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## Why Luminas Range LED Tubes?

### **Ultra-Affordable Pricing**

You will not find a better quality tube at this price in South Africa that is locally manufactured with 60% local content applied.

### **Bright**

Pushing out +90 lumens per watt is high for any medium range LED Tubes.

### **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 and/or new led chip sets.

### **Solid Swap Out Warranty**

**The Luminas range carries a solid THREE (3) year warranty.** During the selected 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).

### **Locally Manufactured & Quality Test Controlled**

Luminas 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 outputs consistently and in line with specification.

### **Tough LED Drivers**

Our drivers are engineered and tested to handle a wide voltage range between 100 – 267V AC; Indispensable when electrical supply fluctuates as much as it regularly does in Southern Africa.

### **Manufactured to SABS Safety Specifications**

The Luminas 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").

### **Generic Branding**

All tubes are marked with the required installation diagram and main tube specifications but essentially it is white labelled making them perfect for resale.

### **Batch Number Indicators**

Like the Permanent Sticker Branding, we apply unique batch numbers to all manufactured tubes. So everyone maintains control over when tubes are part of what orders.

**Free Delivery**

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

\*Minimum Order Requirements are for one (1) box / 30 units of any given length tube.

**Specifications**



Luminas Range LED Tubes are based on the higher grade quality of the Golden Range, also manufactured in South Africa (+60% local content), but designed for affordability. Enjoy a decent lumen output of 90lm/w, a high power factor of >0.95 and a solid THREE (3) year warranty with post warranty repair options.

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 40,000 hours of effectual use!

Luminas Options	600mm (2ft) 9w	1200mm (4ft) 18w	1500mm (5ft) 24w
Model No.	<b>LMT8-9w</b>	<b>LMT8-18w</b>	<b>LMT8-24w</b>
Colour Temperature Options	>4,000k >6,000k (*)	>4,000k >6,000k (*)	>4,000k >6,000k (*)
Colour Type Options	Neutral White Cool White (*)	Neutral White Cool White (*)	Neutral White Cool White (*)

**MOST POPULAR** (indicated with a \*) = 6,000k, Cool White Luminas Range LED Tube (with standard Frosted Lens, Non-Rotatable End Caps and Single Sided Wiring).

**PLEASE NOTE:** *You may specify any of the above options for your requirements without price being affected at all and lead time will remain largely unaffected with a 2-5 day delivery period even on bulk wholesale (+1000) unit orders.*

**SPECIAL ORDERS:** The Luminas Range has limited option but should you have specific requirements for a large bulk order, we may be open to manufacture.

Luminas Specs	600mm (2ft) 9w	1200mm (4ft) 18w	1500mm (5ft) 24w
<b>Model No.</b>	<b>LMT8-9w</b>	<b>LMT8-18w</b>	<b>LMT8-24w</b>
Certifications	IEC (Parts)	IEC (Parts)	IEC (Parts)
CRI	75 Ra	75 Ra	75 Ra
Dimming Controls	Not Available	Not Available	Not Available
End Caps	Non Rotatable (only)	Non Rotatable (only)	Non Rotatable (only)
Frame & Material	Aluminium Heat Sink	Aluminium Heat Sink	Aluminium Heat Sink
IP Grade	IP44	IP44	IP44
LED Chip Make	Epistar	Epistar	Epistar
LED Chip Type	2836 SMD	2836 SMD	2836 SMD
Lens Material	Poly Carbonate (PC)	Poly Carbonate (PC)	Poly Carbonate (PC)
Lens Options	Frosted (only)	Frosted (only)	Frosted (only)
Lumens	810 lm	1,620 lm	2,070 lm
Lumens per Watt	90 lm/w	90 lm/w	90 lm/w
Luminescence Angle	140°	140°	140°
Manufacture Origin	South Africa <i>(60% Local Content)</i>	South Africa <i>(60% Local Content)</i>	South Africa <i>(60% Local Content)</i>
Operating Frequency	50-60 Hz	50-60 Hz	50-60 Hz
Operating Life Span	40,000 hrs	40,000 hrs	40,000 hrs
Post Warranty Repair	Available	Available	Available
Power Factor	>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)
T8 Replacement	18w	36W	56W
Unit Dimensions	60 (l) x 3 (Ø) cms	120 (l) x 3 (Ø) cms	150 (l) x 3 (Ø) cms
Units per Box	12	24	24
Voltage Range	100 – 267 VAC	100 – 267 VAC	100 – 267 VAC
Warranty Period	3 Years	3 Years	3 Years
Wattage - Rated	9W	18W	24W
Wiring	Single Sided (only)	Single Sided (only)	Single Sided (only)
Working Humidity	10% - 90%	10% - 90%	10% - 90%
Working Temperature	-15°C to +45°C	-15°C to +45°C	-15°C to +45°C
Working Voltage	230 VAC	230 VAC	230 VAC

## 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 Luminas 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 (082) 525 1796  
+27 (082) 782 8174  
[pmelton@tfsenergy.co.za](mailto:pmelton@tfsenergy.co.za)

## Appendix A: Comprehensive Warranty

TFS Energy 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 TFS Energy LEDs website during normal use.

**TFS Energy provides a THREE (3) YEAR warranty for every purchase of the Luminas Range LED Tubes supplied.**

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, TFS Energy 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). TFS Energy 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 TFS Energy 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 TFS Energy LEDs and given an estimate of the repair or replacement cost, plus you will be liable for shipping charges to and from TFS Energy 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, TFS Energy 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 TFS Energy 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. TFS Energy 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.



## 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:  $-20^{\circ}\text{C} \sim +50^{\circ}\text{C}$ ).

### 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-factor 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.



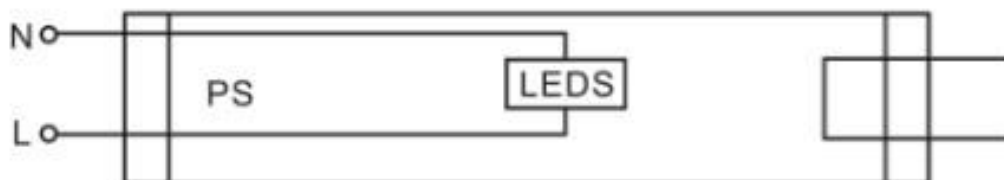
**STEP 7**

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

### 1200mm (4ft) LED Tube Report

#### Lighting Measure Report

##### Color Parameter

Chroma Coordinate:  $x=0.3217$   $y=0.3339$   $u=0.2022$   $v=0.3148$

Chroma Coordinate:  $u'=0.2022$   $v'=0.4722$

CCT.: CCT=6014K Dominant:  $\lambda_d=492.3\text{nm}$  Barycenter:  $\lambda_b=544\text{nm}$  Peak Wavelength:  $\lambda_p=449.2\text{nm}$

FWHM:  $\lambda_f=25.23\text{nm}$  Purity:  $P_e=3.928\%$  Red Ratio:  $R=0.142$  Green Ratio:  $G=0.807$  Blue Ratio:  $B=0.052$

Color CRI.:  $R_a=83.43$

R 1=82	R 2=87	R 3=90	R 4=84	R 5=83	R 6=82	R 7=87
R 8=70	R 9=11	R 10=69	R 11=83	R 12=62	R 13=83	R 14=94
R 15=78						

##### Luminosity Parameter

Luminous Flux(380-780nm): 1650.9lm Optical Power(380-780nm): 4.564W Efficient(380-780nm): 87.4lm/W

Mesopic Flux: (MES2)=1904.2lm (MES1)=1904.2lm (USP)=2268.6lm (MOVE)=1987.3lm

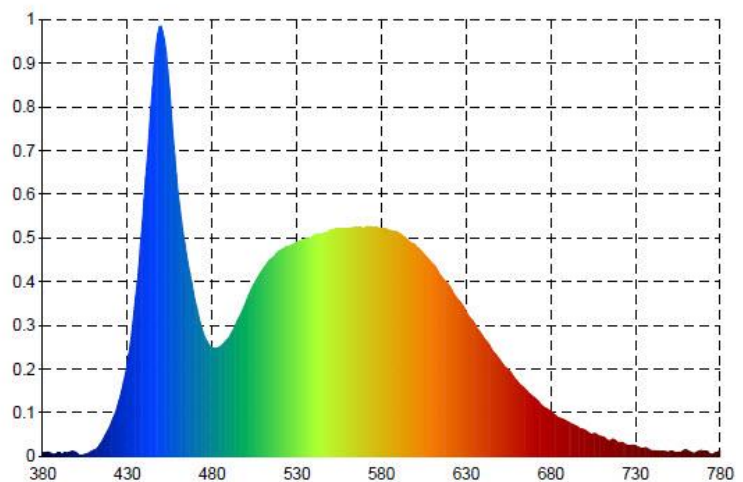
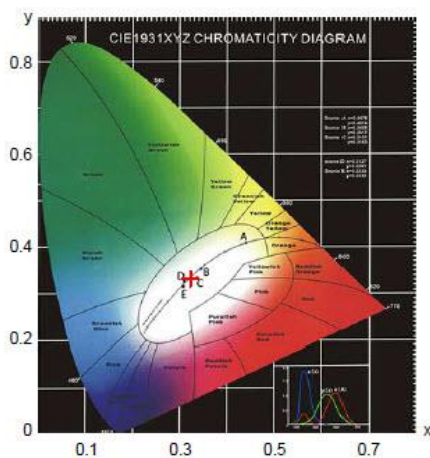
##### Electric Parameter

Voltage:  $U=220.4\text{V}$  Current:  $I=88\text{mA}$  Power:  $P=18.89\text{W}$  PF:  $PF=0.974$

##### Device State

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

CIE1931 Chroma Figure



1500mm (5ft) LED Tube Report

Lighting Measure Report

Color Parameter

Chroma Coordinate:  $x=0.3217$   $y=0.3339$   $u=0.2022$   $v=0.3148$   
 Chroma Coordinate:  $u'=0.2022$   $v'=0.4722$   
 CCT.: CCT=6014K Dominant:  $\lambda_d=492.3\text{nm}$  Barycenter:  $\lambda_b=544\text{nm}$  Peak Wavelength:  $\lambda_p=449.2\text{nm}$   
 FWHM:  $\Delta\lambda=25.23\text{nm}$  Purity:  $P_e=3.928\%$  Red Ratio:  $R=0.142$  Green Ratio:  $G=0.807$  Blue Ratio:  $B=0.052$   
 Color CRI.:  $R_a=83.43$   
 R 1=82 R 2=87 R 3=90 R 4=84 R 5=83 R 6=82 R 7=87  
 R 8=70 R 9=11 R 10=69 R 11=83 R 12=62 R 13=83 R 14=94  
 R 15=78

Luminosity Parameter

Luminous Flux(380-780nm): 1650.9lm Optical Power(380-780nm): 4.564W Efficient(380-780nm): 87.4lm/W  
 Mesopic Flux: (MES2)= 3328.2lm (MES1)= 3328.2lm (USP)= 3480.3lm (MOVE)= 3265.6lm

Electric Parameter

Voltage:  $U=220.4\text{V}$  Current:  $I=112\text{mA}$  Power:  $P=24.2\text{W}$  PF:  $PF=0.974$

Device State

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

CIE1931 Chroma Figure

