



Christmas Lantern Christmas Lantern Christmas Lantern



MaxT

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Summary

Let the magic of light mesmerize you this Christmas holiday season :)
Enjoy! Ho ho ho!

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Update log

January 2024: Version 2 of the base has been uploaded, see below for more info

SIZE

The model will fit on Prusa Mini+ (180x180).

Feel free to size it up or down as you wish.

I strongly suggest sizing it up to fit your entire heat bed as it gives the best result.

This 3D print consists of 2 main parts: Lantern itself and the Base.

LANTERN, only 6,5g!

After many tests and trials I've decided to print the lantern in a nearly paper-thin thickness - 0.2mm (2 layers x 0.1mm). This provides the best light-to-shadow effect and the best flexibility, but it also requires your printer to be able to print such delicate parts.

The lantern consists of 3 different layers:

- the outer layer, model 1a + 1b
- the middle layer, model 2
- the inner layer, model 3

You need to print each of these.

Model 1b is the extension of model 1a creating a larger outer layer.

SETTINGS / PRINTING

All 3 layers can be printed at once (see the attached 3MF/GCODE file) or one at a time.

To save you a headache, consider using the attached GCODE file - it has all the correct settings.

Filament: PLA/PETG

Print: 0.1mm

Nozzle: 0.4mm

Support: Not needed

Brim: Not needed

Infill: Not needed

First Layer Height: 0.1mm

The best way to get these layers off the heat bed, is to place the heat bed with the printed model in the freezer for 10 to 30 mins.

The hardest part is to get the printbed scraper between the heat bed and the print. After that, slowly but steadily move the printbed scraper from the bottom of each layer and up pulling the print up. It will take time, it's nerve-wracking, but oh boy what a joy it is to see one succeed in being able to get all the layers in one piece! It IS possible, every single time!

BASE

January 2024: Version 2 of the base has been uploaded. It's a completely new version that has a new refined look. Also, it has holes at the bottom for the clamps that hold the lantern (see the last 3 attached images). You can either use the clamps, or use the glue, up to you.

Also, there's now a hole in the middle for easier access to the LED tea candle - just lift the whole Christmas Lantern up.

The new base has been kindly provided by [Alex](#).

SETTINGS / PRINTING

Filament: PLA/PETG

Print: 0.2mm

Nozzle: 0.4mm

Support: Not needed

Brim: Not needed

Infill: 10-15%

First Layer Height: 0.25mm

Perimeters: 2

Solid layers, top: 4-5

Solid layers, bottom: 4-5

Minimum shell thickness: 0.4mm

LED TEA CANDLE

Do NOT use a real candle. Just don't :)

Use a LED candle - you can buy these for very cheap at a nearest IKEA, dollar store, or mall.

I've used a [LED tea candle from Uyuni Lightning](#) as it mimics the flame of the candle in a very nice and pleasant way by glowing up and down randomly. I can also turn it on and off with a remote, or it can be set to light for 6h period at a specific time of the day. It's really great!

Dimensions: H: 5 x Ø 4 cm.

Light source: 1 x CR2450 battery



If you do not resize this print down, it should fit a standard tea candle without any problems:



ASSEMBLY

The outer layer consists of models 1a and 1b which create a ring.

1. Simply insert tongues from the side of model 1a to the respecting holes of model 1b, and once again insert tongues from the side of model 1b to the respecting holes of model 1a.
2. Now insert tongues from the side of model 2 to the respecting holes of the same model, creating the middle layer.
3. And at last, insert tongues from the side of model 3 to the respecting holes of the same model, creating the inner layer.
4. Place the base in front of you.
5. Place the tongues at the bottom of the inner layer in the inner holes of the base.
6. Do the same for the middle and for the outer layers.
7. Place the LED tea light candle inside of the inner layer.
8. Turn the candle and envy!

DISPLAY

The lantern has 3 different motifs.

Turn the lantern in whatever way you want to enjoy the motif you like the best.

Feel free to rotate the lantern once in a while to enjoy other motifs as well :)

EXTRA NOTES

Since the printed lantern is still somewhat stiff for such delicate details as the tree branches, you might want to place the layers in warm (not lukewarm) water for approx 1 min, take it out of the water, and insert the tongues in the respecting holes of the same layer. This way the branches and smaller details will follow the circle.

BONUS

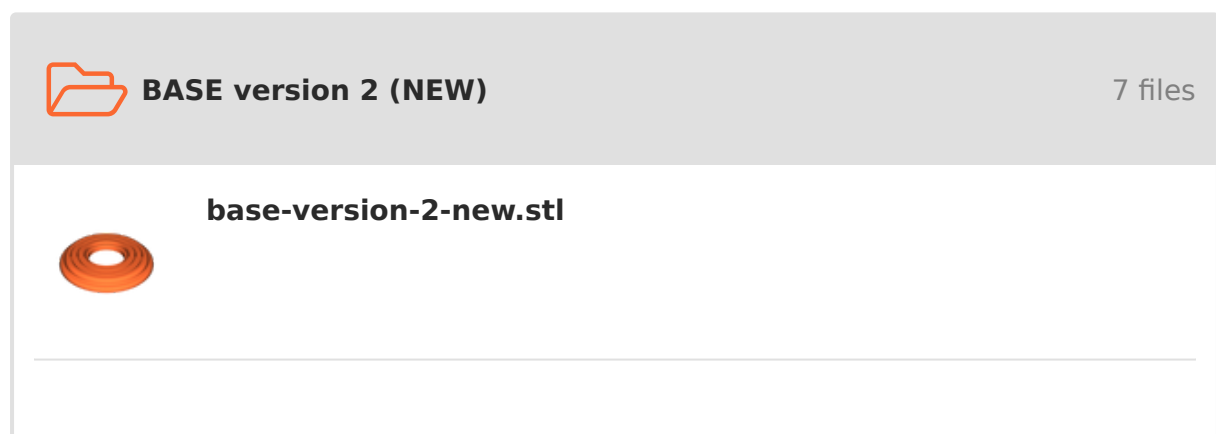
If you're up to it, consider printing one of the rotary displays to show off this Christmas Lantern from all sides.

Happy Printing!



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Model files





clamp-1-left.stl



clamp-1-right.stl



clamp-2-left.stl



clamp-2-right.stl



clamp-3-left.stl



clamp-3-right.stl



BASE version 1 (OLD)

3 files



base.stl

☐ The base



base.3mf

☐ The base, 3MF format



base-with-smaller-holes-if-lantern-is-printed-in-pe... .stl

☐ If Lantern = PETG and Base = PLA then print this Base instead, the holes are smaller



1a.stl

☐ Outer layer, part a



1b.stl

☐ Outer layer, part b



3.stl

☐ Inner layer



2.stl

☐ Middle layer



christmas-lantern-shadow-style.3mf

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