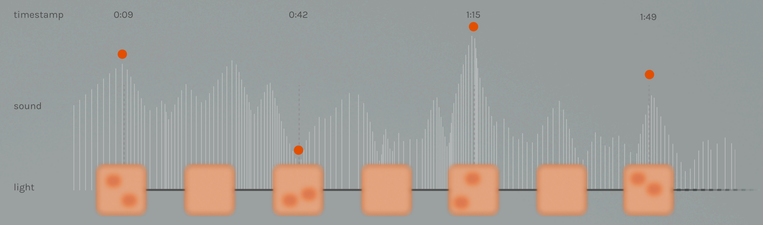
Patrick Wetzels
Graduation Poster

Translating Sound into Light

A Responsive Lighting System Complementing Sonic Ambiances in the ICU

The name Komora is derived from 'Komorebi', the Japanese word describing sunlight filtering softly through the leaves of trees. Similarly, Komora translates sonic events into gentle illuminations, allowing light to shimmer and shift in response to sound.

KOMORA

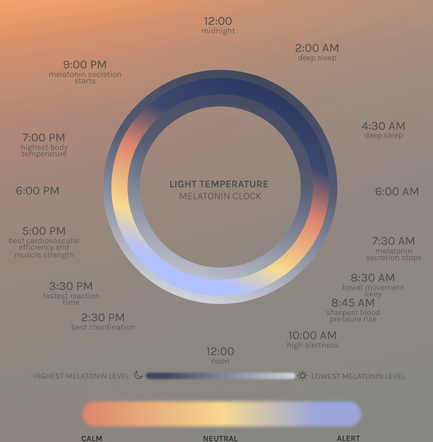


Soundwaves into Light

Different soundscapes (ranging from natural to man-made environments) have been shown to support patient comfort and recovery. Custom designed python and arduino code detect peaks in sound intensity and translates these into dynamic light cues, allowing the lamp to react and reinforce feelings of calmness or alertness in sync with the sound.

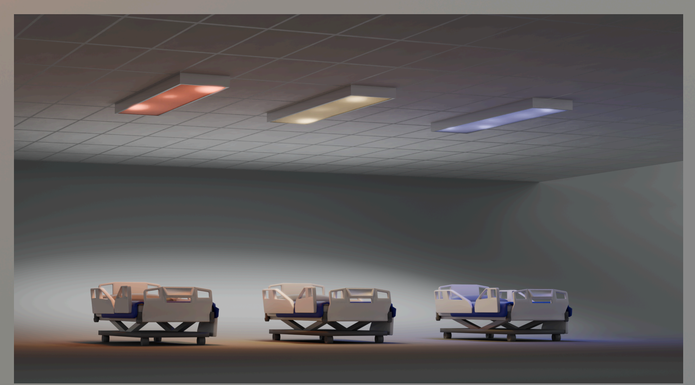
Circadian Rhythm

Light regulates the body's melatonin cycle, supporting natural sleep and wake rhythms. This lamp uses colour shifts to promote alertness by day and restfulness at night, enhancing patient recovery and well-being. A dedicated Work Mode provides optimal light for medical staff during care tasks.



In Context

Positioned above the ICU bed, the fixture integrates into the ceiling to meet strict hygiene standards. It provides gentle, evenly diffused illumination that minimizes glare and visual strain, creating a calm, comforting atmosphere for patients while supporting essential medical tasks.



Patrick Wetzels
Translating Sound into Light
November 19th 2025
Design for Interaction
Faculty of Industrial Design Engineering

Committee
Chair Associate Prof. Dr. Elif Özcan Vieira (TU Delft)
Mentor Ir. Charl R.G. Smit PDEng (TU Delft)
Client Dr. Ela Fasllija MFA (Erasmus MC)

Erasmus MC
Critical Alarms Lab

TU Delft
Delft University of Technology