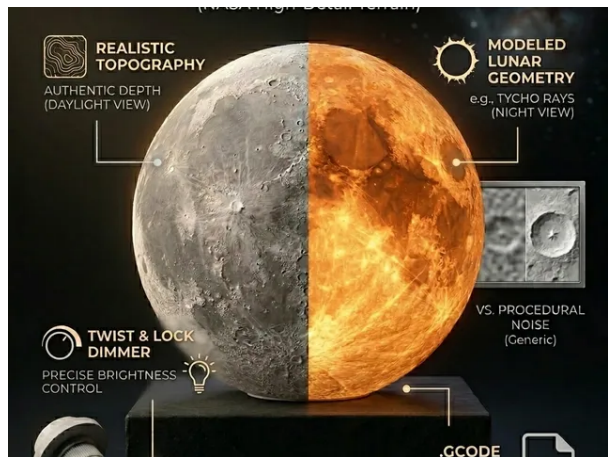




Moon Lamp - The High-Relief NASA Edition (Ultra-Detailed Terrain)



[VIEW IN BROWSER](#)

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Summary

Realistic deeply embossed version of Moon Lamp with detailed craters and ray system reproduced from NASA maps. Ø 200mm.



28.78 hrs



1 pcs



0.20 mm



0.40 mm



PET



371 g



Prusa MK4S

[Household](#) > [Home Decor](#)

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This is NOT a typical moon lamp — You don't just see the Moon — you feel it.

○ Moon Lamp - High-Relief NASA Edition (Ultra-Detailed Terrain - also visible without light) with Mechanical Dimmer

Most 3D printed moon lamps rely on generic textures that only vaguely resemble the lunar surface. Even if they were created using NASA maps, I didn't feel fully satisfied with them.

This model is built from real topographic data captured by NASA, resulting in a physically accurate, high-resolution representation of the Moon.

What makes it different?

- **Modular Brightness Control (Twist & Lock Dimmer /Tinter)**
- True terrain geometry
- Accurate crater depth and structure
- Recognizable large-scale features
- Clearly visible embossments of every structure ● **Visible Even Without Light**
- Ray systems (e.g. Tycho-like structures) are **physically modeled** and highly embossed
- No “concrete-like” texture noise or flat patches
- High Definition Surface

🔍 Random Moon Lamp I've downloaded vs **My Ultra-detailed Moon Lamp** — this model speaks for itself.



Feature	Standard Model	The True One (NASA Data)

Surface Texture	Very fine, uniform, resembling plaster or concrete rather than rocky terrain.	Distinct, varied geological structures with accurate elevation scaling.
Craters	Small, shallow and flat. Lacks characteristic impact features.	Realistically rendered formations (e.g., crater rims, central peaks).
Ray Systems	Practically absent or reduced to subtle color changes in the lithophane.	Physically modeled in 3D, providing depth and realism even without backlighting.
Scientific Accuracy	Artistic project, loosely inspired by the Moon's appearance.	1:1 Topography based on NASA's data.



Included Files:

Main parts:

- **High-resolution STL** (moon.stl) – for any printer
- **Optimized .3mf** (moon.3mf) – with full slicer setup
- **Ready-to-print .gcode**
(moon_0.4n_0.2mm_PETG_MK4S_1d4h47m.bgcode)– tuned for MK4S with PETG

Additional parts:

- adapter_E14.stl (adapter for E14 bulb)
- adapter_E27.stl (adapter for E27 bulb)

- tint_X_Xmm.stl (dimmer / tinter from 0.4mm to 5.2mm wall thickness)
- adapter.step (adapter to your customization in CAD software)
- dimmer_calibration.stl (all dimmers in one calibration file so you can find which thickness is sweet spot for you)

Optimized for Real Printing (not just to look nice on the monitor).
This is not just an STL — it's a fully prepared printing workflow.

Smart Internal Supports

The included .3mf file contains predefined internal supports only where needed:

- Supports only where necessary (top closing layers)
- No wasted filament inside the model
- Clean outer surface
- easy to remove

Recommended: **use the .3mf** or **.gcode** (if you have compatible printer) for best results.

My Print Settings

- Layer height: **0.2 mm** (lower may look nicer, choose the right compromise between details and printing time)
- **Nozzle diameter: 0.4mm**
- Infill: **0%** (for a more consistent presentation of the walls thickness)
- Walls: **4**
- Material: **SUNLU High Speed Matte PETG White** (I think light gray filament would be even more suitable)
- No external supports required (I only recommend supporting the upper part as I did in the 3mf file)
- I've printed and tested this model on **Prusa MK4S**.

Why this model?

I wasn't quite happy with the available **moon lamps** due to their reproduction of **craters** and **ray systems**. I missed their realistic and highly embossed appearance. I felt a spark to create something unique to me so I created my own version from scratch to be able to control every aspect of the model.

Most moon lamps look flat and sometimes boring .

This one actually looks like the Moon 🌕 even without light inside!

If you look hard enough you'll be able to see Neil Armstrong's footprints

Modular Brightness Control (Twist & Lock Dimmer / Tinter)

To achieve the best visual effect, I designed a **mechanical brightness control system** that works without electronics.

It's a cylindrical insert mounted between the bulb and the lampshade using a simple and reliable **twist & lock mechanism**.

How it works

The dimmer acts as a physical light limiter:

- Reduces light intensity by partially blocking and diffusing it
- Creates a softer, more realistic lunar glow
- Eliminates the need for electronic dimmers

Multiple Variants Included

Different bulbs produce very different brightness levels — so I created **multiple dimmer thickness versions**:

- From 0.4mm to 5.2mm wall thickness.

This allows you to **fine-tune brightness to your exact preference**, regardless of bulb power.

Multiple Colors

✂ You can use it to tint the light any color, just print this part with filament in the color of your choice. ✂

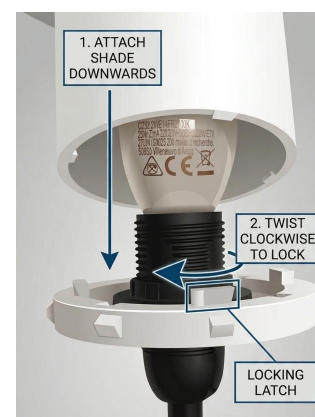
You can even design your own dimmer with different thicknesses to change the lighting of only selected parts, or you can use another form of variable thickness dimmer to achieve the effect you are satisfied with.

Easy Installation

- Mounts between bulb and lamp body
- Secure **twist & lock fit**
- No tools required
- Fully removable and swappable

Why it matters

Most moon lamps fail at one thing: **light control**.

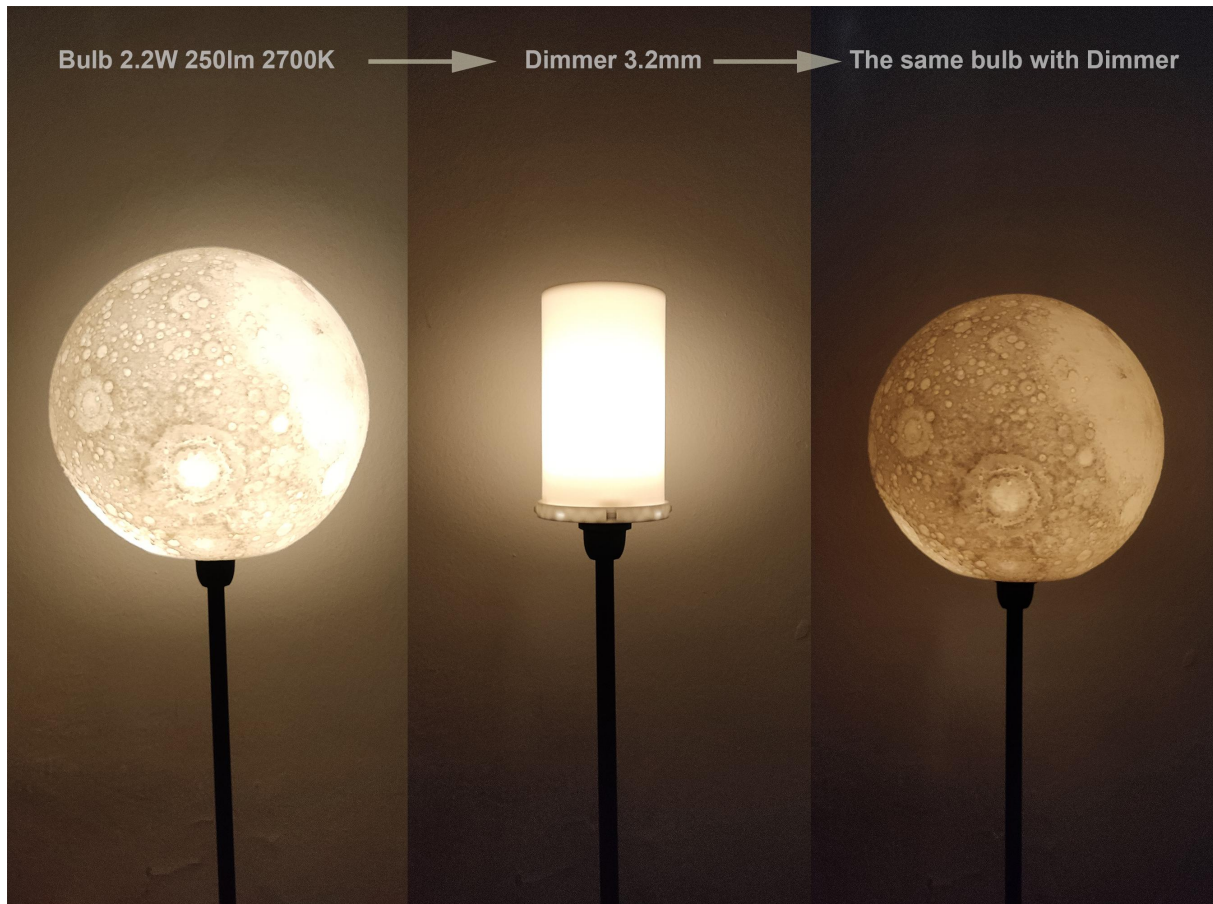


Too bright → surface detail disappears

Too dim → model loses depth

This system lets you hit the perfect balance:

soft glow + visible terrain = best possible effect



⚠ Safety Precautions ⚠

LED Bulbs Only: Use exclusively low-wattage LED bulbs to prevent heat buildup and melting of the plastic.

Heat Resistance: Standard PLA softens at 60C, keep the lamp away from radiators and direct sunlight.

Flame Retardant Materials: For maximum safety, use UL94-V0 rated (self-extinguishing) filaments to minimize fire risk.

Ventilation: Ensure the airflow to dissipate heat from the internal electronics.

Dry Cleaning: Wipe with a dry or slightly damp cloth only; avoid harsh chemicals that could degrade the plastic.

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Free for personal use or gift. Commercial license required to sell physical prints (Contact me for details).

If you print it, **upload a Make** and tell me where the footprint is — I'd love to see your version .

Happy printing

Model files

 **Main** 5 files

 **moon.3mf**

 **moon.stl**

 **adapter_e14.stl**

 **adapter_e27.stl**

 **adapter.step**

 **Tint** 14 files

 **tint_0_4mm.stl**



tint_0_8mm.stl



tint_1_2mm.stl



tint_1_6mm.stl



tint_2_0mm.stl



tint_2_4mm.stl



tint_2_8mm.stl



tint_3_2mm.stl



tint_3_6mm.stl



tint_4_0mm.stl



tint_4_4mm.stl



tint_4_8mm.stl



tint_5_2mm.stl



dimmer_calibration.stl

Print files



moon_04n_02mm_petg_mk4s_1d4h47m.bgcode

PET 0.40 mm 0.20 mm 28.78 hrs 371 g Prusa MK4S

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