



Chroma Zenit

# Evidens-based Circadian Lighting at Plejecenter Lundtoft

# Lundtoft focuses on lighting

A recent evaluation reveals the value of incorporating circadian lighting from the beginning and integrating it with security systems. This enhances the well-being and sense of security for both residents and staff.

At Plejecenter Lundtoft in Vejen Kommune, the sun rises in a consistent rhythm year-round. The circadian lighting gradually illuminates the care center in the morning and fades like a sunset in the evening. These natural transitions between darkness at night and abundant light during the day have created a stable circadian rhythm in the facility, increasing a sense of security.

**“The circadian lighting is integrated into our entire mindset and the architecture we have chosen”**

Bo Smith, Area Manager

“We place great emphasis on the effects of light — both natural daylight and circadian lighting — on humans and the quality of life it provides.”

In 2017 the circadian lighting was installed in conjunction with the establishment of a brand new dementia unit. The architecture prioritizes cozy homeliness, security, and ample daylight.

Chromaviso, a specialist in health-promoting lighting solutions, has customized the circadian lighting to meet the dementia diagnosis and needs of the residents at Lundtofte. The solution supports the circadian rhythm and promotes good sleep, allowing the light to be used actively in various situations. For example, the light is integrated with the call system.

“When a call is triggered in the evening or a resident gets out of bed, a pleasant light automatically turns on. This lets the resident know that the staff has heard them and they can easily find their way to the bathroom. It creates a sense of security and can reduce the number of falls and wandering”, explains Bo Smith.

## A Perfect Beginning of the Day

The staff arrives in the morning at half past six in a warm, amber-colored lighting.

“We feel more refreshed during the day, and when it is evening, we can sleep — and that goes for both residents and staff”, explains Pia Datsomor, a social and health assistant. This experience has just been confirmed in an evaluation.

“We noticed the effect quite quickly. The evaluation shows

that the residents become calm, they establish a more natural circadian rhythm. For some, we have even been able to reduce their sleeping medication, as they sleep better”, says Randi Holdt, Team Coordinator.

For the staff, the effect has been that they have more energy when they go home in the afternoon. For the evening shifts, the effect is that they find it easier to fall asleep after a shift, explains Bo Smith.

## Customized adaptation

The circadian lighting operates automatically. Customized zone-specific light settings are used as an integral part of daily care, both in therapeutic situations and work tasks.

“We have focused a lot on the light and what it does at different times. We have experimented and now actively use the light in many situations. We constantly assess what each individual needs, and we have had great success with that”, explains Randi Holdt, Team Coordinator.

Pia Datsomor provides two examples of how the light supports her work: “When I am in the kitchen in the morning, I often set it to boost in the kitchen zone to get extra energy and light for the task. After lunch, we set it to cozy lighting, and it helps the elderly to relax and unwind.”

## Absenteeism at an all-time low

The workplace prioritizes a high focus on the work environment, resulting in an impressively low absenteeism rate of only 1%. This achievement led to Plejecenter Lundtoft being nominated for the Workplace Award in 2018.

**“The circadian lighting has greatly improved our everyday lives. We can feel the difference compared to the old lighting. We no longer experience headaches when we go home, and we feel refreshed, says Randi Holdt.”**

Randi Holdt, Team Coordinator

A funny story from a colleague is that when she used to come home, she would flop onto the couch. Her husband thought it was great because then he had the TV remote control all to himself. But now that she started working here, he no longer has it to himself. It says something about how this lighting just does something. And it also does a lot for our residents, she concludes.



24 hours with Chroma Zenit circadian lighting



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It's pleasant to come in to the calm light in the morning and begin slowly.

Pia Datsomor,  
Social and  
Healthcare Assistant

”

When the staff utilizes all the many possibilities, we support the natural circadian rhythm, and we also take advantage of the light when we need to create calm or generate energy.

Bo Smith,  
Area Manager



# User survey of circadian lighting at Lundtoft Nursing Home

100%

Circadian lighting improves working environment

100%

would recommend the lighting to others

100%

Find the lighting comfortable

100%

The circadian lighting makes the workplace more attractive

## RESIDENTS



- 89% More energy
- 89% Less fatigue
- 89% Less depression
- 88% More calmness during waking hours
- 80% More security
- 78% Better sleep
- 78% Better quality of life

## STAFF



- 100% Better wellbeing
- 100% Less stress
- 100% Better mood / less depression
- 91% Less dizziness / grogginess
- 91% Eyes don't get as tired
- 91% More calmness
- 82% More energy
- 82% Less fatigue

## Staff experiences with the circadian lighting



**“It's pleasant that the light decreases during the evening shift”**

**“Less absenteeism since we got the lighting”**

**“Tapering of antidepressive medication”**

**“If a resident is restless and the light is dimmed in the evening, the restlessness also subsides”**

**“It's just a matter of pressing a button. It's very simple to use.”**

91% use the circadian lighting daily

91% find the control easy to use

100% consider the light settings to be important

### The light settings are actively used daily

- to create an atmosphere
- to calm a resident
- to achieve more energy
- to achieve good lighting for specific tasks or an emergency situation

\* Electronic survey conducted in collaboration with Vejen Municipality in April-May 2018. Sent to 15 users of Circadian Lighting -11 have responded -all healthcare assistants (SOSU) -both day, evening, and night shifts.