

QUESTIONS AND ANSWERS-PART. II

Q&A for March webinar Lighting University - Office lighting: Technical opportunities for a healthier working environment.

Q: If we use daylight specially in summer time in house or any place lighting beside artificial lighting, is it worth some heat come inside of place?

A:>> I am not sure if I understand the question properly?

If with "heat" the infrared component of the spectrum is meant, the answer is yes!

Infrared is as essential for our wellbeing as the UV-component, with a different function!

Please do not forget that the evolution of the human being took place under daylight – and not artificial light. Our body uses the entity of the daylight spectrum.

Q: What is the best Colour temp for the office work environment?

A:>> I would always relate the "best colour temperature" to the geographic situation in the world:

Northern hemisphere (likewise Scandinavia) 2700-3000 K;

Southern hemisphere, or close to the equator up to 6000 K.

Q: I have come across a lot of studies where the blue spectrum of LEDs, including full spectrum LEDs are considered harmful. How do designers (specially Luminaire manufacturers) deal with this ?

A:>> in order to be safe on this I bought for my office (and for the university in Wismar) a precise handheld measuring device. Unfortunately it costs ca. 2.000,-€

You unfortunately cannot believe all what "manufacturer" are telling to you!

(I am not saying this is valid for all manufacturer, but I have unfortunately witnessed this behaviour in some cases!)

Q: What are some common glare metrics to utilize and where is that more important than what was discussed today?

A:>> you got to check these values according to national regulations, or norms!

There are few differences.

Q: How do people with vision impairment reflect to light in the workplace?

A:>> that would be a possible next webinar!

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Different sort of vision impairment require specific action!

Q: What is the formula that you use to calculate lumin for a space?

A:>> we use the software "Relux" or "Dialux" in our lighting design office in Berlin and for the teaching process in Wismar.

Q: Which system made the activity based lighting? Monitoring and Management of information?

A:>> please go to the YouTube website and use "activity based lighting"!

You find the manufacturer and I guess all the information you desire.

(you can find there an application for industrial spaces as well)

Q: Do you think that accent lighting might enhance the space feeling in the office space?

A:>> Absolutely YES!

Q: What is the desired lux on the desk surface?

A:>> Depends on different national norms/ regulations!

I would recommend 500 – 1.000 lx!

Lux levels are highly individual!

If you want to make the person at the work desk happy, give her or him the chance to adjust to the desired level! Technically this an easy task these days, but it has to be addressed in the planning process.

Q: If the colour spectrum of artificial lighting is mixed to closely approximate natural sunlight, can this be considered truly equivalent, from a health consideration?

A:>> I would say yes! Technically it is also possible. Although I have not seen such a wonderful lamp until today?!?

Please consider that the spectrum is one thing, also think of e-smog and flicker effects!

Q: Have you or your teams analyzed the wavelength filtering of window technologies and the impact on the physiology. Most physiological aspects have to do with non-visual sensory aspects in the body. ipRGC's and melanopsin...responds to 480nm only

A:>>No we have not!

But you can find these values from manufacturers of different types of glass for facades!

Q: In selecting designs, is the luminaire's light distribution and flicker possible to identify before actually purchasing? Do you recommend in house testing or perhaps at the manufacturer?

A:>> We have testing devices for these issues!

The matter of believing is nice (naïve?!?), but control is better!

Q: I've read about some studies about the third photoreceptor, do you think there's a lot to work on office lighting to do on this subject?

A:>> This is a huge and very complex subject!

Please listen to the presentation of Alexander Wunsch at LIGHT SYMPOSIUM WISMAR 2016:

"Photoendocrinology. How natural & artificial light is impacting human's endocrine system & hormones"

Please check: www.lightsymposium.de/ Live videos / Light Symposium Wismar 2016

Q: In Brazil we have many constructions that doesn't have much natural light, with few windows and glass panels so it's difficult to reproduce good light natural light, do you have any tip for spaces like this?

A:>> I think it is difficult to answer this question in general! I think every project has its own story/history? Architectural lighting design is the relation of good lighting to the architecture with regards to function, ergonomic issues and design, or aesthetic values!

Q: I have a friend who has a daughter who was born blind but she is beginning to see light. How can light be used as therapy during the times between her visits with her specialists?

A:>> This is something for physicians!

I am "only" an architectural lighting designer and I would suggest to seek for a specialist due to this issue! I am very sure there is one who could help.

Q: On the same note, there seems to be a resurgence of incandescent bulbs in some circles, especially with the argument of their spectrum being closer to the daylight spectrum. Are they available as energy efficient light sources?

A:>> The incandescent light sources were as far as I know NOT at the end of their possible efficiency! But for the time being there is no serious research going on, as far as I know?!

Q: Is warmer colour temp is good for eyes?

A:>> A short + simple questions, my short and simple answer: "yes"!

But it is a highly complex process! For a better understanding, please check the presentation from Prof. Dr. Richard Funk: "*Effects of Blue Light on Retinal Photoreceptors.*"

Please check: www.lightsymposium.de/ Live videos / Light Symposium Wismar 2016

Q: Is it good to use human centric lighting that CCT changes in times to adopt our body to real time of day?

A:>> I think it can be! So far there is a lack of proof, i.e. scientific research.

Q: When looking closely at 'Office Lighting Design concept's' . Which concept is most energy efficient? Direct/Indirect/ Medium or Mix D/D? Lawson Digby?

A:>> Usually it is the only direct lighting!

But it normally incorporates a lack of diffuse (indirect) component.

If the indirect component is missing, the ceiling height seems to be lower.

Q: I live in (Vancouver, Canada) where many offices are primarily surface or recessed mounted fixtures without individual task light. Do you see an increase in interest tuneable lighting design in your clients/market?

A:>> I would say yes! But I do not have hard facts. (I am not a manufacturer!)

Q: What is the desired lux on work surfaces ?

A:>>

Please see this question: Q: What is the desired lux on the desk surface?

A:>> depends on different national norms/ regulations!

I would recommend 500 – 1.000 lx!

Lux levels are highly individual!

If you want to make the person at the work desk happy, give her or him the chance to adjust to the desired level! Technically this an easy task these days, but it has to be addressed in the planning process.

Q: Too much light is harmful, may even cause headache sometimes.

So how do we measure, and how do we know how much is adequate?

A:>> Do you have headache when you are in the summertime out in daylight?

In the mid of the summer at 12am we got ca. 100.000 lux!

I assume that the headache is caused by flicker or e-smog, or other issues that are difficult to be diagnosed from my position?!?

Q: Are there known harmful effects to working in low lighting situations such as found in air traffic control tower (floor lighting is 10 lux, room lighting is absent and scopes are bright perhaps 400 lux.?

A:>> I would say not necessarily harmful effects, but it can cause more mistakes and sleepiness.

Q: In today's desk we have additional light sources, mostly from screens (tablets, cellphones). Are there recommendation to manage this superposition light streams?

A:>> Pads, tablets, cell phones are usually handheld? The position is defined by individual issues? But maybe I do not understand the question properly?

Q: I've read some studies about the third photoreceptor, do you think there's a lot of work on office lighting to do on this subject?

A:>> Objective research would be extremely desirable!