

# Team First Spring 2018

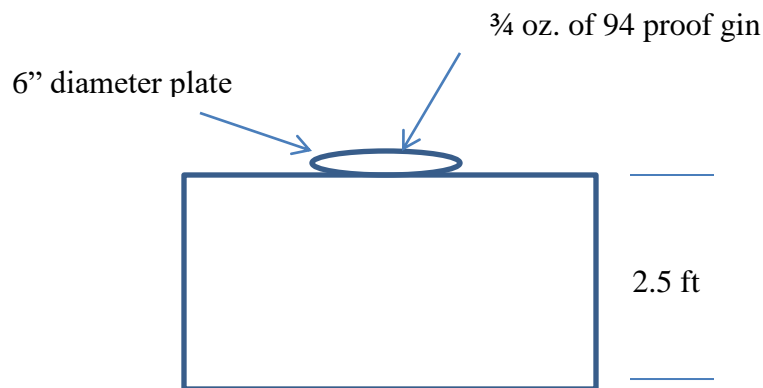
MCEN 4151

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3/4/18

In creating my image I wanted to find out what the absolute boundaries of my camera are. Specifically, I wanted to find out what the low-light capabilities of my camera are. I shoot on a Nikon D80, which has a maximum ISO of only 1600. This ISO level turned out to be very limiting in an outdoor, nighttime situation with very little light. I learned I either need to use a different camera for low light photography, or photograph subjects that do not move.

The basic flow apparatus is shown below:



An upside down laundry basket was placed on the ground and used a spacer to get the plate off of the ground. A plastic laundry basket was chosen due to its height and ability to not catch on fire. A ceramic plate was placed on top of the laundry basket, which was chosen because of its heat resistance. Next, 3/4 ounces of 94 proof gin was poured onto the plate. The gin was chosen because it was the fluid with the highest alcohol content I had. Even at 47% alcohol by volume, it was difficult to light the gin on fire. I used a lit candle to start the flame but had to hover the candle above the gin for several seconds before it was hot enough to catch fire. Due to heat concentrating in the center of the plate, the flames were highest in the center. During the flames near 20 second duration, the flames grew higher as time went on. I believe this was due to the heating of the fluid.

The materials used in the setup are described in the paragraph above. The photo was taken outdoors at night away from any street lights, with the goal being to provide a flame resistant area away from any light pollution. No external lights or flash were used in the creation of this photo.

The idea behind the photo was to capture the blue flames from the pool of gin as crisply as possible. Because of this, I wanted little motion blur and a medium depth of field. The camera used is a digital Nikon D80 on a tripod approximately 2' from the subject. The original image was shot in a NEF format and was 3872 x 2592 pixels, the final image was converted to PNG at the same size. The exposure was 1/2s at f/6.3 with an ISO of 1600. The focal length was 105 mm. This lead to a field of view of 5.41" x 3.57". The image was manipulated in Adobe Photoshop using Camera Raw. The contrast was increased to make the distinction between the flames and its shadows more distinct. The original image is shown below:



I don't particularly like my image aesthetically or in the way it describes the fluid flow. However, I do like knowing what the limits of my camera are. Next time I would like to use a camera that has better low light performance if I am going to photograph flames again.