A sustainable and economical solution to replacing fluorescent lighting.

## T5/T8 Fluorescent Lamp Plug and Play Replacement



HIGHER LIGHT OUTPUT ISES UP TO 60<sup>%</sup> LESS POWER NO UV EMISSIONS

Bruce LED lamp replacement products are an cost-effective and simple way to refresh an aircraft's interior cabin.



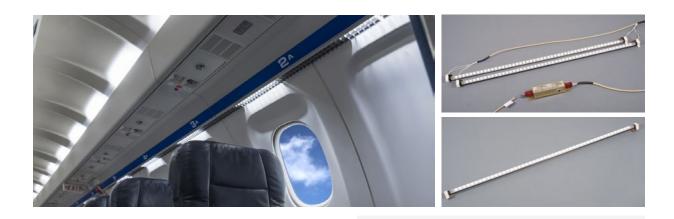
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# **LED Lamp Replacements**



### The world is transitioning to safer, greener, more energy-efficient lighting solutions.

Not only are fluorescent lamps on their way to obsolescence, parts of the world have already begun banning their production and import. Fluorescent lamps contain mercury, a toxic chemical that can potentially be dangerous to those exposed to it.

As supply sources for fluorescent lamps continue to dwindle, prices for the products have skyrocketed, lead times have escalated, and the overall quality of the products have suffered.

Bruce LED lamp replacement products are a costeffective means for solving this issue within the aerospace and aviation industry. Not only are these products tested and qualified to comply with DO-160 requirements, they are also designed to offer the end user with a sustainable and reliable product that offers cost reduction benefits from an operational standpoint. The Bruce Aerospace solution has the lowest impact in terms of installation effort and cost over any other retrofit LED lighting system.

> Entire AC or DC powered aircraft lighting systems can be replaced in an overnight maintenance cycle.

#### TRUE DROP-IN REPLACEMENT FOR LAMPS

- 1-TO-1 REPLACEMENT
   Mounts and interfaces with existining lamp sockets
- VARIETY OF LENGTHS & COLORS
   Lengths that fit in all OEM applications and several color optoins to fit
   customer specific needs
- BEST IN CLASS High output, high reliability, medium power LED technology
- ANSI COMPLIANT
   1/6 color binning assures perfect color matching
- HIGH CRI > 80, R9 > 1
- REPLACEMENT HAS FULL ANGULAR ADJUSTMENT
   For optimizing light projection pattern
- POWER SAVINGS UP TO 60%
   LED replacement tubes exceed light output of T5 fluorescent tubes at a fraction of the power. Increases power budget for other potential uses.
- MTBF IN EXCESS OF 100,000 HOURS
   Eliminates costly re-lamping maintenance. Eliminates lamp socket
   wear and melting associated with fluorescent lamp end-of-life.
- NO UV EMISSIONS TO DEGRADE PANELS OR LENS
- TESTED TO DO-160G

#### BALLAST REPLACEMENT OR ELIMINATION

- 28 VDC LIGHTING SYSTEMS
  - Ballast replaced with a simple bypass harness, there is no ballast required.
  - LED lamp replacement unit operates directly from 28 Vdc and interfaces with existing dim control signals.
- 115 VAC LIGHTING SYSTEMS
  - Ballast replaced with a 28 Vdc fixed power supply fully isolated design, reduces power consumption by 40%, low voltage system increases safety, electronic overload and short circuit protection, D0–160G compliant
  - Same form factor, mounting and connectors as BR9500 series fluorescent ballast
  - Interfaces to existing aircraft dim control signal