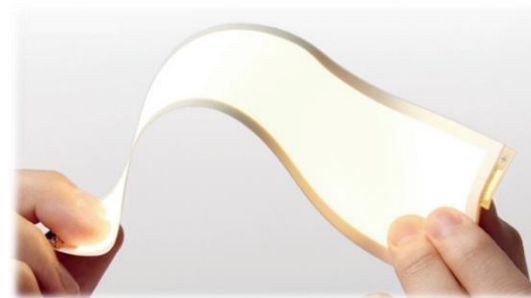
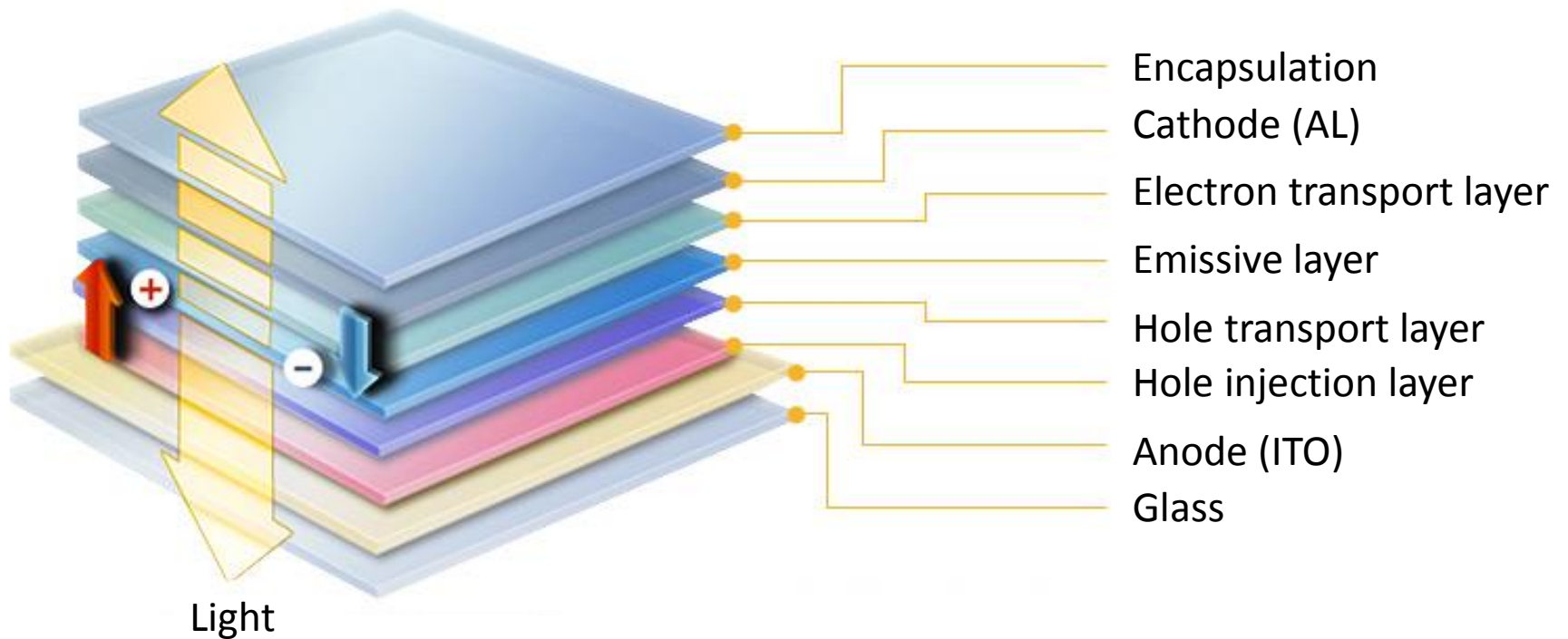


OLED

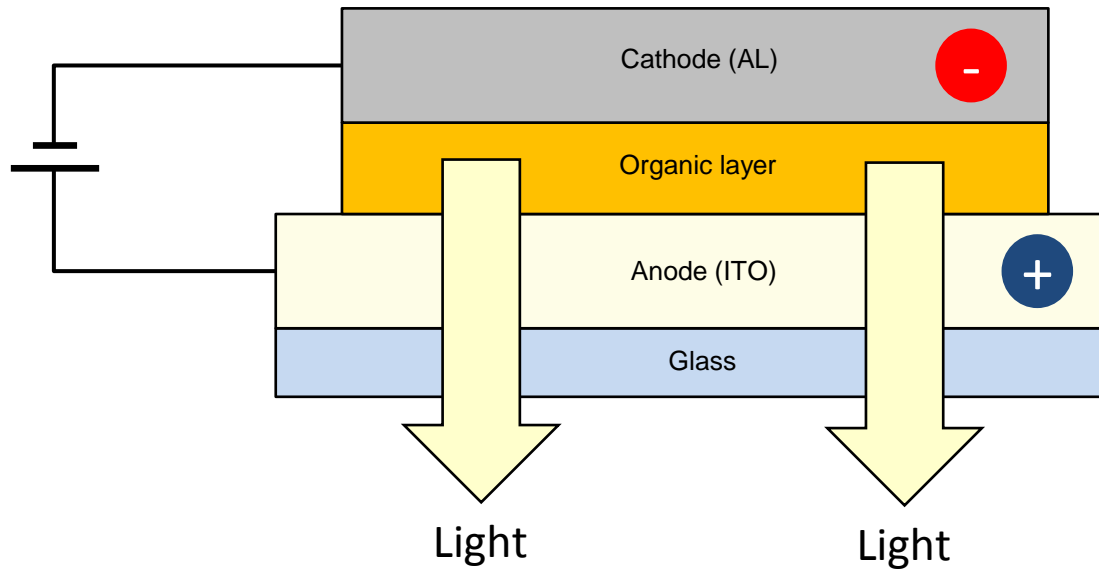
Innovative, area emitting light modules
for new, creative luminaire designs



Structure



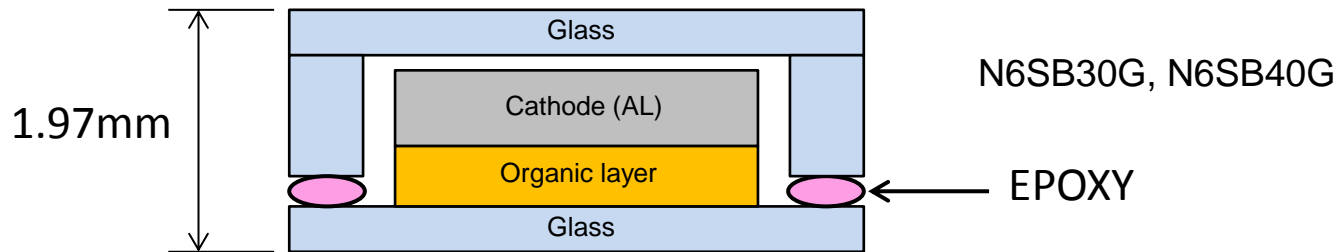
OLED – Organic Light Emitting Diode



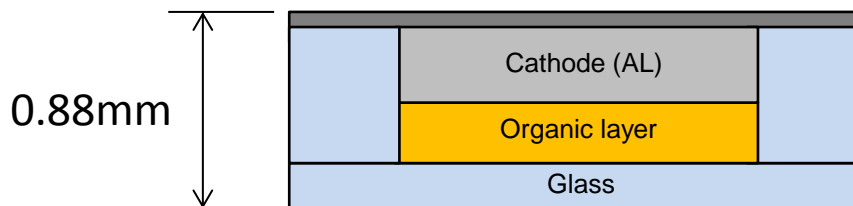
Stack-Structure:

- Approx. 2.7V – 3V per stack
- Modules with 2 – 3 stacks

UV encapsulation



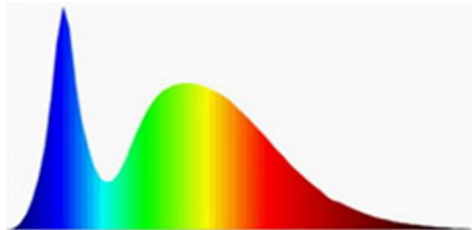
CCL encapsulation



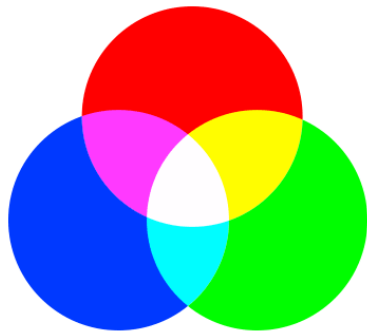
N6xx27C, N6xx30C, N6xx40C

- CCL foil (copper clad laminates)
- Enhanced encapsulation
- Thickness 0.88mm only

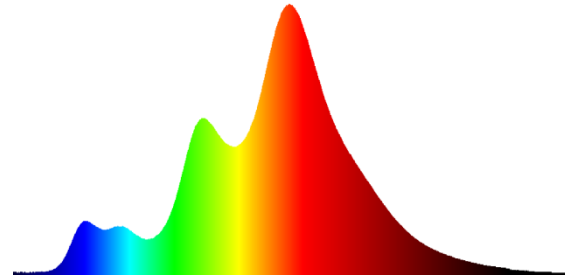
Spectral Distribution



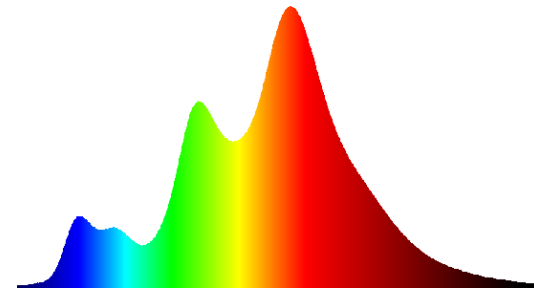
Spectrum of a white LED



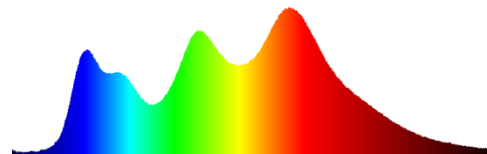
RGB color mixture of an OLED
provides pleasant light



Spectrum of an OLED with 2,700K



Spectrum of an OLED with 3,000K



Spectrum of an OLED with 4,000K

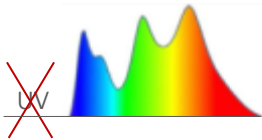
Advantages



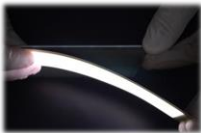
No glare - OLED is a surface light source with no glare issues, significantly reducing the risk of optical damage caused by artificial light.



Low heat – OLED panels produce very little heat ($<35^{\circ}\text{C}$). The panels are touchable and easy to handle, and without the discomfort of heat issues once installed.



No UV – OLEDs are completely free of UV.

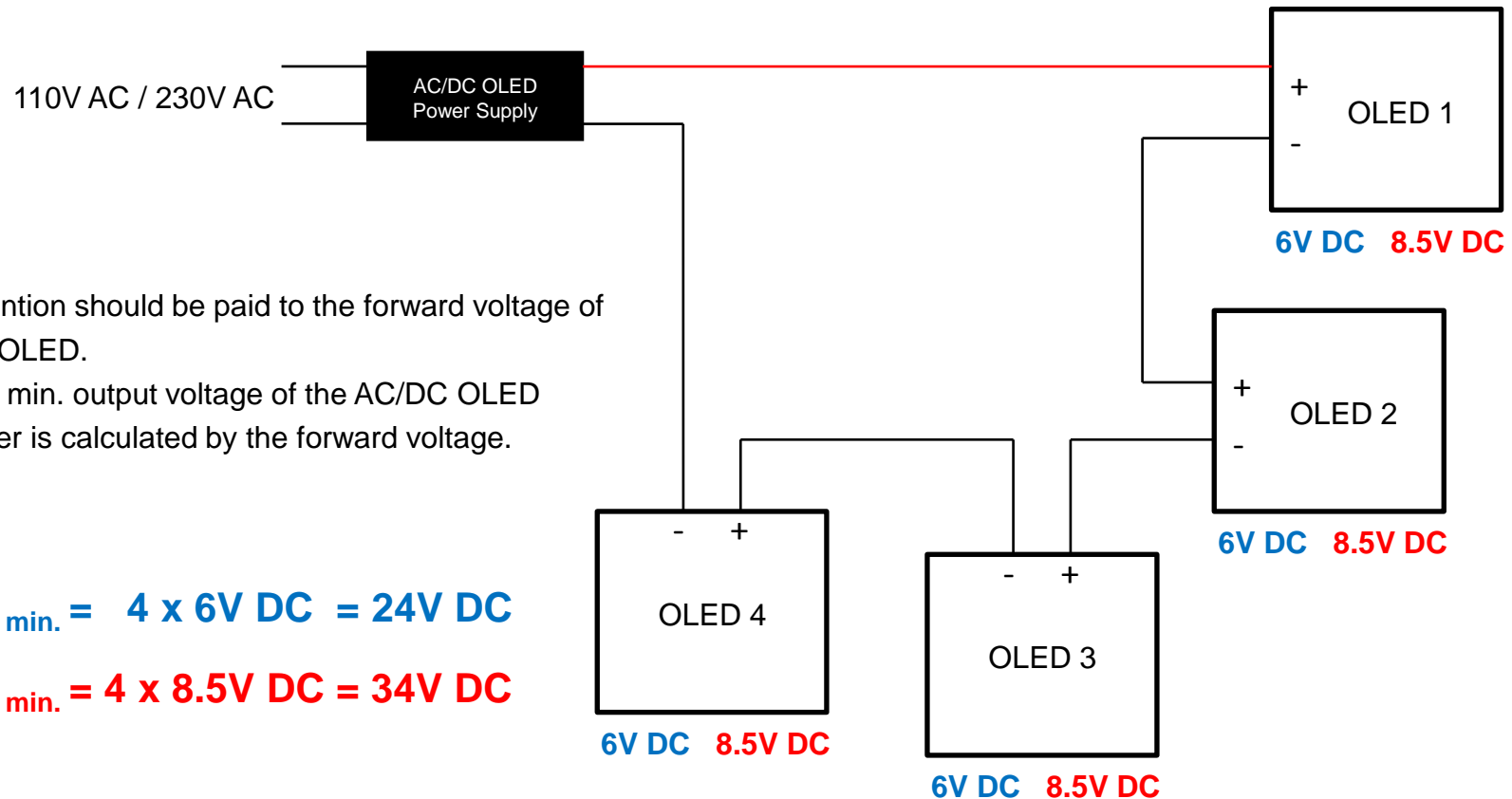


Very thin – LG Chem's panels are Ultra-thin. The thinness can provide design flexibilities, unique to OLEDs.



Very light - Being lightweight will also contribute to additional energy saving for applications sensitive to weight.

How to drive OLEDs

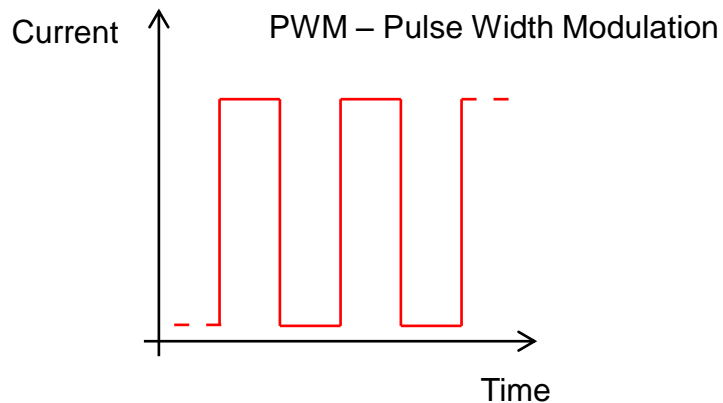
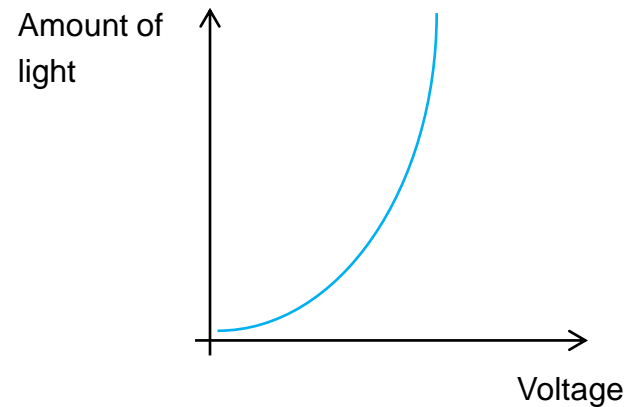
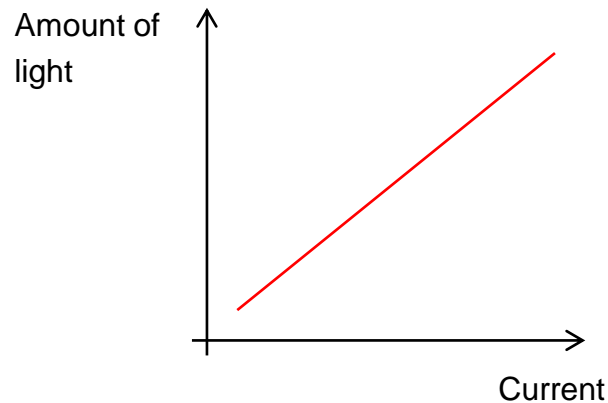


- Attention should be paid to the forward voltage of the OLED.
- The min. output voltage of the AC/DC OLED driver is calculated by the forward voltage.

$$U_{\text{OUT min.}} = 4 \times 6\text{V DC} = 24\text{V DC}$$

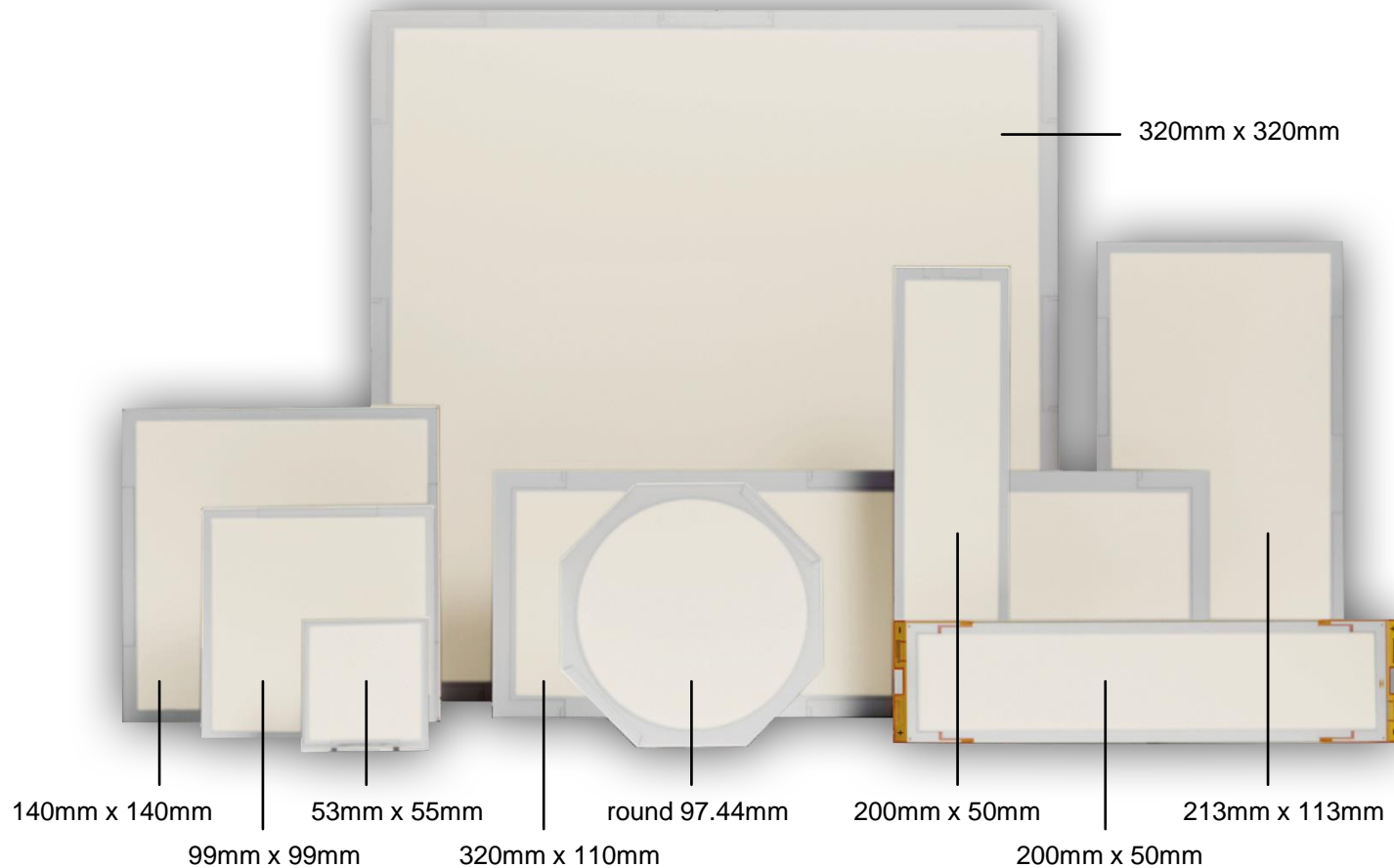
$$U_{\text{OUT min.}} = 4 \times 8.5\text{V DC} = 34\text{V DC}$$

How to drive OLEDs



- The amount of light is proportional to the OLED DC current
- Constant current mode is recommended
- PWM Dimming is possible
- Drive OLEDs in series

Product Portfolio



Datasheets on <http://www.neumueller.com/Artikel/ProductGroupTable/2>



N6SDxxC

Measures:	320mm x 320mm
Thickness:	0.88mm
CCT:	3,000K / 4,000K
Efficacy:	60lm/W / 55lm/W
Luminous flux:	800lm
Uniformity:	>80%
CRI:	90
Forward voltage:	8.5V / 6.0V
Forward current:	1,600mA / 2,500mA
Lifetime (L70):	40k h / 30k h

World's largest OLED



Product Portfolio

N6BDxxC

Measures:	406mm x 50mm
Thickness:	0.88mm
CCT:	2,700K / 3,000K / 4,000K
Efficacy:	60lm/W / 55lm/W / 55lm/W
Luminous flux:	150lm
Uniformity:	>75%
CRI:	90
Forward voltage:	8.5V / 6.0V / 6.0V
Forward current:	310mA / 480mA / 480mA
Lifetime (L70):	40k h / 30k h / 30k h

N6OCxxC

Measures :	Round 109mm
Thickness :	0.88mm
CCT :	2,700K / 3,000K / 4,000K
Efficacy :	60lm/W / 55lm/W / 55lm/W
Luminous flux:	75lm
Uniformity:	>85%
CRI:	90
Forward voltage:	8.5V / 6.0V / 6.0V
Forward current:	150mA / 230mA / 230mA
Lifetime(L70):	40k h / 30k h / 30k h



P6BAxxA (plastic substrate)

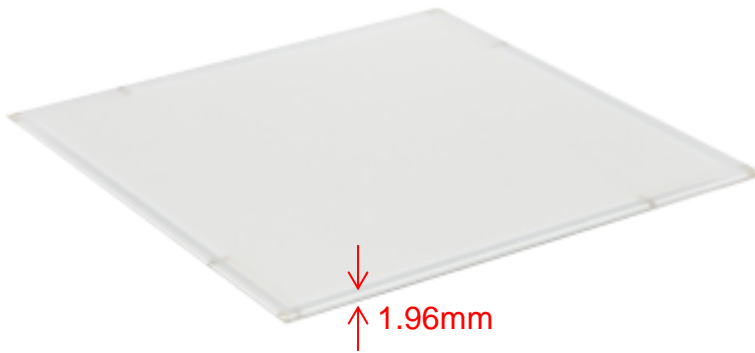
Measures:	200mm x 50mm
Thickness:	0.41mm
CCT:	2,700K / 3,000K / 4,000K
Efficacy:	55lm/W / 48lm/W / 48lm/W
Luminous flux:	75lm
Uniformity:	>80%
CRI:	>85
Forward voltage:	8.6V / 6.2V / 6.2V
Forward current:	160mA / 250mA / 250mA
Lifetime (L70):	30k h / 20k h / 20k h
Bending radius:	20mm

Product Portfolio



P6BDxxA (plastic substrate)

Measures:	406mm x 50mm
Thickness:	0.41mm
CCT:	2,700K / 3,000K / 4,000K
Efficacy:	55lm/W / 50lm/W / 50lm/W
Luminous flux:	150lm
Uniformity:	>70%
CRI:	85
Forward voltage:	8.6V / 6.1V / 6.1V
Forward current:	320mA / 490mA / 490mA
Lifetime (L70):	30k h / 20k h / 20k h
Bending radius:	20mm



N9SA27G

Measures:	99mm x 99mm
Thickness:	1.96mm
CCT:	2,700K
Efficacy:	90lm/W
Luminous flux:	75lm
Uniformity:	>85%
CRI:	85
Forward voltage:	8.4V
Forward current:	100mA
Lifetime (L70):	40k h

Applications



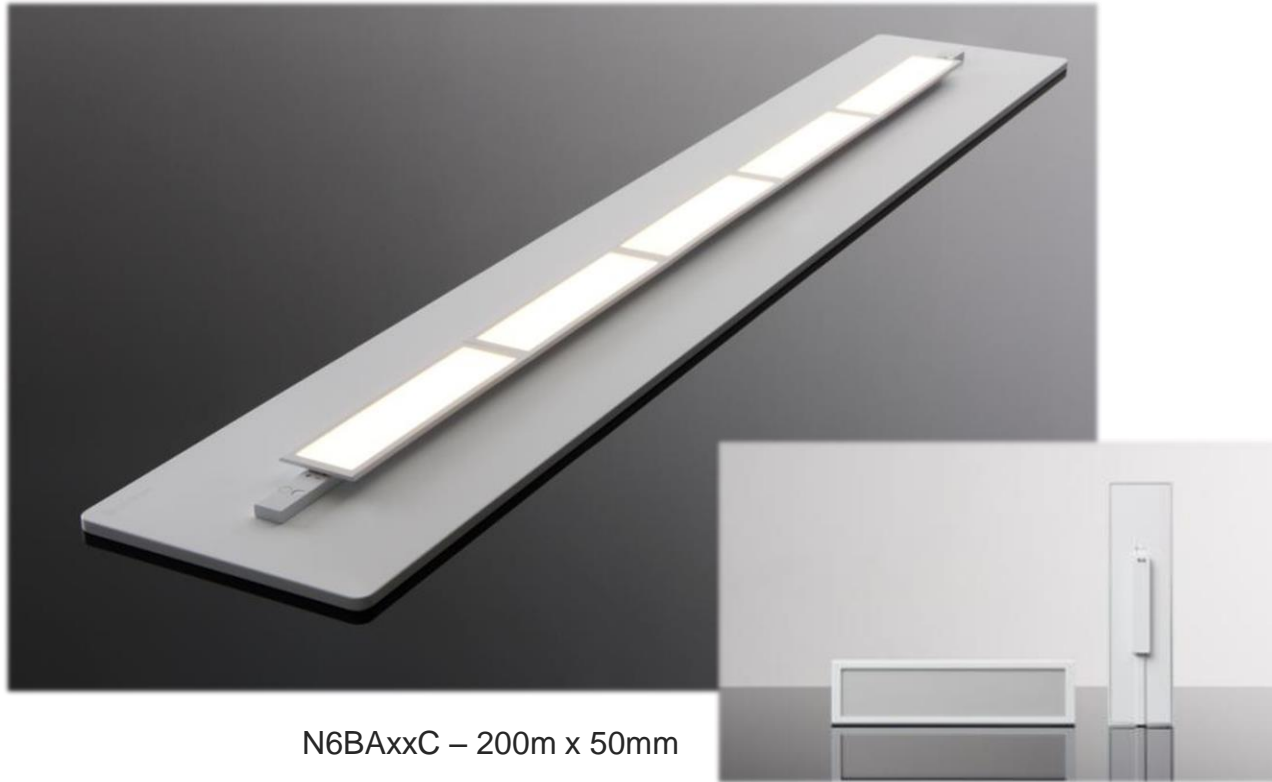
Applications



RP-Technik

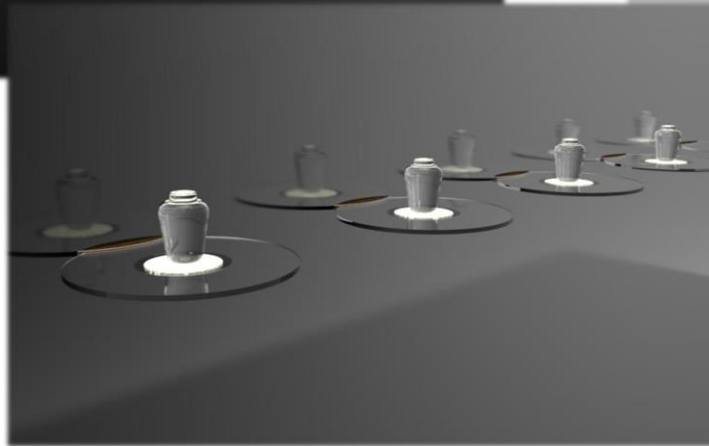
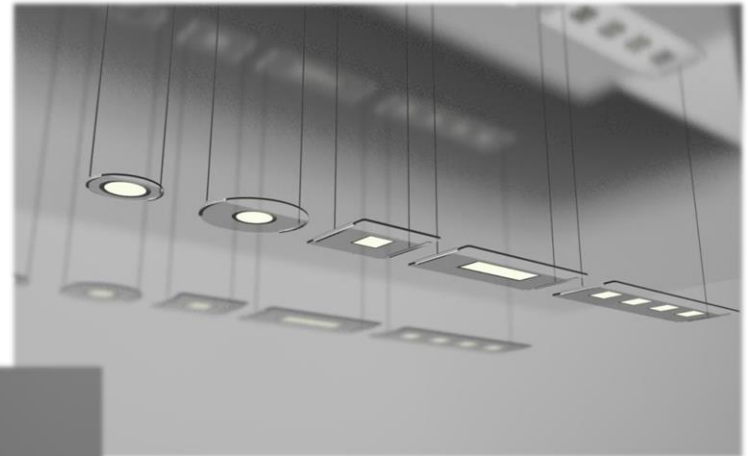


Module Solutions



N6BAxxC – 200m x 50mm

Module Solutions



OLEDs in glass with
transparent electrodes

Module Solutions



Furniture illumination

OLED DIY Kit

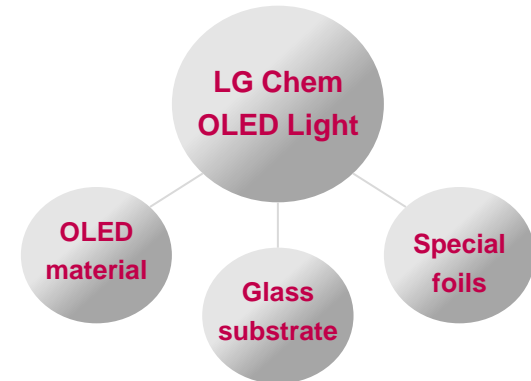
- 1 pc. OLED N6SA30C in metal frame housing
- 1 pc. driver module incl. dimming function
- 1 pc. USB power supply
- 1 pc. USB cable
- 1 pc. user manual
- Wires



Production



- Inline production generation 2 (GEN2)
- Mother glass: Approx. 370mm x 470mm
- Approx. 70,000 modules (99mm x 99mm) per month



Thank you very much

Visit us on our booth

Your solution partner

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