



## Chip on Board LEDs

High performance  
solutions that optimize  
system design

# LUXEON Chip on Board LEDs

## Optimize your system and maximize application performance

Lumileds LUXEON CoB LED portfolio is the industry's broadest and gives every manufacturer a wide range of output, efficacy, and spectral performance options that are appropriate for each specified application – all in an incredibly easy-to-use and robust platform. Lumileds CoBs offer the largest selection of design-in options, specialty spectra, color over angle consistency, and robustness. The entire CoB range is supported with leading phosphor and chip technology, including KSF-based phosphor for the highest and most appealing color rendering.

**Indoors**, energy efficiency, color consistency, and color-over angle are always important factors to consider, and Lumileds CoB portfolio has you covered. Spotlights and task lights are made easy with high-lumen output from a compact source and a tightly controlled beam. Wide area and general illumination are easily addressed with large light-emitting surfaces and desired CRI and CCT combinations.

**Outdoors**, high flux density and color consistency improve safety and visibility in applications such as streetlighting, where LUXEON CoB LEDs produce the right light profile to keep the roads clear and safe.

**Application-specific** LUXEON CoB LEDs provide enhanced color effects for retail and hospitality settings. Lighting powered by LUXEON CoB LEDs can play a critical role in branding, highlighting merchandise, and creating a mood that makes people want to remain in a space longer.



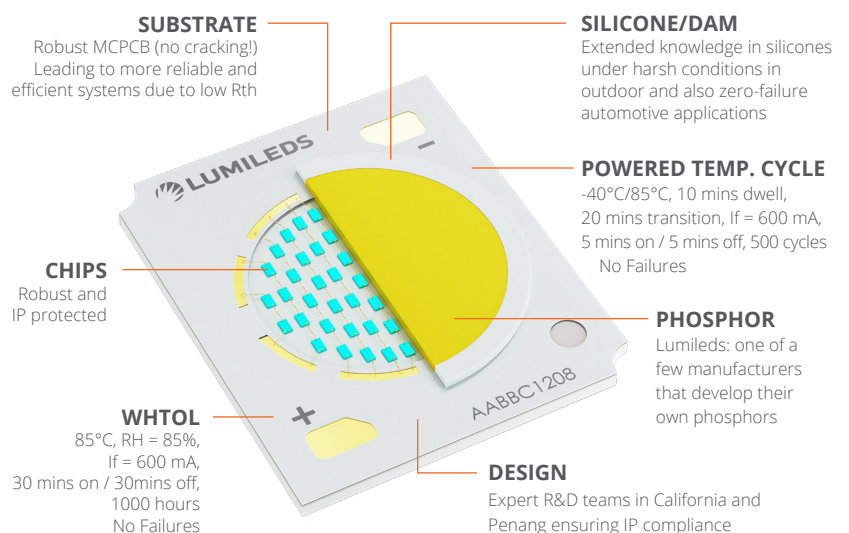
Lumileds unique Stylist Series CoBs, CrispWhite, CrispColor, and FreshFocus, have a high state of color tuning for white rendering and to maximize the visual appearance of fresh foods.

<b>PERFORMANCE</b> Lumens (100lm - >50Klm) Efficacy Reliability	<b>FOOTPRINT</b> Multiple Board Sizes	<b>LIGHT EMITTING SURFACE</b> 4.5mm - 32mm
<b>CRI OPTIONS</b> 70-80-90-95+ Including KSF	<b>CCT CHOICES</b> 2200K - 6500K	<b>COLOR STABILITY</b> <2-step Dimming, <3-step Start-up, <3-step Lifetime
<b>HIGH LUMEN DENSITY (HD)</b> Light Intensity	<b>APPLICATION SPECIFIC SPECTRUM</b> Food and Retail	<b>BELOW THE BLACK BODY (BBL)</b>

## Pathway to Reliability and the Cleanest Directional Lighting

Lumileds CoBs deliver the industry's most reliable sources and the cleanest directional lighting possible.

Our focus on source uniformity and consistent color over all viewing angles coupled with the industry's most rigorous testing lead to a CoB that can be counted on for years of service. Two reliability tests in particular, WHTOL with on/off and on/off switching demonstrate LUXEON CoB robustness and readiness for real-world applications.



# Lumileds LUXEON CoB Portfolio

The LUXEON CoB Ranges share Lumileds led technology and phosphor expertise to provide the industry's most reliable light sources with superior color consistency and reliability. Whether you are starting a new design or want to match existing solutions, the three series offer options and choices for footprint, LES, output, and efficiency to meet your requirements and speed and simplify design-in.



## HOW TO PICK THE RIGHT LUXEON CoB FOR YOU

PRODUCT NAME	PRODUCT DESCRIPTION	CHARACTERISTICS*
<b>LUXEON CoB Core Range</b>	Our general purpose CoBs with the broadest set of options for performance, efficacy, light emitting surfaces, CCT, and CRI. The ranges share Lumileds' advanced LED technology and offer different footprints and characterization making it as easy as possible to design from the ground up or replace an existing CoB specification. All offer hot-testing at 85°C, industry-leading thermal resistance, and 3 SDCM selections, ensuring uniform optical performance and reliability in a wide range of applications.	LES (mm): 6, 9, 12, 13, 14, 15, 19, 22, 23, 29, 32 CCT: 2200K to 6500K Min. CRI 60, 70, 80, 90, 95 Output: 487 - >20,000 lumens Efficacy: can exceed 180 lm/W
<b>LUXEON CS CoB</b>		
<b>LUXEON CX Plus</b>		
<b>LUXEON CoB Core Pro</b>	These are the go-to CoBs for for retail and hospitality lighting where the specification is for 3000K, >90 CRI and excellent quality of light, color stability, and high efficacy. With CoB Core Pro and CS Pro you have two board footprint options at each light emitting surface size.	LES (mm): CCT: 3000K only Min. CRI: Greater than 90 Typ. Output: 810 – 5510+ lumens Typ. Efficacy: 117 – 154+ lm/W
<b>LUXEON CS Pro</b>		
<b>LUXEON CoB Core Range PW</b>	Built for retail and similar applications, the LUXEON Core Range PW CoBs are spectrally tuned to optimize illuminated spaces and products.	LES (mm): 6, 9, 13, 15, 19 CCT: 3000K, 3500K, 4000K Min. CRI 80, 90 Typ. Output: 929 – 6562+ lumens Typ. Efficacy: 127 – 164+ lm/W
<b>LUXEON CoB Core Range High Density</b>	Our High Density CoBs achieve the highest Center Beam Candle Power (CBCP). The smaller light emitting surfaces achieve flux levels exceeding 4000 lumens. Below the black body tuning changes the color gamut and allows manufacturers to select the option that works best for each application. With two different footprint options there are a range of compatible holders and optics.	LES (mm): 4.5, 6, 9, 11 CCT: 2700K – 6500K Min. CRI: 70, 80, 90 Typ. Output: 552 - >4000 lumens Typ. Efficacy: 87 – 144+ lm/W
<b>LUXEON CX Plus High Density</b>		
<b>LUXEON CX Plus High Density BBL</b>		
<b>LUXEON CS HE</b>	When the overriding specification is efficacy, this HE CoB may very well be the solution. With efficacies well over 170 lumens per Watt and typical output exceeding 5700 lumens, this is an ultra-efficient, easy-to-design-in option.	LES (mm): 15, 22 CCT: 2700K – 5700K Min. CRI: 80 Typ. Output: 3758 – 5766+ Typ. Efficacy: 159 – 177+ lm/W
<b>STYLIST SERIES</b>		
<b>LUXEON CoB with CrispWhite Technology</b>	CrispWhite Technology creates the most impactful retail lighting ever available, by revealing the whitest whites. It uniquely delivers a natural crisp whiteness by activating Fluorescent Whitening Agents (FWAs) in paints and fabrics to attractively display merchandise in retail shops; ideal for CDM/CMH replacement.	LES (mm): 15, 22 CCT: 2700K – 5700K Min. CRI: 80 Typ. Output: 3758 – 5766+ Typ. Efficacy: 159 – 177+ lm/W
<b>LUXEON CoB with CrispColor Technology</b>	CrispColor Technology is a uniquely tuned solution that makes colors pop and allows fabrics to come to life. Color contrast has never been this vivid. Special phosphor technology has creates a higher gamut color rendering than other solutions with a specific color point below the Black Body Line to allow for Class A products.	LES (mm): 6, 9, 13, 15, 19, 23 CCT: 2700K, 3000K, 3250K, 4000K, 5000K Min. CRI: 90 Typ. Output: 653 – 6766+ Typ. Efficacy: 95 – 123+ lm/W
<b>LUXEON CoB with FreshFocus Technology</b>	FreshFocus Technology creates the most impactful lighting ever available by accentuating the freshness and overall visual appeal of a variety of fresh food areas such as supermarkets, delis, butcher shops and bakeries.	LES (mm): 15, 19 Typ. Output: 2440 – 5386+ Typ. Efficacy: 74 – 129+ lm/W

\*Characteristics are subject to change and are regularly improved upon. Please consult the latest datasheet for each product's current specifications.

# The LUXEON Stylist Series at a Glance

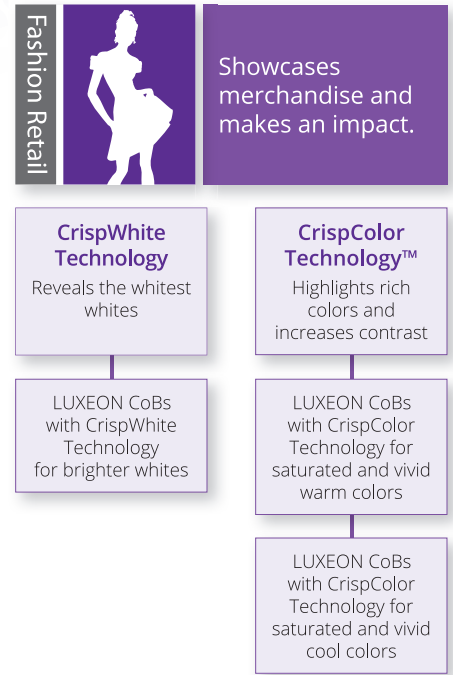
## FASHION RETAIL LIGHTING THAT MOVES PRODUCT – AND CUSTOMERS



In the world of retail, appearance is everything. Whether it's an exclusive boutique or a global chain, the importance of lighting and its impact on shoppers cannot be overstated. That's why LUXEON Stylist Series LEDs for fashion retail produce brighter whites and vivid, saturated colors that help ensure merchandise is seen in the best possible light.

By utilizing CrispColor Technology™ which is designed to be used in place of halogen and incandescent lighting, and

CrispWhite Technology, which replaces traditional Ceramic Metal Halide, the LUXEON Stylist Series delivers groundbreaking illumination that stops shoppers in their tracks.



## FRESH FOOD LIGHTING THAT ENHANCES APPEARANCE – AND SALES



Before grocery items make it into the shopping basket, they have to pass the appearance test. The LUXEON Stylist Series ensures they do just that. Designed to accentuate the freshness and overall appeal of a wide range of fresh food, the LUXEON Stylist Series makes meat, fish, produce and bread & pastries look irresistible.

Thanks to FreshFocus Technology™ the LUXEON Stylist Series achieves exacting color temperatures and renderings—

allowing diverse food types to be lit to their greatest advantage. This commitment to lighting precision is further demonstrated by the development of two separate LEDs— one optimized for red meat and one for marbled meat. And because a grocer's bottom line is always top of mind, these remarkable LEDs keep costs down by using less energy and help displayed items stay fresh longer based on lower heat generation.





## About Lumileds

Lumileds is the global leader in light engine technology. The company develops, manufactures and distributes groundbreaking LEDs and automotive lighting products that shatter the status quo and help customers gain and maintain a competitive edge.

With a rich history of industry “firsts,” Lumileds is uniquely positioned to deliver lighting advancements well into the future by maintaining an unwavering focus on quality, innovation and reliability.

To learn more about our portfolio of light engines visit [lumileds.com](http://lumileds.com).



©2024 Lumileds Holding B.V. All rights reserved.  
LUXEON is a registered trademark of the Lumileds Holding B.V.  
in the United States and other countries.

[lumileds.com](http://lumileds.com)

Neither Lumileds Holding B.V. nor its affiliates shall be liable for any kind of loss of data or any other damages, direct, indirect or consequential, resulting from the use of the provided information and data. Although Lumileds Holding B.V. and/or its affiliates have attempted to provide the most accurate information and data, the materials and services information and data are provided “as is,” and neither Lumileds Holding B.V. nor its affiliates warrants or guarantees the contents and correctness of the provided information and data. Lumileds Holding B.V. and its affiliates reserve the right to make changes without notice. You as user agree to this disclaimer and user agreement with the download or use of the provided materials, information and data.