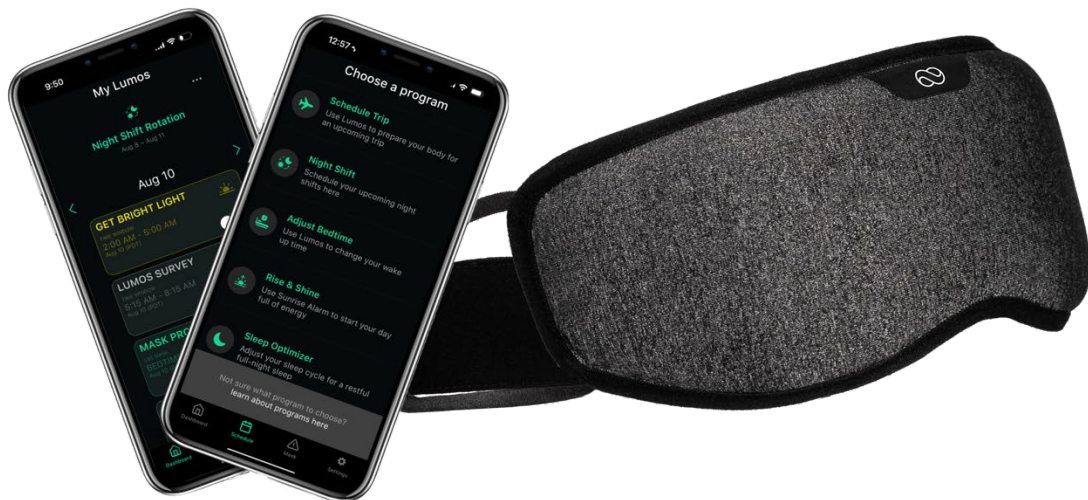




Lumos Smart Sleep Mask

Product Manual

LTMKWDGR24



LumosTech, Inc.
November 6, 2024

Table of Contents

TABLE OF CONTENTS	2
1. GENERAL INFORMATION	3
1.1 INTENDED PURPOSES	3
1.2 COMPONENTS	3
<i>1.2.1 Fabric sleep mask</i>	3
<i>1.2.2 Electronic components</i>	4
<i>1.2.3. Companion mobile application</i>	4
1.3 VERSIONS	4
2. USING THE DEVICE	5
2.1 SETTING UP THE DEVICE	5
2.2 CHARGING	5
2.3 SCHEDULING A PROGRAM	5
2.3 RUNNING A PROGRAM	6
2.4 WEARING THE MASK	8
2.5 PAUSING A PROGRAM	8
2.5 MAINTENANCE	8
3. SAFETY	9
3.1. GENERAL SAFETY INFORMATION	9
<i>3.1.1 Limitation of liability</i>	9
<i>3.1.2 Visual inspection</i>	9
3.3 UNINTENDED USE	10
4. CONTACT INFORMATION	12

1. General information

1.1 Intended purposes

The Lumos Smart Sleep Mask (Lumos Mask) is a device that integrates advanced light technology into a comfortable, regular sleep mask, designed specifically to support individuals facing challenges due to rapidly changing sleep schedules. It is ideal for those experiencing jet lag, adjusting to night shifts, or managing other irregular sleep patterns. By delivering timed light exposure, the Lumos mask helps users adjust to new sleep-wake schedules, making transitions smoother. Additionally, the mask offers a gentle, natural light wake-up feature, allowing users to start their day with morning light exposure without the abruptness of traditional alarms.

It is important to note that the Lumos Mask is not intended as a treatment for insomnia, sleep apnea, restless leg syndrome, sleep walking, or any other clinical sleep disorders. It is also not meant for anything other than the usage described on the Lumos website (<https://lumos.tech/>).

1.2 Components

The Lumos Mask has three components:

- A fabric sleep mask cover
- Electronic components
- A mobile application

1.2.1 Fabric sleep mask

The sleep mask cover is made of breathable fabric and soft foams compressed together into a pre-designed shape. The 3D-contoured eye regions are designed to prevent the mask from pressing against the eyes. The sleep mask cover has two straps attached by a hook-and-loop mechanism, with an adjustable range that fits most adult head sizes.



Figure 1 The fabric mask cover

1.2.2 Electronic components

The electronic components emit light flashes according to the programs designed by the companion iOS mobile application. The electronic components include:

- A custom-designed printed circuit board (PCB)
- A lithium-ion battery connected with a micro-USB charging port
- A Bluetooth communication chip
- 6 light-emitting diodes (LED).

All the electronic components are enclosed in a V-0 grade fireproof plastic case.

**Figure 2** The electronic components enclosed in the plastic case

1.2.3. Companion mobile application

The Lumos Mask is controlled by its companion iOS mobile application. For study Lumos-21-01-SCMS0, a testing app specifically designed for this study will be used.

1.3 Versions

All versions of Lumos Mask collectively are referred to as Lumos Mask. The current version of Lumos Mask has the following model number, hardware, and software versions:

- Model number: LTMKWDGR24
- Operating temperature: -20 ~ 45°C
- Hardware: V03-R05.X
- Firmware: 5.0.0.10
- Software: Lumos Sleep (iOS, currently 2.3.12.5)

2. Using the device

2.1 Setting up the device

Upon receiving the device, first insert the electronic part into the fabric mask cover through the Velcro opening on the right side of the mask.



Figure 3 Insert the electronic part into the mask

2.2 Charging

The Mask can be charged via a USB-C charging cable. Each full charge lasts for 3-4 nights of use.

The Mask displays cycles of high and low intensity of amber light while charging, which shuts off after charging completes.

Users may check the battery level in the app. Light programs may be prevented from starting when the battery level is too low.

No light programs can be run while the Mask is charging.

2.3 Scheduling a program

Choose a program from the list of programs available. A program guide is available if not sure about which programs to choose. Once choose a program, follow the instructions to input information such as sleep schedules and travel or night shift schedules.

Follow the instructions on when to use the mask. There may be instructions of when to get bright light exposure and when to avoid light exposure. Please note that all user interfaces may subject to change as the app updates.

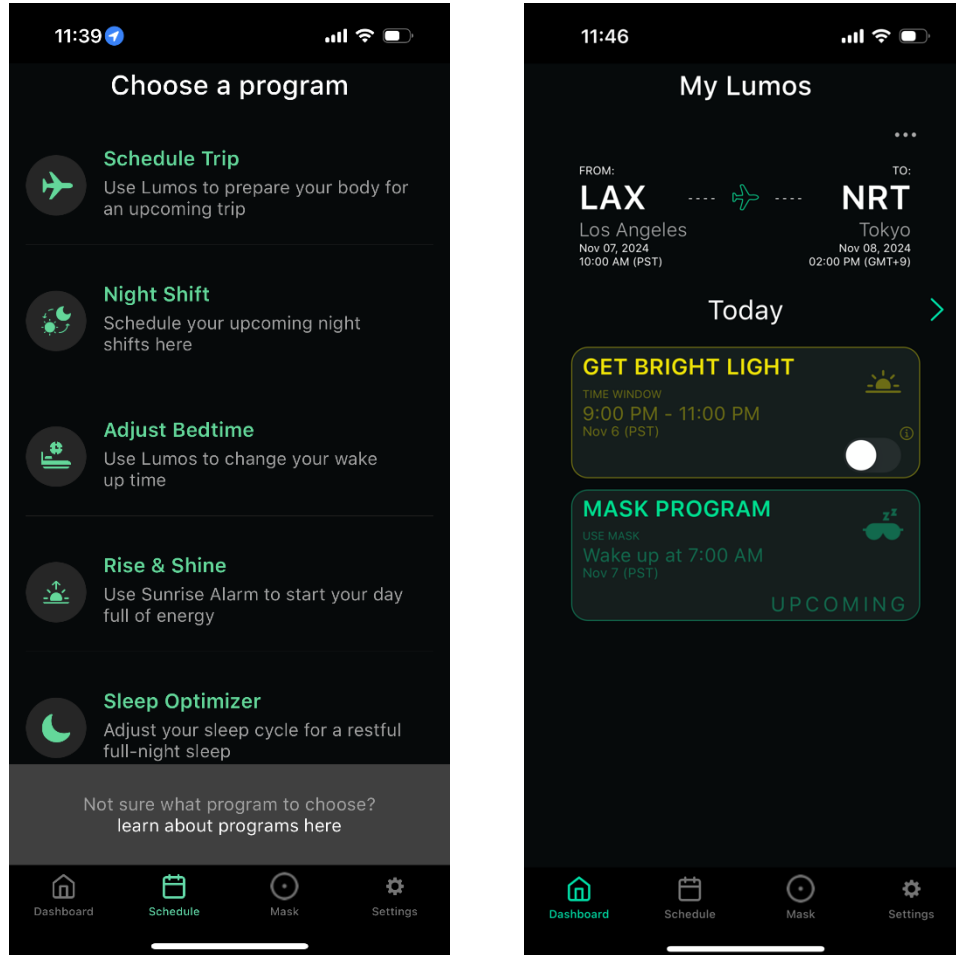


Figure 4 User interface for scheduling a light program and example with a light program

2.3 Running a program

Right before going to bed, start the light program from the app by tapping on the “TAP TO START” button to start the program. Confirm that the program is running by the message of “running”.

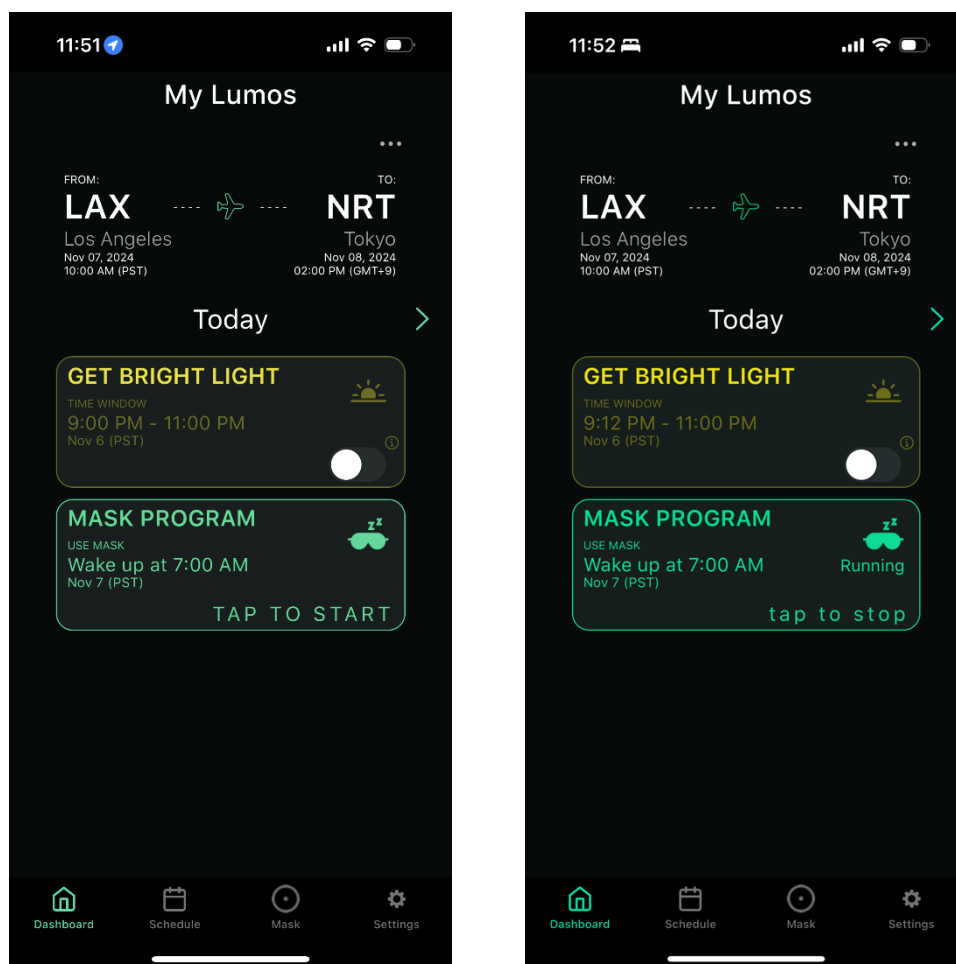


Figure 5 User interface for starting the light program

The amber light from the mask indicates program start and stop. Flashing once indicates a program has started, and flashing three times indicates a program has stopped.

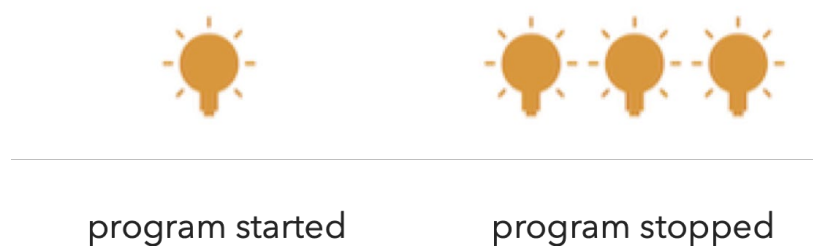


Figure 6 Program start and stop indicators

2.4 Wearing the mask

Right after starting the program, put on the mask and go to bed, wearing the mask throughout the night.

When putting on the mask, make two straps spread comfortably on the head. Then adjust the hook-and-loop mechanism on the back to the desired level of tightness.

2.5 Pausing a program

If the user wakes up in the middle of the night and the light flashes are preventing the user from falling asleep, a pause button on the electronic insert can be pushed to temporarily stop the program. The pause button can be pressed through the fabric mask cover.



2.5 Maintenance

The Lumos Mask can be charged via the USB-C charging port. Each full charge could last 3-4 nights of use.

The removable fabric sleep mask cover may be put in a laundry bag, washed in cold water, and air-dried.

When visible damages are present, please stop using the device.

The Lumos Mask may be reset by long-pressing the button on plastic case.

3. Safety

3.1. General safety information

3.1.1 Limitation of liability

Any information given in this manual regarding safety must not be construed as a warranty by LumosTech that the Lumos Mask will not cause injury or damage even if all safety instructions are complied with. Unintended use may cause severe injury or damage.

The information does not cover how to design, install, and operate a complete system, nor does it cover all peripheral equipment that can influence the safety of the entire system.

In particular, liability cannot be accepted if injury/damage has been caused for any of the following reasons:

- Use of the Lumos Mask in other ways than intended.
- Incorrect operation or maintenance.
- Operation of the Lumos Mask when the device is defective or visually damaged.
- When instructions for operation and maintenance are not followed.
- Disassemble or modifications made in or around the Lumos Mask.
- Repairs carried out by non-LumosTech personnel.
- Foreign objects.
- Force majeure.

LumosTech, Inc. or any of its employees are not responsible for any damage or injury caused by unintended use.

3.1.2 Visual inspection

Do not use the Lumos Mask if visible damage is present on the plastic case or the USB-C charging port, or any other parts of the electronic components.

Do not use a USB-C charging cord with any visible damage.

Do not use the Lumos Mask when visible stains with known or unknown sources of contamination are present on the device.

Keep the Lumos Mask away from extremely high or low temperatures. Please do not wear the mask when it feels warm or hot to touch.

During an emergency, please remove the mask.

The mask may be reset by pressing through the opening of the plastic case with a metal pin.

3.3 Unintended use

The Lumos Mask is controlled by the companion iOS application, which limits the light programs available to run on the device. Unintended use may cause severe injury or damage. Examples of unintended use are including but not limited to:

- Use the device outside of the scope of the study
- Fail to follow the device instructions
- Open, disassemble, or alter the structure of the device
- Use the device in environments not intended for sleep
- Attempt to connect/control the device with any third-party applications
- Use the device outside its intended environment and purposes

LumosTech, Inc. or any of its employees are not responsible for any damage or injury caused by unintended use.

Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

---Reorient or relocate the receiving antenna.

---Increase the separation between the equipment and receiver.

---Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

---Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement.
The device can be used in portable exposure condition without restriction.

We, “**LumosTech, Inc.**”, hereby declare that this device is in compliance with the essential requirements and other relevant provisions of Directive **2014/53/EU**.



Disposal of the Old Device

This symbol indicates that the relevant electrical product or battery should not be disposed of as general household waste in Europe. To ensure the correct waste treatment of the product and battery, please dispose them in accordance to any applicable local laws of requirement for disposal of electrical equipment or batteries. In so doing, you will help to conserve natural resources and improve standards of environmental protection in treatment and disposal of electrical waste (Waste Electrical and Electronic Equipment Directive).

WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

4. Contact information

LumosTech, Inc. 2400-Barranca-Pkwy, #1622, Irvine, CA, 92606, USA Email: contact@lumos.tech	EU Representative Information: Company name: Address: Tel: Web:
--	--

Label:

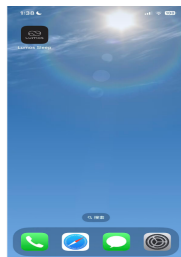


This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Guidelines for Checking E-Labels and Instructions

First, download the Lumos Sleep app from the App Store (for Apple devices) or the Google Play Store (for Android devices). Second, install the Lumos Sleep app on your mobile phone.



Third, turn on the Bluetooth pairing mode of your device, pair it with your mobile phone, and then launch the Lumos Sleep app on your phone.

Fourth, open Settings and select Legal and Regulatory. check the device's electronic label, instructions, and FCC ID information.

