These steps can be used in Lightroom, Lightroom Classic or Adobe Camera Raw to process either Milky Way images or, by omitting the Masking steps at the end, Night Sky (star) images.

The first step in the process is to remove any color casts. These color casts could be from nearby street lights or distant city lights.

1. Push the Vibrance and Saturation sliders all the way to the right (100%). This will exaggerate any existing color cast.
2. Using the Temp and Tint sliders tune out as much color cast as you can. At this stage it's not likely that you can get a completely neutral looking image, that's the next step, just remove as much as you can.
3. Return the Vibrance and Saturation sliders to their "zero" positions. This can be done quickly by double clicking the slider name. You should now have a relatively neutral image with little to no color cast.

The next steps will bring out the stars and improve contrast. The numbers I recommend here are only suggestions. Please feel free to alter them as you see fit.

4. Increase Highlights +20-30. Less if there is a lot of light pollution or haze.
5. Decrease Blacks -20-30. Less if you are trying to maintain detail in the foreground.
6. Increase Texture +20-25.
7. Increase Clarity +20-25. Don't overdo Texture and Clarity to the point where you are exaggerating noise.
8. Increase Dehaze +10-15. Go carefully here. Dehaze can drastically improve or totally destroy an image!
9. Increase Vibrance first then Saturation to bring some color back in to the image. No recommendation here. This is to your taste.
10. Adjust the Contrast slider +15-20. Note that Night Sky photography is just about the only time I use the Contrast slider. I usually prefer to use Highlights, Shadows, Whites, and Blacks to adjust contrast.
11. Finally, adjust the Exposure slider *only* if it necessary to improve the image.
12. Sharpen the image. If you are shooting RAW your image will need to be sharpened. You can use your favorite method for Sharpening. If you don't have one try this;
    a. Zoom in on your image to 100%
    b. Increase Detail to 100%. This tells Lightroom how aggressively to look for edges to sharpen.
    c. Increase the Amount slide to get the level of detail you wish. There is a fine line between increasing detail and exaggerating noise so don't overdo it. We'll deal with noise later.
    d. Pull the Detail slider down until halos and artifacts just disappear.

The image has probably gotten a bit noisy by now. Let's remove it. Lightroom's new AI Denoise works great for images of this type and can be found under the Detail Panel. If you are working on a Milky Way image skip down to Masking before you Denoise.

13. Click on the Denoise button. Lightroom Classic will create a new image in the DNG format with the Denoise applied. If you prefer the traditional Denoise sliders can be used instead. Typically I find that I only have to adjust the Luminance slider. Set it to your preference just be sure you don't set it so high that it starts to remove stars.

If you are processing a Milky Way image then applying a mask or masks can bring out more color and detail in the Milky Way.

14. Click on Masking.
15. Select Brush. Let the size of the dark part of the Milky Way core dictate the size of your brush. I like to set Feather to 100 then put the brush in the Core and adjust the size so that the edge of the brush is just barely touching the edges of the darkest part of the Core. I also find it helpful to set Flow to 60-75 so that I can build up the correction as I need it.
16. Paint a mask right through the dark part of the core. In the Northern Hemisphere that is typically from upper left to lower right. It is not a straight line. You can go back and pick up areas that you missed.
17. Increase the exposure slider slightly to bring some definition to the Core. +10-20 is usually plenty.

To bring out some color in the brighter parts of the core you can mask those areas too.

18. If you have done the above step you may wish to increase your brush size slightly.
19. Click on Create New Mask. Select Brush.
20. Paint a mask onto the brighter pars surrounding the Core.
21. Do any of the following to your taste. Increase Highlights, decrease Blacks, increase Saturation, increase Texture and Clarity.