

Night Photography

From Snapshots to Great Shots

Control light and shadow
for creative effect!

Realize your vision with
expert post-processing
techniques

Gabriel Biderman
with Tim Cooper

Night Photography:
From
Snapshots to
Great Shots

This page intentionally left blank

Night Photography:
From
Snapshots to
Great Shots

Gabriel Biderman
with Tim Cooper



**Peachpit
Press**

Night Photography: From Snapshots to Great Shots

Gabriel Biderman

Peachpit Press

www.peachpit.com

To report errors, please send a note to errata@peachpit.com

Peachpit Press is a division of Pearson Education

Copyright © 2014 Gabriel Biderman

Photography © Gabriel Biderman, Chapters 1, 2, 4, 5

Photography © Tim Cooper, Chapters 3 and 6

Senior Editor: Susan Rimerman

Developmental/Copy Editor: Scout Festa

Production Editor: David Van Ness

Proofreader: Bethany Stough

Indexer: James Minkin

Composition: WolfsonDesign

Interior Design: Mimi Heft

Cover Design: Aren Straiger

Cover Image: Gabriel Biderman

Notice of Rights

All rights reserved. No part of this book may be reproduced or transmitted in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. For information on getting permission for reprints and excerpts, contact permissions@peachpit.com.

Notice of Liability

The information in this book is distributed on an "As Is" basis, without warranty. While every precaution has been taken in the preparation of the book, neither the authors nor Peachpit shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the computer software and hardware products described in it.

Trademark

"From Snapshots to Great Shots" is a trademark, in the U.S. and/or other countries, of Pearson Education, Inc. or its affiliates. Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and Peachpit was aware of a trademark claim, the designations appear as requested by the owner of the trademark. All other product names and services identified throughout this book are used in editorial fashion only and for the benefit of such companies with no intention of infringement of the trademark. No such use, or the use of any trade name, is intended to convey endorsement or other affiliation with this book.

ISBN-13: 978-0-321-94853-3

ISBN-10: 0-321-94853-X

9 8 7 6 5 4 3 2 1

Printed and bound in the United States of America

About the Authors

Gabriel Biderman is a Brooklyn based fine-art and travel photographer. His work has been featured in photography exhibits in New York, London, and Hawaii. He leads night photography workshops and has contributed articles and blog posts for print and online publications. Gabriel is also the special events and tradeshow point person for B&H Photo. See his work and read his blog at ruinism.com.

Tim Cooper is a Washington, D.C., based photographer who specializes in night photography and nature images. His editorial and commercial work has appeared in *Travel & Leisure*, the *New York Times Magazine*, *Outdoor Photographer*, *Fly Rod & Reel*, and *DC Magazine*. Tim leads popular workshops and is an instructor at the Rocky Mountain School of Photography. See his work and read his blog at timcooperphotography.com.

Dedication

To Nancy, my muse and love in the day and night. —GB

Acknowledgments

Writing this book has been a crazy journey of late nights, test shots, phoning friends, and locking myself up in a garret and waiting for the words to flow.

It could not have been possible without the help of my good friend Tim Cooper, who didn't know what he was getting into when he volunteered to write two chapters in this book. You are a life and marriage saver. I'm so happy to share this book with you.

To the incredibly professional Peachpit team: Susan Rimerman, for keeping me on target-ish; Scout Festa, for translating Gabe to English; David Van Ness, for getting me CMYK ready; and the rest of the crew who gave me this wonderful opportunity to share my passion with others.

Jonny and Angus—we've come a long way from the duct-tape darkrooms and rooftop photo shoots! You paved the way, brothers!

David Brommer, General of the B&H Events Space and SOD—you pushed me to be all I could be! Manny and the B&H crew—it has been an honor to work over 12 years at the world's biggest "toy store" with some of the best people in the industry.

Troy and Joe—full moons aren't the same without you; more adventures to come! Lance, Scott, and Tim—thanks for helping so many nocturnes "find their way in the dark."

To the Infinists, Week of Arters, and Reciprocity Failures, especially Michael and Angelier for helping me capture “Gabe” in the gear shots. Matt H., JC, Brandon, Sylvester, Tom P., Thom J., and Andre C.—thanks for always being willing to play in the dark!

To the staff and teachers of RMSF, who believed in me and trusted me from Vegas to Zion—may we always meet somewhere between space and time!

Scott Kelby, Seth, Syl, Moose, the Nat Geo crew and all the other educators I’ve been so fortunate to learn from.

Adam, Jennifer, and Ruth, who after years of teasing or being teased have shown me so much love and support. David N., you inspire me! To the “other” B&H & S&S—have I told you how lucky I am to have you in my life?

I want to thank my mom and dad, who raised me in creative environments, supported most of my decisions, and always encouraged me. Fannie and Phyllis, my grandmothers, who are responsible for my outgoing personality and who inspired the next wave of artists in our family. I miss you both and wish you were here to share this moment.

Nancy, it has been 16 years since you kissed me under the San Francisco stars. Over 200 moons have waxed and waned since. Thank you for being an inspiration, so incredibly supportive, and a perfect match. I love you.

And to all the rest of my family, my friends, and the photographers who have shared and supported all my late-night antics!

—Gabriel Biderman

This page intentionally left blank

Contents

INTRODUCTION	XI
CHAPTER 1: EQUIPMENT	1
The Right Tools for the Night Job	
Poring Over the Picture	2
Poring Over the Picture	4
Night Equipment	6
Systems and Styles	23
Final Thoughts	26
Chapter 1 Assignments	29
CHAPTER 2: EXPOSURE	31
Understanding the Night Light	
Poring Over the Picture	32
Poring Over the Picture	34
Understanding Exposure	36
Mastering Manual Mode	40
Now Do It in the Dark	46
Chapter 2 Assignments	54
CHAPTER 3: COMPOSITION	57
Honing Your Night Vision	
Poring Over the Picture	58
Poring Over the Picture	60
Night Vision	62
Focusing in the Dark	62
Rules and When to Break Them	65
Playing with Time	79
Chapter 3 Assignments	81

CHAPTER 4: THE NIGHT LIGHT	83
Capturing and Creating Light	
Poring Over the Picture	84
Poring Over the Picture	86
The Many Colors of the Night	88
Light Painting	93
Writing with Light	104
The Night Portrait	108
Chapter 4 Assignments	113
CHAPTER 5: THE NIGHT LIFE	115
How to Succeed in Nocturnal Scenarios	
Poring Over the Picture	116
Poring Over the Picture	118
Scouting Your Location	120
The Night Sky	126
Cityscapes	132
The Moon	141
Star Trails	147
Star Points	151
Fireworks	154
Fun at the Fair	156
Keep Clicking in Inclement Weather	157
Pitfalls in the Dark	163
Chapter 5 Assignments	167
CHAPTER 6: PROCESSING YOUR NIGHT LIFE	169
Developing That Night Look	
Poring Over the Picture	170
Poring Over the Picture	172
Workstation	174
Lightroom Is the New Darkroom	175
Lightroom Workflow	176
Developing for the Night	182
Develop Module	182
Extend Your Possibilities with Photoshop	204
Chapter 6 Assignments	210
INDEX	213

Introduction

Good pictures should leave an impact on the viewer. Most of us capture our memories with a quick click, but with longer exposures comes a slower and more meditative approach. Night photography pushes the boundaries of time and how we seize it.

As a night photographer, time has always been an obsession of mine. I might not be the best at budgeting my time, but I sure know how to play with it!

I was wrapping up Chapter 5 of this book in Miami and was worried because I didn't have any lightning shots to reference. It was 2 a.m. and I was about to crawl into bed when all of a sudden a shock of white light lit up the room. I put my hat on (yes, it does come off), grabbed my bag of gear, and ventured outside. It wasn't raining yet, and I was only a few blocks from the beach. I could see the lightning in the distant storm clouds. I was surprised to find a crowd on the beach. Couples were huddled together, people were swimming, and there was the general revelry of witnessing nature's fireworks. Several people were snapping pictures, but I was the only one with a tripod. I quickly set up and started tracking those bright bolts. I got the shot you'll see later in this book about 30 minutes into the shoot, but I was so energized that I kept shooting and experimenting until 4 a.m.

This page intentionally left blank

In this book, I hope to inspire you to move beyond the snapshot and take more control of the time right in front of you. I go over all the tools you will need, and I shine a light on techniques that will make you more proficient in the field and on the computer. The building blocks of creating an image with impact are discussed at length, as well as the scenarios you might find yourself in and how to best capture them once the sun goes down. The goal is to demystify the night and inspire you to creatively express time in a single image.

Good night photography shots have always been elusive yet rewarding. But digital technology allows us to review our work and learn from our mistakes instantaneously. Strange things happen when you play with time. This book is meant to be a resource for you as you capture and create. Dedicate yourself to shooting and putting yourself into as many night scenarios as you can. You will need to experiment to gain experience. Which reminds me: Try to photograph with friends and share your work. When you shoot with someone, it challenges you to up your game, you can bounce ideas off each other, and you can forge collaborations.

The book coverage doesn't end with collapsing the legs of your tripod. We'll also cover processing your night images in Lightroom and Photoshop to complete your photographic vision.

Finally, make sure to share your amazing results with other night owls at the book's Flickr group! Join the group at www.flickr.com/groups/night_fromsnapshotstogreatshots.

Carpe noctem!

ISO 800 • 10 sec. •
f/2.8 • 35mm lens



4

The Night Light

Capturing and Creating Light

Lights in the night guide us through the darkness. Its sources are as varied as its size and brightness—from golden streetlights and bright white stadium lights to the cool moonlight. Our eyes are capable of adjusting to the contrast and colors of the night, but cameras often struggle to balance the many degrees of brightness. Next time you are out, really look at the diversity of light sources. At night, you will see a much broader spectrum, encompassing a multitude of moods. Understanding how to incorporate a new light source will make you a better photographer. In this chapter, we explore color, light painting, and creative ways to play with light.

Poring Over the Picture

Understated light painting pulls out what would have been a black mass and adds symbolism to the composition.

The warm orange stairway contrasts with the cool blue sky.





The composition has
two distinct sides.

The breaks in the stars were
caused by a thick cloud passing
through the image during the
4-minute exposure.

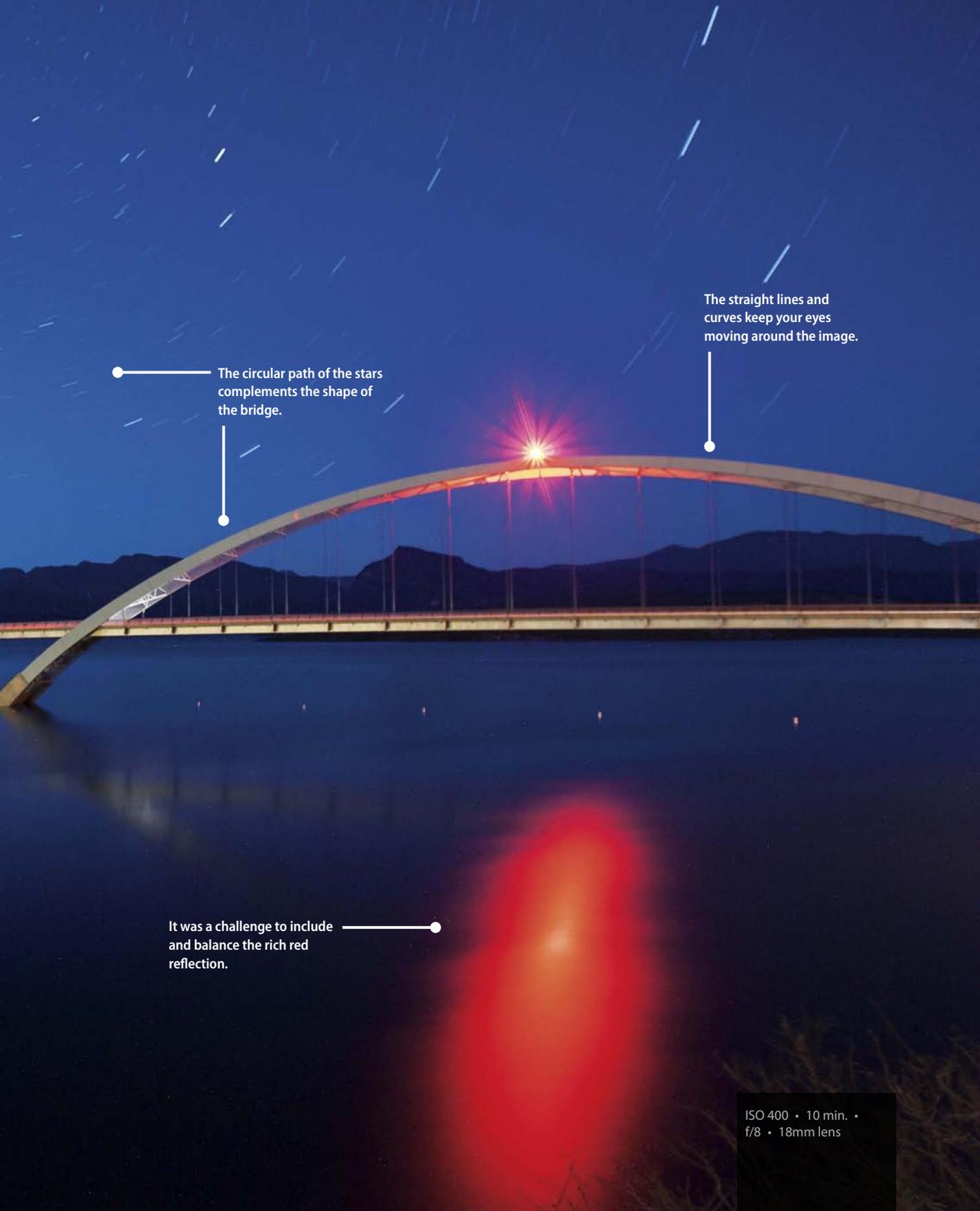
Our eyes are drawn to vivid colors and bright light, but what we keep in the shadows can be just as important as what we reveal. I was careful to light only the steps of the ladder so your eyes are led up each rung, ending in the rich blue sky.

ISO 200 • 4 min. •
f/8 • 21mm lens

Poring Over the Picture



Structures can take on a whole new meaning in the night. We bridge the gap between space and time as reflections, movements, and colors transform what would have been, during daylight, a normal scene. I don't usually center the horizon line, but it works here because there is equal importance above and below.



● The circular path of the stars complements the shape of the bridge.

● The straight lines and curves keep your eyes moving around the image.

● It was a challenge to include and balance the rich red reflection.

ISO 400 • 10 min. •
f/8 • 18mm lens

The Many Colors of the Night

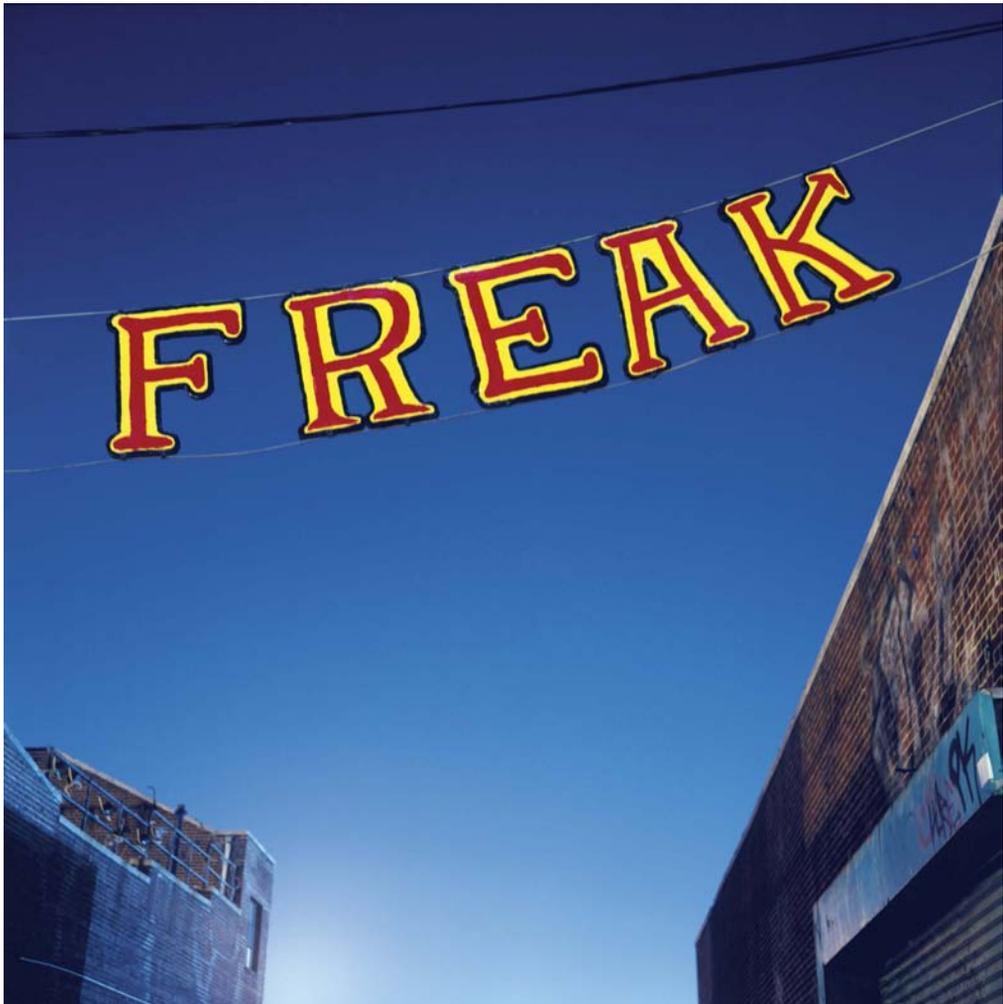
Most of us describe the colors of the night as either warm or cool, but it is also important to understand that color evokes emotion. Blue can be calming as well as melancholy. Red may be bold, but is it with love and passion or with frustrated tension? Your interpretation of the light conveys your visual message. Take a look at your favorite photographs—is the color of the light helping evoke the emotions you feel?

Color Primer

The boldest colors with the most impact are the primary colors: red, yellow, and blue. In **Figure 4.1** the red and yellow letters stand out strongly against the blue of the sky. Mixing two primary colors yields the secondary colors: Red plus yellow equals orange. Add red to blue and you get purple. Blending yellow and blue results in green. What's important to recognize is the relationship that colors have with each other. This can easily be viewed on the color wheel (**Figure 4.2**).

Figure 4.1
The red and yellow letters make this a bold and graphic picture.

ISO 160 • 2 min. •
f/5.6 • 80mm lens



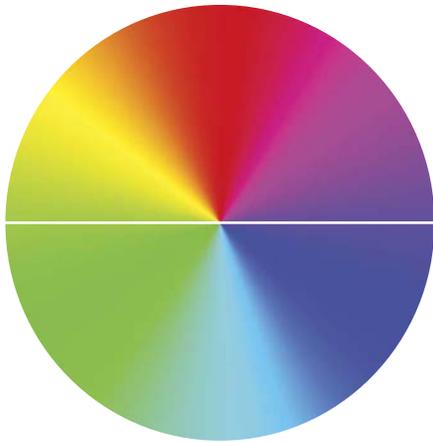
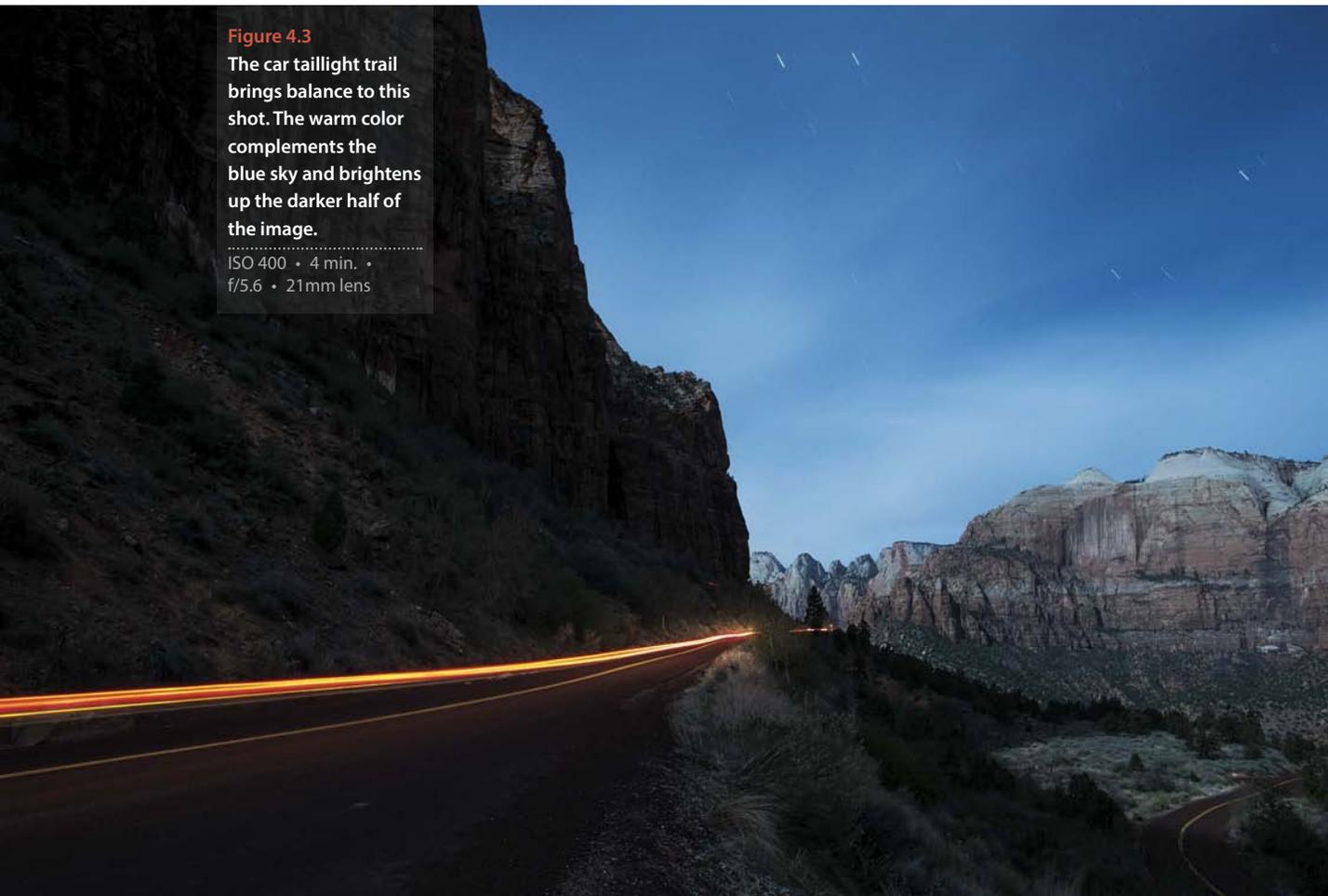


Figure 4.2 Opposites attract—cool and warm colors live opposite each other on the color wheel. They complement each other when used together in an image.

Complementary colors lie opposite each other and bring out vibrancy and contrast when used together in an image. A common complementary combination at night is the blue of the sky and the yellow/orange ambient light from streetlights. In **Figure 4.3** the red/orange taillights provide a nice warm pop in an image whose main color is the cool blue of the sky.

Figure 4.3
The car taillight trail brings balance to this shot. The warm color complements the blue sky and brightens up the darker half of the image.
.....
ISO 400 • 4 min. •
f/5.6 • 21mm lens



Analogous, or harmonious, colors are adjacent to each other on the color wheel and produce a softer, subtler look. They can appear monochromatic because their contrast and tonality don't vary that much. The main colors in **Figure 4.4** are orange, yellow, and green. They provide a smooth background for the black and white bike to hang from. The yellow adds the strongest contrast because it is the brightest. Our eyes are always drawn to the brightness and most colorful part of a picture.

Figure 4.4
Using colors that are next to each other on the color wheel gives an image a soft, painterly feel with little contrast.
ISO 3200 • 1/20 sec. • f/3.2 • 50mm lens



Light Sources and Their Color Temperatures

All light has a color temperature (how warm or cool the light source appears). The standard unit of measurement for color temperature is Kelvin (K). The lower the Kelvin number, the warmer the color appears; the higher the number, the cooler it appears. **Figure 4.5** is a standard Kelvin chart that shows the colors as well as their common sources. Learn to recognize color temperatures so you can capture them accurately. We have all seen the wonderful warm light of candles on a cake, but have you captured it successfully or did the flash's white light blow it away?

We are actually approaching a new age in nighttime color: In the United States, the orange glow of sodium vapor streetlights is quickly disappearing as more and more cities replace them with eco-friendly LED lights, which are cooler and have less character. The common incandescent light bulbs that were in every household have been phased out in favor of CFLs (compact fluorescent lights). At least CFLs come in three flavors: soft white, bright white, and daylight. Have you ever shot an office building and noticed a green or magenta color cast coming out the windows? That is the light of low-cost fluorescent bulbs. In rare instances you might see the greenish blue light of the metal halide or mercury vapor in light sources in parks, streetlights, parking lots, and industrial sites. **Figure 4.6** shows a high-pressure sodium vapor light and a metal halide light on the same post.

Figure 4.5 Light sources and their color temperatures.

Type of Light Source	Kelvin Rating
Candlelight	1500K
High Pressure Sodium Vapor	2000K
Soft White CFL	2500–3000K
Bright Whitel CFL	3500–4100K
Moonlight	4100K
LED Streetlights	4000–5000K
Daylight at Noon/ Flash/Daylight Bulbs	5500K
Fluorescent	4000–6000K
Metal Halide	5000K+
Mercury Vapor	6500K+
Twilight	9500K



Figure 4.6 The orange high-pressure sodium vapor light shines on the street, while the blue/green metal halide light is pointed in the opposite direction to illuminate the park.

ISO 3200 • 1/4 sec. • f/8 • 35mm lens

White Balance

How your camera reads color temperature depends on its white balance (WB) setting. This is one of the most important buttons on your camera. The default is Auto White Balance (AWB), which does an OK job during the day. However, a typical AWB range is 3000–7000K, and it is heavily influenced by the strongest light source. AWB struggles at night, especially when you have multiple light sources with varying temperatures.

One of the benefits of digital is that every camera has several source-specific white balances. Each setting applies varying degrees of the opposite color temperature, so any color cast is neutralized. The two most popular settings at night are the Tungsten, or Incandescent, setting and the K (for Kelvin) setting.

The symbol for the Tungsten or Incandescent setting (the name varies depending on the manufacturer) is a light bulb. This is a good setting to start with in most night scenarios. Streetlamps and moonlight tend to warm up the night, so by setting the WB to Tungsten, you can cool the image down and give it a nighttime feel.

The K setting lets you take even more control over the color and mood. You can dial in temperatures from 2500–10000K to suit your needs. This setting is very important when there is a mix of several different colors in the image. The combination of metal halide and high-pressure sodium vapor in **Figure 4.7** made it difficult to choose the correct WB setting. I turned on Live View in my camera and toggled through the WB settings before settling on one that best represented the image. If you are new to WB or the light is tricky, this is an excellent technique to employ. Turn the temperature up or down to see which one looks best to you.

Figure 4.7
I used Live View to balance the colors from the metal halide light (left) and the sodium vapor light (right).

ISO 200 • 2 min. •
f/4 • 50mm lens



The WB setting influences the overall mood of the image. You want to incorporate, not neutralize, the colors of the night. Sometimes they just need a little adjustment to tone them up or down. If you shoot raw, you'll have more leeway to adjust your WB in post, but I like to get as close to the color I'm trying to achieve in the field. I can "read" the scene better, and it influences the other adjustments I make.

Light Painting

Light painting is one of the most expressive and creative ways to capture the night. When you paint with light, you add a new source of brightness to the picture. You can use it to simply open up uninteresting shadows, or you can add splashes of color to change how the viewer sees the image. Given the long exposures of night photography, you can paint or draw almost anything in your imagination. The instant feedback of digital, combined with the availability of so many light sources, makes this a very exciting time to experiment with painting with light.

Controlling Brightness

- **Ambient light.** Longer (slower) shutter speeds increase the brightness of ambient light; shorter (faster) shutter speeds decrease its brightness.
- **Added light.** Larger apertures (smaller numbers) increase the brightness of added light; smaller apertures (bigger numbers) decrease its brightness.

Light Painting from Start to Finish

Light painting is all about balancing the ambient light with the light that you're painting. Think of it as combining two different layers in the picture. One layer is the ambient, or base, layer; the other layer is the light you add to the darker areas of the image.

The first step is to assess the situation. Before I even set up my composition, I walk around the scene to see how the light and shadows are falling. Then I go back to the camera and figure out my composition and base exposure with several test shots. When you're light painting, it's a good idea to underexpose your base exposure by a half or full stop, especially when the sky is the main source of ambient light. This gives the image a nocturnal feel and enhances the contrast of the light painting. **Figure 4.8** is a high-ISO test shot. The brightest ambient light is the sky, and the foreground is dark and prime for painting. I liked the direction of the light falling on the statue and wanted to highlight it.

Now that you've established a base exposure, you need to figure out how much light painting to add. You can control the brightness of the ambient light by increasing or decreasing your shutter speed. The brightness of light painting is controlled in the camera by the aperture. ISO affects both ambient and additional light the same way; it cannot change the ratio between them. So although a high-ISO test shot is great for figuring out composition and ambient exposure, it does not help you gauge how much light painting to add. If you raise your ISO for a test shot, you will need to lower it accordingly before assessing the light painting. Otherwise, your light painting will be overexposed (**Figure 4.9**). The better light painting test shot is shown in **Figure 4.10**. Remember that this is the second layer; I'm not including the ambient light in my light painting test shots. This cuts down the time needed to take three or four test shots to figure out the power, distance, and angle of the light that I want to add.



Figure 4.8 This high-ISO test shot helped me read the ambient light in the scene and assess where light painting would be needed.

ISO 6400 • 6 sec. • f/4 • 50mm lens



Figure 4.9 Because I didn't change my exposure from the high-ISO test shot, the light painting just adds more light onto the scene and overexposes the statue.

ISO 6400 • 6 sec. • f/4 • 50mm lens

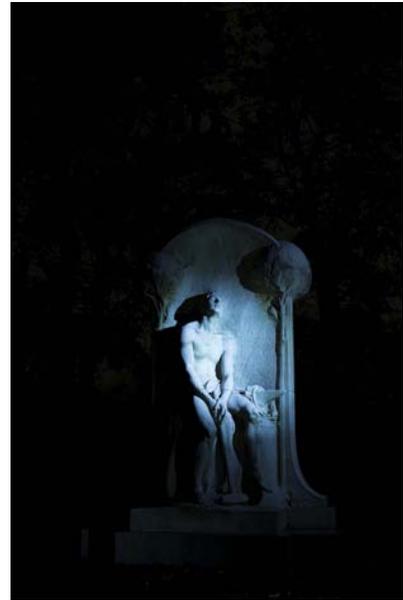


Figure 4.10 I like the placement of the light in this test shot, but it's a little bright, so I dialed the flash down half a stop.

ISO 200 • 3 sec. • f/4 • 50mm lens

The tight beam of light in Figure 4.11 was from a snooted flash raised high on a painter's pole. It took me a couple of tries to get the power and placement of the flash right; you can see one of my first attempts in **Figure 4.11**.

Now it's time to add the ambient light and the light painting together in a single exposure. **Figure 4.12** shows the 2-minute base exposure with the pop of the flash that lit the statue. I used a 40-lumen flashlight low to the ground to subtly open up the grass, which took some practice. Do three or four takes of your final shot—there will be subtle variations each time you paint.

Light Painting Tip

You will learn light painting faster and have more fun when you work together with someone. One person should stay at the camera to see how the light is falling and relay that information back to the painter.



Figure 4.11 You'll need to practice to get the time, angle, and distance correct.

ISO 200 • 9 sec. • f/4 • 50mm lens



Figure 4.12
I cooled down the color temperature of the flash in post to give this photo a moonlight feel.

ISO 200 • 2 min. • f/4 • 50mm lens

Flash vs. Flashlight

The two most common sources of light to paint with are the flash and the flashlight. Always have at least one of each in your bag. Flashes add a big burst of light that can illuminate a dark room or freeze action. They can also be measured with a meter, which makes it easy to figure out the proper amount of power to set. You will be operating the flash in manual mode, so be familiar with how to set all of your flash's settings, from full power all the way down to the lowest. The cool thing about flashes is that there are lots of modifiers that sculpt the light and make it bigger (softer) or smaller (harsher). I often put a colorful gel on my flash to add a complementary or contrasting color to the scene (**Figure 4.13**). But the darker the gel, the less light comes through it—you'll need to either increase the power of the flash or do multiple pops. Some gels have markings that show how many stops of light you are losing so you can compensate properly.

Figure 4.13

It took four pops of the red-gelled flash at full power to light up this beehive rock.

ISO 800 • 15 min. •
f/5.6 • 18mm lens



Flashlights are a night photographer's paintbrush. You can gently finesse the light from a flashlight. And because you have to keep the flashlight moving (so you don't get a hot spot in your image), it creates a softer and more diffused light than a flash. A flashlight is perfect for opening up the shadow area in an image (**Figure 4.14**). Keep your lighting as even as possible. It's hard to repeat the same strokes, so sometimes it's better to back up and get a bigger spread of light rather than constantly stroke the flashlight back and forth. Keep track of the amount of time you are painting or the number of passes you make with the flashlight. There is a learning curve to using a flashlight, but once you get it, you'll find it an indispensable tool.

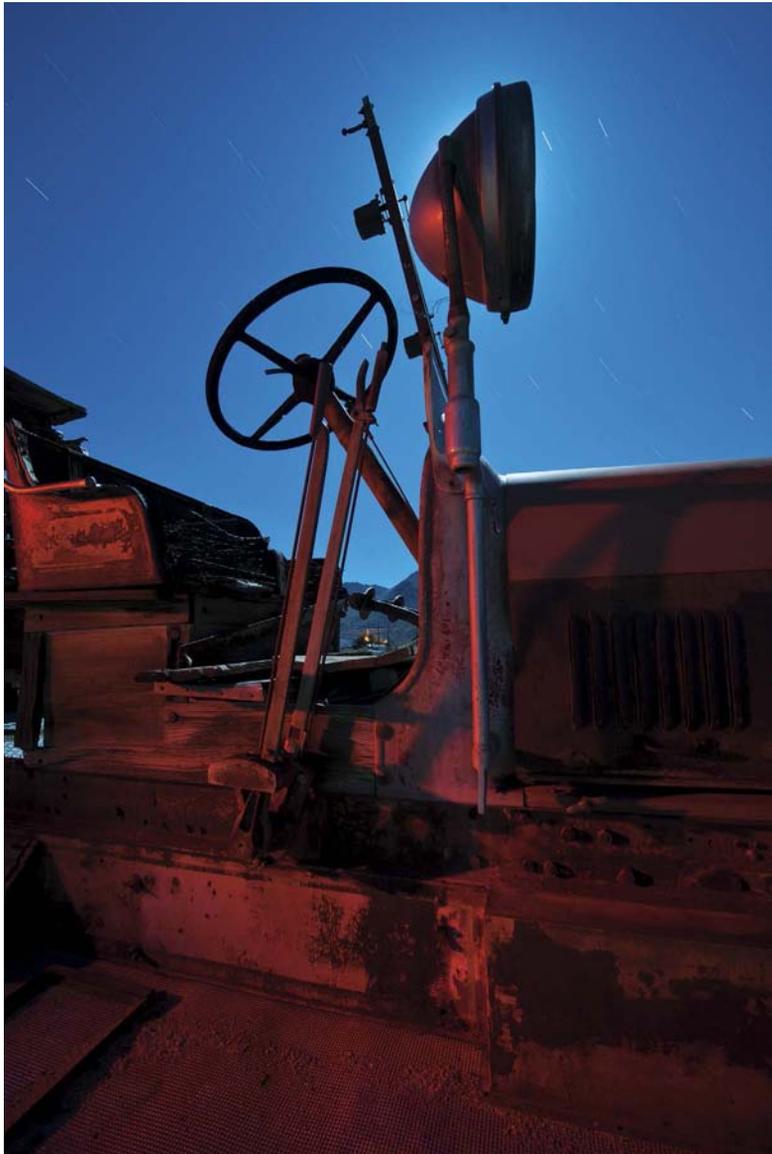


Figure 4.14

This firetruck was completely in shadow. I moved so that the headlamp blocked the moon, and then I used a low-power red flashlight at a 90-degree angle to paint the light.

ISO 320 • 7 min. •
f/8 • 14mm lens

A flash's color temperature is 5500K; a flashlight's color temperature varies depending on what type it is (incandescent, LED, xenon, and so on). I prefer warmer flashlights, which add contrast to the cooler night light I like to work under. I always carry several CTO (color temperature orange) filters, which help convert cooler light sources (like a flash) to a warmer light. CTO gels come in a variety of "cuts," or densities: full CTO converts 5500K to 2900K; 3/4 CTO converts 5500K to 3200K; 1/2 CTO converts 5500K to 3800K; 1/4 CTO converts 5500K to 4500K; 1/8 CTO converts 5500K to 4900K.

You can purchase a sheet of these inexpensive gels and use them over flashlights or flashes. They are also available in convenient kits. To figure out what gel to use with a scene, take a test shot to gauge your ambient light and see what in-camera WB setting looks best. Since I typically shoot between 3800K and 2900K, depending on the light source, I always bring three CTO gels: 1/2 cut, 3/4 cut, and full cut.

Figure 4.15 is a shot that I worked on with a student, Albert Bronson, during a workshop that Tim Cooper and I teach. It definitely needed two people to assess and paint the scene. First we worked our composition so that the dark bus was in front of the lighter rock. We knew we wanted to light up the interior of the bus, so we chose a blue light that would contrast with the yellow exterior. I used a blue-gelled flash—three pops at full power—and was careful not to create any hotspots on the reflective interior. Albert used a high-power incandescent flashlight at a 90-degree angle from the left side, out of frame. He also came in at a 45-degree angle to paint some light on the black tires. It took us several attempts before we were happy with the result, and the cool and warm colors really complement each other in this scene.

Figure 4.15

I often use a combination of flash and flashlight to light a night scene. Using gels will help you play warmer and cooler colors off each other.

ISO 400 • 2 min. •
f/8 • 21mm lens



The Power of Light

There are two important factors to consider when figuring out how much light to add to a scene: the power of the light source and the reflectivity of the subject matter.

Every light source can be rated for power. Flashlights are rated in lumens; flashes can be set from full power to 1/128 power. The intensity of a light can be controlled in several ways: dialing the power of the unit up or down, adjusting your aperture, or moving the light source closer to or farther from the subject. We all understand that the closer the light source, the brighter it will be, but there can be a significant decrease in brightness by moving it just a few steps farther away.

Now let's look at the reflectivity of the subject. Is it light or dark? Is it textured or glossy? Lighter colors reflect light better than darker colors. Metallic and glossy surfaces can be highly reflective and create specular highlights. The more light reflects off the subject, the less light you will need to paint.

Figure 4.16 is my light painting collaboration with Troy Paiva. The truck was white, highly reflective, and in the shadow of the moon. There was a lot to light, so we divided the duties. I handled the candy striping of the truck, and Troy worked on pulling out detail in the tires and shadows. I had to stand about 30 feet away in order to make the beam of light the correct size to fill in the lines of the truck. Because the subject was so reflective and my flash was 80 lumens, one pass of light was sufficient. The trick I learned here was to turn my flashlight on out-of-frame and point it to the sky; turning it on where it should be on the truck created a hot spot of light. It was easy to match up the beam of light above the truck and then with one quick motion fill in the reds and then the greens. Meanwhile, Troy worked the lower, darker foreground, which was a black hole of shadow. He made several passes with his flashlight low to the ground. He was careful not to fully open up the shadow, and the low angle created the perfect amount of contrast and texture. He then spent the rest of the time opening up the tires (black tires are notorious for absorbing lots of light). It took a few test shots to figure out all the painting details. Troy is a master light painter—check out his work for inspiration!



Figure 4.16 This scene had a variety of surfaces to deal with and required many angles and distances to get the most from our flashlights.

ISO 200 • 2 min. • f/8 • 22mm lens

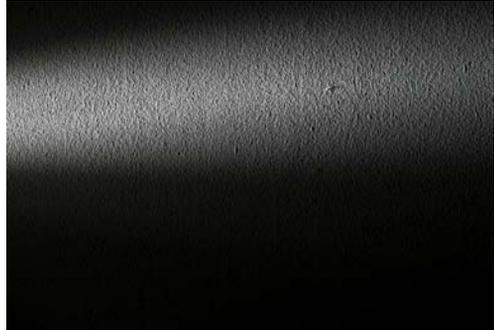
Direction and Bounce

Want to add dimension to your subject? Then don't light it while you are standing next to the camera— that's where the flattest and least interesting light comes from. The perfect way to see this is to shine a flashlight directly at a white wall (**Figure 4.17**). Now hold the flashlight parallel against the wall and shine the light (**Figure 4.18**). Look at all the detail and texture that you can pull out of a boring white wall.

Figure 4.17 (left)
Frontal lighting from beside the camera does not show the subject's depth or texture.



Figure 4.18 (right)
Side lighting can pull texture out of places you wouldn't expect.



If your subject is textured, light it from the side to call attention to it (**Figure 4.19**). Painting with light is not about obliterating the shadows and revealing all the information—it's about creating interesting light that accentuates the subject matter.

Figure 4.19
If the subject has an interesting texture, emphasize it by lighting it from the side.

ISO 200 • 40 sec. •
f/11 • 18mm lens



A light source doesn't have to be direct. You can bounce or diffuse it to create a soft light that still shows texture. This is an excellent technique to use when you don't want to create more contrast in a scene. The light will be a soft, subtle light that, if done correctly, will look like there was no light painting added. I lit the Texaco sign in **Figure 4.20** with a quick hit of my 40-lumen flashlight. The sign was highly reflective (metal and white), which made it difficult to evenly light it with direct light, no matter what angle I used. So I pulled out my trusty 8x10 white card. I pointed the flashlight toward the white card and directed the diffused light toward the sign (**Figure 4.21**). Diffused light requires more time to paint than direct light. The timing depends on distance and reflectivity, but for this sign I bounced the light for more than half the exposure; for the direct shot in **Figure 4.20**, it was just a flick of the switch.



Figure 4.20 (left)
I like the vibrancy of the sign's colors, but its reflective surface made it tricky to light evenly with direct light.

ISO 400 • 2 min. •
f/4 • 35mm lens



Figure 4.21 (right)
With bounced light, it doesn't even look like there was any painting added. Note the illumination where the light bulb is, as well as the texture of the rusty bullet holes.

ISO 400 • 2 min. •
f/4 • 35mm lens

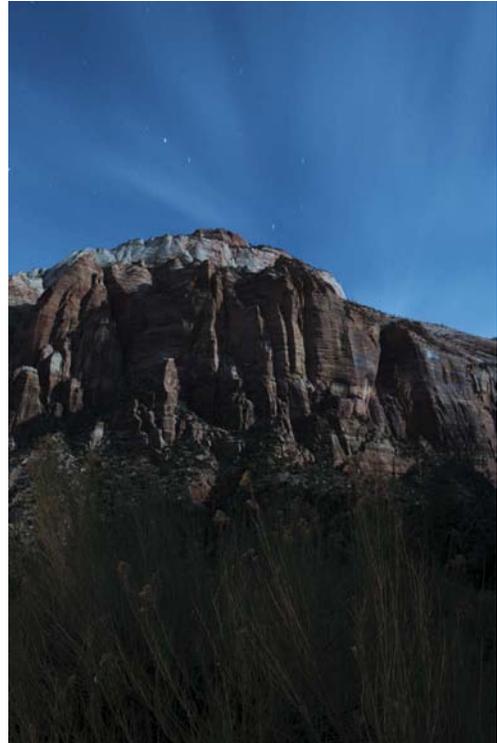
If you forget your white card, you can bounce light off the ground. This works best when the subject is close to the ground. (A white card is better when the subject is farther away.) **Figure 4.22** is a high-ISO test shot from Zion National Park. I was drawn to how the moon's side-lighting revealed the crags and crevices of the mountain. I added even more texture by including the foreground shrubbery, which had been hidden in the shadows (**Figure 4.23**). For two minutes, I pointed an 80-lumen flashlight toward the ground about 5 feet from where the shrubs enter the frame. At that distance, an evenly diffused light reflected off the plants.

Figure 4.22 (left)
The test shot for the ambient exposure confirmed the large shadow area, which I would need to either crop or subtly light.

ISO 6400 • 15 sec. •
f/5.6 • 21mm lens

Figure 4.23 (right)
The reflected light of a flashlight adds the perfect amount of luminosity to the foreground, leading the eye up to the mountain.

ISO 400 • 4 min. •
f/5.6 • 21mm lens



Do you really need to hold the light in your hand and shine it from just off-camera? What if you were to put it in your scene? In **Figure 4.24**, I placed a low-power red flashlight in a defunct furnace; the interior was dark but not very reflective, so I could leave the 10-lumen flashlight on for the entire exposure. The dramatic light effect in **Figure 4.25** was a collaboration with Matt Hill. I placed a large sparkler behind the statue to create a beautiful golden light that separated it from the wall. Matt used a flashlight from the left side to create a nice accent, and then swept the light across the foreground to make sure that the shadows weren't too dark. Look for unusual places to put your light. If you have flashes that can be triggered remotely, think about where you could place them to create cool lighting effects.

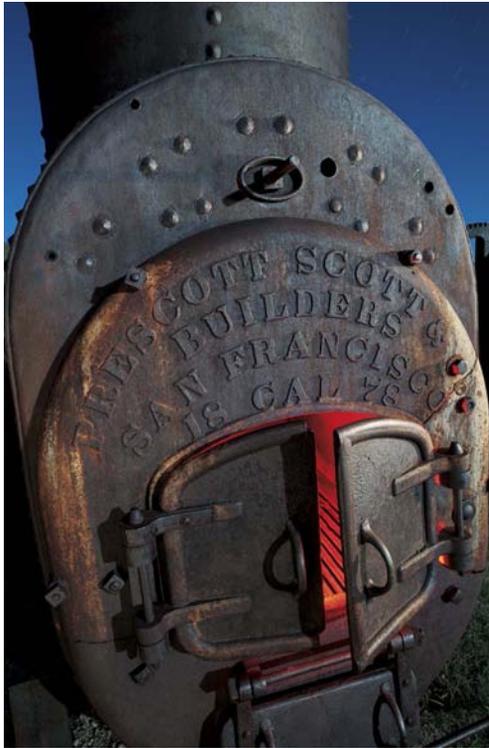


Figure 4.24 (left)
As soon as I saw this furnace I knew I wanted to breathe life into it. I just needed to make sure that the camera saw the red light reflecting off the interior.

ISO 200 • 8 min. •
f/8 • 21mm lens



Figure 4.25 (right)
I taped a sparkler to the back of my model, and it created a dramatic separation between her and the wall.

ISO 200 • 6 min. •
f/8 • 18mm lens

Don't Over-paint

Light painting can be a lot of fun, and in the beginning you'll probably want to paint everything in sight! And you probably should, because by making mistakes you'll learn what works and what doesn't. But not every shadow needs to be revealed. I love the strong lines cutting across the lower part of the frame in **Figure 4.26**. The moon was lighting one side of the structure with a direct and flat light. I went to the "dark side" and composed my shot so that I could highlight the ripples of the corrugated metal. I liked the dramatic shadow on the bottom of the structure but wondered if it was too heavy for the scene. So I took another picture, this time painting underneath (**Figure 4.27**). It revealed the framework underneath, which isn't as interesting and competes with the other lines in the image. Experiment by taking multiple shots of your light painting. That way, you can figure out which one best represents the scene.

Figure 4.26 (left)
Not every shadow needs to be revealed. This one emphasizes the structure cutting across the frame and gives it more weight and presence.

ISO 400 • 4 min. •
f/5.6 • 21mm lens

Figure 4.27 (right)
This version opens up the shadow underneath, but it just creates competing highlights and lines that I find distracting.

ISO 400 • 4 min. •
f/5.6 • 21mm lens



When you bring a new source of light into an image, you are putting your stamp on it, no matter how subtle or sophisticated it might be. I've given you guidelines, but there is no exact science to most of it. Experience is the key. The more you repeat the techniques, and the more environments you put yourself in, the more comfortable you will become. My best photographic work came when I was just starting to explore a new style or when I became so comfortable with it that I could easily apply my vision to it.

Writing with Light

To write with light, you deliberately place a point light source in the frame and “draw” with it. The image is no longer about what the light is reflecting, but about the light source itself. You can write with flashlights, glowsticks, sparklers, or anything else that emits light. Incredible art and “light graffiti” can be created with this simple concept.

Basics

Once you trip an exposure, any direct light source that is seen by the camera—such as someone walking into your shot with a flashlight, phone, or headlamp—will leave a light streak in the photo. In **Figure 4.28**, an 8-minute exposure, I walked into the frame and bounced a red-gelled flash six times while a friend (visible in the center of the frame) spun some fireworks. You don't see me because I was constantly moving and my body blocked the direct light of the flash from the camera. If you look carefully, you'll see one red pop of my flash in the lower-right side. I was so obsessed with making sure the rocks were lit that I forgot where the camera was in relation to the flash.



Figure 4.28 This was an early exploration of light painting, and I was more concerned with lighting all the rocks. I popped the flash from almost every angle, creating a very flat light.

ISO 400 • 8 min. • f/7.1 • 24mm lens

Light Writing Tips

- Use brighter lights farther away and dimmer lights up close. A tight beam lets you create more precise patterns and designs.
- Turning a light on and off in view of the camera can be tricky. Sometimes you'll need to block the light with your hand, body, or clothing.
- Do you want to be seen writing? If not, wear black clothing.
- Write over water or reflective surfaces to create fascinating reflections.
- Write over darker parts of the background for greatest contrast.
- Whatever you draw will appear backward, so either write backward or flip the photograph horizontally in post.

Phones and tablets are fun light writing tools, and you always have them on you. In **Figure 4.29**, I walked into the frame with the screen of my phone pointing toward the camera. I shut it off about 15 feet into the picture to create the single blue bolt of light leading you up the path. This also allowed me to walk back to the camera without painting any more light onto the image.

Sparklers are another playful light source to write with. Unlike a phone, which can leave a very clean streak of light, the sparkler burns a jagged light. With any light writing, you need to be careful not to write over previously lit areas; otherwise, you risk the possibility of those areas being overexposed. In **Figure 4.30**, three brave night photographers each held a sparkler at a different level and walked around the mausoleum to create a very dramatic effect.

Figure 4.31 is a wonderful example of combining light writing and a portrait. I took some students from NYC SALT (a photography program for inner-city teens) on a night walk along the Highline. I found a darker area on the pathway and placed the kids in the shot. Andrew drew the stick figures, and then I popped a flash to freeze the students in the shot. Then they got out of the picture—except for Ashley, who wrote *Highline* across the top of the frame. I fired the flash one more time as she finished spelling it out, creating a multiple exposure of her. Donis, all the way on the right, appears ghostly because the brighter background continued to add light where he was sitting and burnt through his portrait.



Figure 4.29 (left)
The light writing took 10 seconds, and then I waited 8 minutes for the ambient light to reveal the rest of the picture.
ISO 200 • 8 min. • f/5.6 • 28mm lens



Figure 4.30 (right)
The sparklers give this shot a frenetic vibrancy—you can feel the other-worldly energy.
ISO 200 • 6 min. • f/9 • 21mm lens



Figure 4.31
Ashley did a great job of spelling backward. She also had to turn the flashlight off and then back on each time she completed a movement so that the light wouldn't continue to trail in the shot.
ISO 200 • 6 min. • f/9 • 21mm lens

The Night Portrait

It can be a struggle to take a simple night portrait that shows off not only the subject but also the surroundings. When you take a picture of a friend in front of the many city lights, why does the background come out pitch black? In this section, I introduce you to the wonders of slow sync, as well as some creative effects with and without flash.

Slow Sync in Low Light

This is an easy technique, and conquering slow sync will improve your low-light snapshots immeasurably. We've all experienced the limitations of flash at night. In night portraits, often the subject is illuminated but the background is black (**Figure 4.32**). The quick fix is to use a longer shutter speed by switching your flash to slow sync or your camera to Night Portrait mode. This adds more ambient light by keeping the shutter open longer as the flash fires (**Figure 4.33**). Shutter speed controls the amount of ambient light that comes into the picture. No matter how much flash you pop, you can't light up the sky.



Figure 4.32 In Auto mode, the flash fires and the shutter speed remains a safe 1/60 of a second to prevent camera shake. But this quick shutter speed kills the ambient light, and the built-in flash on a point-and-shoot camera has only enough power to go 10–15 feet.

ISO 200 • 1/30 sec. • f/2.8 • 28mm lens



Figure 4.33 A slower shutter speed lets in more ambient light and reveals the skyline.

ISO 200 • 4 sec. • f/2.8 • 28mm lens

Understanding this concept will improve your flash photography in low-light environments like restaurants and clubs, where you want to light the subject but not lose the feel of the surroundings. Keep an eye on your shutter speed—you don't want it to be below 1 second unless you are on a tripod and your subject is still. From 1/2 to 1/15 of a second will usually work (Figure 4.34). Be aware that any direct light sources will permanently burn into the picture, but you can work that to your advantage—a cool trick is to spin or move the camera during a slow sync exposure. In Figure 4.35, I asked the subject to remain still. The flash fired, and I had half a second to spin the camera around, which created a rainbow effect on the lights.



Figure 4.34
The subject was moving slowly enough for the flash to freeze her in a sea of movement and color.

ISO 200 • 1/8 sec. •
f/2.8 • 24mm lens

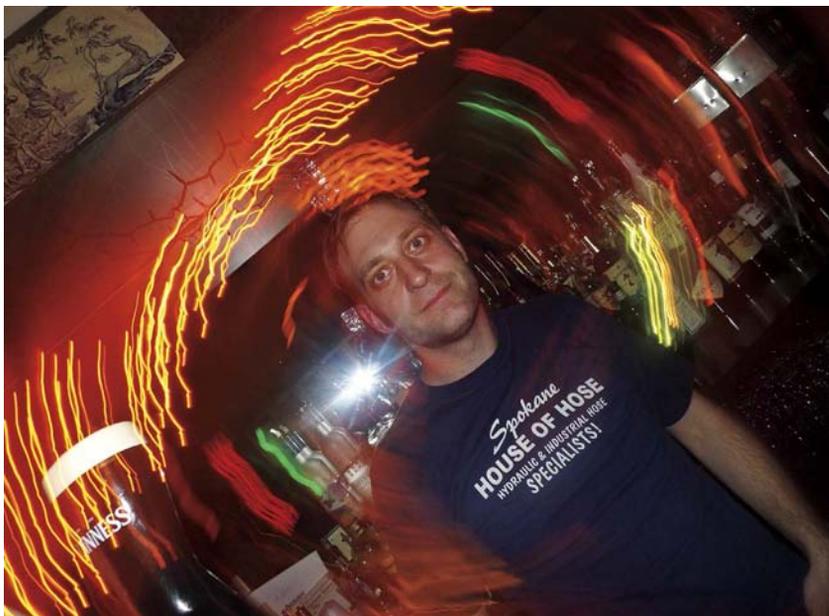


Figure 4.35
By spinning the camera during the exposure I was able to make the lights trail around the subject.

ISO 200 • 1/2 sec. •
f/3.2 • 24mm lens

The Ghost

My early explorations in long exposures proved that objects or people could “disappear” in an image, depending on how long they remained in the frame. This led me to think about how I could control it. Ghost photography has been popular since the beginning of the art form. So how do you do it? The easiest way is to think about mass and time. If something is in the frame for only half the exposure, then only half of it will show up. **Figure 4.36** was an early test of this theory. I sat as still as I could for half of the 6-minute exposure. This shot works because I had two factors going my way. First, my clothing was darker than the white background of the steps. Dark subjects stand out better against light backgrounds, and vice versa. Second, my camera was about 20 feet from the steps, and I shot with a wide lens, so I’m small in the picture. If this had been a tighter shot, my slight movements would have been magnified.

Figure 4.36
One reason this ghost shot works is that I’m wearing clothes that contrast with the background.

ISO 200 • 6 min. •
f/8 • 28mm lens



It can be hard for a subject to hold still for longer than a second. An easier way to create ghosts is to incorporate flash. Flashes work better than flashlights because they fire a lot of light for a fraction of a second, freezing the action. You can often light a person with a single pop of a flash, whereas it would take several strokes of a flashlight—running the risk of capturing any slight movement the person makes. **Figure 4.37** is a perfect example of using a flash to create several ghosts. I lit the subject three times with a Vivitar 285 flash at full power. Her head is the only thing that appears because it is more reflective than the black coat that's covering her body. Black absorbs light, so I would have needed to fire the flash two or three more times to make her body stand out against the darker background. But triggering a flash multiple times with the subject staying in the same spot has its own problems: If the subject moves even slightly between flashes, the light will create a blurry overlap.



Figure 4.37
I lit the closest figure from a 45-degree angle just off-camera. Then I moved behind the wall to the right. You can barely see the third ghost because the distance of the flash from the subject doubled, lessening the power of the light.

.....
ISO 100 • 4 min. •
f/8 • 80mm lens

What if you want your image to be a true night portrait rather than a moody ghost image? Fire the flash once, and have the subject hold their position as you finish the exposure.

Figure 4.38
Balance the ambient light with the flash. If I had reduced the shutter speed to 5 seconds, the background would be darker and I would have lost the sense of the environment.

ISO 200 • 10 sec. •
f/8 • 28mm lens

This builds density in a softer way than illuminating them again with a flash. You may have to reduce the ambient light by using shorter shutter speeds. If your model is in front of a bright light source, like a streetlight, it will burn through your portrait, so be careful where you place them.

For **Figure 4.38**, I fired a flash at one-quarter power each time the subject struck a pose. I tried to keep the flash the same distance from her so the power of the light wouldn't change. The flash was in a grid to keep it a tight beam and limit the light falling on the foreground. The flash was fired from above, so it reflected more off the top half of her body than the bottom.



Chapter 4 Assignments

Paint with light

Add light painting to your night photography repertoire. Experiment with a variety of subjects. Try angles that accentuate texture, and try placing the light source inside the frame. Experiment with different colors and color temperatures. But remember to paint in the shadow areas, not in the highlights.

Write with light

Bring your light source into the frame and point it back at the camera. Draw simple shapes and designs. Familiarize yourself with writing words backward, and use different light sources to create patterns. Spin the light around to create a ball of light. When you get comfortable, challenge yourself to make it about more than just the drawing. Try to make the light writing and the environment complement each other.

Create a night portrait

Hone your slow sync capabilities, and be the hit of the next party with shots that show just the right amount of flash and movement. Tell people to hold still after the flash fires, or play with time and have them be ghosts in the shot. Mix in as much ambient light as possible, but be aware of it burning into your portrait.

Share your results with the book's Flickr group!

Join the group here: www.flickr.com/groups/night_fromsnapshotstogreatshots

This page intentionally left blank

Index

32-bit images, 204
500 rule, 152

A

abstract photos, 141
Acratech GP-s ballhead, 16
Acronis True Image program, 175
action. *See* motion
Adams, Ansel, 169
added vs. ambient light, 93
Adjustment Brush tool, 202–203
Adobe Photoshop. *See* Photoshop
Adobe Photoshop Lightroom. *See* Lightroom
Adobe Standard profile, 196–197
airplane trails, 165–166
aluminum tripods, 15
ambient light, 93, 108
analogous colors, 90
angles
 low, 125
 moon, 141
aperture setting, 37–38
 added light and, 93
 assignment on testing, 55
 depth of field and, 38
 exposure triangle and, 42–43
 full-stop increments for, 41, 51
 lens focal length and, 38
 lightning photos and, 161
 moon photos and, 140
 reciprocal exposures and, 42–43
 six-stop rule and, 53
apps, smartphone, 22, 64
As Shot white balance, 183, 184
astronomical twilight, 129
Auto Align option, 208
Auto Mask check box, 202

Auto White Balance (AWB) setting, 92
autofocusing, 63
Auto-moonscape image, 20

B

backpacks, 6
backups, 175
ballheads, 16
Basic panel (Lightroom), 183–191
 histogram, 190
 Presence section, 190–191
 Tone section, 187–189
 WB (white balance) menu, 183–186
battery packs, 17
black and white card, 22
black and white film, 11
black card technique, 154
Blacks slider, 187, 188
blended images
 car trails as, 208–209
 HDR photos as, 204–205
 star trails as, 206–207
blinkies, 49
blue hour, 127
Blue Luminance slider, 171
boat lights, 165
bokeh, 134
Bolt Compact Battery Pack, 17
bounced light, 101–102
breaking rules, 73–75
bridge photos
 Brooklyn Bridge, 27, 118–119
 Golden Gate Bridge, 78
 Rio-Antirio Bridge, 2–3
 Tower Bridge, 122–123
Bronson, Albert, 98
Brooklyn Bridge photos, 27, 118–119

Bruges, Belgium photo, 170–171
bubble levels, 21
Bulb (B) mode, 43–45
 examples of shooting in, 44–45
 slow shutter speeds using, 43
Bunker Hill photo, 157

C

cable releases, 17
calibrating your monitor, 175
camera bags, 6–7
Camera Calibration panel, 196–198
camera profiles, 196–197, 210
cameras. *See* digital cameras; film cameras; night cameras
Capitol Building, Washington D.C., 60–61
car trails
 assignment on shooting, 210
 capturing in photos, 135–136, 172–173, 208
 stacking in Photoshop, 208–209
Carbon Copy Cloner program, 175
carbon fiber tripods, 15
celestial skies, 151–153
centered subjects, 68, 69
checklists, equipment, 29
chromatic aberration, 196
circular star trails, 9, 10
cityscapes, 132–141
 assignment on shooting, 167
 car trails in, 135–136, 208–209
 detail shots of, 134–135
 grand view of, 133
 motion shots of, 135–139
 new perspectives for, 140
 rule of thirds and, 75
 twilight photos of, 127, 128
 zooming during exposure of, 139
civil twilight, 127
 city-light shots at, 127, 128
 moon photos at, 142, 143
Clarity slider, 190
clipping, 189, 190
clouds
 lightning in, 161
 moonlight and, 132
 shooting at night, 129–132
 See also skies
color, 88–93
 primer about, 88–90
 temperature of, 91
 white balance and, 92–93
color calibration, 175
color films, 11
color fringe, 196
color noise, 194
color temperature, 91–93
 flash vs. flashlight, 98
 Kelvin chart of, 91
 white balance and, 92–93
color wheel, 88–89
colorcast, 185, 186
colorimeter, 175
complementary colors, 89
composition, 57–81
 annotated examples of, 58–61
 assignments about, 81
 basic rules of, 65–79
 breaking the rules of, 73–75
 and focusing in the dark, 62–65
 in-camera tools for, 78–79
 main vs. secondary subjects in, 65–67
 motion accounted for in, 79–80
 night-adjusted vision and, 62
 off-center subjects in, 68–70
 power points in, 76–78
 rule of thirds for, 71–72
computer requirements, 174
continuous lights, 17
contrast adjustments, 188
Contrast slider, 187, 188
Cooper, Tim, 98
Costantini, Andre, 121
CTO gels, 98, 158
cycle of the moon, 141

D

- day for night shots, 146
- Daylight white balance, 184, 185, 186, 192
- depth of field
 - aperture setting and, 38
 - assignment on testing, 55
 - lens focal length and, 38
- desktop computers, 174
- Detail panel, 194–195
- detail shots, 134–135
- Develop module (Lightroom), 182–203
 - Basic panel, 183–191
 - Camera Calibration panel, 196–198
 - Detail panel, 194–195
 - HSL panel, 191–193
 - Lens Corrections panel, 196
 - local adjustment tools, 198–203
- Develop presets, 197–198
- Diana cameras, 9
- diffused light, 101–102
- digital cameras
 - film cameras used with, 11
 - level indicator on, 79
 - Lightroom profiles for, 196–197, 210
 - Night Portrait mode on, 108
 - rule of thirds grid in, 78
 - white balance settings on, 92
 - See also* film cameras
- direction of light, 100
- DOFMaster app, 65
- DSLR cameras, 7

E

- equipment, 1–29
 - assignments about, 29
 - author's travel bag, 7
 - bags for carrying, 6–7
 - cable releases, 17
 - flashes, 17
 - flashlights, 18
 - LED lights, 17

- lenses, 12–14
- light modifiers, 18–20
- night cameras, 7–12
- nocturnal accessories, 21–23
- systems and styles, 23–26
- tripod heads, 16
- tripods, 15
- exposure, 31–55
 - adjusting in Lightroom, 187, 188
 - annotated examples of, 32–35
 - aperture settings and, 37–38
 - assignments about, 54
 - blinkies and, 49
 - Bulb mode and, 43–45
 - factors of, 36–39
 - full-stop adjustments for, 41, 51
 - high ISO test shots for, 50–52
 - histograms used for, 46–47
 - ISO settings and, 36–37
 - Long Exposure NR setting and, 49–50
 - long exposure reciprocity chart for, 51
 - Manual mode and, 40–45
 - metadata info about, 13
 - monitoring the meter for, 40
 - motion and time of, 79–80
 - reciprocal/equivalent, 42–43
 - shutter speed and, 39
 - six-stop rule for, 53, 146
 - zooming during, 139
 - See also* long exposures
- Exposure slider, 187, 188
- exposure triangle, 42–43
- extreme lighting conditions, 163

F

- fairgrounds, 156–157
- fast lenses, 12
- fast shutter speeds, 39
- Feather slider, 202
- film
 - B&W vs. color, 11
 - reciprocity failure, 11–12

- film cameras, 9–12
 - advantages of, 9
 - digital cameras used with, 11
 - recommended for night photography, 9
 - star trails photo example, 10
 - See also* digital cameras
- filmstrip, Lightroom, 182
- filters, variable ND, 21, 22
- fireworks photos, 154–155
- fixed lenses, 63, 64
- flare
 - accessories for, 13, 22
 - cloud photos and, 129
 - moon photos and, 119
 - streetlights and, 164
- flashes, 17
 - color temperature of, 98
 - fairground photos using, 156
 - ghost photography using, 111
 - light painting using, 96–98
 - multiple exposures using, 112
 - power settings for, 99
 - slow sync setting for, 108–109
 - snow shots using, 157–158
- flashlights, 18
 - autofocusing using, 63
 - color temperature of, 98
 - light painting using, 97–98
 - power rating for, 99
 - snoots used on, 20
- Flickr group for book, 29
- focal length, 29, 38
- focus indicator, 63
- focusing, 62–65
 - auto, 63
 - hyperfocal, 64–65
 - manual, 63–64
- focusing scale, 63
- foggy nights, 159
- folding tripods, 15
- freezing motion, 39, 156
- f-stops, 37, 53
 - See also* aperture setting

- Fuji Acros 100 film, 10, 11
- Fujifilm 64T film, 11
- Fujifilm Provia film, 11
- Fujifilm XE-1 camera, 8
- Fujifilm X-Pro 1 camera, 8, 37
- full-frame sensors, 8
- full-moon photos, 145–147
- full-stop adjustments, 41, 51

G

- gear. *See* equipment
- gels, 18, 19, 96, 158
- ghost photography, 110–111
- Gitzo 2540 tripod, 15
- global adjustments, 198
- Golden Gate Bridge photo, 78
- Graduated Filter tool, 172, 198–200
- grainy photos, 36
- grand view of cities, 133
- grids
 - in-camera rule of thirds, 78
 - modifying light with, 18
- Griffith Observatory, 140

H

- hand-holding cameras
 - freedom in, 134
 - shutter speed and, 39
- hard drives, 175
- harmonious colors, 90
- Hasselblad cameras, 9
- Haystack Rock photo, 116–117
- HDR images, 204–205
- High ISO Noise Reduction, 49
- high ISO test shots, 50–52
- highlights
 - adjusting in Lightroom, 187, 188
 - clipping of, 190
 - out-of-focus, 134–135
 - overexposure warning, 49
 - specular, 99

Highlights slider, 171, 187, 188
Hill, Matt, 102
histograms, 46–48
 defiance of, 47–48
 exposures based on, 46–47
 Lightroom Develop module, 190
 moonlight shots and, 146
Holga cameras, 9
Honl gel pack, 18
horizon lines
 example of centering, 86–87
 implied vs. real, 71, 72
 rule of thirds and, 71–72
HSL panel, 191–193, 210
Hue sliders, 191, 192
hyperfocal focusing, 64–65, 81

I

implied horizon lines, 71, 72
Import dialog, 176–178
importing your images, 176–178
Incandescent white balance, 92
inclement weather. *See* weather considerations
Induro PHQ1 panhead, 16
infinity focus setting, 64, 81
intervalometer, 148
iPhone, DOFMaster app, 65
IPTC metadata, 178
Isle of Skye photo, 32–33
ISO setting, 36–37
 assignment on testing, 54
 exposure triangle and, 42–43
 full-stop increments for, 41, 51
 High ISO NR setting and, 49
 high ISO test shots and, 50–52
 light painting and, 94
 noise related to, 36
 reciprocal exposures and, 42–43
 six-stop rule and, 53

K

K setting, 92
Kelvin chart, 91
keywording images, 179–180
Kodak Tri-X 400 film, 11

L

L brackets, 16
laptop computers, 174
Las Vegas photos, 66, 172–173
layers, Photoshop, 206, 208
LED lights, 17
lens cloths, 22
Lens Corrections panel, 196
lens flare. *See* flare
lens hoods, 157
lens shades, 13
lenses, 12–14
 depth of field for, 38
 fixed focal-length, 63, 64
 investing in good, 12
 protecting, 157
 stabilization mode, 13
 telephoto, 14
 wide-angle, 14
levels
 bubble, 21
 in-camera, 79
Library module (Lightroom), 179–181
 keywording images in, 179–180
 organizing images in, 181–182
 rating images in, 181
light, 83–113
 ambient vs. added, 93
 annotated examples of, 84–87
 assignments about, 113
 color of, 88–93
 diffused, 101–102
 direction of, 100
 extreme conditions of, 163
 night portraits and, 108–112

- light (*continued*)
 - painting with, 93–104
 - placing in scenes, 102–103
 - power of sources of, 99
 - writing with, 104–107
- light graffiti, 104
- light modifiers, 18–20
- light painting, 93–104
 - assignment on, 113
 - bouncing light for, 101–102
 - controlling brightness for, 93
 - direction of light for, 100
 - experimenting with, 103–104
 - flash vs. flashlight for, 96–98
 - placing lights in scenes for, 102–103
 - power of light for, 99
 - steps in process of, 93–95
 - working with others on, 95
- light pollution, 146
- light writing, 104–107, 113
- Lighten blend mode, 173, 206, 208
- lighthouse photography, 159
- lightning photography, 160–162
- Lightning Trigger, 160, 161
- Lightroom, 175–203
 - annotated examples of using, 170–173
 - assignments on using, 210
 - Basic panel, 183–191
 - Camera Calibration panel, 196–198
 - clipping displayed in, 190
 - Detail panel, 194–195
 - Develop module, 182–203
 - finding metadata in, 13
 - HSL panel, 191–193
 - importing images into, 176–178
 - keywords added in, 179–180
 - Lens Corrections panel, 196
 - Library module, 179–181
 - local adjustment tools, 198–203
 - metadata preset creation, 178
 - Noise Reduction features, 194–195
 - organizing images in, 178, 181–182
 - Photoshop integration with, 204–209
 - postprocessing workflow, 176–182
 - Presets panel, 194
 - rating images in, 181
 - tone adjustments in, 187–189
 - white balance adjustments in, 183–186
 - See also* Photoshop
- Live View setting, 92
- local adjustment tools, 198–203
 - Adjustment Brush tool, 202–203
 - Graduated Filter tool, 198–200
 - Radial Filter tool, 201–202
- location metadata, 180
- location scouting. *See* scouting locations
- Long Exposure Noise Reduction (LENR), 49–50
 - assignment on testing, 54
 - star trails using, 150
- long exposures
 - abstract shots using, 141
 - cloud photos using, 129–132
 - colorcast from, 185, 186
 - fireworks photos as, 154–155
 - full-stop reciprocity chart for, 51
 - ghost photography using, 110–111
 - high ISO test shots for, 50–52
 - light painting using, 93–104
 - moonlight used for, 145–147
 - pitfalls of, 163–166
 - six-stop rule for, 53
 - star points as, 152
 - star trails as, 148–150
 - zooming during, 139
- low angles, 125
- Loweprro Fastpack 350 backpack, 6
- low-light photography. *See* night photography
- lumens, 18
- luminance noise, 194
- Luminance sliders, 191

M

magic hour, 127–129

main subjects

- placing off-center, 68–70

- secondary subjects vs., 65–67

Mamiya 7 II camera, 9, 10

Mamiya C220 camera, 8, 9

Manfrotto tripods, 15

manual focusing, 63–64

Manual mode, 40–45

- Bulb mode and, 43–45

- exposure triangle and, 42–43

- full-stop adjustments in, 41, 51

- monitoring the meter in, 40

- Raw shooting in, 40

- reciprocal exposures in, 42–43

MeFOTO RoadTrip tripod, 15

megapixels (MP), 8

Merge to HDR Pro option, 204

metadata

- adding to images, 180

- exposure info in, 13

- preset creation, 178

Metadata panel, 180

meter, monitoring, 40

Milky Way photos, 152–153

misty nights, 159

monitors

- color calibration of, 175, 210

- required for postprocessing, 174–175

Mono Lake photo, 145

moon

- assignment on shooting, 167

- clouds in photos of, 132

- tips for shooting, 142–144

moonless skies, 152

moonlight

- clouds and, 132

- exposing photos using, 146–147

- full-moon advantage for, 145–147

- light pollution and, 146

- moon phases/cycles and, 141–142

- twilight and, 129

motion

- cityscapes and, 135–139

- composing with, 79–80

- fairs and, 156

- freezing, 39, 156

- shutter speed and, 39, 79–80

- water in, 44, 137

- zooming to create, 139

N

nautical twilight, 127, 128

ND filters, 21, 22, 156

night cameras, 7–12

- film cameras as, 9–12

- important features in, 9

- recommended by author, 7–8

- sensor size for, 8, 9

night photography

- composition, 57–81

- equipment, 1–29

- exposure, 31–55

- lighting, 83–113

- pitfalls, 163–166

- postprocessing, 169–210

- scenarios, 115–167

Night Portrait mode, 108

night portraits, 108–112

- assignment on shooting, 113

- ghost photography and, 110–111

- multiple exposures as, 112

- slow sync technique for, 108–109

Night Scene mode, 40

night sky, 126–132

- cityscapes and, 133

- cloud factor and, 129–132

- fireworks in, 154–155

- light pollution in, 146

- lightning in, 160–162

- magic hour and, 127–129

- moonlight and, 141–142, 145–147

- star points and, 151–153

- night sky (*continued*)
 - star trails and, 147–150
 - sunset shots and, 126
 - See also* skies
- night-adjusted vision, 62
- nocturnal accessories, 21–23
- nocturnal scenarios, 115–167
 - annotated examples of, 116–119
 - assignments on shooting, 167
 - car trails, 135–136
 - celestial skies, 151–153
 - cityscapes, 132–141
 - fairgrounds, 156–157
 - fireworks, 154–155
 - inclement weather, 157–162
 - moon and moonlight, 141–147
 - night sky, 126–132
 - pitfalls in shooting, 163–166
 - scouting locations for, 120–125
 - star points, 151–152
 - star trails, 147–150
- noise
 - ISO setting and, 36
 - star trails and, 150
- noise reduction
 - High ISO, 49
 - Lightroom features for, 194–195
 - Long Exposure, 49–50, 150, 154
- North Star (Polaris), 148, 150
- phases of the moon, 141
- Photoshop, 204–209
 - car trail stacking in, 208–209
 - HDR image creation in, 204–205
 - star trail stacking in, 206–207
- Photoshop Lightroom. *See* Lightroom
- plane trails, 165–166
- point-and-shoot cameras, 7
- Polaris (North Star), 148, 150
- portraits
 - ghostly, 110–111
 - light writing in, 106, 107
 - multiple exposure, 112
 - night, 108–112
- postprocessing photos, 169–210
 - annotated examples of, 170–173
 - assignments related to, 210
 - workstation requirements for, 174–175
 - See also* Lightroom; Photoshop
- power of light, 99
- power points in photos, 76–78, 81
- Presence adjustments, 190–191
- presets
 - Develop, 197–198
 - metadata, 178
 - white balance, 183
- Presets panel, 194
- primary colors, 88–89
- profiles, camera, 196–197, 210

O

- off-center subjects, 68–70
- organizing your images, 178, 181–182
- out-of-focus highlights, 134–135
- overexposure warning, 49

P

- painting with light. *See* light painting
- Paiva, Troy, 99
- panheads, 16

Q

- quick-release plates, 16

R

- Radial Filter tool, 201–202
- rainy weather, 157
- RAM requirements, 174
- rating images, 181
- Raw files, 40
- reciprocal exposures, 42–43

- reciprocity failure, 11–12
- Renwick Smallpox Hospital shoot, 120–121
- repeat visits to locations, 120–121
- researching locations. *See* scouting locations
- Rhyolite, Nevada photo, 58–59
- Rio-Antirio Bridge photo, 2–3
- Rogue FlashBender, 18, 19
- Rogue gel pack, 18
- Rome cobblestone photo, 125
- rule of thirds
 - assignment on practicing, 81
 - breaking the rule, 73–75
 - explanation and examples of, 71–72
 - in-camera grid option, 78
 - power points and, 76–78

S

- San Francisco Ferry Building photo, 4–5
- satellites in photos, 165
- Saturation sliders, 191
- scenarios. *See* nocturnal scenarios
- scout system/style, 23–24
- scouting locations, 120–125
 - repeat visits, 120–121
 - tips for, 122
 - vantage points, 122–125
- screen calibration, 175, 210
- secondary subjects, 65–67
- sensor size, 8, 9, 152
- Shadow slider, 171, 187, 188
- shadows
 - adjusting in Lightroom, 187, 188
 - clipping of, 189, 190
 - underexposure warning for, 49
- Sharpen Faces preset, 194
- Sharpen Scenic preset, 194
- sharpening images, 194–195
- shoulder bags, 6
- shutter speed, 39
 - ambient light and, 93, 108
 - Bulb mode and, 43–45
 - exposure triangle and, 42–43
 - full-stop increments for, 41, 51
 - lightning photos and, 161
 - motion and, 39, 79–80
 - reciprocal exposures and, 42–43
 - six-stop rule and, 53
- silhouettes
 - star points and, 152
 - sunset photos and, 126
- silky water effect, 44
- six-stop rule, 53, 55, 146
- skies
 - celestial, 151–153
 - composition including, 73–75
 - rule of thirds and, 71, 72
 - shooting at night, 126–132
 - See also* night sky
- slow sync technique, 108–109
- smartphone apps, 22, 64
- snoots, 18, 19, 20
- snowy weather, 157–158
- sparklers, 106, 107
- specular highlights, 99
- stabilization mode, 13
- stacking images
 - assignment about, 210
 - car trails, 208–209
 - star trails, 206–207
- star points, 151–153
 - 500 rule for shooting, 152
 - assignment on shooting, 167
 - Milky Way shots and, 152–153
- star trails, 147–150
 - assignment on shooting, 167
 - combining shots of, 148, 150
 - consecutively shooting, 148, 150
 - film cameras for, 9, 10
 - focus setting for, 64
 - LENR feature used for, 150
 - photo examples of, 10, 28, 148, 149, 150
 - pointing the camera for, 148
 - stacking in Photoshop, 206–207
 - stargazer system for, 26
 - tips for shooting, 147

- stargazer system/style, 26
- street photography example, 34–35
- streetlights in photos, 164
- strobes, 17
- styles. *See* systems and styles
- subjects
 - compositional placement of, 65, 68–70
 - main vs. secondary, 65–67
 - off-center, 68–70
- sunset photos
 - silhouettes in, 126
 - tips for shooting, 127
- Sutro Baths photo, 137
- systems and styles, 23–26
 - scout, 23–24
 - stargazer, 26, 28
 - traveler, 25–26, 27
 - urban explorer, 25

T

- telephoto lenses, 14
 - cityscapes and, 133, 134
 - depth of field of, 38
- Temp slider, 183, 184, 185, 186
- Tenba Messenger bags, 6
- testing your ISOs, 54
- Think Tank Cable Management bag, 21
- Think Tank Retrospective bags, 6
- Tint slider, 183, 184, 185
- tone adjustments, 187–189
 - Lightroom sliders for, 187–188
 - workflow for making, 188–189
- Tower Bridge photos, 122–123
- travel bag of author, 7
- travel tripods, 15
- traveler system/style, 25–26, 27
- tripod heads, 16
- tripods, 15
 - bridge photos and, 123
 - setting up in cities, 120
- Tungsten white balance, 92

- twilight, 127–129
 - astronomical, 129
 - civil, 127, 128
 - fairground photos at, 156
 - graph of, 129
 - moon photos at, 142, 143
 - nautical, 127, 128

U

- underexposure warning, 49
- urban explorer system/style, 25

V

- vantage point, 122–125
- variable ND filters, 21, 22
- Vello ShutterBoss cable release, 17
- Vello wired remote, 17
- vertical lines, 71, 72
- Vibrance slider, 191
- vibration reduction, 13
- vision, night-adjusted, 62
- Vivitar 285HV flash, 17

W

- waning moon, 142
- Washington D.C. night photo, 60–61
- water
 - moving, 44, 137
 - smooth, 122
- water tower photos, 124–125
- waxing moon, 142
- WB (white balance) menu, 183–186
- weather considerations, 157–162
 - fog, 159
 - lightning, 160–162
 - rain, 157
 - snow, 157–158

- white balance
 - adjusting in Lightroom, 183–186, 192, 193
 - as-shot numbers for, 184
 - color temperature and, 92–93
 - flash on snow, 158
 - full moonlight, 146
- white card, 101, 102
- White Point Preview slider, 204, 205
- Whites slider, 187, 188
- wide-angle lenses, 14
 - cityscapes and, 133, 140
 - depth of field of, 38
 - star points and, 151
- workstation requirements, 174–175
- writing with light, 104–107, 113

X

- Xenon Surefire flashlight, 63

Z

- zoom lenses, 12
 - hyperfocal focusing with, 64
 - zooming during exposure, 139