

# How We Made a 23-Foot Lighted Candy Cane

By Cousin Eddie and the Clarkster

[www.federalhillholiday.com](http://www.federalhillholiday.com)



## Introduction

One chilly day in January, we sketched out an idea for next year's lights. We needed something to go with the existing 20+ foot inflatable Santa and what better than some equally tall candy canes? What follows is a description of our journey in the hope that it will help you on your journey toward Griswoldian-inspired holiday lighting.

We tried to capture the process but (in the classic Cousin Eddie and Clarkster spirit) there are likely some details we glossed over, so use this document at your own risk and take into account your own unique building circumstances. That said, we had a lot of fun so dig in, stay safe, and enjoy. We even built two candy canes as you can see from the pictures.

## Materials

- PVC Pipe – Three 10-feet by 4-inch cellular (aka foam) core PVC pipes. It is very important to get the cellular core PVC and not the normal solid PVC. The cellular core pipe has hard outer and inner surfaces but between them is a foam-like substance, which makes it possible to bend once the PVC has been partially cut. It is also lighter than regular PVC pipe, which helps a bit. Three lengths of pipe will make  $10+10+3$  (curved radius) feet = 23 feet in height!
- PVC Connectors, etc. – Two couplers to put together the three lengths of pipe, plus one curved end-cap (for the curved end) and one straight end-cap (for the end on the ground). You will also need PVC glue but don't glue *everything* together unless you want to store a full 23 foot candy cane for 11 months – more on this later.
- Hardware – Metal pipe ties, screws, ratchet ties, (wire) rope, turnbuckles, etc. – see the pictures for details.
- Outdoor Rope Lights – 18-foot lengths are perfect and will complement each 10-foot PVC pipe length. Three red lengths and six white/clear lengths.
- Red Duct Tape and Clear Plastic Strap Ties



## Tools and Sundries

Nothing too surprising here: a mitre saw, drill, screwdriver, rope, screws, glue, etc.

## Building

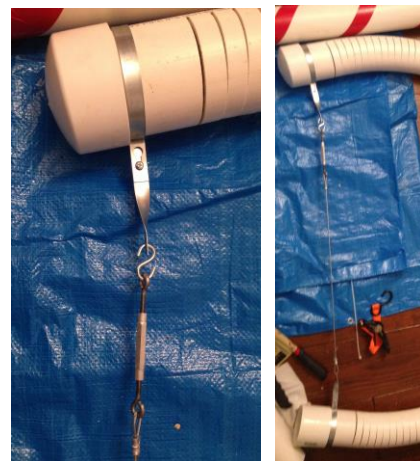
1. Making the Curve – This first step is probably the most intensive. The bend in the top of the candy cane is achieved by “kerfing” one of the 10-foot sections of cellular core PVC pipe. “Kerfing” is just fancy talk for making a lot of cuts most of the way through (but not all the way through) the pipe.

We used a 10” mitre saw to make about 100 cuts, spaced one inch apart, each about  $\frac{3}{4}$  of the way through the pipe while it was straight. This left about 8-9 inches uncut on each end of the 10-foot pipe. Be sure to keep all the cuts aligned. We used a long board to draw a straight line down the length of the entire pipe to mark the start of each cut. Making 100+ exact cuts is quite tedious but well worth it because . . .

The cellular core PVC pipe will actually bend nicely after all these cuts – without any of the heating needed to bend normal PVC pipe. A big time savings in the end and no smelly, burning PVC!



2. Bending – After kerfing, the next step is to actually bend and secure the curve. As seen in the picture above, the initial bending uses a ratchet strap – running the strap through the entire pipe and then connecting the strap through the last cuts at each end of the pipe. This held the pipe in position while we glued the PVC end-cap and one of the PVC couplings. The 4” metal pipe straps then can rest against the glued items and it’s all secured with wire rope and turnbuckles. Here’s a close-up and the whole curve.



It’s entirely possible to connect everything with normal rope but be sure to secure it well and make sure the rope is strong and also darker so it disappears at night. We used all metal components since we had a lot of wire rope on hand and wanted to be doubly sure that it would all stay together.

Once you have the (wire) rope keeping the bend together, you can remove the ratchet strap of course, as you can see from the previous pictures.

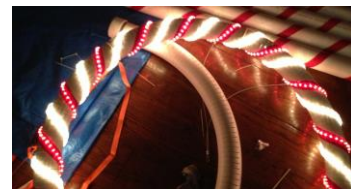
3. Joining (Almost) the Sections – Now's the time to lay out the complete candy cane and decide which parts to glue permanently and which parts will be removable. We chose to only glue the bottoms of the top and middle sections and leave the other part of the couplings unglued. You will secure the unglued parts later. Once you've rough-fit everything together, mark them and then separate the pipes so they are easier to handle.

4. Spiraling – The next step is to make the red duct tape spirals and put on the rope lights. Each of the three sections will use two white rope lights and one red rope light. For the straight sections, we spiraled one of the red rope lights around the 10-foot pipe, adjusting the spiral until the rope light ends were aligned\* with the ends of the pipe. Then we marked the pipe with a marker, took off the rope lights, and then spiraled on the red duct tape to match the marks. This is a two-person job: one to spin the pipe and the other to put on the duct tape. Here's a picture of the duct tape on the pipe. We used the first pipe we completed as a template for the other straight one.



Once the duct tape is on you can put back on the red rope light and then the two white rope lights (paired together). Secure them all with clear strap ties as you wrap them, about every foot or so. Once upright, the rope lights will want to sag over time so it's important to secure them well to the PVC pipe. The rope lights have different connectors on each end so make sure you keep them going the same way on each of the three pipes.

The curved pipe is much the same – wrap the red rope light so it is aligned\* with the other sections, mark, remove the red rope light, apply red duct tape, and then secure the rope lights. Here's how the curved PVC looks lit up.



\* **Important:** Leave a little slack here and there, especially at the ends, since the PVC pipe and all three rope lights on each will have to be connected to the rope lights on another PVC pipe. Rope lights don't stretch – too short is a big problem! (We also know it goes without saying, but make sure the plugs that go into the electrical outlets are on the bottom of the PVC pipe that will be on the ground. We debated whether we should even write this paragraph, but Cousin Eddie and the Clarkster always appreciate help and advice whenever given, so we hope you take it in that spirit. Yes, you guessed correctly, we had a close call on this point...)



## Putting it all Together On-Site

5. Protecting the Rope Light Connection Points – One of the most important things we've learned is to protect the rope light connections. The connections rely on some precisely tailored plastic screw threads to come together, so be careful not to get them filled with dirt or scrape them on hard surfaces. Otherwise, connecting the pipes or the rope lights will be a real struggle.
6. Final Assembly – Once all of your PVC pieces are pushed together and the rope lights have been joined together, it's time to secure the unglued parts of the candy cane. We drilled a few holes through the unglued parts of the connectors and the pipes and then used some slightly-larger screws through the holes to hold it all together. Make sure to use enough screws (three or more) to make the joint strong so that it won't buckle when you raise it. This will allow you to raise the candy cane as one piece but then also take it back apart at the end of the season.

Once together, it's worth testing all of the lights on the ground, as in the photo to the right. Also, you will want to drill some holes (see photos below) in the end of the curved cap and in the base. If water gets into the candy cane, it needs an easy way out.



## Time to Raise the Candy Cane

7. It goes without saying: safety is always first! We used a variety of ropes and a number of people on the ground to raise the candy cane. We then secured it at a number of points along its length, including the base and three strong wires on the top. While the cellular core PVC is not as heavy as normal PVC, three 10-foot sections and nine rope lights get heavy. The candy cane will have to stay safe and secure through heavy winds, freezing rain, snow, hail, etc., so secure very well!

## Helpful Hints and Thoughts

- Plan ahead and take advantage of the post-Christmas sales, where sometime you can find 75% off deals – four times as much for the same price. You can even fill one shopping cart, as we did (or maybe two, or three).



We're often asked how much each 23-foot lighted candy cane cost, which is a very reasonable question. Although its hard to tell the real value of a Griswoldian-inspired lighting display (how can one really compute cost-benefit of a 23-foot lighted candy cane display?), each candy cane can cost anywhere from \$130 to \$200, depending on how much sales help. The PVC and the rope lights are by far the most expensive parts, especially if you have rope and other items already.

- It's entirely reasonable to make the curved part of the candy cane with a collection of angled PVC connectors, but it just doesn't look the same as a real continuous curve. There are also many helpful websites in case you want to actually heat and seal your candy cane curves.



## In Closing

We hope that this description of our journey helps you on your way to Griswoldian holiday lighting. More importantly, we hope it helps you build community spirit and foster friendships between neighbors. Many a cheerful conversation has started with "so where did you *get* those candy canes?!..."

***Happy Holidays!***