



## Linear High-Efficiency LED Cleanroom Light



## The Ultimate Integrated LED Cleanroom Light

AES has developed litebeam™, a state-of-the-art linear LED lighting system designed for flush integration into our 3" thick (75 mm) cleanroom walkable ceiling system. AES Litebeam™ fixtures are installed as an integrated part of the ceiling system, eliminating cut openings for traditional fixture layouts while delivering a uniform light pattern throughout the cleanroom.

AES litebeam™ fixtures are U.L. Listed and IP65 rated for cleanroom use and employ our aluminum extrusion profile with proprietary flush top and bottom ceiling profile while providing full walk-on capability.

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## Don't Take Our Word for It...

### Independent testing company conclusion:

"All of the AES Litebeam linear LED luminaires show a pleasing distribution of light with a soft Lambertian type of output pattern.

The luminaire efficacy levels of ~111 lumens/Watt are respectable for sealed, low profile fixture design that carries an IP65 rating. A similar fixture using fluorescent tubes for the light engine would be operating at ~60-70 lumens/W.

The thermal management inherent to the design of these fixtures is more than adequate to keep the internal operating temperatures of both the LEDs and the constant current LED Drivers well under the manufacturers rated safe operating temperature levels.

The LM80 data for the Luxeon Lumileds LEDs employed shows that under worst case normal operating conditions, the L70 point of 30% Degradation is longer than 1,000,000 hours (>114 years if operating 24/7). It is safe to say that one would expect no significant lumen degradation or Chromatic shift within the warranty period or the 100,000 hour (11.4 year) rated lifetime.

The low operating temperatures and the low energy consumption should save the facility more than 50% on their electric power cost for lighting compared to traditional fluorescent fixtures and will put a 50% smaller load on the HVAC cooling system (light load)."

# The AES Litebeam uses high-efficiency LEDs and power supplies for cleanroom modular applications.

**Operating Costs:** Efficacy levels of 190 lm/W yield low cost per lumen.

**Thermal Management:**

Enabled via a permanent direct molecular fusing between the core PCB carrying the LEDs and the custom aluminum extrusion, this proprietary design feature delivers low operating temperature levels.

The AES LB series, multi-volt (90-305 VAC) LED drivers are built with premium components. The drivers operate at 94% efficiency levels. PF = 0.996, THD

< 6%, and with an MTBF Life Expectancy > 140,000 hours. Continuous dimming is available via the 1-10V control signal (Dimmable ballast is standard). Power options for the constant current drivers range from 9 to 95 watts.

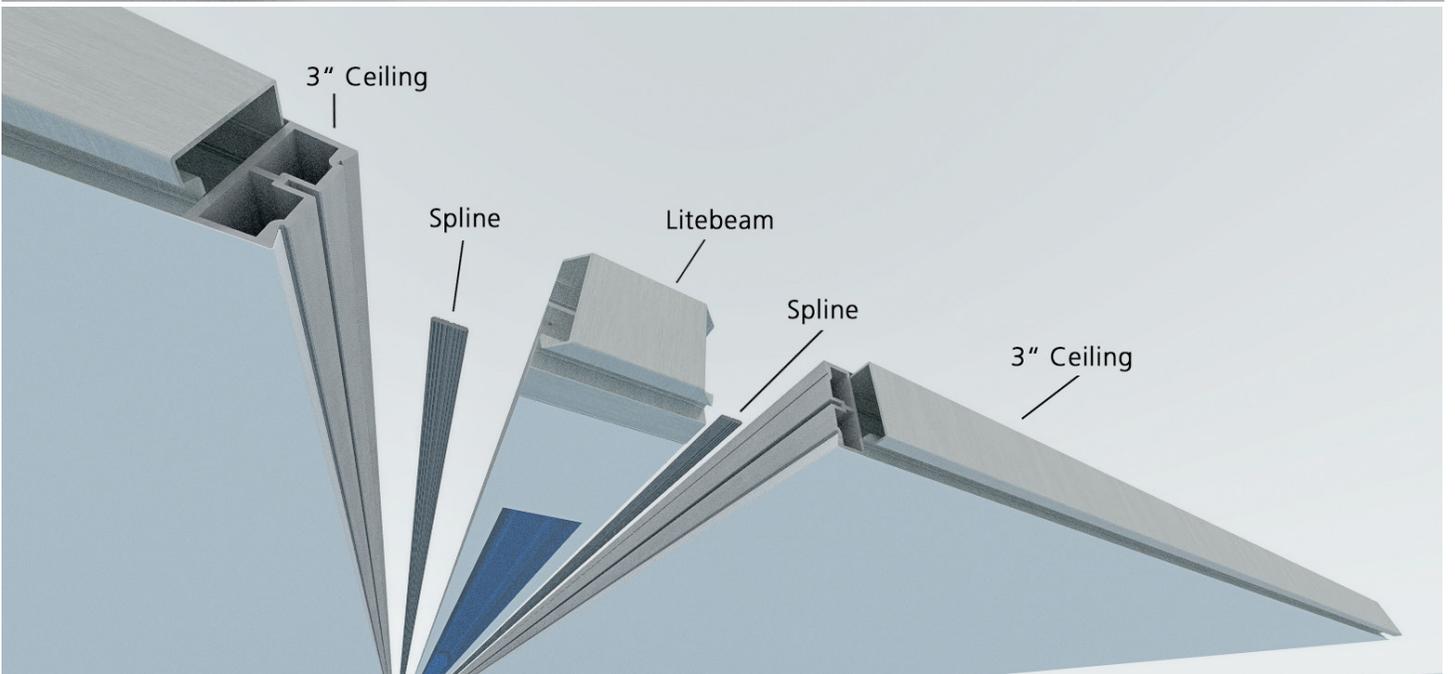
Model	Length	Total Lumens
LB-4	4'	3108
LB-5	5'	4884
LB-6	6'	4884
LB-8	8'	6216
LB-10	10'	7992

**Built in the USA with a Five-Year Full System Warranty:**

AES provides a comprehensive five-year replacement warranty. In addition, AES guarantees against color shifting within the stated L70 lifetimes. All AES Litebeam series lights are manufactured in our state-of-the-art facility in Suwanee, GA.

Dimensions	Nominal 4', 5', 6', 8', 10'
Wattage	28 – 44 ** per driver
CRI (Color Rendering Index)	> 82
R9	7
Duv	Duv < 0.0019
Voltage	120 / 277VAC 50 / 60 Hz
LED Drivers	Constant current Drivers, 32-40 Vdc, < 600 mA Battery-backed emergency driver compatible
Power Factor/THD	PF > 0.99 / THD < 6%
Color Temperature	3500K, 4100K, 5000K, 200K
Lens/Diffuser	Polycarbonate
Operating Temperature	-40° F to 140° F





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