

## **Supplementary tables to "A longitudinal study of morning, evening, and night light intensities and nocturnal sleep quality in a working population"**

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Table S1 Sensitivity analyses excluding sleep episodes with < 50 % and < 75 % light measurement completeness

Threshold levels	Participants (n)	Sleep episodes (n)	Disturbed sleep index Points (mean±SD)	Awakening index Points (mean±SD)	Sleep onset latency Minutes (mean±SD)
Morning white light, < 50 % excluded					
Adjusted coefficient per 1,000 lux <sup>abc</sup> (95%CI)	293	1,250	-0.00 (-0.03;0.02)	0.00 (-0.02;0.03)	0.26 (-0.39;0.91)
Morning white light, < 75 % excluded					
Adjusted coefficient per 1,000 lux <sup>abc</sup> (95%CI)	300	1,412	0.00 (-0.02;0.02)	0.01 (-0.02;0.03)	0.21 (-0.38;0.79)
Evening white light, < 50 % excluded					
Adjusted coefficient per 100 lux <sup>abd</sup> (95%CI)	293	1,250	0.03 (-0.01;0.07)	0.01 (-0.03;0.05)	0.69 (-0.47;1.85)
Evening white light, < 75 % excluded					
Adjusted coefficient per 100 lux <sup>abd</sup> (95%CI)	300	1,412	0.02 (-0.01;0.05)	-0.00 (-0.04;0.03)	0.42 (-0.61;1.45)
<sup>a</sup> Represents the change in mean disturbed sleep index, mean awakening index, and sleep onset latency due to a 1-unit increase in the given light parameter					
<sup>b</sup> Adjusted for gender, age, BMI, smoking, hours since last sleep episode, chronotype, mean day light, and use of caffeinated drink before sleep.					
<sup>c</sup> Further adjusted for mean evening light					
<sup>d</sup> Further adjusted for mean morning light					

Table S2 Sensitivity analysis with mean light intensities based on light recordings with lux <1 and <5 excluded

Threshold levels	Participants (n)	Sleep episodes (n)	Disturbed sleep index Points (mean±SD)	Awakening index Points (mean±SD)	Sleep onset latency Minutes (mean±SD)
Morning white light, < 1 lux excluded Adjusted coefficient per 1,000 lux <sup>abc</sup> (95%CI)	300	1,482	0.00 (-0.02;0.02)	0.00 (-0.02;0.02)	0.22 (-0.35;0.79)
Morning white light, < 5 lux excluded Adjusted coefficient per 1,000 lux <sup>abc</sup> (95%CI)	299	1,421	-0.00 (-0.02;0.02)	0.00 (-0.02;0.02)	0.26 (-0.33;0.85)
Evening white light, < 1 lux excluded Adjusted coefficient per 100 lux <sup>abd</sup> (95%CI)	300	1,482	0.02 (-0.02;0.05)	0.00 (-0.03;0.04)	0.24 (-0.70;1.19)
Evening white light, < 5 lux excluded Adjusted coefficient per 100 lux <sup>abd</sup> (95%CI)	299	1,421	0.01 (-0.02;0.03)	0.00 (-0.03;0.03)	0.14 (-0.68;0.96)
<sup>a</sup> Represents the change in mean disturbed sleep index, mean awakening index, and sleep onset latency due to a 1-unit increase in the given light parameter					
<sup>b</sup> Adjusted for gender, age, BMI, smoking, hours since last sleep episode, chronotype, mean day light, and use of caffeinated drink before sleep.					
<sup>c</sup> Further adjusted for mean evening light					
<sup>d</sup> Further adjusted for mean morning light					

Table S3 Disturbed sleep and awakening indices and mean sleep onset latency according to proportions of light recordings above thresholds of morning and evening white light intensities

Threshold levels	Participants (n)	Sleep episodes (n)	Disturbed sleep index Points (mean±SD)	Awakening index Points (mean±SD)	Sleep onset latency Minutes (mean±SD)
Morning white light					
Adjusted coefficient <sup>abc</sup> (95%CI) (> 500 lux)	303	1,524	-0.00 (-0.00;0.00)	0.00 (-0.00;0.00)	-0.00 (-0.06;0.06)
Adjusted coefficient <sup>abc</sup> (95%CI) (> 1000 lux)	303	1,524	-0.00 (-0.00;0.00)	0.00 (-0.00;0.00)	0.01 (-0.07;0.09)
Adjusted coefficient <sup>abc</sup> (95%CI) (> 2500 lux)	303	1,524	-0.00 (-0.00;0.00)	0.00 (-0.00;0.00)	-0.01 (-0.12;0.11)
Evening white light					
Adjusted coefficient <sup>abd</sup> (95%CI) (> 20 lux)	303	1,524	-0.00 (-0.00;0.00)	-0.00 (-0.00;0.00)	0.02 (-0.03;0.08)
Adjusted coefficient <sup>abd</sup> (95%CI) (> 40 lux)	303	1,524	-0.00 (-0.00;0.00)	-0.00 (-0.00;0.00)	0.02 (-0.06;0.09)
Adjusted coefficient <sup>abd</sup> (95%CI) (> 80 lux)	303	1,524	-0.00 (-0.00;0.00)	-0.00 (-0.01;0.00)	0.01 (-0.10;0.12)

<sup>a</sup>Represents the change in mean disturbed sleep index, mean awakening index, and sleep onset latency due to a 1 percent increase in proportions of light recordings above given thresholds

<sup>b</sup>Adjusted for gender, age, BMI, smoking, hours since last sleep episode, chronotype, mean day light, and use of caffeinated drink before sleep.

<sup>c</sup>Further adjusted for mean evening light

<sup>d</sup>Further adjusted for mean morning light

Table S4 Disturbed sleep and awakening indices and mean sleep onset latency according to combined morning and day white light

Light intensity by time of the day <sup>a</sup>	Participants (n)	Sleep episodes (n)	Disturbed sleep index Points (mean±SD)	Awakening index Points (mean±SD)	Sleep onset latency Minutes (mean±SD)
Morning and day white light combined					
0-394 lux	202	524	1.9±0.8	2.7±0.9	14.7±18.5
395-1,538 lux	245	525	1.9±0.8	2.7±0.9	13.5±21.0
1,539-19,986 lux	201	525	1.9±0.8	2.5±0.9	14.9±25.6
Adjusted coefficient per 1,000 lux <sup>bc</sup> (95%CI)	303	1,524	-0.01 (-0.03;0.03)	-0.02 (-0.03;0.03)	0.05 (-0.44;0.55)

<sup>a</sup>Light intensity groups defined by tertiles

<sup>b</sup>Represents the change in mean disturbed sleep index, mean awakening index, mean day light, and sleep onset latency due to a 1-unit increase in the given light parameter

<sup>c</sup>Adjusted for gender, age, BMI, smoking, hours since last sleep episode, chronotype, evening light, and use of caffeinated drink before sleep