



# HUMAN CENTRIC LIGHTING

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## BETTER LIGHT FOR A BETTER QUALITY OF LIFE

*Light synchronises our “internal clock”. Lighting that copies daylight has more than just a visual impact; it supports bodily functions 24 hours a day. We feel good, we are productive and we can sleep better.*

### LIGHT DOES US GOOD.

**We are reminded of that every year in spring:** when the days get brighter we feel more active, we are in a better mood and we are generally more focused than in the dark winter months.



## **THE RIGHT LIGHTING HELPS MEET PEOPLES NEEDS.**

**The advantages of dynamic lighting are shown by numerous studies worldwide and a growing number of practical applications.**

**Modern industrial society fosters an almost 24/7 lifestyle and dynamic lighting has the ability to help us reconnect with our internal clock.**



## HUMAN EVOLUTION IS SHAPED BY LIGHT.



*Light is life. The first life on Earth developed three billion years ago with the help of the sun. Homo sapiens – the “wise” or “knowing” man – has been around for about 200,000 years. For much of that time his sole source of light was fire. Electric light has only been in use for around 150 years. No wonder daylight plays such a key role in human life.*

### **Day or night, summer or winter:**

light determines the rhythm of life on Earth – including human life. In the course of evolution, human beings have also adapted and developed an internal clock.





## BIOLOGICAL RHYTHMS.

*Controlled by the brain, the same program is re-run day after day in the human body. An internal clock controls not only our sleep and waking phases but also our heart rate, blood pressure and mood. Every cell and every organ has a rhythm of its own that needs to be synchronised regularly with the outside world. Brightness during the day and darkness at night provide the most important cues.*

### ***MANY BODILY FUNCTIONS ARE CYCLICAL – BOTH IN HUMAN BEINGS AND IN OTHER LIVING CREATURES.***

Chronobiologists distinguish between three major categories based on length of cycle:

- Ultradian rhythms span only a few hours. Examples include times of day and hunger, sleep and waking phases in infants.

- Circadian rhythms are geared to day and night. They last around 24 hours (circa = approximate, dies = day).
- Infradian rhythms have cycles longer than 24 hours, e.g. the changing seasons.



## OUR INTERNAL CLOCK.

**Every human being ticks at a different rate.** But we all respond to day and night. Many cells have their own rhythm in the “concert” of the human body. However, they are blind to the outside world. For all of the peripheral clocks involved in biological processes, central control and synchronisation with the environment are provided by a “master clock”. *It takes its cue from light.*



## BIOLOGICALLY EFFECTIVE LIGHT INDOORS.

*Melanopically effective lighting simulates the changes in natural daylight. Modern light sources ensure the required spectrum, luminaires the right distribution of light and an intelligent control system makes the lighting dynamic.*

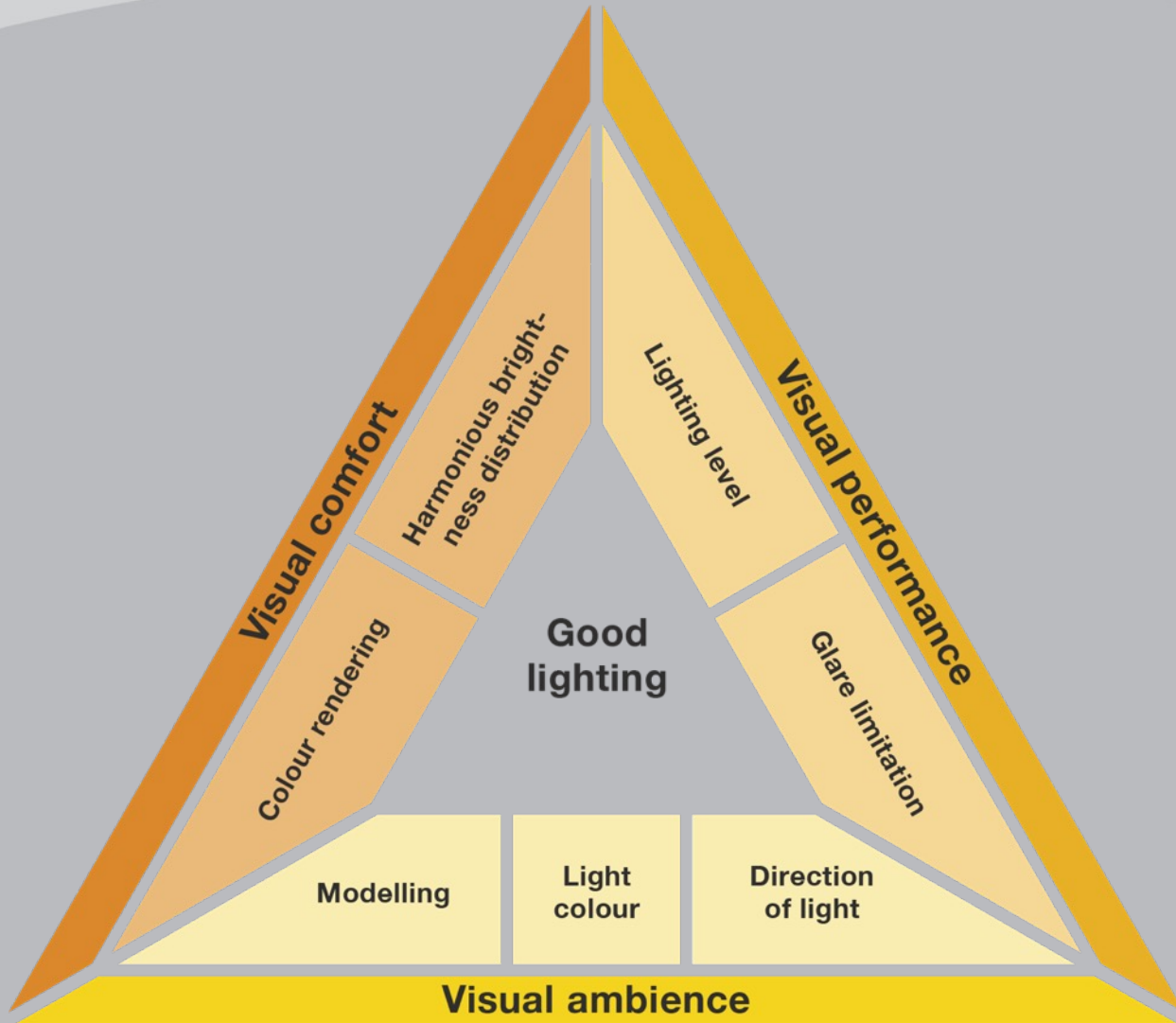
**Biologically effective artificial lighting should be geared to the circadian rhythms of the user.** It needs to support the biological processes that define active and rest phases. Applications harnessing non visual effects of light use changes in illuminance and light colour to recreate the dynamism of daylight indoors and are increasingly superseding static lighting solutions.





# LIGHTING QUALITY FEATURES.

Classical Quality Features



## MORE LIGHTING DESIGN CRITERIA

Daylight integration

Change of lighting situation

Energy efficiency

Scope for personalised settings





# HEALTHY NATURAL LIGHT FOR PEOPLE IN ANY INDOOR ENVIRONMENT.

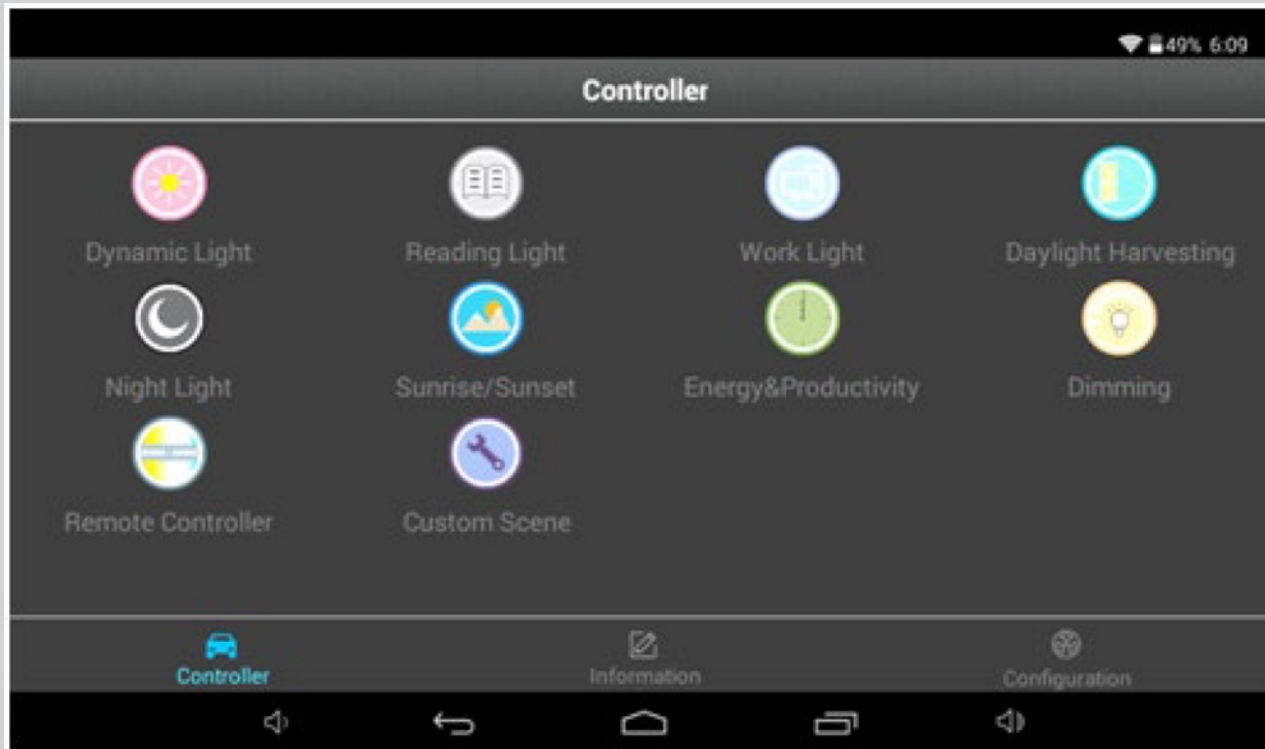


**Above All Human Centric LED Light Troffer** is specially designed to create comfortable, healthy, and natural light for people. Ideal for nursing home residences, office workers, retail shoppers, patients in hospitals, children and adults in schools and any people in pursuit of a high quality healthy natural lighting environment. The **Human Centric Troffer** utilizes 2.4G RF dimming which is a true non flicker technology to maintain eye health. The intelligent software tools enable the user to schedule and manage the Human Centric LED Troffer to provide dynamic natural color temperature to fit circadian rhythm.



# ALL HUMAN CENTRIC CONTROL MODES.

There are ten modes on the HCP APP. Each control mode works separately from the others.



*\*Each mode uses the "On and "Off" buttons to control the fixtures.*



# DYNAMIC LIGHT MODE.



In the **Dynamic Light Mode**, the CCT and brightness of the HCP fixtures will automatically change at the times on the curves. The pre-set curve mimics the pattern of natural light over a 24 hour time frame.

*If you need customized curves, please contact us to create them.*



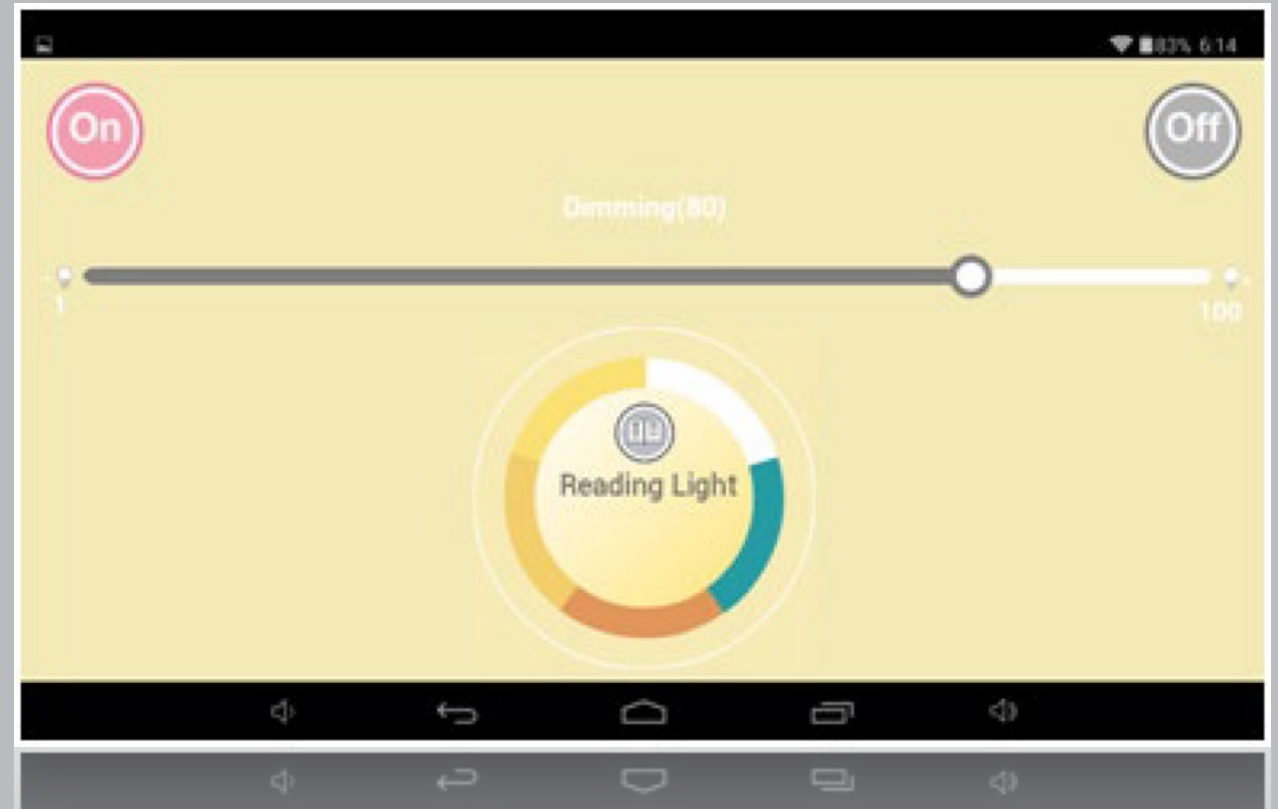


## OTHER LIGHT MODES.

*Reading Light Mode:*

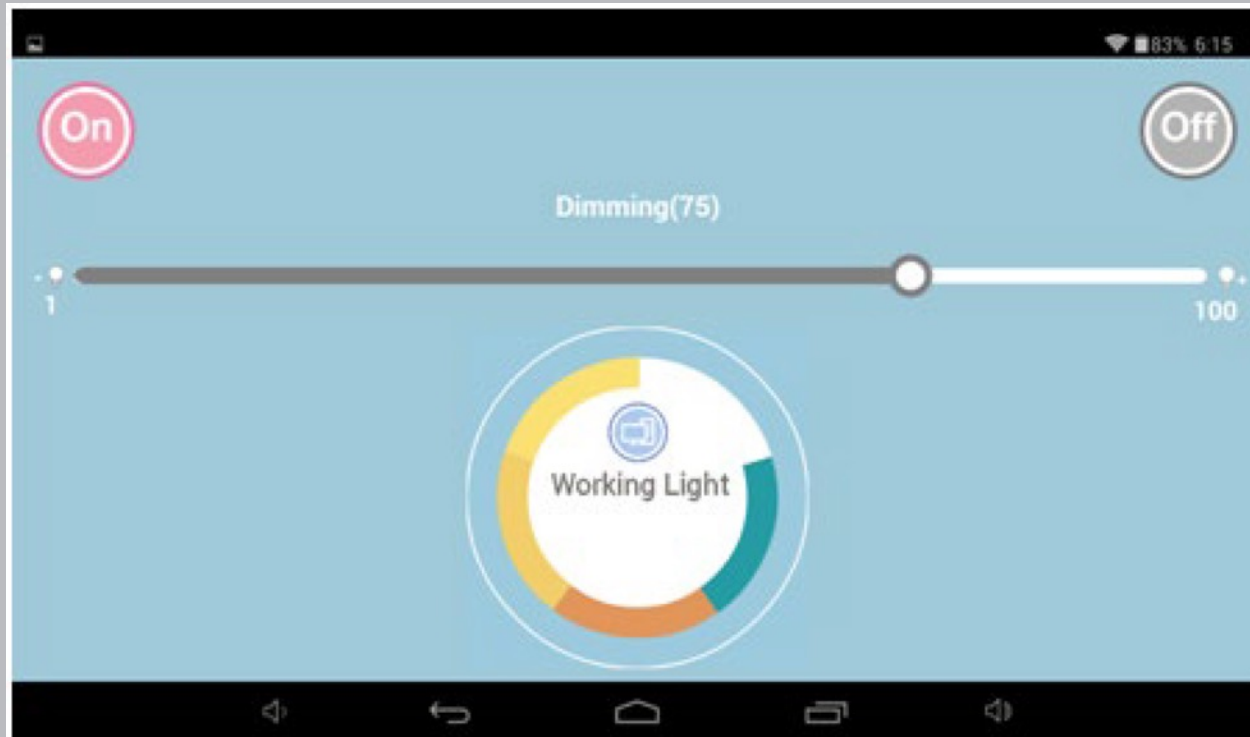
When using the **Reading Mode**, move the slider to adjust the brightness for reading during different times. The CCT will be 3500K, which is standard for the “*Reading Light*” mode.

**Please stay on this interface to continue using the Reading Light Mode.**



## OTHER LIGHT MODES *(continued)*

Work Light Mode:



To use the **Working Light**, move the slider on the dimming level and then choose the suitable light level based up on the room's current lighting. The CCT is 4500K, which is standard for the "Working Light" mode. **Please stay on this interface to continue using the Work Light Mode.**



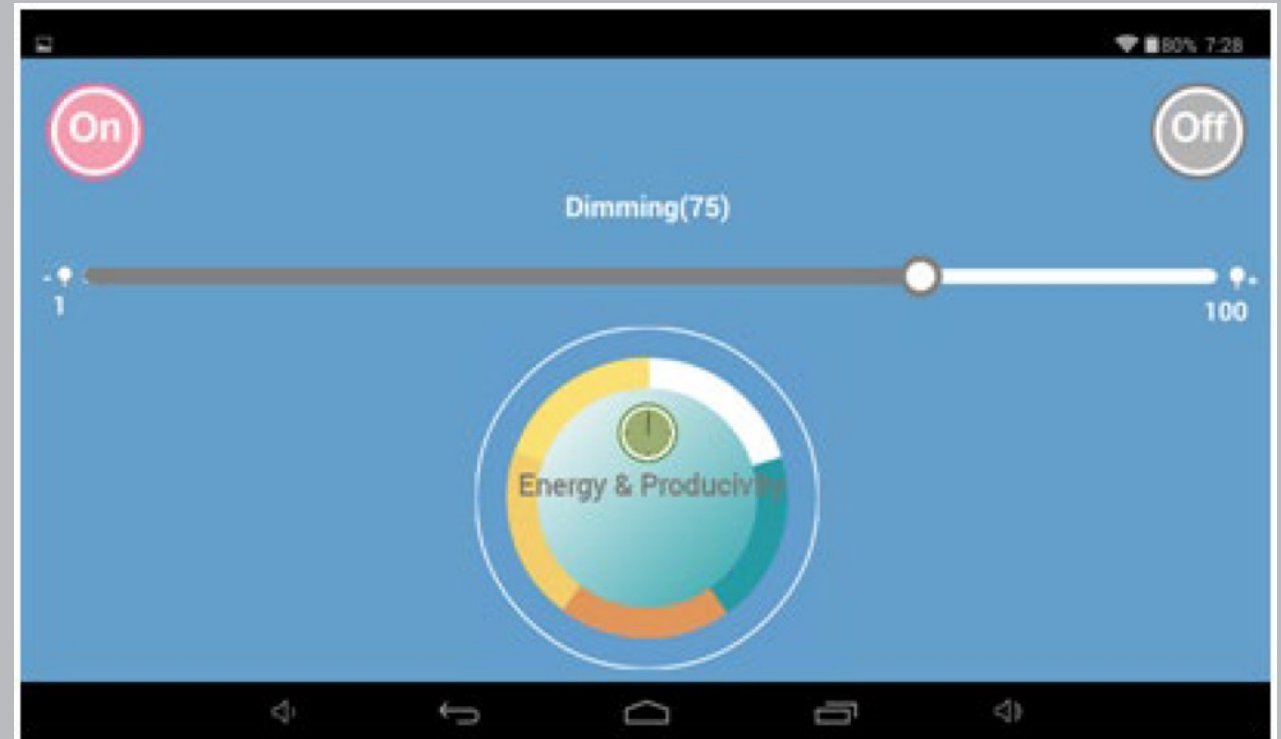


## OTHER LIGHT MODES *(continued)*

*Energy & Productivity Mode:*

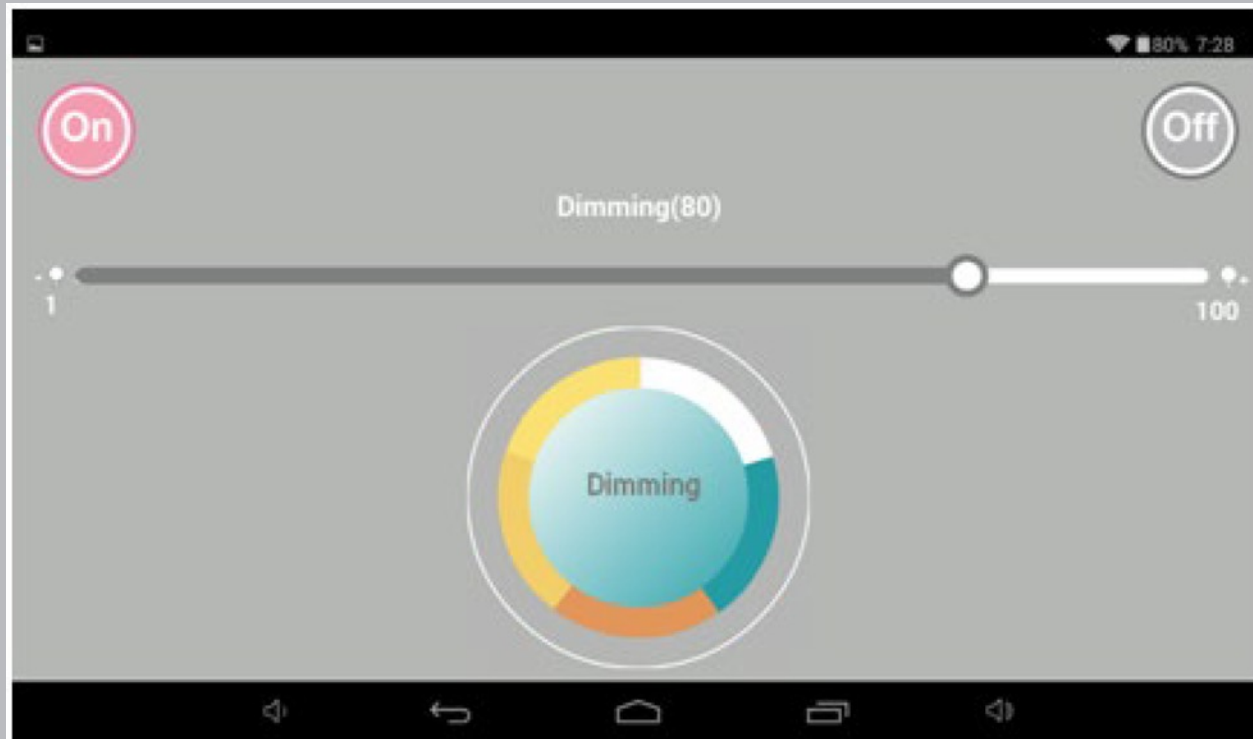
The “**Energy & Productivity Mode**” will provide 6500K color, similar to natural light at noon during the day. You can dim the brightness by moving the slider on the dimming level from 1% to 100% as needed.

**Please stay on this interface to continue using the Energy & Productivity Mode.**



## OTHER LIGHT MODES *(continued)*

Dimming Mode:



When using the “**Dimming Mode**”, the fixture’s CCT will be the CCT that the fixture was set at before entering this mode. Move the slider on the dimming level from the highest 100% to the lowest 1% to adjust the brightness find to a suitable light level for the room based on different applications.

**Please stay on this interface to continue using the Dimming Mode.**







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**THANK YOU.**