RULE THE NITE™

# BOOGEY LIGHTS®

Family Owned Motorsports Lighting Since 1989!

# INSTALLATION GUIDE

## Serving Window LED Light Kit

IMPORTANT! No two installation scenarios are the same. Accent lighting is highly subjective. Not everyone shares the same lighting or installation quality goals. Some folks are OK with twisting wires together, others want to solder and heat shrink them. Some folks are OK with running wires where they may be seen or unprotected to save money/time, others want a tidy, clean install so they wrap plastic split-loom around all exposed cables. Some folks are OK with mounting their LED strips to whatever surface they can find, others want to take the time necessary to build out appropriate mounting surfaces to provide the best lighting effect on their vehicle and maximize the longevity of their lighting system. The point is it's not possible to provide all the materials necessary for all installation scenarios on all types of vehicles to meet everyone's quality goals. Our light kits provide the essential components needed for a high-quality, functioning lighting system. Installation of our light kit to your specific vehicle will however likely require additional items to make it look, fit and work the way you want. This is particularly the case with electrical wiring, switching functionality and mounting surfaces for the LED strips. We have created a list of additional items you may need. Here's the link: **https://www.boogeylights.com/other-items-you-might-need/** . While we offer them for sale you can also find these items locally. We urge you to review this information before starting your install.

**BENCH TEST YOUR LIGHTING COMPONENTS FIRST!**

We know this takes a few extra minutes, but we STRONGLY suggest you bench test your lights AND your controller / switches on a table before doing anything further. Test all of them. While we test every light strip and controller before shipping, bench testing your lights will eliminate the possibility of any problems with the lights or controller before mounting. It also lets you know everything is working properly. Also, the process of bench testing gives you an opportunity to understand the wiring system without interference from other wires, connectors and cables. You can use any 12vdc battery to do this (e.g. car battery, motorcycle battery, lawn tractor battery or 12vdc power supply). If you're not sure how to bench test, download this pdf: https://docs.boogeylights.net/?wpdmdl=1305 . Bench testing takes an extra 10 or 15 minutes. It's simple to do and can potentially save you hours of time and frustration down the road.

Did we mention the importance of bench testing every LED strip and controller first?

**THIS IS A GUIDE. NOT HOW-TO.** It's simply not possible to provide detailed instructions for all installation scenarios. Far too many variables. The information in this manual is intended to be used as a guide. It is not a detailed step-by-step how-to installation manual. We do not spell out every single step along the way. We cover the essential steps related to installing this kit. Beyond that we assume the installer has the skills, knowledge and tools necessary to do the work using the information we provide here as a guide. You may need to vary your installation and/or make adjustments based on your vehicle. If you're unsure about how to do the installation – particularly the electrical components – we urge you to seek assistance from someone who has those skills.

**YOU MUST HAVE AN UNDERSTANDING OF 12V POWER**. An essential skill with installation of any Boogey Lights LED product is knowing how to correctly wire the product to a 12vdc circuit. This includes understanding the importance of having a properly sized fuse at the power source, polarity, how to properly seal an electrical connection, using properly sized wire gauge for the load, measuring voltage and measuring the additional amperage draw you're adding. If you are uncertain or unfamiliar with any of these concepts, we urge you to ask someone who has the knowledge to assist you. Electricity is unforgiving.

**MOUNTING ALUMINUM CHANNELS.** If you purchased the optional aluminum channels with diffusers, be sure to read the Aluminum Channel Mounting instructions included with this kit. **This is important if you want your LEDs to last.** You can download that document here as well:
https://docs.boogeylights.net/?wpdmdl=1351

We recommend riveting the aluminum channels to the trailer instead of screwing. The reason is the rivets will provide a smooth surface for the LED strip to lay on top of. Depending upon your trailer's build structure, you can usually use a 1/2" or 5/8" long rivet (1/4" diameter). We recommend a large flange pop rivet for extra holding power. If you're going to use screws, make sure you're using either flat heads or round heads. Do not use hex or pan head screws. The reason is the sharp edges of the hex/pan head screws can work their way through the bottom of the LED strip and into the PCB which will cause the LED strip to short out. More about this issue is in the Aluminum Channel mounting instructions referenced above. Did we mention the importance of reading this document before installing it?

NOTE: If using the Aluminum Channel with RGBW, RGBW65 or RGBA (aka 'RGBx)', you need to be especially careful during the installation of the LED strip to the channel. Why? The width of the channel is just 1mm wider than the width of the RGBx LED strips. Using too much force to push the LED strip into the channel (and snapping the plastic diffuser on top) can damage the LED strip which is not covered under warranty.

**CUTTING YOUR LEDS**- This product is based on our LOW-PROFILE LED light strips.  If you need to cut your LED strip you can do so as long as you cut in the proper location – which is every three LEDs as shown in the below photo.  Cutting incorrectly could damage your lights and is not covered by the warranty.  If you cut the strip, be sure to use shrink tubing or Lexel to seal the cut end. You can also use silicone found at your local hardware or RV store.  If you do need to cut your LED strip, we strongly suggest doing so BEFORE you mount the strip.

**HI-INTENSITY SURFACE MOUNTED LED STRIPS**

3 LEDS          3 LEDS

**CUT LOCATION**

The LED strip can be cut one time on the copper solder pad where indicated; between the cluster of 3 LEDs.  Important to cut in the center of the copper pads. Once cut, the end must be sealed using silicon,  liquid electrical tape or even heat shrink to stop water intrusion from damaging the strip.

**MOUNTING THE LED STRIP**

*Follow these steps for mounting your LED strips:*

- The area where you are mounting the LEDs has to be clean: free of all dirt, oil or anything that might affect the LED from sticking. You only get one opportunity to mount the LEDs so it's critical the area be prepared properly.

- Use rubbing alcohol to clean the area where you are going to mount the LED strip. Be sure to let the alcohol dry completely before proceeding to the next step. (Note: Do not use acetone or similar cleaner).

- Next, use the 3M Adhesion Promoter supplied with your kit to "paint" on the promoter where you are going to mount the LED strip.  ***This is an important step. Do not bypass.*** Allow the promoter to dry for 60-90 seconds.

Do NOT bend the LED strip in a radius of less than 2 inches.

Do NOT bend the LED strip on a horizontal plane.

- Peel off the red backing tape that protects the 3M adhesive tape on your LED strip. Be careful not to let the tape touch anything. The 3M backing tape on these LED strips are one-use only. They cannot be reused.

Carefully push the LED strip to the area you have prepared. You will want to apply only enough pressure to the strip to make sure it is firmly mounted.   *You only get one opportunity to do this.* Once the LED strip touches a properly prepared surface that has been promoted, that LED strip will be very difficult to remove. Moreover, if you do remove the LED strip, the strip cannot be used again without adding another layer of 3M adhesive tape to the back.

DO NOT press too hard as too much pressure can damage the LEDs and connecting wires in the strip. Also, do not pull, stretch or twist the LED strip.  Too much tension on the strip will also damage the LEDs such that some of the LEDs in the strip will not illuminate.  The strip must be mounted flat against a single continuous mounting surface, in a straight line.  Really important that the ENTIRE STRIP be stuck to the mounting surface and that you NOT attempt to span across multiple mounting surfaces.

**MOUNTING ALUMINUM CHANNELS**

If you purchased the optional aluminum channels with diffusers, be sure to read the Aluminum Channel Mounting instructions included with this kit.  **This is important if you want your LEDs to last a long time.** You can download that document here as well:  https://docs.boogeylights.net/?wpdmdl=1351

**LED PLACEMENT**

For serving window applications there are generally two places' people will mount these lights.  The most common is in the window jamb itself (or close to it) with the LED strips shining inwards toward the serving counter. To do this however, there must be enough room to mount the LED strip such that when the window is closed, it can't damage the LED strip. In some cases, you can fit the aluminum channel into this space and others, you can't.   The second location is outside of the window mounted to the side of the trailer facing outward.  In this case the LED strips are usually mounted inside of the aluminum channel with the plastic diffuser snapped in over top.  Of course, if you're now at the installation stage of the process, you would have already made the decision as to where you're mounting your serving window LEDs when you placed the order.    Regardless of where you're mounting the LED strips, the installation process is the same.
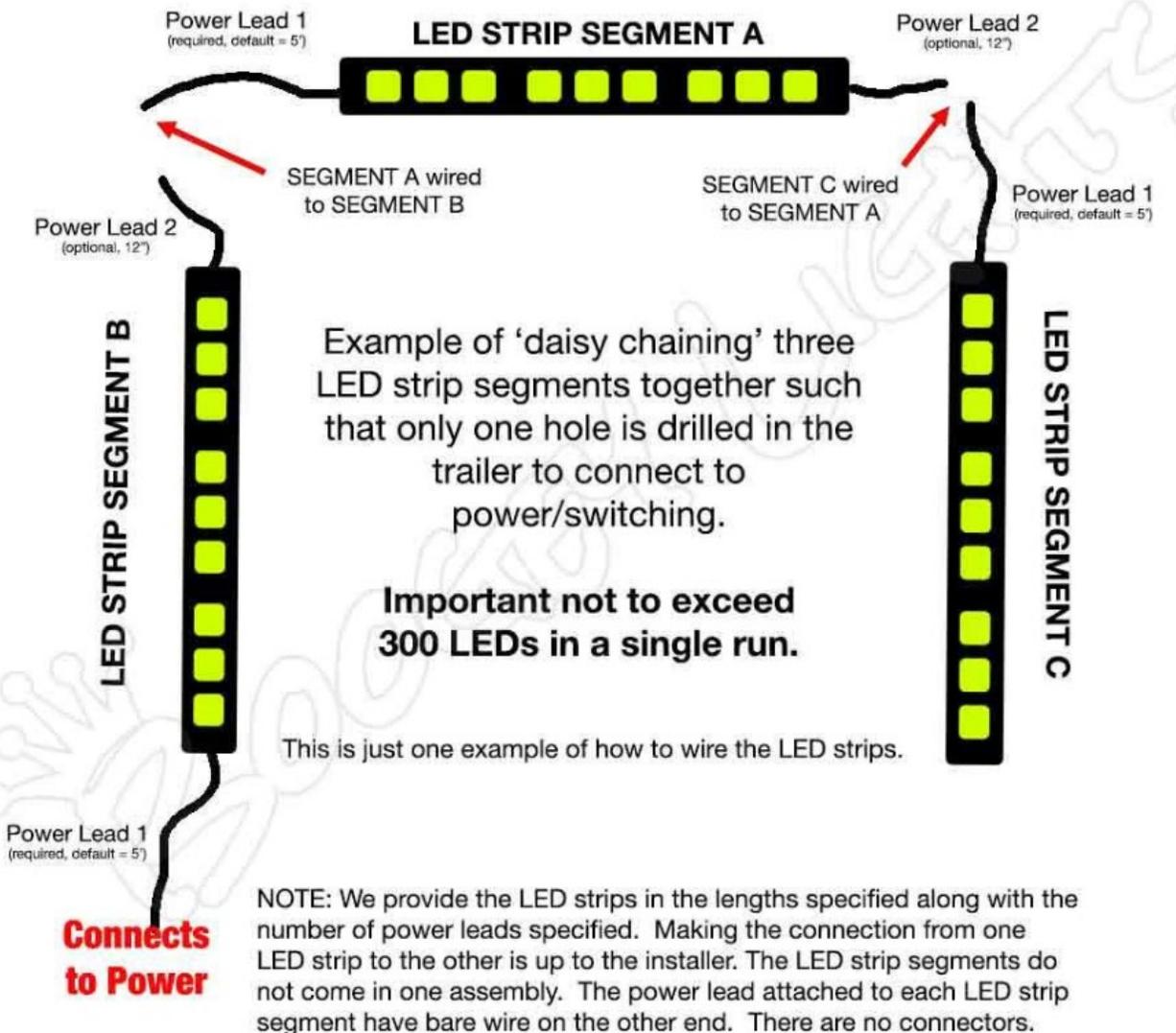


**It's important that the mounting surface be smooth, clean and have one continuous flat surface.  Do not attempt to span gaps with the LED strip.**
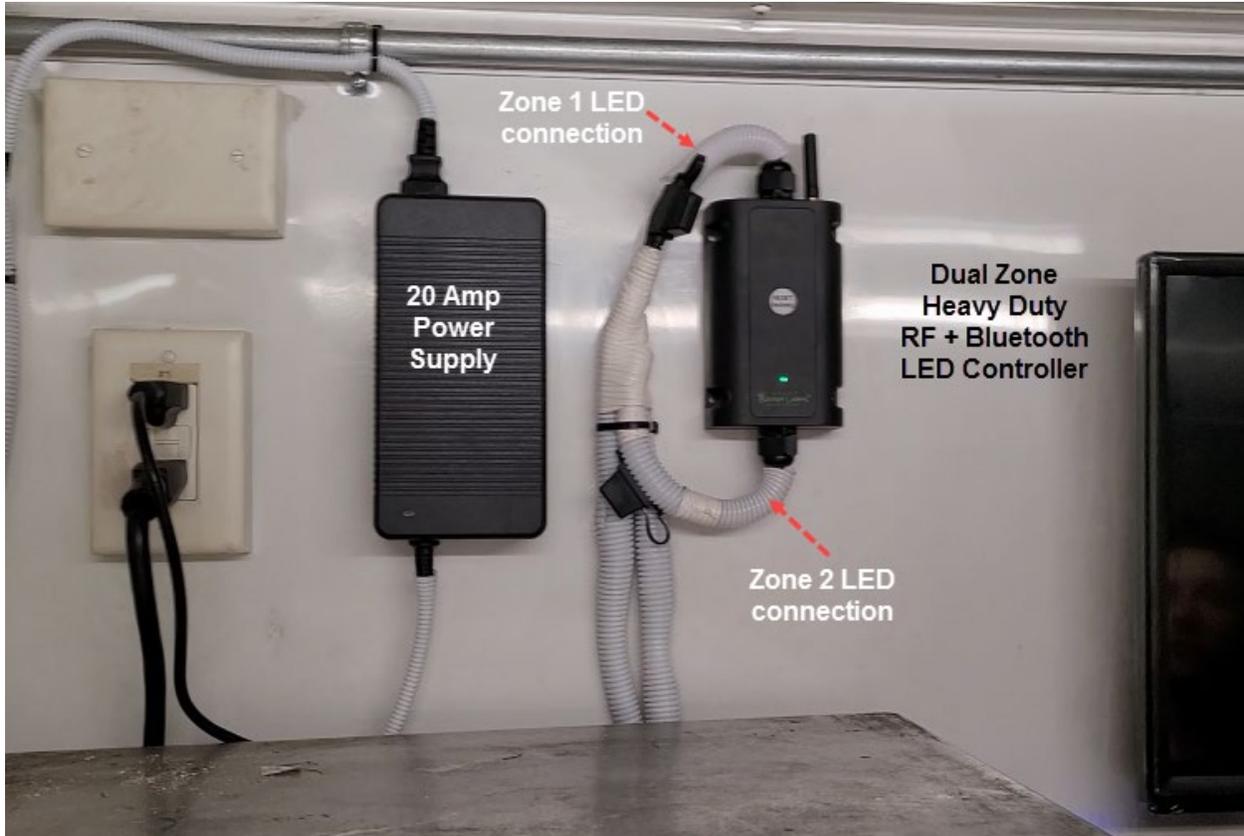
If you ordered your LED strips with two power leads on them such that only one hole is drilled in the trailer, below is an example of the wiring diagram.  If you ordered your LED strips with just one power lead on each end, you'll need to drill at least 2 holes.   How you connect the LED strips to each other is up to you.  We typically will use butt connectors and then add heat shrink over the connection.  Some people prefer to solder.  How you make these connections is up to the installer.

# TYPICAL 3 SEGMENT WIRING DIAGRAM EXAMPLE
## NOT TO SCALE. FOR ILLUSTRATION ONLY.

Power Lead 1
(required, default = 5')

**LED STRIP SEGMENT A**

Power Lead 2
(optional, 12")

SEGMENT A wired
to SEGMENT B

SEGMENT C wired
to SEGMENT A

Power Lead 1
(required, default = 5')

Power Lead 2
(optional, 12")

**LED STRIP SEGMENT B**

**LED STRIP SEGMENT C**

Example of 'daisy chaining' three LED strip segments together such that only one hole is drilled in the trailer to connect to power/switching.

**Important not to exceed 300 LEDs in a single run.**

This is just one example of how to wire the LED strips.

Power Lead 1
(required, default = 5')

**Connects to Power**

NOTE: We provide the LED strips in the lengths specified along with the number of power leads specified.  Making the connection from one LED strip to the other is up to the installer. The LED strip segments do not come in one assembly.  The power lead attached to each LED strip segment have bare wire on the other end.  There are no connectors.

Many food trailers have their own on-board generator to power the appliances.  We like to use a 120vac to 12vdc power converter to power the lights.  Here's a view of how we mounted our DUAL ZONE LED controller inside the food trailer.  Why dual zone?  This installation had two serving window light kits PLUS a roof perimeter light kit. Zone 1 = serving windows.  Zone 2 = roof perimeter.   If we only had one light kit (e.g. serving window), we would use a single zone controller.   Regardless of your configuration, we recommend locating the controller and power supply somewhere you can get to it like shown in this photo.   Note the location of the two 12vdc blade fuses (one for each lighting zone). They need to be accessible as well.



Remember to seal all holes you drill in the trailer.  We prefer to use LEXEL for this.  Before closing/wrapping all electrical connections we strongly suggest testing the lighting system.  Nothing is more frustrating that closing all connections and making it look nice only to find out moments later something isn't working correctly.   Don't ask us how we know.

**Additional Resources**

- Product Page: https://www.boogeylights.com/serving-window-led-light-kit/

- Mounting Aluminum Channels + Diffusers: https://docs.boogeylights.net/?wpdmdl=1351

- How to Videos: https://www.boogeylights.com/how-to-videos/

- Troubleshooting: https://www.boogeylights.com/trouble-shooting-guide/

- Installation Resources: https://www.boogeylights.com/installation-resources/

- How to Bench Test: https://docs.boogeylights.net/?wpdmdl=1305

- Amperage Data: https://docs.boogeylights.net/?wpdmdl=1137

- Quick Search: https://www.boogeylights.com/quick-find/

- GEN2 LED Controller Wiring Diagrams + Operating Info: https://docs.boogeylights.net/?wpdmdl=1163

- GEN2 RF Wireless Remote Operating Info: https://docs.boogeylights.net/?wpdmdl=1164

- GEN2 Bluetooth APP Operating Info: https://docs.boogeylights.net/?wpdmdl=1169

- GEN2 Bluetooth APP Quick-Start: https://docs.boogeylights.net/?wpdmdl=1167


**Support**

- Phone: 800.847.1359 (M-F, 9-6 Eastern)

- Text: 859.955.8155

- Open a Support Ticket: https://www.boogeylights.com/email-us/

- Online: 24/7 resources at https://www.boogeylights.com/installation-resources/

- How to Make a Warranty Claim: https://www.boogeylights.com/make-a-warranty-claim/


**Warranty**

The Boogey Lights® warranty requires an original sales receipt from Boogey Lights or an authorized dealer. It covers product replacement only, not labor or other costs. Full details: https://www.boogeylights.com/warranty/.