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Why Golden Range LED Tubes

Ultra-Affordable Pricing

You will not find a better quality tube, as bright with as solid a warranty at our unbeatable pricing anywhere in South Africa. The Golden Range is ideally positioned in terms of price in-between the inaccessibly expensive and the questionably cheap.

Ultra-Bright

Pushing out +100 lumens per watt, the Golden Range competes with the very best LED Tubes on the market and according to many happy customers outshines the fluorescents they replace.

Low Cost, Post Warranty Repair Options

When drivers or LEDs require replacement past their warranty date, we can repair your LED tubes for reuse for a minimal fee by installing a brand-new driver or new led chip sets.

Solid 5 Year Warranty

During your five (5) year warranty period, replacements are provided for rapidly (usually within 1-2 days) and at no cost to you. Our service includes payment of courier fees to and from any major urban destination within the Republic of South Africa (only).

Anodized Aluminium Heat Sincs

All LED Tubes aluminium casings (acting as heat sincs) are put through electrolytic process that results in an increased resistance to corrosion and wear & tear while reducing conductivity. Perfect for mining.

Locally Manufactured & Quality Test Controlled

Golden Range LED Tubes are manufactured by South Africans for the South African market. The more customers we get, the more people are employed to manufacture your tubes. For every tube that goes out, stringent quality control testing is applied to ensure that it not only works but emits the required colour temperature and lumen output.

Multiple Colour Temperature Options Available

Our Standard option is the ever-popular 6,000k (Cool White) colour temperature but we also offer 3,000k (Warm White), 4,000k (Pure White) and 5,000k (Daylight White) at no extra cost.

**Lead times may extend somewhat for non-standard lumen types depending on availability of the desired chipset.*

Tough LED Drivers

Our powerful LED Drivers are engineered and tested to handle 85 – 277V AC with a maximum input tested at 305VAC. This a good thing, a necessary thing actually, to have in place when power grids and electrical supply fluctuate as much as they do.

Manufactured to SABS Safety Specifications

The Golden Range Tubes are all manufactured to current SABS specification requirements with Live & Neutral wired to one side (essentially making the other side an inactive or "dead end"). SABS Test Report is imminent.

Rotatable End Caps

For a small fee, get your LED tubes with rotatable end caps to shine in the right direction in any existing fluorescent fittings that are difficult to install the stock standard non-rotatable led tubes.

Aluminium Backing for Ideal Heat Sinking

These tubes do not overheat and cook their drivers. Nor do they fall out of their fittings because of warping. This is thanks to the solid aluminium casing that keeps the tube straight, strong and acts as a heat sink to keep the components as cool as possible during operation.

Permanent Branding

Available at no extra charge, we will laser brand the LED tubes with your Logo and contact details or that of your clients. White Label options are also available.

Batch Number Indicators

Like the Permanent Branding, we apply unique batch numbers to all manufactured tubes. So everyone maintains control over when tubes are part of what orders and projects thereby keeping your warranty 100% intact.

Awesome Production Capabilities

We can deliver as many as 10,000 LED Tubes per week (or more) anywhere in South Africa.

**Dependent on product schedules at time of order*

Free Delivery

We will deliver your order to any urban area at no extra charge.

**Minimum Order Requirements are required.*

A Friend to De-lamping

Many of our customers end up happily replacing two (2) fluorescent tubes with just one of Golden Range LED Tube. Because of their brightness, this is an option that can provide you with as much as a 75% saving off electricity!

Specifications



Golden Range LED Tubes are manufactured in South Africa (+60% local content), are ultra-bright at +100lm/w, are supported by a FIVE (5) year warranty with post warranty repair options and have the largest range of options to fit any requirement when replacing standard length 600mm (2ft), 900mm (3ft), 1200mm (4ft) or 1500mm (5ft) T8 Fluorescent Tubes.

One can utilise an existing T8 fitting by bypassing the starter and ballast before plugging in your LED Tube replacement. Enjoy energy savings of as much as 60% and a long life of 50,000 hours of effectual use!

Golden Options	600mm (2ft) 9w	900mm (3ft) 14w	1200mm (4ft) 18w	1500mm (5ft) 24w
Model No.	ET2T8-600	ET2T8-900	ET2T8-1200	ET2T8-1500
Colour Temperature Options	>3,000k >4,000k >5,000k >6,000k (*)	>3,000k >4,000k >5,000k >6,000k (*)	>3,000k >4,000k >5,000k >6,000k (*)	>3,000k >4,000k >5,000k >6,000k (*)
Colour Type Options	Warm White Neutral White Daylight White Cool White (*)	Warm White Neutral White Daylight White Cool White (*)	Warm White Neutral White Daylight White Cool White (*)	Warm White Neutral White Daylight White Cool White (*)
End Cap Options	Non-Rotatable (*) Rotatable (+)	Non-Rotatable (*) Rotatable (+)	Non-Rotatable (*) Rotatable (+)	Non-Rotatable (*) Rotatable (+)
Labelling Options	Your Branding Golden Branding White Labelled	Your Branding Golden Branding White Labelled	Your Branding Golden Branding White Labelled	Your Branding Golden Branding White Labelled
Lens Options	Frosted (*) Clear (+)	Frosted (*) Clear (+)	Frosted (*) Clear (+)	Frosted (*) Clear (+)
Wiring Options	Single Sided (*) Double Sided (+)	Single Sided (*) Double Sided (+)	Single Sided (*) Double Sided (+)	Single Sided (*) Double Sided (+)

(*) MOST POPULAR (indicated with a *) = 6,000k, Cool White, Frosted Golden Range LED Tube with non-rotatable end caps and wired with the live and neutral to one end (or single sided).

(+) ADDITIONAL You may specify any of the above options for your requirements for a small extra fee – please download current price list for details. Lead times however may be slightly longer than our average 2-3 days should you select a rare combinations such as a 3,000k, Warm White, Clear Lens, Rotatable, Double Sided.

Golden Specs	600mm (2ft) 9w	900mm (3ft) 14w	1200mm (4ft) 18w	1500mm (5ft) 24w
Model No.	ET2T8-600	ET2T8-900	ET2T8-1200	ET2T8-1500
Certification(s)	IEC (Parts) *SABS Test Report Pending	IEC (Parts) *SABS Test Report Pending	IEC (Parts) *SABS Test Report Pending	IEC (Parts) *SABS Test Report Pending
CRI	>82 Ra	>82 Ra	>82 Ra	>82 Ra
Dimming Controls	No	No	No	No
Frame Material	Aluminium	Aluminium	Aluminium	Aluminium
Heat Sink	Yes Aluminium Frame	Yes Aluminium Frame	Yes Aluminium Frame	Yes Aluminium Frame
IP Grade	IP44	IP44	IP44	IP44
LED Chip Type	Epistar	Epistar	Epistar	Epistar
LED Driver	Manufacturer Patented Driver	Manufacturer Patented Driver	Manufacturer Patented Driver	Manufacturer Patented Driver
Lens Material	PC (Poly Carbonate)	PC (Poly Carbonate)	PC (Poly Carbonate)	PC (Poly Carbonate)
Lumens	900 lm	1,300 lm	1,800 lm	2,400 lm
Luminescence Angle	140°	140°	140°	140°
Operating Frequency	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz
Operating Life Span	50,000 hrs	50,000 hrs	50,000 hrs	50,000 hrs
Power Factor	>0.95	>0.95	>0.95	>0.95
Storage Environment/Temp	-20°C to +35°C (20°C best)	-20°C to +35°C (20°C best)	-20°C to +35°C (20°C best)	-20°C to +35°C (20°C best)
T8 Replacement	18w	27w	36W	56W
Unit Dimensions	60 (l) x 3 (ø) cms	90 (l) x 3 (ø) cms	120 (l) x 3 (ø) cms	150 (l) x 3 (ø) cms
Units per Box	12	24	24	24
Voltage Input Range	85 – 277 VAC	85 – 277 VAC	85 – 277 VAC	85 – 277 VAC
Voltage Input Maximum	305 VAC	305 VAC	305 VAC	305 VAC
Warranty Period	5 Years	5 Years	5 Years	5 Years
Wattage	9w	14w	18W	24W
Working Humidity	10% - 90%	10% - 90%	10% - 90%	10% - 90%
Working Temperature	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
Working Voltage	230 VAC	230 VAC	230 VAC	230 VAC

LED Tube Components

LED Drivers

LED Lighting is typically reactive in nature so if power factor is not managed, the grid will still need to be able to provide a much higher power level than is actually needed at the load. What this results in is increased power wastage. In technical terms this results in increased kVAR or reactive power that can effectively reduce a significant portion of the utility savings of moving to solid state LED lighting from older, less energy efficient lights such as the typical T8 fluorescents (which have a very high power factor).

LED's characteristically harbour a non-linear impedance as do their drivers, causing the power factor to be inherently low. To correct this the driver needs to compensate for the low power factor and increase that ratio as close to 1.0 as possible.

Our T8 drivers successfully achieve a power factor of over >0.95 with a ripple voltage of $<1V$ at a ripple current of 3% and an impressively low total harmonic distortion of less than 13%. Our quality Beryl electrolytic capacitors & transformers are able to propel our drivers to these results with the assistance of a highly effective cooling process which incorporates the use of our aluminium PCB's & PC cooled aluminium frame extrusions.

Our Aluminium printed circuit boards offer an estimated ten times more heat dissipation than that of synthetic counterparts. This ensuring that all of the integrated electronic components achieve the expected maximum performance and longevity. Our drivers will see out a lifespan of three years at the very least and can be extended to a five year warranty option when required having operated in many active installations for a period of five (5) years or longer with less than a 1% failure rate under normal conditions.

Driver Specifications (*1200mm LED tube):

- Brand: **Manufacturer Patented Driver;**
- Input voltage range: 85-277 VAC,
- Max input voltage range test: 305 VAC;
- Output power: 9W-24W;
- Flicker-free: ripple voltage $<1V$ / ripple current $<3\%$;
- Active power factor correction;
- High PF > 0.95 (@230 VAC);
- Low THD $<13\%$ (@230 VAC);
- Driver installed at the backside of tubes making replacement of LED Driver made easy requiring no soldering;
- 1KV L-N surge level;
- Made to ErP, DLC, VDE standards;
- Non isolated design;
- Beryl Electrolytic Capacitor;
- Aluminium Electrolytic Capacitor;
- Capacitance: 150uF;
- Operating T: 105 degrees;
- CE Certified;
- 5 Year Warranty.

2835 SMD LED Chips

Our unique 2835 SMD LED chips have been carefully selected to ensure that every aspect of our LED Tube luminaires far exceed industry standards. Our SMD LED chips emit 26 lumens at an optimum forward voltage of 3.2V and 60mA while still achieving an average CRI of 82 with an expected chip lifespan of 50 000 hours*.

We have successfully achieved these performance outputs through the acquisition & utilisation of our state of the art photometric & electric testing equipment ensuring the correct sourcing of materials & chips - while not simply relying on quoted supplier specifications.

LED Chip Specifications (*1200mm LED tube):

- Base Material: Copper;
- CCT Emitting Colours: 6000k, 5000K, 4000K, 3000K;
- Certification: RoHS;
- Chip Material: InGaN;
- CRI: 82+;
- Forward Voltage: 3.2V;
- Glue: Dowcorning / Intematix.
- Lead Frame: Copper;
- LED Chips: Epistar;
- LED Packaging Type: SMD 2835;
- Life Expectancy: 50,000hrs;
- Lumens per chip: 26lm (Based on 6000K);
- Model NO: L2835;
- Power: 0.2W per chip;
- Wire: 999 Gold Wire (99%);

There are two definitive photometric characteristics which help define the quality and consistency of led chips: namely the colour rendering index (CRI) and luminous efficacy (LM).

The CRI simply compares how the luminaire reproduces colours of the surrounding environment compared to that of an ideal / natural light source. A CRI of lower than 80 provides a distorted view of the environment; a common problem in many LED's. We've successfully gone to great lengths to ensure our LED chips exceed this bench mark while maintaining the highest possible luminous efficacy.

Luminous efficacy is the luminous flux divided by the power consumed. Often Manufacturers will focus on increasing luminous flux to the detriment of the luminaire's CRI. Many 24 and 26 Lumen LED chips fail to achieve a CRI of 80, often incorrectly placing higher value on the amount of light while unknowingly reducing the quality of light output itself. A High lumen count on its own is hardly a reliable indicator of light output quality.

We have ensured our LEDs meet the required luminous flux, CRI and voltage regulation to ensure that they are integrated into a solid state light that will perform optimally and effortlessly reach its expected 50,000 hour lifespan.

LED Tube Fittings

As part of our offering, we can supply LED Tube Fittings that allow for easy plug and play of all LED Tubes - ideal for new installations or where the old existing fluorescent fittings need to be replaced.



OPEN CHANNEL FITTINGS

Available in:

600mm (2ft) Single Open Channel (No Cover);
600mm (2ft) Double Open Channel (No Cover);
1200mm (4ft) Single Open Channel (No Cover);
1200mm (4ft) Double Open Channel (No Cover);
1500mm (5ft) Single Open Channel (No Cover);
1500mm (5ft) Double Open Channel (No Cover).



CLOSED CHANNEL FITTINGS

VAPOUR PROOF (IP65)

Available in:

600mm (2ft) Single Closed Channel / Vapour Proof (IP65);
600mm (2ft) Double Closed Channel / Vapour Proof (IP65);
1200mm (4ft) Single Closed Channel / Vapour Proof (IP65);
1200mm (4ft) Double Closed Channel / Vapour Proof (IP65);
1500mm (5ft) Single Closed Channel / Vapour Proof (IP65);
1500mm (5ft) Double Closed Channel / Vapour Proof (IP65).



RECESSED GRILL PLATE FITTINGS

VAPOUR PROOF (IP65)

Available in:

600 X 600mm, 3 Tube
600 x 600mm, 4 Tube
1200 x 600mm, 3 Tube
1200 x 600mm, 4 Tube

**Prismatic Covers also available.*

Thank You & Please Contact Us

Thank you for spending the time to review our information on the Golden Range LED Tubes. We're very proud of them and with sales sky rocketing we hope to provide you with the best quality and priced solution for LED tubes in South Africa. Please contact us anytime to order, for a quote or just for more information and questions:

Sales: +27 (021) 910 2626
+27 (079) 214 9353
sales@ledtubes.co.za

Request A Wholesale Quote

Appendix A: Comprehensive Warranty

Clear Sky LEDs warrants to all end users that our range of LED products will operate substantially in accordance with the product's specifications details on the Clear Sky LEDs website during normal use.

Clear Sky Industries t/a Clear Sky LEDs (CC Reg No: 2009/031373/23) will provides a standard FIVE (5) Year Warranty for every purchase of the Golden Range LED Tubes supplied.

**New Warranty period applicable to orders placed post May 13, 2016 or as invoiced.*

The warranty begins from the date of delivery. Any defective LED lamp will be replaced, as long as the failure was a fault of the unit, and not due to any external factors, such as breakages and other factors that will void your LED tubes Warranty etc.

On-site Repair, Carry in Repair or Return Shipping

The warranty provided is a "Carry-In Warranty". If you experience a failure, Clear Sky LEDs will organise to have couriers collect the defective lamp(s) immediately. We will evaluate the failure, and if the defect is due to a factory fault, we will replace the faulty lamp(s). Clear Sky LEDs will also be responsible for the payment of shipping costs of the return lamp(s) back to the client should the product(s) be found to be faulty.

All labour to remove and re install units is NOT covered under our warranty.

Should the warranty service require the replacement of a component part, these items will become the property of Clear Sky LEDs. The replacement component part will be new, or equivalent to new once repaired, meeting quality standards. The warranty remaining on the original unit is assumed on the replacement unit or replacement parts.

We have spares available consistently, and once the evaluation has taken place, and is to be found that it is a unit covered under the warranty terms, a replacement unit will be sent back immediately within 1-2 working days.

If the product is returned during the limited warranty period, but the problem with the product is not covered under the terms and conditions of this limited warranty due to warranty breach, you will be notified by Clear Sky LEDs and given an estimate of the repair or replacement cost, plus you will be liable for shipping charges to and from Clear Sky LEDs. If the estimate is refused, the product will be returned at your cost.

If the product(s) is returned after the expiration of the warranty period, Clear Sky LEDs' normal service policies shall apply and you will be supplied with a written estimate of the repair or replacement costs plus return shipping charges.

**All courier services are paid for by Clear Sky LEDs only for delivery within South Africa.*

Not Covered under Warranty

This warranty only covers normal use in an intended environment. This warranty does not cover any user-installed peripheral devices, dealer or user-installed pc boards or any other components. Use of a power supply other than that provided, connection of product to any other power source other than what is specified and connecting the unit to any electrical outlet not properly grounded.

This warranty does not cover the failure of the product due to inadequate maintenance, misuse of the product, improper installation, improper return shipping or general neglect. This warranty does not cover disasters such as fire, flood, lightning, hurricanes, tornadoes, earthquakes or any other natural disasters. Any servicing of the product by the owner or an unauthorised technician is not covered by this warranty.

The warranty and remedies expressed above are exclusive and in lieu of all other express or implied warranties including, but not limited to, the implied warranties of merchantability or fitness for a particular purpose.

Some laws do not allow the exclusion of implied warranties. If these laws apply, then all express and implied warranties are limited to the one year period expressed above. Any statement or representations made by any person, company or firm are void, unless stated above. Clear Sky LEDs will not be responsible or liable for any loss, inconvenience or damage including direct, special, incidental or consequential damages resulting from the use or inability to use their products, whether resulting from breach of warranty or any other legal theory or opinion.

This Warranty Official Endorsed:



Byron Levey

Managing Director

Appendix B: Installation Instructions

A SAFE CONVERSION OF THE STANDARD T8 FLUORESCENT FITTING TO AN LED TUBE, ENERGY-SAVING RETROFIT IN 10 EASY STEPS:

General Requirements & Precautions:

- Required for installation: Screw Driver, wire stripper and cutter;
- It is vital that any lighting work be carried out at all times with the power supply disconnected and locked out. Do not cover this LED tube with paper, cloth or any other flammable material / substance;
- Remove flammable packaging material;
- Please ensure that this LED tube is correctly installed (See Installation Instructions section shown below);
- Only use this LED tube within the recommended temperature parameters (Recommended operating ambient temperature is: -20°C ~ +50°C).

STEP 1

It's suggested that the customer sign a Safety installation and instruction sheet procedure document at the point of delivery. This document describes the entire step-by-step retrofit procedure.

STEP 2

Identify the T8 fluorescent fitting to be retrofitted. For the purposes of this demonstration we are using a single, open-channel fitting, without diffuser. To compare current usage of the T8 fitting against the new LED retrofit, measure Watts, Volt Amperes and power-factoring readings now. Should you be interested in comparing your current usage of the T8 fitting against your new LED retrofit, measure the Watts, Volt Amperes and power-factor.

STEP 3

VERY IMPORTANTLY... Disconnect and lock out the power supply.

STEP 4

Remove the existing T8 lamp or lamps.



STEP 5

Remove the protective cover of the T8 fitting to reveal the wiring, starter, ballast & capacitor.

STEP 6

Bypass the existing Magnetic Ballast as the LED Tubes themselves will link directly up to the mains power having their own built in ballast / power supply.



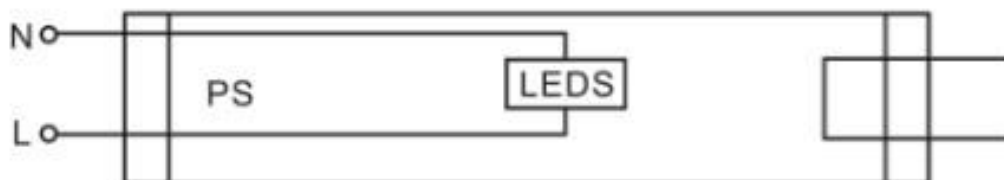
STEP 7

Remove the starter and replace it with a simple and affordable live fuse link that will fit into the starter's connector block. The fuse link will protect the LED Tubes from any power surges or lightning strikes that may deliver exceptionally high voltages above and beyond the 100 -277 VAC of the LED Tube's Drivers.



STEP 8

The tube must be installed with the LED tube power supply side pins to the AC power (i.e.: L and N) supply holder in the fitting. See wiring diagram shown below. Apply any wiring requirements to ensure that the positive (live) and neutral are connected to one side.



STEP 9

Replace the protective cover of the T8 fitting and install the LED Tubes and apply any required stickers for warnings, instructions or branding material within the fitting. *Ensure that the LED Tubes are installed the right way around. The LED Tube will be marked so you'll know which side needs to connect to the side in the fitting that has had the positive (live) and neutral wired to it.

STEP 10

Reconnect the power supply. Should you be interested in comparing the usage of your new LED tube with the readings obtained on the T8 fluorescent earlier, measure the Watts, Volt Amperes and power-factoring readings now.

Appendix C: Photometric Test Reports

600mm (2ft) LED Tube Report

Lighting Measure Report

Color Parameter

Chroma Coordinate: $x=0.3218$ $y=0.3356$ $u=0.2016$ $v=0.3154$

Chroma Coordinate: $u'=0.2016$ $v'=0.4731$

CCT: CCT=6003K Dominant: $\lambda_d=494.2\text{nm}$ Barycenter: $\lambda_b=547\text{nm}$ Peak Wavelength: $\lambda_p=451.7\text{nm}$

FWHM: $\Delta\lambda=24.08\text{nm}$ Purity: $P_e=3.789\%$ Red Ratio: $R=0.138$ Green Ratio: $G=0.811$ Blue Ratio: $B=0.05$

Color CRI: $R_a=81.59$

R 1=79

R 2=86

R 3=88

R 4=81

R 5=80

R 6=79

R 7=87

R 8=69

R 9=5

R10=65

R11=79

R12=55

R13=81

R14=93

R15=76

Luminosity Parameter

Luminous Flux(380-780nm): 938.33lm Optical Power(380-780nm): 3.142W Efficient(380-780nm): 98.35lm/W

Mesopic Flux: (MES2)=1258.8lm (MES1)=1258.8lm (USP)=1497.5lm (MOVE)=1312.9lm

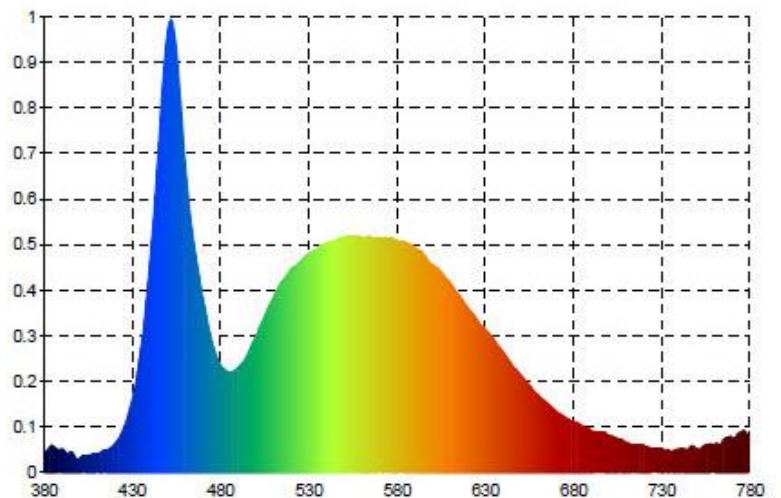
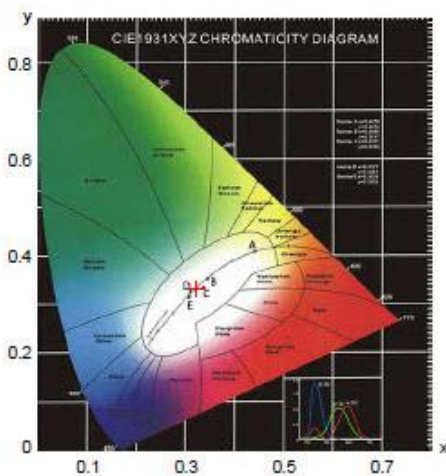
Electric Parameter

Voltage: $U=220.4\text{V}$ Current: $I=45\text{mA}$ Power: $P=9.541\text{W}$ PF: $PF=0.962$

Device State

Wavelength Range: 380nm-780nm Wavelength Interval: 1nm

CIE1931 Chroma Figure



900mm (3ft) LED Tube Report

Lighting Measure Report

Color Parameter

Chroma Coordinate: $x=0.3193$ $y=0.3306$ $u=0.2018$ $v=0.3134$

Chroma Coordinate: $u'=0.2018$ $v'=0.4702$

CCT: CCT=6149K Dominant: $\lambda_d=489.2\text{nm}$ Barycenter: $\lambda_b=545\text{nm}$ Peak Wavelength: $\lambda_p=452.6\text{nm}$

FWHM: $\lambda_{FWHM}=25.85\text{nm}$ Purity: $P_e=4.952\%$ Red Ratio: $R=0.14$ Green Ratio: $G=0.807$ Blue Ratio: $B=0.053$

Color CRI: $R_a=83.06$

R 1=81	R 2=87	R 3=89	R 4=82	R 5=82	R 6=81	R 7=87
R 8=70	R 9=11	R 10=68	R 11=81	R 12=58	R 13=83	R 14=94
R 15=78						

Luminosity Parameter

Luminous Flux(380-780nm): 1378.5lm Optical Power(380-780nm): 4.467W Efficient(380-780nm): 98.6lm/W

Mesopic Flux: (MES2)=1800.1lm (MES1)=1800.1lm (USP)=2146.9lm (MOVE)=1879.5lm

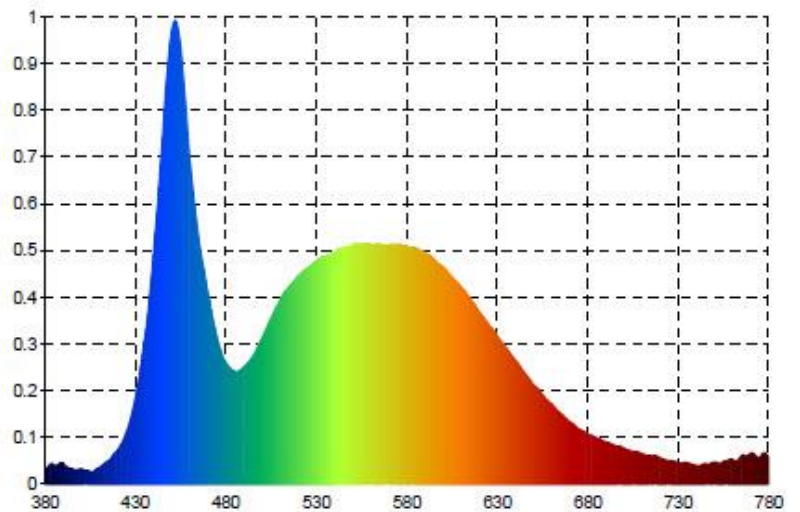
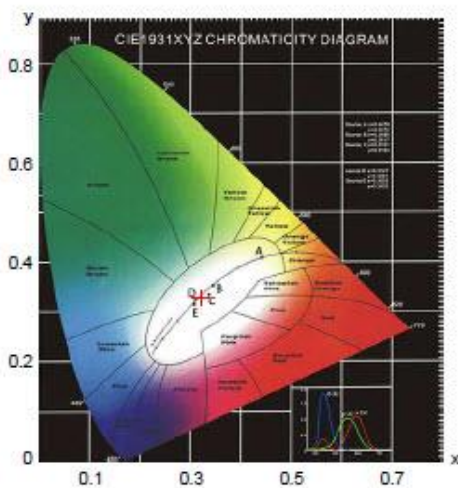
Electric Parameter

Voltage: $U=220.4\text{V}$ Current: $I=66\text{mA}$ Power: $P=13.98\text{W}$ PF: $PF=0.961$

Device State

Wavelength Range: 380nm-780nm Wavelength Interval: 1nm

CIE1931 Chroma Figure



1200mm (4ft) LED Tube Report

Lighting Measure Report

Color Parameter

Chroma Coordinate: $x=0.3196$ $y=0.3322$ $u=0.2015$ $v=0.314$
 Chroma Coordinate: $u'=0.2015$ $v'=0.471$
 CCT.: CCT=6123K Dominant: $\lambda_d=490.6\text{nm}$ Barycenter: $\lambda_b=547\text{nm}$ Peak Wavelength: $\lambda_p=452.5\text{nm}$
 FWHM: $\Delta\lambda=25.63\text{nm}$ Purity: $P_e=4.692\%$ Red Ratio: $R=0.139$ Green Ratio: $G=0.809$ Blue Ratio: $B=0.052$
 Color CRI.: $R_a=82.44$
 R 1=81 R 2=87 R 3=89 R 4=82 R 5=81 R 6=80 R 7=87
 R 8=70 R 9=10 R10=67 R11=80 R12=57 R13=82 R14=94
 R15=77

Luminosity Parameter

Luminous Flux(380-780nm): 1825lm Optical Power(380-780nm): 5.242W Efficient(380-780nm): 98.73lm/W
 Mesopic Flux: (MES2)=2085.9lm (MES1)=2085.9lm (USP)=2485.9lm (MOVE)=2177.2lm

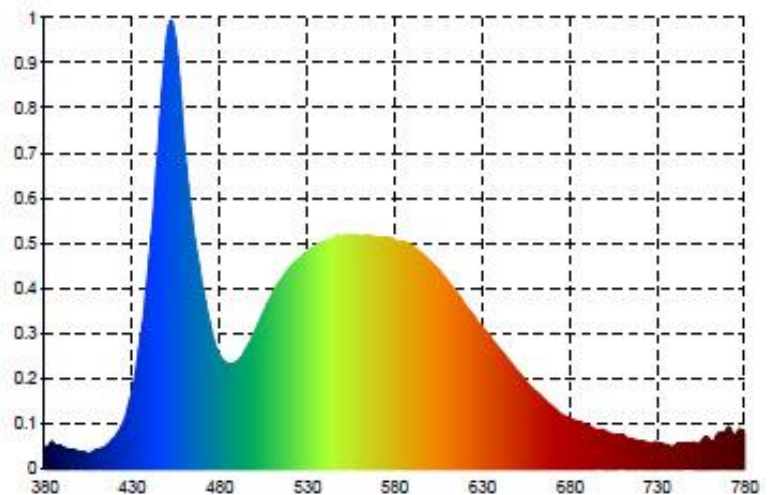
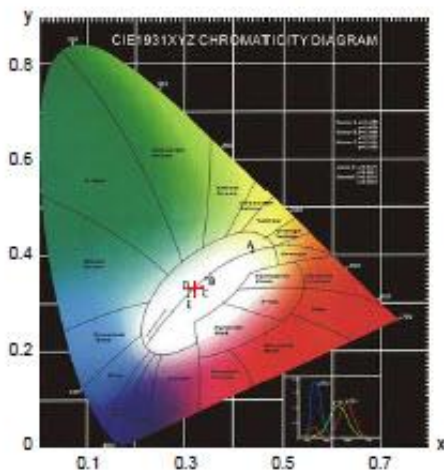
Electric Parameter

Voltage: $U=220.4\text{V}$ Current: $I=87\text{mA}$ Power: $P=18.48\text{W}$ PF: $PF=0.964$

Device State

Wavelength Range: 380nm-780nm Wavelength Interval: 1nm

CIE1931 Chroma Figure



1500mm (5ft) LED Tube Report

Lighting Measure Report

Color Parameter

Chroma Coordinate: $x=0.3204$ $y=0.3341$ $u=0.2012$ $v=0.3148$

Chroma Coordinate: $u'=0.2012$ $v'=0.4722$

CCT.: CCT=6076K Dominant: $\lambda_d=492.5\text{nm}$ Barycenter: $\lambda_b=545\text{nm}$ Peak Wavelength: $\lambda_p=451.4\text{nm}$

FWHM: $\Delta\lambda=25.08\text{nm}$ Purity: $P_e=4.358\%$ Red Ratio: $R=0.139$ Green Ratio: $G=0.81$ Blue Ratio: $B=0.052$

Color CRI.: $R_a=82.19$

R 1=80	R 2=86	R 3=89	R 4=82	R 5=81	R 6=80	R 7=87
R 8=69	R 9=6	R10=66	R11=80	R12=57	R13=82	R14=94
R15=76						

Luminosity Parameter

Luminous Flux(380-780nm): 2316.9lm Optical Power(380-780nm): 8.615W Efficient(380-780nm): 98.45lm/W

Mesopic Flux: (MES2)=3531.2lm (MES1)=3531.2lm (USP)=4206.6lm (MOVE)=3685.1lm

Electric Parameter

Voltage: $U=220.4\text{V}$ Current: $I=111\text{mA}$ Power: $P=23.53\text{W}$ PF: $PF=0.962$

Device State

Wavelength Range: 380nm-780nm Wavelength Interval: 1nm

CIE1931 Chroma Figure

