

Light Atmosphere

Design parameters for lighting hospital wards

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Background

Textile design_ Kolding School of design 06

Teacher, Silkeborg 99

Lostdesign 06

Interest: Light atmosphere

Holistic approach to lighting design and try to understand light Atmosphere?

The connection between the daylight we are experiencing and the way we use artificial light?

Design Parameters for pleasurable light atmosphere in hospital wards

When and why is light interesting seen from the patients perspective.

Describing the sensory qualities of light.

Phd based on a Portfolio /articles

The color of the light must support the patients' needs for a pleasurable and "homely" lighting. In most cases it means a color temperature no higher than 3000 Kelvin and a reasonable good color rendering $R_a > 80$.

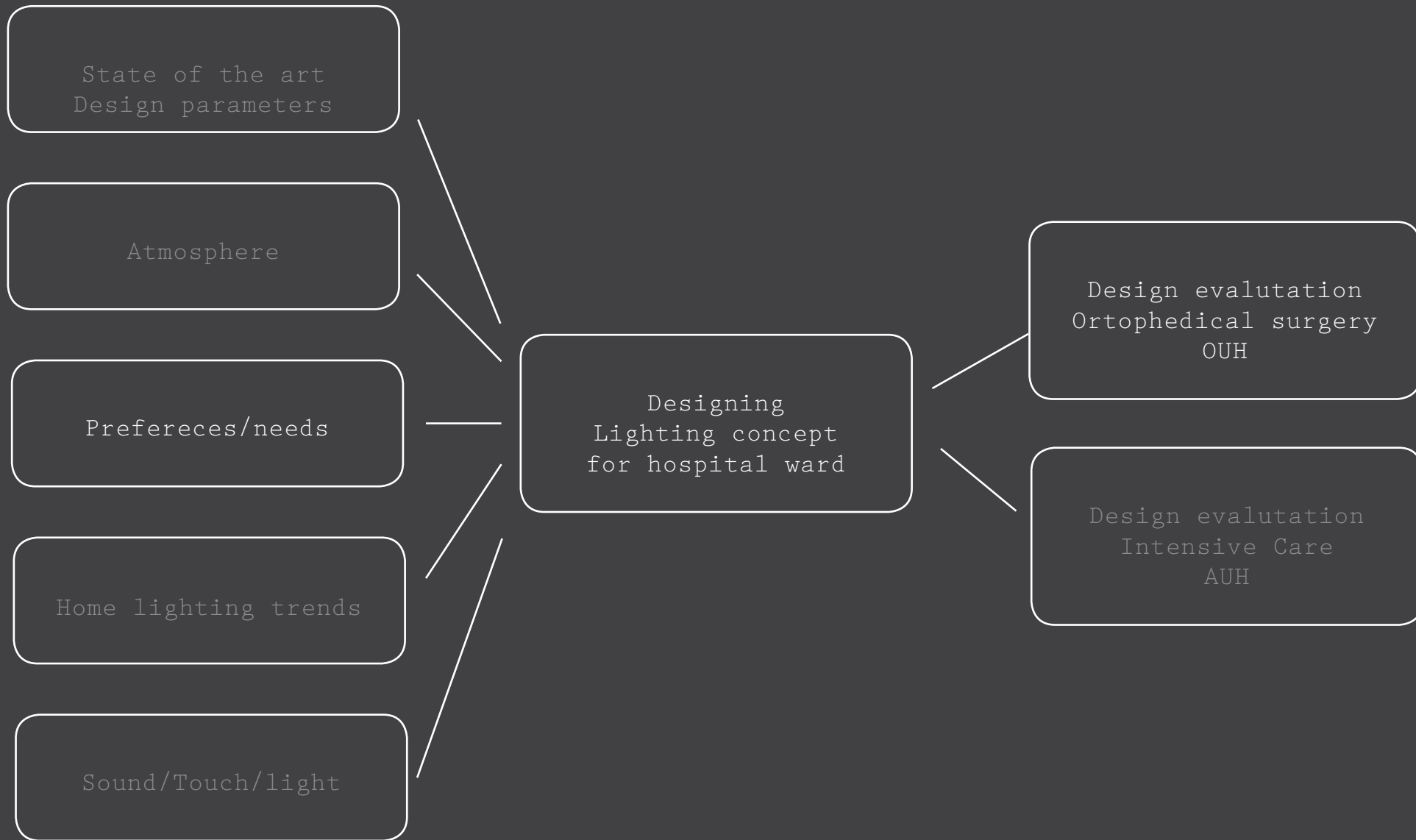
Danish standard for hospital lighting
chapter 2.

What is a pleasurable homely lighting?

Why only a focus on the "lightcolor", "color rendering" and "intensity".

More information about the placement (Vertical and horizontal) of the light and number of lightzones, and shadow effect etc.

Methods



Guidelines Hospital design

Ulrich, R. & Zimring, C. 2004,
"The Role of the Physical Environ-
ment in the Hospital of the 21st
Century: A Once-in-a-Lifetime Op-
portunity"

Dalke, H., Littlefair P.J. & Loe
2006.
"Lighting and colour for hospital
design"

McClughan, C.L.B., Aspinall, P.A.
& Webb, R.S. 1999, "*The impact of
lighting on mood*"



Herlev Hospital

Atmosphere.

Albertsen, N. 1999, "Urban Atmosphere",
*Atmospheres can not be seen - It must be
experienced through other senses and an
atmosphere occurs rarely through one sense
alone, but in an interaction between several
senses. Atmosphere affects people emo-
tionally.*



Afternoon in DK

Atmosphere

It is not a stamp of approval for "good taste". It is everywhere at any time, it is always present.



View from my studio in Aarhus

Atmosphere

It is not a stamp of approval for "good taste". It is everywhere at any time, it is always present.



Cafe i Lagos, Nigeria

Atmosphere

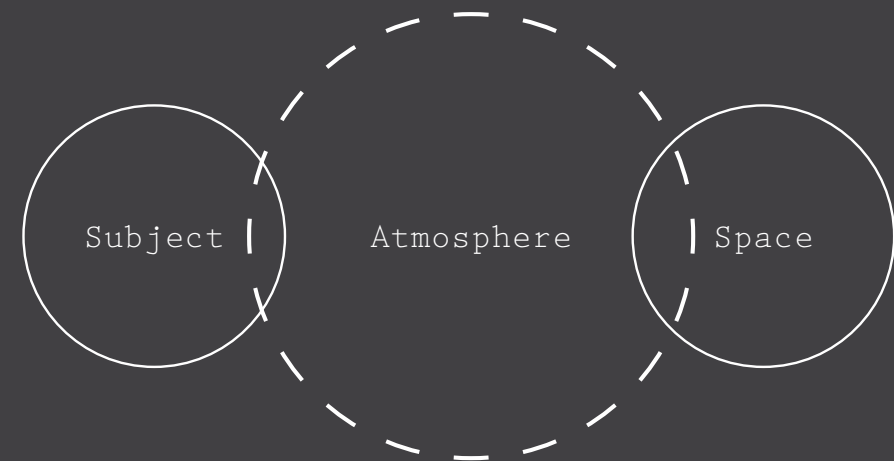
Therme Vals. Peter Zumthor, 2006,
*Atmospheres - Architectural Environ-
ments - Surrounding objects*



Peter Zumthor: The Therme Vals

Atmosphere

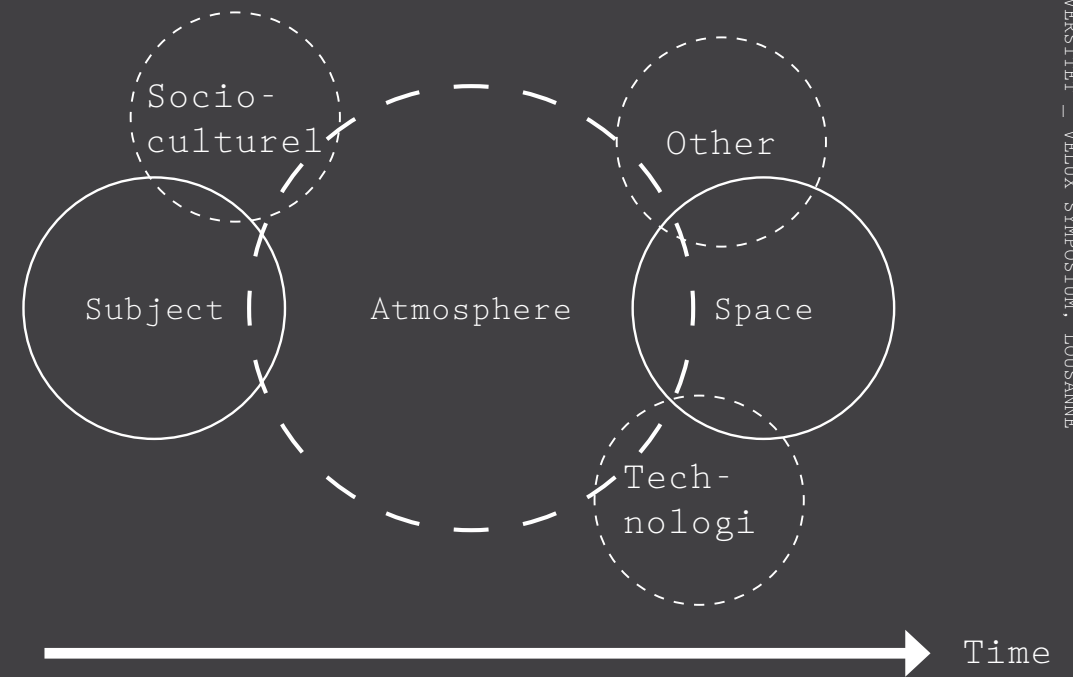
Philosopher Gernot Böhme: *The concept of Atmosphere*. 1993, "Atmosphere as the fundamental concept of a new aesthetics1" in *Thesis Eleven*.



Atmosphere

Time

Socio Cultural.



Design Parameters

Light Source

Characteristica, effect, information

Space

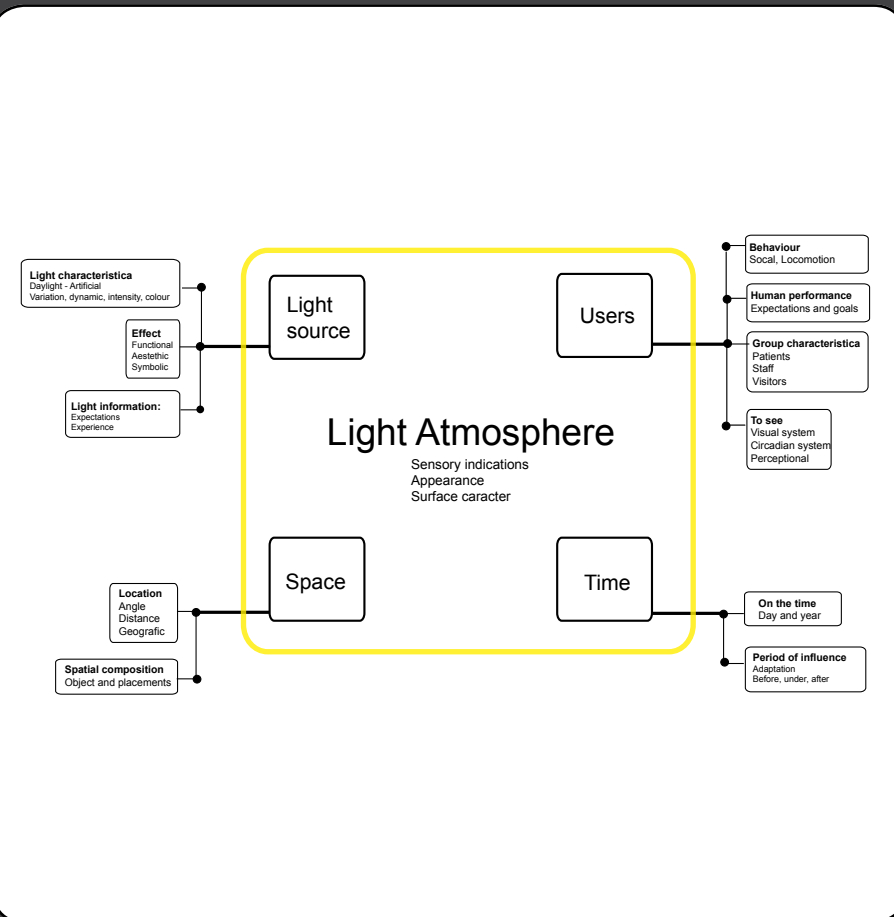
Geographical orientation, spatial composition, surfaces, objects, materials, colour

Time

Time of the year, daytime, time of influence

User

Behaviour, performance, user group, visual system, expectations, kultural background



User needs:

Patients, Staff and visitors

- Observations of the staff and patients and visitors at the ward
- Spending a day at a ward
- Interviewing staff and patients
- Tracking the staff (Niels Thuesen)
- Case studies. Kolding, Medicinerhuset, AUH



Light preferences

- Interviewing 15 people in the age-group of 60-80 about use of light in their home.

Methods:

Photo safari taking pictures of the placements of their lamps, and the design/type of the lamps they are using (activity based)

Photo album as interview guide for an interview in their homes.

Analysing data



Light preferences

- Placing the light along the walls
- A vertical separation of the room (high zone, middle zone, low zone). most lamps are placed in the middle zone.
- Primary lamp near and secondary lamp to define the room.
- warm light color and candle lights
- creating a “hygge” cosy atmosphere when they having guests.



Activity and user oriented lighting concept

There are different user needs for light and their are individual light preferences for light in our private sphere. But there are some trends:

The placement of the light in the room are important for the experience of being familiar with the light

The light situations support the daily activities at the ward. Activities as watching Tv, eating, going to rest/sleep, get ready for training or maybe reading a book.

The lighting concept should support the diverse user needs and preferences and the user have the opportunity to adjust the light at the ward.



Evaluation

1. may – vinter 2011 at O3, OUH
1. june – vinter 2011 at ITA, AUH

OUH_ Patients preferences_ Semantisk Differentiale:

AUH: Visitor and staff preferences_ Semantic Differentiale:

1. reference room

Access to patients scores and other medical information.

Undersøgelse af lyskvalitet på sengestuen



Odense Universitets Hospital, Afd. O3 _ Lone Stidsen _ Phd studerende _
Aalborg Universitet _ Forår 2011_ mail: ls@civil.aau.dk _ tlf: 31237008

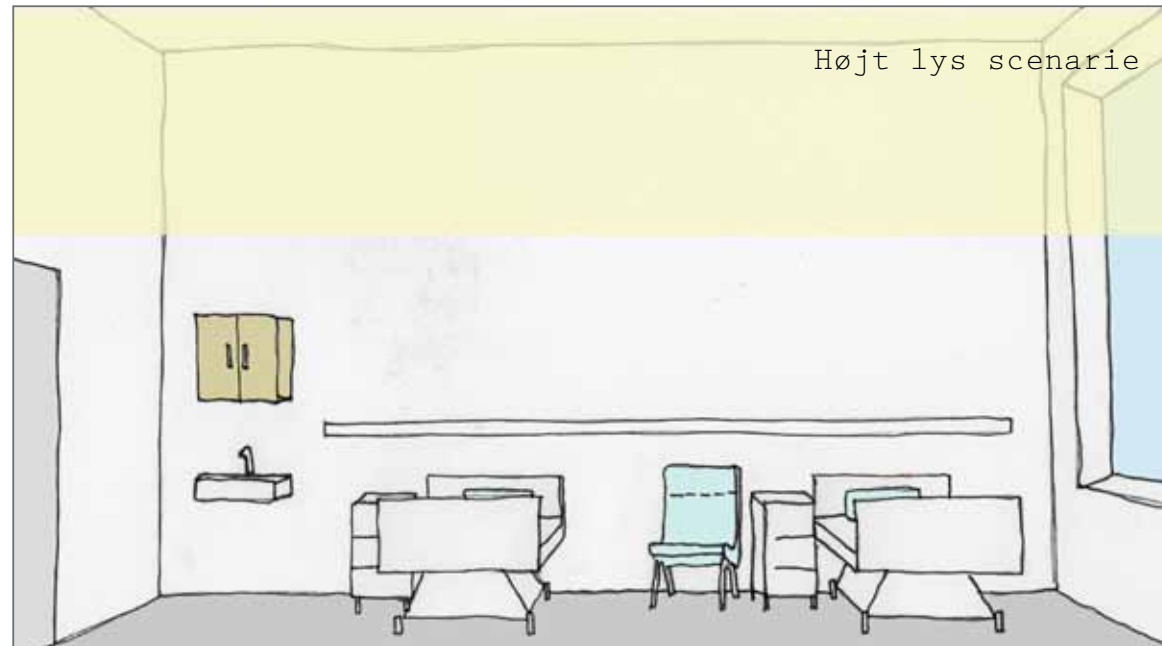
DESIGN CONCEPT

Design koncept

“Patientens aktive rum”
(træning, fysioterapeu-
ten, gangareal),

“Patients offentlige rum”
(kommunikation med per-
sonalet).

“Personalets rum”



Design koncept

“Patientens private rum” (læse, spise, gå til ro, Se TV, besøg af pårørende),

“Patients offentlige rum” (kommunikation med personalet).

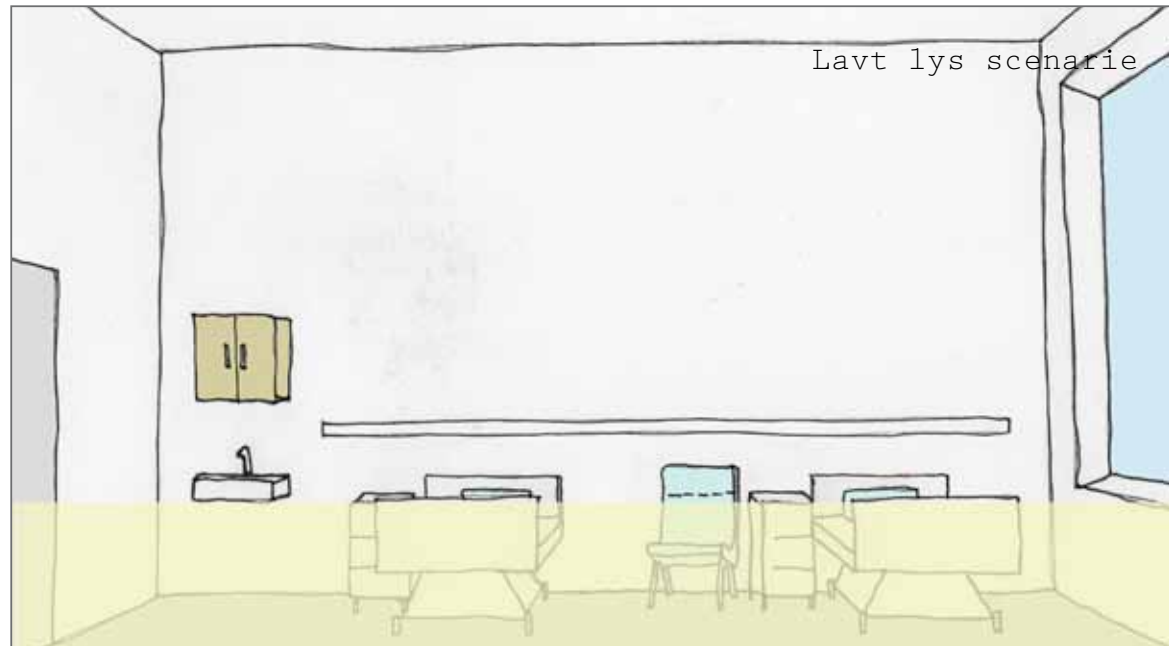
“Personalets rum”



Design koncept

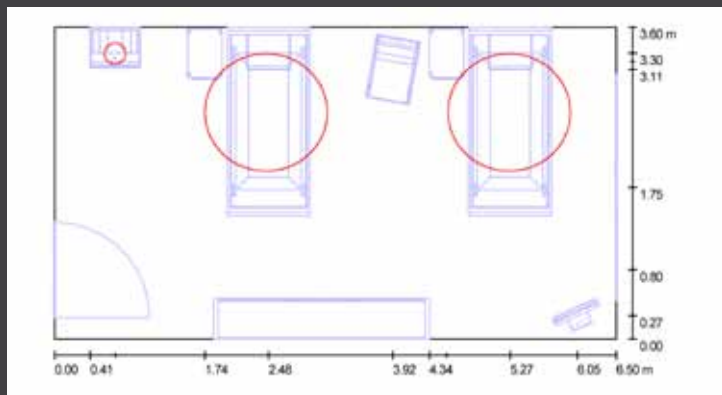
“Patientens private rum”
(sove, hvile, gangområde
om natten),

“Personalets rum” (gan-
gområde for personale).



High light scenario

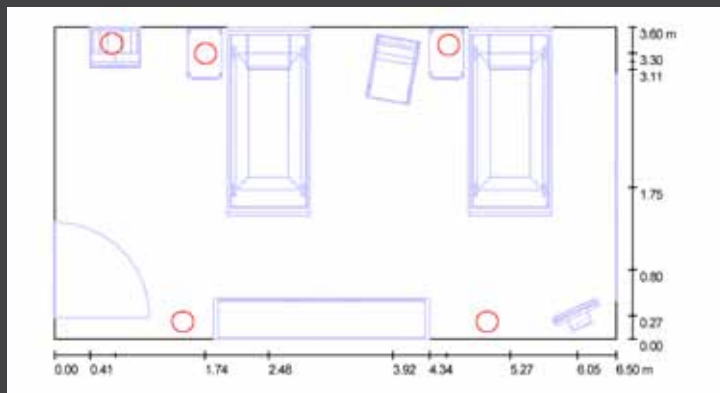
Philips savio



Middle light scenario

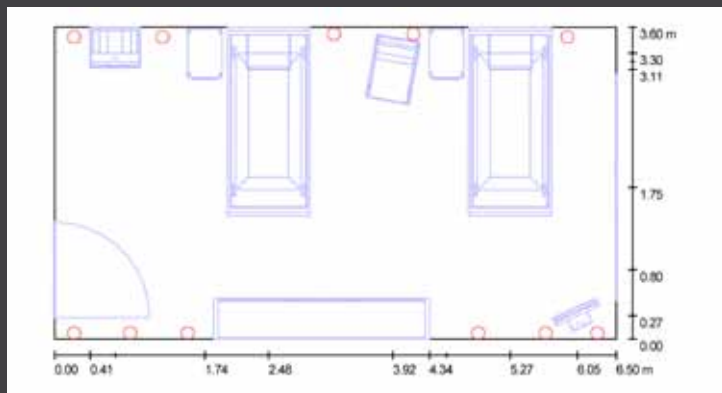


Le Klint Under Cover
Arkitektlampe
vægglampe

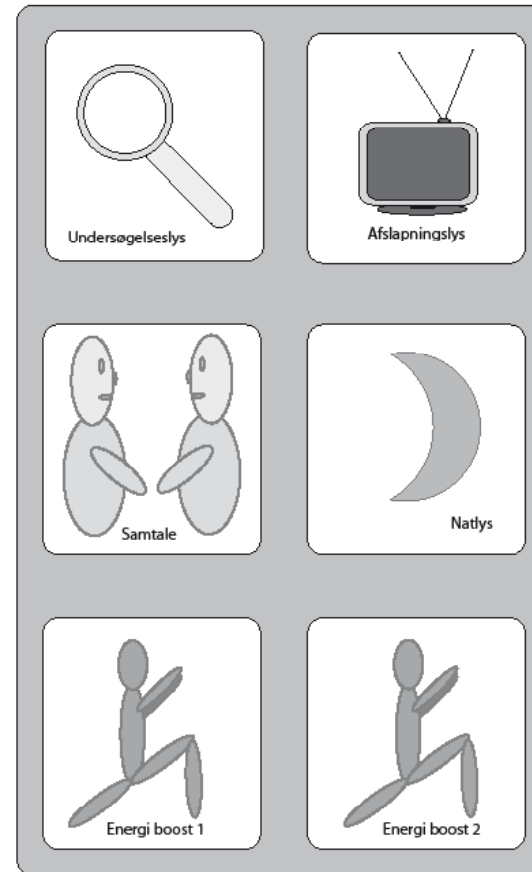


low light scenario

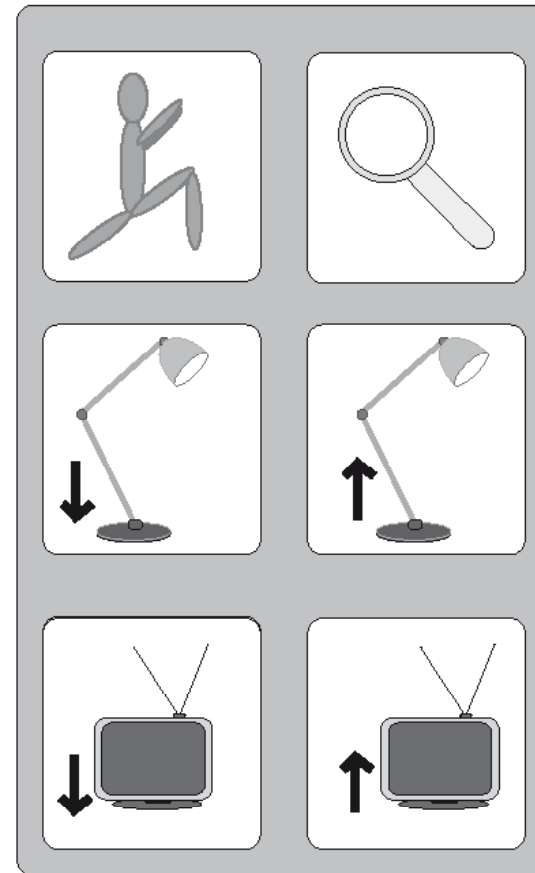
Philips LED spot



Lighting control for the Staff



Lighting control for patients



Staff lighting

OUH sengestue / Personale_undersøgelses

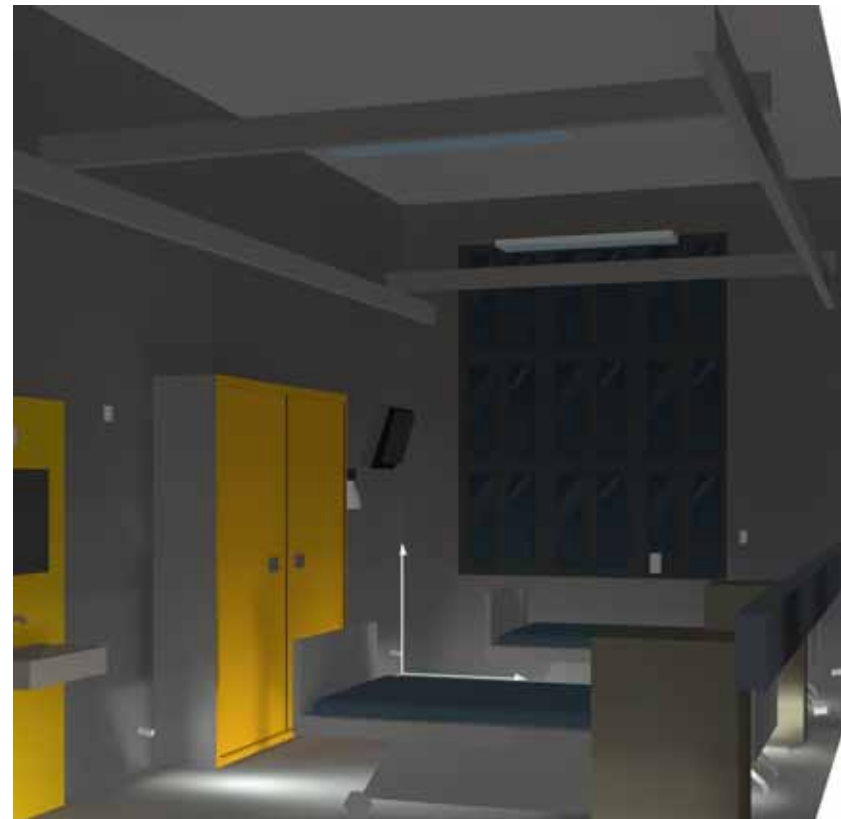


Patients relaxation light

OUH sengestue / Patient 1_afslapnings



Night light



OUH sengestue / Na