



# FLAT

**No UV - No Light Under 450nm  
2' x 2' Luminaire for Grid Ceilings**



# FLAT by Access Fixtures

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## Objective

Research and production require lighting that does not emit UV. Fluorescent lamps with gold coatings can meet the need, but filter break down causing issues. Fluorescent lights flicker, lamps burn out and maintenance in facilities is expensive. Possibly more important is people dislike working under gold lamps.

## Solution

FLAT is the broad spectrum, flicker free, LED No-UV - No Light Under 450nm LED solution

- ☐ The most broad spectrum No UV – No Light Under 450nm luminaire available
- ☐ Flicker free – Able to support high speed photography
- ☐ Rated L70 at 200,000 hours - Low to now maintenance
- ☐ Works with virtually all control systems – Dimmable and unaffected by on/off cycles
- ☐ Rated IP 67 for clean rooms – The luminaires are sealed and are even submersible
- ☐ Low profile – Fits into virtually all commercial grade clean room grid ceilings

## Luminaire Specifications

- ☐ Die cast aluminum housing with modular design
  - Allows for easy installation, replacement and maintenance.
  - Design creates a chimney providing exceptional thermal management
- ☐ Finish is corrosion resistant polyester powder painted finish 100µm thickness
  - Meets a 1000-hour salt spray certification per ASTM B117/ ISO 9227:2012
- ☐ LED and optics designed to maximize LED life and luminaire performance
  - LEDs that emit No UV – No Light Under 450nm, not filters that degrade over time
  - PCBs mounted with a TVS (Transient Voltage Suppressors) to protect the LEDs from voltage transients induced by lightning and other transient voltage events
  - High-uniformity LED optics constructed of durable optical polycarbonate that is impact resistant
  - Optical lenses provide broad beam spread and virtually no glare
- ☐ Able to perform at all standard voltages and will operate with most modern controls
  - 120-277VAC and 347-480VAC available
  - Surge protection to 20kV/10kA per ANSI/IEEE C62.41.2-2002 available
  - Options available include photocell, motion sensors, DALI, 0-10v dimming
- ☐ Other specifications
  - L70 > 200,000 hours
  - Operating temperature -40°C ~ +50°C
- ☐ Product Certifications
  - UL/ CUL/ DLC/ LM79/ SAA/ ENEC/ CB/ CE/ ErP/ RoHS/ Ik08

## No-UV - No Light Under 450nm LED Luminaires Function for Years

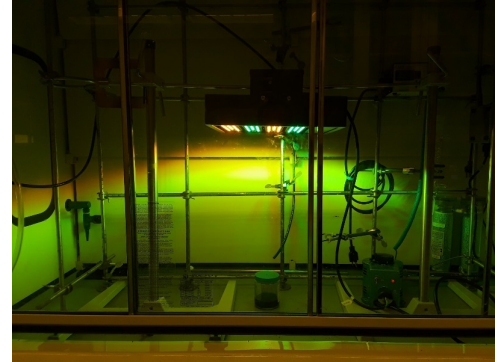
**FLAT** No-UV / No Light Under 450nm LED luminaires are built using a broad range LEDs that do not emit any UV or light under 450nm, not filters or lenses. UV filters and lenses degrade and degradation may not be observed until the manufacturing process facility fails.

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## Independent Lab Tested

The lab of a Fortune 500 company conducted the test. An Access Fixtures AF72XFLB160D was installed in the fume hood of R&D lab. The light wavelength and intensity were measured by spectroradiometer (ILT 950) and light meter (RDI-AR 823) (Fig 2). A solution that can be impacted by UV and light under 450nm was placed under the light in the fume hood. The solution was daily inspected visually to see any gel formation caused by LED light.

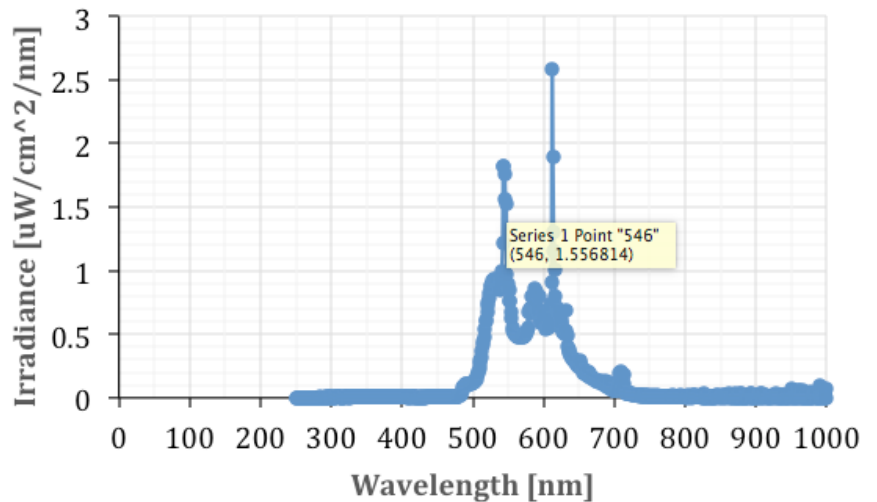


The electric voltage controlled by voltage controller was set to 20% for the LED light intensity to be 98 fc in light meter, which is far higher than the typical facility target of 40-70 fc.



The wavelength of LED light exposed to the solution used in this study was ranged from 480 to 710 nm.

As shown in the table below, the sample remained free of gel over the entire 12 days study.



The study confirmed that the wavelength of LED light used for solution gel formation was ranged from 480 to 710 nm and no gel formation or change in appearance was observed visually at 98 fc light intensity, suggesting that the Access Fixtures LED light fixtures with used with a target, 40-70 fc should have no impact.

Date inspected	Observation	Exposure time
4/25/2018	started	0 day
4/26/2018	No gel	1 day
4/27/2018	No gel	2 days
4/30/2018	No gel	5 days
5/7/2018	No gel	12 days



Model Number	System Power	Voltage	Drive Current	Luminous Flux
FLAT 120	110w	120-277v	530mA	7,150
FLAT 160	161w	120-277v	700mA	10,605
FLAT 120H	110w	347-480v	530mA	7,150
FLAT 160H	161w	347-480v	700mA	10,605

#### Optional:

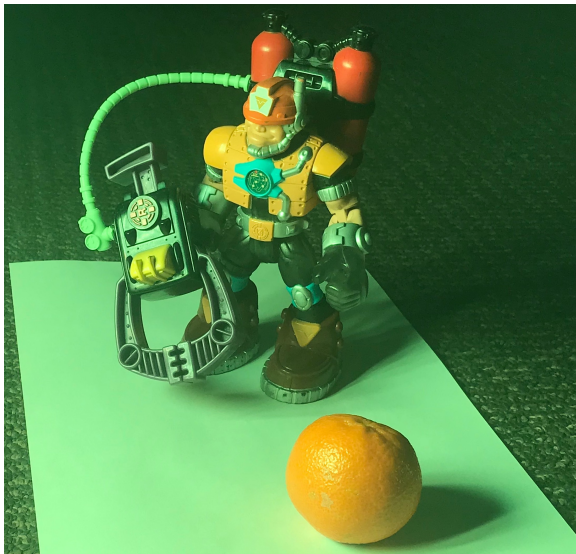
0-10v Dimming  
DALI

#### Notes:

Weight of Luminaire 6.14kg 13.54 lbs  
Weight with Panel Varies based on the size of the mounting panel  
DALI Controls are not available with 347-480v drivers  
Goniophotometer test results available on request  
Spectrum test report available on request  
IES files and photometric studies available on request  
Production time is three to four weeks ARO

#### Rendering

FLAT provides the broadest spectrum available while emitting no UV and no light under 450nm



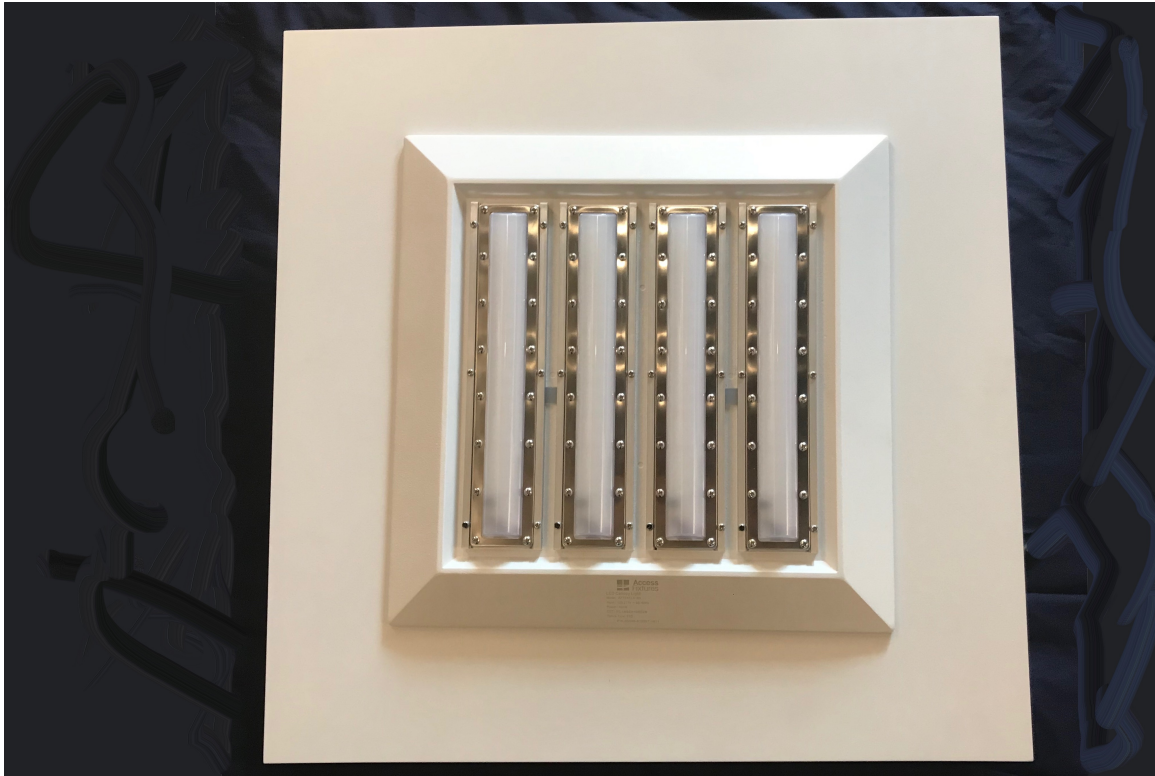
**Left:** Toy and an orange illuminated with No UV – No Light Under 450nm

**Right:** Toy and an orange illuminated with 3000K lighting





**FLAT 160 No UV – No Light Under 450nm ready to be installed in a grid ceiling**



**Top side of FLAT mounted in a panel for a grid ceiling**



**FLAT 160 No UV – No Light Under 450nm Illuminated**

