DIALux

evo 1

The Software Standard for
Calculating Lighting Layouts

User Manual

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DIALux evo 1 –
The next generation

All over the world more than 500.000 people are using DIALux for lighting design. Nevertheless, we dare the impossible: We produce a new and better DIALux version.

For some time DIALux is growing up to the next generation. Now it's time to present the results of our work to our fans, the users. On 15.4.2012 we will present the world public the new DIALux version. At the „Light and Building" in Frankfurt, DIAL stand in Halle 3.0, A80.

The current generation of DIALux is established on the market. Ready and carefully maintained (currently available in version 4.10) it is still the best complete solution for users all over the world. And it should stay so.

The next generation – DIALux evo – has promising potential and provides the base for our future. With this software we will realize many ideas and wishes that will make the work of the user more innovative and easier.

DIALux evo 1

The Software Standard for

Calculating Lighting Layouts

Function Overview

Welcome to DIALux evo

This manual is intended to assist you to work fast and effectively with DIALux. If you have experience with Windows applications, getting started in DIALux will present no problem. DIAL regularly offers courses where the professional use of DIALux can be learned. Information regarding the course dates and contents are available under www.dialux.com and www.dial.de or

+49 (0) 2351 1064 360.

Latest information and updates are also available on our homepage.

In the following you will find a short description of the functions available in DIALux.

DIALux offers a number of textures that you are free to use for your lighting layouts. The following companies provided those textures:

- Texturenliste SuperFinish – Immobiliendarstellungen, Jochen Schroeder/ www.immobiliendarstellung.de
- Arroway Texturen/ www.arroway.de
- Ulf Theis/ www.ulf-theis.de
- Texturenland (Konstantin Gross)/ www.texturenland.de
- Noctua Graphics (Herbert Fahrnholz)/ www.noctua-graphics.de
- Thermopal/ www.thermopal.de
- Rathscheck Schiefer und Dachsysteme KG/ www.rathscheck.de

They offer many more textures. Check their websites for further textures.

Contents

First Steps in DIALux evo – The start screen

Only at the first start from DIALux evo:

a feedback enquiry. This would help us to adapt the software to the needs and wishes of our users. This data will be treated confidentially and not passed on to third parties.

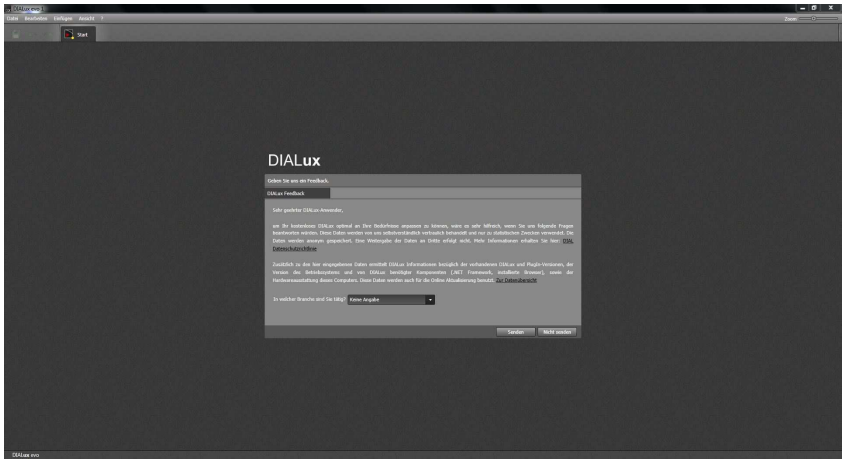

Fig. 1 Feedback

After the feedback enquiry you come to the start screen.

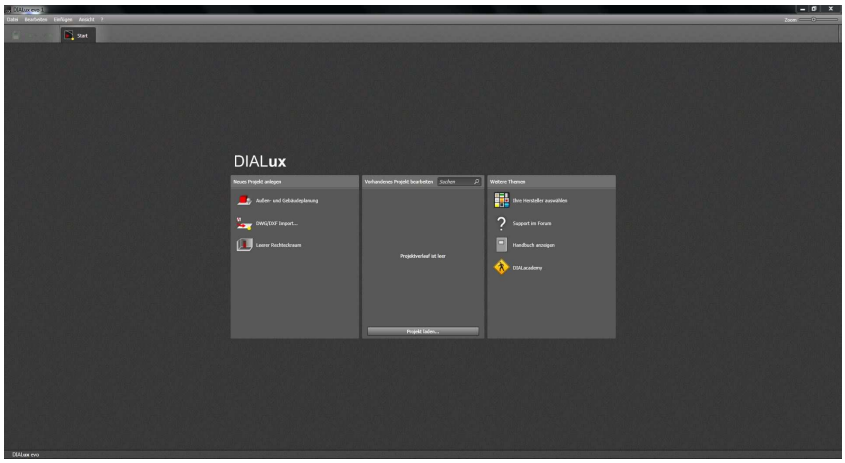

Fig. 1 start screen

At the start screen from DIALux evo you are be able to:

- Create new building
    - Outdoor and building planning → free construction
    - DWG/DXF import
    - Empty rectangular room → quick planning

- Edit/load existing projects
- Help and Support, informations to the DIALacademy and to the manufacturers

Settings

Via ***File → Settings → Genaral Settings*** you can change the default settings of DIALux evo.

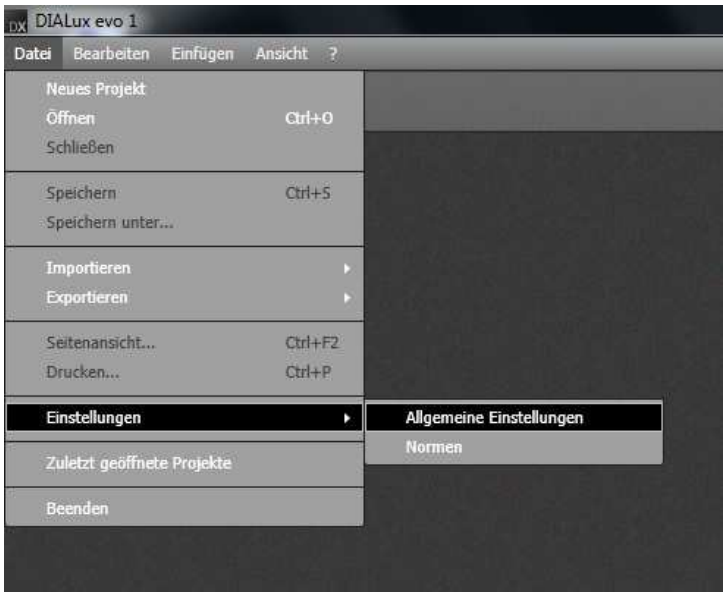

Fig. 2 Settings

At the General Settings you are be able to edit

- Gobal settings
- Languages
- CAD
- Project settings
- Storage locations
- Output

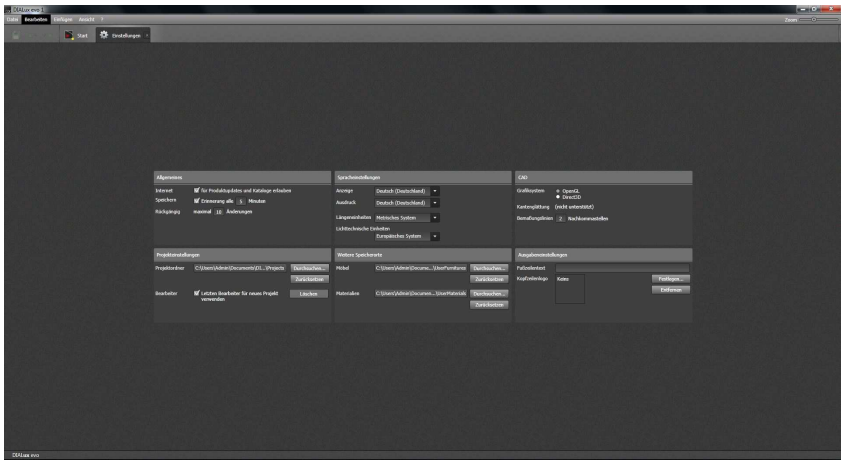

Fig. 3 default settings

Standards

Via ***File → Settings → Standards*** you will get into the settings for standards.

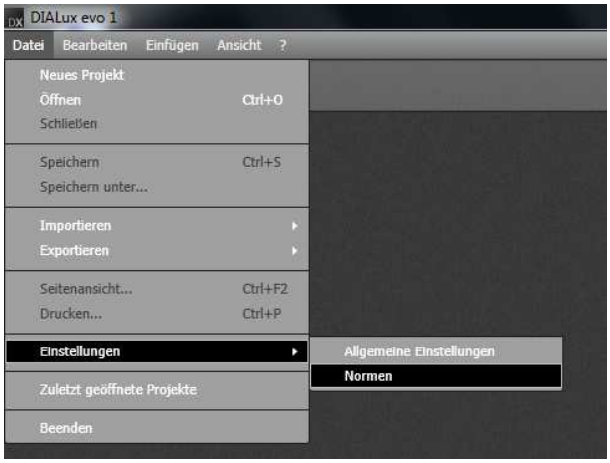

Fig. 4 Standards

At the standards you have the option to edit the preset standards of each individual lighting situation. Additionally you are able to create and adjoin new profiles.

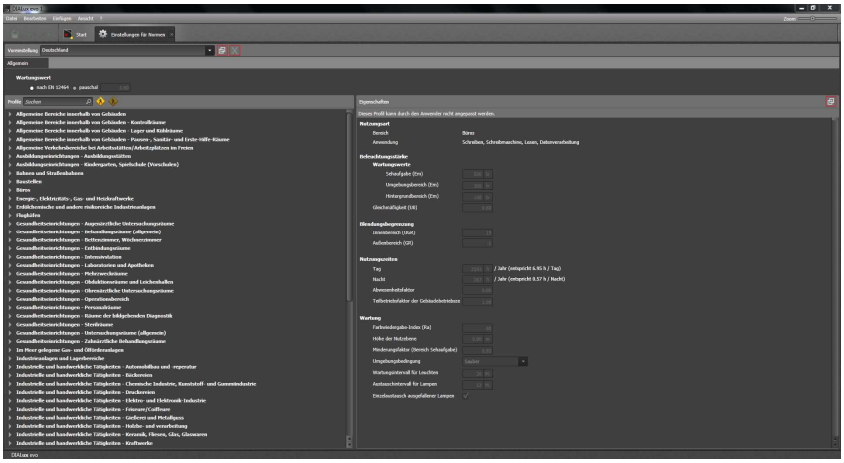

Fig. 5 Settings for Standards

The default setting fort the standard in DIALux evo is ***office; Writing, typewriting, reading, data processing***. You can also edit the profiles later → see chapter ***Assessment Zones***

Construction – Quick planning

To get a quick entry into the room planning DIALux evo offer a quick planning. Via ***Empty rectangular room*** you will start the quick planning.

Then you are able to edit the room dimensions:

- Length, width, height
- Wall thickness
- The standard settings

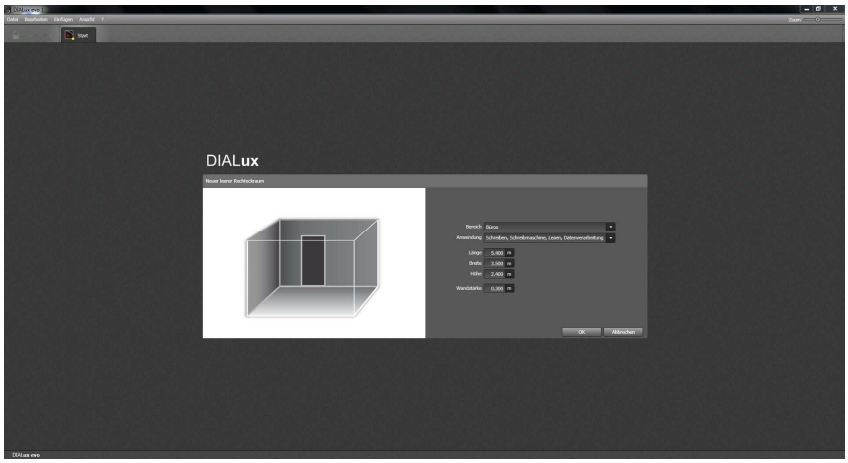

Fig. 6 Quick planer

Additionally you can edit the profiles of the room → see chapter ***Assessment Zones***

The DIALux evo user interface

DIALux evo is divided into a simple mode and tool design. At each mode you will find typical tools.

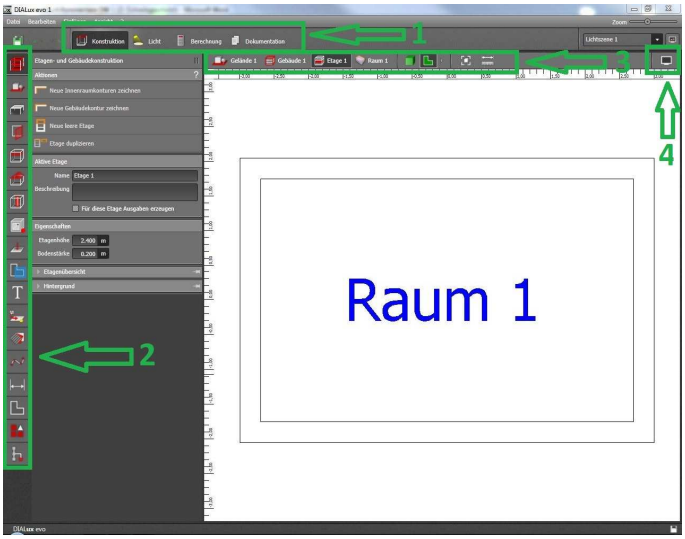

Fig. 7 DIALux evo user interface

In DIALux evo you have to work in 4 important work areas:

1 – Mode selection

2 – Tool selection

3 – CAD – View selection

4 – Display Options

At the ***CAD-View*** you can select:

- Site
- Building
- Storey
- Room

Fig. 8 CAD-View selection

If you want to select another CAD-View you have the options between:

- 3D-Rendering
- Floorplan view
- Front view
- Side view from the right
- Side view from the left
- View from behind

Note: Objects, elements and luminaires which were inserted into the project at the Area-view won't be visible at the other views.

Selecting Objects

You can select objects by one click on the left mouse button.

At DIALux evo you have possibility to select hidden objects without changing the view.

By clicking through with the left mouse button you can select the hidden objects.

There will always the foremost objects selected then the underlying etc.

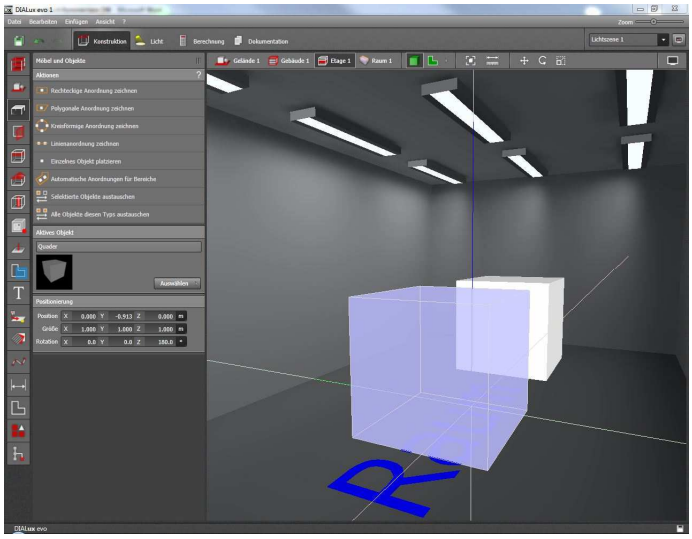

Fig. 9 Selecting objects

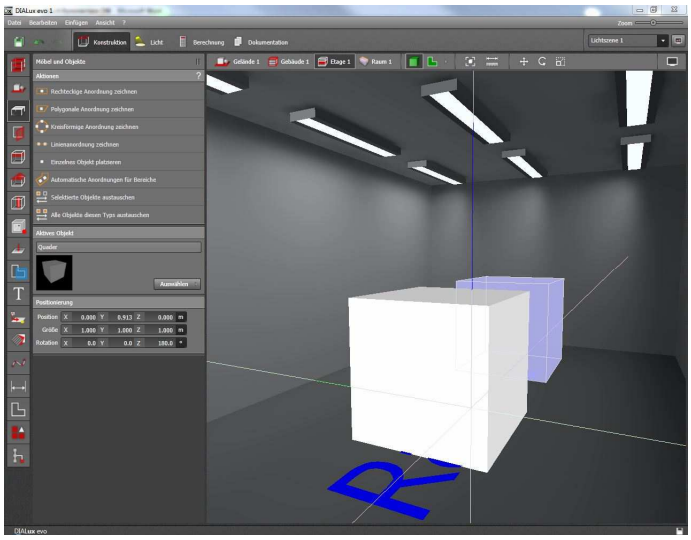

Fig. 10 Selecting hidden Objects

To select an object from an arrangement just click with the left mouse button onto the object again.

DIALux evo differentiates between the ***object memberships***. If you are using the ***Furniture and objects tool*** from the construction mode you can select all objects from this tool first. Selecting an object from another tool (maybe a luminaire) DIALux evo automatically causes a jump into the luminaire tool.

Free construction - Site

By starting ***Outdoor and building planning*** you attain automatically to the ***site tool*** from the ***construction mode***. At this tool there is the possibility to draw the floor element and the building contour of your new building.

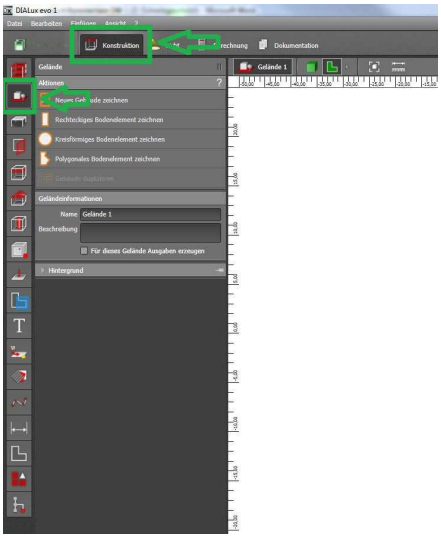

Fig. 11 Draw a building

You can design the building contour of the new building and of the floor element by clicking the corner points at the CAD-view. You can close your Polygon by:

- Right mouse button → close/end Polygon
- Click on initial point

Storey and building construction

After drawing the building contour from the building DIALux evo automatically jumps into the ***storey and building construction tool***.

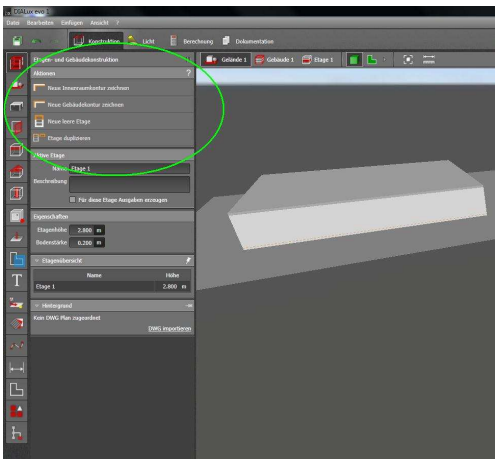

Fig. 12 Drawing the indoor contour

Now you have the possibility to create one or more rooms at your building.

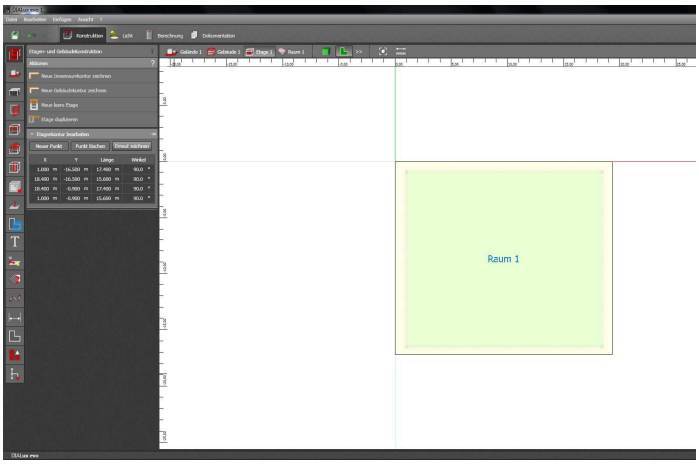

Fig. 13 Indoor contour

By creating the indoor contour you have the same procedure like the drawing of the building contour.

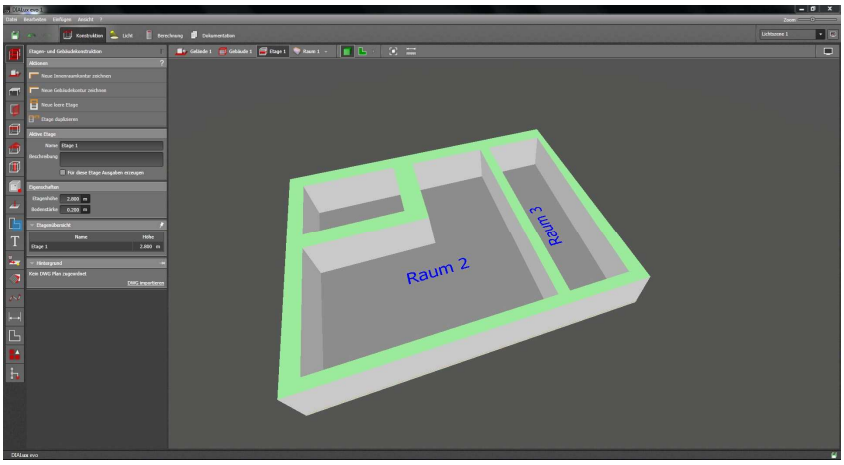

Fig. 14 Drawing more rooms

Additionally you can generate new storeys at the ***storey and building construction tool***. At this tool you can duplicate an existing storey or create new storeys.

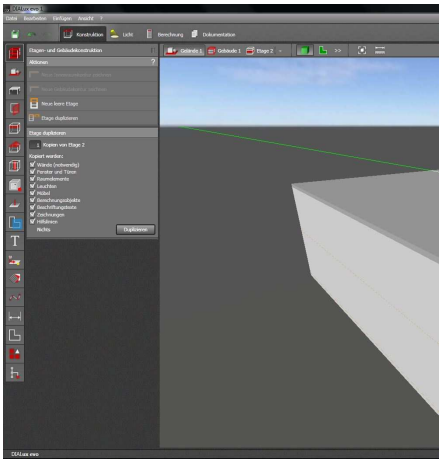

Fig. 15 Generate stories

Objects und furniture

In the ***tool furniture and objects*** of the ***construction mode*** you can insert:

- .sat-files
- .3ds-files
- .m3d-files

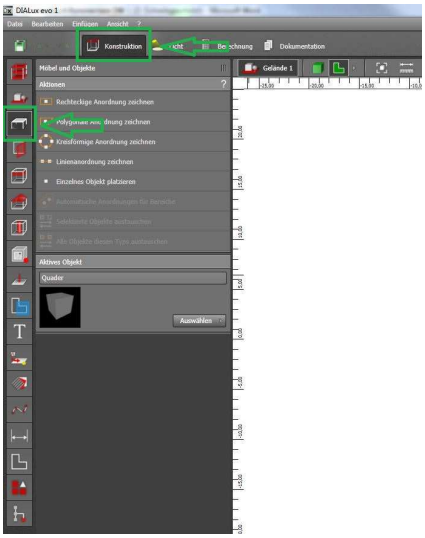

Fig. 16 Objects and furniture tool

DIALux evo also has standard objects like DIALux 4.10 as well as an ***object catalogue.***

You can start the catalogue by clicking:

Select → Catalogue → Object catalogue → DIALux evo

Via Drag & Drop into DIALux evo and via the object catalogue you can insert own objects and furniture to the DIALux evo database.

Insert and arrange of objects and furniture

You can insert objects and furniture to your project via Drag & Drop and via ***actions*** like

- Draw rectangular arrangement
- Draw polygonal arrangement
- Draw circular arrangement
- Draw line arrangement
- Automatic arrangements for spaces

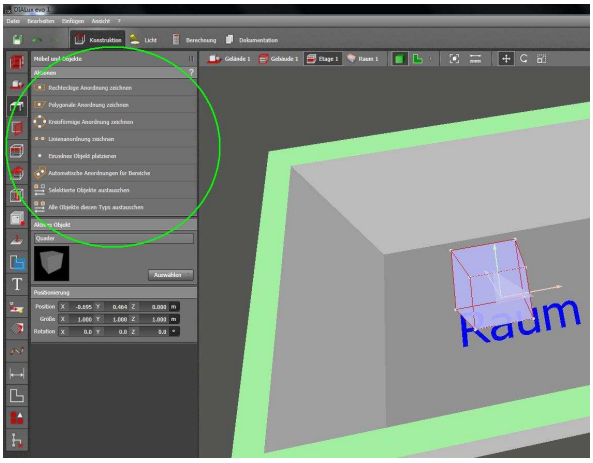

Fig. 17 Insert objects

After inserting you can

- move
- rotate
- scale

the objects in your project. You can choose the ***manipulators*** (work with the mouse) or set a manual numerical entry.

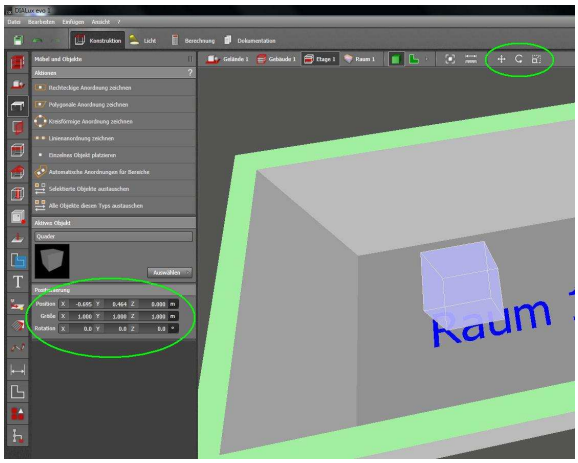

Fig. 18 Numerical entry

Additionally you can edit an arrangement by itself.

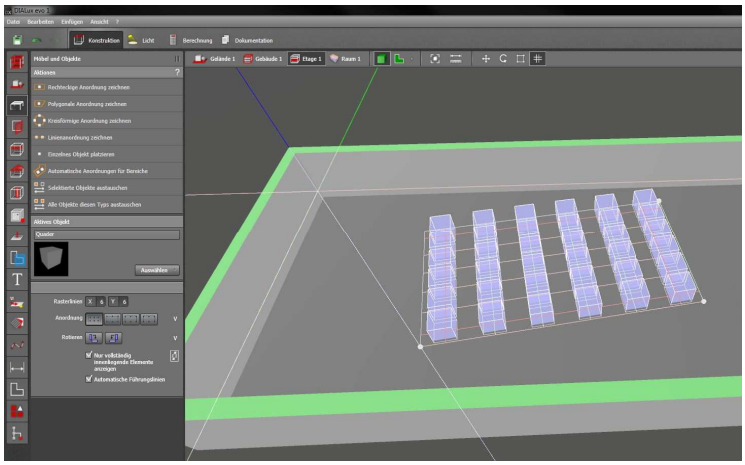

Fig. 19 Edit the polygon

The manipulators ***edit polygon*** and ***edit grid lines*** adapt the arrangement to the desired change.

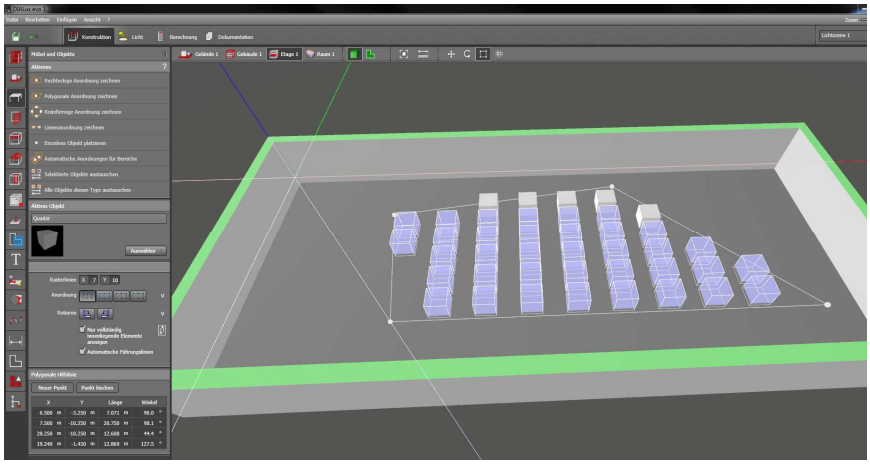

Fig. 20 Arrange the polygon

Doors and Windows

In the ***building openings tool*** of the ***construction*** mode you can find different windows, doors and roof lights.

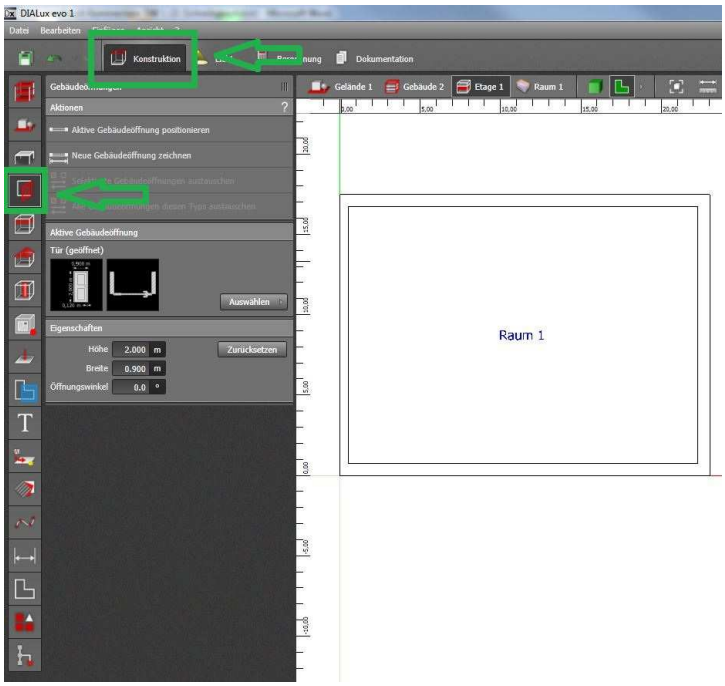

Fig. 21 Windows, doors and roof lights

You can insert windows, doors and roof lights via ***Drag & Drop*** and via the function ***position active building opening***. The adjusted properties like height, width, frame width and sill height will be assumed.

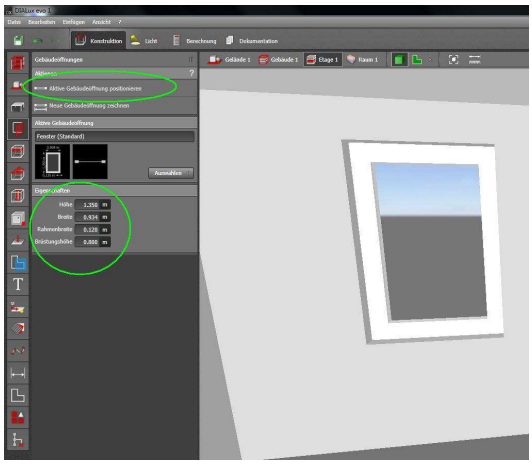

Fig. 22 Insert a window

Additionally you can draw a window, door or roof light by yourself.

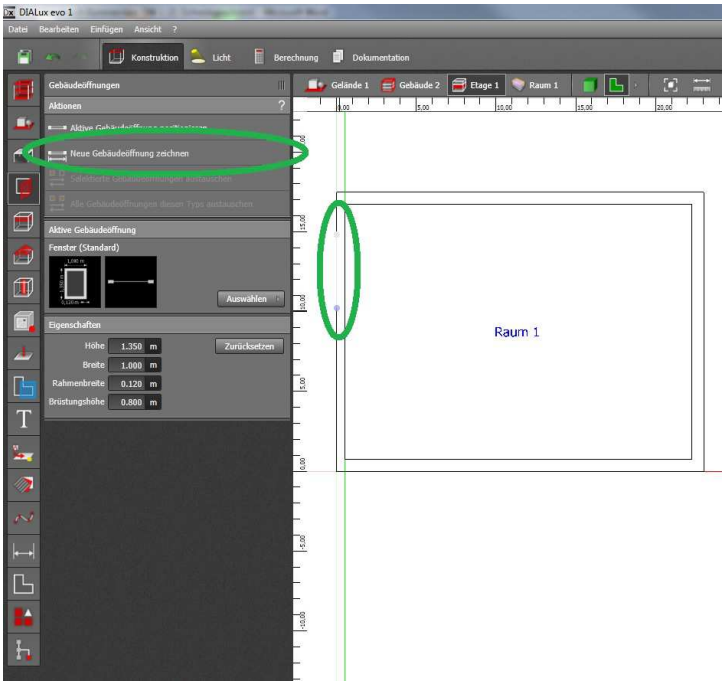

Fig. 23 Draw a window

Room elements

In the ***tool room elements*** you can find:

- ramp
- square column
- round column
- platform
- flat ceiling

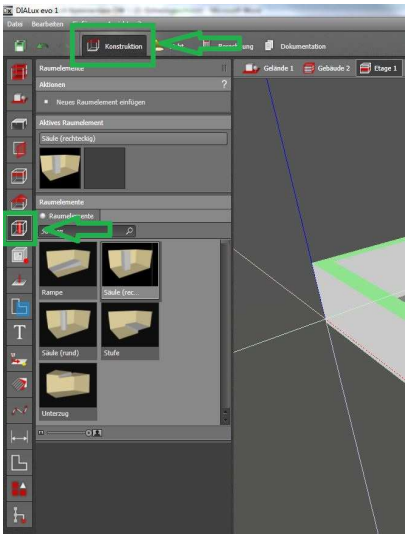

Fig. 24 room elements

The functionality of the room elements are the same as in DIALux 4.10. You can insert them via ***Drag & Drop*** or via ***insert new room element***.

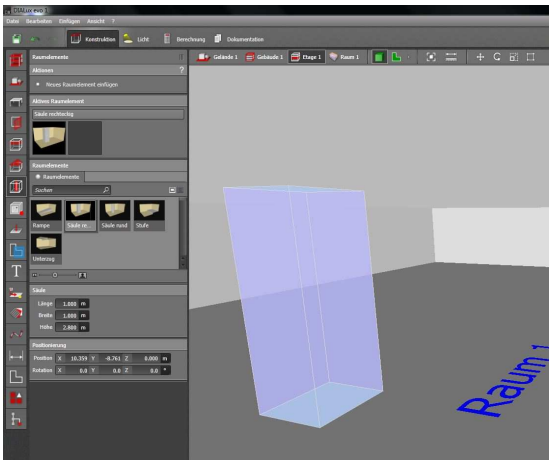

Fig. 25 Insert room elements

After insert you can edit the room elements with the ***manipulators*** or due manual numerical entry.

Additionally you can edit the squares ***polygonal***.

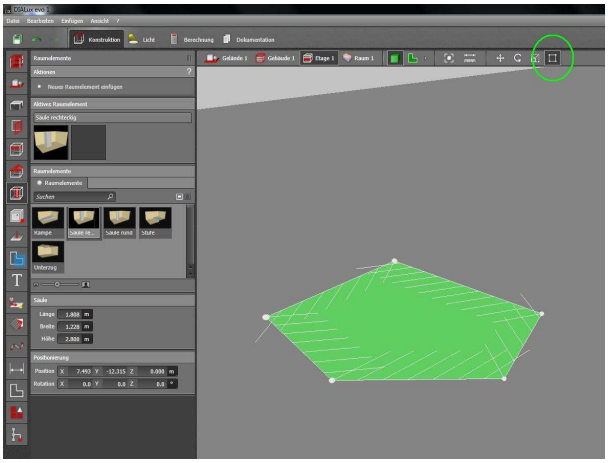

Fig. 26 Edit room elements

Ceilings

In the ***ceiling tool*** you can insert ceilings smoothly at your rooms.

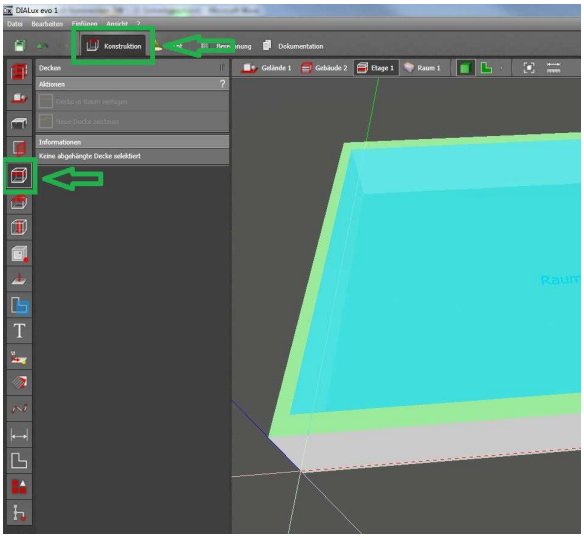

Fig. 27 Ceiling tool

Note:

At the 3d-view suspended ceilings provide a view into the room and are therefore only visible from below.

Mounted ceiling luminaires apply their mounting automatically to the suspended ceiling and not to the distance of raw ceiling.

After selecting a room you can add a suspended ceiling in the room automatically. You can also draw a section with a suspended ceiling in the room.

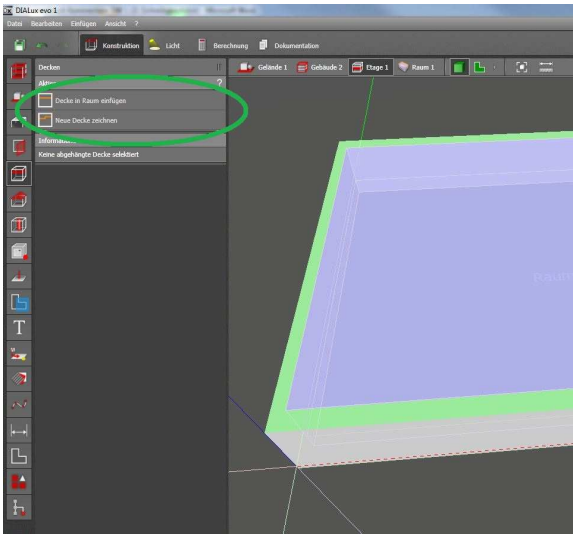

Fig. 28 Insert ceilings

After insert you can edit the ceilings.

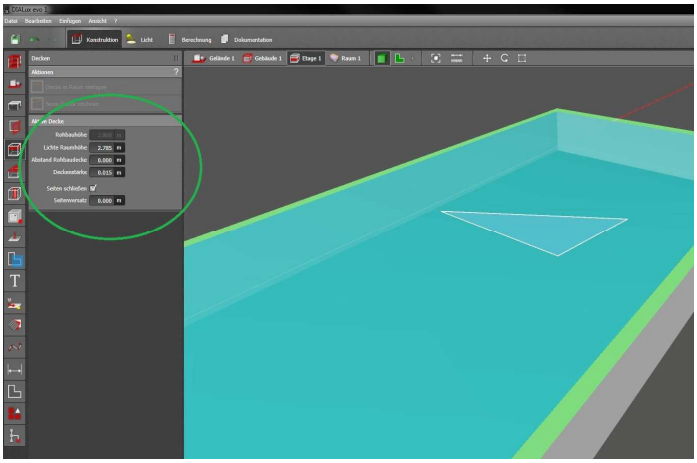

Fig. 29 Edit ceilings

Cutouts

In the ***cutout tool*** you can generate ***cutouts*** in any building contour.

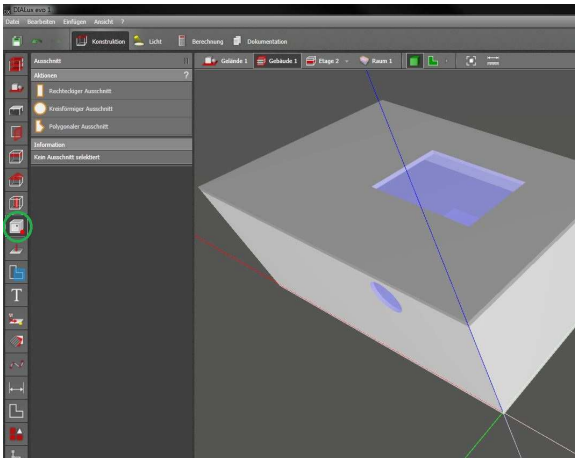

Fig. 30 Cutouts

You can generate cutouts as:

- rectangular
- circular
- polygon

After drawing the cutouts you can edit them also with the ***manipulators***.

By setting the checkbox ***Limit cutting depth*** additionally you can edit the cutting depth additionally.

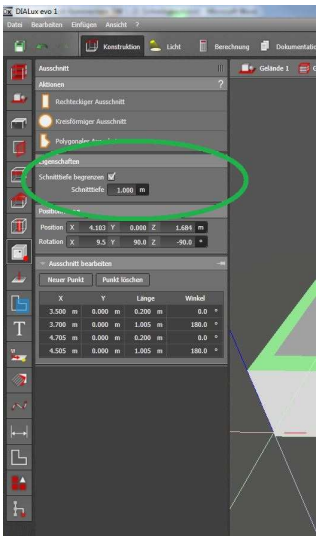

Fig. 31 Cutting depth

Assessment Zones

In DIALux evo you can organise every room in assessment zones. Additionally every room can be subdivided in more than one assessment zone.

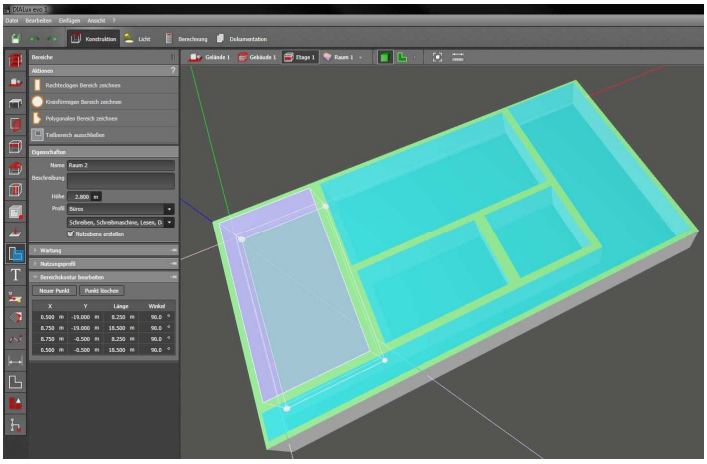

Fig. 32 Assessment zone

This offers you the possibility to assign a ***usage profile*** to each room or subzone of each room. You can choose the profile from the standards. The values for maintenance and usage profiles can also be edit.

Note:

The maintenance factor of each subzone will be calculated and considered at the documentation.

Materials

In the ***Materials tool*** you can assign a texture to all surfaces in DIALux evo. You can create your own colour and texture or choose them from the DIALux catalogue. ***Pick material*** offers you the possibility to accepted and processed existing textures in the project.

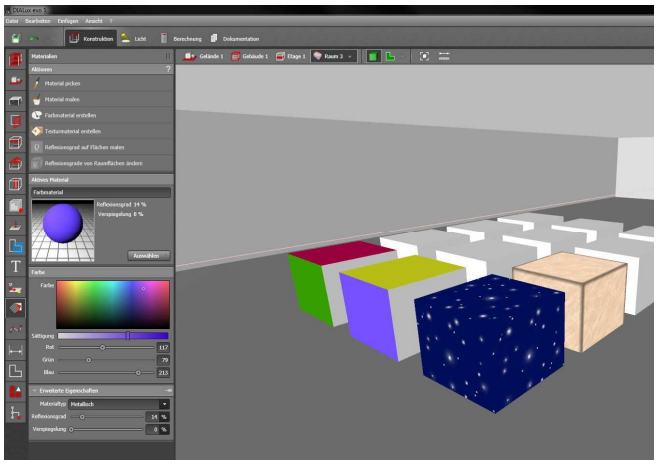

Fig. 33 Insert Materials

Via ***Drag & Drop*** or ***apply material*** you can superimpose the texture on the desired surface.

You will find the ***Material catalogue*** like in DIALux 4.10 via

Select → Catalogue

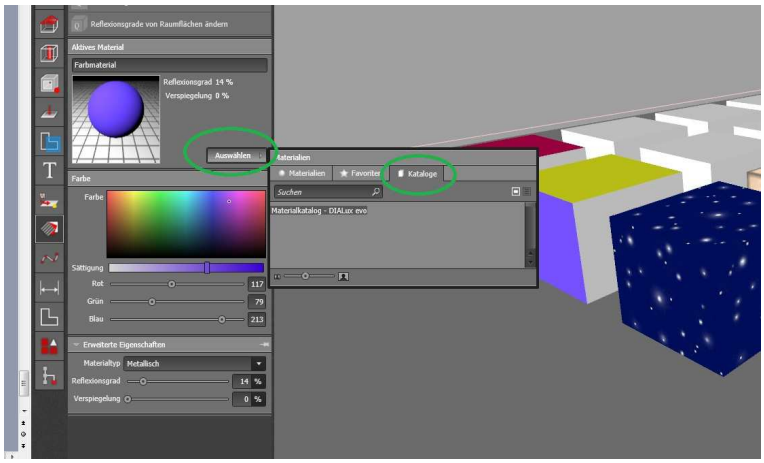

Fig. 34 Material catalogue

Naturally you can edit your own ***colour material***. You have the options:

- Colour
- Material type
- Reflection factor
- Degree of Transmission
- Refravtive index

After drawing the texture it will automatically be saved at:

Select → Materials

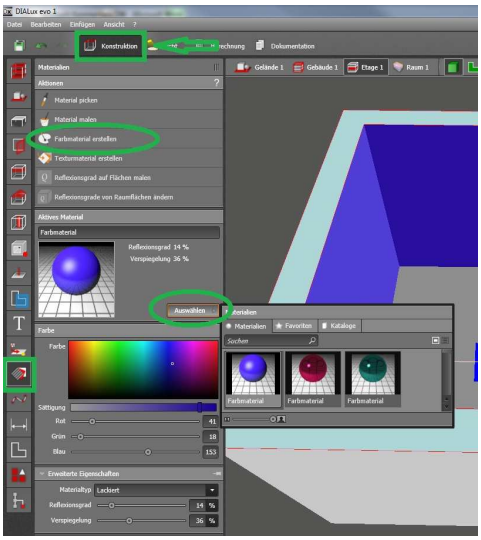

Fig. 35 Edit colour material

Reference Lines

In ***reference lines tool*** you can draw reference lines at every CAD-view. They will give to you an assistance by constructing your project.

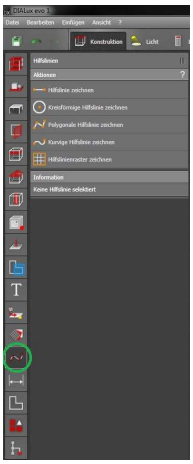

Fig. 36 Reference Lines

Copy and arrange

You have the possibility to copy, arrange, combine/split and align objects and arrangements in the tool ***copy and arrange*** at the construction mode.

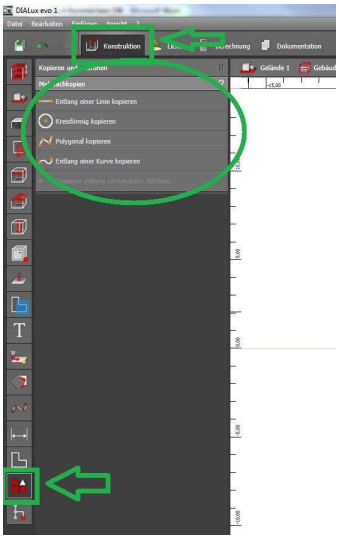

Fig. 37 Copy

After selecting more than 2 objects you have the possibilities to arrange, combine/split and align.

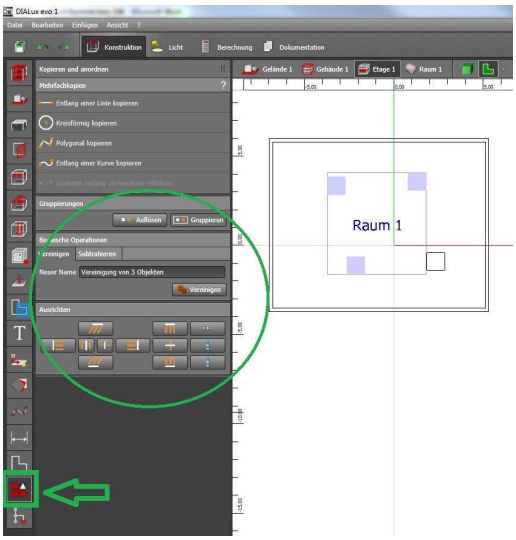

Fig. 38 Arrange, combine/split, align

Arrange:

- Each object (furniture, element, luminaire etc.) can be combined
- Each object in an arrangement can be edit individually
- One Object can be in multiple arrangements

Combine / Split:

- The handling is similar to DIALux 4.10

Align:

- Several selected objects have different alignment and distribution options

Calculation objects

You can choose ***calculation objects*** like

- Task area
- Calculation surface
- Calculation point
- Camera

in the ***tool calculation objects***. Via ***Drag & Drop*** or via ***place calculation object*** you can insert the object into your project. Additionally you can draw your own calculation surfaces.

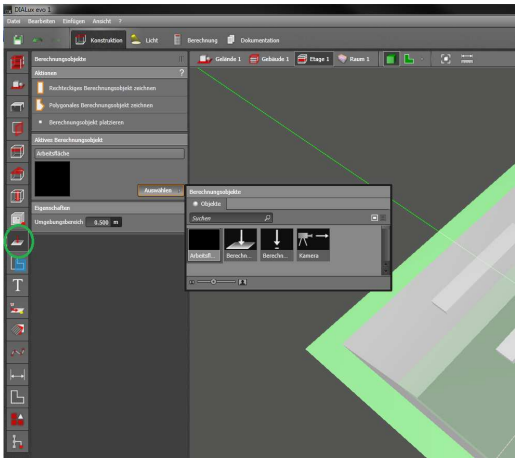

Fig. 39 Calculation objects

At the surfaces and points you have several calculation choices:

- Horizontal Illuminance
- Vertical Illuminance
- Perpendicular Illuminance (Adaptiv)
- Perpendicular Illuminance
- Unified glare rating
- Glare rating
- Cylindrical and Semi-cylindrical Illuminance
- Hemispherical Illuminance
- Custom calculation direction

- Camera-Orientated Illuminance

These calculation options have the following options:

- Height offset
- Angle of inclination, Step width, viewing angles (only by glare rating)
- Rotation
- Camera

Each calculation parameter can be calculated as often combined with any other calculation parameter. All calculated parameters are shown in the documentation.

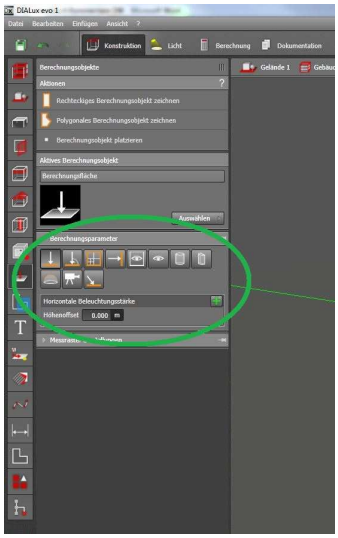

Fig. 40 Choose parameters

Additionally you can edit the calculation grid.

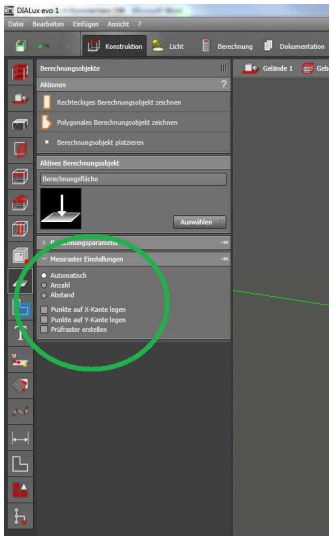

Fig. 41 Calculation grids

Light – insert luminaires

At the ***mode light*** in the ***tool for luminaires*** you can select, insert and edit the luminaires.

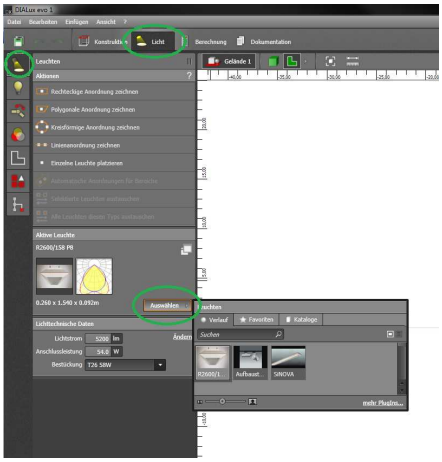

Fig. 42 Insert luminaires

Via ***Select → Catalogue*** you can see all installed ***PlugIns.***

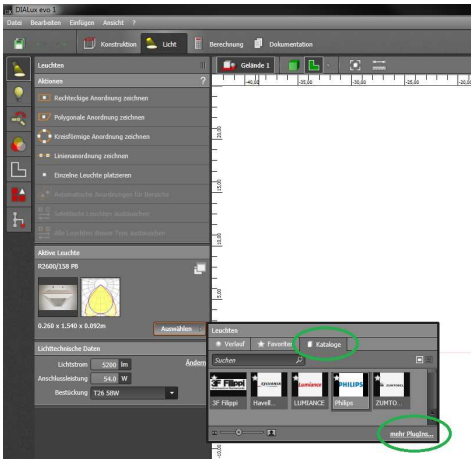

Fig. 43 Luminaire PlugIn

Via ***Select → Catalogue → more PlugIns*** you can find all (***installed and not installed***) PlugIns.

Fig. 44 PlugIns

Via ***Drag & Drop*** or via ***Actions*** you can insert and arrange the luminaires to your Project.

DIALux evo also provides assistant to you at the luminaires arrangements.

→ ***Automatic arrangements for spaces***

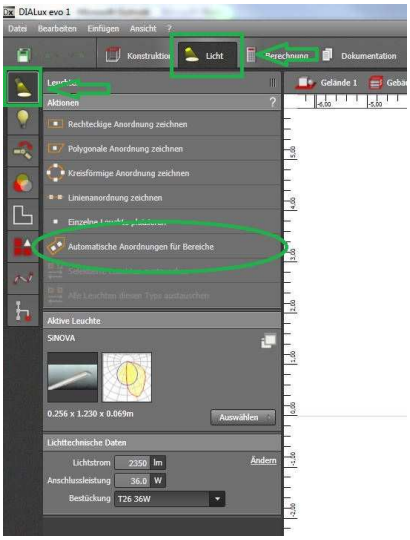

Fig. 45 Luminaire arrangement

The default for the automatically arrange is ***expert for lighting design***

- Uniform lighting at the working plane
- After uniformity DIALux evo arranges the luminaires by symmetry

You can also choose ***illuminance***

- DIALux evo calculates the number of luminaires to an average illuminance on the working plane
- After the calculation the luminaires will be arranged by symmetry

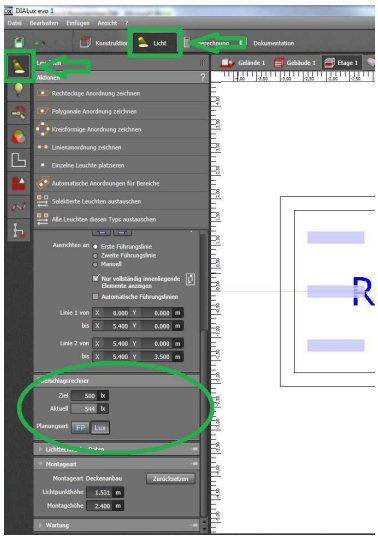

Fig. 46 Estimate calculator

You can edit the parameters after inserting the luminaires.

For luminaires arrangements DIALux evo gives to you some assistance:

- Grid lines → number of luminaires
- Arrangement formation
- Rotation of the luminaire

Additionally you can use the ***Manipulators.***

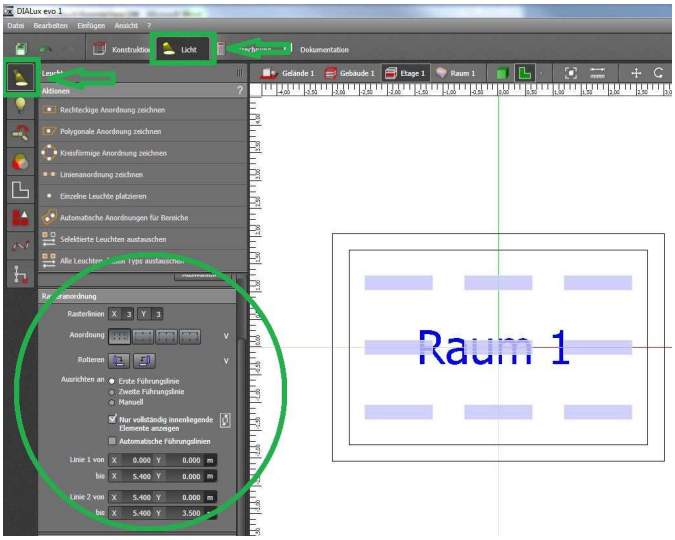

Fig. 47 Grid arrangement

If you change the ***mounting height*** or the ***height*** of the luminaire you can set the luminaire to the manufacturer default by clicking ***button Reset***.

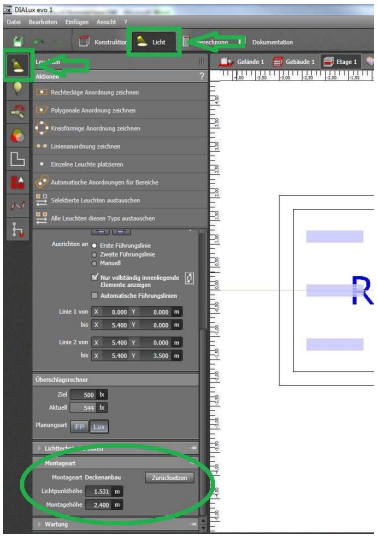

Fig. 48 Mounting type

In the ***tools*** from the ***light mode*** you find:

- Lamps → change Lamps
- Edit joints → set illumination point
- Filter → edit luminaire filter
- Copy and arrange
- Reference lines
- View

- Project overview

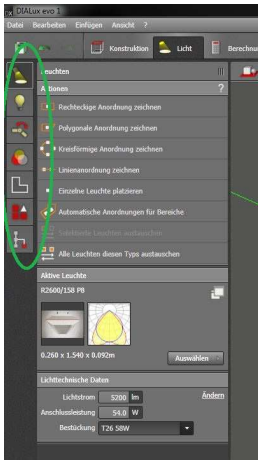

Fig. 49 Luminaire tools

Light scenes

In the ***tool light scenes*** at the ***calculation mode*** you can edit individual light scenes and luminaire groups.

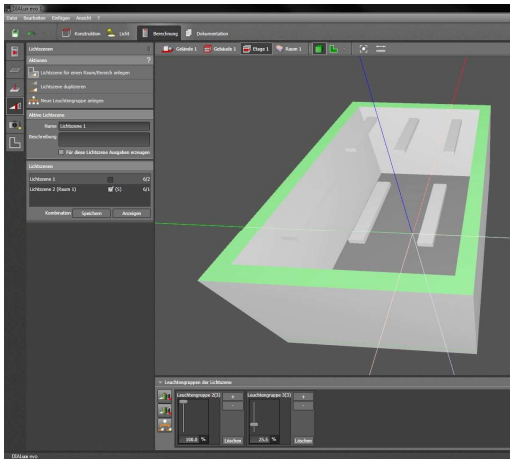

Fig. 50 Create light scenes

With the buttons „+/-“ you can add and remove luminaires to the luminaire groups. By moving the slide control or numerical entry you can edit the dimming parameters of the luminaire groups.

Note:

To obtain a visual effect for the dimming there is the possibility to dim the luminaires after the calculation.

Calculation

In the tool calculation you can calculate the previously configured lighting scenes.

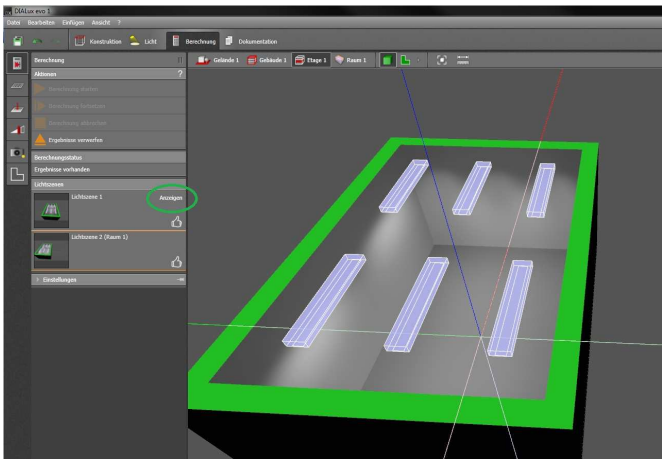

Fig. 51 Calculation

Via ***Show*** you can see the calculated scenes.

If you edit the lighting scenes ort he luminaire groups after the calculation you have the option ***continue calculation*** to continue the calculation. Thereby DIALux evo used the previous results and must not calculate the complete calculation again.

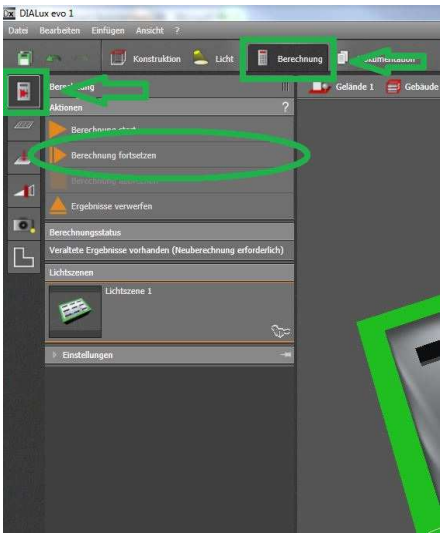

Fig. 52 Continue calculation

Results

In the ***tool results*** at the ***calculation mode*** you can show the caclulation on every space in terms of:

- Isolines
- False colours

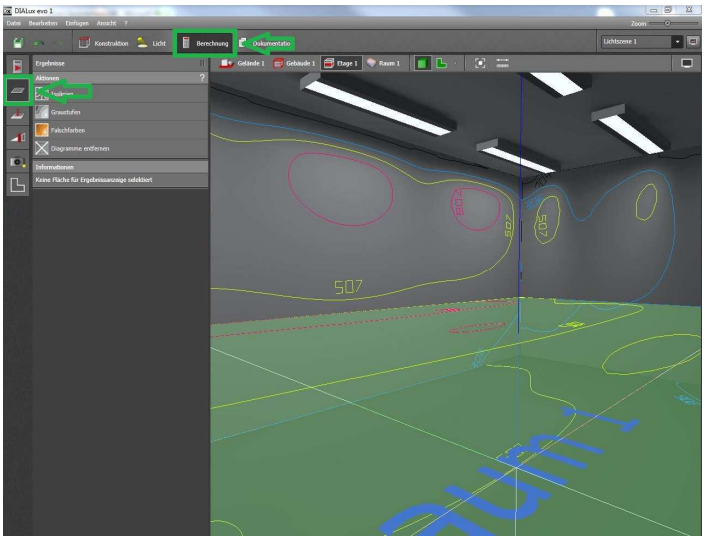

Fig. 53 Results tool

The results of the task area will be automatically shown in the documentation. If you want to show other areas in the documentation you have to set the checkbox ***Create outputs for this calculation object.***

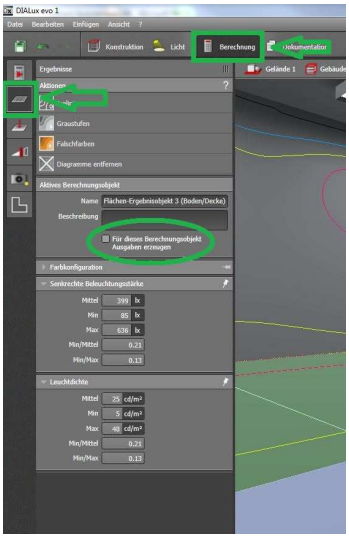

Fig. 54 Create outputs for this calculation object

Additionally you can see

- Perpendicular Illuminance
- Luminance

at the results tool.

Documentation

At the ***documentation mode*** you will find the tools:

- Selected objects
- Print
- Project information
- Configure templates

Via ***Select*** you can choose a ***Template***. Each template has pre-selected specify pages. You can choose between several useful templates:

- Single room
- Luminaire list
- Building owner
- Expert for lighting design
- Default Views
- Compact
- Luminaires
- None
- All

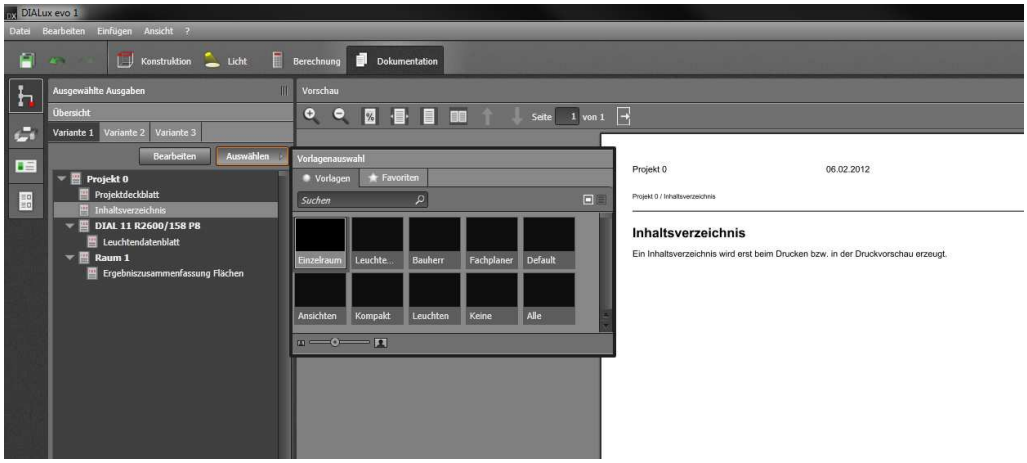

Fig. 55 Template

Additionally via ***Edit*** you can configure the templates by selecting or deselecting the pages.

In the tool ***configure templates*** you can generate your own templates.

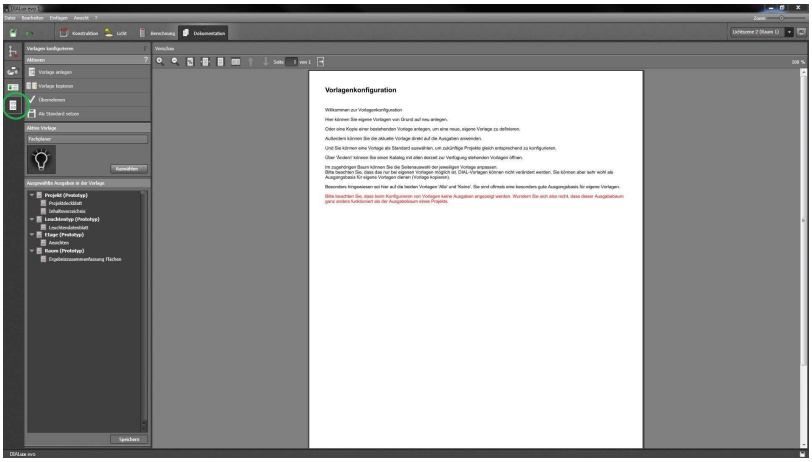

Fig. 56 Configure templates

Via ***Variant*** you have the ability to switch between configured templates back and forth every time without losing the settings.

Via ***the variant of the outputs*** you can edit the following options

- Output selection → is the combination of the documentation pages. It determines what documentation pages to be spent on the documentation objects. The configuration is individual for each documentation page.
- All individual settings of all Pages → you can edit the documentation pages. You have the possibility to set the configuration to the individual pages or to transfer it to the whole project. You can also save the configured pages as standard for subsequent projects.
- Paper size etc.
- Settings fort he header and footer
- Default template

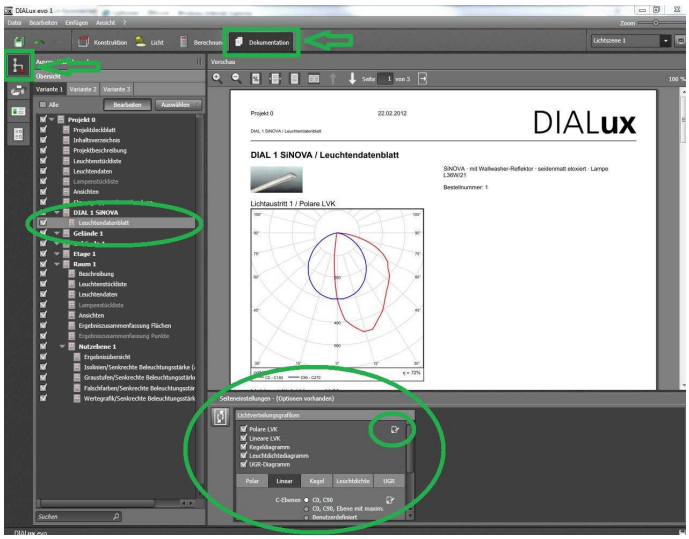

Fig. 57 page settings

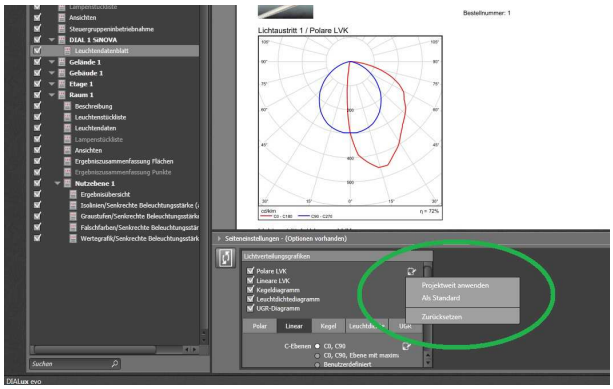

Fig. 58 Apply the pages settings

In the ***tool project information*** you have the possibility to edit

- Project name, Description, project adress
- Contact
- Customer

Fig. 59 Project information

Saving Projects

Unless a location is selected the projects are saved at

library\documents\DIAL GmbH\DIALux\Projects

Furthermore all saved projects will be shown in DIALux evo at the start screen.