

# *ReNormAction!*

IBE-BIV seminar 10 November 2022

# Verlichting van de thuiswerkplek

## *Home office lighting*

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IBE-BIV Seminar 10 November 2022

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INSTITUT BELGE de l'ECLAIRAGE  
CIE NATIONAL COMMITTEE – NBN SECTOR OPERATOR

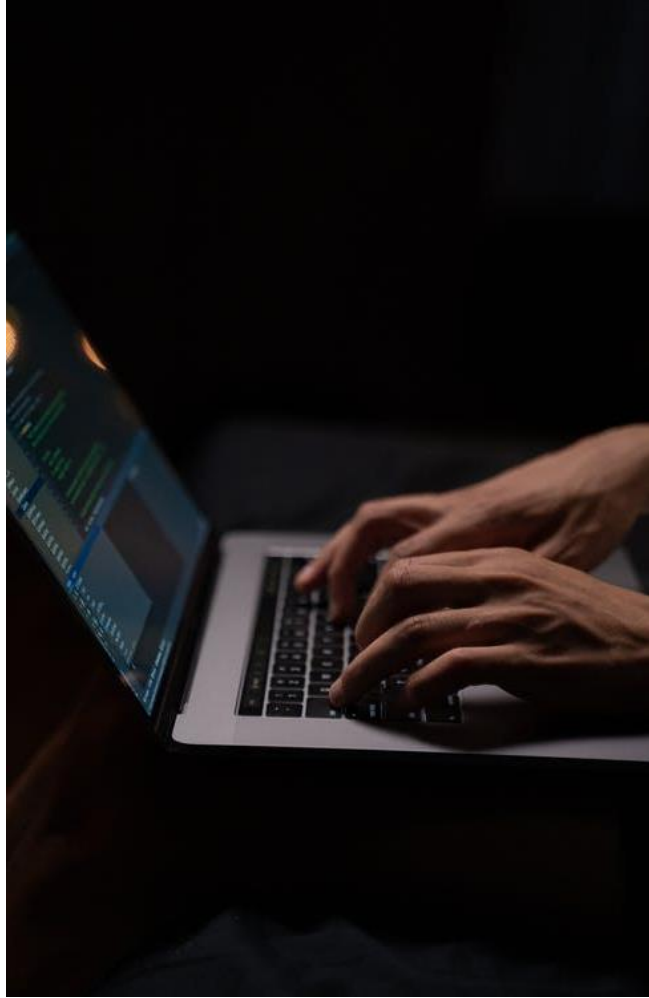
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NORMALISATIE  
BUREAU DE  
NORMALISATION

The background features a series of overlapping, angular shapes in various shades of blue, ranging from a deep navy to a lighter, sky blue. These shapes create a dynamic, layered effect. On the right side, a large, white, angular shape cuts into the blue composition, creating a sharp contrast.

# The importance of light exposure



# What do we need for vision?



Objects need to be of a *minimum size!*

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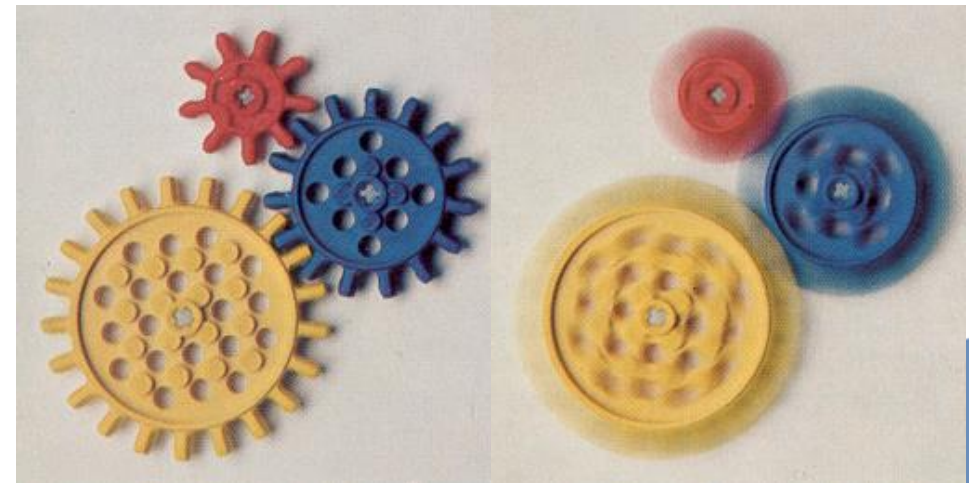
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# What do we need for effects beyond vision?



*Luminous factors*



*Temporal factors*

# Home office lighting

# Lighting standards or recommendations

- EN 17037 Daylight in Buildings (2018)
  - Nothing specifically for home offices
- EN 12464-1 Light and Lighting – Lighting for workplaces – Part 1: Indoor work places (2021)
  - A home office is also an indoor workplace; however not included in the standard
- Programma van Eisen Gezonde Kantoren (2021)
  - The presented requirements apply for spaces meant for office work
  - Nothing specifically for home offices
- WELL Building standard (2022): Light
  - For ‘all spaces except dwelling units’ or ‘dwelling units’
  - Within ‘all spaces except dwelling units’, workstations are mentioned
  - Within ‘dwelling units’, nothing specifically for home offices
- Recommendations for Healthy Daytime, Evening, and Night-Time Indoor Light Exposure by Brown et al. (2022)
  - Nothing specifically for home offices
- No lighting standard or recommendation for home offices



Programma van Eisen  
Gezonde Kantoren 2021



Recommendations for daytime, evening, and nighttime indoor light exposure to best support physiology, sleep, and wakefulness in healthy adults

Timothy M. Brown<sup>1\*</sup>, George C. Brainard<sup>2</sup>, Christian Cajochen<sup>3</sup>, Charles A. Czeisler<sup>4</sup>, John P. Hanifin<sup>5</sup>, Steven W. Lockley<sup>3,5,6</sup>, Robert J. Lucas<sup>1</sup>, Mirjam Münch<sup>3,7</sup>, John B. O'Hagan<sup>8</sup>, Stuart N. Peirson<sup>9</sup>, Luke L. A. Price<sup>8</sup>, Till Roenneberg<sup>10</sup>, Luc J. M. Schlangen<sup>11,12</sup>, Debra J. Skene<sup>13</sup>, Manuel Spitschan<sup>14,15,16</sup>, Céline Vetter<sup>17</sup>, Phyllis C. Zee<sup>18,19</sup>, Kenneth P. Wright, Jr.<sup>20\*</sup>

# Lighting standards or recommendations



- This Dutch recommendation guide can be purchased via:
  - NSVV: <https://www.nsvv.nl/publicaties/richtlijn-verlichting-voor-de-thuiswerkplek/>
  - Groen Licht Vlaanderen: [www.groenlichtvlaanderen.be](http://www.groenlichtvlaanderen.be)
  - IBE-BIV: [www.ibe-biv.be](http://www.ibe-biv.be)
- Costs (excl. VAT):
  - Members: €30,-
  - Non-members: €45,-

# Lighting standards or recommendations



# 1. Ensure enough light on the workplace





2. Ensure  
comfortable  
brightness ratios

### 3. Avoid direct and indirect glare





4. Consider light directionality and shadows

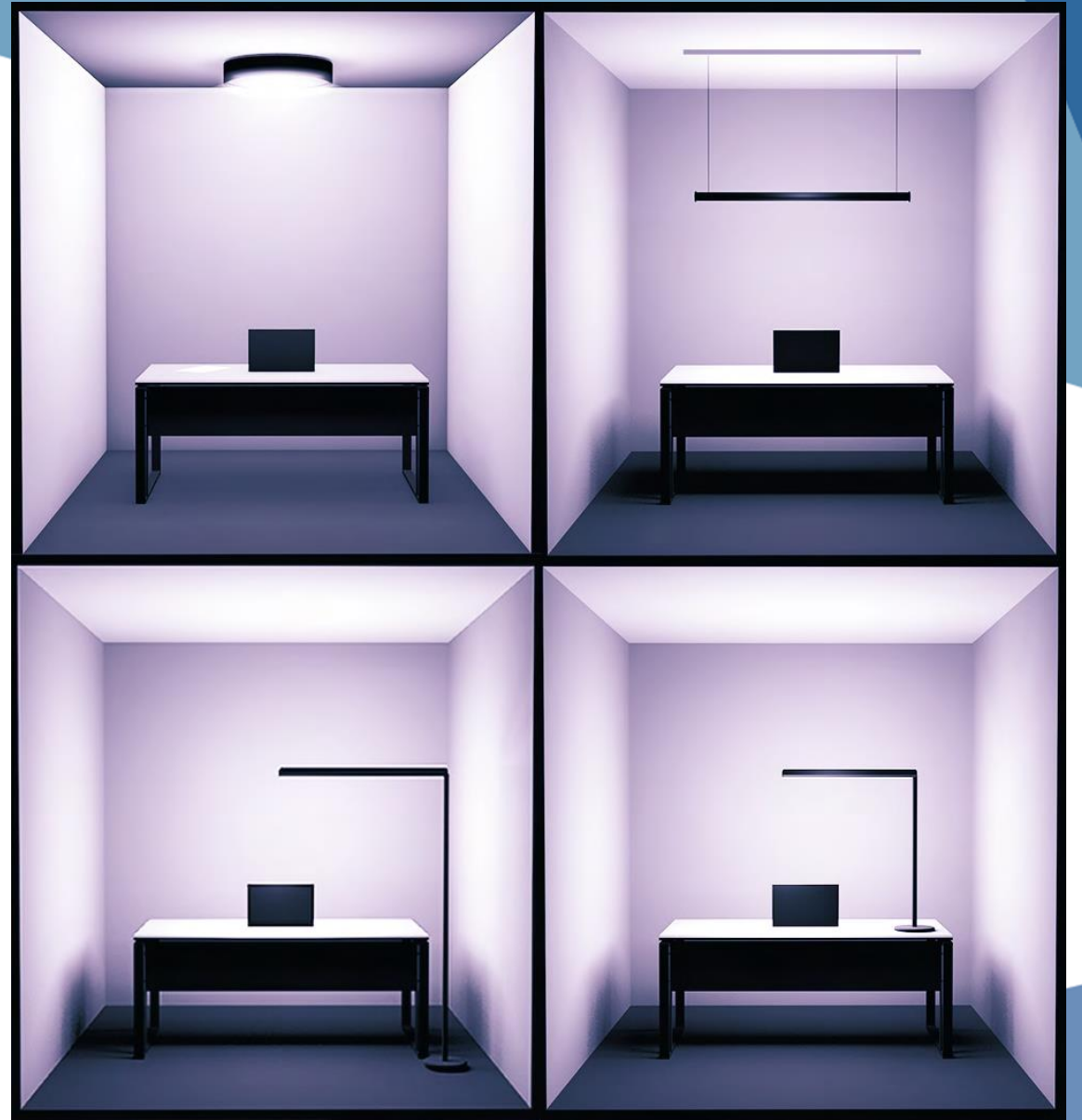
5. Consider lamps with good color rendering properties

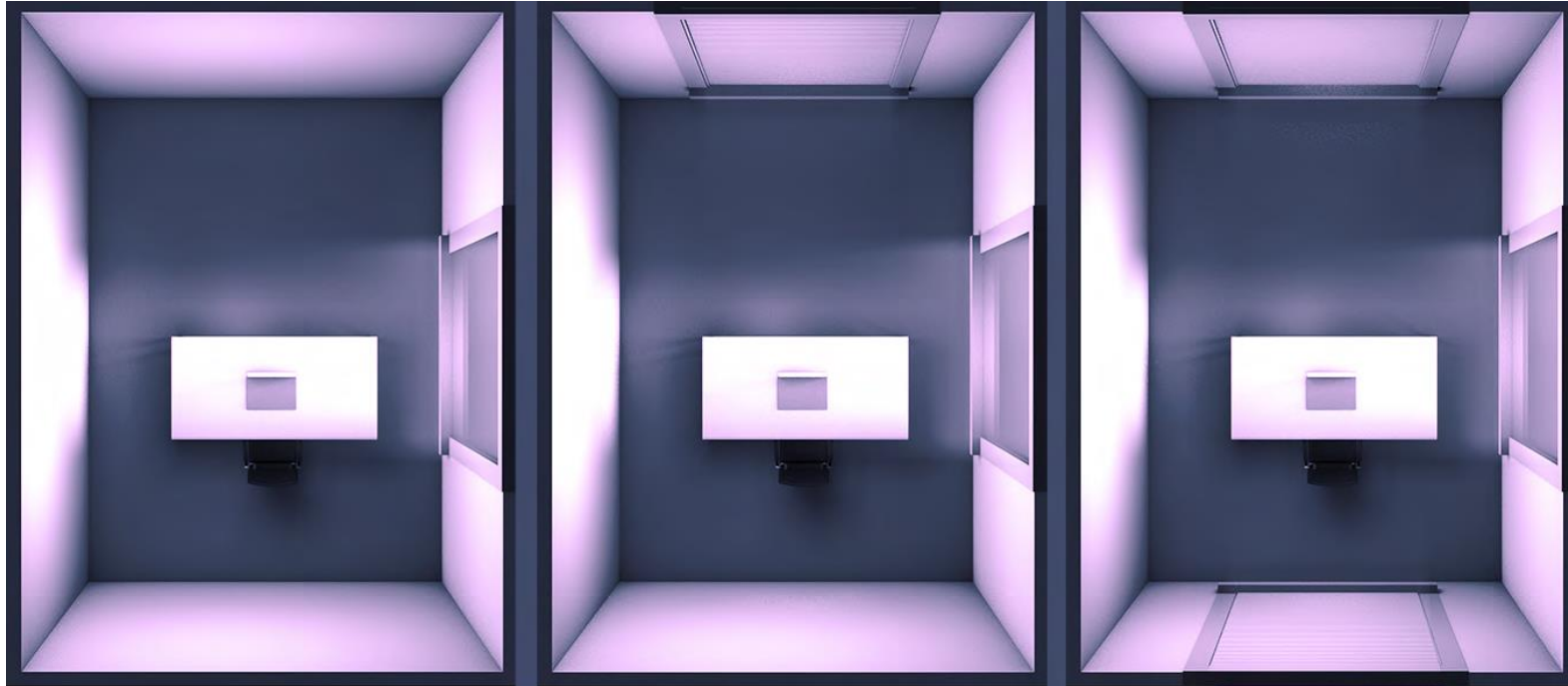




6. Choose a pleasant light color

## 7. Select suitable luminaires for your purpose





8. Position  
your  
workplace  
correctly

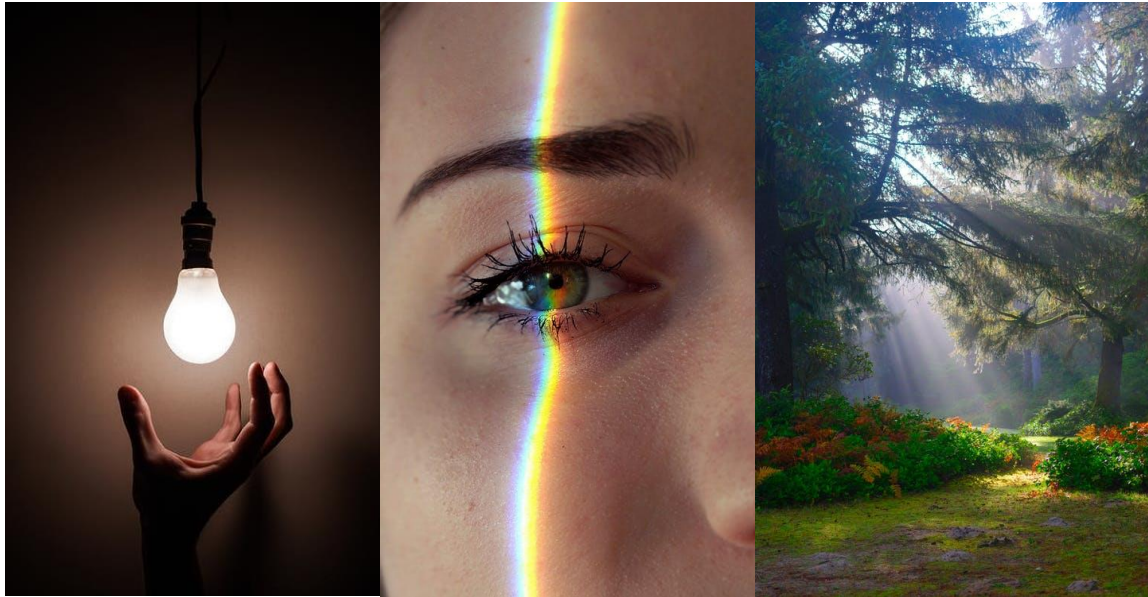


## 9. Consider dimming possibilities for electric lights

# 10. Apply (smart) options for controlling the lights




Side note:



*Luminous factors*



*Temporal factors*



# Research in (home) office lighting

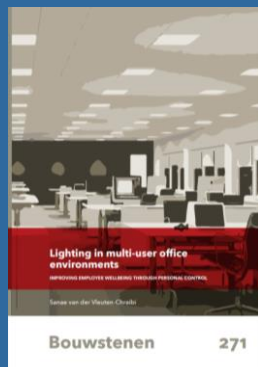
# Research in (home) office lighting

## Past research projects:

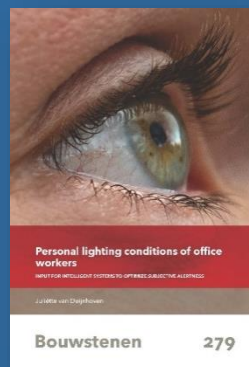
### *CHEO (Creating Healthy Environments Offices)*



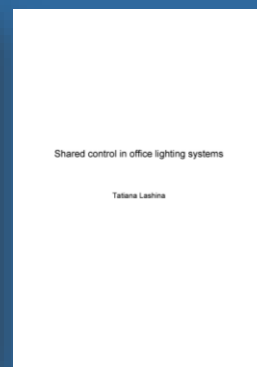
*Occupancy-based lighting control*  
Christel de Bakker  
2019



*Lighting in multi-user office environments*  
Sanae van der Vleuten-Chraibi  
2019



*Personal lighting conditions of office workers*  
Juliëtte Van Duijnhoven  
2019

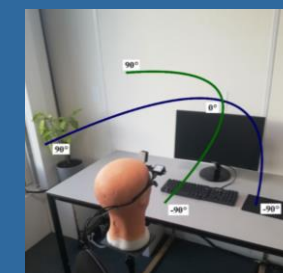


*Shared control in office lighting systems*  
Tatiana Lashina  
2022

## Ongoing research projects:

### *LIGHTCAP (LIGHT Cognition Attention Perception)*

*Implementing the effects of light on humans in the lighting design process*  
Myrta Gkaintatzi-Masouti



© Sietse de Vries

### *VETHO (VELux Tu/e Home Offices)*

*Developing a personalized home office lighting recommendation guide*  
Verena de Kok

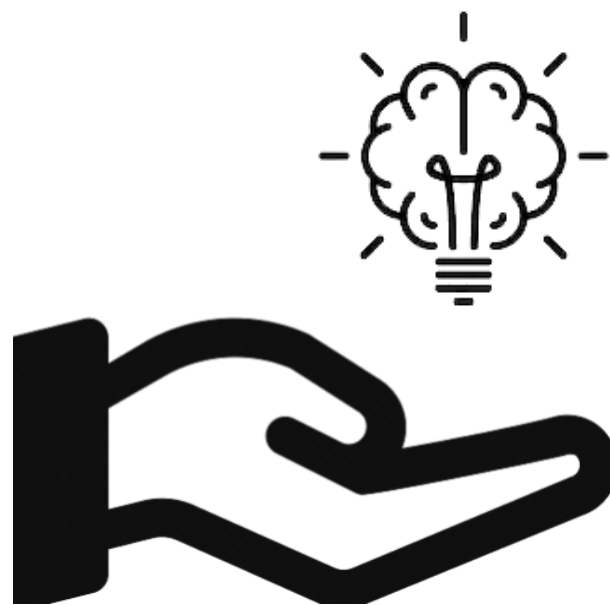
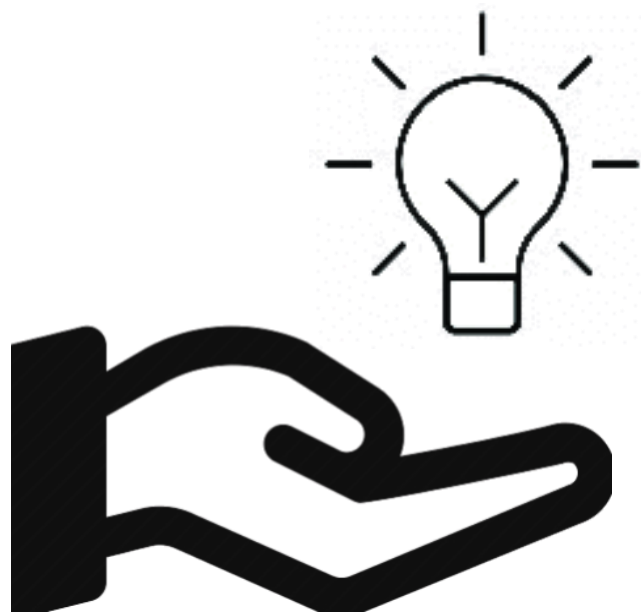


# Research in (home) office lighting

## *VETHO (VELux Tu/e Home Offices)*

1. Create an overview of characteristics that explain personal light exposure of home office workers
2. Make an inventory of home offices in the Netherlands:
  - What is their potential in terms of image-forming and non-image-forming effects of light?
  - Do they meet the most recent standards/recommendations?
3. Develop personalized home office lighting recommendations

# Collaborations





# Thank you

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