

Using Real IES for Creating Photometric Lights

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Requirements

Real IES runs on Windows (Vista, Seven, 8 and 10) and Mac OS (Mountain Lion, Mavericks, Yosemite and El Capitan).

Getting Started

Real IES allows you to create and edit photometric files easily and in few seconds. Real IES generates type C .ies files compatible with a wide range of 3D rendering software, both offline and realtime.

To create your photometric light with Real IES you will need to follow these steps.

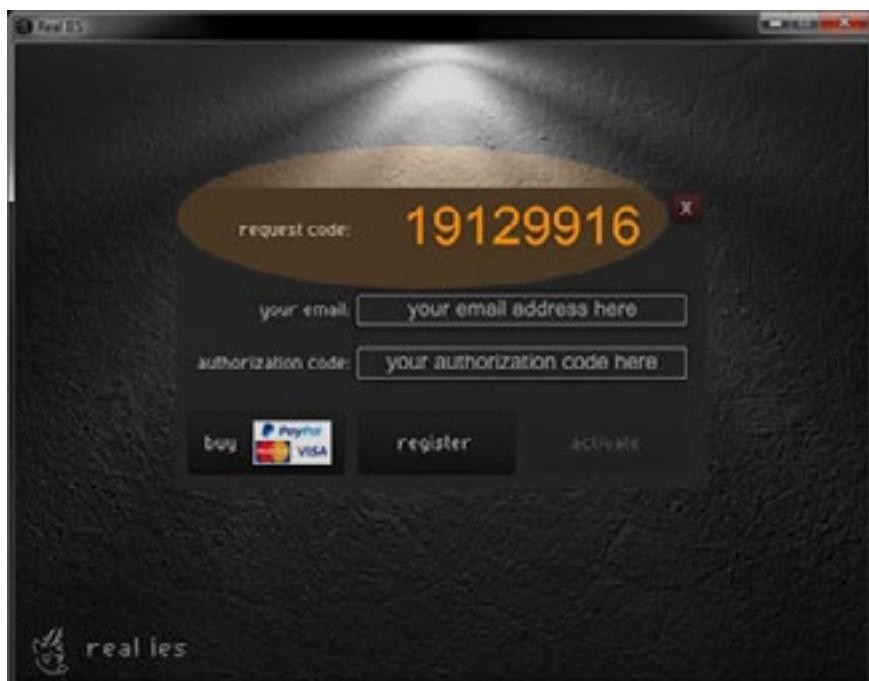
Install Real IES

Real IES v.2.1 can be downloaded from the developer site www.real-ies.com

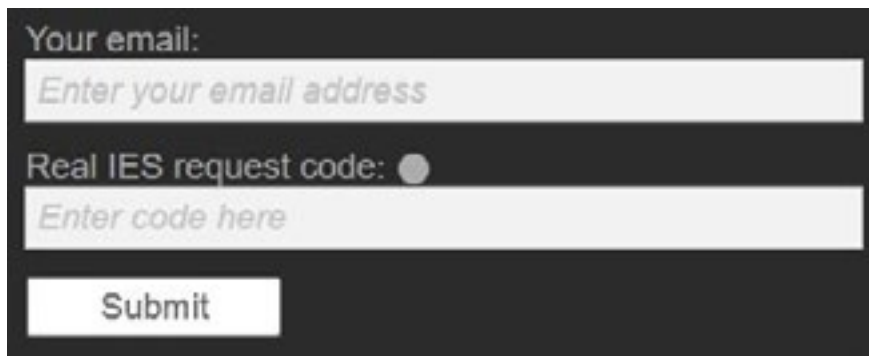
Activate your license

During first run of the software you will be asked to register your license.

Take the individual request code provided on the starting screen of Real IES.



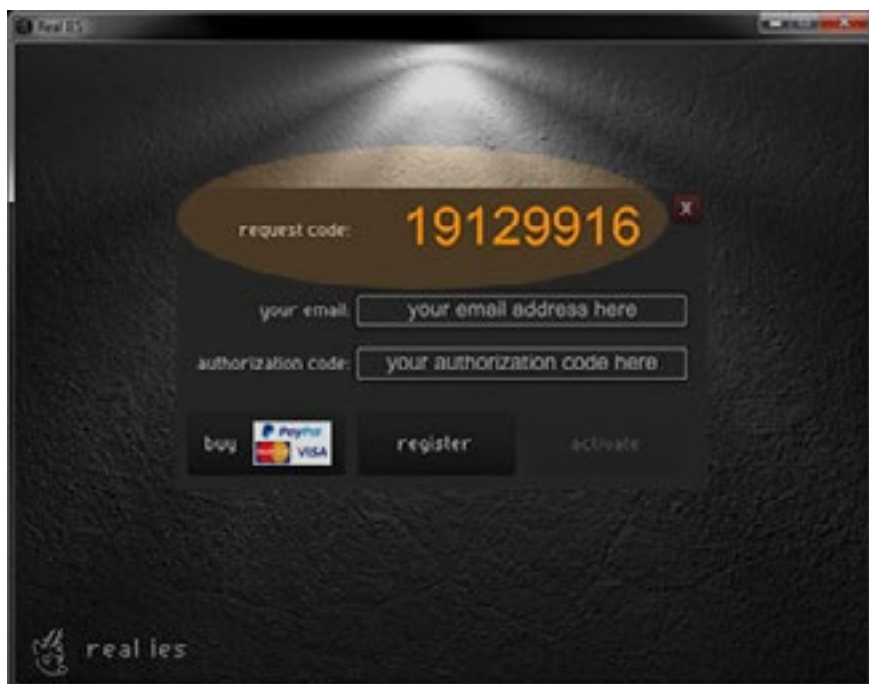
Fill the form on the web-site with the request code and the email address you specified during PayPal payment.



The form is titled "Your email:" and "Real IES request code:". It contains two text input fields with placeholder text "Enter your email address" and "Enter code here". A "Submit" button is located at the bottom.

You will get your authorization code on your email. Please note that all orders are manually processed from Monday to Friday, 9AM to 6PM (GMT+1).

Insert your authorization code and your email in the starting screen, press the "Activate" button and you are ready to go.



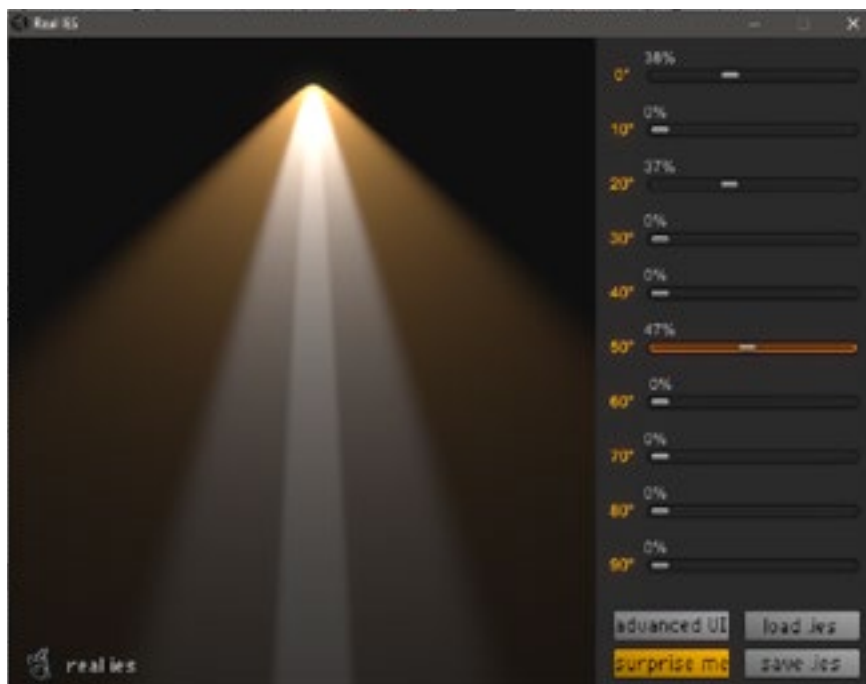
Working in Minimal UI

Thanks to this compact and intuitive user interface you can generate an .ies file in less than 30 seconds.

Manipulate the sliders on the right panel to adjust the luminous intensity for every angle. Parameters of each slider are affecting the intensity of a certain light cone, that provides you immediate visual feedback on your actions in the viewport on the left.



Both the selected slider and the light cone corresponding to it are highlighted in orange color.



If you prefer to input precise physical parameters of your light, switch to the Advanced mode by pressing the button in the bottom of the screen. You can always go back to the minimal mode without any risk of losing your data.

Working in Advanced UI

Switch to advanced user interface if your lighting design requires more precision.

By default the luminous flux in Real IES is set to 1000 lumen (lm), but you can input manually a total amount of visible light emitted by your lighting fixture. You can get this information in the technical sheets provided by the manufacturer of your light emitter. You can also manually adjust the power and the vertical position of your light source (by default set to 75 Watt (W) and 350 cm) and get the feedback on your light source efficacy that could be particularly important for energy saving in the lightning design projects.



If you prefer to leave the default physical parameters, both the power and luminous flux of your photometric light can be adjusted or fine-tuned later, directly in your 3D software using as a reference point the desired photorealistic result of your render.

While manipulating each slider you get an immediate feedback on the changes of the physical parameters of your light. Both luminous intensity (cd) and illuminance (lux) values are displayed for each angle over the corresponding slider.

Extra to the color highlights introduced in Minimal UI, in Advanced UI you also get the grid with precise information on the light angles.

Choosing rendering and engineering mode

You can use Real IES for mathematical purposes or even for theoretical data extraction. Since the luminous intensity in candela (cd) for uniform and isotropic light source is calculated as:

$$I_v(\text{cd}) = \Phi_v(\text{lm}) / \Omega(\text{sr})$$

where

$$\Omega(\text{sr}) = 2\pi(1 - \cos(\theta/2))$$

the highest possible value is defined for each angle individually.

Rendering mode

The sliders proportionally demonstrate intensity range for a particular angle that can be distinguished by a human eye and can be visually displayed in a 3D render.

Therefore this mode is recommended for photorealistic rendering.

Engineering mode

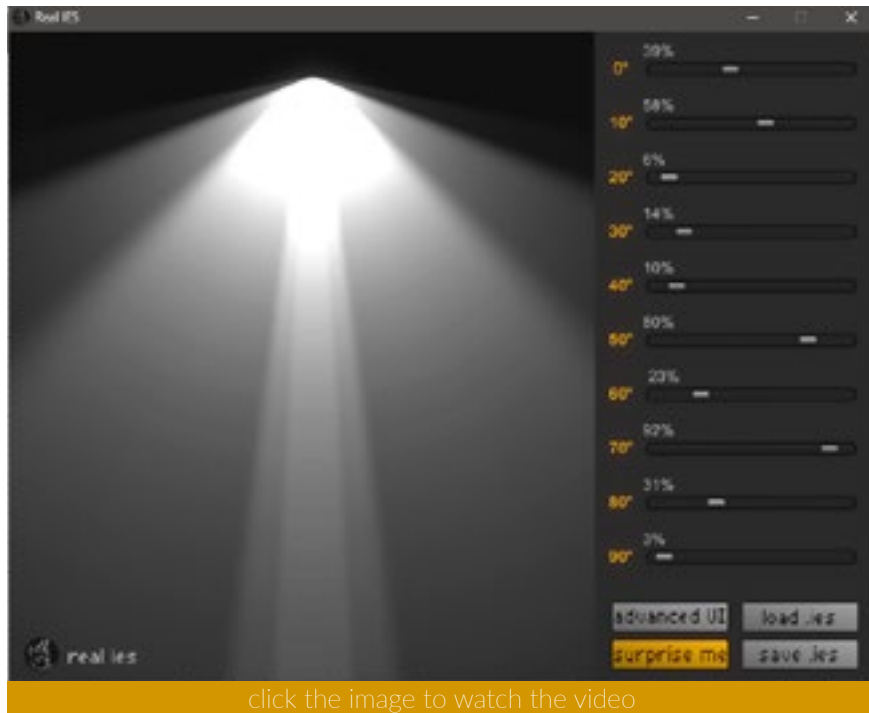
The sliders do not have any restriction and the maximum values are corresponding to the maximum intensity theoretically possible for a certain angle.

When you enter in the range of values that are highly improbable for interior design and photorealistic rendering, you get a warning sign.



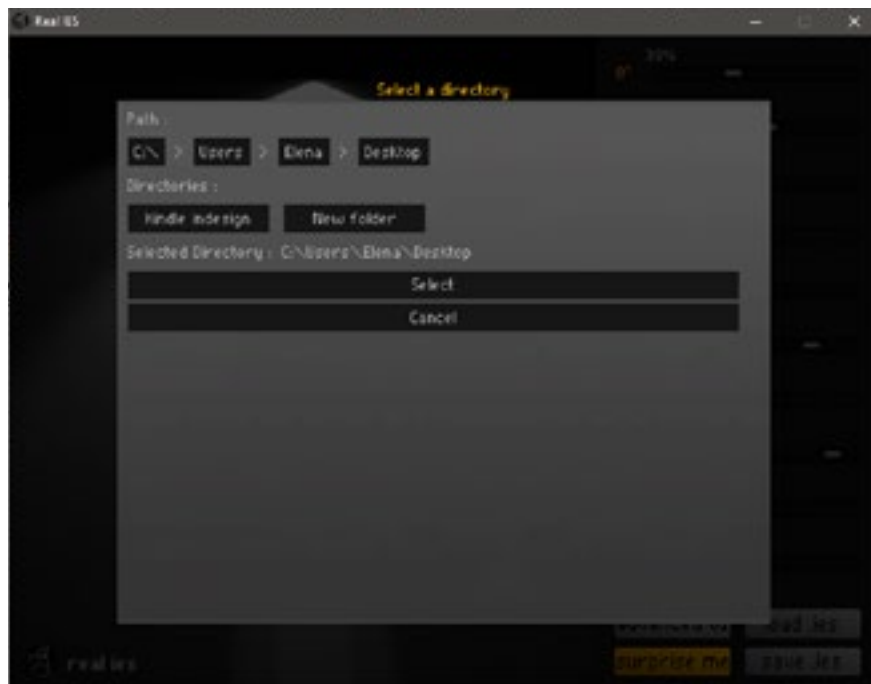
Surprise me mode

For creative experiments Real IES can generate unlimited (in reality it's 10^{101}) amount of random photometric files. Use them for your inspiration.



Saving photometric file

When the desired result is achieved you can save your photometric file by pressing the “Save” button. By default the file is saved on the desktop, but you can choose a custom folder if you prefer.



Opening photometric file

By pressing the “Load” button you can open the .ies file, view it and edit its parameters.

Real IES can parse data from type-C photometric files provided by the lighting fixtures manufacturers or created in other softwares for lighting design.



Snapshots

Real IES can keep in temporary memory up to four different snapshot (since version 2.1), capturing the light cone and the light parameters corresponding to it.

To make a snapshot

Open the panel on the left and press the top arrow pointing to the snapshot empty space.

To restore the snapshot parameters inside your working space

Press the arrow pointing from the selected snapshot.

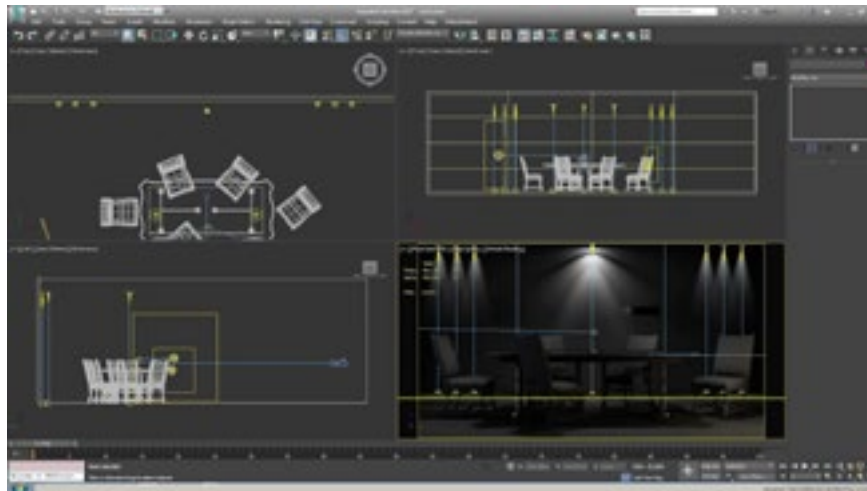
To save the snapshot

Press the yellow arrow close to the snapshot. The png file (2048x2048 pixel size) is saved on your desktop and you can use it later as a reference of a light cone or in postproduction of your render.

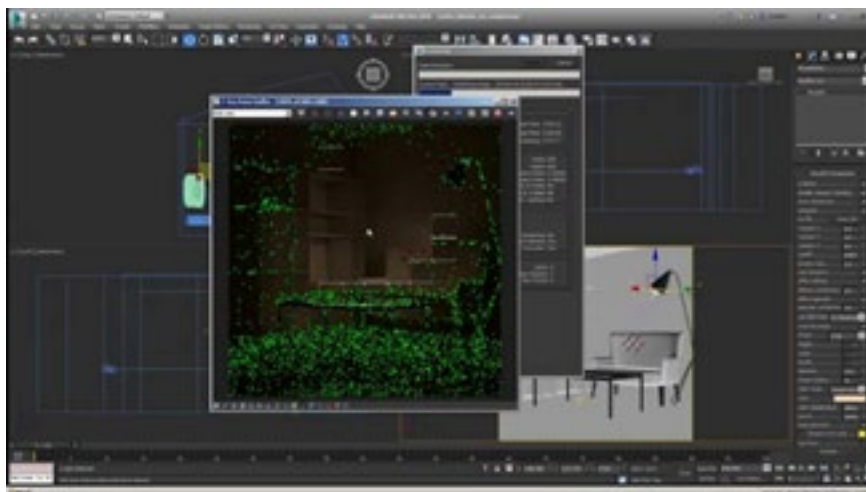


Tutorials

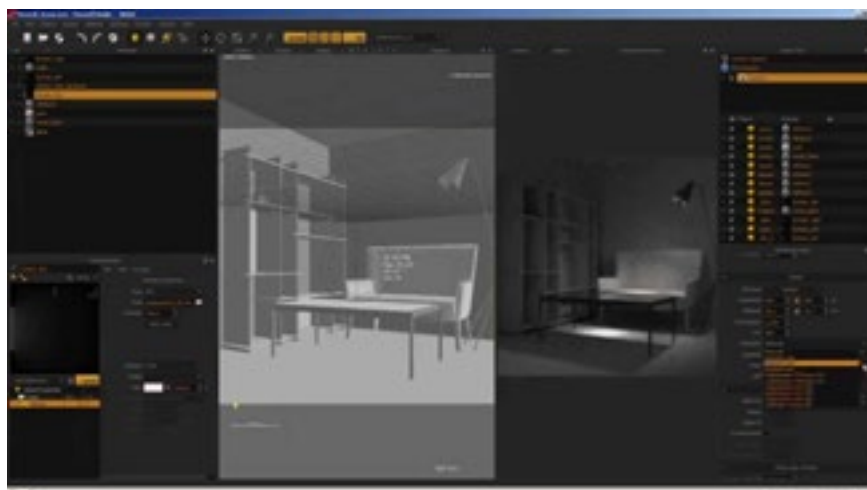
Photometric lights in 3DS Max 2017 and Art Renderer



Photometric lights in V-Ray 3.20

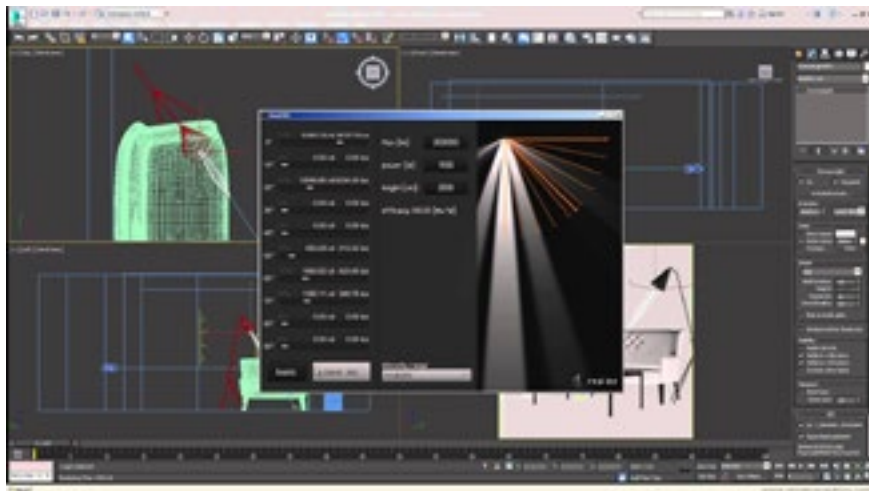


Photometric lights in Maxwell Render

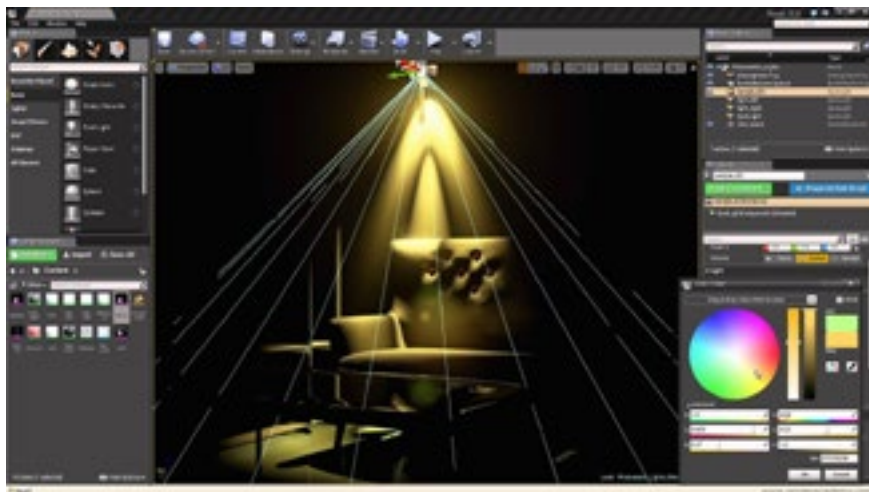


[click images to watch the videos](#)

Photometric lights in Corona Renderer



Photometric lights in Unreal Engine



[click images to watch the videos](#)

[Learn more about Real IES on Development Roadmap](#)