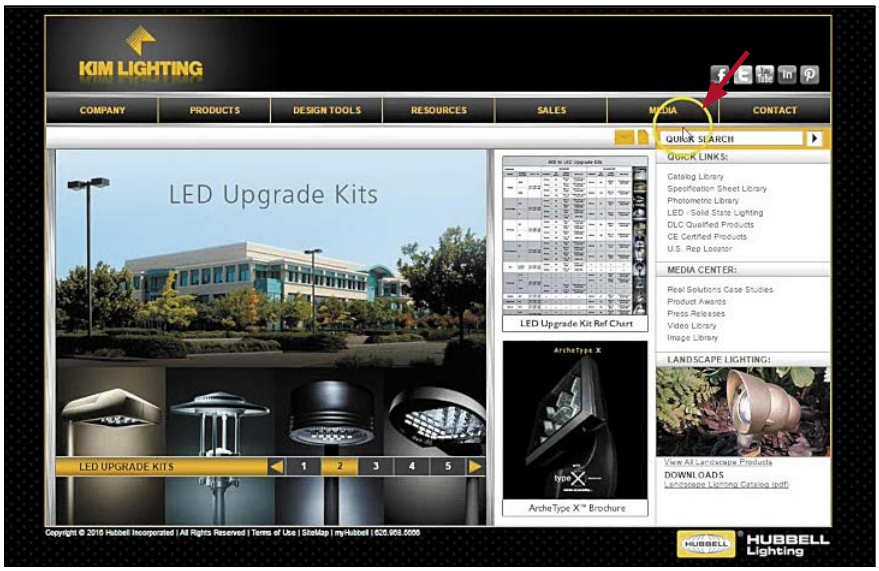


Composite file vs Group file

(8) Before we move any further, **Composite Files** are standard IES files that **cannot be changed or manipulated** within AGi32. These are downloaded from Kimlighting.com as your starting point when creating a custom distribution. **Group Files** are files that **can be changed or manipulated** within AGi32, and they are the files that you will use to create your custom distribution. **Please contact your local representative to obtain the group files.**

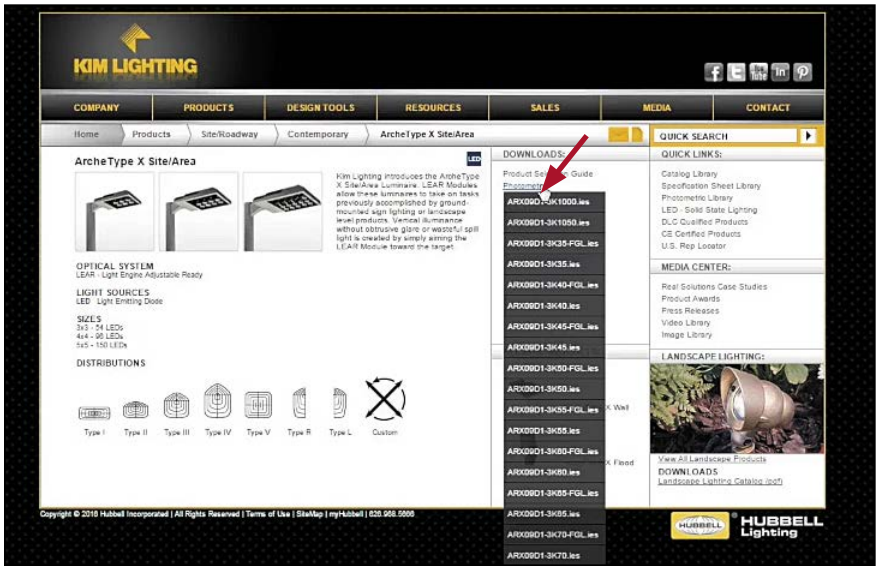


(9) It is also important to note that calculation time is the main reason why you need to use a Composite file for creating custom distributions rather than a Group file. Using a Group file would drastically slow down the computing power within AGi32 and make the process take much longer.

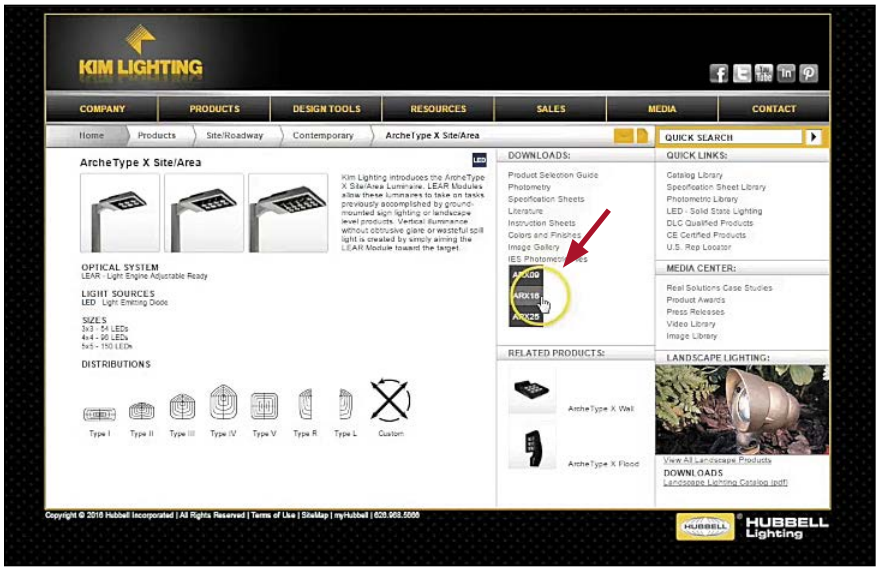


Downloading IES from KIM Website

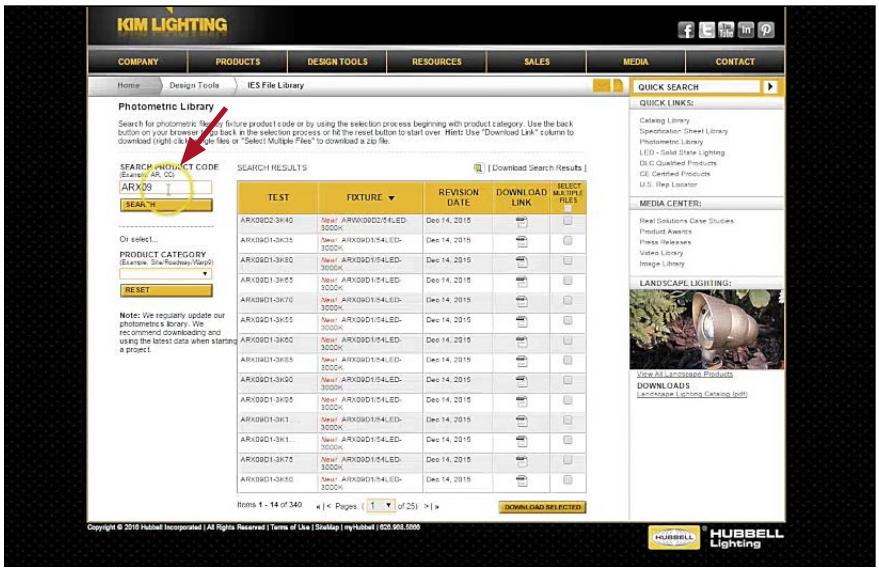
(10) Picking up where we left off, go to the Kim Lighting website and download a Composite file. To reiterate, these are standard IES files that cannot be changed or manipulated.



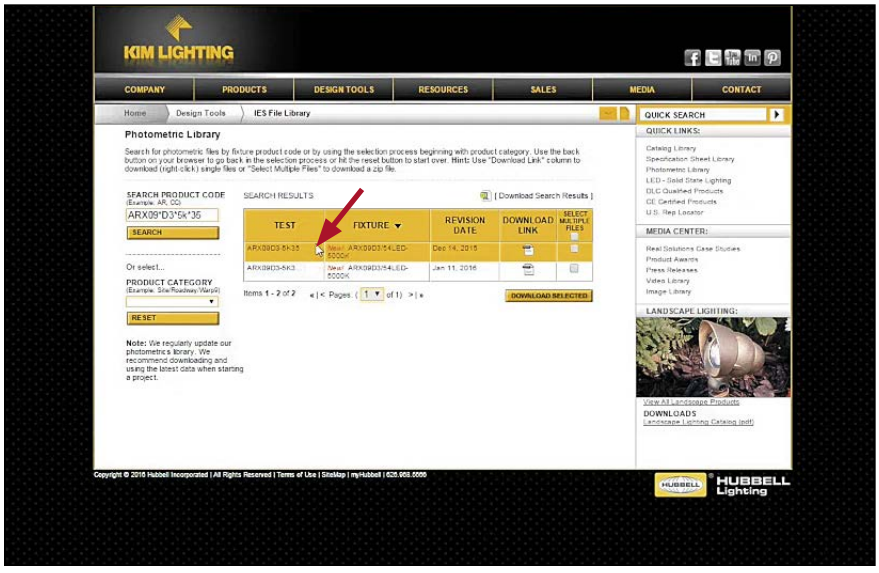
(11) Once on the website, go to the Type X page and select the distribution Type (i.e. Type 1, 2, 3, 4, etc.) that you would normally use in the particular location of your layout.. In our example, we are going to use a 350mA, 09 (or 9 module) Type 3 5000K file. There are two ways you can download the file on the website. The first way is by placing your cursor over the "Photometry" button under the "Downloads" box and selecting the file that you are looking for.



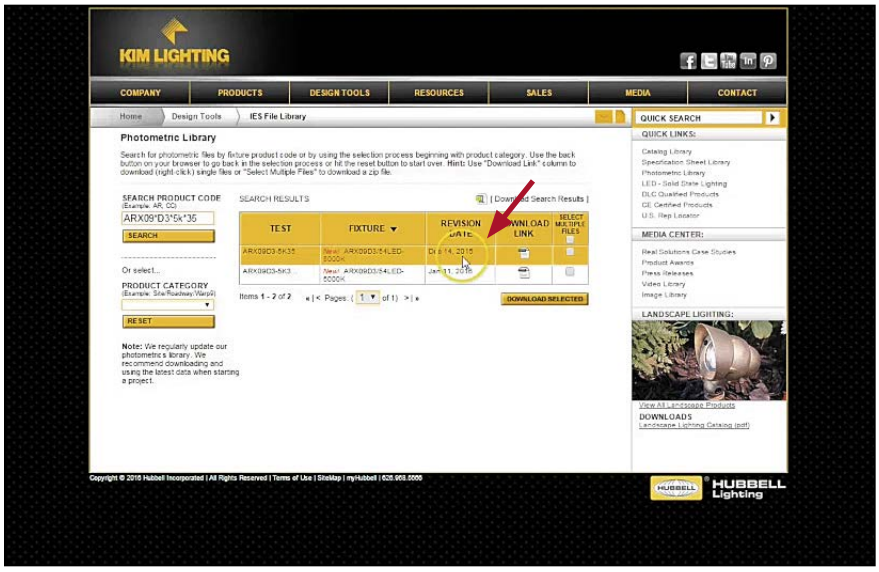
(12) The second way is by placing your cursor over the "IES Photometric Files" tab and selecting the appropriate fixture size (i.e. ARX 09, 16, or 25).



(13) Once on the "Photometric Library" page, locate the "Search" box on the left hand side of the screen and type in the distribution and color temperature of the fixture that you want. In this example, we are going to type in *D (for distribution), 3 (for Type 3), *5 (for 5000K), *, and press search.

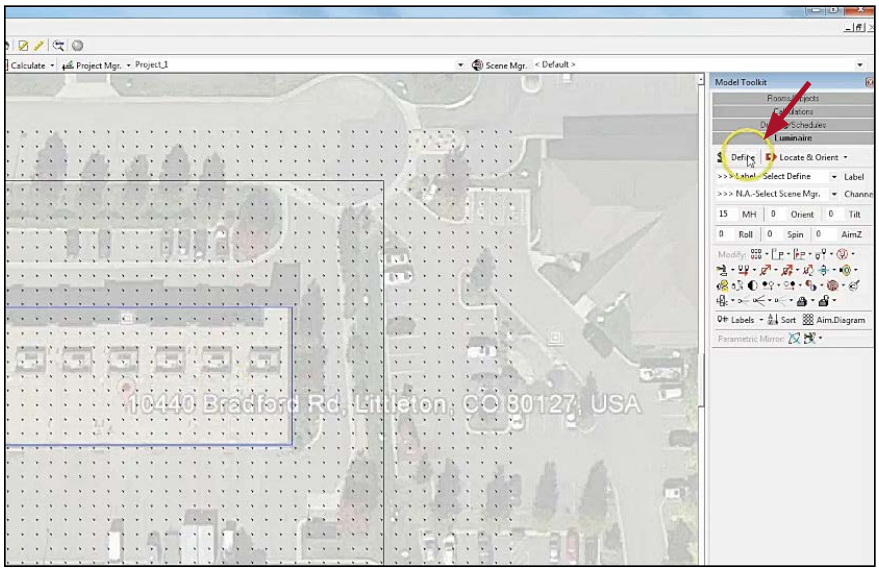


(14) Again we are looking for the 9 module, Type 3, 5000K, 350mA IES file which will read as, "ARX09D3-5K35".

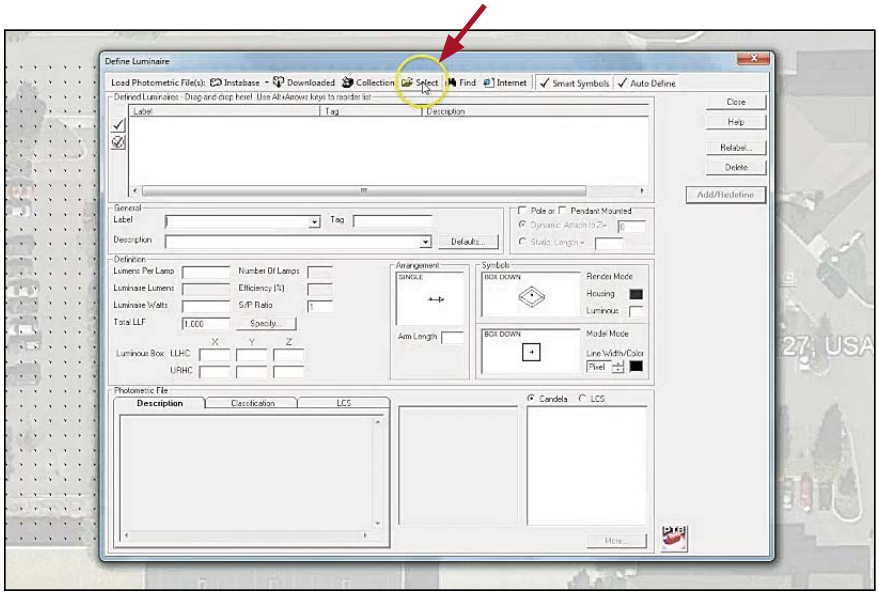


Importing IES file into AGi32 Layout

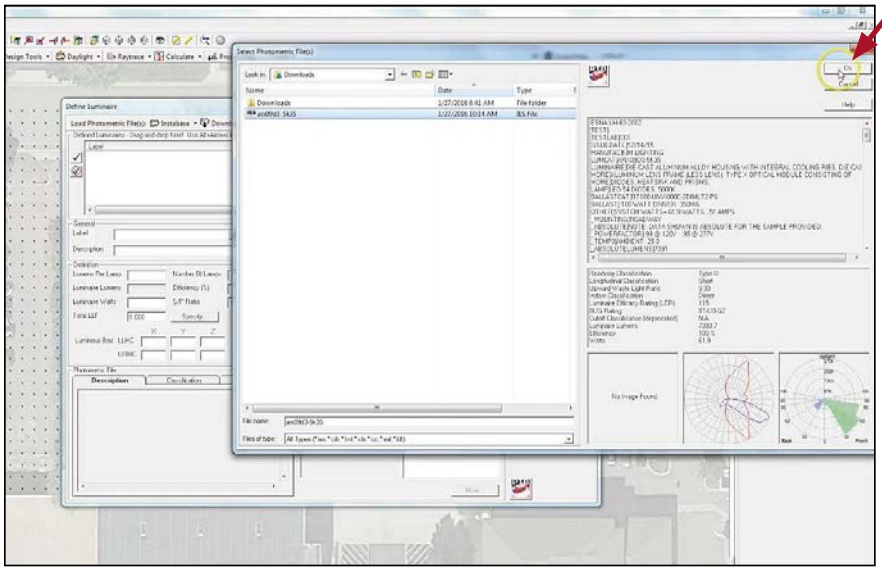
(15) Once you find it, select the download link and download the file.



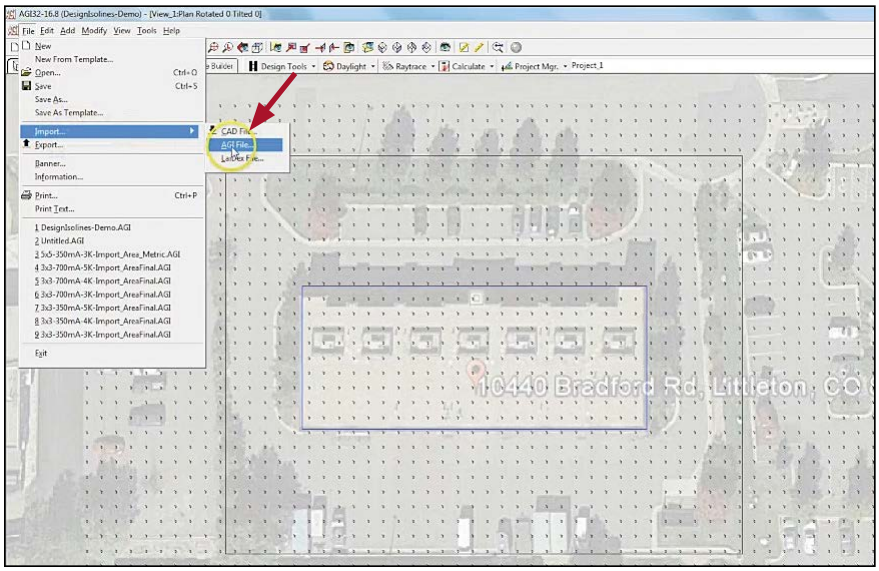
(16) Now, go back to where we left off in AGi32 …



(16a) and click on the "select" box in the top middle of the "Define Luminaire" field.

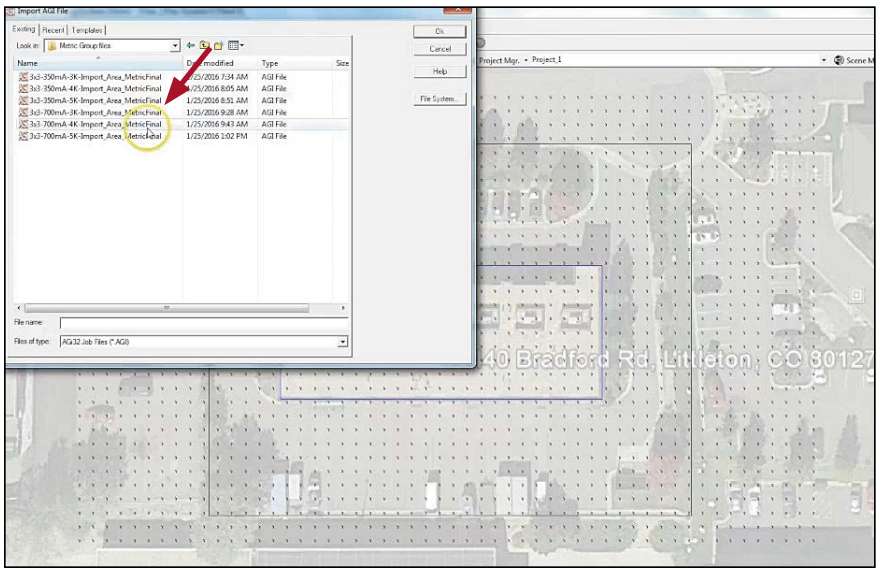


(17) Here you want to select the IES file that we just downloaded from the website. When the next box pops up, select "OK".

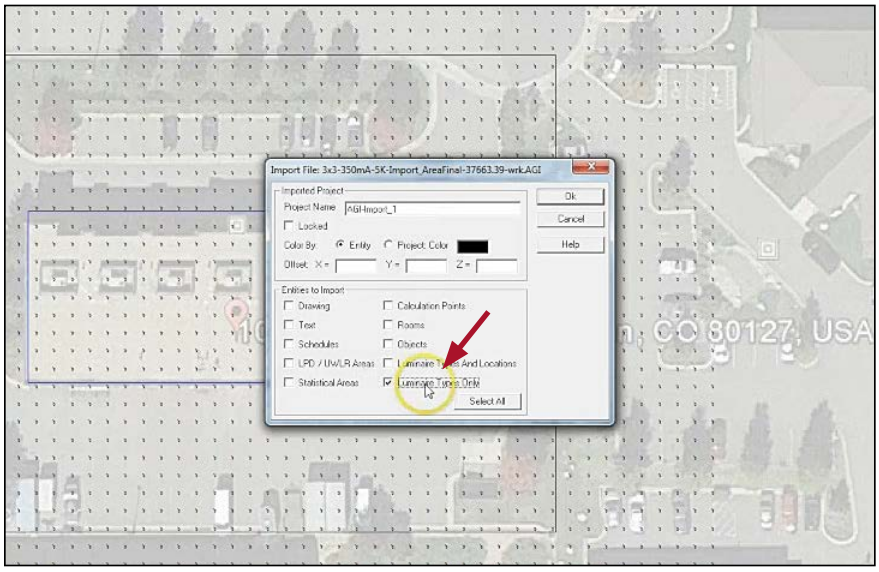


Importing KIM Group files into layout

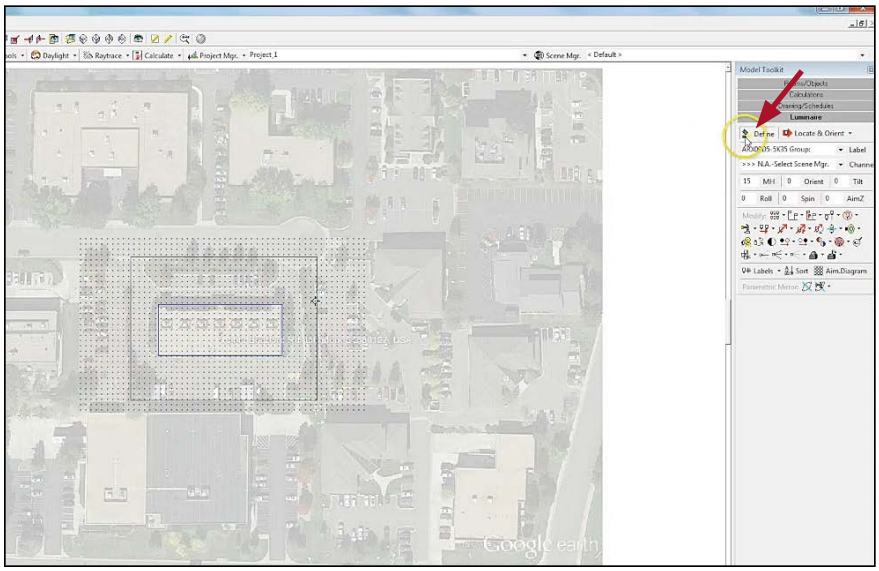
(18) You should now be back in the "Define Luminaire" field. From here we want to import the "Group File" given to you from your Kim Lighting representative. Close this box out and take your curser to the top left of the screen and click on "File". In the "File" drop down box, place your curser over "Import" and select "AGi file".



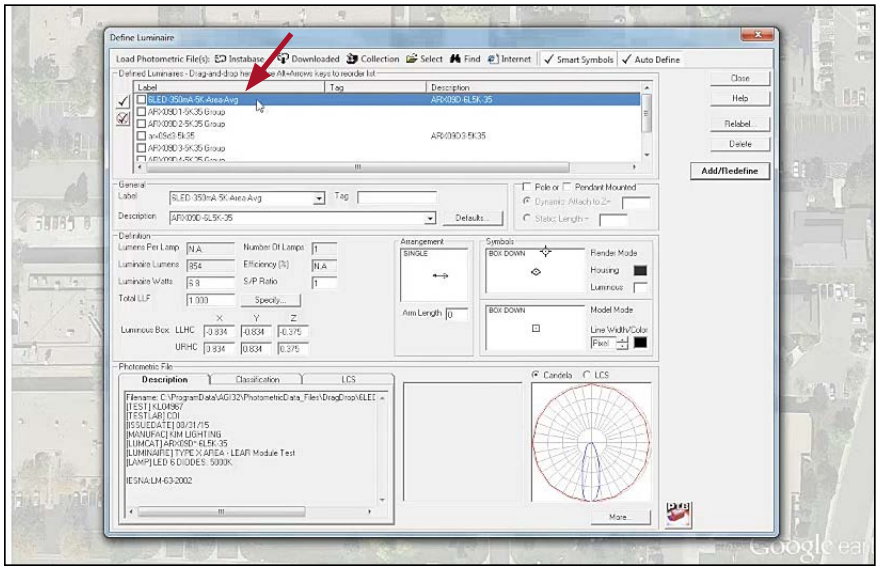
(19) In this example, we are going to import the 9 module 3X3-350mA-5K-Import_AreaFinal, so, click on the file and select "Ok". As a side note, if you are working with a "metric" layout, you will want to choose the file with "metric" in the file's description.



(20) Now you see the "Import File" box pop up on your screen. Check the "Luminaire Type Only" box in the bottom right corner and click "Ok".

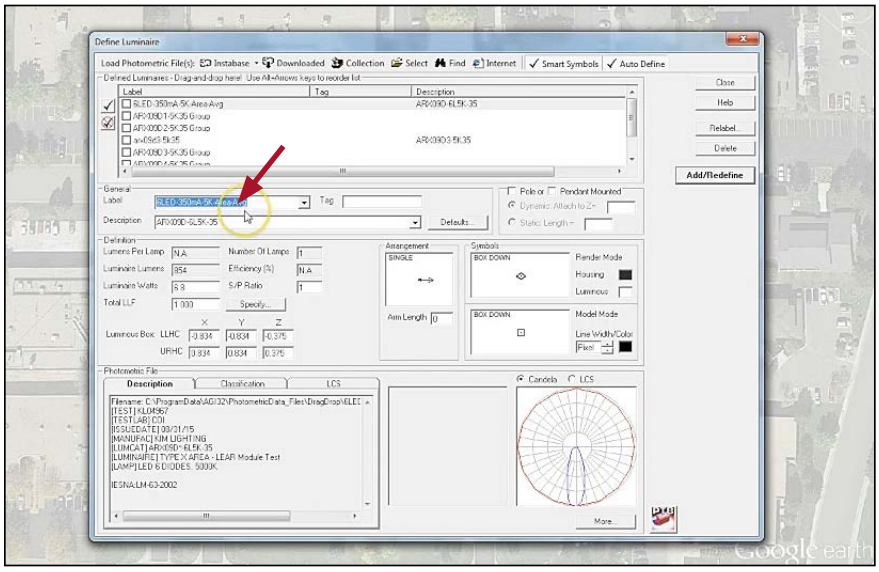


(21) Next, click on the "Define" button under the "Luminaire" tab at the top right of the screen.

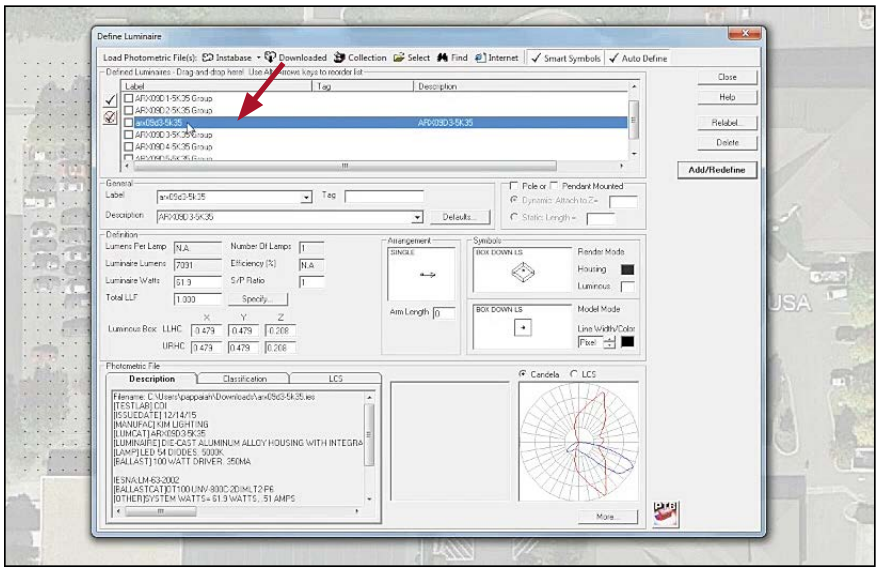


Reviewing imported Group files

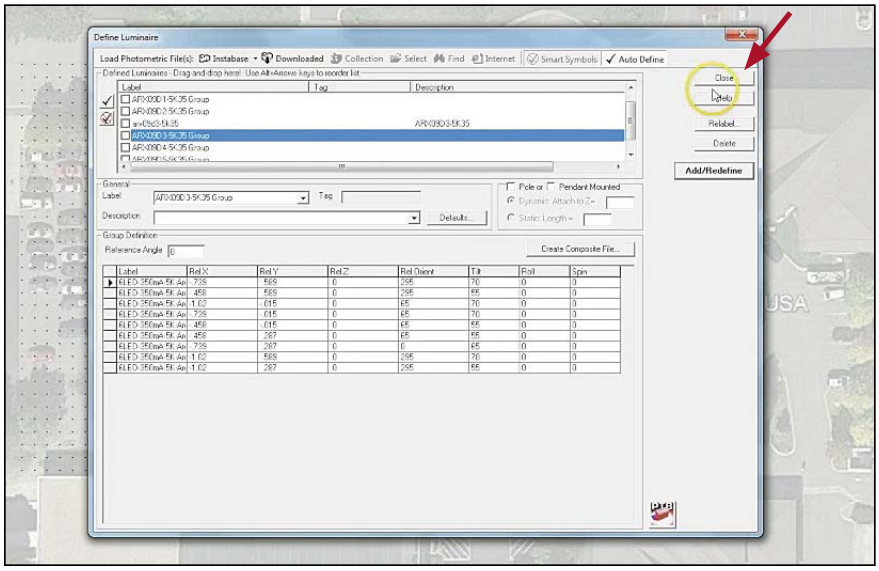
(22) As you can see, the "Group" files have been imported.



(23) The top file, 6LED-350mA- Average, consists of an individual LEAR module file which is 6.77W and 699 lumens. As a very important note, **do not use this file in your layout. If you select this for your layout, it will calculate for only one module!**

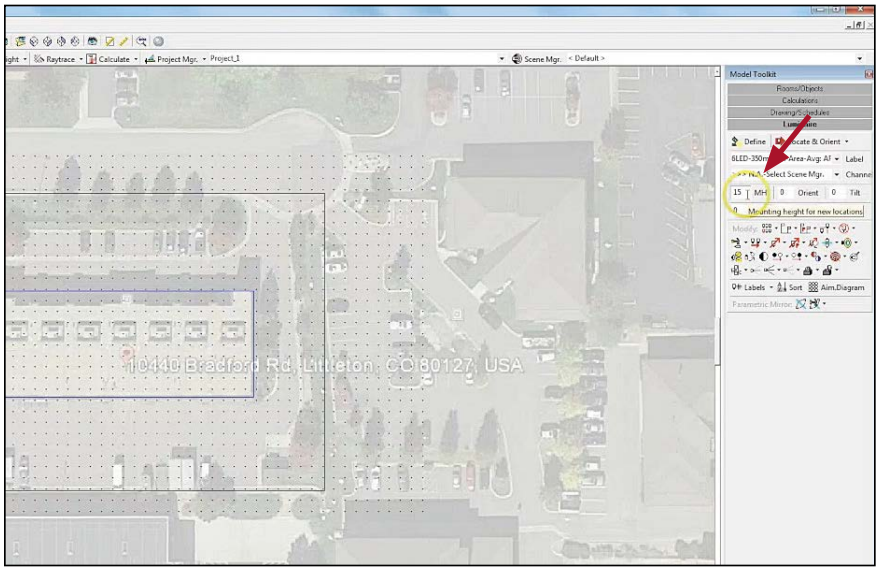


(24) Also notice the composite IES file that we imported from the website and it's corresponding group file. As you can see when clicking on them, you can tell the difference between the two because the "Group" file has an orient and tilt associated with it and the composite file does not. Also, the group files have the word "group" in the file name.

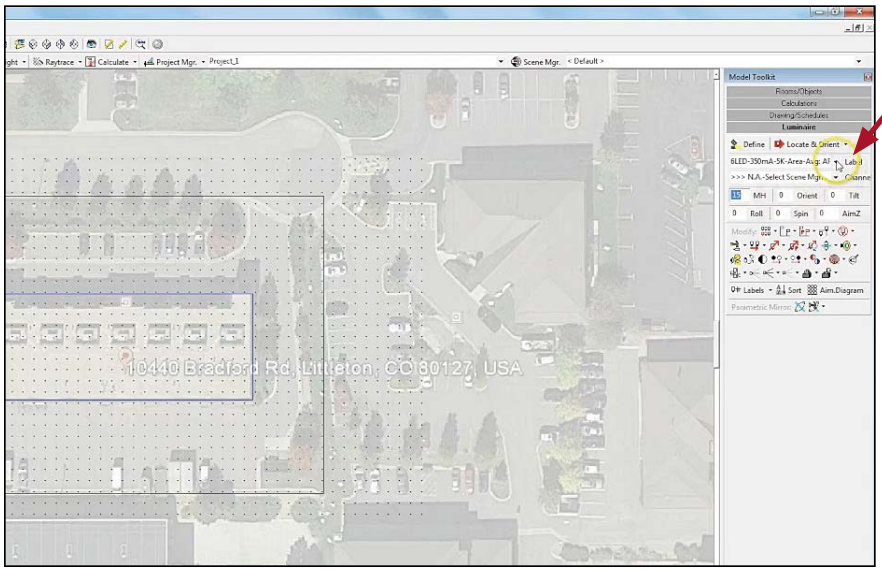


Locating fixtures in the Layout

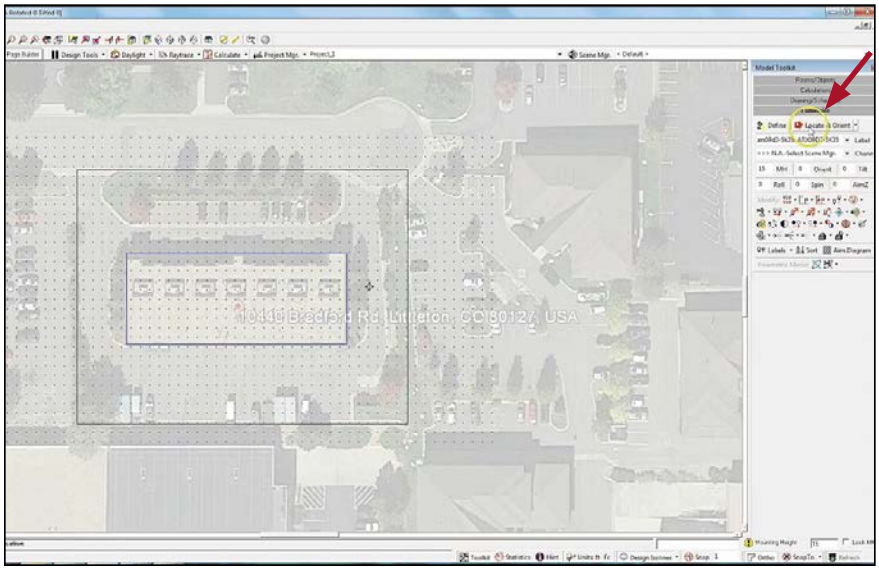
(25) Next, close the "Define Luminaire" box and …



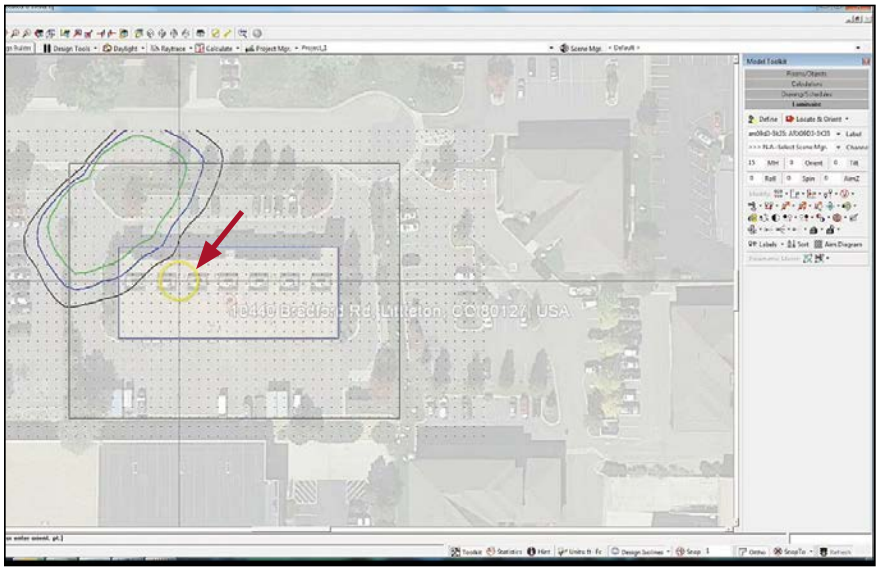
(25a) enter a mounting height. In this case, we are choosing to use a mounting height of 15 ft.



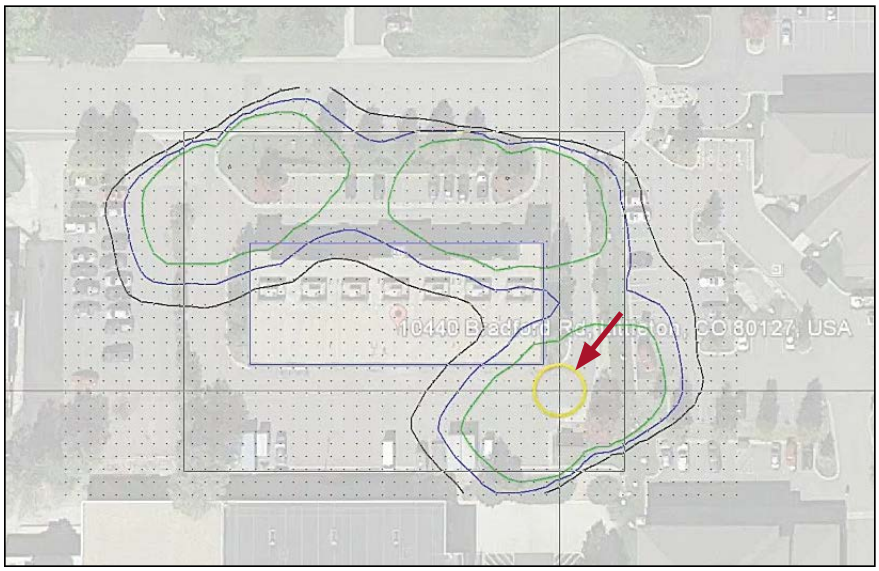
(26) Now, click on the drop down arrow next to where it says "label" and select the Type 3 composite file that we downloaded from the website.



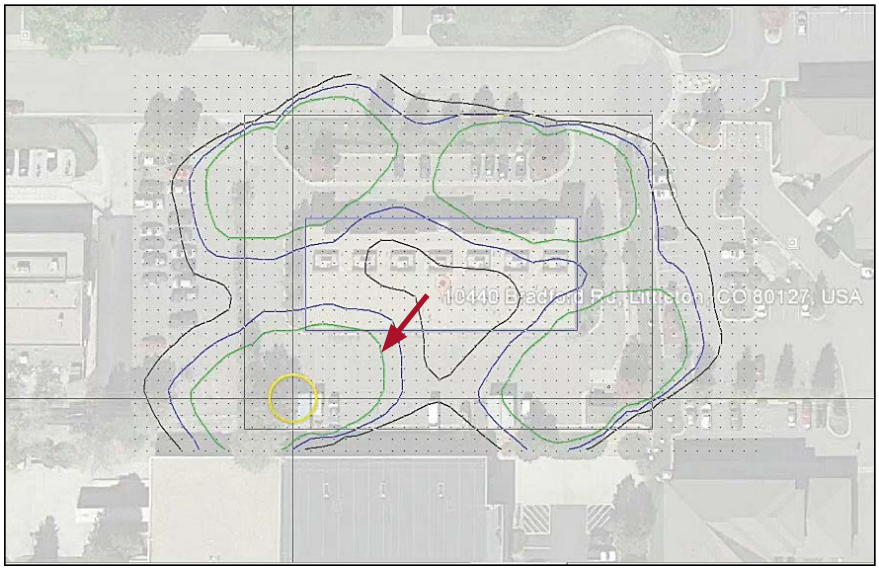
(27) Then, click on "Locate and Orient"…



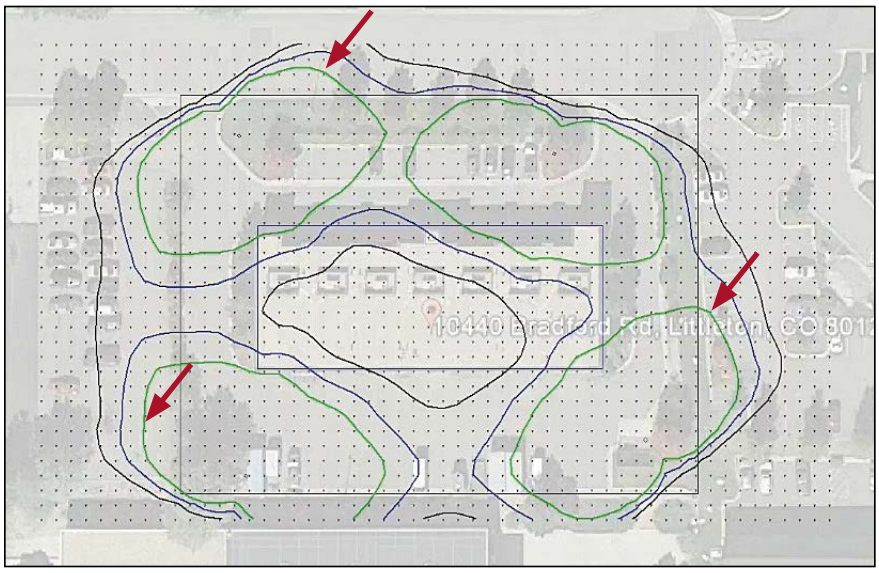
(27a) and move your cursor into the layout to place the luminaire where you would like.



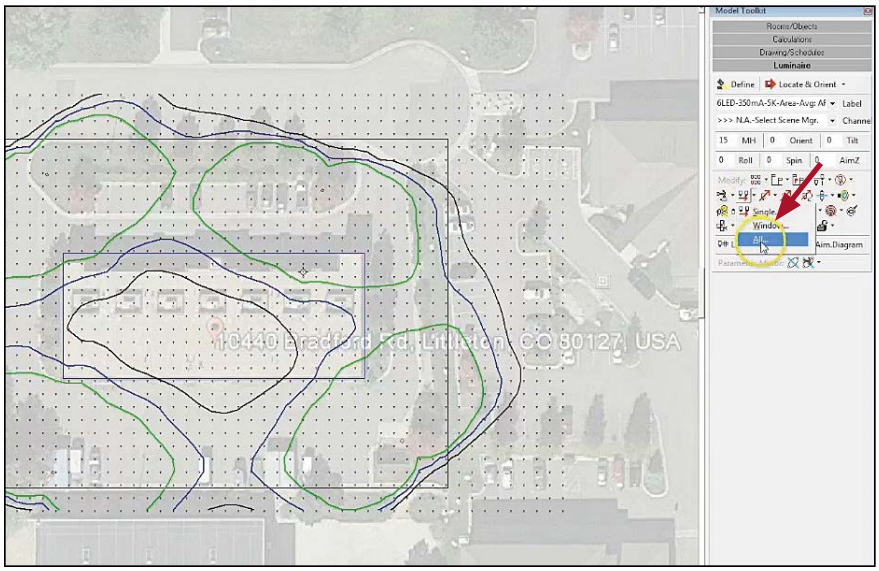
(28) Notice as you continue to add luminaires to the layout, the Design Isolines dynamically calculate with one another.



(29) As an important note, the 0.5 fc line is depicted by the green line. If you recall earlier, green is the color we decided to use. So when doing this on your own, the 0.5 fc line will be whatever color you've chosen.

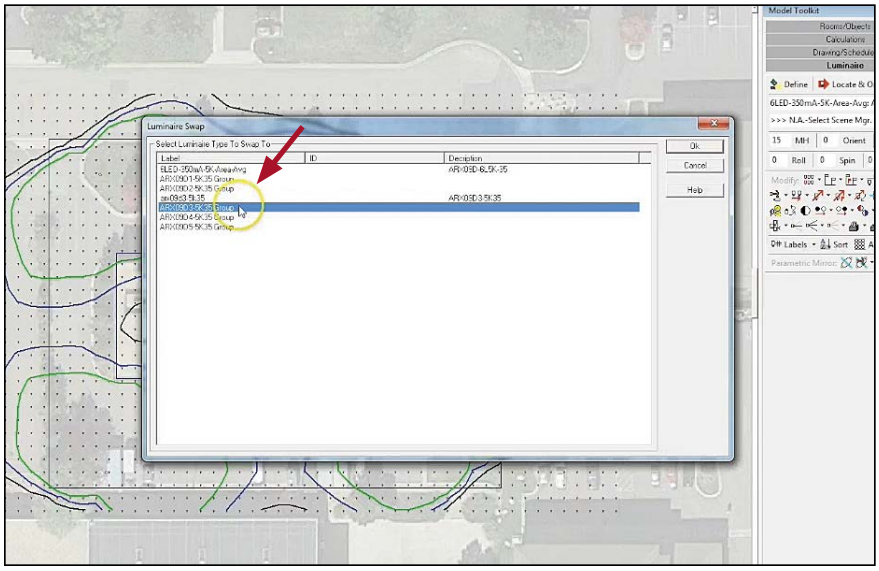


(30) As you can see, the standard Composite IES file is not "tailor fit" to the layout and there are some "light trespass" issues. At this point, this is where you would normally begin to move luminaires around, add fixtures, and add poles where needed, to place the light in the spots you want. Sound familiar?

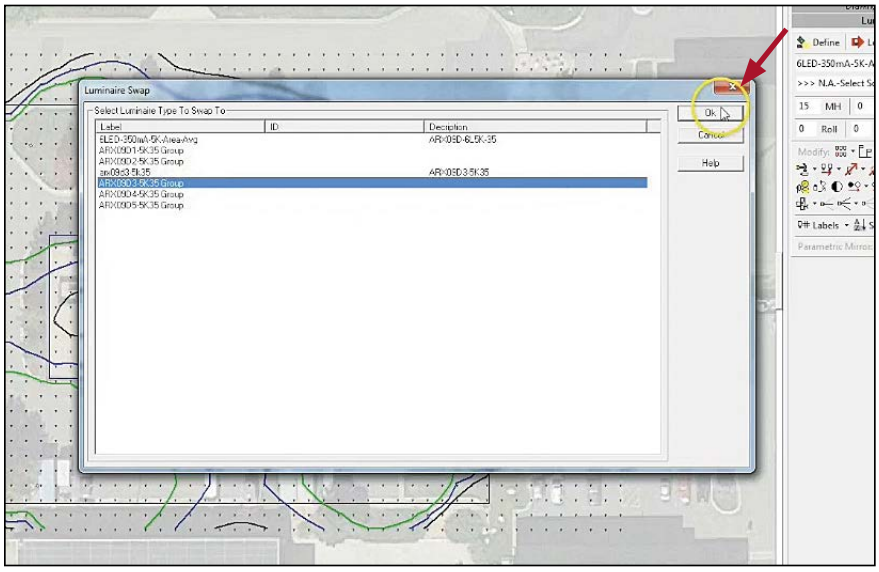


Swapping for Group files

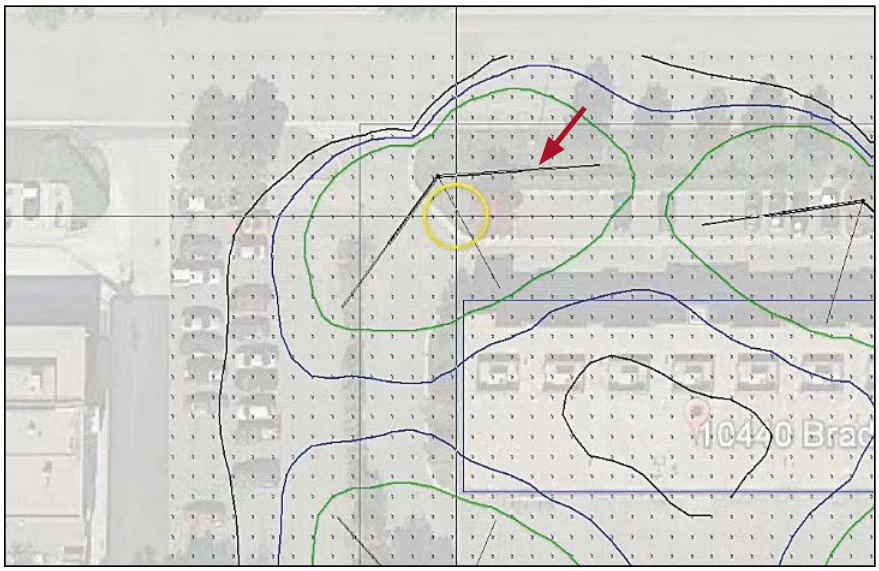
(31) Now let me **forever change the way you look at lighting design** by showing you how to create a custom Type X distribution. First, click on the drop down arrow of the "Swap Luminaire Type" button and select "All".



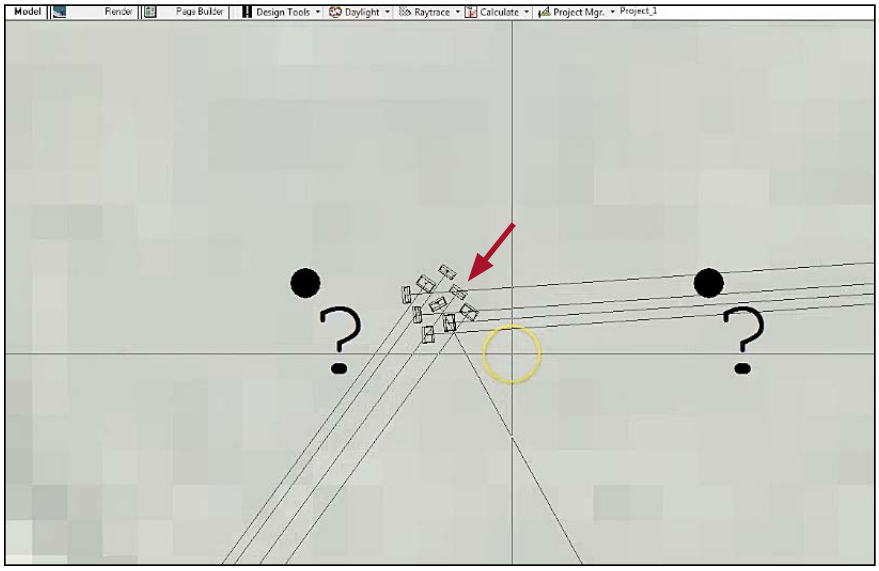
(32) When the Luminaire Swap Box pops up on the screen, click on the Group file that corresponds to the Composite file in the layout we are working on …



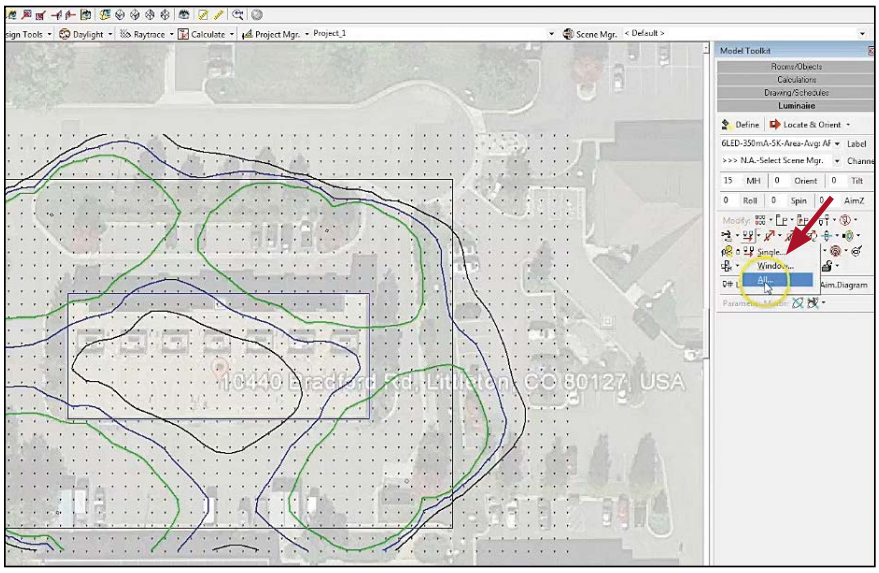
(32a) and click Ok. Just to reiterate, the Composite file we are using here is a 9 module 3X3, Type 3, 5000K, 350mA IES file which reads as, "ARX09D3-5K35". The Group file you choose here needs to correspond with that.



(33) Notice how you can see each individual array coming out of each fixture.

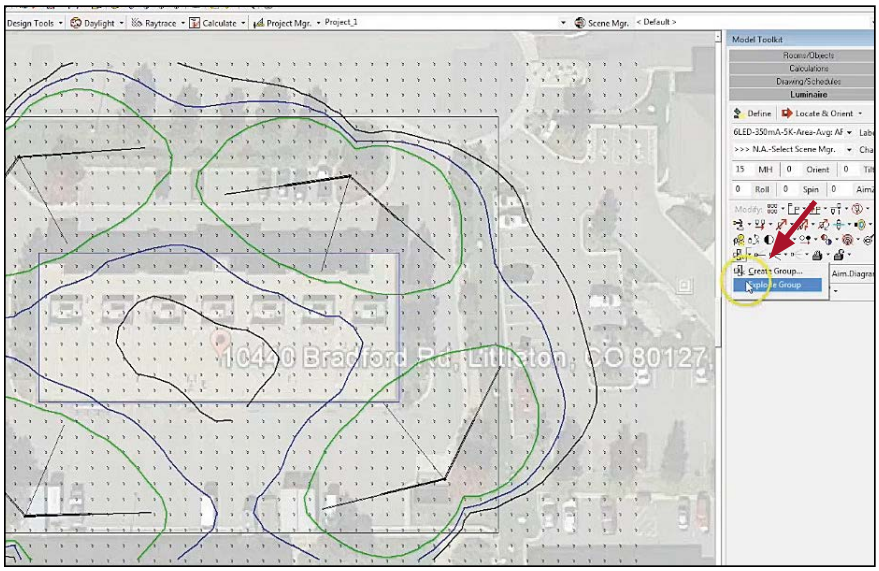


(34) As we zoom in, you can see each module more clearly.

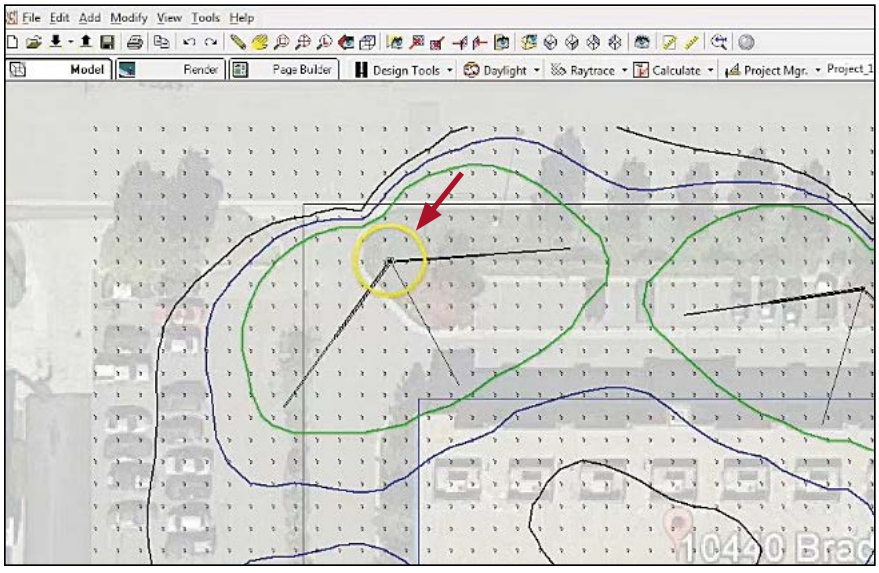


Aiming Group file

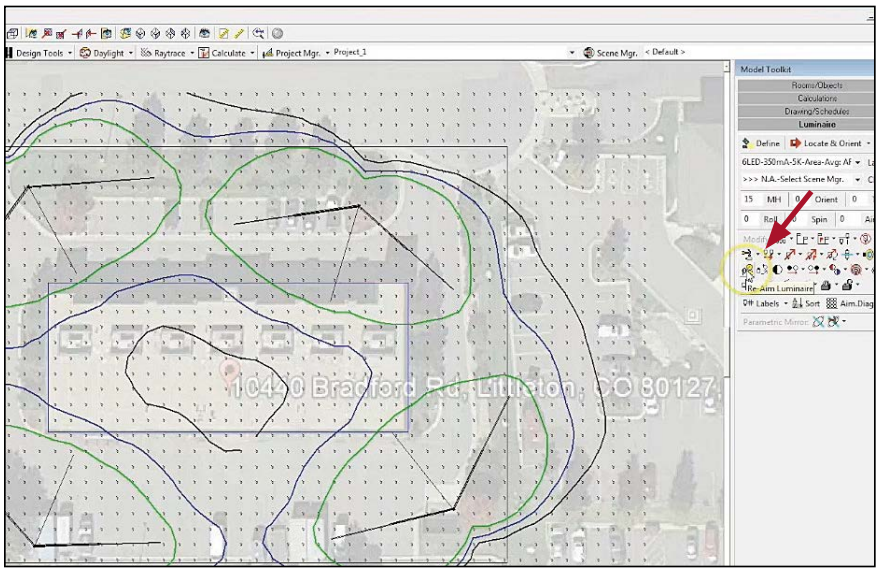
(35) Next, make sure the "Luminaire" tab is selected on the top right-hand side of the screen, and locate the "Create Luminaire" button. Click on the drop down arrow next to the "Create Luminaire" button …



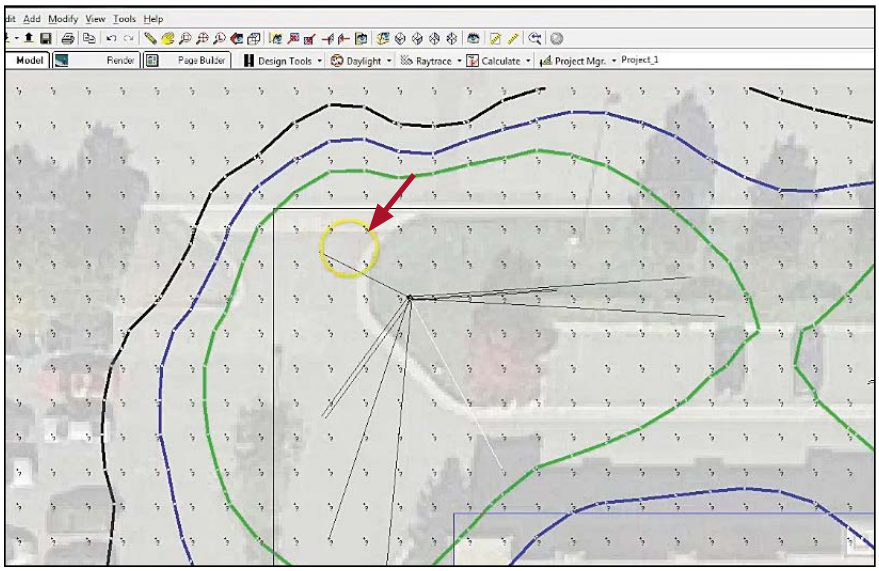
(35a) and select "Explode Group"



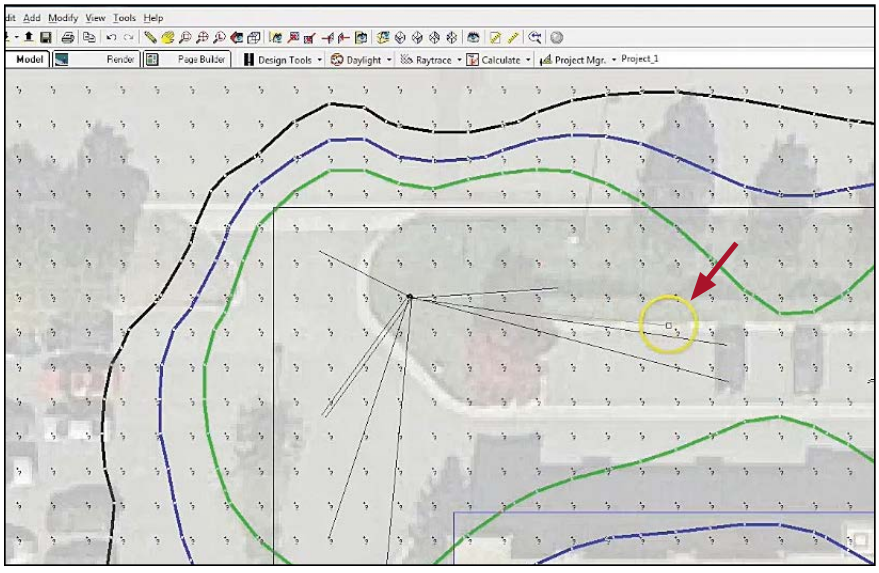
(36) Now, Click on the fixture or "Group" that you want to customize …



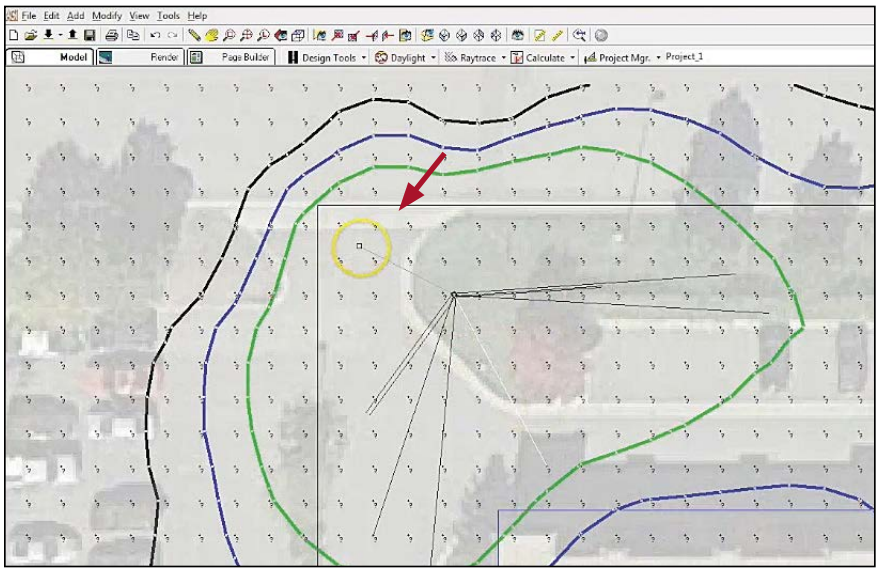
(36a) and click on the "Re-aim" button on the right hand side of the screen.



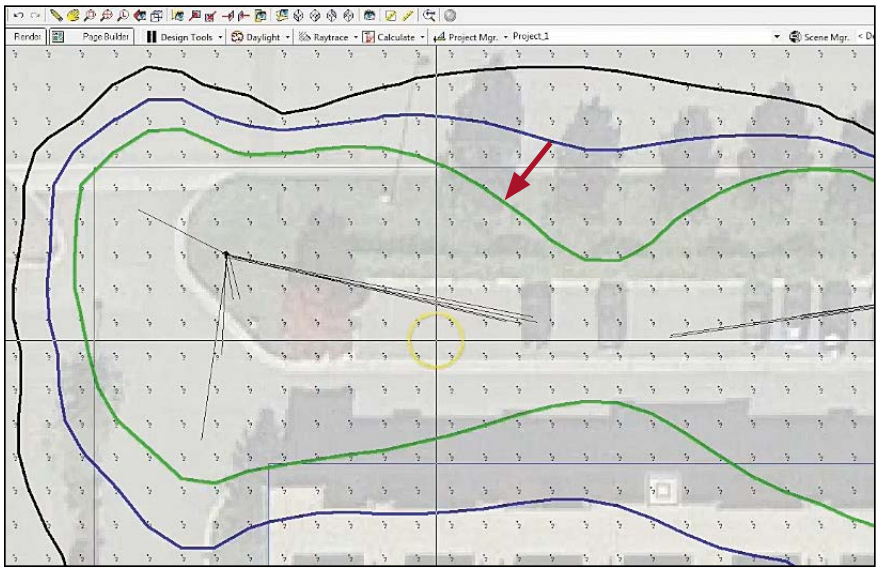
(37) You can now go back over to the fixture or "Group" that you just selected …



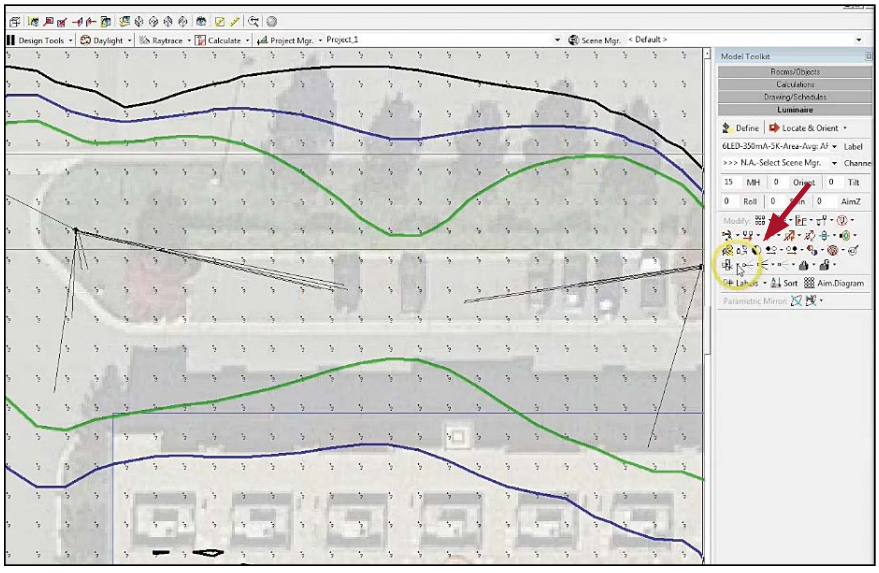
(37a) and start customizing and re-aiming each module to place light where it is needed or where you want it.



(38) As you do so, notice how the isolines dynamically calculate the foot-candle values as you aim each individual module. **And check this out. You can even aim or direct the light behind the pole**, hitting corners that would normally mess up your average or minimum foot-candle ratio, or to areas that you would normally need to add another luminaire!

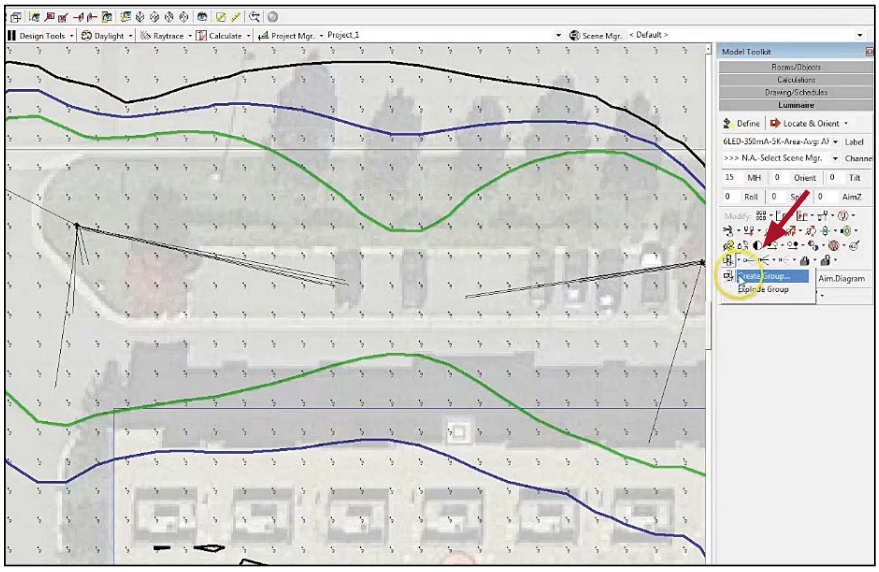


(39) Here, you can also see that we tailored 0.5 foot-candles to the property line, eliminating light trespass. Once you are satisfied with your custom distribution, you will want to save it and convert it to a "Group" File.

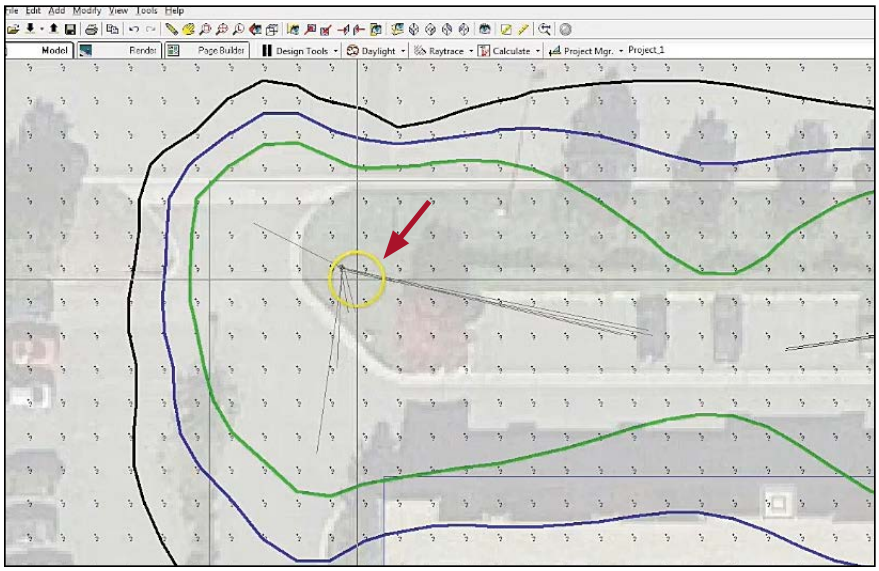


Saving Custom Aimed file

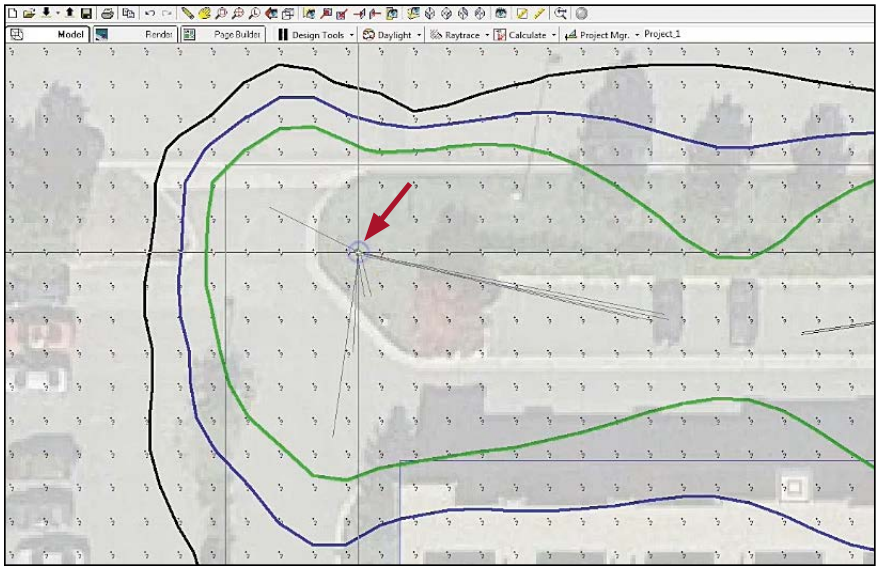
(40) To do so, bring your cursor over to the "Create Luminaire" command button under the "Luminaire" tab …



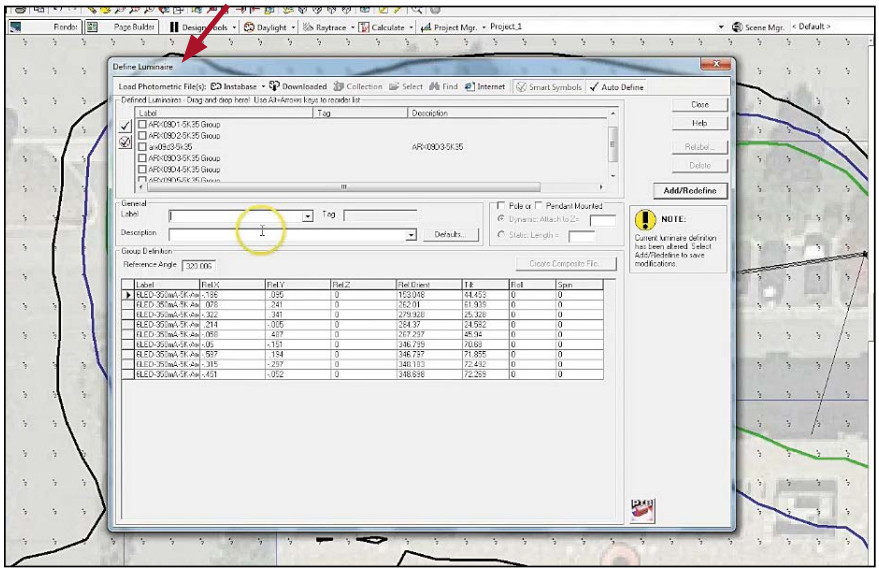
(40a) and click on the drop down button. Then select "Create Group".



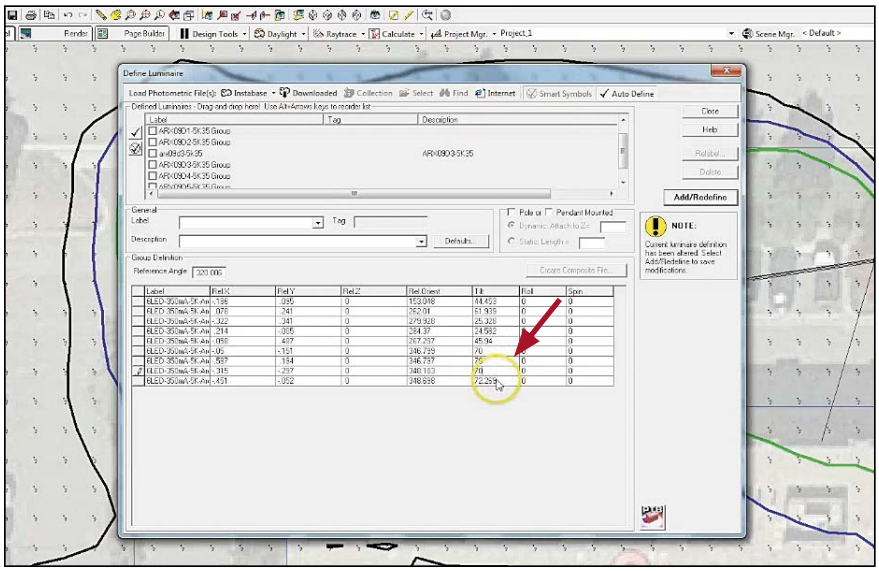
(41) Now draw a box around the LEAR modules.



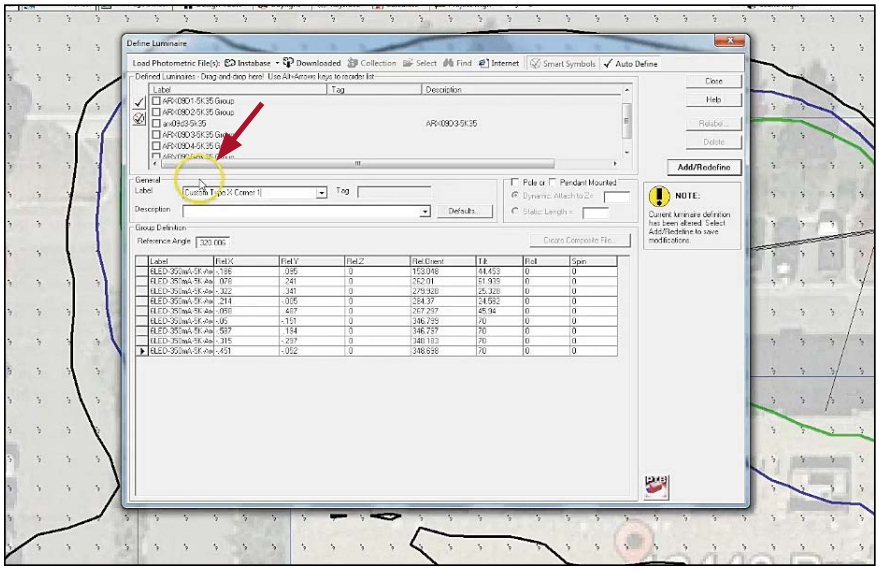
(42) Next, click on the group to define the insertion point and click a second time in the direction the fixture is oriented at to define the reference angle.



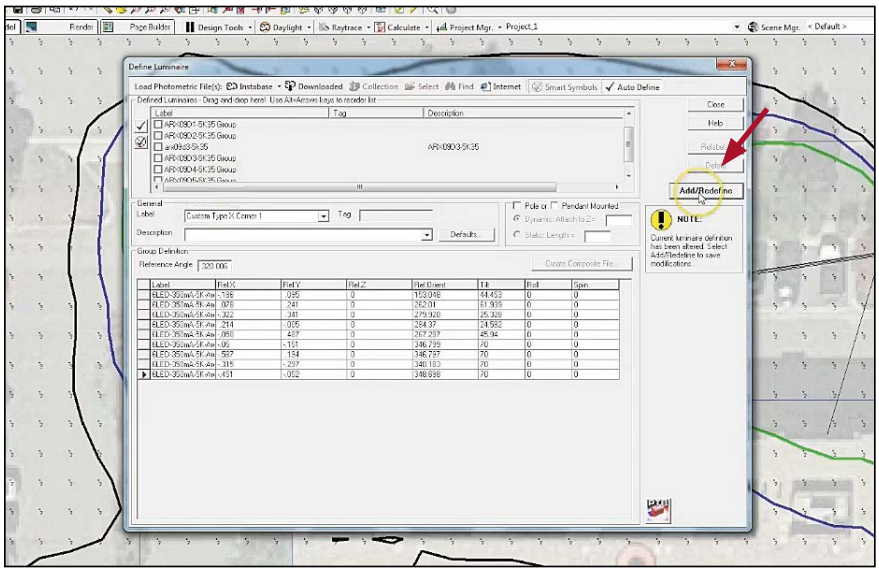
(43) As you can see the "Define Luminaire" box pops up.



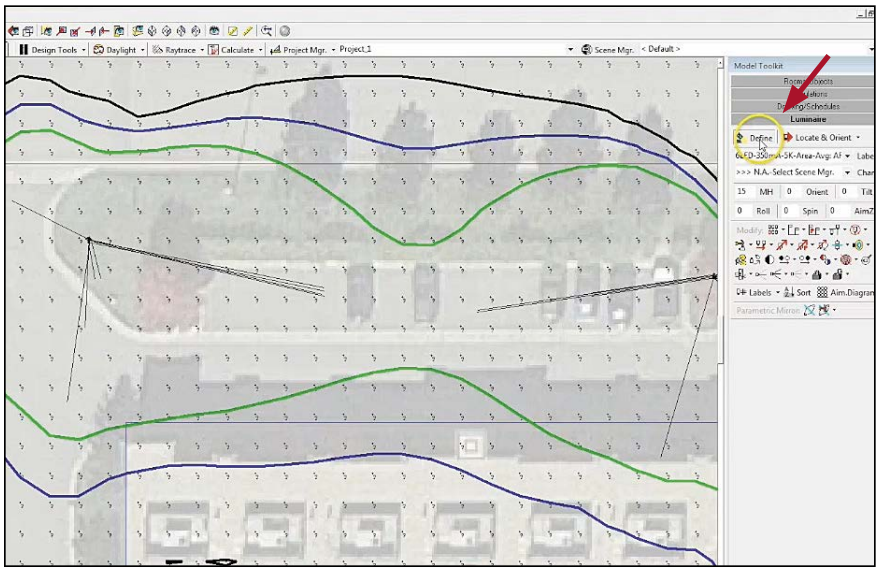
(44) Here you want to make sure that the individual module tilt is restricted to 70°, as that is the maximum angle the LEAR module can vertically rotate.



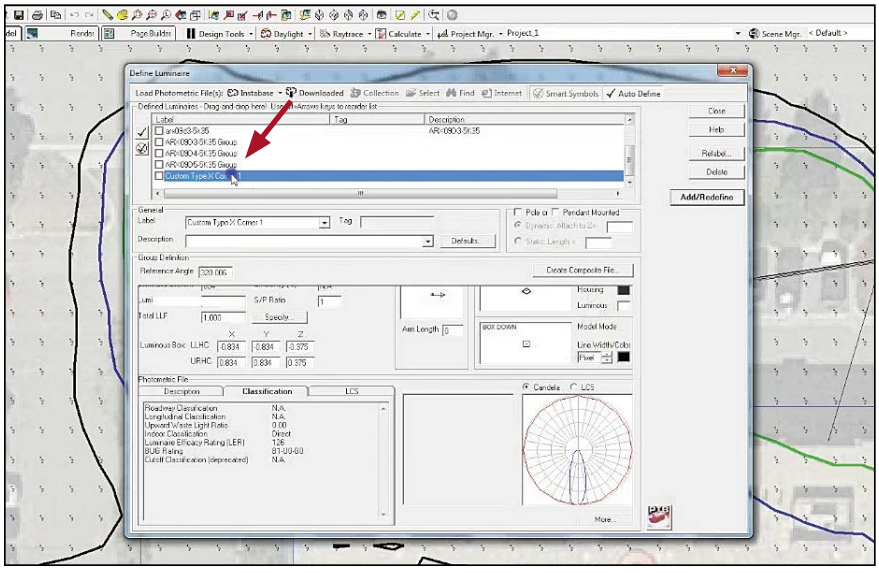
(45) At this point, you want to enter a name for your custom group file that is relevant to your project. For this example, we are going to call ours "Custom Type X Corner 1". Do remember that the name you decide on not only needs to be relevant to your project …



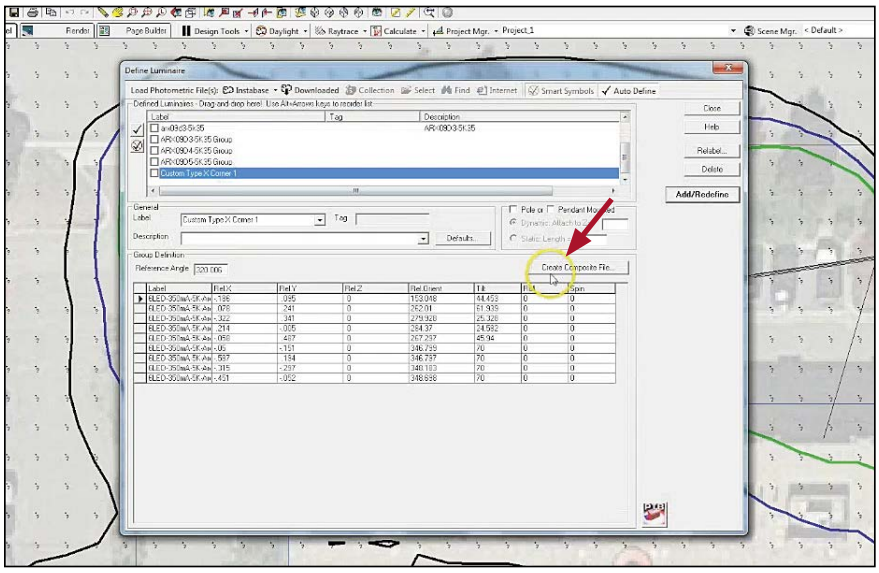
(45a) It will become a part of the catalog number and ordering string of your fixture. In a nutshell, **the name you choose is very important.** Now click the "Add/Redefine" button.



(46) Next click on "Define" button, under the Luminaire tab …

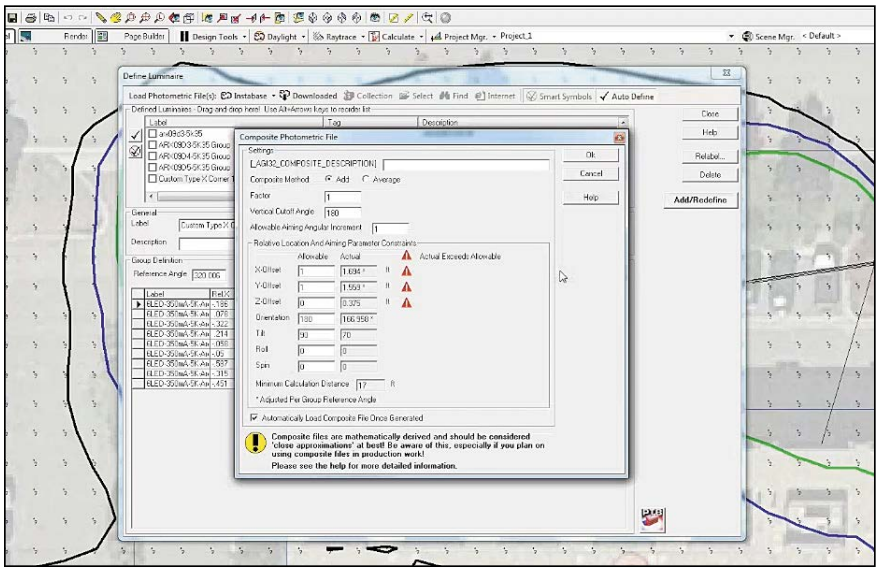


(46a) and select your newly created group.



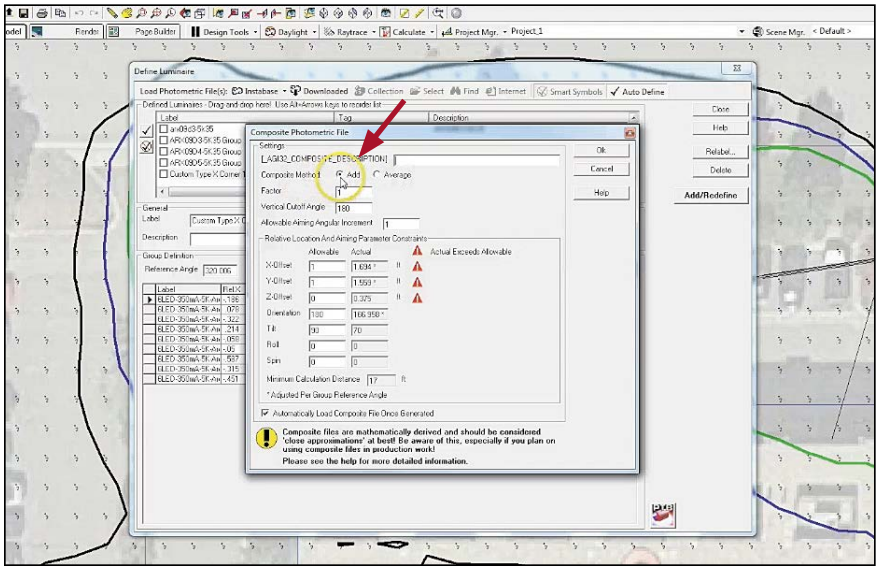
Creating Composite file

(47) Then click on the "Create Composite File" button so we can convert your "Group File" to a Composite IES file. Remember once you complete this step, you will no longer be able to make changes to the file.

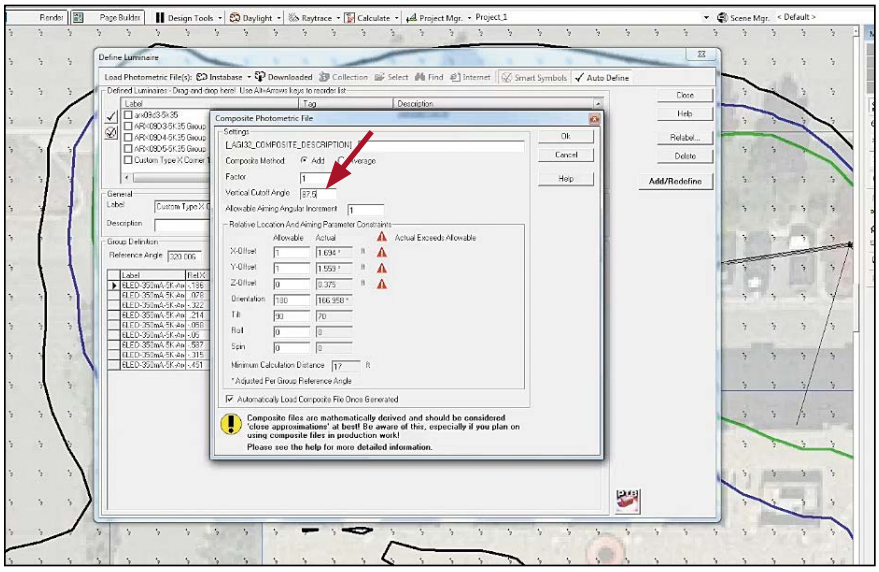


Adding Fixture constraints

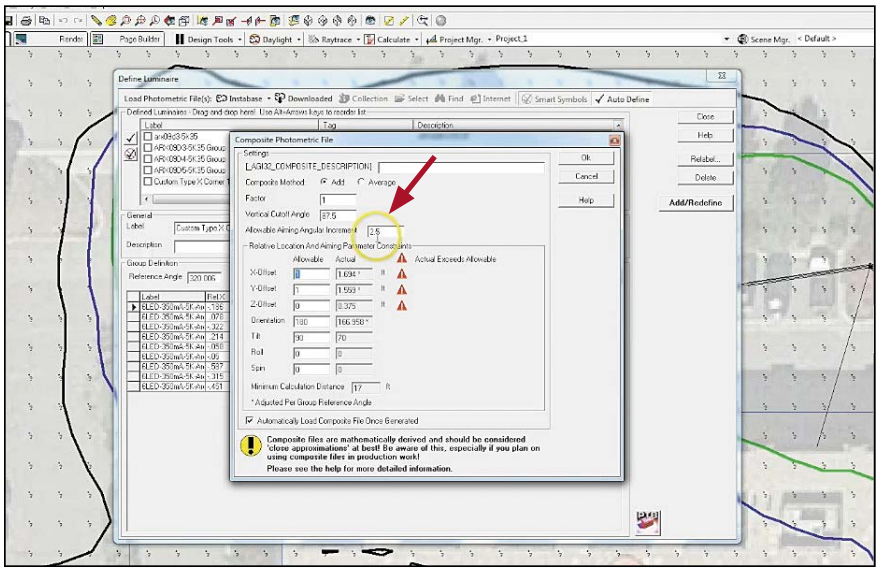
(48) Moving forward, we need to add the fixture level constraints into the system. This step basically enables us to place a virtual box …



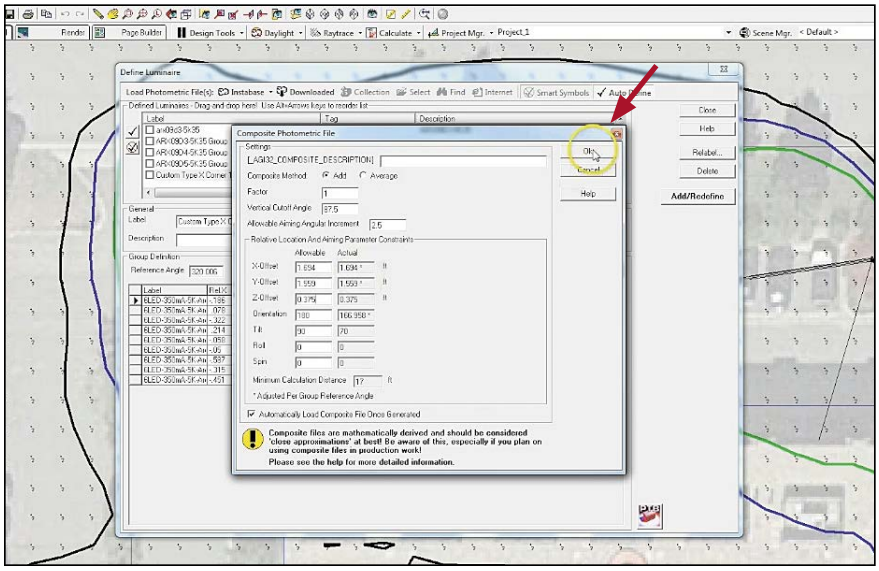
(48a) around the individual modules to create your fixture. Right next to where it says "Composite Method", make sure that **"Add"** is selected and **not "Average"**.



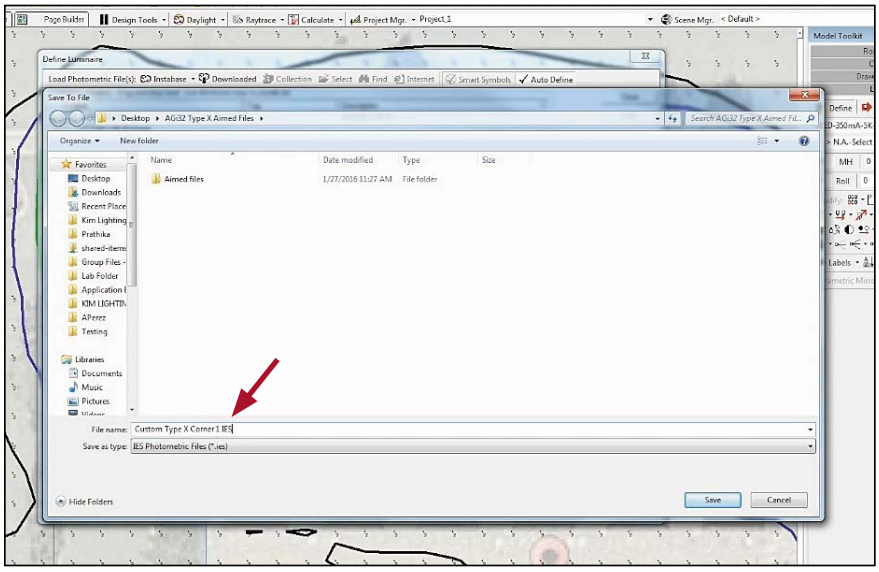
(49) Then, change the "Vertical Cutoff Angle" to 87.5°.



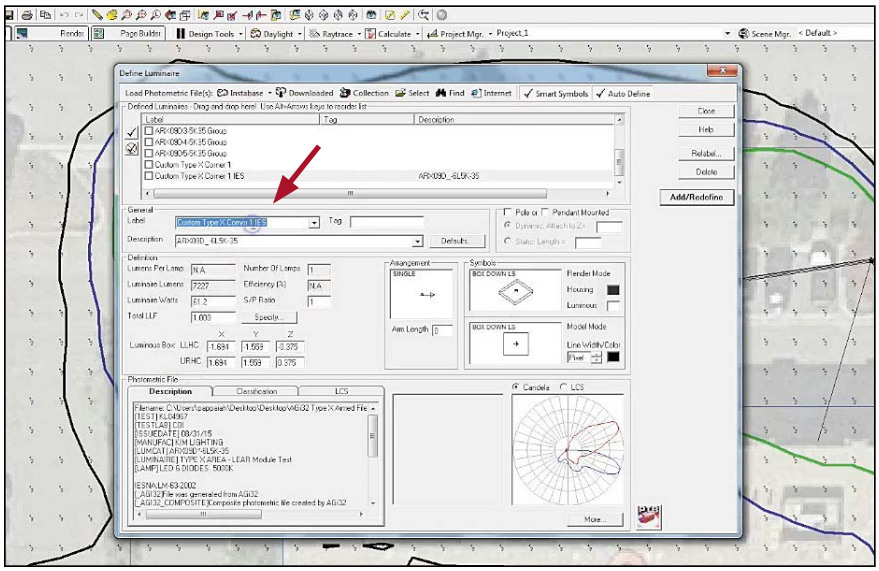
(50) Now, set the "Allowable Aiming Increment" to 2.5°. This just represents the tolerance on the angular increments in production.



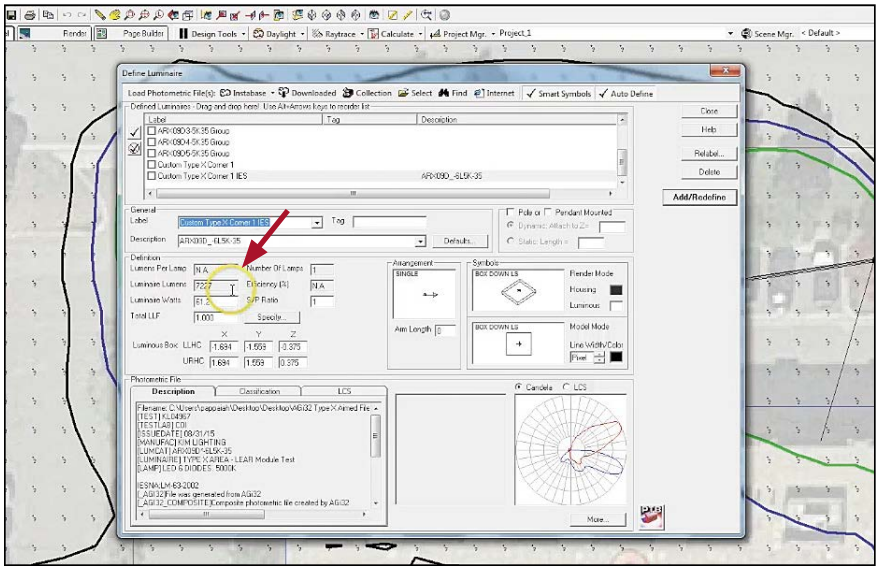
(51) After that, you want make sure the allowable the X, Y and Z-offsets match the actual. Once you do that, click Ok.



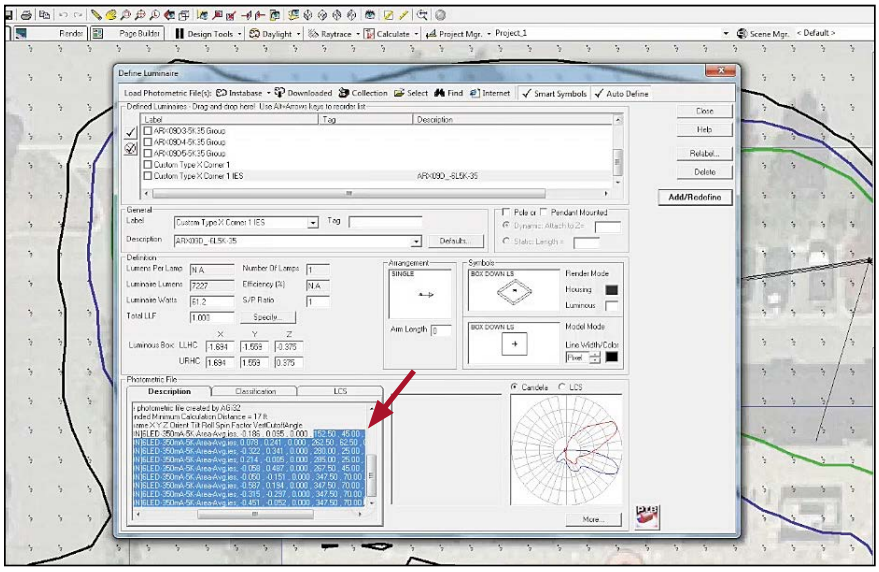
(52) Now save your "Custom Aimed Composite IES file" with a file name that is relevant to your project or even relevant to the location in your project, as this is the file that will be sent over to Kim Lighting to build your luminaire. **Congratulations! You just created your very own custom aimed Type X luminaire!**



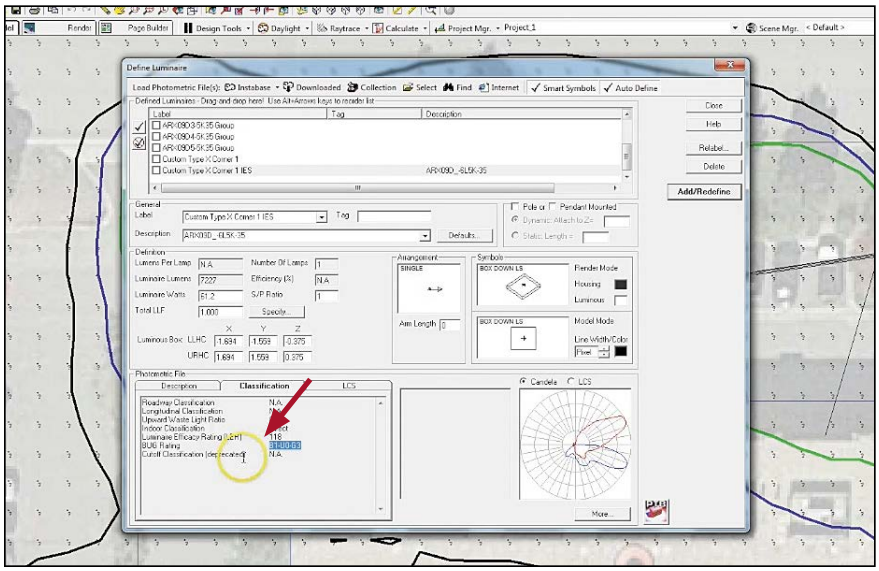
(53) It is also important to know that even though the standard IES file you just created cannot be changed or manipulated moving forward, it can be used again in the future for any of your Type X Wall, Flood or Site applications. That's another one of the perks you get with Type X.



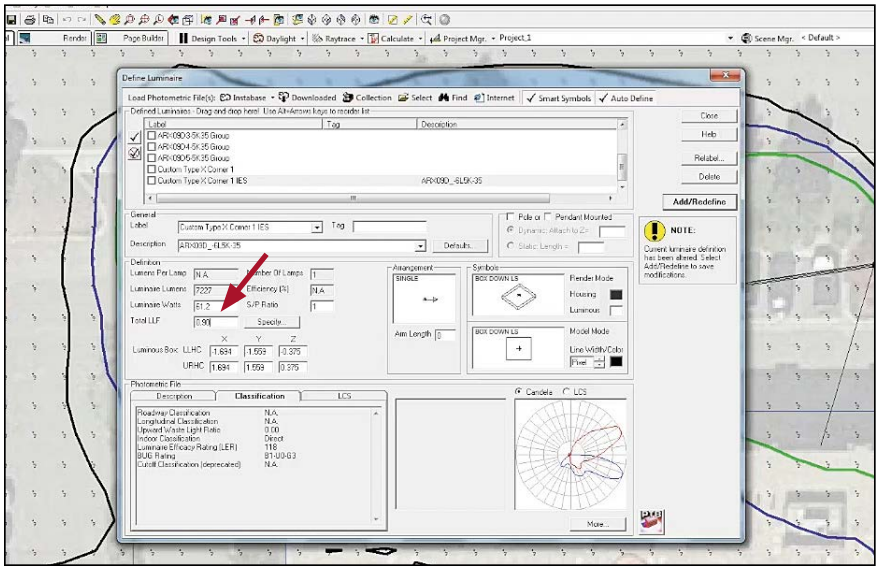
(54) Now that we have named and saved your creation, let's take a look at some of the data. As you can see, your custom file shows the lumens, the wattage …



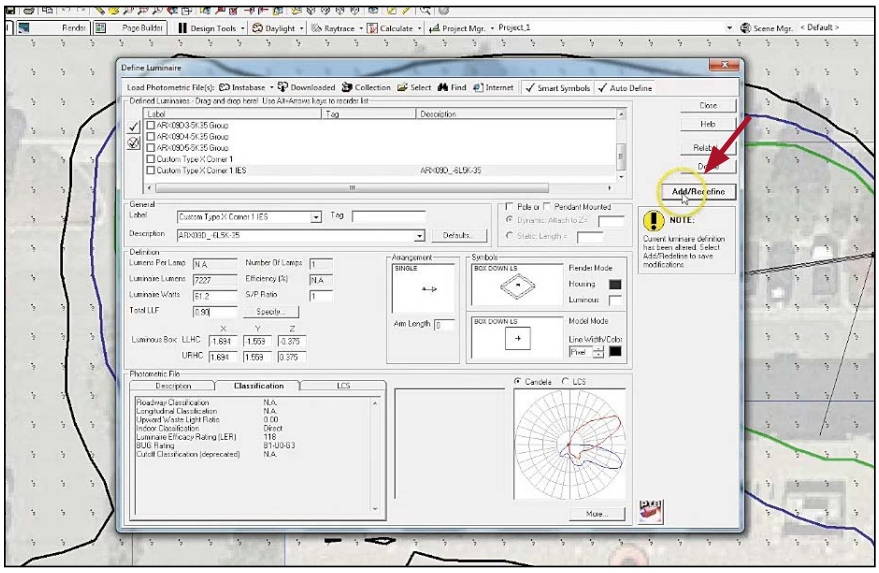
(54a) and even all of the Orient and Tilt angles that Kim Lighting will use to aim the modules when building your Type X luminaire.



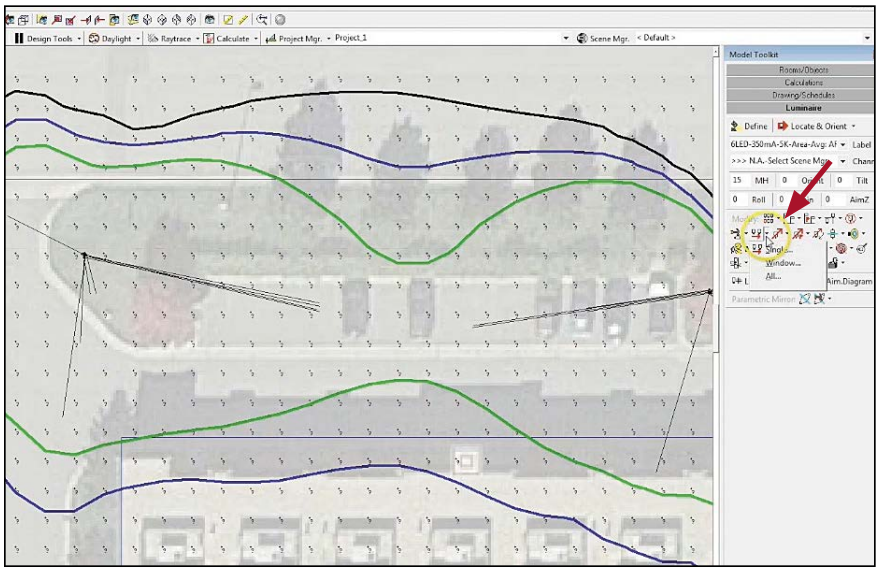
(55) If you click on the "Classification" tab, you can also see your fixture's BUG rating.



(56) And lastly, you need to add the light loss factor for your custom Type X fixture. Here we are adding a light loss factor of .9.

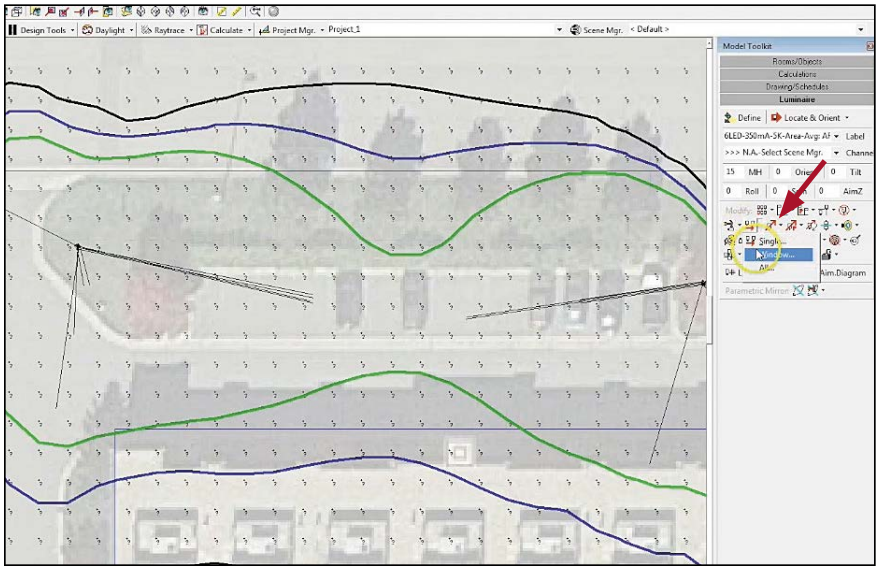


(57) Once you do that, click the add and redefine button.

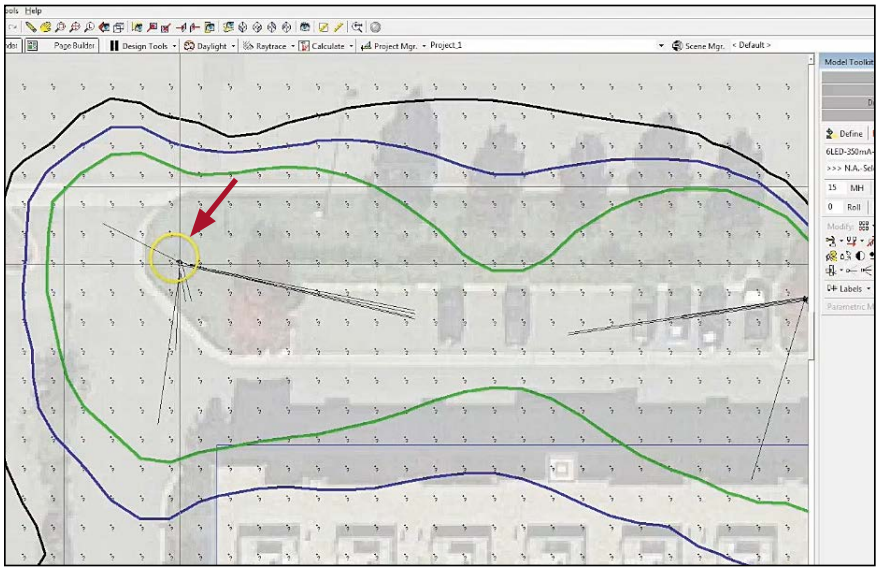


Using Composite file in the Layout

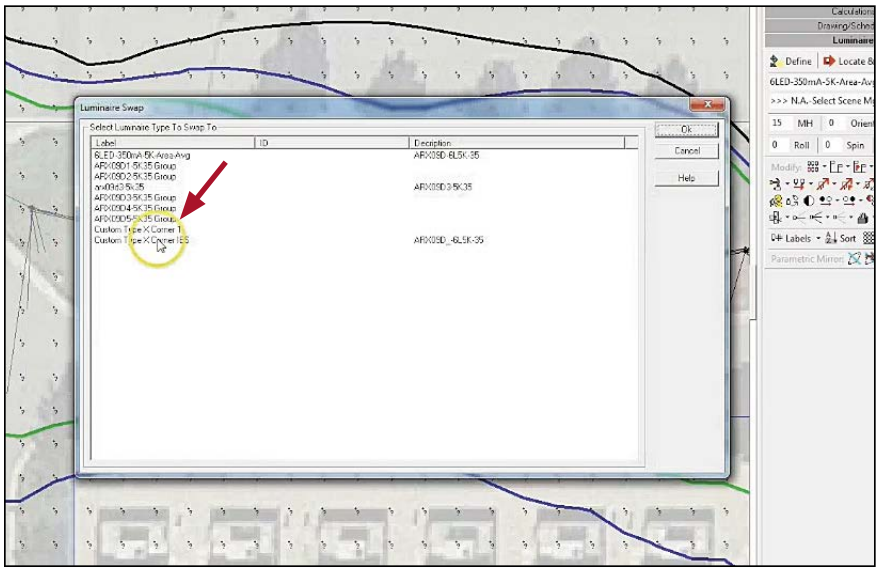
(58) Now you need to swap out the goup file with the composite IES file you just created to run calculations on your layout.



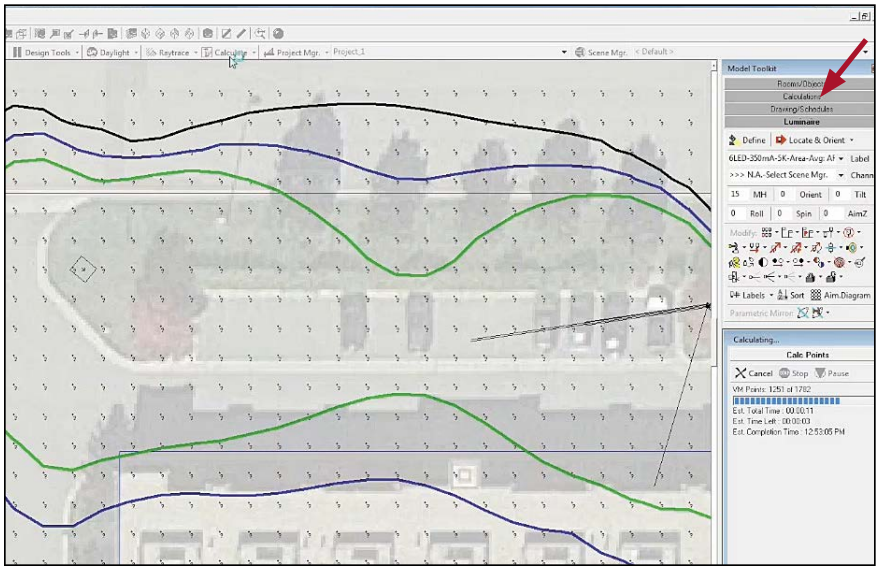
(59) Click on swap luminaire and them click on window.



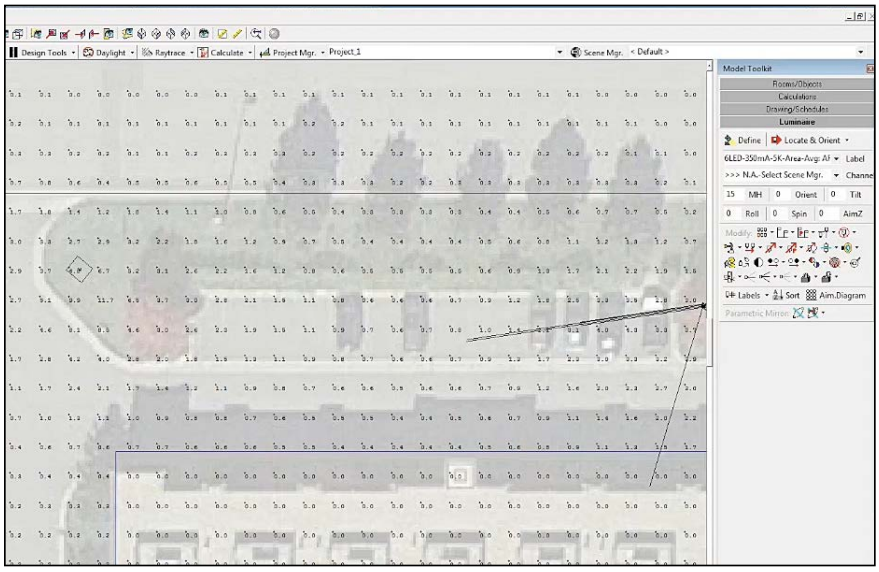
(60) Then draw a window around the luminaire …



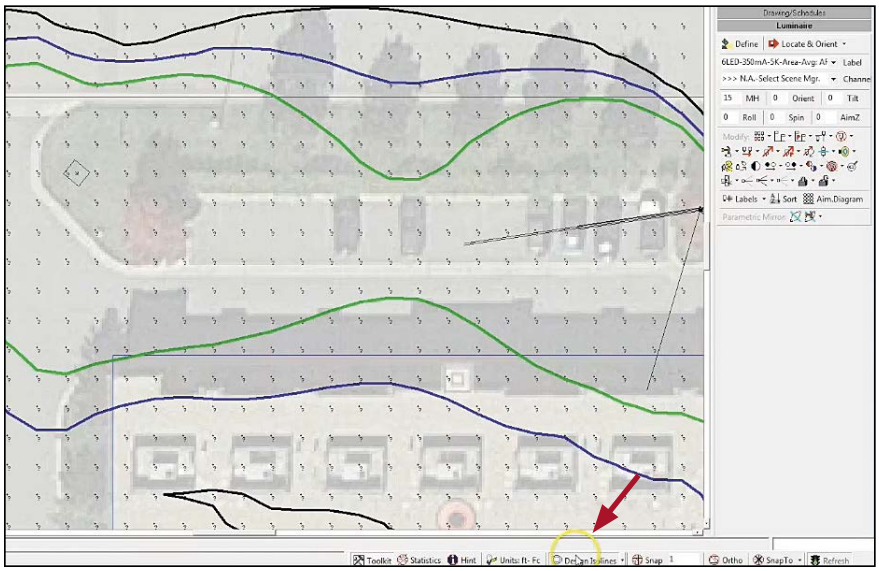
(60a) and swap it for it's corresponding IES file.



(61) Finally select calculations to run calculations for the layout.



(62) Notice how the Design Isolines disappear.



(63) But they can be turned on simply by clicking the Design Isolines button at the bottom right hand side of the screen.

The above steps were captured from an online video tutorial.
https://www.youtube.com/watch?v=6P8PEFif96o&feature=youtu.be

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