

ND1000

FILTER TABLES

10 Stop
Neutral Density

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Ten Stop Guide Tables

By
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Ten Stop Exposure Tables

The following tables are designed to 'assist' photographers who may at times struggle with 10 stop neutral density filters.

Apps for Neutral Density (ND) filters are available but only generate the 10-stop variation. The tables here show exposure combinations based on different exposure conditions to help you attain an approximate 'base exposure' and then you can adjust the shutter speed accordingly.

The tables are based on scenes having the 'main' light source behind the camera.

The tables are based on using an ISO of 100. Generally, it is recommended to use this ISO as ND filters are about reducing the amount of light through the lens, requiring slower shutter speeds or wider apertures. ISO 100 will help to achieve this.

If the final exposure is a little dark or a little too light, adjust the shutter speed, aperture or ISO, one, two or three stops from the grid reference and this should help to find the correct exposure.

I would also recommend bracketing the exposure by one stop each side.

Light levels in the tables are:

Sunny, Slightly Overcast, Cloudy/Overcast, Heavy Overcast, and a Sunrise example.

Tables are based on the late morning to mid-afternoon. However, please note these will vary depending on the time of year and where you live. If the initial exposure is out by say, two stops, then adjust this accordingly. In time you will get to do this automatically. Consider the light levels required for the final image as well as how bright or dark you require highlights or shadows.

Additionally, shoot in RAW.

Example

Sunny day, ISO: 100, aperture: f/4.

Shutter speed: 1/1000 for correct exposure,

adjust for ND1000 to 1 second.

If too dark move the exposure down two stops and

recheck and vice versa.

| Sunny - 100 ISO | | |
|-----------------|---------|----------|
| Aperture | Shutter | 10 Stops |
| 1.4 | 8000 | 8 |
| 2 | 4000 | 4 |
| 2.8 | 2000 | 2 |
| 4 | 1000 | 1" |
| 5.6 | 500 | 2" |
| 8 | 250 | 4" |
| 11 | 125 | 8" |
| 16 | 60 | 15" |
| 22 | 30 | 30" |

Sunny

| Sunny - 100 ISO | | |
|-----------------|---------|----------|
| Aperture | Shutter | 10 Stops |
| 1.4 | 8000 | 8 |
| 2 | 4000 | 4 |
| 2.8 | 2000 | 2 |
| 4 | 1000 | 1" |
| 5.6 | 500 | 2" |
| 8 | 250 | 4" |
| 11 | 125 | 8" |
| 16 | 60 | 15" |
| 22 | 30 | 30" |

Slightly Overcast

| Slightly Overcast - 100 ISO | | |
|-----------------------------|---------|----------|
| Aperture | Shutter | 10 Stops |
| 1.2 | 8000 | 8 |
| 1.4 | 4000 | 4 |
| 2 | 2000 | 2 |
| 2.8 | 1000 | 1" |
| 4 | 500 | 2" |
| 5.6 | 250 | 4" |
| 8 | 125 | 8" |
| 11 | 60 | 15" |
| 16 | 30 | 30" |
| 22 | 15 | 1' |

Cloudy / Overcast

| Cloudy / Overcast - 100 ISO | | |
|-----------------------------|---------|----------|
| Aperture | Shutter | 10 Stops |
| 1.2 | 4000 | 4 |
| 1.4 | 2000 | 2 |
| 2 | 1000 | 1" |
| 2.8 | 500 | 2" |
| 4 | 250 | 4" |
| 5.6 | 125 | 8" |
| 8 | 60 | 15" |
| 11 | 30 | 30" |
| 16 | 15 | 1' |
| 22 | 8 | 2' |

Heavy Overcast

| Heavy Overcast - 100 ISO | | |
|--------------------------|---------|----------|
| Aperture | Shutter | 10 Stops |
| 1.2 | 2000 | 2 |
| 1.4 | 1000 | 1" |
| 2 | 500 | 2" |
| 2.8 | 250 | 4" |
| 4 | 125 | 8" |
| 5.6 | 60 | 15" |
| 8 | 30 | 30" |
| 11 | 15 | 1' |
| 16 | 8 | 2' |
| 22 | 4 | 4' |

Sunrise Example

| Sunrise Example (+/- 2 Stops) - 100 ISO | | |
|---|---------|----------|
| Aperture | Shutter | 10 Stops |
| 1.2 | 1000 | 1" |
| 1.4 | 500 | 2" |
| 2 | 250 | 4" |
| 2.8 | 125 | 8" |
| 4 | 60 | 15" |
| 5.6 | 30 | 30" |
| 8 | 15 | 1' |
| 11 | 8 | 2' |
| 16 | 4 | 4' |
| 22 | 2 | 8' |

Image Example

ND1000 filters can be used to blur water or clouds using long exposures by reducing the shutter speed.

Additionally, moving people in a scene can also be removed as they move out of the scene during the exposure. With people be careful of any 'ghosting' left in the image.



*120 secs - f/9 – 400 ISO
Urth ND1000 Filter*

About the Author

I have been a professional photographer for over twenty years. My own photography passion started back in the 1980's as an amateur at my local camera club. I have shot from 35mm, medium format to DSLR and have been using mirrorless since 2013. Professionally, I have shot portraiture, weddings, commercial and PR photography.

My personal photography revolves around abstract, street, social documentary, landscape and architecture subjects. In December 2015, I received a Fellowship with the Royal Photographic Society, this also achieved Fellowship of the Year!

Now semi-retired, I train photographers as groups and on a one-to-one basis. My company, The Light Academy provides workshops in East Anglia and the London area.

I am still active in club photography as well as travelling for talks and judging.



The Bill Wisden MBE HonFRPS Fellowship of the Year Award.
Presented to the author by Walter Benzie FRPS, President of
The Royal Photographic Society at the Royal Society, London.

www.lightacademy.co.uk
<https://www.facebook.com/lightacademyphotographytraining>

Light Academy Photo Companion Guides

Many newcomers find the theory of photography overwhelming. The Light Academy Photo Companion Guide series simplifies the many aspects of photography. Clear information for easy understanding, a critical point in learning. All at reasonable prices.

Keep them with you on smartphones when out on location. Also, make use of them at your workstation either with a tablet or on your computer screen. In print, keep a copy in your camera bag.

Light Academy Photo Companion Guides

No.1 - Camera Basics, Understanding Settings for Successful Pictures.

No.2 - Manual Exposure, Take Control of Your Exposure Meter.

No.3 - Manual Focus on the Mirrorless Camera.

Mini Companion Guides

HDR Photography

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More Soon

Acknowledgements

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