



# Lithophane Lamp

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## Summary

Lithophane Lamp Create a permanent display of your treasured photographs or print a stunning gift for your friends and...

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## Lithophane Lamp

Create a permanent display of your treasured photographs or print a stunning gift for your friends and family.

Requires a print bed minimum size 150mm (6 inches).

My design is inspired by other similar lamps on Thingiverse. The lampstand is parts compatible with my Moon Lamp. [thing:4235225](#)

## Make the lampstand

Creating the lithohanes takes a bit of time so it is best to get the lampstand printing whilst you prepare your photographs.

I printed the lampstand with copper coloured PLA. You need to print one of each of the lampstand files provided as per my illustration. You could have a taller lamp by printing additional sections. I printed the lampstand at 0.2 layer height which is acceptable although printing it at 0.15 could give a better finish. I used 25% infill.

For a single height lampshade, the lampshade supporting ring should be put on the top lampstand section, immediately under the light fitting as shown in the diagram. For a double height lamp the lampshade supporting ring should be put lower down and the sequence of lampshade sections adjusted so that the lightbulb is positioned approximately half way up the height of the lampshade.

I bought an 8W LED lightbulb and G9 ceramic bulb holder off eBay (see photo). A 5W bulb might also be okay. The G9 ceramic bulb holder should be secured into the printed holder with two small nut and bolts or with with two small chipboard or self-tapping screws.

A mains cable should be fed through the hole in the base and clamped using two small chipboard or self-tapping screws. You could add a zip-tie around the cable inside the base or hot glue gun the cable to ensure that it does not pull out or put tension on the connections.

The base should push fit into the bottom but you may need to track it with glue if it is too loose.

The lampshade just rests on the supporting ring of the lampstand to give easy access when it comes time to clean the lamp or change the bulb.

## **Prepare your photographs**

Lithophanes are a grey scale image so you should select photographs which have good contrast. Lithophanes are low resolution so crop your images to discard any irrelevant background and focus on the important parts.

You will need one square photograph (height = width) for the top of the lampshade. You also need four photographs for the sides. These may be square, 4:3 or 16:9 aspect ratio. If you are making a double height lampshade the additional four images can be a different aspect ratio from the first layer.

I recommend square or 4:3 images as 16:9 may not give enough air gap over the top of the lightbulb. Alternatively use a 5W bulb which creates less heat.

## Create your lithophanes

Go to <http://3dp.rocks/lithophane/>.

Adjust the Image Settings as required. Particularly VERY IMPORTANT you need to change the setting from the default Negative Image to Positive Image.

Adjust the Model Settings as I have shown in this Thing images. The Size (width) MUST be 150mm. Also I suggest reducing the thinnest layer to 0.5mm and the thickness to 5mm.

Add your images one at a time and download the STL file which is ready to slice and print.

Use a minimum pigment but not 100% transparent plastic. An ivory coloured "natural" colour PLA or ABS (I used ABS) is ideal.

I recommend a 0.10 layer height or less to get maximum grey-scale resolution.

You need to print the images solid with no air gaps. Set many top and bottom layers and 100% infill to make sure.

## Print the lampshade frame

I leave this to last because you need to be happy with your image sizes before printing the lampshade frame.

Print a lampshade base, 4 x lampshade horizontals and 4 x lampshade corners. They are a fairly tight push fit to assemble. Glue the parts together using an acetone melt glue for ABS or a cyanoacrylate superglue for most other plastics.

Print 4 x lampshade uprights according to the aspect ratio of your images. If you have square images then use horizontal frame pieces for the uprights. Glue the uprights into the four corners of the base.

If you are making a double height lampshade, print 4 x lampshade intermediate horizontals and 4 x lampshade intermediate corners. Glue the parts together. Print 4 x uprights according to the aspect ratio of your upper layer images and glue into the corners of the intermediate frame.

Print 4 x lampshade horizontals and 4 x corners to make the top frame. Assemble this with the 150mm x 150mm square lithophane to create the top of the lampshade. The rough side of the lithophane needs to be upwards and the open connection of the frame corners downwards. Optionally glue the top assembly together but only when you are sure that everything is in the correct orientation.

Take the bottom assembly and insert the 4 lithophane images into it ensuring that they are the correct way up and the rough side facing outwards.

If using the intermediate frame, push-fit this to the bottom assembly then insert the 4 lithophanes into it.

Push-fit the top frame onto the lower assembly.

Once that you have checked that everything is correctly assembled you can glue the remaining joints with a small amount of glue just to tack them together.

## Show your appreciation!

I design these thing for myself but I publish them for you. If you like my work then please do not forget to "tip designer" to show your appreciation and to encourage me to publish more designs in the future.

## Print Settings

### Rafts:

No

### Supports:

No

### Resolution:

0.2 lampstand 0.1 lithophanes

### Infill:

25% lampstand 100% lithophanes

**Filament:** . PLA or any .

Category: Sculptures

## Model files



**frame\_intermediate\_horizontal.stl**

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**lampshade\_base.stl**

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**lampstand\_section\_short.stl**

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**frame\_horizontal.stl**

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**frame\_intermediate\_corner.stl**

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**frame\_corner.stl**

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**lampstand\_section\_medium.stl**

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**lampstand\_bottom.stl**

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**lampstand\_base.stl**

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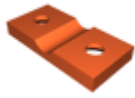
**lampshade\_lampshade\_support\_ring.stl**

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**frame\_upright\_16\_9.stl**

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**lampstand\_cable\_clamp.stl**

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**lampstand\_g9\_fitting\_holder.stl**

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**frame\_upright\_4\_3.stl**

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**lampstand\_section\_long.stl**

[Find source .stl files on Thingiverse.com](#)

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