Camping Light (foldable) for Flashlight (Update: V2)

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VIEW IN BROWSER

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Summary

[UPDATE V2]: V2 is now out of testing and available to print.

9.30 hrs	5 pcs	0.20 mm	0.40 mm	PLA	126 g	Prusa MK3/S/S+

Sports & Outdoor > Outdoor Sports

Tags: light functional design diy v2 outdoor camping flashlight update multifunctional thrunite tc12 version2

[UPDATE V2]: V2 is now out of testing and available to print. It is much sleeker and quicker to deploy thanks to spring loaded legs. The hanging lantern mode is still preserved via three separate cords attached to each leg and tucked away for tidyness.

This is a camping light I designed for my Thrunite TC12 V2 flashlight. It will fit any flashlight with a diameter at the lens of ca. 25mm and you can adapt the design by using thinner or thicker rubber in the mount.

The purpose of this design is a light for camping tables that is brighter than candles and also sits higher than a candle to provide better illumination. I designed the light to have three folding legs that can be used to either set it on a table or hang it from things like tree branches. The legs fold up and integrate with the body of the light to form a compact package. A string with a sliding knot is used to keep the legs in the desired position and can also be used to hang the light like a lantern. [V1] Spring loaded legs and a less annoying string system was added in V2 as shown in the photos above.

V1 also available on my Thingiverse page as Thing 4217164 https://www.thingiverse.com/thing:4217164

Print instructions

Only the strut and leg parts need support. These should be printed laying on their sides.

Assembly: This print needs: 8 printed parts, 6 M3 bolts with nuts, 3 hinge pins with a diameter of 3mm (or M3 screws alternatively), reflective foil or tape, rubber of some kind, a cord like paracord, an empty jug of milk or canister of destilled water for the walls of the light.

Take the bottom and top lid and cover their inner flat surfaces in a reflective foil or tape. This serves as a reflector to distribute the light from your flashlight.
Use glue to attach the M3 nuts on the inside of the holes in the lid parts (you wont be able to reach these later).
Cut open a translucent white milk jug or canister of some kind to make the diffuser aka. the "glass" of the lantern. Cut as many big pieces as you can from your jug/canister then cut them to size to fit in the slits of the upper and lower lid. Use the strut piece to see how far apart the lids are.
With the plastic sheets inserted into the lids you already have the basic light shape, now screw on the 3 strut prints to connect both lids and hold the light together.
Use 3mm welding rod or M3 screws to attach a leg to each strut. Make sure the hinges work well.

Almost done!

For V1: Just take a cord, pull it through the hole on each leg and make a loop big enough to let the legs fold 180 degrees from top to bottom.

For V2: Take some elastic cord (like a bungee cord) and make a tight loop through the three middle holes of the three legs, the knot should be tight enough so the loop keeps the 3 legs shut in the folded position but not too tight so the legs can still be folded down and open relatively easily.

Done.

Model files

tc12_v2_lamp.dwg

legv22.stl

strut.stl

lid_bottom.stl

lid_top.stl

tc12_v2_lamp.dwg

leg.stl

legv22.3mf

Print files

legv22p_02mm_pla_1h56m.gcode

PLA | 0.40 mm | 0.20 mm | 1.94 hrs | 17 g | Prusa MK3/S/S+

strut_02mm_pla_56m.gcode

PLA | 0.40 mm | 0.20 mm | 0.93 hrs | 7 g | Prusa MK3/S/S+

lid_top_02mm_pla_2h25m.gcode

PLA | 0.40 mm | 0.20 mm | 2.41 hrs | 43 g | Prusa MK3/S/S+

lid_bottom_02mm_pla_2h39m.gcode

PLA | 0.40 mm | 0.20 mm | 2.65 hrs | 46 g | Prusa MK3/S/S+

leg_02mm_pla_1h22m.gcode

PLA | 0.40 mm | 0.20 mm | 1.37 hrs | 13 g | Prusa MK3/S/S+

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