

#### **Table of Contents**

#### **Getting Started**

L16 overview
Power on, power off, sleep, wake
Charging and battery life
Home screen
Device settings

#### **Photo Capture**

At a glance
Take a photo
Auto exposure mode
Manual exposure mode
Focus
Zoom
Burst mode
Self-timer
Flash
Grid

#### **Camera Settings**

Exposure information
Device status
Haptic vibration
Audio
Metering modes

#### **Gallery**

View your photos Organize your photos Process photos on Light L16

#### Lumen

A quick look
System requirement: Lumen
Transfer photos
Light raw files – LRI & LRIS
Curate your work
Process photos
Adjust depth effect
Fine-tune focus
Edit depth – refine edge
Edit depth – blend area
Edit depth – match depth
Export as JPGs and DNGs

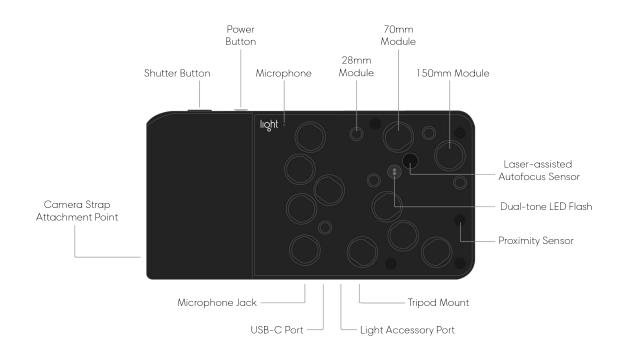
#### **Restart, Reset and Update**

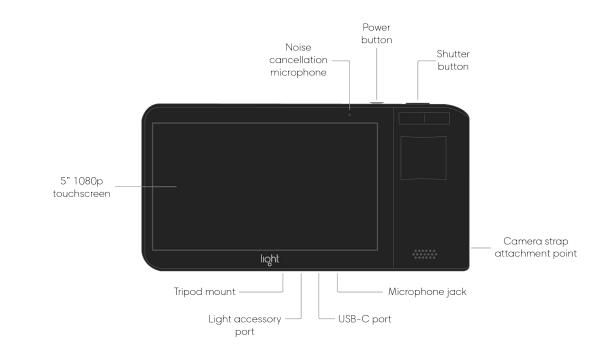
Update Light L16
Update Lumen
Restart Light L16
Reset Light L16 settings

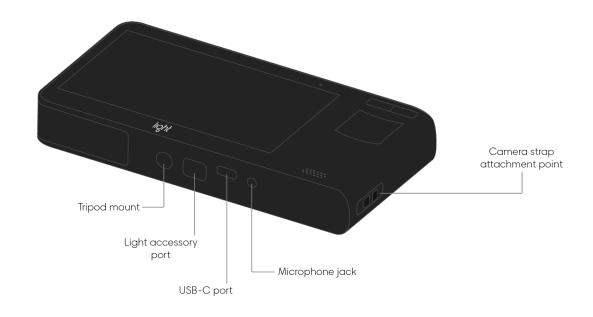
#### Safety, Handling and Support

Care for your Light L16
Care for your Light L16's lithiumion battery
Help Light make the L16 better

#### **Technology Partners**







### Power on, power off, sleep, wake

**Turn on your Light L16.** Press and hold the power button until the Light logo appears on your screen. The camera interface will appear shortly after.

**Turn off your Light L16.** Press and hold the power button until the Power off option appears on your screen. Tap it to power off.

**Sleep the Light L16 display.** Tap the power button once to put Light L16 to sleep. (The display screen will turn black.)

**Note:** By default, the display will sleep automatically after 2 minutes of inactivity. You can adjust this in <u>device settings.</u>

**Wake to your last activity.** Tap the power button once to wake up your Light L16 and resume your previous activity.

**Double-click or swipe to camera mode.** If the Light L16 wakes to the lock screen, double-click the shutter button or press and swipe up from the camera icon to open the camera mode.

### Charging and battery life

**Charge your Light L16.** Plug the small end of the included USB-C cable into the USB-C port on the bottom of your Light L16. Next, plug the opposite end of the cable into the included power adapter, then plug the adapter into a power outlet.

When your camera begins charging, a charging symbol 

□ appears on the screen and the blue light around the shutter button begins to pulse.

**The Light official quick-charger.** In the box with your Light L16 is a Light official USB 3.0 Quick Charge adapter. Charging with the Light official adapter ensures a proper and speedy charge.

**Charging statuses.** There are three ways the Light L16 can charge:

- "Charging Rapidly" appears when using the Light official USB 3.0 Quick Charge adapter. Charging with this method produces a full charge in around 90 minutes of time.
- "Charging" appears when using a charger that does not support 3.0 Quick Charge.
- "Charging Slowly" appears when charging with devices that have restricted power output. For example, you might see this while connected to your computer.

**Note:** Power delivery methods from other vendors may not produce desired charging results. It's recommended that you always use the provided Light official 3.0 Quick Charge adapter. If you lose the Light official adapter, contact us and we'll help you out!

Turn on or off the battery indicator (device status). Open the Toolbar , then tap the gear icon (3) to open the camera settings menu. Tap the switch next to "device status" to toggle on or off the battery percentage indicator. Along with battery percentage, toggling device status on will also show your total images remaining.

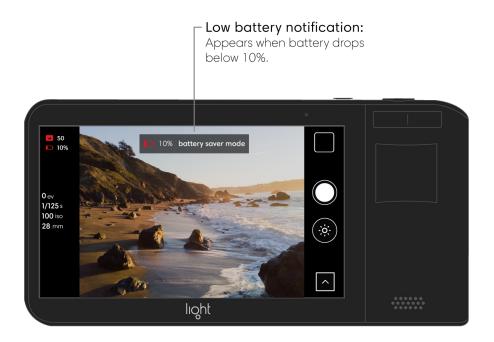
**Check remaining power.** If you do not wish to turn on the battery indicator, swipe down from the top of the touchscreen to open the Control Center. In the top right corner of the Control Center, you see a battery icon and percentage remaining.

Preserving battery power.

- When not shooting, it's best to keep your Light L16 screen off.
- If you know you won't be using your Light L16 for an extended period of time, fully power down the camera before storing it in your case.
- Even if you're not using them, Wi-Fi and Bluetooth can consume power. You can turn both off from the Control Center by swiping down twice from the top of the touchscreen.

**Pro Tip:** For information on Light L16's lithium-ion battery, read <u>Care for your Light L16's</u> <u>lithium-lon battery</u>.

**Low battery notification.** When battery power drops below 10%, your Light L16 will alert you with a low battery notification.



**Note:** Camera functionality requires a minimum power level of 10% in order to move mirrors and focus lenses properly. Below 10% power, other features such as the gallery and sharing are still available.

### Home screen

The Light L16 is built on Android<sup>TM</sup> with the Light camera running as an app. Aside from the Light Camera app and the Light Gallery app, the Light L16 has several other pre-installed apps.

**Access Android controls.** Swipe down from the top of the touchscreen to reveal the Android controls on the right.

- Square: Tap the square icon to show your open apps. Swipe up or down to rotate through them. To close an app, tap the X in the top right corner, or swipe the app to the left or right. (The square icon will only show up if you have unlocked your device.)
- Circle: Tap the circle icon to go to the home screen. Depending on your security settings, you may need to unlock your device.
- Triangle: Tap the triangle icon to go back to the previous screen.

**Close the Light Camera app.** Swipe down from the top of the touchscreen to reveal the Android controls on the right. Tap the square icon to show your open apps. Tap the X in the top right corner of the Light camera app.

**Note:** If you don't see the square icon, you need to unlock your device. Tap the circle icon, then swipe up from the bottom and enter your pin, passcode, or pattern. The square icon will appear on the right.

**Access other available apps.** From the home screen, tap the arrow icon on the right to open the apps menu.

- Browser Connect to the web and share images to social media.
- Feedback Send feedback to Light. If you are not connected to Wi-Fi, your feedback will be saved until you are back online.
- <u>(Device) Settings</u> Personalize your device with settings for brightness, sound, Wi-Fi, etc.

Android is a trademark of Google Inc.

### **Device settings**

#### Access device settings.

- From the camera or gallery modes, swipe down three times from the top of the touchscreen to access the Control Center for access to quick settings. To access the full menu, tap the gear icon in the top right corner.
- From the home screen, tap the arrow icon on the right to open the apps menu. Tap the Settings app to open the full device settings menu.

#### Wireless & networks

#### Airplane mode

- Turn Airplane mode on or off.
  - 1. Access the device settings menu (see above).
  - 2. From the Control Center, tap the Airplane mode symbol to toggle airplane mode on or off.
  - 3. From the full device settings menu, tap "more" under the wireless and networks.
  - 4. Tap the activation switch to toggle Airplane mode on or off.

#### **Bluetooth**

- Turn Bluetooth on, pair a device.
  - 1. Access the device settings menu (see above).
  - 2. Tap the Bluetooth symbol to toggle Bluetooth on and open the Available Devices menu.
  - 3. Your Light L16 will search for nearby devices. When you see the name of your device, tap it to connect. Your Light L16 will then connect with the device.

Note: Bluetooth does not work with Mac or iOS devices yet.

#### • Turn Bluetooth off.

1. Access the device settings menu (see above).

- 2. Tap the Bluetooth symbol to open the Available Devices menu.
- 3. Tap the activation switch to toggle Bluetooth off.

#### Wi-Fi (wireless)

- Turn Wi-Fi on, connect to a network.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Wi-Fi" to open the available wireless networks menu.
  - 3. Tap the activation switch to turn Wi-Fi on.
  - 4. Your Light L16 will search for nearby wireless networks. When you see the name of your wireless network, tap it to connect. If the network is secured and you need a password, you'll see a lock symbol next to the network name.
  - 5. "Connected" will appear under the network name when you've successfully joined. That Wi-Fi network will now be a "saved network" and will automatically connect when in range, as long as Wi-Fi is enabled.

#### • Turn Wi-Fi off.

- 1. Access the device settings menu (see above).
- 2. Tap "Wi-Fi" to open the available wireless networks menu.
- 3. Tap the activation switch to turn Wi-Fi off.

#### Device

#### **Display**

- Adjust brightness level.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Display."

3. Tap "Brightness level" and drag the slider left or right to adjust the screen brightness.

#### • Turn Adaptive brightness on or off.

- 1. Access the device settings menu (see above).
- 2. Tap "Display."
- 3. Tap the activation switch next to "Adaptive brightness" to toggle on or off.

**Note:** The Light L16 has an adaptive brightness sensor to determine and optimize your brightness level for your surroundings. It is recommended that you keep adaptive brightness on.

#### • Change the wallpaper on your home screen.

- 1. Access the device settings menu (see above).
- 2. Tap "Display."
- 3. Tap "Wallpaper" then tap to open the wallpapers folder. You can use the default Light wallpaper or choose a photo from your gallery.

#### Adjust display timeout.

- 1. Access the device settings menu (see above).
- 2. Tap "Display."
- 3. Tap "Sleep" then choose your desired amount of time: 2 minutes (default), 5 minutes, 10 minutes, 30 minutes.

### Daydream. To control what happens when your camera is docked and/or sleeping, turn Daydream on.

- 1. Access the device settings menu (see above).
- 2. Tap "Display."
- 3. Tap "Daydream," then tap the activation switch to toggle Daydream on.
- 4. Pick your desired option and adjust the settings for that option using the gear icon.

#### Adjust L16 shutter volume.

- 1. Access the device settings menu (see above).
- 2. Tap "Sound & notification."
- 3. Drag Notification volume slider right or left to increase or decrease the shutter volume.

#### • Turn Do not Disturb on or off.

- 1. Access the device settings menu (see above).
- 2. Tap "Sound & notification."
- 3. Tap the activation switch next to do not disturb to toggle on or off.

#### **Apps**

#### • Access app information.

- 1. Access the device settings menu (see above).
- 2. Tap "Apps."
- 3. Tap an app to view app-specific information.

#### **Battery**

- View battery information.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Battery" to open the battery sub-menu and view battery charge information.

#### Personal

#### Location

- Turn on device location.
  - 1. Access the device settings menu (see above).

- 2. Tap "Location."
- 3. Tap "Mode" to change location modes.

#### Security

- Lock your Light L16.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Security."
  - 3. Tap "Screen lock" and choose your preferred screen lock option:
    - None
    - Swipe
    - Pattern
    - o Pin
    - Password
- **Note:** If you forget your pattern, pin, or passcode, there's no way to reset it without losing all photos stored on the camera. If you have forgotten your pattern, pin, or passcode, <u>contact us</u> and we will help you unlock your camera.

#### Backup & reset

- Reset your network settings.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Backup & reset."
  - 3. Tap "Network settings reset" then the reset settings button to reset all of your Light L16's saved Wi-Fi and Bluetooth settings.
- Factory data reset.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Backup & reset."
  - 3. Tap "Factory data reset" then the reset camera button to erase all data from your L16 camera's internal storage. This includes all system data and settings, photos, and other user data.

#### System

#### Date & time

- Set date and time automatically.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Date & time."
  - 3. Tap the activation switch next to "Automatic date & time" to use network-provided information.
- Set date and time manually.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Date & time."
  - 3. Make sure the activation switch next to "Automatic date & time" is toggled off.
  - 4. Tap "Set date" to set your camera's date.
  - 5. Tap "Set time" to set your camera's time.
- Select a time zone.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Date & time."
  - 3. Tap "Select time zone" to set your camera's time zone.
- Use 24-hour format.
  - 1. Access the device settings menu (see above).
  - 2. Tap "Date & time."
  - 3. Tap the activation switch next to "Use 24-hour format" to toggle on or off.

#### **About L16 Camera**

• Check for software updates.

- 1. Access the device settings menu (see above).
- 2. Scroll to the bottom and tap "About L16 Camera."
- 3. Tap "Software update."
- 4. Tap "Update" to check for any available updates.

**Note:** To find available updates, your Light L16 must be connected to a wireless network (see Wi-Fi above).

#### Turn on or off automatically check for updates.

- 1. Access the device settings menu (see above).
- 2. Tap "About L16 Camera."
- 3. Tap "Software update."
- 4. Tap the checkbox next to "Auto update" to toggle on or off whether Light L16 checks for updates automatically.

**Note:** Your Light L16 will only check for updates when you are connected to a wireless network (see Wi-Fi above).

#### • Locate your Light L16 serial number.

- 1. Access the device settings menu (see above).
- 2. Tap "About L16 Camera."
- 3. Tap "Status."
- 4. Scroll down until you see "Serial number."

#### Read the Light L16 Legal information.

- 1. Access the device settings menu (see above).
- 2. Tap "About L16 Camera."
- 3. Tap "Legal information."

#### • Check your Light L16 software package.

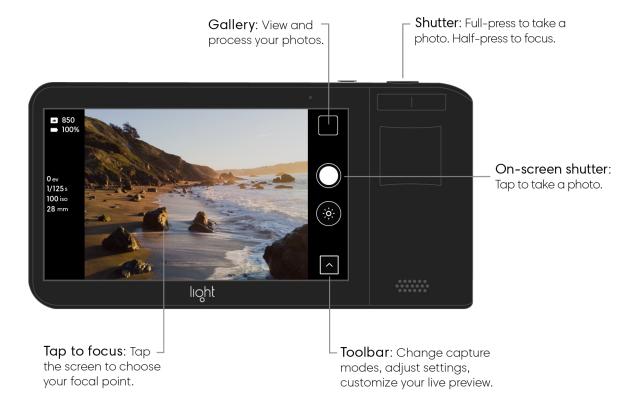
- 1. Access the device settings menu (see above).
- 2. Tap "About L16 Camera."
- 3. Scroll down until you see "LightOS version."

# **Photo Capture**

# At a glance

With your Light L16, you can take pictures in one of two modes: Auto or Manual. In each mode, you have the ability to adjust exposure and preview your adjustments live on screen.

Additional control options like self-timers and display grids can be found in the Toolbar.

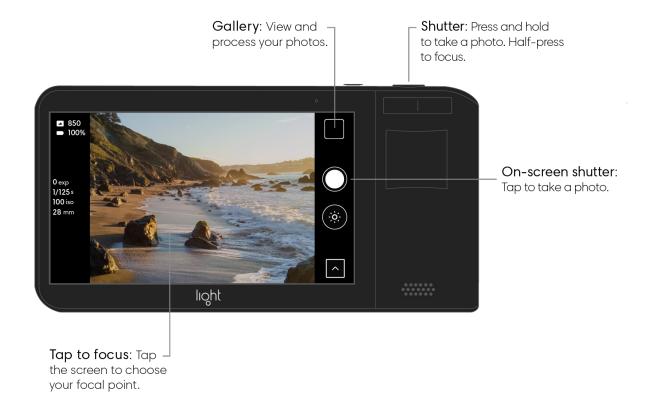


### Take a photo

**Choose a capture mode.** Tap the up arrow to open the Toolbar. Above it, you see two capture mode options: Auto and Manual. Swipe up or down to highlight your preferred photo capture mode.

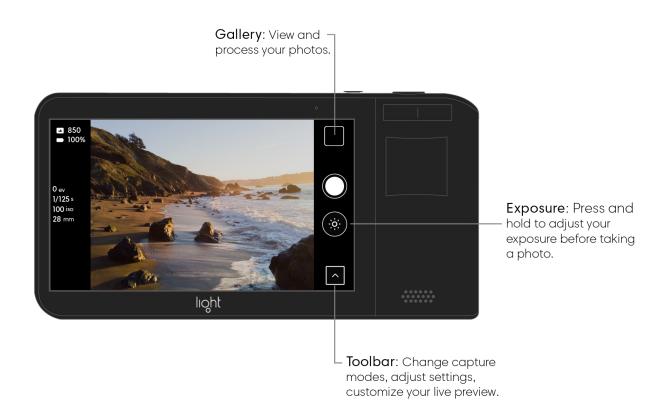


**Take a photo.** Tap on the screen to focus on your desired subject. After focus is achieved, press and hold the shutter button to take a photo. The screen will flash black when a photo has been taken. After a moment, you see a new thumbnail appear in the gallery icon in the screen's upper right corner.



# Auto exposure mode

Auto mode sets exposure (ISO and shutter speed) automatically. Depth of field (the amount of blur before and after your subject) for images taken with Light L16 is adjustable after your images are transferred to <u>Lumen</u>, the Light desktop software. There is no native aperture control on Light L16 – <u>click here</u> to learn more!



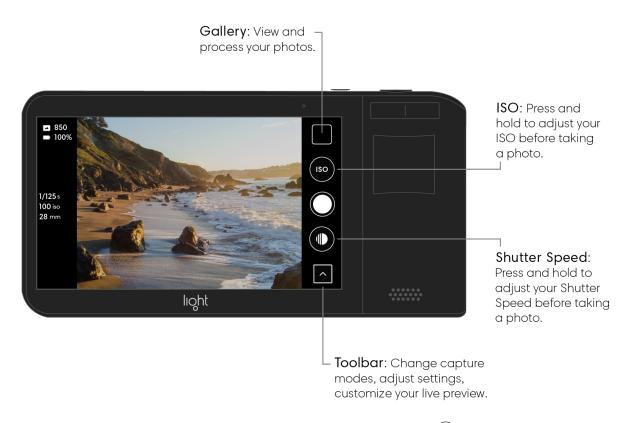
Adjust exposure in auto mode. Auto mode automatically adjusts exposure based on the scene in front of you. If you'd like, you can make adjustments to the calculated exposure before taking a photo. Press and hold the Exposure button on the right side of the screen to open the Exposure slider. While holding the button, move your finger up or down to set Exposure to your desired value. As you drag up or down, you see a live preview of your changes.



**Note:** The exposure slider is measured in 1/3rd stops of light. <u>Click here</u> to learn more about exposure values (EV).

# Manual exposure mode

Manual mode allows you to adjust exposure through two capture controls: ISO (so) and shutter speed ( ). What are ISO and shutter speed?



**Adjust ISO in manual mode.** Press and hold the ISO button (so) on the right side of the screen to open the ISO slider. While holding, move your finger up or down to set your desired ISO value. <u>Learn more about ISO</u>.



**View your current ISO value.** Press and hold the ISO button (so) to open the ISO slider. Your previously used ISO value is indicated by a hollow carrot :—.

With exposure information turned on, you can see your ISO value in the Info bar on the left of the screen. For more information, read <u>Exposure Information</u>.

Adjust Shutter Speed in manual mode. Press and hold the shutter speed button on the right side of the screen to open the shutter speed slider. While holding, move your finger up or down to set your desired shutter speed value. Learn more about shutter speed.



**View your current shutter speed value.** Press and hold the shutter speed button open the shutter speed slider. Your previously used shutter speed value is indicated by a hollow arrow  $\hookrightarrow$ .

With exposure information turned on, you can see your shutter speed value in the Info bar on the left of the screen. For more information, see Exposure Information.

**Tip:** If you don't want to use manual mode, tap the up arrow \( \) to open the Toolbar. Above it, you see two capture mode options: auto or manual. Swipe up or down to highlight your preferred mode.

**Note:** The Light L16 does not have native aperture control. You can adjust aperture after transferring images to your computer. <u>Click here</u> to read more about why Light L16 doesn't have native aperture control.

#### **Focus**

**Tap to focus.** In manual or auto mode, tap your desired focus object on the touchscreen to focus the camera at that location and distance. An animated circle icon indicates the camera is focusing and a final solid, blue circle icon indicates that focus has been achieved.

Focus achieved: A blue circle indicates the camera is focused.







Tap to focus: A white, animated circle indicates the camera is focusing.

Previous focal point: A faded white cirlce indicates your previous focal point.

After 3 seconds, the blue focus circle fades to white ( ) at your previous focal point.

**Half-shutter press to focus.** Instead of tap to focus, you can also half-press the shutter button to start the focusing sequence at your current focal point (indicated by a faded, white circle). An animated circle icon indicates the camera is focusing and a final solid, blue circle icon indicates that focus has been achieved.

**Note:** The L16 uses mirrors to position lenses based on where you tap to focus. Because of this, if you are ever unsure whether you have focused properly, just tap again, or half-press the shutter button, to refocus.

### Zoom

There are multiple ways to zoom on Light L16.

**Press, hold and slide to zoom.** Place your thumb on the screen and slide up or down to zoom in or out respectively.



**Flick to jump.** Place a finger on the screen and swipe up quickly to jump to the next prime zoom level. Flick-to-jump will stop at the following values: 28mm, 35mm, 70mm, and 150mm.

**Pinch to zoom.** Place two fingers on the screen and pinch open or closed to zoom in or out respectively.

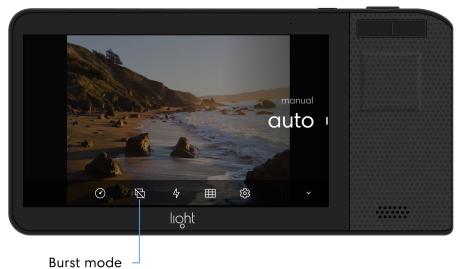
# Pinch to zoom: Pinch open or closed to zoom in or out.



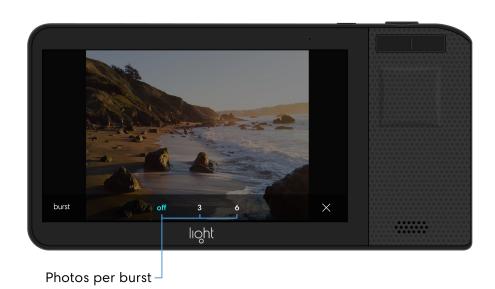
**Note:** By default, Light L16 will boot up to a 35mm zoom level. To learn about why that is, check out our article on <u>variable resolution</u>.

### Burst mode

To help you capture action shots and motion, the L16 has a burst mode. When on, pressing the shutter button will capture multiple frames in rapid succession, helping freeze fast-moving objects.



Tap to select burst mode



**Note:** If burst mode is on, you will see a burst mode icon in the bottom left corner of the camera screen  $\Box_6$ . Depending which burst mode option is selected, the icon will appear with either a 3 or a 6.



**Tip:** You can quickly change or turn off burst mode by tapping the icon in the lower left corner of the capture screen.

## Self-timer

**Turn on the self-timer.** Open the Toolbar  $\ \ \ \ \$  and tap the self-timer icon  $\ \ \ \ \$  to show the available self-timer options: 3, 5, 10, or 20 seconds.

**Note:** If self-timer is on, you will see a self-timer icon in the bottom left corner of the camera screen.



Toolbar status: See which tools are turned on.

# Flash

- $\bullet~$  Flash On  $~\mspace{1}{4}$  : Fires the flash every time you take a photo.
- Flash Off 4, : Flash will not fire.
- Flash Auto  $47_a$ : The Light L16 will determine if flash is necessary to provide a proper exposure. Flash Auto is only available in Auto mode.

**Note:** If Flash is set to Auto or On, you will see a Flash icon in the bottom left corner of the camera screen.



Toolbar status: See which tools are turned on.

### Grid

**Turn on the Grid.** To display grid lines over your Light L16's live preview, open the Toolbar and tap the Grid icon to show the available grid options.

### Grid options.

• Thirds

The thirds grid divides the screen into a 3x3 grid of equal rectangles. This grid helps you follow the Rule of Thirds when composing.

Golden Ratio ⊞

The Golden Ratio grid divides the screen into sections based on the golden ratio. This grid helps you follow the Golden Rule when composing.

# Camera Settings

# **Exposure information**

Light L16's Exposure Information allows you to view important information about your current capture settings, including exposure information, shutter speed, ISO, and focal length.

- exp Exposure shows how much you have increased or decreased your exposure.
- iso Shows your current ISO value.
- s Shows your current shutter speed value.
- mm Shows your current focal length or zoom level.



Exposure information: View your current exposure settings and focal length.

**Note:** In <u>auto exposure mode</u>, shutter speed and ISO are automatically calculated. To set your ISO and shutter speed manually, see <u>manual mode</u>.

### **Device status**

The Light L16's device status shows information about your camera's current battery percentage and remaining storage.

#### Device status:

View your remaining storage and battery percentage.



# Haptic vibration

The Light L16 is equipped with a haptic vibrator to give you feedback while shooting, adjusting controls, zooming, and more.

Turn on, off, or adjust haptic vibration. Open the Toolbar ☐ and tap the gear icon to open the camera settings menu. Tap "haptics" to open the haptics settings menu and

view the available options:

- Off
- Normal (default)
- Strong

### **Audio**

The Light L16 plays audio noises to give you feedback while shooting and using the self-timer.

Turn on or off audio. Open the Toolbar ☐ and tap the gear icon ② to open the camera settings menu. Tap the switch next to "audio" to toggle on or off.

Adjust shutter volume. First, access device settings:

- From the camera or gallery modes, swipe down three times from the top of the touchscreen then tap the gear icon (③) in the top right corner.
- From the home screen, tap the arrow icon on the right to open the apps menu. Tap the Settings app to open the full device settings menu.

Scroll to the Device section then tap Sound & notification > Adjust volume. Drag the Notification volume slider left or right to increase or decrease the volume.

### Metering modes

In order for the L16 to determine proper exposure, it measures the available light in a scene using a built-in light meter. You can choose between two types of metering to adjust how the L16 measures the light in a scene.

• Touch-weighted [3]

Metering is determined by reading the light at your selected focus point and the area surrounding it. Use this option to meter more specifically for your focus point.

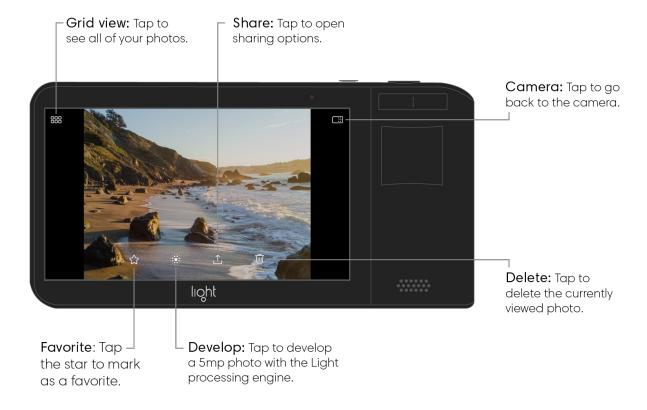
• Center-weighted []

Metering is determined by reading the light at the center of your L16's frame. Use this option to meter more broadly for the entire scene.

# Gallery

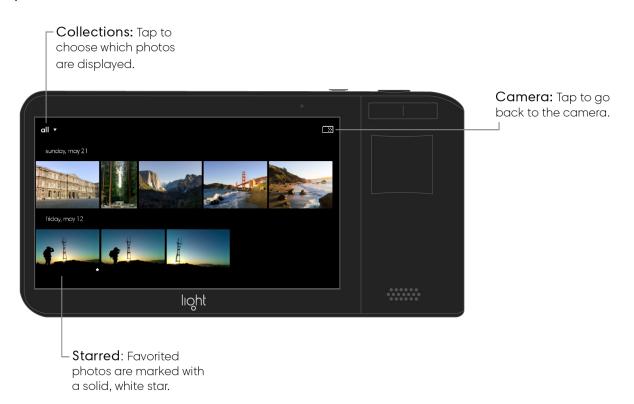
# View your photos

Within your Light L16 gallery you can view, organize, and process your photos.



**View your photos.** Tap the gallery icon in the top right corner of your screen to access the gallery. Swipe left to see your previous photos or swipe up to show your photos in a filmstrip. Tap a thumbnail in the filmstrip to view a photo.

**Zoom in or out.** Double-tap or pinch a photo open or closed. Drag to see other parts of the photo.



**Browse collections.** Tap the grid icon  $\blacksquare$  in the upper-left corner of the gallery to see all of your photos organized by date. Tap "all" in the top left corner to change which photos are displayed. There are several sorting options:

- All show all of your photos excluding deleted items.
- Favorited show only your favorited photos.
- Developed show only your developed photos.
- Photo show only photos.
- Deleted show your deleted photos.

# Organize your photos

**Favorite a photo.** While viewing a photo, tap the star icon ☆ to mark it as a favorite. A solid star icon ★ indicates a photo has been favorited.

**Favorite multiple photos.** Tap the grid icon  $\blacksquare \blacksquare$  to see all of your photo, then press and hold on an image to select it. Tap to select any other photos then tap the star icon  $\diamondsuit$  to mark them as favorites.

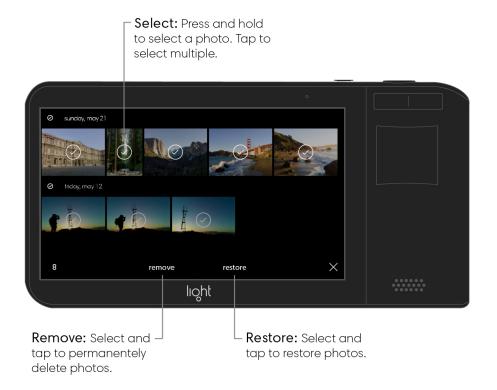


**View your favorite photos.** Tap the grid icon  $\blacksquare \blacksquare$  to see all of your photos, then tap "all" in the top left corner followed by "favorited."

**Delete a photo.** While viewing a photo, tap the trash icon to delete it. If you accidentally delete a photo, you can tap "undo" to bring it back.

Delete multiple photos. Tap the grid icon \text{ \text{lens}} to see all of your photos, then press and hold on an image to select it. Tap to select any other photos then tap the trash icon \text{ \text{\text{lens}}} to delete them.

Recover deleted photos. Deleted photos are placed in your deleted folder. To access the deleted folder, tap the grid icon \text{\text{\text{BB}}}\text{ to see all of your photos, then tap "all" in the top left corner followed by "deleted." From the deleted folder, press and hold on a photo to select it, then tap "restore." You can restore multiple photos at once by selecting more photos before tapping "restore."



Permanently deleted photos. Tap the grid icon \text{ \text{lens}} to see all of your photos, then tap "all" in the top left corner followed by "deleted." To delete all photos, tap "remove all." To delete only selected photos, press and hold on a photo to select it, then tap "remove." You can remove multiple photos at once by selecting more photos before tapping " \text{ \text{in}} remove all."

### Process photos on Light L16

When you take a photo with your Light L16, 10 or more images are captured at once. In order to maximize battery power, only one camera is used to generate a thumbnail in the preview screen and gallery. The process option on your L16 allows you to create a higher resolution photo (13 megapixels – optimized for your device and social sharing) with just 5 of

the 10+ images. Since processing high-resolution photos takes lots of power, we reserved the ability to develop full-resolution photos (52+ megapixels with 10+ images) for <u>Lumen</u>, the Light desktop software.

**Process a photo.** Tap the gallery icon in the top right corner of the camera screen to access the gallery. Navigate to the photo you wish to process and tap the process icon You'll see a progress bar appear at the top of your screen while your photo is fusing its different images together. This may take a minute.



Your Light L16 will produce a 13-megapixel photo to replace your original unprocessed photo in the gallery. When finished processing, the icon changes to indicate the photo has been processed:

**Note:** Processed photos cannot be unprocessed. However, your original photo will be unchanged. What you see in the gallery is simply a low-resolution preview of what your final image will look like. Once you transfer your images to <u>Lumen</u>, you can process full-size versions of your photos.

## A quick look

Lumen lets you transfer your images from your camera to your computer, after which our algorithms fuse together each set of 10+ images to form your high-resolution photos. You can fine-tune your photos by adjusting depth of field and sharpening or blurring certain areas. Once you're finished polishing, Lumen allows you to export your L16 photos as JPGs for immediate sharing, or DNGs to finish refining in your favorite photo editor.

# Curate photos Open folders of images in a gallery-style viewer for easy organization.

## Transfer photos

Transfer photos from your L16 to your desktop using Lumen's transfer widget.



#### Sort your photos

Click and choose your sorting preference between capture time or folder and file name.

### Export photos

After picking your favorites, export jpgs or dngs for further sharing or editing.

## System requirement: Lumen

Lumen is where our computational processing magic happens. The desktop software uses proprietary algorithms to fuse 10+ images together and create one exquisite photo. To use Lumen, your computer will need to be up to speed with our supported operating systems and system requirements.

#### **Windows**

- Windows 7 (with Service Pack 1), Windows 8.1, or Windows 10
- 2012 machines or newer
- 8 GB or more of RAM (16 GB recommended)
- 200MB of available hard-disk space (1GB recommended)
- 64-bit processor

#### Mac

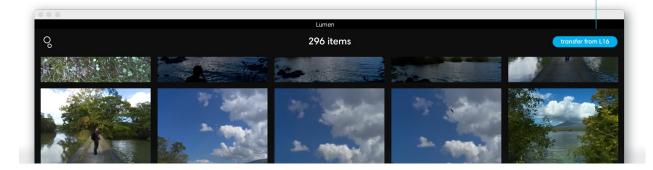
- Mac OS X version 10.10.5 (Yosemite) or higher
- 2012 machines or newer
- 8 GB or more of RAM (16 GB recommended)
- 200MB of available hard-disk space (1GB recommended)
- 64-bit processor

**Note:** We're trying to support as many operating systems as possible. You may choose to run Lumen on a different machine, but performance may be compromised.

## Transfer photos

**Transfer photos.** With Lumen on your computer, connect your Light L16 to your computer's USB port via the included USB-C cable. When your L16 is connected, the grey button in the top right corner will change to blue and read "transfer from L16." Click the button to open the transfer dialog.





**Note:** If your camera is locked, no images will appear in the transfer dialog. Once you unlock your camera, you will see your images appear.

**Transfer all photos.** In the transfer dialog, click "All" to select all photos on your L16. Click the transfer icon in the top right corner to choose where to transfer your photos. Click "import" to begin transferring your photos.

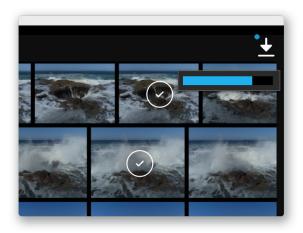


**Remove transferred files from camera.** Click this check box if you want to remove your photos from your camera as they are being transferred.

**Transfer selected photos.** If you want to select specific images to transfer, click photos to select them individually. Click the transfer icon in the top right corner to choose where to transfer your photos. Click "import" to begin transferring your photos.



**Note:** A blue dot next to the transfer icon indicates your transfer is happening. Additionally, you can hover over the icon to see the current progress of your transfer.



**View transferred photos.** Click the back arrow to close the transfer dialog. Click File > Open folder... and choose the folder where your transferred files were saved. With the folder highlighted, click Open.

## Light raw files – LRI & LRIS

**LRI (.Iri) files.** When transferring your photos to your desktop, you may notice that the file names include ".Iri" at the end. Because the Light L16 captures 10+ images at once—and because we save the fusing of these photos for the desktop—the Light L16 bundles all of the information about your capture into a Light Raw File (LRI).

.LRIs function similarly to how other RAW files work: any changes you make to the photo in Lumen doesn't affect the original raw file. This means you can edit and export multiple copies of your photo without making any changes to the original file.

LRIS (.Iris) files. Whenever you edit an LRI file on your desktop, Lumen will create a new "LRIS" file with an identical name as your original LRI file. This LRIS file contains your depthediting information. You can think of this file as a sidecar for your original file that contains all of the information about how you edited the photo. When you are done editing and decide to export a photo, Lumen will read your LRIS file and your LRI file together and process a single JPG or DNG (depending on your preference).

**Move LRI files.** When you move LRI files around on your computer, or if you move them to an external hard drive, be sure to keep the LRI and LRIS files together. If you separate them, you will lose any depth edits you have made to your photos.

**Rename LRI files.** When you rename LRI files on your computer, or if you rename them on an external hard drive, be sure to also rename the corresponding LRIS files. If you they have separate names, Lumen will not recognize the edited LRIS file associated with your LRI.

## Curate your work

After transferring your LRI files, Lumen lets you view folders of photos in a gallery for easy browsing and sorting. Thumbnails displayed in Lumen's gallery view are based on a quick fusion of 5 of your 10+ images per photo. You can see full-resolution versions of your photos by <u>processing</u> or <u>exporting</u>.

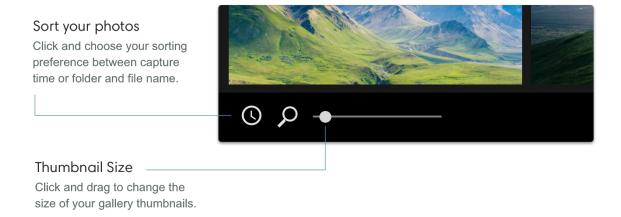


**Open a folder of photos.** There are two ways to open a folder:

- Click File > Open folder... and navigate to your folder of Light Raw Files (.Iri). With the folder selected, click "Open."
- Click the Light logo in the top left of the application window, navigate to your folder of Light Raw Files (.lri), select it, and click "Open."

Adjust the size of your gallery thumbnails. Drag the zoom slider left or right to see your photos bigger or smaller.

**Sort capture time or folder and file name.** Click the icon in the bottom left corner next to the zoom bar to choose how your files are sorted. You can sort by capture time or folder and file name.



**Select photos.** Click on a photo to select it. While holding shift, click on multiple photos to select them.

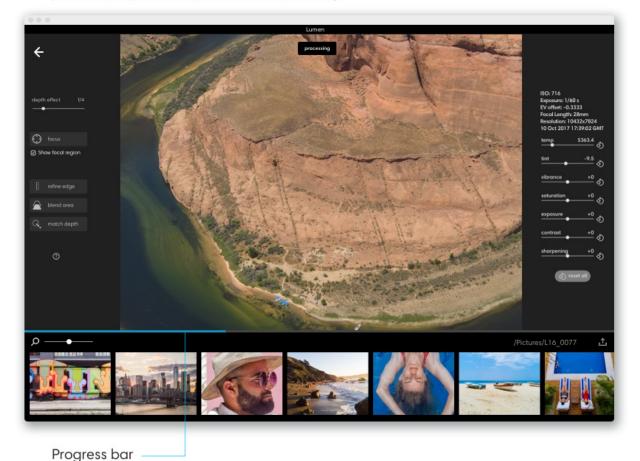
## Process photos

The real magic of our computational photography can be seen when processing images. Processing a photo uses Light's proprietary algorithms to combine 10+ images (captured every time you press the shutter button) into one final, high-resolution photo.

**Process a photo.** From the gallery, double-click a photo to open it in full screen. Lumen will switch from gallery mode to processing mode and a processing progress bar will appear.

#### Processing

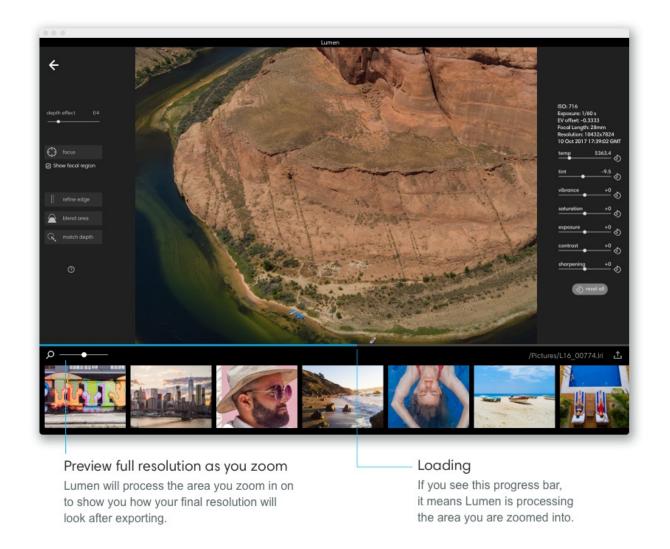
When you first open a photo in full screen, Lumen will process the depth information to allow for depth editing.



See the processing status of your photo.

**Preview full resolution by zooming in or out.** Scroll up or down on your trackpad, or drag the zoom slider in the bottom left corner to the left or right to zoom.

Fusing 10+ images takes some time. As you zoom in on your photo, Lumen will process the area you have zoomed in on in real time. If you see the progress bar appear, Lumen is still processing the area you have zoomed in to. Processing for the entire image is saved for when you <u>export</u> your photos.



**Choose another photo from the filmstrip.** In processing mode, you can switch which photo you are processing by selecting a different photo from the filmstrip. Just click once on a new photo to open it.



#### Selected photo

Click a photo to display it above. Your selected photo will have a white border.

## Adjust depth effect

One of the most revolutionary concepts to come from computationally fusing 10+ images together is the ability to change depth of field long after a photo has been taken. Even if you've been shooting and editing photos for years, you've most likely never been able to edit depth of field after capturing your images.

<u>Click here</u> to learn more about how we're able to generate depth information for your photos.



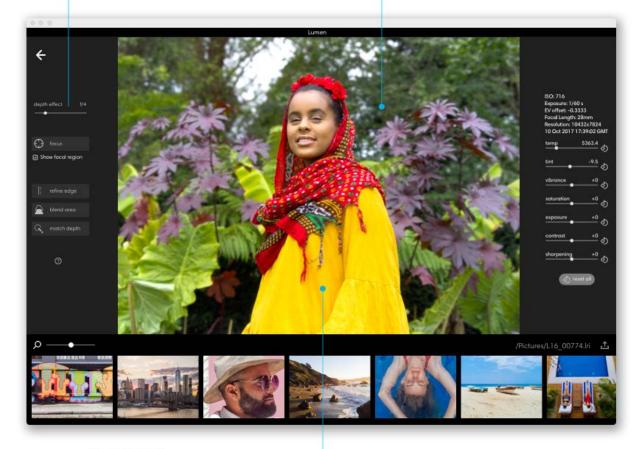
**Adjust depth effect.** After opening a photo in processing mode, Lumen will process your photo. When processing is finished, the Depth Effect tool will change from grey to white, indicating you can use it. The depth effect slider is given in <u>aperture values or f-numbers</u>. To increase depth effect, drag the slider to the right. As you increase depth, the area around your focal point begins to blur. The closer you get to the right side of the slider, the more out-of-focus the areas in front of and behind your focal point will be, simulating the shallow depth-of-field effect of a wide-aperture lens.

#### Depth effect

Drag the slider right or left to increase or decrease the depth of field around your focus point.

#### Shallow depth of field

Drag the sider to the right to simulate the shallow depth-of-field effect of a wide-aperture lens.



#### Focal point

Depth effect adjusts based on the point at which you focused when taking your photo.

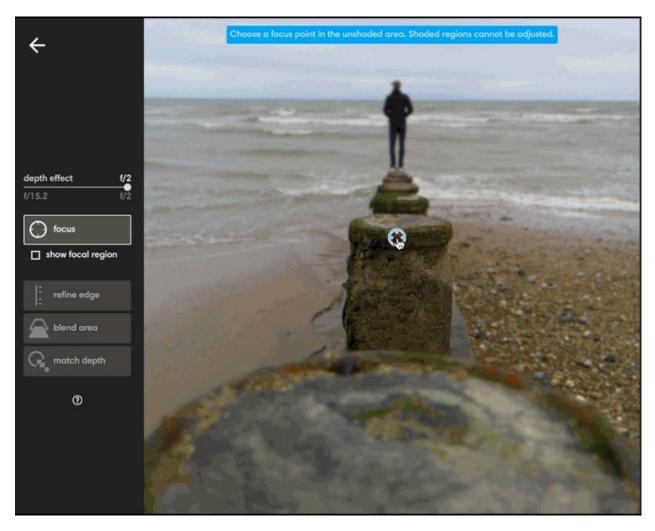
**Note:** You may notice the f-numbers are different from photo to photo. That's because the f-numbers match to your focal length and are the equivalent aperture Lumen can generate for that given zoom.

**Reset depth edits.** If at any point you want to start over with your depth edits, click Edit > Reset depth edits.

**Revert to original.** If at any point you want to start over with an unedited photo, click Edit > Revert to original.

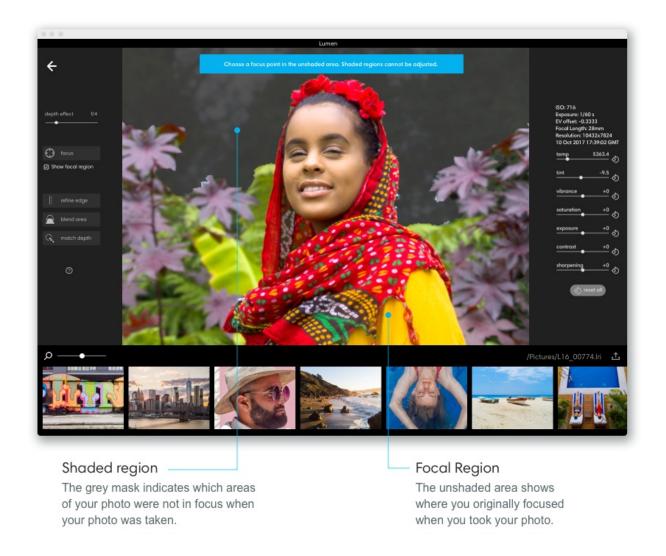
## Fine-tune focus

Depth effect on the L16 allows you to create dramatic photos with subjects that stand out from their backgrounds. However, applying depth effect can sometimes make your subject appear blurry. In these situations, the focus tool can be used to adjust the focus of your subject and make a soft focal point sharp again.



**Adjust focus.** Click focus to activate the focus tool. When activated, a grey shaded mask may appear over parts of your image. The shaded mask indicates which areas of your photo were not in focus when your photo was taken. Any areas that were not in focus when your photo was captured, cannot be in focus with depth effect applied.

The unshaded areas of your photo show where you originally focused when you took the photo. If your subject is shaded, that means your subject was not in focus when you took the photo



Click a point in the unshaded area to adjust to be in focus.





**Note:** You can disable the grey shaded mask by unchecking "show focal region" below the focus tool.

# Edit depth – refine edge

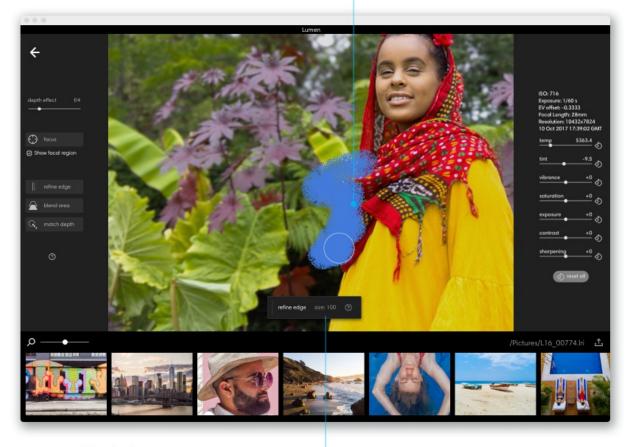
Adjusting depth effect can occasionally create inconsistent edges on larger, in-focus objects. The refine edge tool creates a more definitive and accurate difference between two varying depths along an edge. Use this tool to make jagged boundaries smooth.

**Access the refine edge tool.** Apply some depth effect to your photo to activate the refine edge tool. Click "refine edge."

**Adjust your brush size.** Scroll up or down with your mouse wheel or drag two fingers up or down on your trackpad to increase or decrease the size of your brush.

#### Refine edge

Generously paint over an edge with inconsistent depths. Lumen will automatically straighten your jagged edge.



Brush size

Scroll up or down with your mouse wheel or drag two fingers up or down on your trackpad to increase or decrease the size of your brush.

#### Edit an area using refine edge:

- 1. Zoom in on the inconsistent area or object you would like to edit.
- 2. Pick a brush size that's big enough to generously cover the inconsistent edge. It helps Lumen to have information from both the foreground and the background.
- 3. Paint over the area.
- 4. Let go of your cursor: Lumen will automatically smooth your jagged edge.

## Edit depth – blend area

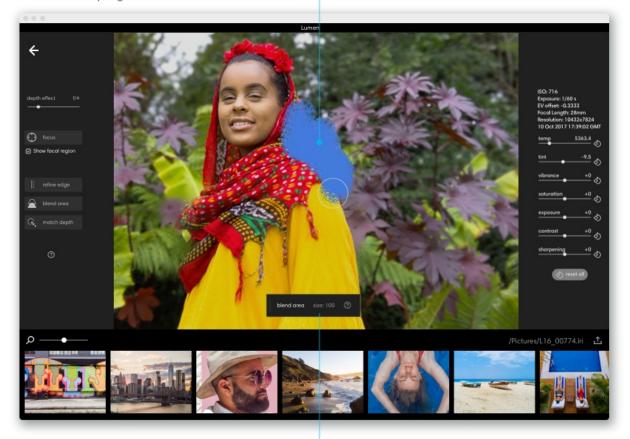
Sometimes there may be inconsistent blur in your photos—especially in areas that stretch across multiple depths, such as roads, walls, or tables. Use the blend area tool to smooth the transition between depth gradients.

**Access the blend area tool.** Apply some depth effect to your photo to activate the blend area tool. Click "blend area."

**Adjust your brush size.** Scroll up or down with your mouse wheel, or drag two fingers up or down on your trackpad to increase or decrease the size of your brush.

#### Blend Area

Paint over the area with inconsistent blur that spans multiple depths. Lumen with automatically blend the area between the depth gradients.



#### Brush size

Scroll up or down with your mouse wheel or drag two fingers up or down on your trackpad to increase or decrease the size of your brush.

#### Edit an area with blend area:

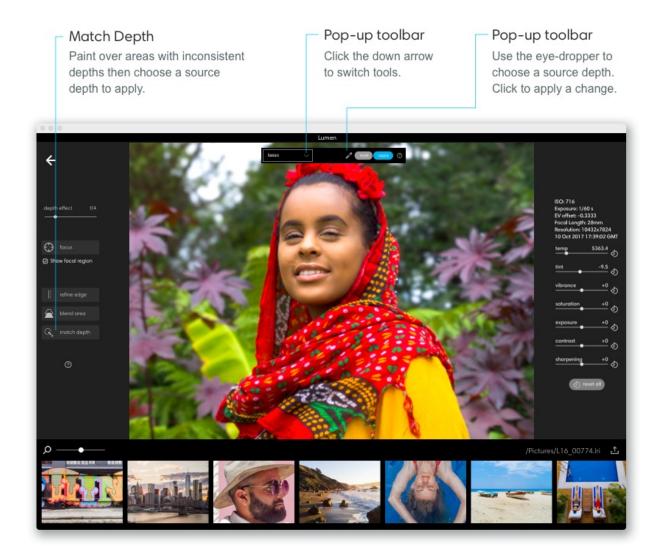
- 1. Zoom in on the inconsistent area or object.
- 2. Pick a brush size that's big enough to cover both the inconsistent part and the surrounding region.
- 3. Paint a boundary around the inconsistent blur and then fill it in. Lumen will pull the depth gradients from both the consistent and inconsistent areas and then average them together.
- 4. Let go of your cursor: the average depth gradient will be applied to the selected area.

## Edit depth – match depth

Fusing together the Light L16's 10+ images creates a depth map that aligns all of the objects in your photo. Occasionally, these depth maps contain inconsistencies, especially when there are similar colors or patterns that overlap. In these cases, Lumen's algorithms have difficulty determining what should be in focus and what should be blurred. In addition to the refine edge and blend area, match depth can be used to fix some of these inconsistencies.

#### Match depth

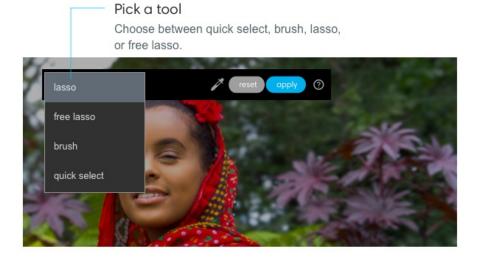
This tool lets you apply the same level of depth to separate areas of your photo. You can use this tool for all sorts of creative edits.



**Access the match depth tool.** Apply some depth effect to your photo to activate the match depth tool. Click "match depth" to display the match depth toolbar near the top of your image.

**Change your selection method.** Click the icon to the left of plus-minus in the pop-up toolbar and choose a selection tool:

- Quick select Drag to paint. Lumen will make a smart selection based on the area you are painting over.
- Brush Drag to paint exactly what you want to edit.
- Lasso Click to draw a polygonal shape around the region you want to edit.
- Free lasso Click to freely draw around the region you want to edit.

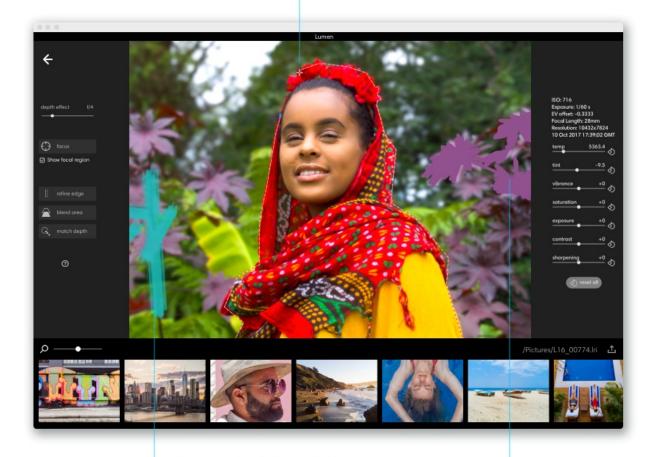


**Adjust your brush or point size.** Scroll up or down with your mouse wheel or drag two fingers up or down on your trackpad to increase or decrease the size of your brush. You cannot adjust point size for the lasso tool or free lasso tool.

**Make a selection.** Select or paint the area you would like to change. For brush and quick select, after painting, a pink mask appears over your selected area.

#### Lasso and free lasso

Use the lasso tool to draw around the region you want to edit.



Brush and quick select

Click and drag to paint what you want to edit. With quick select, Lumen will smart select based on what you paint.

**Edit a selection.** To remove parts of your selection, click the "–" icon in the pop-up toolbar and paint the area you want to take away. To add more to your selection, click the "+" icon in the pop-up toolbar and paint to add to your selection.

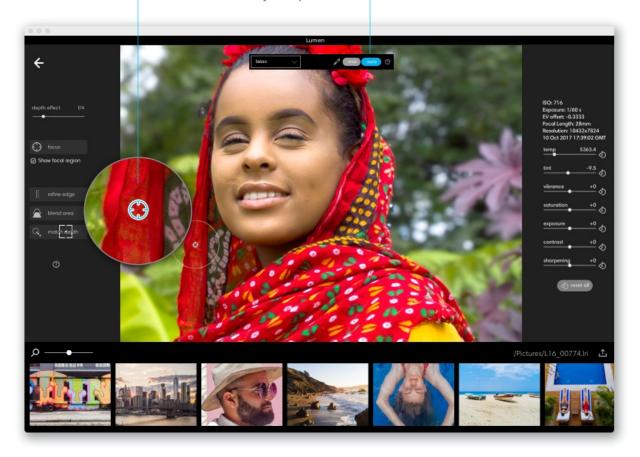
**Pick a source depth.** Once you're finished refining your selected area, click on the eyedropper tool and choose a point in the image where you would like to match the depth. Click "apply" to match your selected area to your source depth.

#### Eyedropper

After making a selection, click the eyedropper tool and choose an area to source you depth.

#### Check to apply

After choosing your source depth, click to apply it to your selection.

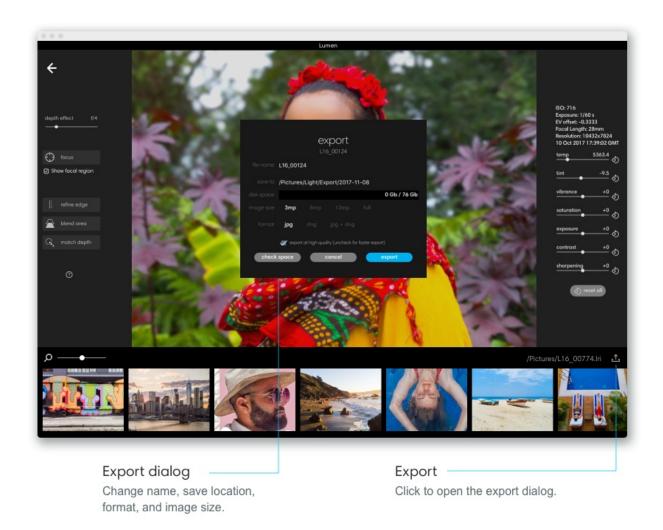


**Undo and redo depth edits.** If you make a mistake or want to revert a change, you can click Edit > Undo depth edit or Redo depth edit.

**Reset all depth edits.** If you want to start over with depth editing your photo, click Edit > Reset depth edits. This will reset all edits except for depth effect. To reset depth effect, choose Edit > Revert to original.

# Export as JPGs and DNGs

Exporting photos from Lumen writes a new file type and simultaneously processes the entirety of your photos with Light's proprietary, computational algorithms. When exporting, you have the freedom to choose your preferred file type and image size.



**Export a single photo.** Select the photo you want to export and click the Export icon in the bottom right corner of the application window.

**Change your filename.** If you are exporting just one photo, you can change the photo's filename in the export dialog that appears.

**Export multiple photos.** From the gallery, hold shift and click to select the photos you want to export. Click the export icon in the bottom right corner of the application window.

Choose where to save your photos. In the export dialog, click the field next to 'save to' to select the folder where you would like to export your photo.

**Choose your desired file format.** You can choose between 3 options:

- jpg For quick and easy sharing on social media or email, choose jpg.
- dng If you would like to export the maximum quality file and edit your photos in another application like Adobe Lightroom or Photoshop, choose dng.
- jpg + dng If you prefer to have both, choose jpg + dng.

Choose your jpg file size and quality. For jpg files you can choose how large of an image you would like and at what quality you would like it:

- 3mp Perfect for social sharing.
- 8mp Print up to 8" x 10".
- 13mp Print up to 10" x 13".
- full Print up to 25" x 34".

## Restart, Reset and Update

## Update Light L16

#### Light L16 over-the-air (OTA) updates.

The Light L16 camera has the amazing ability to update software over the air. OTA updates allow the Light L16 to acquire new features, better processing, and increased performance and speed. When new software updates are released by Light, and when your Light L16 is connected to Wi-Fi, a notification appears at the top of your screen to let you know that a software update is available.

**Update Light L16.** Just tap the update notification at the top of your screen and your Light L16 will download the latest software. After downloading, you will be asked to install it. <u>To be safe, we recommend transferring your photos from the camera before installing a new software package.</u>

**Note:** Depending on what version you are currently using, you may need to perform more than one update to get to the latest version of the software.

**Check for software updates manually.** If you miss an update notification or you have turned off "automatically check for updates," you can check for a new update manually:

- 1. Access device settings.
  - From the camera or gallery modes, swipe down three times from the top of the touchscreen then tap the gear icon (3) in the top right corner.
  - From the home screen, tap the arrow icon on the right to open the apps menu. Tap the Settings app to open the full device settings menu.
- 2. Scroll to the bottom and tap "About L16 Camera."
- 3. Tap "Software update."
- 4. Tap "Update" to check for any available updates.

**Note:** To find available updates, your Light L16 must be connected to a wireless network (see Wi-Fi in <u>device settings</u>).

#### Turn on or off "automatically check for updates."

- 1. Access device settings.
  - From the camera or gallery modes, swipe down twice from the top of the touchscreen to access the Control Panel for access to quick settings. To access the full menu, tap the gear icon (5) in the top right corner.
  - From the home screen, tap the arrow icon on the right to open the apps menu. Tap the Settings app to open the full device settings menu.
- 2. Scroll to the bottom and tap "About L16 Camera."
- 3. Tap "Software update."
- 4. Tap the checkbox next to "Auto update" to toggle on or off whether Light L16 checks for updates automatically.

**Note:** Your Light L16 will only check for updates when you are connected to a wireless network (see Wi-Fi in <u>device settings</u>).

## **Update Lumen**

**Update Lumen.** When a new update is available, Lumen will notify you with a pop-up. Simply click update to install and relaunch with the latest version.

**Check for an update.** To check and see if you are on the latest version of Lumen, in the menu bar click Lumen > Check for Updates...

On November 13th, we released a completely revamped version of Lumen, our desktop application. Lumen v2.0, while still beta, has significant improvements in speed and performance. In order to view and edit images shot with the latest version of our camera software, you will also need the latest version of Lumen.

If you already have Lumen, you must uninstall your current version of Lumen before downloading and installing Lumen v2.0.

Follow these instructions to get the latest version of Lumen:

#### Mac

#### Uninstall Lumen 1.0:

- 1. Open the Applications folder and find Light Lumen Beta.
- 2. Drag the Light Lumen Beta icon to the trash to uninstall.

#### Install Lumen v2.0:

- 1. Go to <a href="https://light.co/lumen">https://light.co/lumen</a> and click the Mac download button.
- 2. Once the download is complete, open the installer (called 'lumen.dmg').
- 3. In the pop-up window, drag Lumen to the Applications folder. Your installation is complete.

4. Open the Applications folder and double-click Lumen to launch the app.

#### Windows

#### **Uninstall Lumen 1.0:**

- 1. Open the start menu and click settings (gear icon).
- 2. Go to apps and find Light Lumen Beta.
- 3. Click Light Lumen Beta, then click uninstall.

#### Install Lumen v2.0:

- 1. Go to <a href="https://light.co/lumen">https://light.co/lumen</a> and click the Windows download button.
- 2. Once the download is complete, click the installation file (called lumeninstall.exe) to open the setup window.
- 3. Click "next" to walk through the installer setup until you reach the installation page. Click install.
- 4. Once complete, click finish and open Lumen v2.0.

## Restart Light L16

If something isn't working correctly, there are two ways you can try to restart your Light L16.

**Restart the Light L16 Camera app.** Swipe down from the top of the touchscreen to reveal the Android<sup>TM</sup> icons on the right.

Tap the square icon to show your open apps. Tap the X in the top right corner of the Light L16 Camera app to close it.

**Note:** If you don't see the square icon, you need to unlock your device. Tap the circle icon, then swipe up from the bottom and enter your pin, passcode, or pattern. The square icon will appear on the right.

**Restart your Light L16.** The easiest way to restart your Light L16 is by power cycling it. Press and hold the Power button until the Power off option appears on your screen. Tap it to power off.

If you are still experiencing issues with your camera, please <u>contact us</u> and we will help you troubleshoot.

## Reset Light L16 settings

**Reset Light L16 settings.** From the home screen, tap the arrow icon on the right to open the apps menu. Tap the Settings app to open the device settings menu. Go to Personal and tap Backup & reset > Factory data reset.

Tap the reset camera button to erase all data from your L16 camera's internal storage. This includes all system data and settings, photos, and other user data.

# Safety, Handling and Support

## Care for your Light L16

**Storing your Light L16.** Included with your Light L16 is a soft case for storing the camera. The outside of the case is made of durable eco-yarn to protect the camera when it's in your pocket or bag. The inside of the case is made of microfiber cloth to help clean your Light L16.

#### **How to clean your Light L16:**

- Inside the soft case is an attached microfiber cleaning cloth. To access the cloth, put
  your finger inside the case, find it, then pull straight out. The cloth stays attached to
  the case.
- The Light L16's glass surfaces are made of extremely durable Gorilla Glass. To clean the front or back surface of your Light L16, wipe in circular motions with a lint-free, non-abrasive cloth. If necessary, you can also lightly dampen the cloth with water.

#### **How NOT to care for your Light L16:**

- Do not use cleaning products or compressed air when cleaning your Light L16.
- It is best not to clean Light L16 while it's charging.
- Do not dry your Light L16 using any external heat source, such as a blow dryer.

## Care for your Light L16's lithium-ion battery

Like many other electronic products, the Light L16 is powered by a lithium-ion battery. We've heard all kinds of advice on how to retain battery life, so we wanted to clear up some of the confusion. Here are a few good habits that will optimize your battery's lifespan:

- Your battery is under less stress when it's between 40% and 80% charged. Whenever
  possible, try to stay in that range. This is especially helpful to remember if you'll be
  storing your camera for long periods of time.\*
- Frequently draining your battery to 0% can hurt your battery's long-term health.
   Completely discharging your battery once a month, however, helps the camera stay calibrated.
- Leaving your camera plugged in even when the battery is full can hurt battery life.
   Once you notice your camera's battery is at 100%, go ahead and unplug it.
- Keep your camera in cool and dry environments, particularly for extended periods of storage. This will help keep your battery in tip-top condition.

\*Keeping your battery in the range of 40%-80% is ideal, but not necessary. Your battery won't be destroyed if it goes above or below this range.

## Help Light make the L16 better

We want your Light L16 to get better over time. You can help by automatically sending diagnostic reports to Light. These reports are incredibly helpful for us to know what is working and what to improve. (And it's all anonymized.)

## Turn on diagnostic report.

- 1. Accessing device settings:
  - From the camera or gallery modes, swipe down three times from the top of the touchscreen then tap the gear icon (3) in the top right corner.
  - From the home screen, tap the arrow icon on the right to open the apps menu. Tap the Settings app to open the full device settings menu.
- 2. Scroll to the bottom and tap "About L16 Camera."
- 3. Tap "User Experience Program."
- 4. Tap the check box next to "Diagnostics report" to turn it on.

## **Technology Partners**

Light has partnered with several world-class partners in order to create the L16. Some of those partners include: Qualcomm, Global Unichip, Taiwan Semiconductor Manufacturing Company.

TouchSense © Technology licensed from Immersion Corporation. TouchSense and other Immersion software contained herein are protected under one or more of the U.S. Patents found at the following address: <a href="www.immersion.com/trademarks-and-patent-markings/">www.immersion.com/trademarks-and-patent-markings/</a> and other patents pending.



This product uses Assertive Display technology by Apical Limited.