

# Long Exposure Photography

TAKING THE MYSTERY OUT OF USING FILTERS



Michael Kirkland  
I Don't Shoot Pictures, I Capture Images



# Topics Covered

- What is long exposure photography
- Why/how do we apply long exposures
- Getting started using what you have
- Why do we want to use filters
- Common uses for using ND Filters
- The breakdown of ND filters
- Steps for using ND Filters
- Graduated Neutral Density filters
- The breakdown of using GND filters
- Preventing Light Leaks
- Differences in filter brands
- Resources and Tips



# What is Long Exposure Photography?

Long-exposure, time-exposure, or slow-shutter photography involves using a long-duration shutter speed to sharply capture the stationary elements of images while blurring, smearing, or obscuring the moving elements.

[Wikipedia](#)

“Long exposure photography is the art of taking photographs by using longer exposure times than needed to obtain a correctly exposed photograph, either during daylight with the use of neutral density filters or else during the night with or without the use of filters, with the deliberate intent to create an effect on any moving object that is typical for long exposure photographs.”

Joel Tjintjelaar

Co-author, From Basics to Fine Art



# Why Long Exposure Photography Today?

- Capture images in low light conditions.
- Blur moving objects.
- Create a mysterious, surreal atmosphere to your image.
- Capture the movement of time in a single image to visualizes the invisible.
- Reveal to the eye what was visible only to the mind's eye.



## Common Slow Shutter Speed Applications

- Capturing the Night Skies
- Controlling Texture of Water
- Display Image Motion
- Capture Light trails
- Light painting
- Creative Zoom lens Effect
- Reveal a Duration of Time

## Typical Use for using Neutral Density (ND) Filters in Photography

- Cityscapes
- Landscapes
- Seascapes
- Architecture
- People



# Get Started With What you already have in your bag

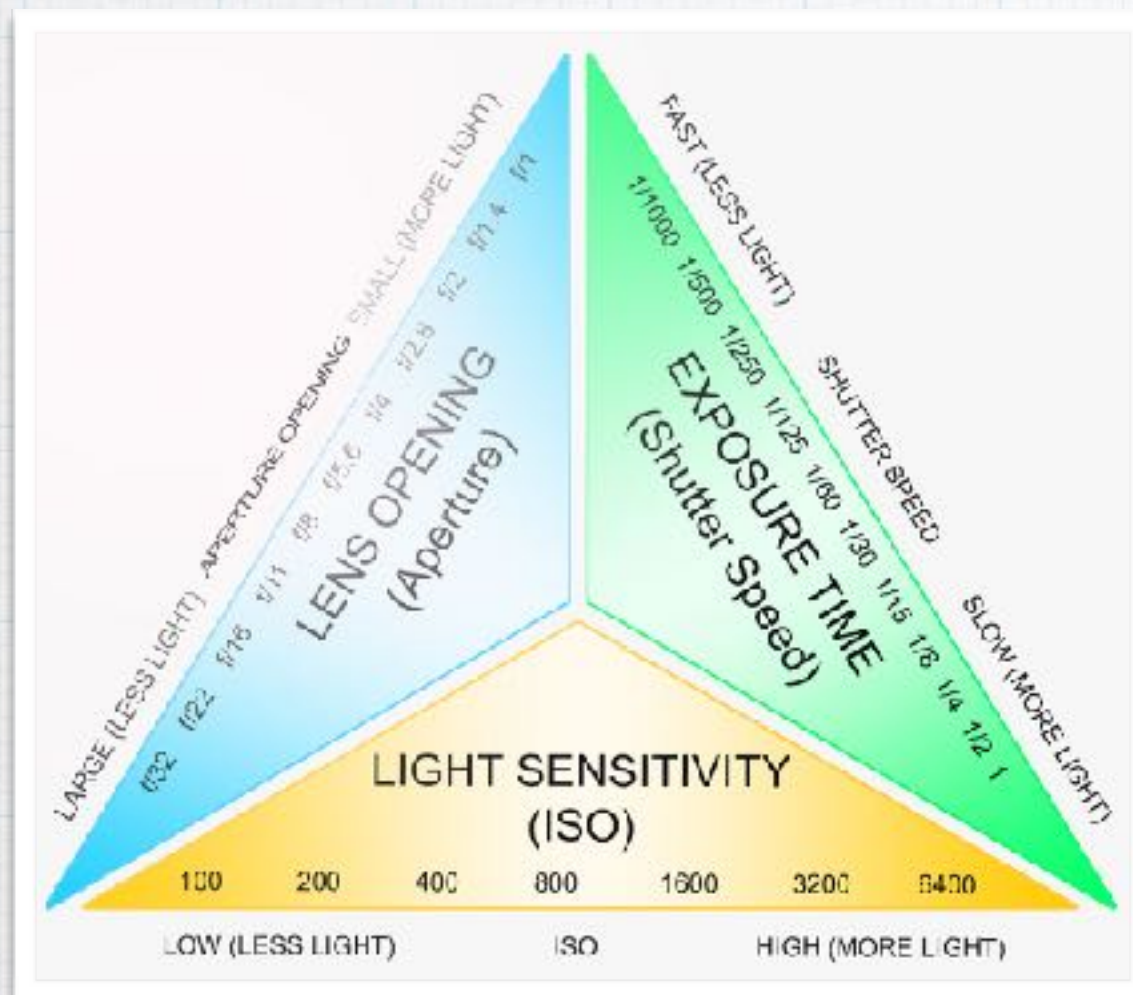


It only takes a DSLR camera, lens, a cable release and a tripod.

A polarizer filter, cable release, and/or tripod is optional some cases.



# The Exposure Triangle



Aperture      Shutter Speed  
f 2.8..... 1/500 sec.

f4.0.....1/250 sec.

f5.6..... 1/125 sec.

f8..... 1/60 sec.

f11..... 1/30 sec.

f16..... 1/15 sec.

Understanding how to adjust your Aperture, Shutter speed and ISO, is all that it takes to capture properly exposure images.



# Why Do We Want to Use Filters?

## Neutral Density Filter

Filters the amount of light reaching the camera's sensor without applying a color cast to a subject or scene. This allows for longer exposure times or wider aperture openings.

## Graduated Neutral Density Filters

GND filters to help control Dynamic Range



# Equipment Needed When Using Filters

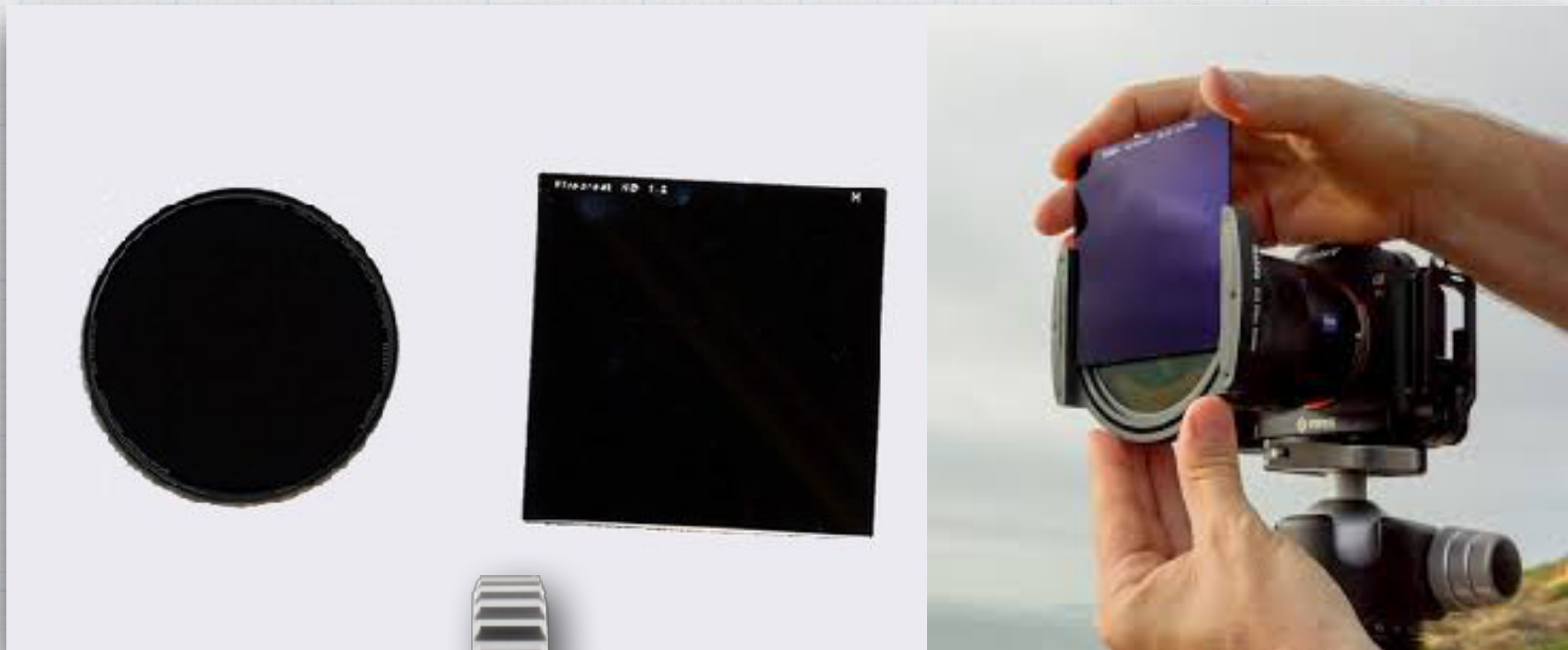


Full frame Camera body | Wide Angle Lens | Cable Release | Filters | Tripod



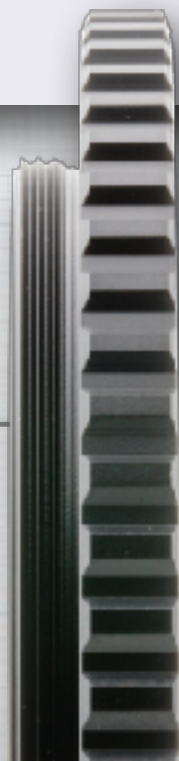
# Screw-on v. Square ND Filters

The Pros, the Cons, the Game Changer



## Step-up Ring

In some cases, vignetting may occur when stepping up.

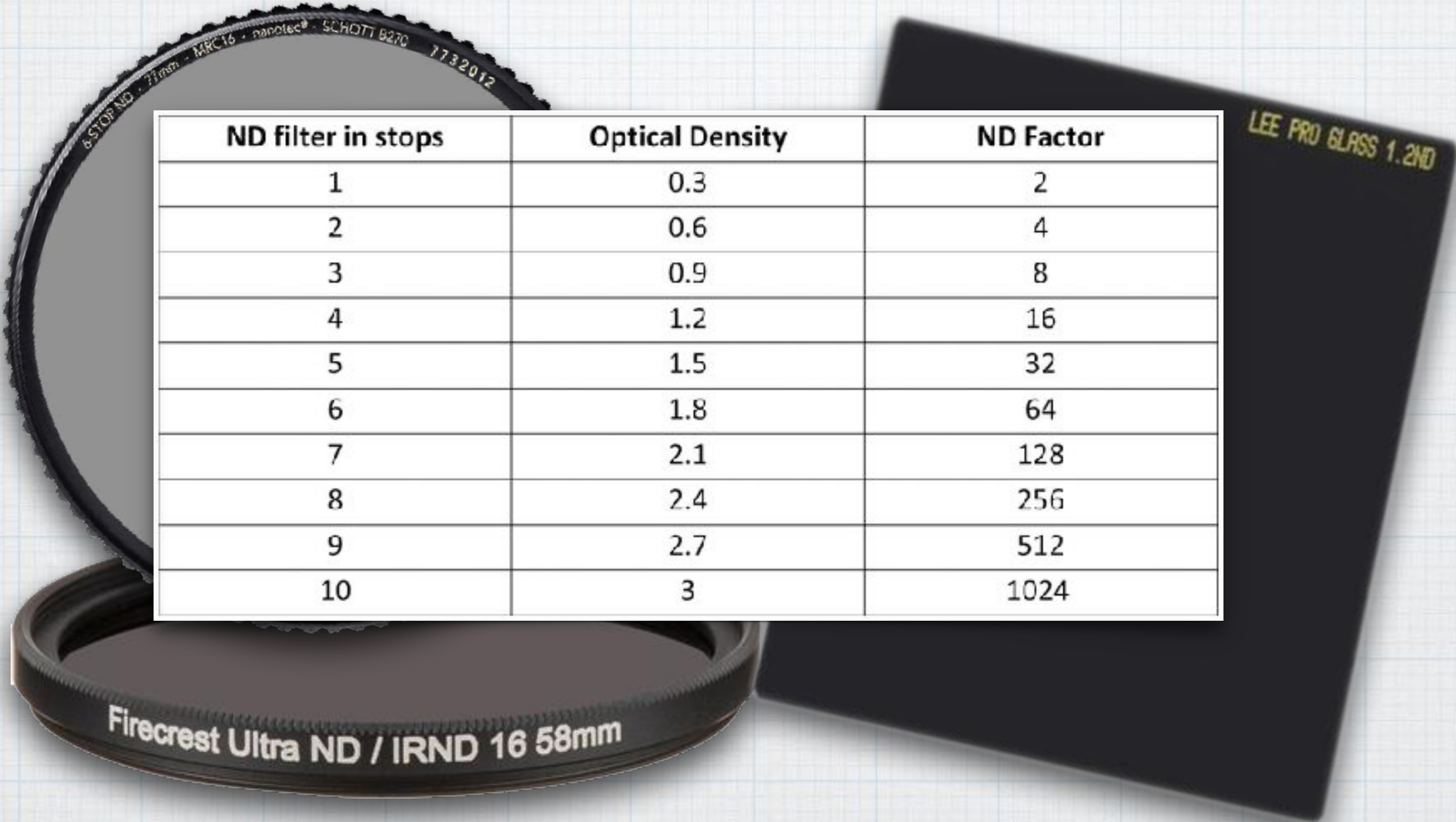




# Choosing the Right ND Filters

ND Filter to increase exposure time or use of a wider aperture opening

Different manufactures advertise different numbers for stops.



ND filter in stops	Optical Density	ND Factor
1	0.3	2
2	0.6	4
3	0.9	8
4	1.2	16
5	1.5	32
6	1.8	64
7	2.1	128
8	2.4	256
9	2.7	512
10	3	1024



# Lee Stopper Guide

## How to use a Stopper & Exposure Guide

USER  
GUIDE

1. First compose your image before fitting the Stopper.

2. Take a meter reading without the filter in place, and set your desired aperture and shutter speed.

3. Use the exposure tables to find the correct exposure. Your filter will have come with a printed exposure table.

4. With the Stopper inserted into the slot nearest the lens, attach the filter holder as usual and make your exposure.

5. Always use the sturdiest tripod you can when making long exposures, and take care not to knock the camera or tripod. Cover your viewfinder before releasing the shutter to avoid light encroaching onto the sensor or film and causing flare.

### Little Stopper

Normal Shutter Speed	Little Stopper +6 stops
1/1000	1/15
1/500	1/8
1/250	1/4
1/125	1/2
1/60	1 second
1/30	2 seconds
1/15	4 seconds
1/8	8 seconds
1/4	15 seconds
1/2	30 seconds
1 second	1 minute
2 seconds	2 minutes

### Big Stopper

Normal Shutter Speed	Big Stopper +10 stops
1/1000	1 second
1/500	2 seconds
1/250	4 seconds
1/125	8 seconds
1/60	15 seconds
1/30	30 seconds
1/15	1 minute
1/8	2 minutes
1/4	4 minutes
1/2	8 minutes
1 second	16 minutes
2 seconds	32 minutes

### Super Stopper

Normal Shutter Speed	Super Stopper +15 stops
1/1000	30 seconds
1/500	1 minute
1/250	2 minutes
1/125	4 minutes
1/60	8 minutes
1/30	16 minutes
1/15	32 minutes
1/8	1hr 4mins
1/4	2hrs 8mins
1/2	4hrs 16mins
1 second	8hrs 32mins
2 seconds	17hrs 4mins



# Steps for Using ND Filters

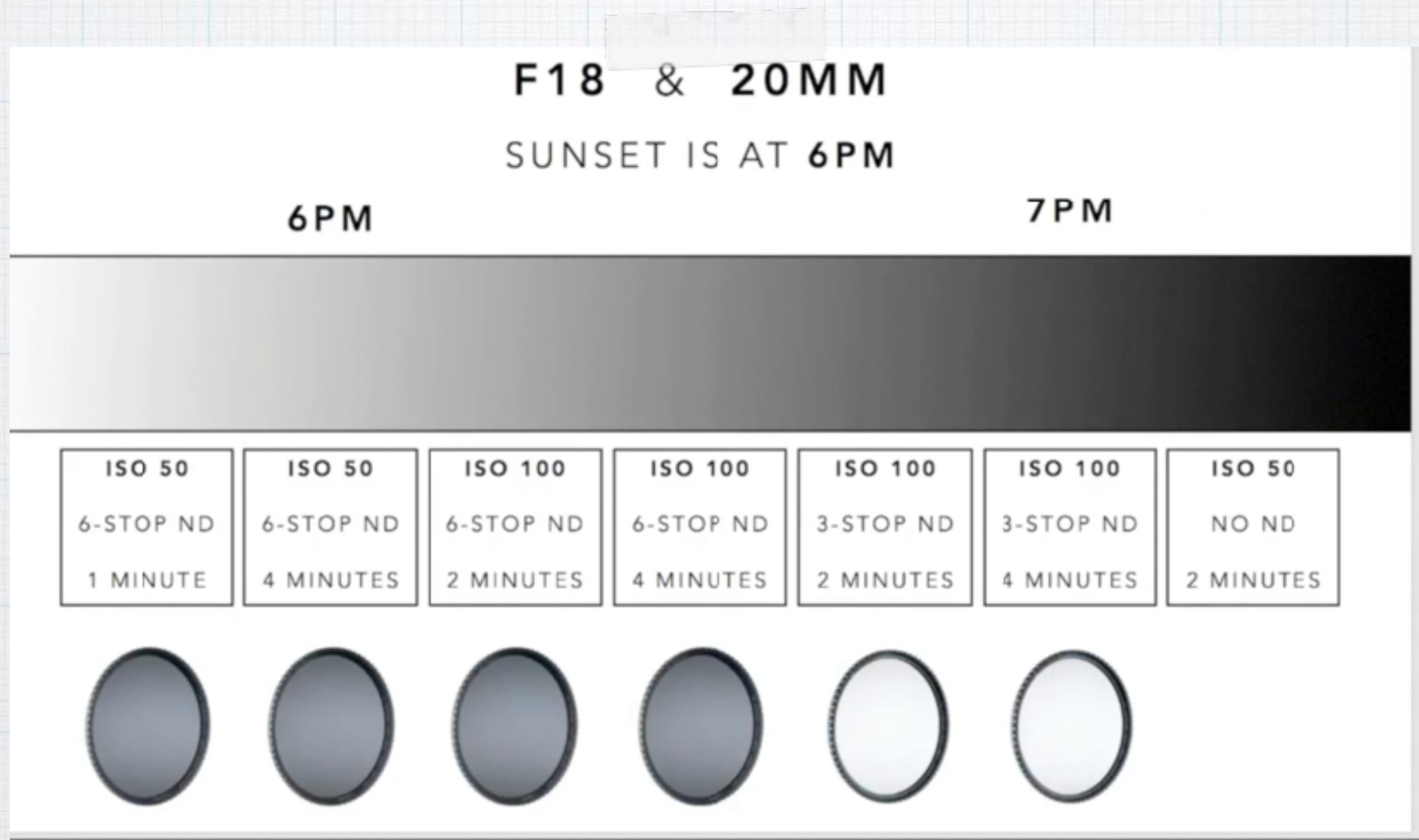
## Creating a Long Exposure Image

1. Set up camera on a tripod and compose your shot.
2. Set your desired aperture, and use aperture priority mode.
3. Set camera's ISO to 100.
4. Focus, take picture, and take note of your shutter speed.
5. Place camera settings and focus to manual.
6. Calculate your new shutter speed based on ND filter to use.
7. Using Live view, zoom in, and manually focus.
8. Apply the desired ND filter.
9. Set new \*shutter speed, using cable release, take picture!

**\*Any shutter speeds over 30 seconds, bulb mode is required.**



# Example of Sunset Filter Settings



This is only an example, your settings may actually vary.



# Variable ND Filters



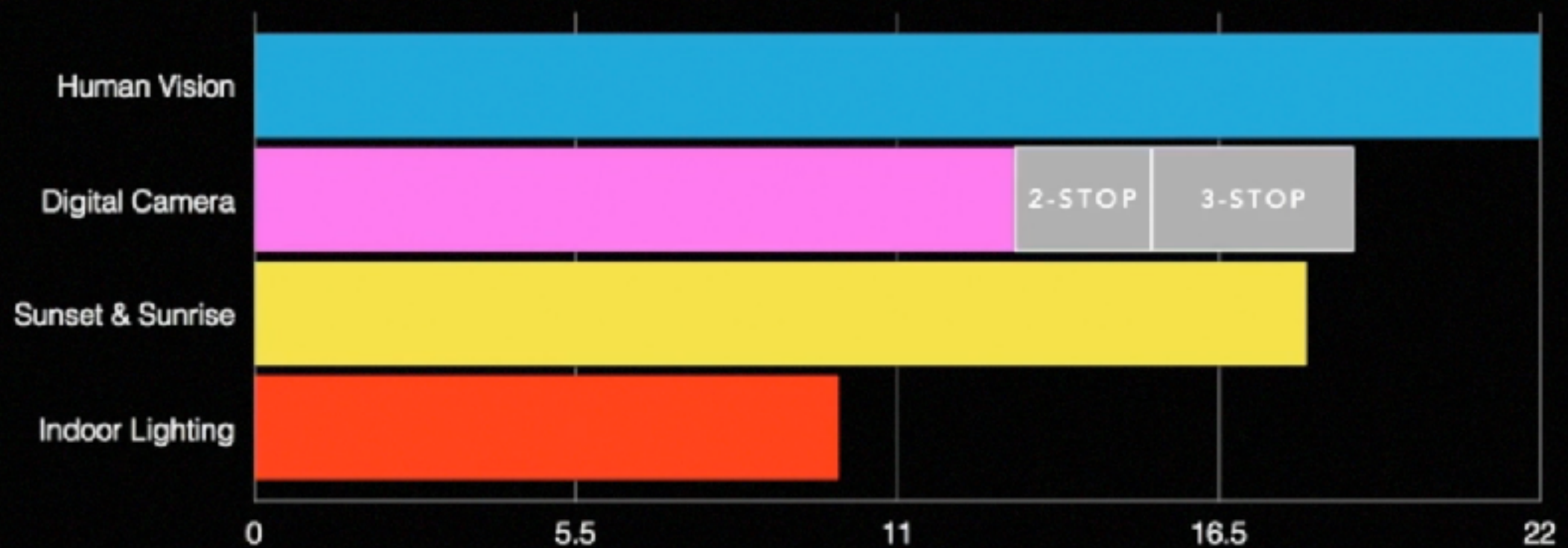
A variable ND filter, can adjust the range of light exposure from around 1 f-stop to 8 f-stops, depending on which brand of filter you choose.

**Due to the double polarization:** polarizers are inherently not color neutral, which exhibits a very strong yellow cast. Combining two layers of polarizing film, both of which are not color neutral, simply makes the problem much worse.

An 'X' factor will start to occur at around 24mm and wider on full-frame setups, less of an issue at 25mm, disappearing completely at around 30mm.



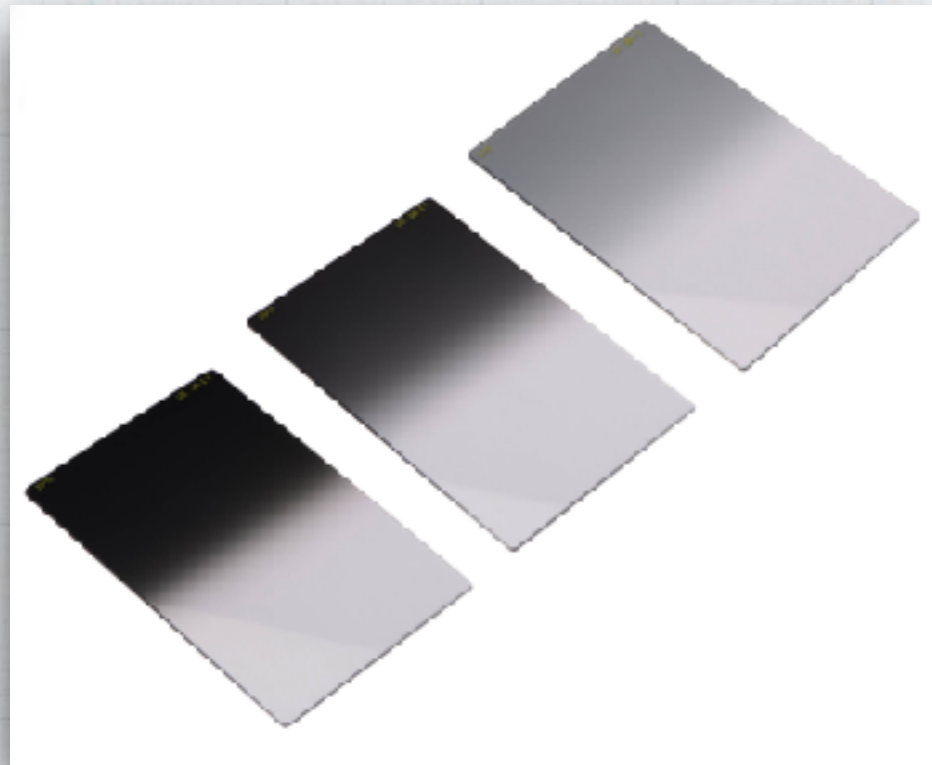
# Exposure Dynamic Range



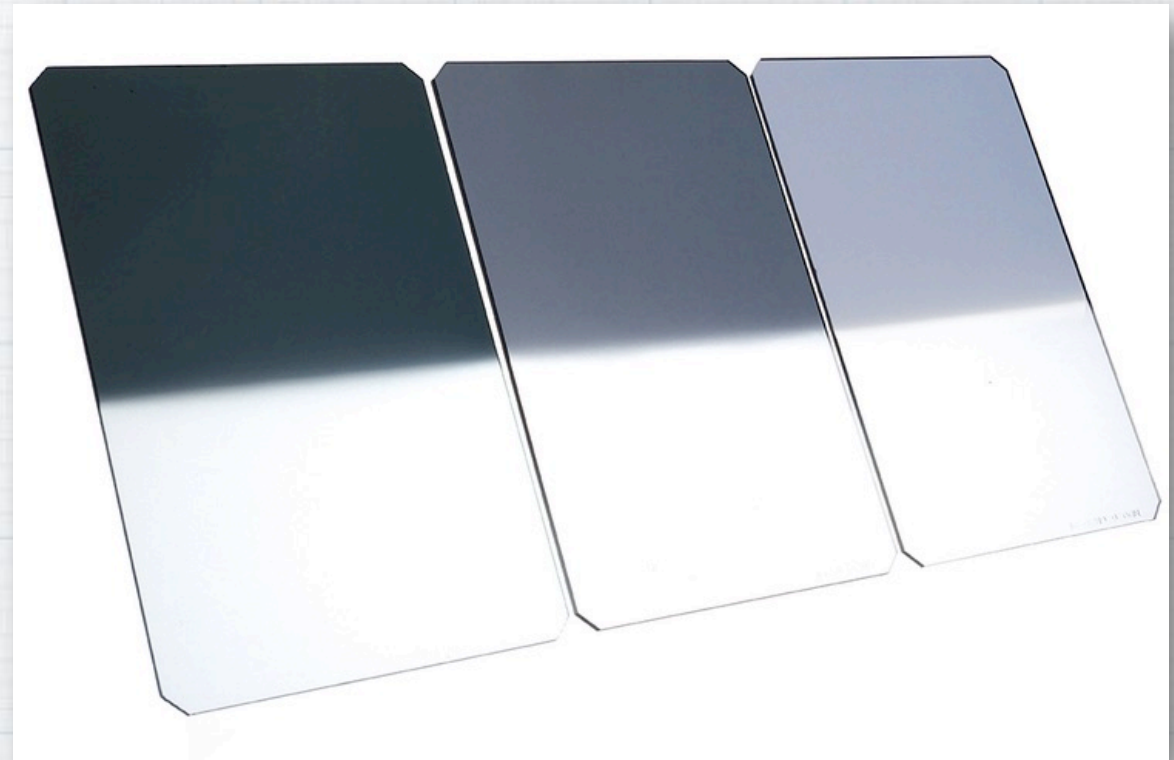


# Graduated Neutral Density Filters (GND)

Use GND filter to help control Dynamic Range



Soft Edge



Hard Edge

100 x 150mm



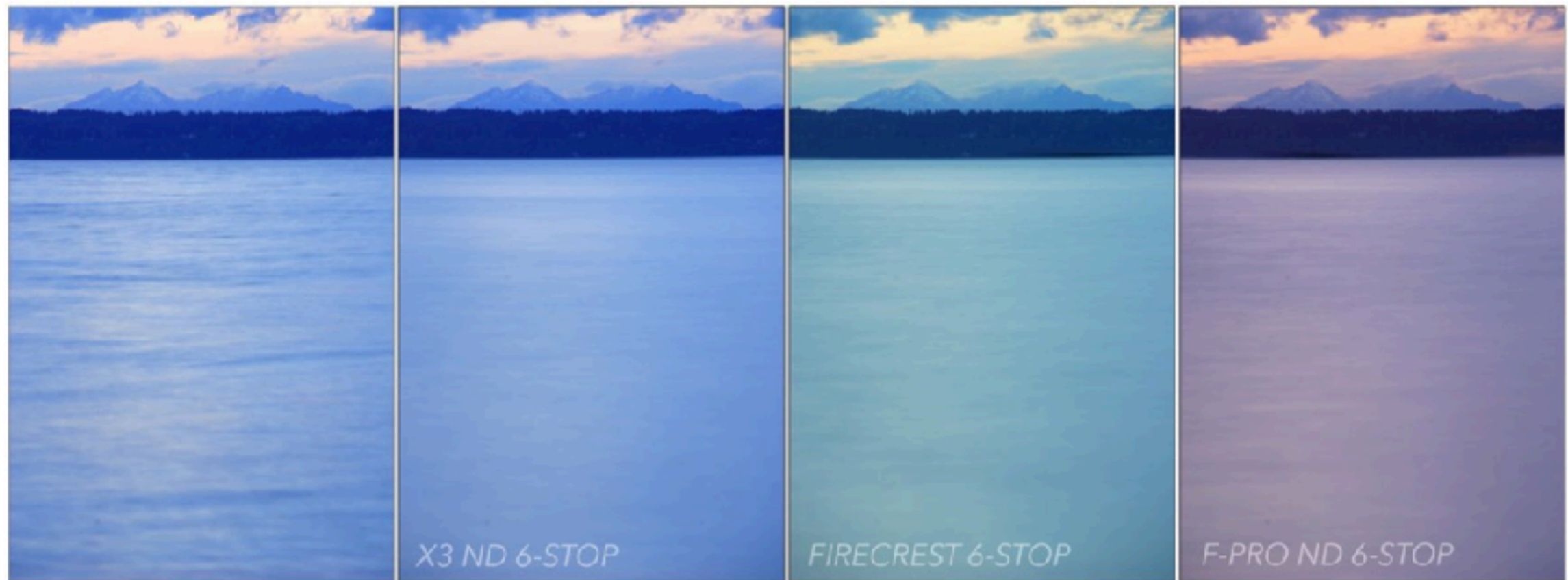
# Shield the Gap Between Filters



**Note:** The “Kirkland Cloak”, can also block unwanted light from reaching sensor through the viewfinder. A Mitten clip can secure the towel in place on windy days.



# No Filter v. Breakthrough v. Formatt-Hitech v. B+W



NO FILTER





# ND Filter Manufactures Claims



## Manufacturer Claim

"For physical reasons, very dense filters possess a warm tone which can be compensated in image processing."

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



## Manufacturer Claim

"The world's first hyper-neutral ND. With Firecrest, we now offer the most neutral ND filters on the market. These glass filters are hyper-neutral across the visible light spectrum."

[www.formatt-hitech.com](http://www.formatt-hitech.com)



## Manufacturer Claim

"The blue cast is inherent in the big stopper – we do pre-warn you in the instruction booklet."

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



## Manufacturer Claim

"World's sharpest and most color neutral ND filter. Guaranteed."

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



## Long Exposure Photographers

**Andrew Whyte** <http://www.longexposures.co.uk>

**Julia Anna Gospodarou** <http://www.juliaannagospodarou.com>

**Joel Tjintjelaar** <http://www.photographyoffice.com/blog/2011/06/the-art-of-black-and-white-photography-by-joel-tjintjelaar>

**Elia Locardi** <https://elialocardi.com>

**Jim Welinski** <http://www.alteredpacephoto.com>





# Resources

## Phone Apps for Long Exposure and Night Photography

- PhotoPills
- Moon Calendar
- Dark Skies
- Sky Map
- DOF Calculator
- Aurora
- Long Exposure Calculator
- The Photographer's Ephemeris (TPE)
- Lee Stopper Exposure Guide
- NiSi Filters
- B+W ND calc

### \* Resource, eBook

## Complete Guide to Long Exposure Photography - 2016 Edition

Joel Tjintjelaar

## From Basics to Fine Art, B/W Photography – Architecture and Beyond

Joel Tjintjelaar and Julia Anna Gospodarou



# Michael's Tip

## Planning is the Key

- Have a preconceived idea of what you want your image to look like.
- There's more to capturing an image than making sure your exposure is correct.
- It's not always about depth of field.
- Making your shutter speed your priority, can yield creative results.
- Slow down and study your perspective options.
- Look around, see if there are other option while your image is processing.



# Remember

## Create sharp images, avoid light leaks

- Make sure to switch camera to manual focus before applying a ND filter.
- For precise focus, use Live View and zoom to 100%.
- Be sure to cover the eyepiece and filter holder slots to avoid light leaks.
- Always place the ND filter in the slot closest to your camera lens.
- Avoid camera shake by using a sturdy tripod and a cable release, or your self-timer.
- Producing one great image is better than ten good images.
- Don't forget, you are outdoors, doing what you enjoy doing, Have Fun!



# LightChase Photography Presents,

## October 2020, Maine In Autumn Long Exposure Photography Tour

October 18th through October 25th, 2020 for an 8 Day Tour

**Destinations Include, but not limited to,**

- Portland, Maine, with Portland Head Lighthouse and the surrounding park
- Pemaquid Point Lighthouse and the surrounding park
- Coast of Maine Fall Color Locations and Acadia National Park
- Including major destinations between each location



# LightChase Photography Presents, August 2020, Chicago Photography Tour

August 5th through August 9th, 2020 for a 5 Day Tour

August 12th through August 16th, 2020 for a 5 Day Tour





# Thank You For Your Interest

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@Sculpting\_Water



“**Art** implies control of reality, for reality itself possesses no sense of the aesthetic. **Photography** becomes **art** when certain controls are applied.”

Ansel Adams