

FLAT & FLYT

NO UV LED LIGHTS



FLAT 120



FLYT 120

■ Superior work environment

- Most broad-spectrum No UV light
- More light for enhanced visibility
- Flicker-free

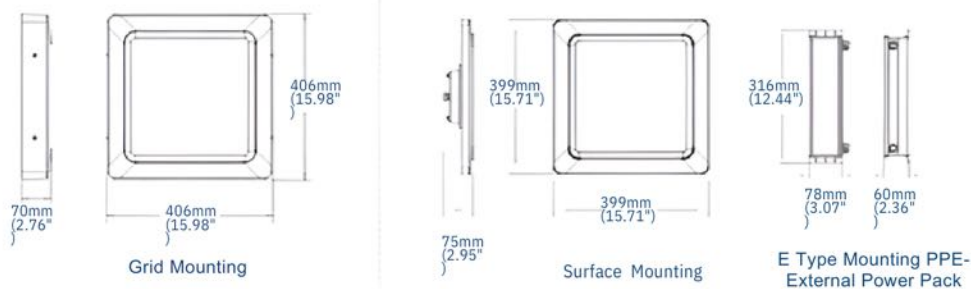
■ Meets Next Generation Standards

- Works with most lighting controls
- Reduced maintenance and downtime
- Multiple form factors available

■ Eliminates Risk of Contamination

- No tubes or filters that fail
- No Mercury or glass (optional)
- IP66 or IP67 sealed from contaminants

DIMENSIONS



Shown without metal panel



SPECIFICATION FEATURES

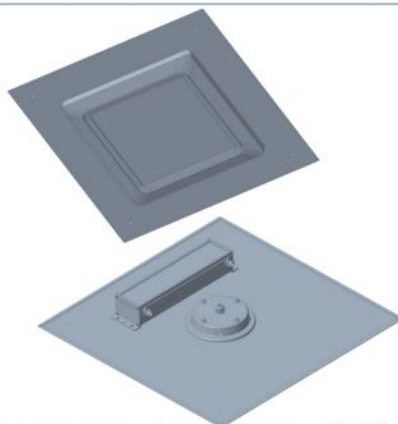
- Access Fixtures No UV Lights - No Light Under 450nm use. LEDs that emit a fixed spectrum of light that will never change removing the threat of compromised production.
- Mounting - Surface mounting and Grid Mounting on 2' x 2' Metal Ceiling Panel in Grid/Drop Ceilings used in Clean rooms.
- Environmentally Friendly - Florescent tubes contain mercury which poses environmental and contamination risks. Eliminate this by using Access Fixture's No UV fixture without the use blocking tubes or filters with a luminaire sealed IP67 rated fixture.
- Rated IP67 sealed for clean rooms - The luminaires are sealed from dust and debris and are even submersible also rated L70 at 70,000 hours - Low to no maintenance.
- Compact Design - Given the constrained ceiling space due to heavy-duty ceiling equipment, the FLAT and FLYT fixtures diminish the required area by 50% or more, allowing for increased light emission or creating additional space for other ceiling equipment. Specifically designed for grid ceilings, our 2'x2' troffers accommodate these spatial limitations.
- Optional pre-drilled holes - Grid ceilings may lack the structural capacity to bear the weight of these fixtures. The FLAT and FLYT options necessitate support through threaded rods or aircraft wires, and they are offered with the choice of pre-drilled holes for simplified installation.
- Optics - The FLAT and FLYT features three types of lens, Glass, Clear polycarbonate or a Frosted Polycarbonate lens to provide a uniform and/or softened distribution of light to vertical and horizontal surfaces.
- More Watts for More Light - Achieving the required illumination for OSHA-compliant work surfaces in production areas often necessitates higher wattage for increased light output. While fluorescent lighting relies on larger fixtures maxing out at 324 watts, Access Fixtures offers No UV lights in a more compact form, reaching up to 2400 watts, ensuring optimal visibility for employees working on tasks in production facilities.
- Greater wattage yields increased luminosity - Opting for more diversified spectral options, with one being equivalent and three offering a broader spectrum of light, enhances the workplace environment, promoting employee happiness and productivity by providing a more natural and varied lighting experience.
- Able to perform at all standard voltages. 120-277VAC and 347-480VAC available.
- Works with virtually all control systems - Many research and production facilities either want to reduce energy use or are required to comply with regulations such as CA Title 24. FLAT and FLYT is ready for most if not all controls including 0-10 V dimming, occupancy sensors, and DALI. The FLAT and FLYT is not affected by frequent on/off cycles or dimming.
- Directed Light - Fluorescent light emits in a 360° pattern, resulting in undirected light distribution and limited reach. FLAT and FLYT No-UV LED fixtures, on the other hand, focus light precisely where needed, significantly enhancing energy efficiency. Advanced optics further extend the distance the light can effectively travel.



Top view

Bottom view

Flush mounts on 2' x 2' Metal Ceiling Panel in Grid/Drop Ceilings - Includes Metal Ceiling Panel



Metal panel for Grid/Drop ceiling



Top view



Bottom view

Flush/Surface Mount Light Fixture

PERFORMANCE SUMMARY- FLAT & FLYT

INPUT VOLTAGE	100-277VAC or 347-480VAC /50/60Hz
NORMINAAL POWER	120W-160W
CCT	4000K/5000K
CRI	Ra>70(Default)/Ra>80/Ra>90
POWER FACTOR	>0.9 at Full load
TOTAL HARMONIC DISTORTION	<20% at full load
SURGE PROTECTION DEVICE	I _{max} 10KA
OPTIC (IESNA)	Type V
OPERATING TEMPERATURE	-40°C ~+50°C
ACCESSORIES AND OPTIONS	1-10V Dimming, DALI, Motion Sensor, Photocell
COLOR OPTION	WH=White
L70B10	>70,000Hrs
WARRANTY	5 year Warranty / 10 year warranty (optional)

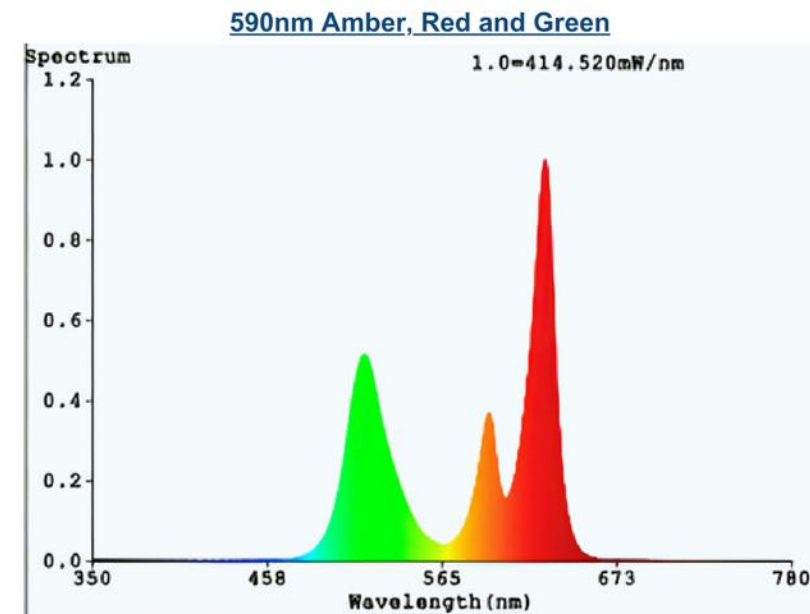
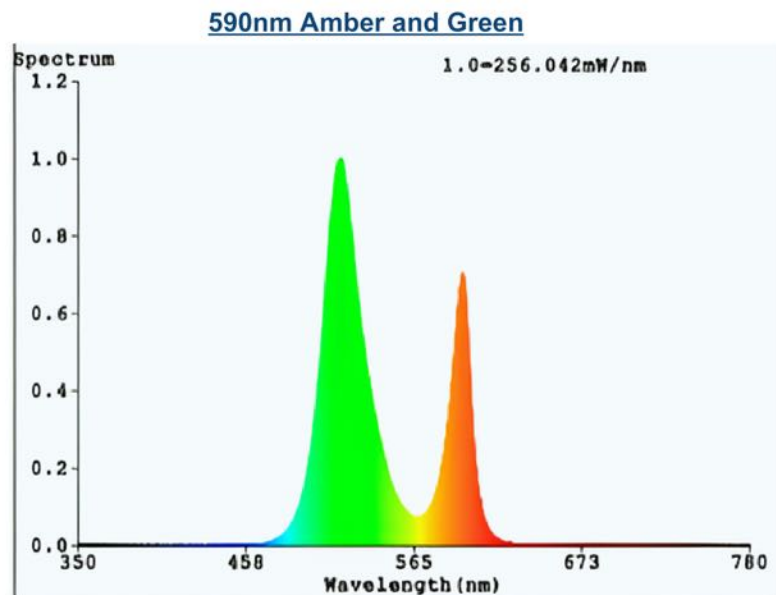
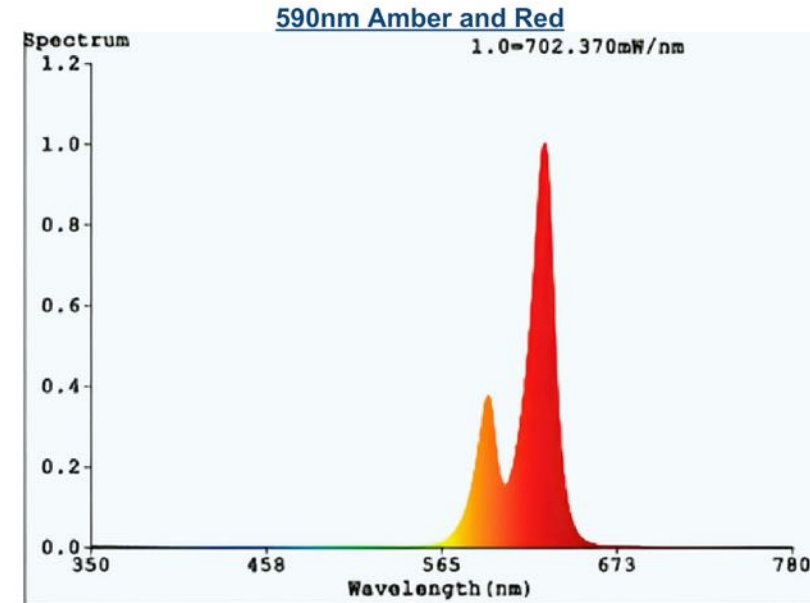
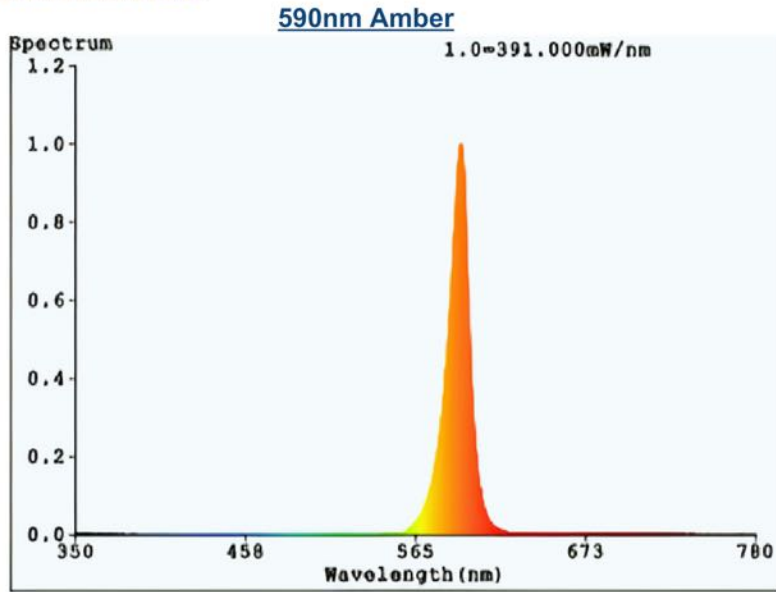
FLAT & FLYT - LUMENS PER WATT (LPW)

LEDs	CLEAR GLASS LPW	CLEAR POLYCARBONATE LPW	FROSTED POLYCARBONATE LPW
FLAT and FLYT 120			
590nm Amber	23	20	17
590nm Amber and Green	64	58	45
590nm Amber and Red	30	28	21
590nm Amber, Green, and Red	48	47	35
FLAT and FLYT 160			
590nm Amber	26	18	13
590nm Amber and Green	69	75	51
590nm Amber and Red	37	33	26
590nm Amber, Green, and Red	57	52	43

BRIEF SPECIFICATIONS - FLAT & FLYT

MODEL NO.	NORMINAL POWER	LEDs	PRODUCT SIZE L*W*H (mm/in)	PACKING SIZE (L*W*H) (mm/in)	NET WEIGHT	GROSS WEIGHT	TYPICAL LUMINOUS FLUX (lm)	TYPICAL EFFICIENCY (lm)
100-277VAC								
FLAT - AF88XCML120L	120W	266	406(15.98)*406(15.98)*70(2.76)	465(18.31)*465(18.31)*160(6.30)	7.3KG	8.2KG	18600	155
FLAT - AF88XCML160L	160W	266	406(15.98)*406(15.98)*70(2.76)	465(18.31)*465(18.31)*160(6.30)	7.4KG	8.3KG	23200	145
FLYT - AF88XCML120L	120W	266	399(15.71)*399(15.71)*75(2.95)	465(18.31)*465(18.31)*160(6.30)	6.4KG	7.4KG	18600	155
FLYT - AF88XCML160L	160W	266	399(15.71)*399(15.71)*75(2.95)	465(18.31)*465(18.31)*160(6.30)	7.4KG	7.5KG	23200	145
347-480VAC								
FLAT - AF88XCML120L	120W	266	406(15.98)*406(15.98)*70(2.76)	465(18.31)*465(18.31)*160(6.30)	7.3KG	8.2KG	18600	155
FLAT - AF88XCML160L	160W	266	406(15.98)*406(15.98)*70(2.76)	465(18.31)*465(18.31)*160(6.30)	7.4KG	8.3KG	23200	145
FLYT - AF88XCML120L	120W	266	399(15.71)*399(15.71)*75(2.95)	465(18.31)*465(18.31)*160(6.30)	6.4KG	7.4KG	18600	155
FLYT - AF88XCML160L	160W	266	399(15.71)*399(15.71)*75(2.95)	465(18.31)*465(18.31)*160(6.30)	7.4KG	7.5KG	23200	145

SPECTRUM IMAGES



LENS OPTIONS

Clear Glass Lens



Provides a classic, clear aesthetic.

A standard lens that allows the maximum amount of light to shine through without any obstruction or diffusion.

Clear Polycarbonate Lens



Maintains transparency.

Durable and made of transparent thermoplastic material. Its has high impact resistance, optical clarity, and ability to withstand various environmental conditions.

Frosted Polycarbonate Lens

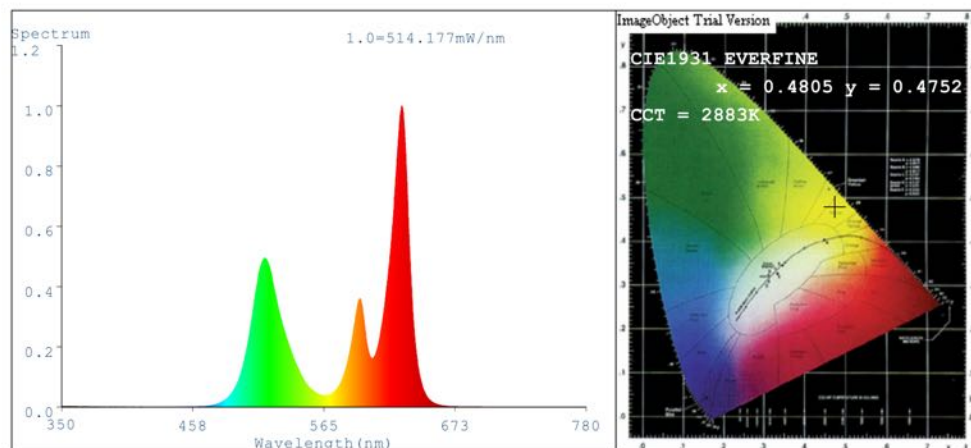


The frosted finish on the lens serves to diffuse the light emitted by the fixture, reducing glare and creating a softer, more even illumination.

Contributes to the overall aesthetics of the fixture while improving the quality of the emitted light. Additionally Being a Frosted polycarbonate lens, this offers advantages such as being lightweight, shatter-resistant, and UV-resistant

EXAMPLE SPECTRUM TEST REPORTS PER LENS - FLAT & FLYT 160

FLAT 160 590nm Amber, Green and Red - Clear Glass



Color Parameters:

Chromaticity Coordinate: $x=0.4805$ $y=0.4752$ $u'=0.2483$ $v'=0.5525$
 CCT=2883K(Duv=0.0202) Dominant WL:Ld =578.5nm Purity=86.9%
 Ratio:R=30.1% G=68.6% B=1.3% Peak WL:Lp=628.6nm FWHM=16.8nm
 Render Index:Ra=48.0 CRI=41.3 AvgR=43.3
 R1=49 R2=68 R3=57 R4=26B R5=46 R6=35 R7=55 R8=48 R9=29 R10=26
 R11=0 R12=10 R13=51 R14=78 R15=71

Photo Parameters:

Flux = 7869 lm Eff. : 48.46 lm/W Fe = 22.31 W

Electrical parameters:

V = 219.65 V I = 0.7479 A P = 162.4 W PF = 0.9885

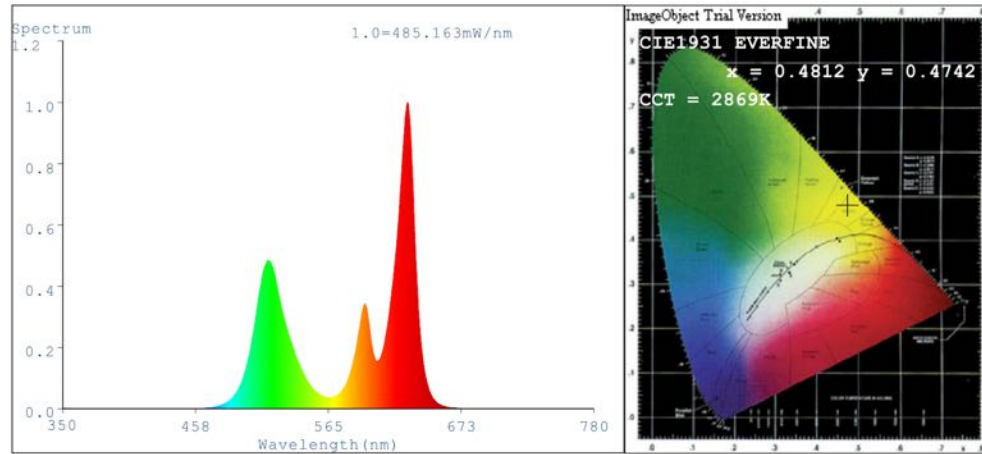
LEVEL:OUT WHITE:OUT

Status: Integral T = 17 ms Ip = 54967 (84%)

Model:LIGHT
 Tester:DAMIN
 Temperature:25.3Deg
 Manufacturer:EVERFINE

Number:5
 Date:2024-01-03 10:22
 Humidity:65.0%
 Remarks:---

Example: FLAT 160 590nm Amber, Green and Red - Clear PC



Color Parameters:

Chromaticity Coordinate: $x=0.4812$ $y=0.4742$ $u'=0.2491$ $v'=0.5522$
 CCT=2869K(Duv=0.0199) Dominant WL:Ld =578.7nm Purity=86.9%
 Ratio:R=30.5% G=68.1% B=1.4% Peak WL:Lp=629.2nm FWHM=16.7nm
 Render Index:Ra=46.6 CRI=39.5 AvgR=41.5
 R1=46 R2=67 R3=58 R4=24 R5=44 R6=34 R7=54 R8=45 R9=21 R10=25
 R11=0 R12=8 R13=49 R14=78 R15=69

Photo Parameters:

Flux = 7236 lm Eff. : 44.62 lm/W Fe = 20.69 W

Electrical parameters:

V = 219.65 V I = 0.7468 A P = 162.1 W PF = 0.9885

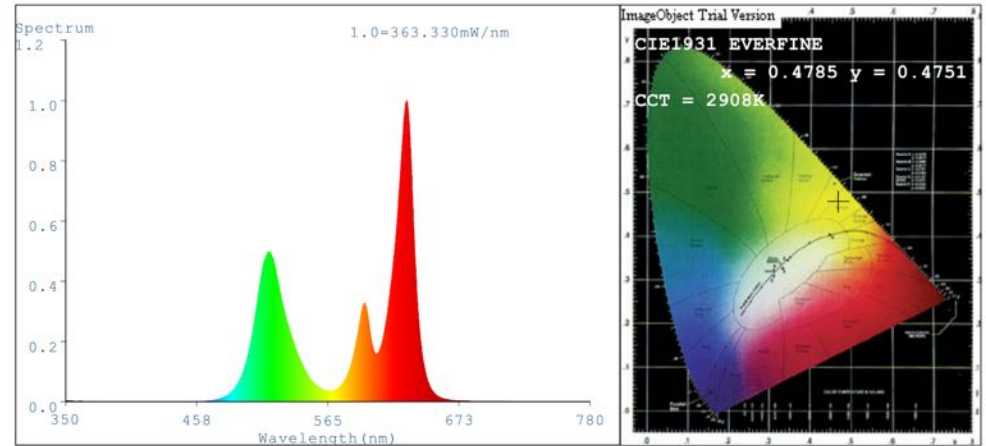
LEVEL:OUT WHITE:OUT

Status: Integral T = 17 ms Ip = 51992 (79%)

Model:LIGHT
 Tester:DAMIN
 Temperature:25.3Deg
 Manufacturer:EVERFINE

Number:2
 Date:2024-01-03 10:15
 Humidity:65.0%
 Remarks:---

Example: FLAT 160 590nm Amber, Green and Red - Frosted PC



Color Parameters:

Chromaticity Coordinate: $x=0.4785$ $y=0.4751$ $u'=0.2471$ $v'=0.5521$
 CCT=2908K(Duv=0.0204) Dominant WL:Ld =578.3nm Purity=86.3%
 Ratio:R=30.7% G=67.8% B=1.4% Peak WL:Lp=629.5nm FWHM=17.1nm
 Render Index:Ra=44.4 CRI=37.0 AvgR=38.9
 R1=43 R2=66 R3=57 R4=22 R5=41 R6=33 R7=53 R8=40 R9=10 R10=22
 R11=0 R12=7 R13=47 R14=78 R15=65

Photo Parameters:

Flux = 5441 lm Eff. : 33.64 lm/W Fe = 15.76 W

Electrical parameters:

V = 219.56 V I = 0.7454 A P = 161.8 W PF = 0.9884

LEVEL:OUT WHITE:OUT

Status: Integral T = 22 ms Ip = 50409 (77%)

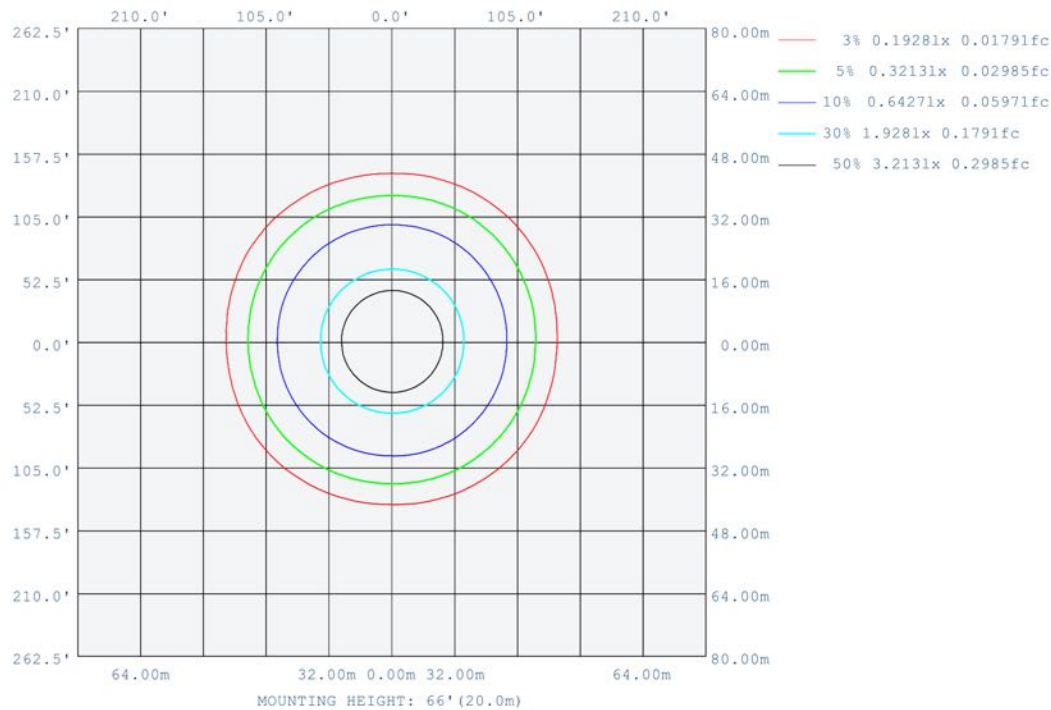
Model:LIGHT
 Tester:DAMIN
 Temperature:25.3Deg
 Manufacturer:EVERFINE

Number:1
 Date:2024-01-03 10:12
 Humidity:65.0%
 Remarks:---

FLAT & FLYT 160 - CLEAR GLASS LENS

ISOLUX DIAGRAM

Test:U:234.0V I:0.6819A P:157.1W PF:0.985 Freq:49.99Hz Lamp Flux:7590.18x1 lm		
NAME:AF88X160-amber 590nm-red-green-clear glass	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

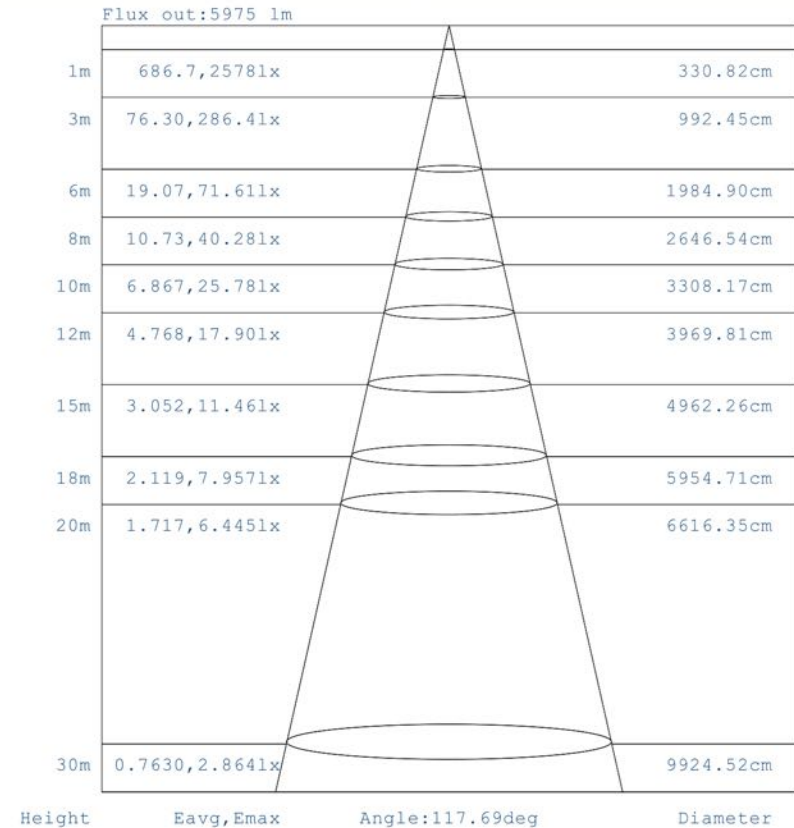


H(□) Range:-90 - 90DEG
H(□) Interval:1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Guohong
Test Date:2024-01-03

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
TestSystem:EVERFINEGO-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
TestDistance:8.365m [K=1.0000]
Remarks:

AAI Figure

Test:U:234.0V I:0.6819A P:157.1W PF:0.985 Freq:49.99Hz Lamp Flux:7590.18x1 lm		
NAME:AF88X160-amber 590nm-red-green-clear glass	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

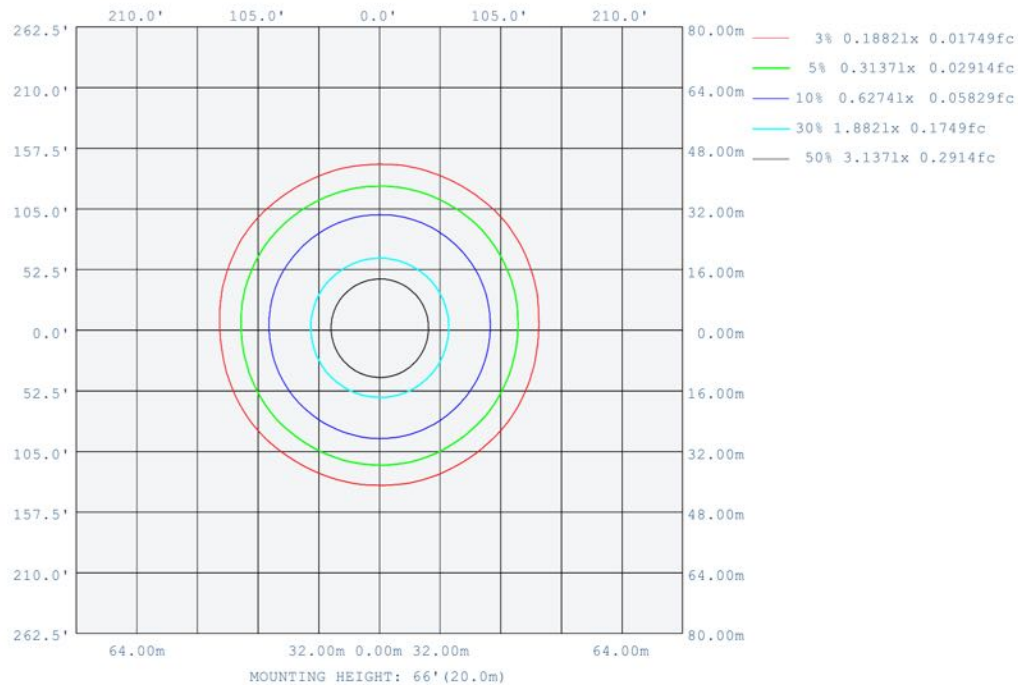
H(□) Range:-90 - 90DEG
H(□) Interval:1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Guohong
Test Date:2024-01-03

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
TestSystem:EVERFINEGO-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
TestDistance:8.365m [K=1.0000]
Remarks:

FLAT & FLYT 160 - CLEAR POLYCARBONATE LENS

ISOLUX DIAGRAM

Test:U:235.8V I:0.6804A P:157.8W PF:0.984 Freq:50.04Hz Lamp Flux:7364.77x1 lm		
NAME: AF88X160-amber 590nm-red-green-clear PC	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

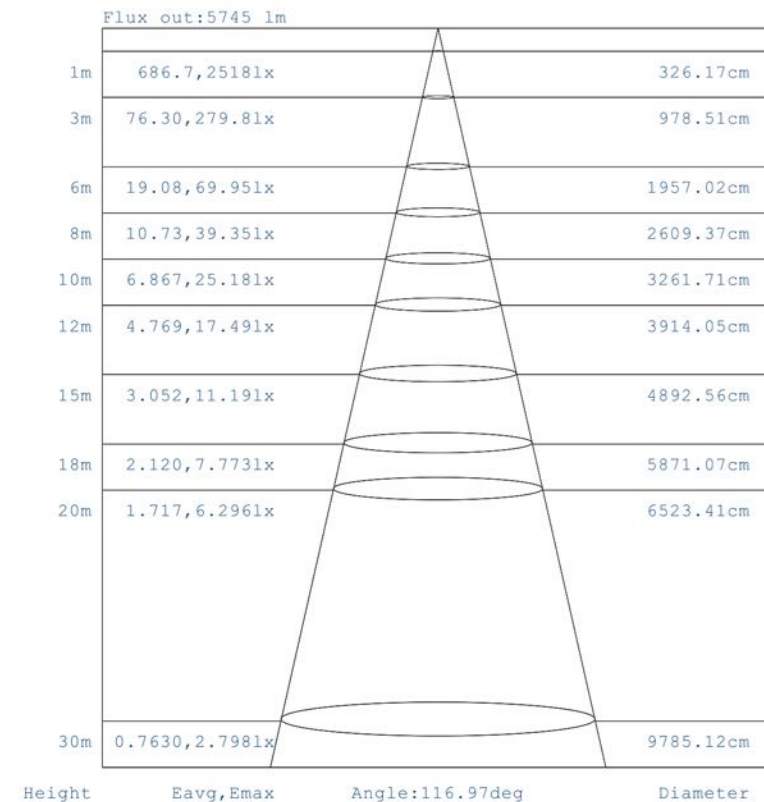


H(□) Range:-90 - 90DEG
H(□) Interval:1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Guohong
Test Date:2024-01-03

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
TestSystem:EVERFINEGO-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
TestDistance:8.365m [K=1.0000]
Remarks:

AAI Figure

Test:U:235.8V I:0.6804A P:157.8W PF:0.984 Freq:50.04Hz Lamp Flux:7364.77x1 lm		
NAME: AF88X160-amber 590nm-red-green-clear PC	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

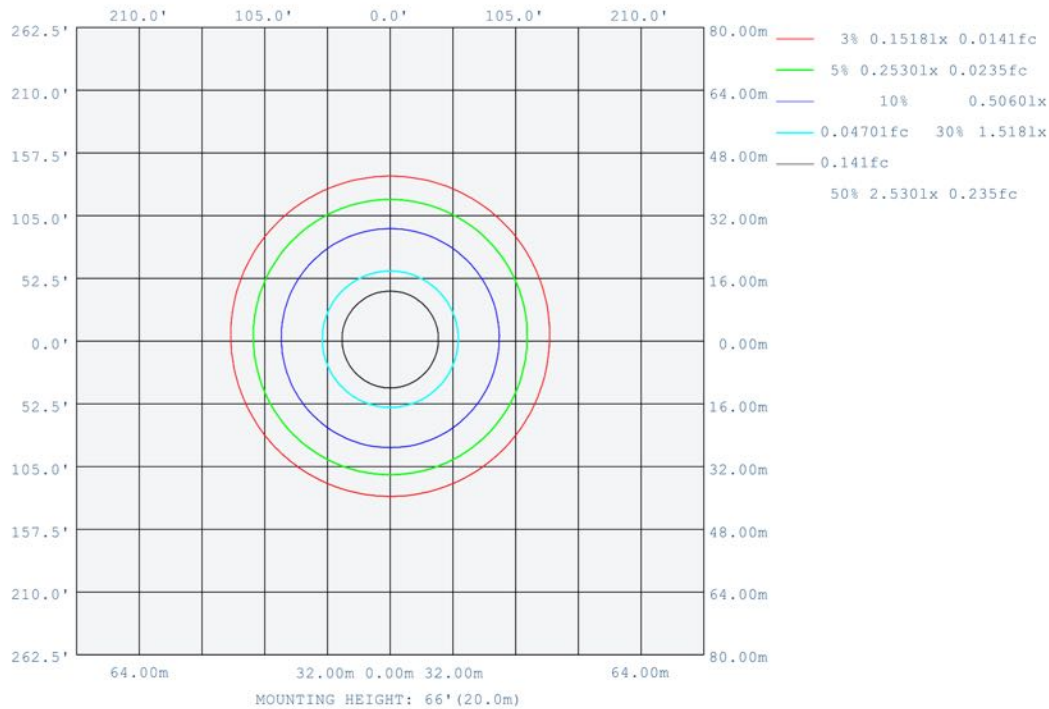
H(□) Range:-90 - 90DEG
H(□) Interval:1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Guohong
Test Date:2024-01-03

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
TestSystem:EVERFINEGO-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
TestDistance:8.365m [K=1.0000]
Remarks:

FLAT & FLYT 160 - FROSTED POLYCARBONATE LENS

ISOLUX DIAGRAM

Test:U:236.8V I:0.6737A P:157.0W PF:0.984 Freq:49.99Hz Lamp Flux:5515.47x1 lm		
NAME: AF88X160-amber 590nm-red-green-frosted PC	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

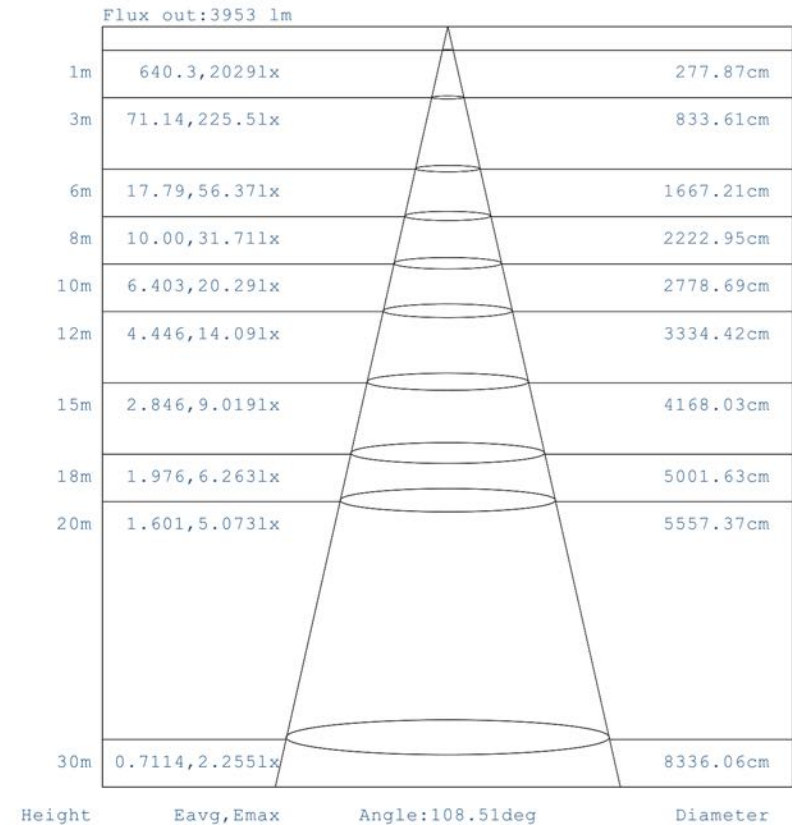


H(□) Range:-90 - 90DEG
H(□) Interval:1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Guohong
Test Date:2024-01-02

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
TestSystem:EVERFINEGO-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
TestDistance:8.365m [K=1.0000]
Remarks:

AAI Figure

Test:U:236.8V I:0.6737A P:157.0W PF:0.984 Freq:49.99Hz Lamp Flux:5515.47x1 lm		
NAME: AF88X160-amber 590nm-red-green-frosted PC	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(□) Range:-90 - 90DEG
H(□) Interval:1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Guohong
Test Date:2024-01-02

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
TestSystem:EVERFINEGO-2000B_V1 SYSTEM V2.0.404.7
Humidity:65.0%
TestDistance:8.365m [K=1.0000]
Remarks:

SPECTRUM DETAILS

Which light spectrum best optimizes your No-UV Production Facility

590nm Amber = The typical spectrum of gold tubes and filter technology

- Tailored for gold applications, the distinctive spectral properties of this wavelength make it an ideal choice for handling and manipulating gold materials.
- Enhancing gold-centric processes, this wavelength's unique spectral properties and tailored technology significantly improve overall effectiveness and reliability.
- Gold tube and filter technology, designed for optimal performance within this wavelength range, enhances efficiency and precision in gold-based applications.

590nm Amber + Red LEDs = Increased spectrum on the high end of the spectrum

- Extended Spectrum Range - Incorporating 590nm amber and red LEDs expands the upper end of the spectrum, contributing to a broader range of lighting possibilities.
- Utilizing 590nm amber LEDs enhances color diversity, ideal for settings desiring warm tones and a vibrant lighting experience.
- Combining amber and red LEDs provides comprehensive upper spectrum coverage, advantageous for environments requiring precise color differentiation and specific wavelength considerations.

590nm Amber + Green LEDs = Increased spectrum and lumens per watt

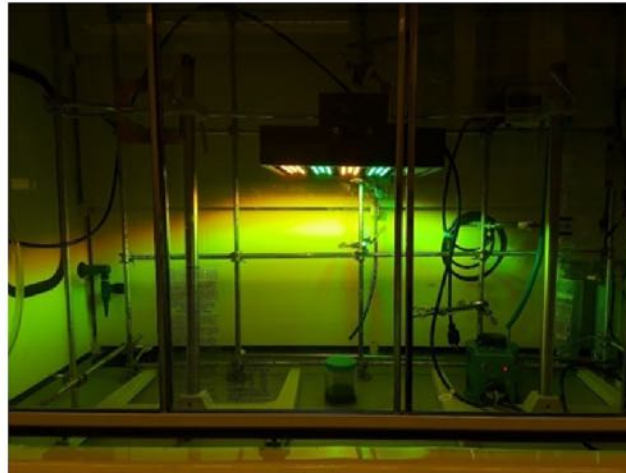
- Amber and green LEDs efficiently convert electrical energy into visible light, yielding increased lumens per watt. This heightened efficiency maximizes illumination output while minimizing power consumption for an environmentally and economically sustainable lighting solution.
- Incorporating 590nm amber LEDs introduces a tailored wavelength for enhanced color rendering, particularly in applications desiring warmer tones, resulting in a more comprehensive and aesthetically pleasing illumination.
- Including green LEDs broadens the spectrum coverage, creating a versatile blend of wavelengths beneficial for various processes and visual environments.

590nm Amber + Red LEDs + Green LEDs = Provides the most broad No UV light spectrum

- Warmth and Richness with 590nm Amber LEDs - The inclusion of 590nm amber LEDs brings warmth and richness to lighting, making it ideal for applications that prioritize visually pleasing and vibrant illumination.
- Balanced Spectrum with Green LEDs - Green LEDs contribute to a balanced spectrum, fostering natural illumination and positively influencing human perception. This creates an environment with harmonious lighting qualities.
- Adding red LEDs brings intensity and versatility, suitable for signaling, plant growth, and therapy. The combination with amber and green wavelengths forms a broad UV-free spectrum, beneficial for UV-sensitive materials or processes, ideal for environments needing meticulous color control in manufacturing or specialized lighting.

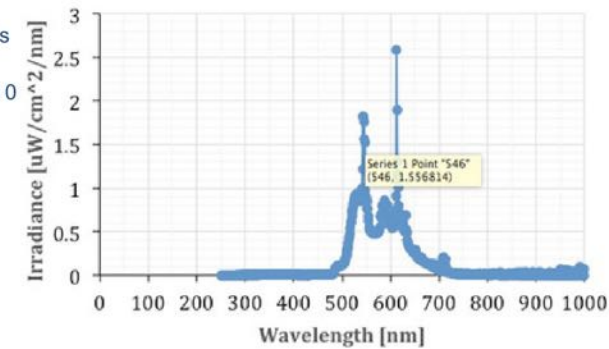
The FLAT is independently lab tested and prototypes have been tested by Fortune 500 companies.

The lab of a Fortune 500 company conducted the test. An Access Fixtures No UV LED luminaire equipped with 590nm Amber and Green LEDs 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) (Fig2). 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 wavelength of LED light exposed to the solution used in this study using 590nm Amber and Green LEDs ranged from 480 to 710 nm.

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



The electric voltage was controlled by a voltage controller and was set to 20% so that the LED light intensity would register 98fc on the light meter. The test was at a much higher footcandle level than their typical production facility targets of 40-70 fc.



The study confirmed that the wavelength of LED light used for solution gel formation 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 used with a target, 40-70 fc would have no impact on production.

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

FLORESCENT NO UV LIGHTING VS ACCESS FIXTURE'S NO UV LIGHTING

With FLAT and FLYT, the risk of filter failure is eliminated as these fixtures don't utilize filters. Instead, they employ LEDs that do not emit UV and light below 450 nm. Moreover, FLAT and FLYT offer the most extensive spectrum of lighting available, completely free of UV and light below 450 nm. The lighting is flicker-free and features a state-of-the-art diffuser, ensuring enhanced visibility compared to outdated gold lamps and filtered lighting solutions.

Customer Testimonials:

- "The driving reason for moving to [Access Fixtures] LED lights is because the current [light] intensity is WAY below our and even OSHA's requirements."
- "Employees prefer it. The gold-green has really improved visibility in the area."
- "The modular LED fixture will be ideal for our application. Having a truly off-the-shelf option on these lights is really a huge plus for us, not to mention the tighter wavelength patterns being emitted, and no risk of lens failure."





GOLD FILTERS

VERSUS

NEW GENERATION NO UV LED

FOR CLEAN ROOMS AND NO UV PRODUCTION FACILITIES

	
<p>They Only Produce a Very Narrow Spectrum of Light</p>	<p>Opting for more diversified spectral options, with one being equivalent and three offering a broader spectrum of light, enhances the workplace environment, promoting employee happiness and productivity by providing a more natural and varied lighting experience.</p>
<p>UV Blocking Tube Guards, Coatings, and Filters Crack and Flake</p>	<p>Access Fixtures No UV Lights Under 450nm emits a fixed spectrum of light that will never change removing the threat of compromised production.</p> <p>Access Fixture's No UV LED lights do not rely on filters that will break down compromising expensive production runs.</p> <p>Going forward new facilities that require No UV lighting will be built with No UV LED lighting and existing facilities will be retrofitted with No UV LED light fixtures.</p>
<p>UV Blocking Tube Guards, Coatings, and Filters Breakdown</p>	<p>Manufacturing processings by using Access Fixture's No UV fixture without the use blocking tubes or filters with a luminaire sealed IP67 rated fixture. Includes a No UV emergency egress feature, ensuring that during a blackout, the emergency backup generates light without UV components, as opposed to a conventional white light emergency backup source.</p>

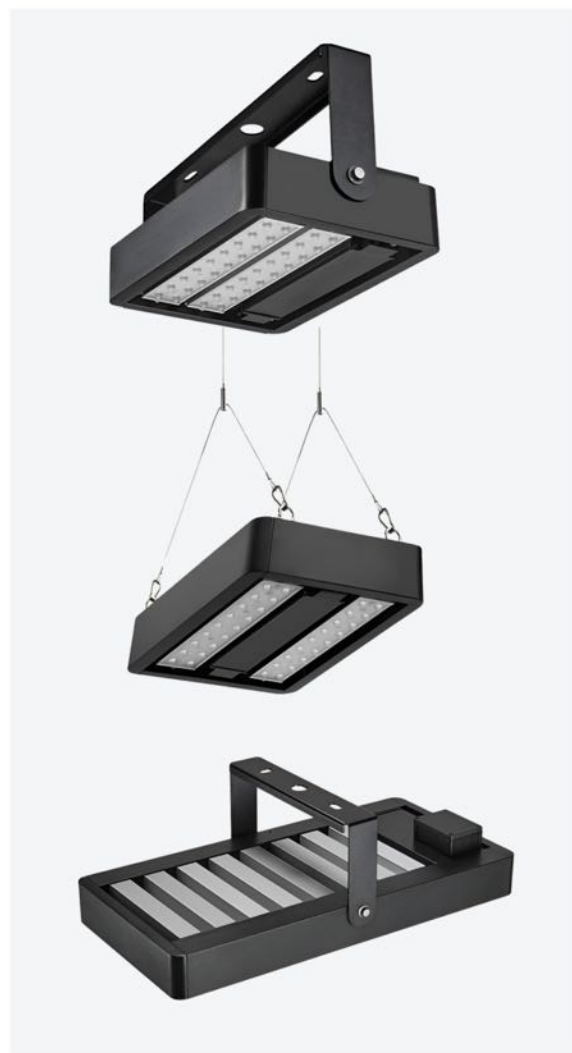
MORE OPTIONS OF ACCESS FIXTURE'S NO UV LED FORM FACTORS

NO UV APTA FIXTURE



- Housing has a corrosion-resistant Polyester powder.
- 1000 hour Salt Spray. Certification per ASTM B117/ISO.
- IP67 rated and sealed for dust and debris intrusion.
- Various mounting options: Four-Corner Eye Hooks, Four-Corner Eye Hooks with 10' suspension Cable, Pendant Rod and Ceiling Plate, Surface mounted and suspension Hook.

NO UV UPTA FIXTURE



- L70@200,000hrs - Exceptional heat sink design produces an EXTREME-LIFE for years of virtually maintenance-free performance.
- Flawless Light: Choice of advanced Optics, Kelvin and Color rendering of up to Ra>90 facilities premium anti-glare illumination.
- ETL, CUL, DCC, CE, CB, SAA, IK10 AND IP66 listed and certified.

NO UV EPTA FIXTURE



- Low weight with Three option for mounts- Surface mounted, Suspension mounted, and Knuckle mounted.
- 1000hr salt Spray certified and extended aluminum housing for maximum life and durability.
- Marine-grade finish to protect against extreme environments where there is harsh environments where chemicals are being used or coastal areas with high amounts of salt.

