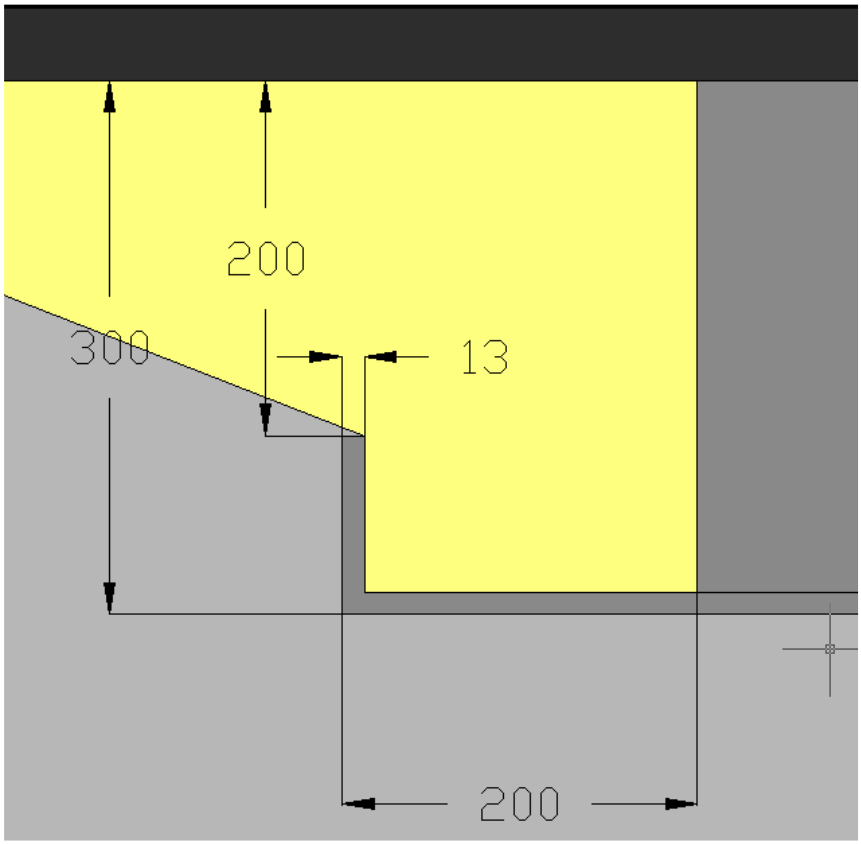
How to create a cove for cove lighting in DIALux

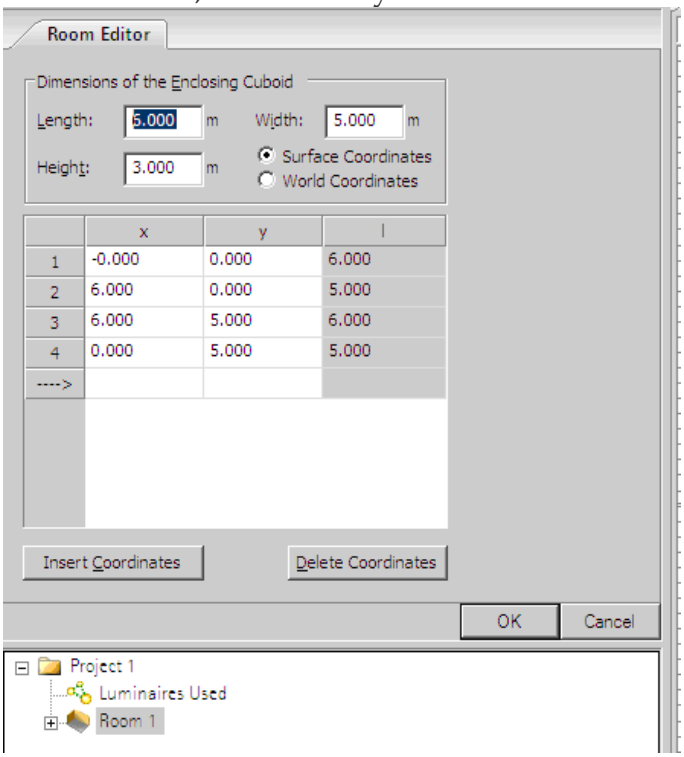
In this tutorial you will learn how to make a cove similar to the one in the following image

The cove dimension will be 4 meter by 5 meter and the other dimension will be as follows:



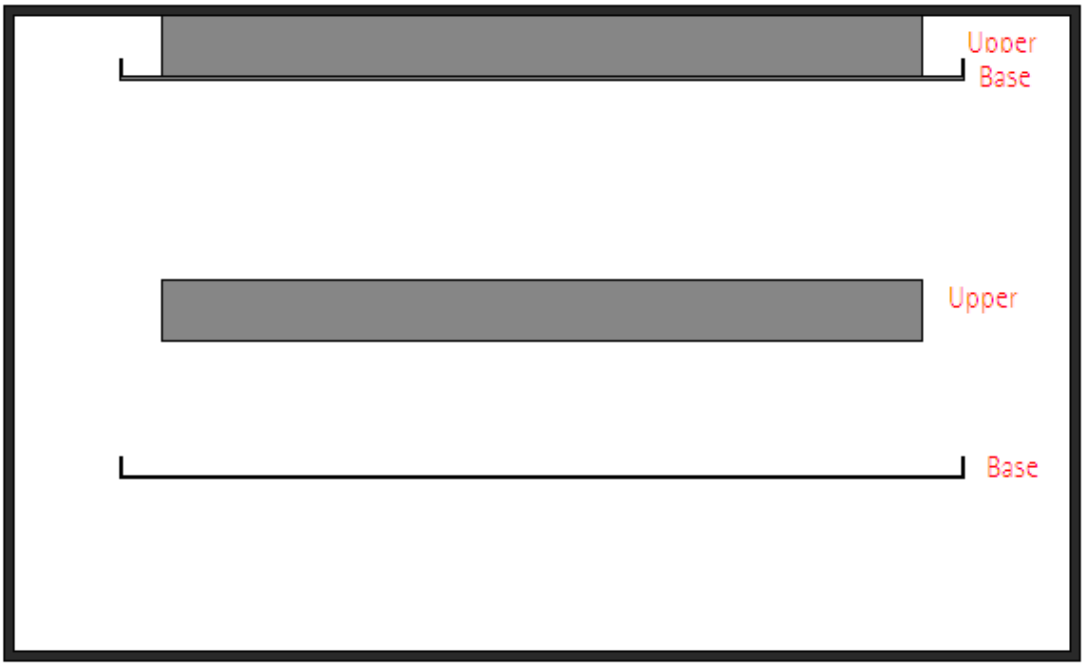
Dimension in mm

First make a room with dimension of 5x6 and height of 3 meter and don't forget to click on OK, otherwise you can't move to the next step.



The cove will be divided to two parts as illustrated in the following image:

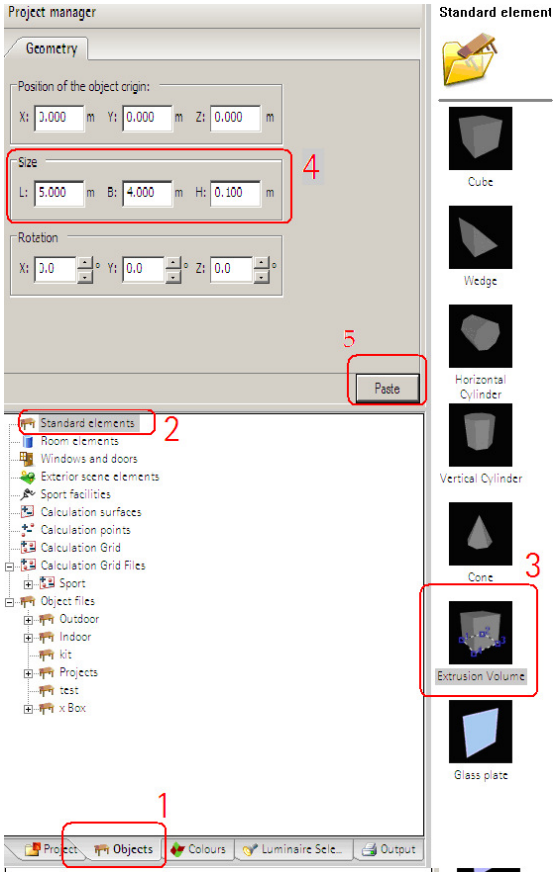
1. The upper part
2. the Base



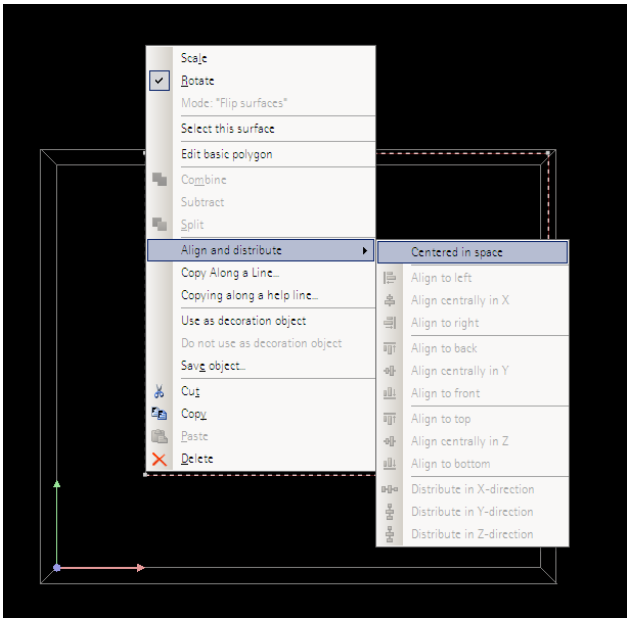
First you will learn how to make the base then how to make the upper part and combine them together.

THE BASE

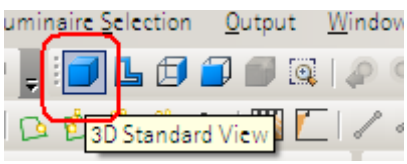
1-First select the object tab
2-selsct standard elements if not selected.
3- Select the Extrusion volume.
4- put the following dimension X=5, y=4, H=0.1
5- Click on paste and then Ok. Don't forget to click on Ok, otherwise you cannot make any further operation.



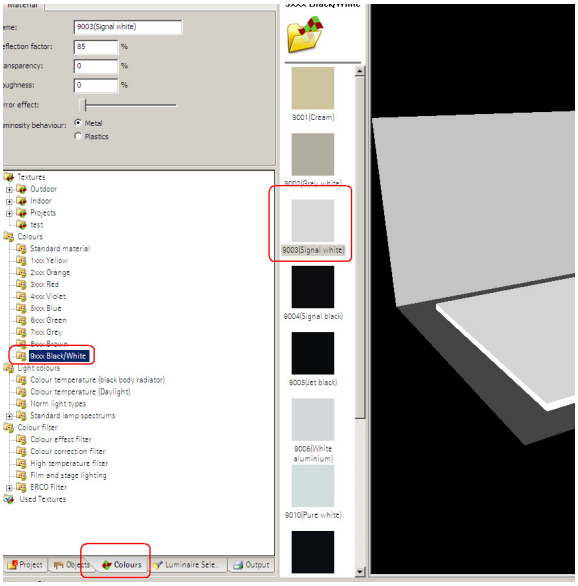
After that ensure that the extrusion volume is still selected. And then while selecting the extrusion volume right click the mouse and select *align and distribute* menu and choose the command *centered in place*. This command will ensure that the extrusion volume is placed in the middle of the room



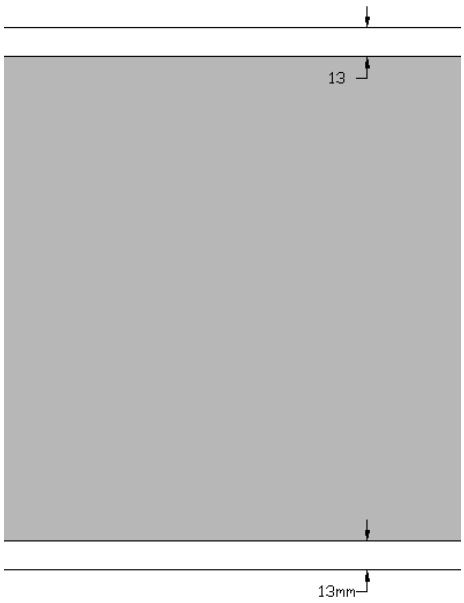
You can see the 3D view by clicking on the relative button as shown on next illustration



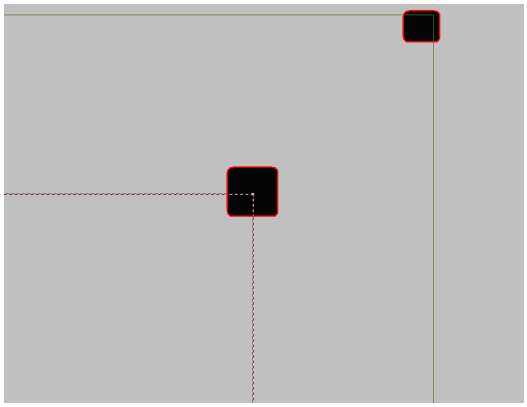
Put the color white from the color tab on the object by drag and drop option, just pull the color by the mouse and drop it on the object.



Place another extrusion volume with the following dimension.
4.974x3.974 meter and height of 0.087 meter
This is because the edge of the cove is 13 mm and the we have two edges at each side
2x13=26 mm
After placing the new extrusion volume don't forget to click on paste then OK.

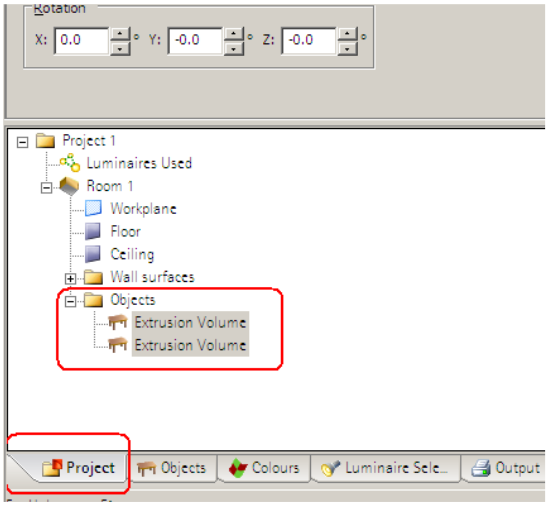


Select the new extrusion volume form the corner as illustrated in the red square to the other corner of the first extrusion volume.

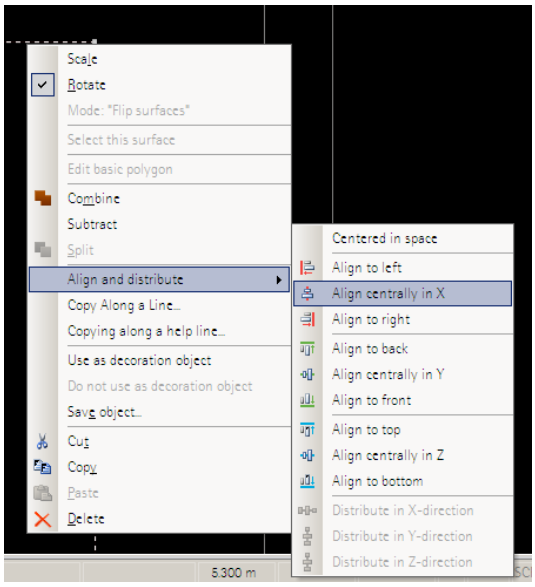


Select both extrusion volumes by the mouse while holding shift key down.

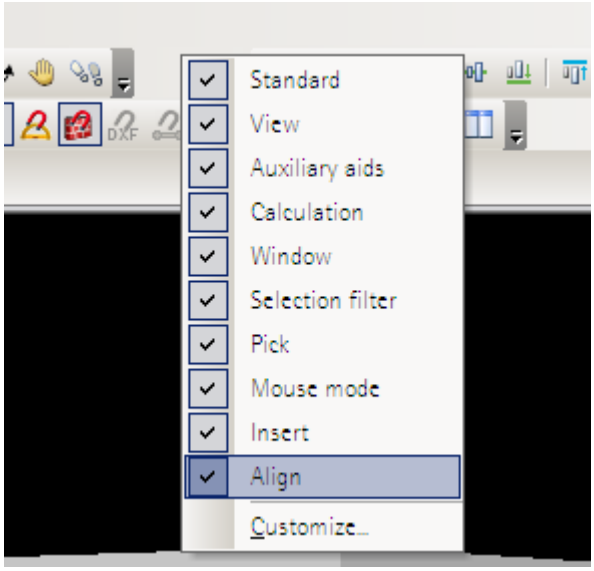
You can also select both of them form the project manager on the right side under the object folder, just make sure you are on the project tab not on any other tab as illustrated by the red square on next image.



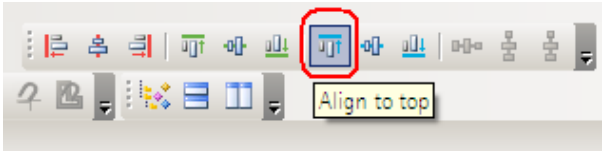
While selecting both objects (extrusion volumes) right click on mouse and select form *align and distribute* menu the command *Align centrally in x*
Then repeat this step again and select in this time.
Align centrally in y
In this step we placed the second object in the meddle of the first one by the help of align command.



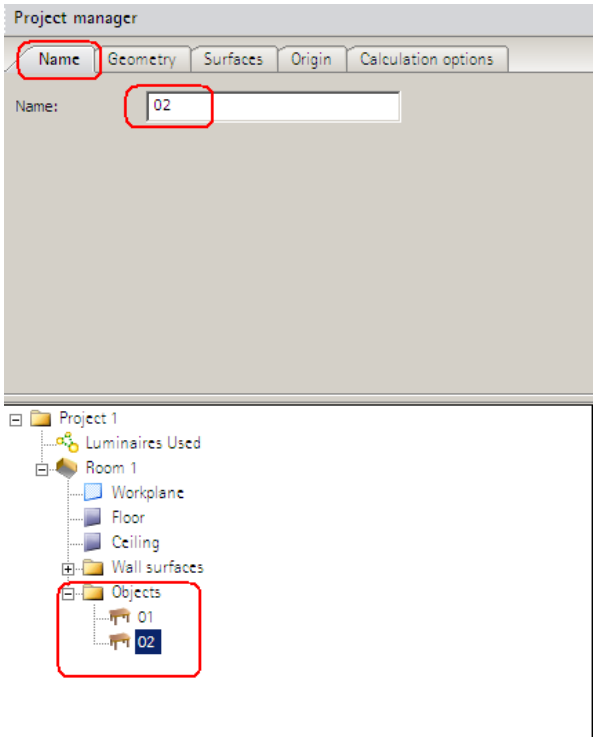
By the way you can show the Align menu in the tool bar by mouse right click and select the align as illustrated in the next image



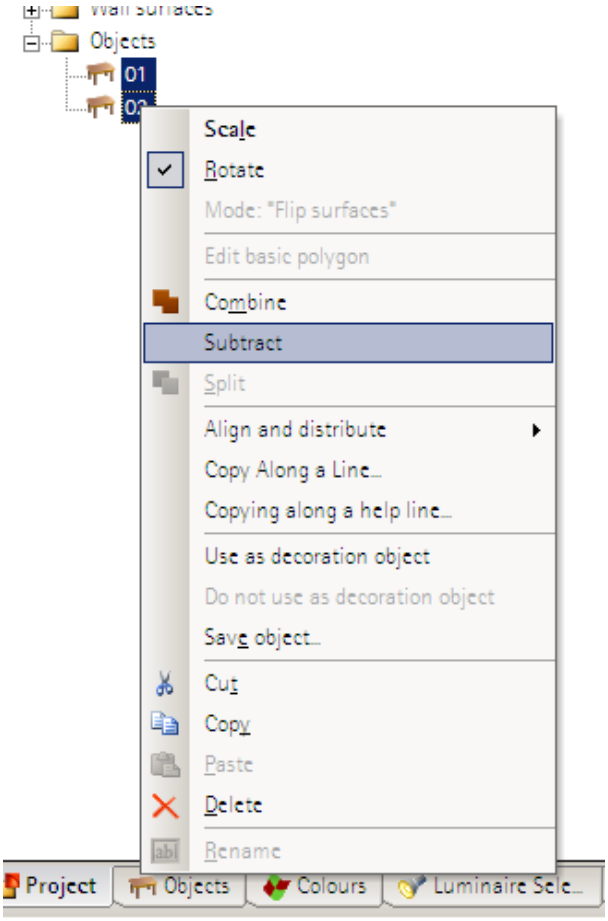
Select both object and then click on the align to top as shown in the next image



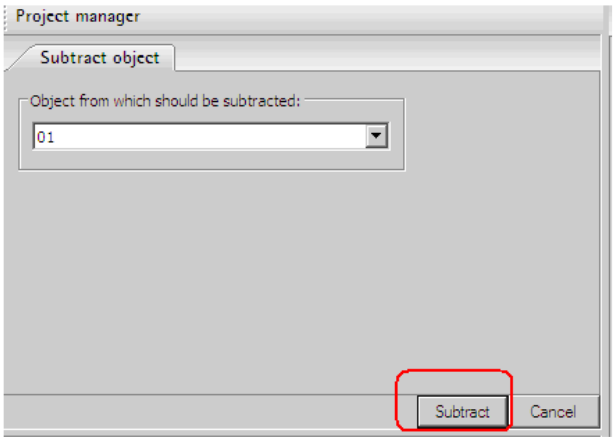
Name the first object as 01 And the second one as 02 by selecting the object in the project manager and putting the name in the name field as shown in the illustration.



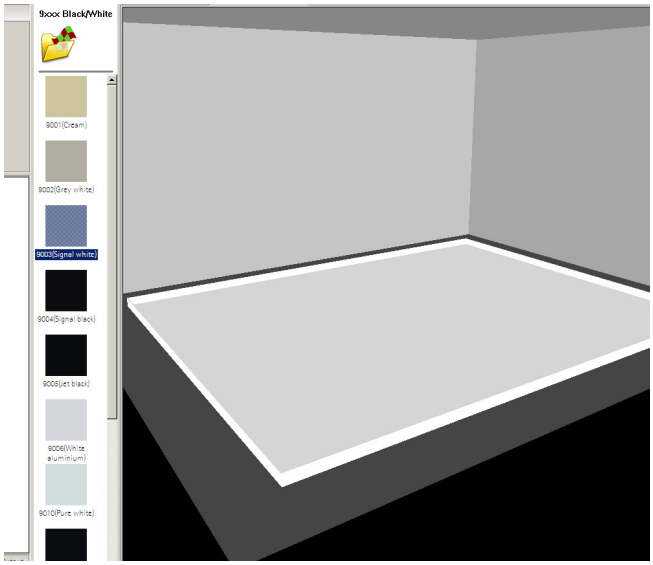
Select both objects 01 and 02 on the project manager with holding shift key and then open the context menu by right click the mouse and then select subtract as shown on the next image.



Make sure that 01 appears in the object form which should be subtracted, if not 01 then select 01 form the drop down menu. After that click on subtract button as shown in the red box in the illustration

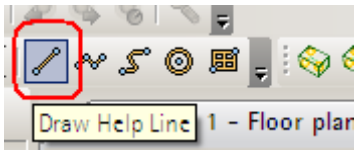


After the subtraction put the white color for the object as done earlier form the color tab.



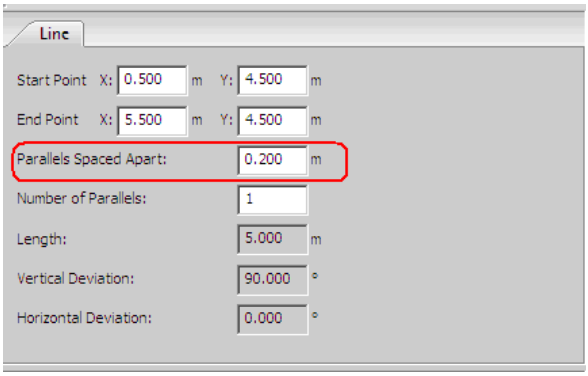
THE UPPER PART

You will use the help line to make an offset line form the base to create the upper part.
Select draw help line form the tool bar.
The icon will be as shown in the red box shown in the next image.

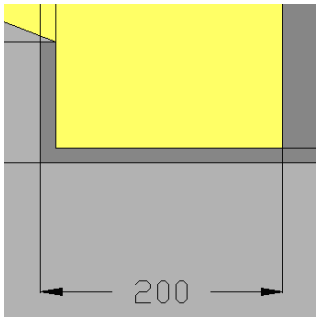


After selecting the *draw help line* Draw it to the upper line of the base as shown in the illustration (red line).

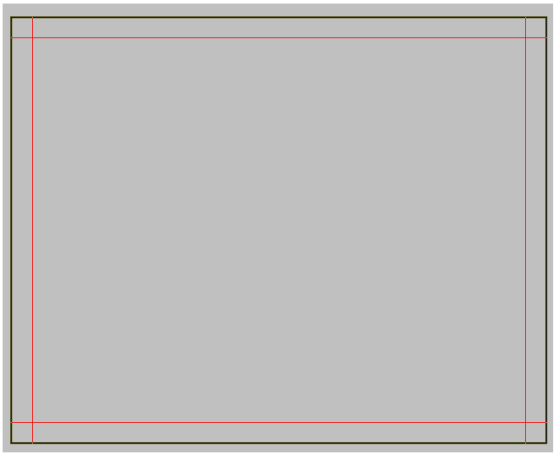
After you draw the line put in the box of parallels spaced apart box a value of 0.2 meter.
This box is in the left side.
If the line is placed outside of the base then make the value -0.2 by putting – **minus sign** before 0.2 to make the offset inside the base



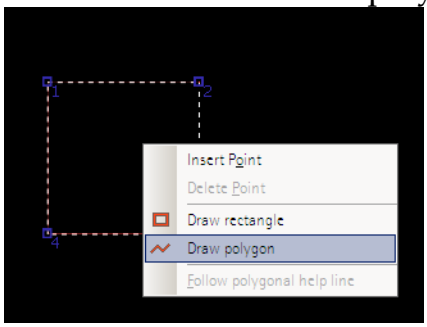
You have put the value of the offset 0.2 based on the diminution as shown in the next image.
The distance between the base and the upper part.

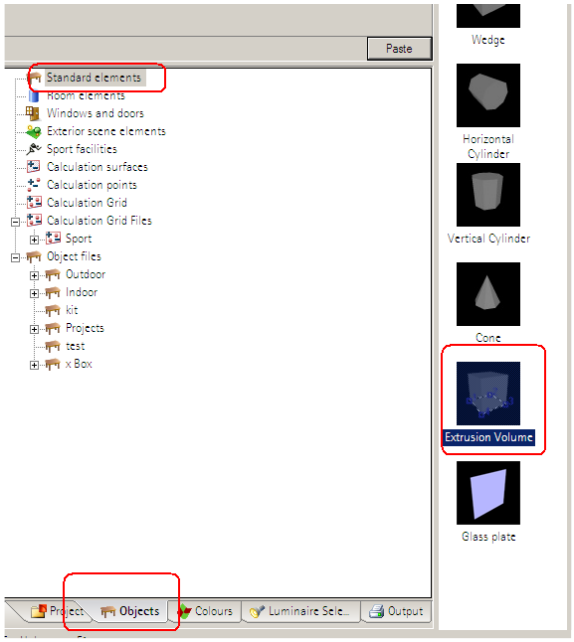


Repeat the help line so you have 4 help lines with an offset of 0.2 meter at four sides as in the illustration.
Remember the offset have to be inside the base if not then you have to change the sign to **minus sign(**-0.2**)**

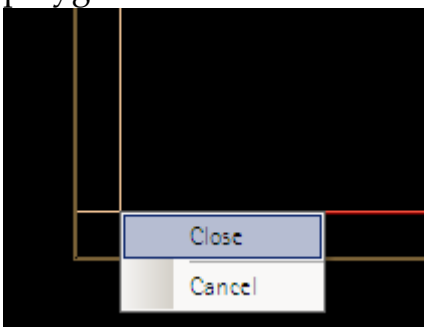


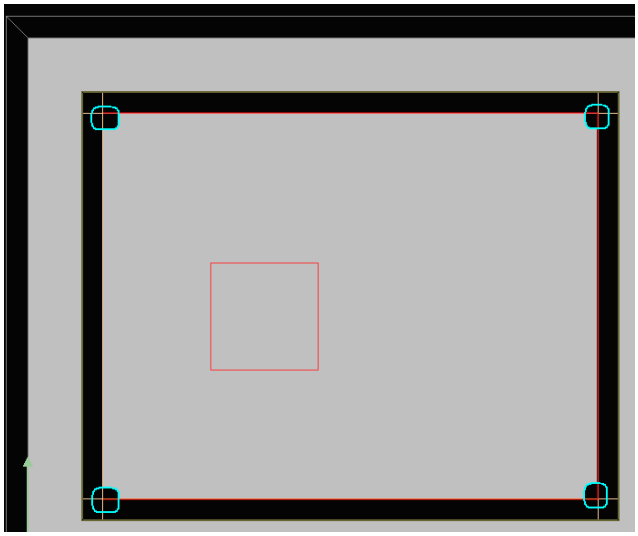
From the object select the extrusion volume and drag it inside the room or click on past then right click and select form the context menu draw polygon



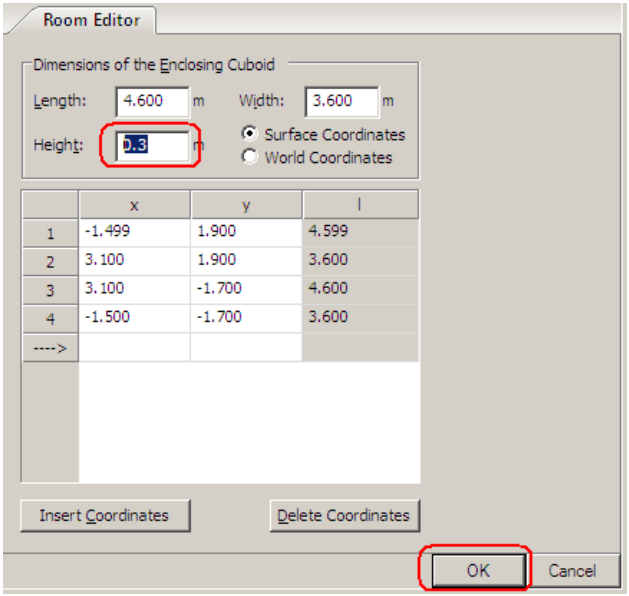


After that select the four corner of the offset lines as shown in the illustration and once done right click again and choose close to close the polygon

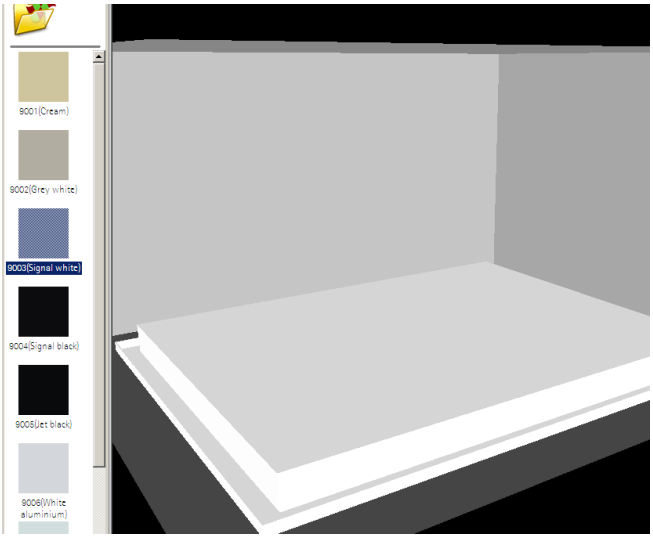




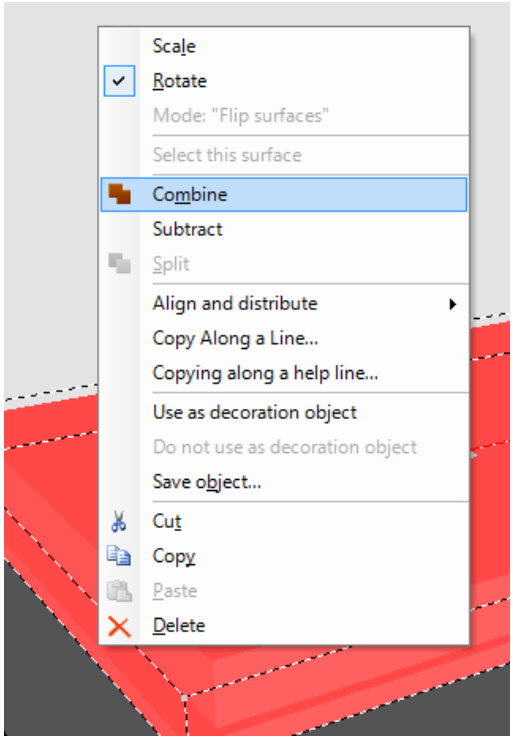
On the height form the project manager on the left side put 0.3 meter which is the height of the upper part



Put the same color white as done earlier form the color tab

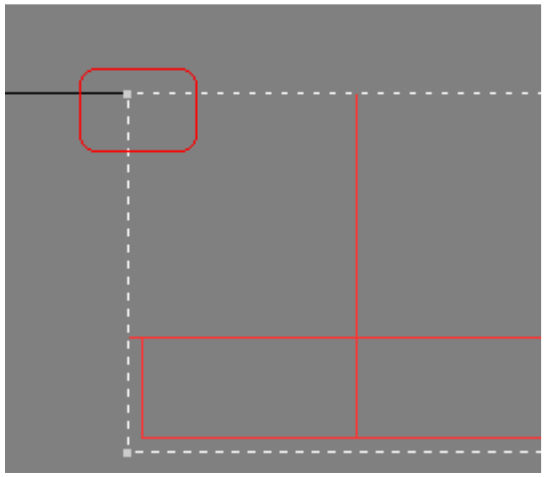


Select the base and the upper part by holding down the shift key and right click and select form the context menu the combine command as shown in the side image.

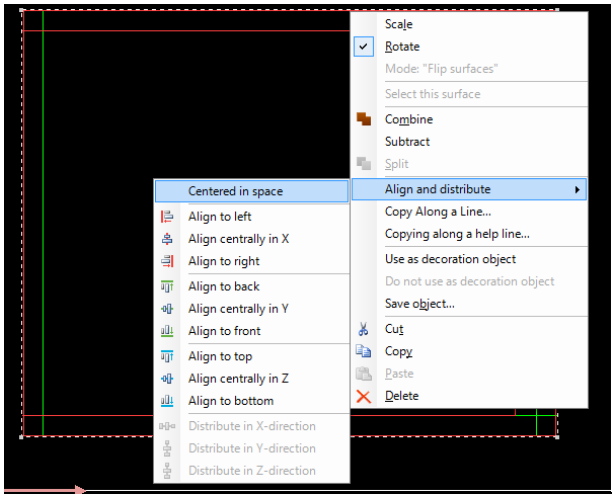


Select the front view form the tool bar.

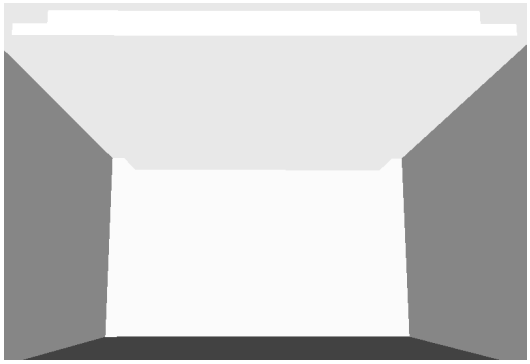
Move the cove to the ceiling by selection one of the upper dot “corner”



In the plan view select the cove and right click the mouse Form the context menu select *centered in space* form the *align and distribute* menu

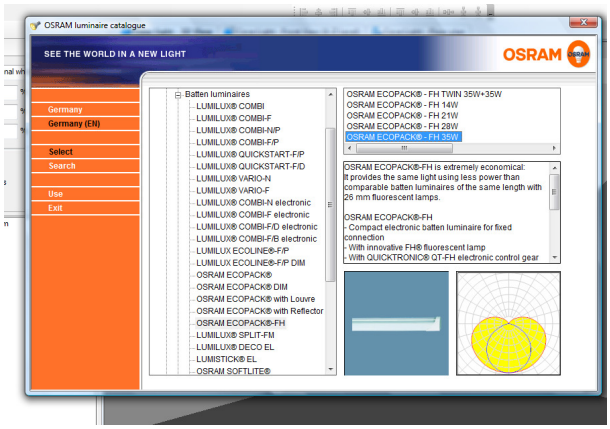


Put the white color on the ceiling so you can have the same color of the cove and ceiling.

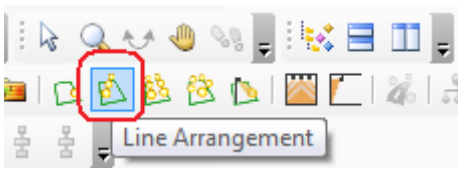


After completing the cove now is the time to place a luminaire for the cove lighting, you can select form any catalogue any fluorescent batten luminaire, LED or any other source for indirect lighting.

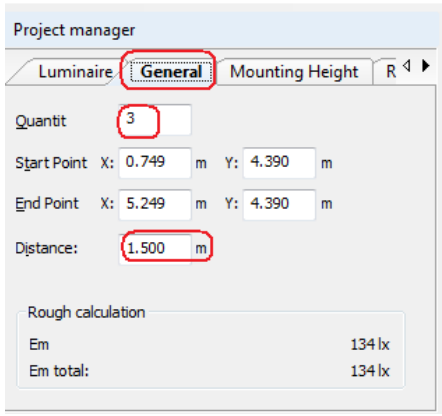
In this exercise, the selection was made form Osram catalogue by selecting 1x35 W and 1x14 W T5 batten luminaire.



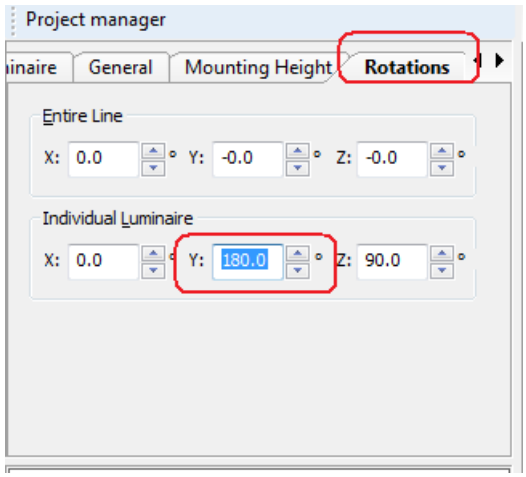
After the selection of the luminaire place a line arrangement form the relative icon in the tool bar as shown in the next image



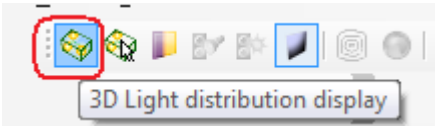
Ensure you are selecting the line arrangement so you can see the property window on the left “in the project manager”
open the *general* tab
put the following values
in *Quantity* box 3
in *Distance* box 1.5 meter

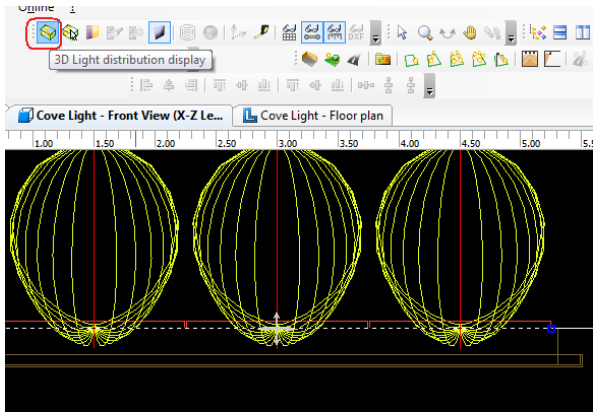


While you are still selecting the line arrangement.
Open *Rotations* tab
And put rotate the line 180 in Y of the individual luminaire,
In this step you rotated each luminaire to be upside down to illuminate the ceiling not the floor.

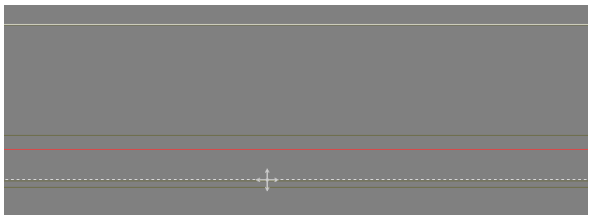


You can see the light destruction in the front view or side view to ensure that the light distribution to the ceiling side not to the floor side by activating *the 3D light distribution display* button in the tool bar

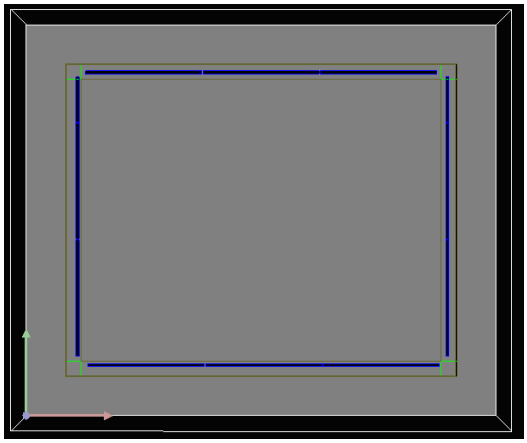




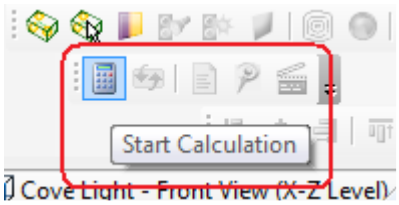
Move the line in to be placed inside the cove in floor plan view.
Also move the line to be inside the cove in the front view



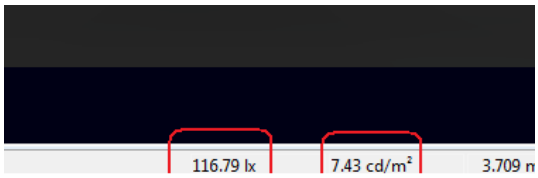
Copy the line arrangement to the other sides of the cove, so you have line arrangements at for sides
You can increase or decrease the number of luminaire at each arrangement by selecting the arrangement and changing the quantity as explained earlier

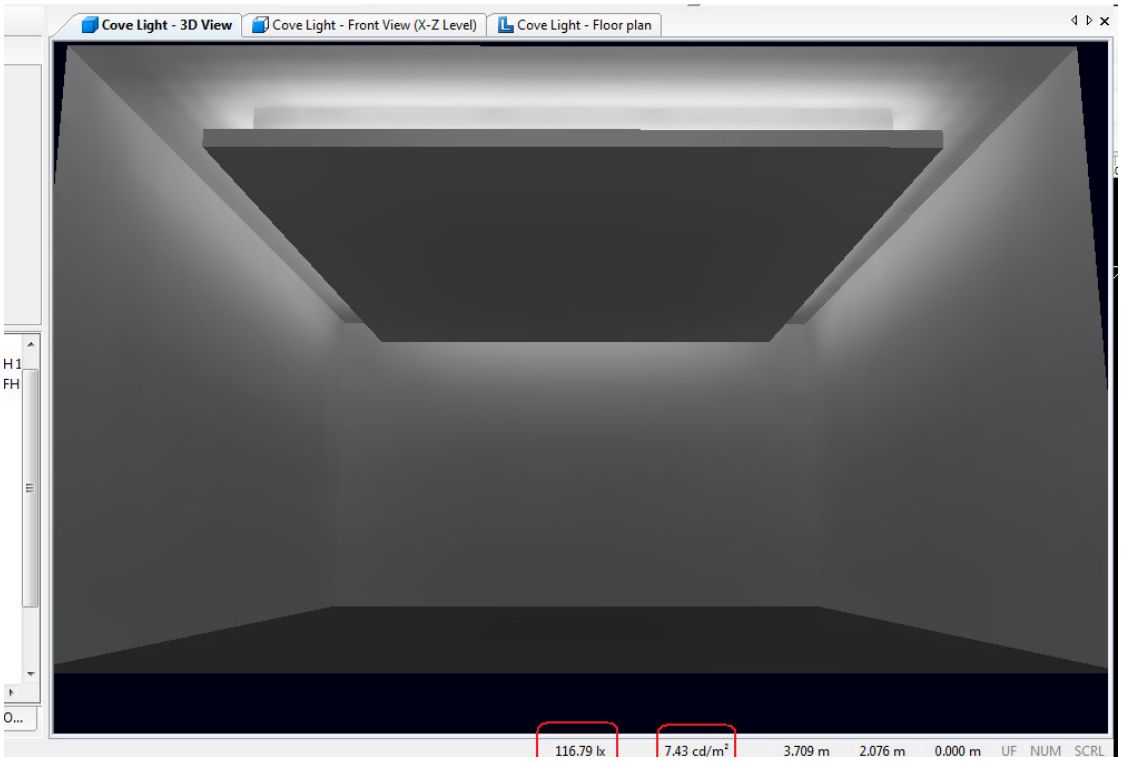


After putting all the luminaire you can run the calculation by clicking the *start calculation* button in the tool bar



After the calculation is done you can move the cursor of the mouse and looking at the lower left part of the software where the value of Iluminace and luminance is shown





The location of Iluminace and luminance values are illustrated by the red boxes

You can see more articles about DIALux on my weblog
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