

## Supplementary Materials

## Supplementary Material 1

### Questionnaire S1. Subjective evaluation questionnaire

Welcome to participate in our experiment. Please complete the questionnaire carefully according to your feelings under the current lighting conditions.

## Part 1: Basic Information

1. Name [fill in the blank] \*

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2. Please select your scenario number for this experiment (Ask the experimenter to fill it in) [Single choice] \*

- 1                      ○ 2                      ○ 3                      ○ 4

## Part 2: Luminous Environment Appraisal

1. Do you feel comfortable about the luminous environment? [Single choice] \*

- Extremely Uncomfortable      ○1      ○2      ○3      ○4      ○5      ○6      ○7      Extremely Comfortable

2. Do your surroundings look attractive? [Single choice] \*

- Extremely boring    ○1    ○2    ○3    ○4    ○5    ○6    ○7    Extremely Attractive

3. How do you perceive the color of light? [Single choice] \*

- |                        |    |    |    |    |    |    |    |                      |
|------------------------|----|----|----|----|----|----|----|----------------------|
| Extremely<br>Unnatural | O1 | O2 | O3 | O4 | O5 | O6 | O7 | Extremely<br>Natural |
|------------------------|----|----|----|----|----|----|----|----------------------|

4. How bright do you think the task area is? [Single choice] \*

- Extremely dim    ○1    ○2    ○3    ○4    ○5    ○6    ○7    Extremely Bright

5. How uniform do you think the brightness of the task area is? [Single choice] \*

- |                        |    |    |    |    |    |    |    |                      |
|------------------------|----|----|----|----|----|----|----|----------------------|
| Extremely<br>Ununiform | O1 | O2 | O3 | O4 | O5 | O6 | O7 | Extremely<br>Uniform |
|------------------------|----|----|----|----|----|----|----|----------------------|

6. How bright do you think the surroundings are? [Single choice] \*

- Extremely dim    ○1    ○2    ○3    ○4    ○5    ○6    ○7    Extremely Bright

[Single choice] \*

8. Do you feel any glares? (the phenomenon of improper brightness distribution and visual discomfort caused by the presence of a bright light source in the line of sight) [Single choice] \*

9. Whether the reading material you see is clear? [Single choice] \*

### Part 3: The Karolinska Sleepiness Scale






14. Here are some adjectives to describe emotions: Please use the following scale to describe the current emotional feeling and give accurate answers to the following pairs of words: The two words in each line represent two different emotions, and the two words are not completely opposite. (Please choose the word that can more accurately reflect your emotions after careful consideration.) [Matrix scale questions] \*

	-4	-3	-2	-1	0	1	2	3	4	
Angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Dynamic
Controlled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Controlling
Friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Scornful
Calming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exiting
Relaxing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Hopeful

### *Supplementary Material 2*

#### **Scale S1.** Visual fatigue scale

According to your current eye condition, please self-evaluate whether there are any of the following uncomfortable feelings and the degree of discomfort, and tick the corresponding cells.

	None 	Mild 	Middle 	Obvious 	Severe 
Headaches					
Pain in the eyes					
Red eyes					
Blurred vision					
Double vision					
Burning eyes					
Watery eyes					

### Supplementary Material 3

**Table S1.** Anfimov table

Please delete the assigned letter within 2 min. Note: Line by line from left to right, do not skip lines, miss lines; Cross out the assigned letter with a slash.

HKXBKKA AHCANEAXAXCNXEBKCEAHXAXKEXCKXCXAE  
EHANBAHXXEKA EHNKBACCCXEKKBNNXACKXNKXCXCB  
BNCNENN XEKKBNHXCXNNKHACAXKXEKNBBANNA XC  
HBCKHHHCABKKEHBBANKCXBHKKACHNXBKBNHABXNN  
HBCBXCHNAACBBABNEKNXHHCKCNXCHCANHBXCCAAE  
NCHCHHCENCBCKHKHNKNCHAACNAHHKXBAXHKABCXK  
XNXXEBNEEHKCKXACKKCEHXEA ECCA HXENEHBAHAH  
KCACHKABHXHKEKNHNXNEEAXNXHCKHBBEBAXXXAN  
EHXHAXHEKXNKKHHEKANKNAKHEXXHCEACENHAAKEB  
HCXBBCEHNKBECENKXENNEBACABCBHEEHCCCHXCKH  
KENNXCHKCHAHKKNHXKXNXBCEBEC AKXCEHBCHNNNX  
EEAHHECBAHBNBKEBCKKNKNCENCCKKNBECCEKCBHNA  
EXAXEABNAXAHKAECKBBBEAHANXXXENABXCENEEAK  
KCKNEEXEXNCEKBHHXECXKEXAXBBCBNACKHKXBEXA  
EHHHHXNEBNHBENEBBXAENEEKKBEANEBKNBNACAAE  
HBEKNHBXCBCAKHXNNKCBBBCBHBCAXXCCHNXNNXKE  
CANHNAHNBAANNAEBHNAXBKAAEXKHKCEXAKXACAXN  
ABABKXXANBEKBAAHHHBNCCNNXAACHBAEKKXACNBA  
HBBANXXENNXEKEBKCKEABHXNEKKCXKNXNBBKCCN  
HHAKKNHNHCABHEEENCNCXNXXCAEKCXNBHHXCKBEA  
CNCAHXHKBXNKXNHKKXKAEHACABKEEHEACXHXHHEK  
KNACCAXXABHEXHXKNKBKCENEHEHNBXNBEECKXCHA  
KNKXXBCCBBHHKXHENEEXBBAXHKNNBBAXEH HABKEN  
CNXXEECXEEHNXKAKBHCKBAXEHCAENEABABEXK BAB  
HCXNKCHEABHECKNHXAHHAKCXNKBBBNACNBKHEKEX  
NAXHEHACKBCBBBNNCANNBXAKNBNKAN CHBEHAEEBB  
EHNCANEBXKKEBKAEACHKKBCNANNAKHAAKECXXKNE  
ANXKNBBXAXCBAKHBBBHNAAXCCEEAHBANAXHBKCCCH  
CXCBBCEBXABEHKKEACCHCKBXBNNBHXBHXBKKNKCK  
AHCBNKH XECECBEBEAHHENEHECHXE BEKEKAXCAXEE

*Supplementary Material 4*

**Table S2.** Landolt ring table

Please delete the ring with assigned gap within 2 min. Note: Line by line from left to right,  
do not skip lines, miss lines; Cross out the assigned ring with a slash.

