

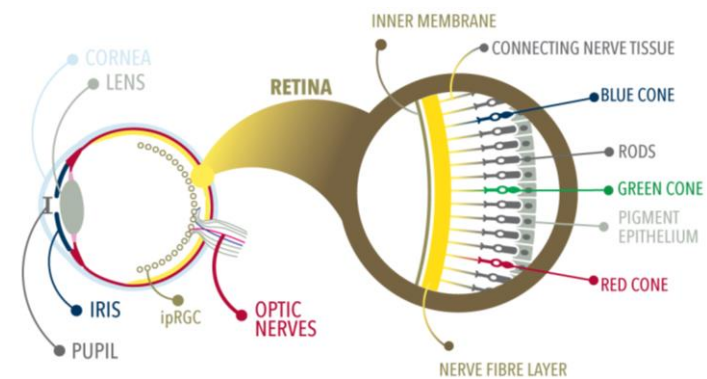
The background of the slide is a bokeh effect consisting of numerous out-of-focus light spots. These spots vary in size and color, with a mix of warm, golden-yellow and orange tones, and cooler, light blue and teal tones. The overall effect is soft and ethereal, suggesting light reflecting off water or a similar textured surface.

LIGHT



GOALS + INTENTS

OUR EYES DO MORE
THAN JUST SEE.





GOALS + INTENTS

EXPOSURE TO LIGHT

HARVARD RESEARCHES AND THEIR COLLEAGUES CONDUCTED AN EXPERIMENT COMPARING THE EFFECT OF 6.5 HOURS OF EXPOSURE TO BLUE LIGHT, AND EXPOSURE TO GREEN LIGHT OF COMPRABLE BRIGHTNESS.

- THE BLUE LIGHT SUPPRESEED MELATONIN FOR ABOUT TWICE AS LONG AS THE GREEN LIGHT AND SHIFTED CIRCADIAN RHYTHMS BY TWICE AS MUCH, 3 HOURS VS 1.5 HOURS.



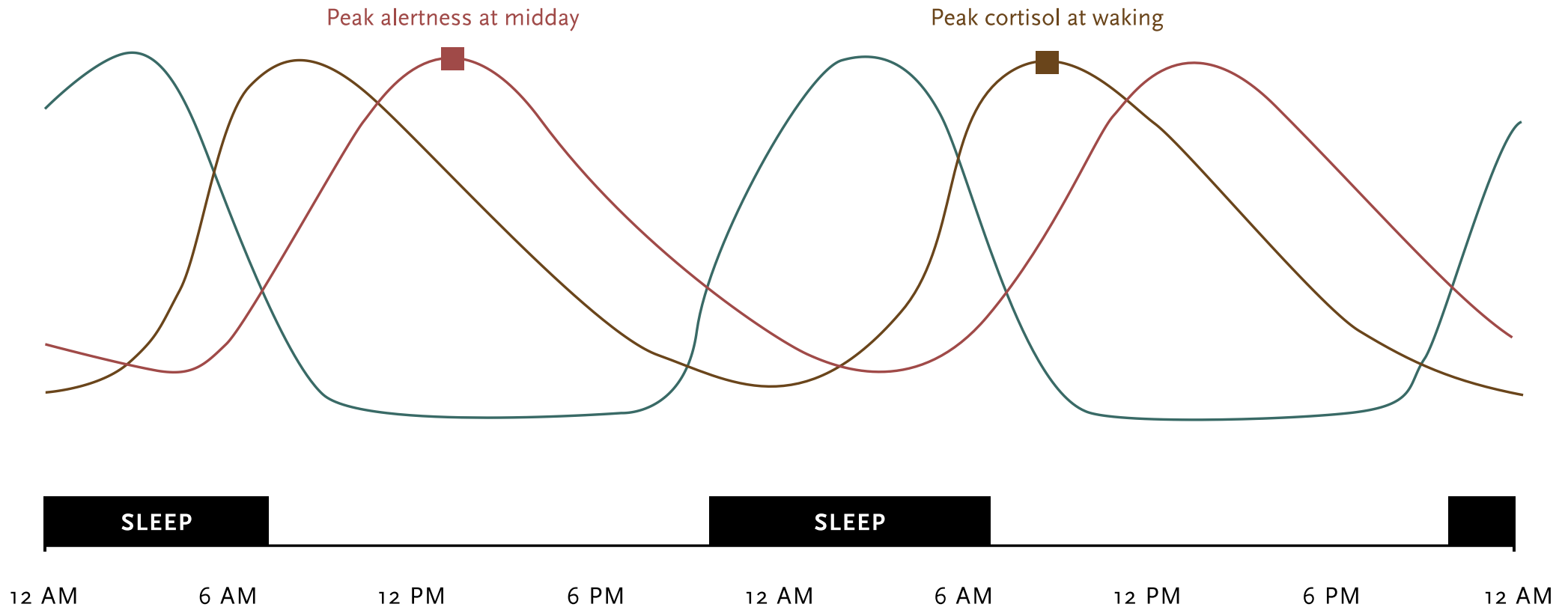
GOALS + INTENTS

HEALTH IMPACTS OF DISRUPTED CIRCADIAN RHYTHM.



GOALS + INTENTS

LIGHT AT NIGHT, A POSSIBLE CARCINOGEN



DAILY CYCLE OF CORTISOL & MELATONIN



**PROVIDE DARKNESS
IN THE EVENINGS.**



**1
LUX**
FULL MOON

**10
LUX**
STREETLIGHT

**100
LUX**
*BEDROOM &
LIVING ROOM*

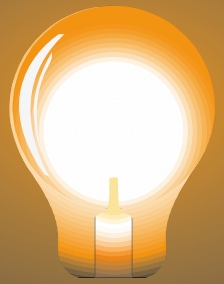
**1,000
LUX**
OVERCAST DAY

**10,000
LUX**
*SURGICAL
ROOM*

**100,000
LUX**
*NOON
SUN*

GOALS + INTENTS

TYPICAL ILLUMINANCE (LUX) LEVELS



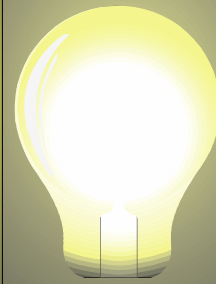
1,000



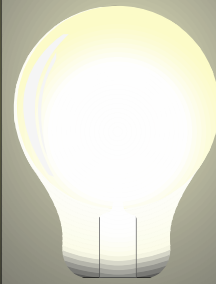
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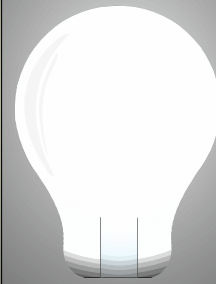
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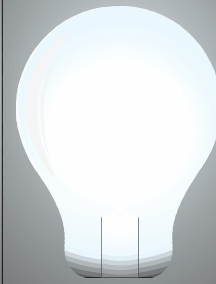
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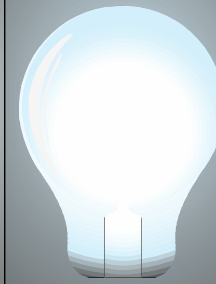
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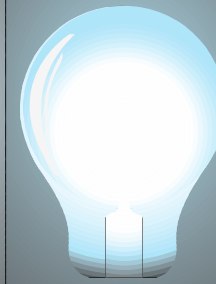
6,000



7,000



8,000



9,000



10,000 K

GOALS + INTENTS

CORRELATED COLOR TEMPERATURE (CCT)



GOALS + INTENTS

MAXIMIZE DAYLIGHT

- FOCUSED **WORK INCREASED BY 15%** FOR THOSE WHO HAD WINDOW VIEWS. ¹
- LACK OF ACCESS TO NATURAL LIGHT IN WORKPLACES AND SCHOOLS POSSESS A **26% HEALTH HAZARD.** ²
- LACK OF NATURAL LIGHT IS CONSIDERED THE NUMBER ONE WORKPLACE HEALTH **HAZARD BY 36%** OF PSYCHOLOGIST AND PSYCHIATRISTS. ²

¹Health, Wellbeing & Productivity in Offices: The next chapter for green building, 2015. World Green Building Council.

²Drive Towards Healthier Buildings, 2014. McGraw Hill Construction.



LIGHT



The WELL Light concept promotes exposure to light and aims to create lighting environments that promote visual, mental and biological health.

- L01 Light Exposure*
- L02 Visual Lighting Design*
- L03 Circadian Lighting Design
- L04 Electric Light Glare Control
- L05 Daylight Design Strategies
- L06 Daylight Simulation
- L07 Visual Balance
- L08 Electric Light Quality
- L09 Occupant Lighting Control



L01 LIGHT EXPOSURE

Provide indoor light exposure through daylight and/or electric light strategies.

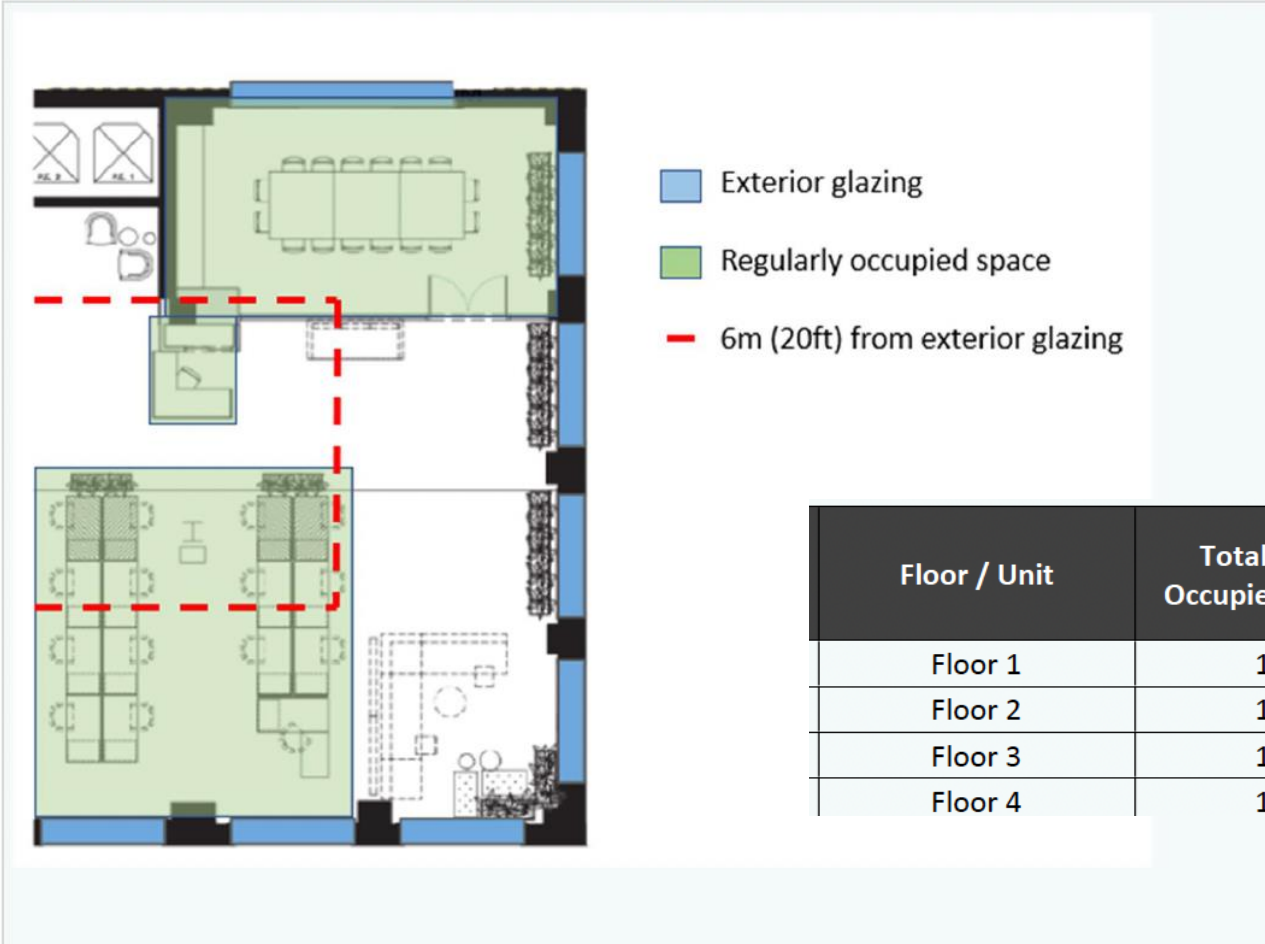
- Average sDA 200,40% is achieved for at least 30% of regularly occupied floor area
 - 200 lux for 40% of operating hours
- OR
- At least 30% of the regularly occupied area is within a 6 m horizontal distance of envelope glazing in each floor.

L01

LIGHT EXPOSURE

EXAMPLE EXCERPT FROM ANNOTATED PLANS

Example project is a single floor office (non-residential) project.



Floor / Unit	Total Regularly Occupied Area (sqft)	Regularly Occupied Area within 20ft of Exterior Windows	Percent Compliant Area	≥30%?
Floor 1	17,320	9,540	55%	YES
Floor 2	17,320	10,240	59%	YES
Floor 3	17,320	6,230	36%	YES
Floor 4	17,320	11,430	66%	YES



L02 VISUAL
LIGHTING DESIGN

L04 ELECTRIC LIGHT
GLARE CONTROL

L07 VISUAL BALANCE

L08 ELECTRIC LIGHT
QUALITY



L07 VISUAL BALANCE

Fluctuating light levels can lead to eye fatigue, visual discomfort, a decrease in productivity and negatively impact well-being.¹⁷⁻¹⁸

L08

ELECTRIC LIGHT QUALITY



2700K CRI 100



2700K CRI 90



2700K CRI 80



2700K CRI 70

L03 CIRCADIAN LIGHTING DESIGN

Support circadian and psychological health with indoor daylight exposure and outdoor views.

1. Meet Lighting for Day Active People
 - Light levels achieved on the vertical plane, entering people's eyes
 - Measured by performance test of EML - the irradiance, weighted to the response of the ipRGCs, which are the primary driver for the circadian rhythm in the eyes.



IMAGE: ASID HQ, Washington D.C.



Light can define our perception of a space, direct our path, influence our perception, and draw attention to specific details



L09 OCCUPANT LIGHTING CONTROL

Provide individuals with access to customizable lighting environments.

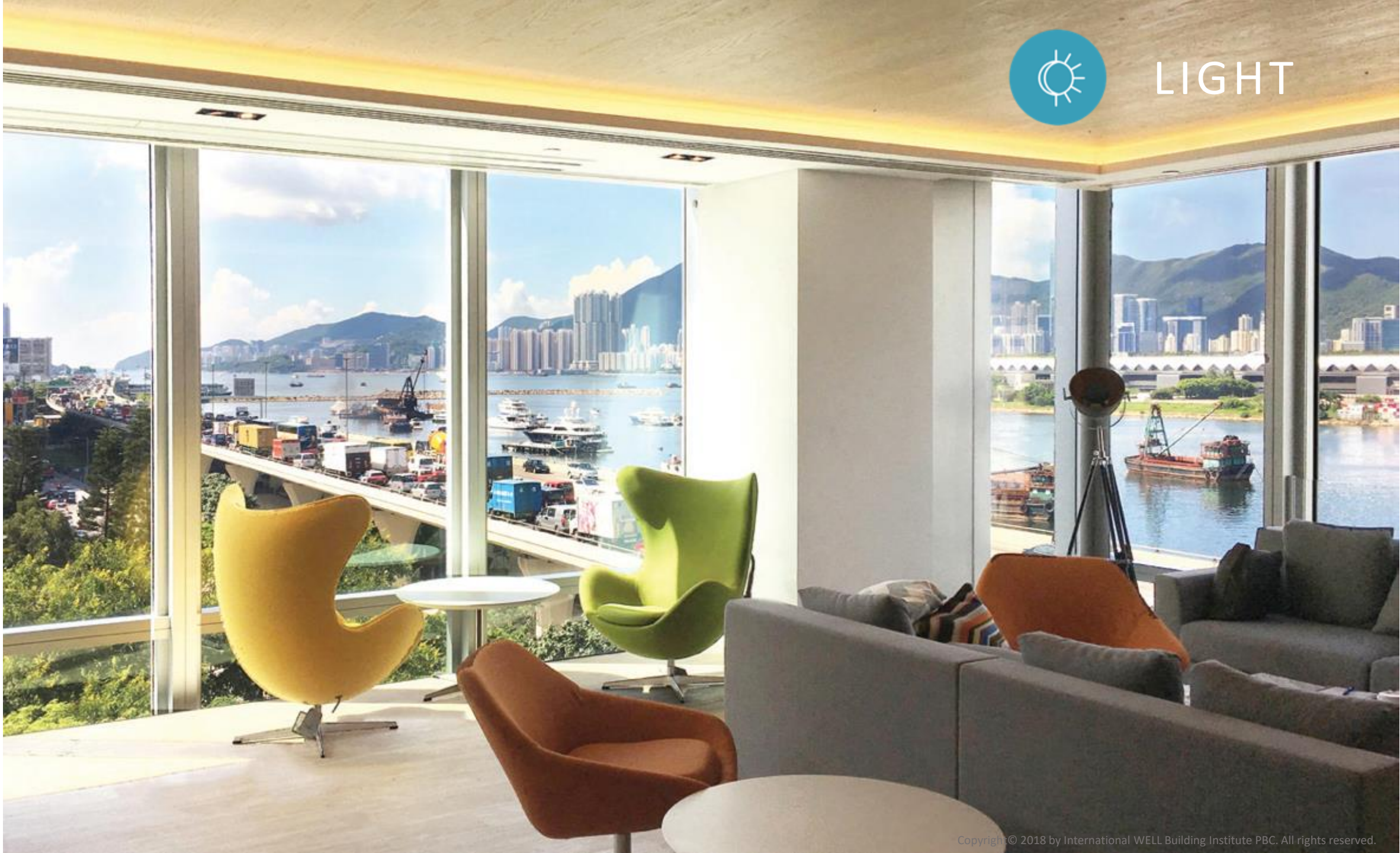
1. Enhance Occupant Controllability
2. Provide Supplemental Lighting



CITI TOWER HONG KONG



LIGHT



A modern hotel room with a wooden ceiling, a large window with a balcony, a green sofa, and two beds. The room features a wooden ceiling with recessed lighting, a large window with a balcony, a green sofa with yellow and green pillows, and two beds with white linens. The room is decorated with a traditional Japanese-style lamp and a wall mural of a pine branch.

WELL IN PRACTICE

CIRCADIAN LIGHTING

GOOD NATURE HOTEL, KYOTO

Project Name:
Daimler
Greater China
Headquarters

Owner Name:
Daimler

Location:
Beijing, China

Size:
434,791 sqf

Typology:
WELL (Office)



- Over 430,000 square feet of WELL through several phases in existing office towers.
- China is Daimler's biggest market so they are proud to show commitment to the central government's 'Healthy China 2030' policy.



ANATOMY OF A SCENE

ARUP WORKPLACE— MELBOURNE, AUSTRALIA
WELL Certified Platinum, 2019

Design and Environment
DE



WELL IN PRACTICE

SDE4, National University of Singapore (NUS)



WE ARE WELL

wellcertified.com