



# Rainbow Light Painting

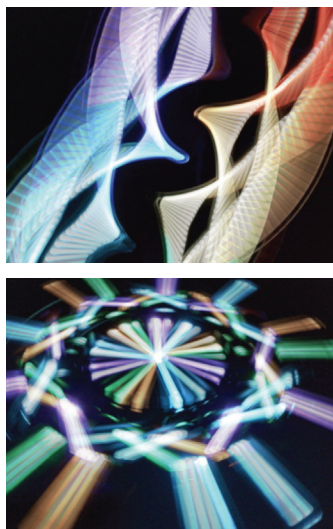
Combine programming, painting and photography as you use the Create 3 robot to make an RGB rainbow

## The Main Idea

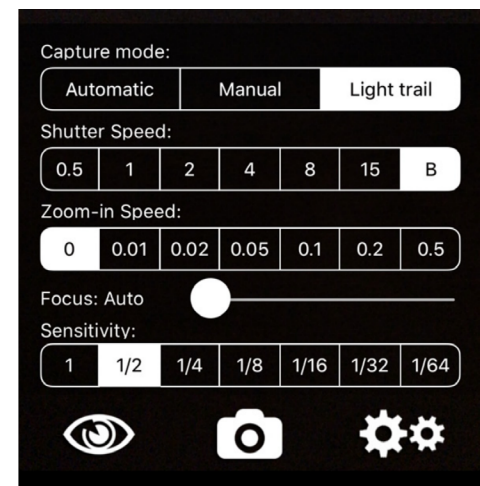


In long-exposure photography, the camera's lens stays open for a prolonged period of time, capturing any light sources in its view and blending their positions together into one image. In this way, programmers can create beautiful light paintings by setting the robot's lights to different colors and driving the robot to different positions in the camera's view.

1. Use the command `await robot.set_lights_rgb(0, 0, 255)` to set your robot's Light Ring to blue. The command's three parameters set the LED's red, green, and blue values. You can explore different light colors by toggling the numbers randomly or using our RGB Cheat Sheet.
2. Use the commands `await robot.arc(Robot.DIR_LEFT, 90, 4)` and `await robot.arc(Robot.DIR_RIGHT, 90, 4)` to drive your robot 90 degrees (counter-clockwise and clockwise, respectively) along a circle of 4cm radius. Experiment with creating different arcs by changing the number of degrees traveled and the circle's radius size.
3. Create your program that will "paint" with light. Consider your robot's Light Ring to be the paintbrush; use the `set_lights_rgb` command to change "paint" colors. Use move, turn and arc commands to move the paintbrush across your photo.
4. Download Slow Shutter Cam app onto a smart phone, and follow the instructions on the right to prepare for a light trail photo.
5. Place your robot in a dark room (the less light, the better), prop your camera up (a tripod is ideal), open your camera's shutter and press play on your program. You should be able to watch on your phone's screen as your robot's light trails are recorded as brush strokes! When your photo is complete, close the camera shutter.



Download the app Slow Shutter Cam. Tap the "eye" icon to customize the camera's settings for light trail photography. We recommend the below settings, which will open the camera's shutter indefinitely until you end the photo.



## Going Further

Can you use arcs to render a light painting of a ROYGBIV rainbow?