An Introduction to Black Light Photography

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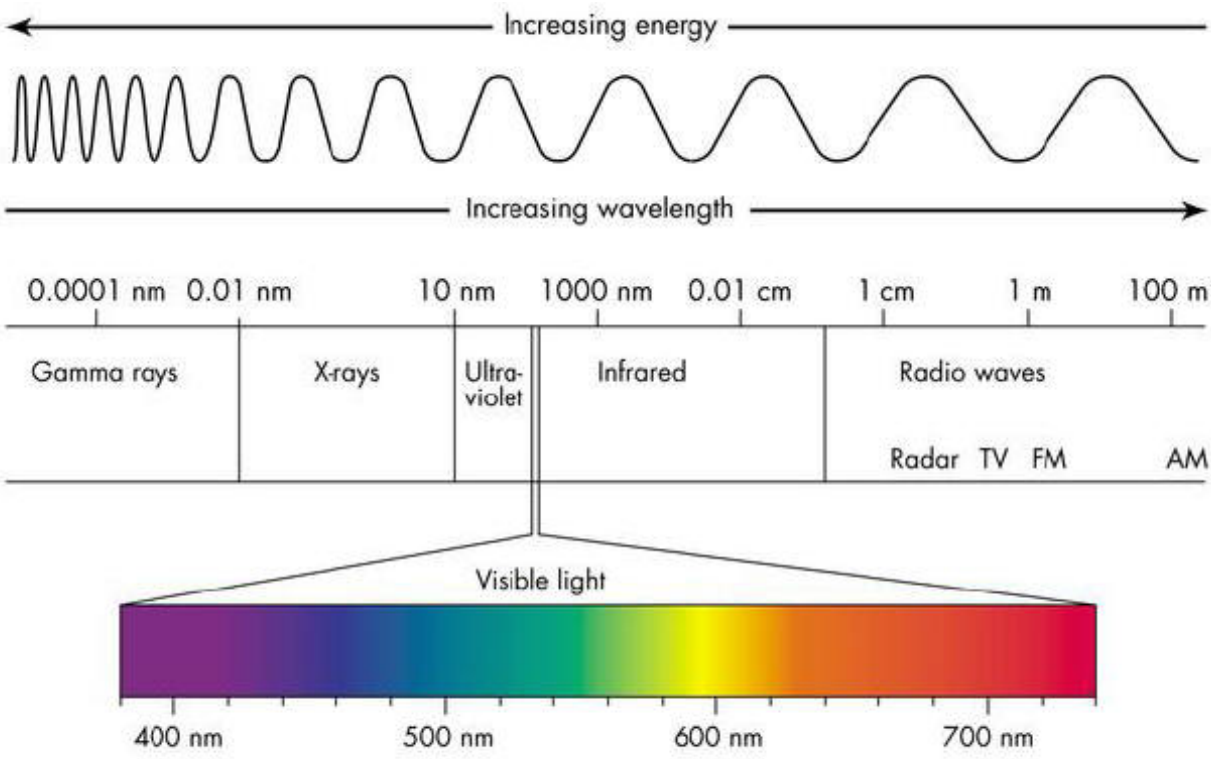
What is Light?

"Light is the propagation of energy in the form of electric and magnetic waves and is therefore also known as electromagnetic radiation. The electromagnetic spectrum is the entire range of possible kinds of electromagnetic radiation, which are classified by the frequency of the wave. The spectrum ranges from gamma rays, which have a very short wavelength and very high energy, to radio waves, which have a very long wavelength and very low energy. Visible light makes up a very small portion of the spectrum."



- worldpress.com

What is Black Light?

"A Black light or UV Light is a lamp emitting electromagnetic radiation that is almost exclusively in the soft near ultraviolet range, and emits very little visible light. Ultraviolet radiation itself is invisible to the human eye, but illuminating certain materials with UV radiation prompts the visible effects of fluorescence and phosphorescence." - Wikipedia

The black light was invented by William H. Byler.

Fluorescent black lights are typically made much like fluorescent lights except that only one phosphor is used and the normally clear glass of the bulb is replaced by a deep-bluish-purple glass called Wood's glass, a nickel-oxide–doped glass, which blocks almost all visible light above 400 nanometers. The color of such lamps is often referred to as black light blue or "BLB." This is to distinguish these blubs from bug

zapper lamps that don't have the blue Wood's glass. These are different than the UV germicidal blubs (UVC) used for sterilization, for your safety do not use this type of blub for black light photography.

What is Black Light Photography?

Black light photography is photographing subjects illuminated by the light produced by fluorescence and phosphorescence of certain materials after being exposed to the UV radiation produced by a black light.

Is Black Light Safe?

Black lights produce light in the UV range; however the spectrum is confined to the longwave UVA region. UVA is considered the safest of the three spectra of UV light. UVB and UVC are responsible for damage related to skin cancer. UVA light is much lower in energy and does not cause sunburn. Still it is recommend that you take precautions when using black light, limiting your exposure to as little time as possible.

What do you need to do Black Light Photography?

Black light photography is very similar to low light photography, and can be similar to macro or close-up photography as well. Everything you know about low light & macro/close-up photography will help you with black light photography because the concepts and equipment needs are the similar.

Recommended Camera Equipment

The single most important tool you can use in low light photography is a good, sturdy tripod. Since there are countless other photographic situations where a tripod is helpful, I recommend you get and use a tripod, whenever possible. It can make a big difference in the sharpness and quality of your images. Of course it will also encourage you to slow down and examine what's in your viewfinder more carefully.

Don't expect that the use of image stabilization or vibration reduction will suffice for black light photography. Also the use of high sensor speed (ISO) will not produce satisfying results with black light photography only a tripod will give you the reliable results you'll want when shooting in the low light like black light.

Macro and close-up photography work particularly well with black light so if you have a macro lens this is a wonderful opportunity to us it. Of course extension tubes or close-up filters (dioptors) can work in a similar way, allowing you to focus closer than you normally can with your lens. I even use extension tubes with my macro lens to get extreme close-up shots. Focusing rails and other macro/close-up equipment should be considered if you have them. No need to run out and buy anything, take advantage of the macro and close-up capabilities you already have if you currently have them.

Other items such as a cable release can also help with the quality of your images; this removes your finger from the body of the camera for more reliably sharp images. If your camera has a mirror lockup

function, using it will also will help by reducing shutter vibration. Mirror lockup requires you to press the shutter twice, once to lock up the mirror and once to take the picture. It's important to turn it off when you are done. Consult your camera manual to determine if you have mirror lock up and how to enable and disable it if you do.

Special Ultraviolet filters (UV) (2A or 2B) can help remove bluish casts from your images, but these bluish casts can be interesting in some cases, but I prefer the control of filtering the bluish cast out of my images. I suggest not using a UV Haze 1A filter, as this seems to emphasizes the bluish cast.

Recommended Camera Settings

Set your cameras white balance to "florescent", your ISO to 100 or 200 and expect to bracket your exposures. I find that my exposures are usually 1/3 to 2/3's below my cameras meter reading. I recommend shooting on aperture priority and setting your aperture to support the depth of field you desire.

As with low light or macro/close-up photography, your camera's auto focus may not always work and there will be times you should turn off your autofocus and go to manual focus. This is an excellent exercise because manual focus is an excellent skill to allow **you** to control what is in focus and what is not instead of your camera determining what should be in focus.

Recommended Black Lights

I recommend using 2 florescent black light tubes for most setups, using a BLB type bulb. BLB stands for "black light blue" and no other type of ultraviolet or black light florescent tube should be used. Ideally the tubes should be at least 20 watts each for the best results, 15 watts will work, but anything below that will require exposures of over 30 seconds which can be problematic if your camera doesn't have a "bulb" setting or the ability to leave the shutter open for extended periods of time.

I have had the best results with the F20T12/BLB, which is a GE bulb and fits in a standard 24 inch florescent fixtures. The bulbs are not as common as they once were, however one online retailer I've had success with is Bulb Man http://www.bulbman.com. As of this writing the F20T12/BLB bulb is approximately 17 dollars. Additionally you can get a complete black light fixture for about 27 dollars from Amazon or Penny Lane Gifts. Please note the author has no association with any of these companies but can attest to my own satisfactory transactions with these vendors. I'm sure there are other quality vendors who can provide the same items.

Caution: use caution when mounting and using your florescent bulbs. Should they break you will probably be picking glass up for many weeks and it can cause painful cuts.

It is possible to use incandescent black light bulbs, but hot bulbs have their problems. Of course one of them is they get really hot and that which makes it easy to burn yourself and can make it uncomfortable to work with. They also tend to not evenly distribute light and cause hot spots on your images and they are very inefficient in producing actual ultraviolet light. However if you just happen to have a few, there's nothing wrong with giving them a try. You can get some decent results with a little patience and practice.

Logistical Recommendations

Dust and fingerprints on your subjects and background will be one of the biggest challenges of successful black light photography. Every speck of dust on black backgrounds will not only show up on your images, but will be distracting. Use a hurricane blower, a lint brush, a lint roller or masking tape to remove all the dust you can. Any dust you don't remove before you photograph, you will have to remove in your image manipulation software such as Photoshop, and you will wish you had taken the care and time to remove it prior to shooting.

Fingerprints can be very obvious on glass, chrome and other shinny substances. Remove them with lint free cloths and don't use paper products such as paper towels because they leave lint.

Creative Recommendations

Black light photography is easier with small scale subjects such as portraits, abstracts and close-ups & macro. It is much more difficult to do larger scale black light photography such as large group portraits and large scale abstracts.

Take your time composing your images; little flaws can be emphasized in black light photography. Try filling the frame with your subject and don't leave large areas empty and black unless this is the look you are specifically trying to achieve. Reflections look particularly good in black light photography; I use mirrors, Mylar, and other reflective surfaces to my compositions.

Compose for the background, be creative with your background and pay close attention to your background. Your background will often interplay with your subject in black light photography so it's even more important than ever, and it's an important composition factor in all photography.

I use florescent construction paper, sometimes rolled into tubes, sometimes in flat sheets to compose my background. I also paint my own backgrounds with florescent paint, usually very simple geometric designs, but you could be even more creative if you like. Florescent foam core, mat board can also be used.

I generally shoot subjects that are florescent, phosphorescent, reflective or transparent. Reflective and transparent items help emphasize the impact of the florescent light coming from the background or other props.

What is Florescent in Black Light?

Anything that glows in the dark or looks florescent in daylight is likely to glow nicely in black light. Just walk around your house at night with a black light and you'll be surprised at what appears florescent.

- Florescent paint
- Glow in the dark paint
- Highlighters
- Many plastic toys

- Florescent construction paper
- Security stripe in money
- Reflective clothing (e.g. tennis shoes)
- Milk
- Tonic water
- Liquid laundry detergent (and white cotton clothes washed with liquid laundry detergent)
- Woolite
- Tooth whiteners
- Petroleum Jelly
- Many, many, many more…

Some Suggested Subjects

My favorite subjects in black light are glass, particularly cheaply made glass with imperfections. Shopping at an antique shop or flea market can provide lots of creative glass plates and glasses for very little money. Don't use expensive glassware. You won't get the best results, nor will you risk damaging anything valuable.

- Inexpensive clear glassware (cheaper the better)
  - Glass plates
  - Wine glasses
  - Martini glasses
  - Vases
  - Marbles
  - Tchotchke, bric-a-brac, etc.
- Reflective and shiny objects
  - Silverware
  - Plastic-ware
  - Chrome objects
  - Vases
  - CDs
  - Tchotchke, bric-a-brac, etc.
- Florescent Paint on…
  - Plastic plants
  - Fruit
  - Baskets
  - Leaves & branches
  - Inexpensive glassware
  - Limited by your imagination
- People!
  - Painted with florescent body paint

- Posed with florescent props!
- Posed with light sticks, glow jewelry, etc.
- Inspiration found online
  http://www.pbase.com/tglass0000/tims_blacklight_gallery

Some Suggested Setups

There are 3 setups that I generally use with black light. I use a table top, a shoot through table top and a Mylar tube setup. I'll describe each setup generally. Of course there are other setups that will work and you can try modifying the suggestions below.

Table Top Setup

A table top setup for black light photography is similar to a standard table top setup, except your lights are replaced with black light florescent tubes. Use a table top and a black background such as a velvet piece of cloth, black mat board, black foam core or black paper over cardboard. You may need to provide support for your backgrounds, depending on what they are. You can use binder clips or clothes pins to attach backgrounds either to your mat board or to string hung across you setup. It can help to provide an elevated stage, such as a box to bring your subjects to a convenient level for you and your tripod.

Position one black light on each side vertically in front, or to the side facing the background. Optionally you can use reflectors, foam core, mat board, Mylar, etc. to reflect light onto the stage.

Shoot Through Table Top Setup

For this setup you use a glass stage and shoot from above the subject through the glass stage. You can use glass from a picture frame which you might already have. Put the lights on floor facing in towards background and place your subjects on the glass stage. Shoot as close as you can to your subject, use a macro lens, extension tube or close-up filter if you have any of them.

Mylar Tube Setup

Tape a 6-12 inch piece of Mylar around your lens barrel to form a tube. Don't tape the Mylar to the barrel so you can move it and focus your lens. Point your tube towards background or subject illuminated by a black light. Bend, crinkle, fold, tape, rubber band, tie with string, squeeze the Mylar tube to change your image (also move around background) and you'll have an ever changing variety of images you can create.

Conclusion

I hope you'll try black light photography; it can be a lot of fun and produce interesting and satisfying results. This is a form of photography I particularly like in the winter time when the light and weather make outdoor photography challenging. Remember this is just an introduction to this experimental form of photography, it's only your own individual creativity which will limit how far you can go.

References

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