DATE OF ISSUE: 2008.09.26

SPECIFICATION

MODEL: LED TUBE T8 Standard Type

CUSTOMER :----------

DRAWNED BY	CHECKED BY	APPROVED BY

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Contents

■ Introduction

LED Tube --Ideal for Fluorescent Replacement ,The high-quality SMD LEDs chip is adopted in Tube products . SMD LED Based Light Source , It provides special and professional SMTtechnology and testing . LED Tube can help us to keep Environmental green & Friendly, keeping high Energy-Efficient,

In order to provide high-quality lighting, we adopt high-performance CREE or COTCO SMT type LED from USA , which has obtained official patent license in the world, and can offer excellent electronic and optical features.
The LED TUBE can be widely applied as the lighting source to the General lighting , advertisement broads, marks and advertisement lamp boxes. It can also be used as the lighting source for decoration projects or stage lighting. It features high brightness, low power-loss, wide lighting angle, excellent quality and stable performance.

■Feature

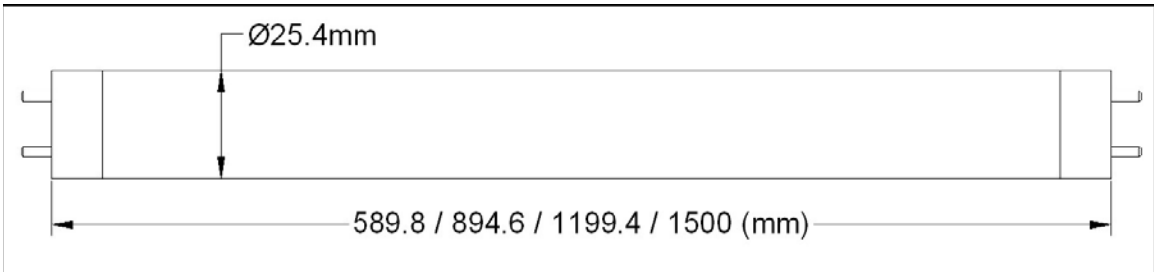
1) Light source: Hi-pot(4000v voltage) test passed, it's the first and only in china
2) Certification: UL(pending First in china), CE, ROHS
3) Output voltage DC36V for much more safe operation
4) Ambient Temperature: -40 ~ 60 degrees Celsius
5) Power Consumption: 18W
6) Diameter: 3cm, length: 120cm

7) Can be directly placed in conventional T8 or T9 fluorescent brackets, remove ballast and starter before replacement!
8) Solid-state, high shock / vibration resistant
9) Major reduction in power costs
10) No RF interference
11) Maintenance free, easy installation
12) Long lifetime 30, 000+ hrs (3+ years)
13) Low power consumption, high intensity

■ Application

Replacement for conventional fluorescent tubes

■ Dimension



■ Basic specification

Part No. / Parameter	T8-150CM, T8-120CM, T8-90CM, T8-60CM			
Dimension(mm)	1500	1200	900	600
Main material	Aluminum	Aiuminum	Aluminum	Aluminum
Power consumption(W)	22±10%	18 ±10%	14±10%	10±10%
Input current(mA)	100 ±5 %	83 ±5 %	65±5%	49±5%
Input voltage(V)	230	230	230	230
LED quantity(Pc)	250	200	150	100
LED type	SMD3020	SMD3020	SMD3020	SMD3020
Color	white	white	white	white
Luminous flux(Lm)	1500±10%	1200±10%	900±10%	600±10%
Color temperature(K)	5500-6500(W)	5500-6500(W)	5500-6500(W)	5500-6500(W)
Wottage of the unit LED(W)	0.07	0.07	0.07	0.07
Effection of the product	0.85	0.85	0.85	0.85
Power factor(PF)	0.97	0.97	0.97	0.97
Rendering index	80±5	80±5	80±5	80±5
Socket type	G13	G13	G13	G13
Life expectancy(h)	50000	50000	50000	50000

■ Installation Instruction

1) Input Voltage: AC110-240V
2) Output Voltage: DC36V
2) Working without ballast

■ Product Warranty

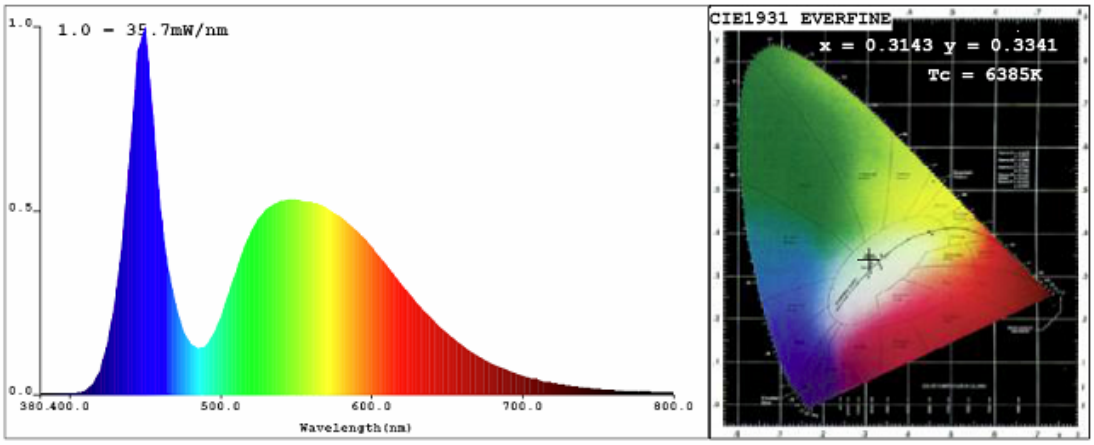
The validity of the product warranty is subject to the correct storage, installation,
operation and maintenance of this product. Failing to comply with the storage,
installation operation and maintenance routines will make the warranty invalid.

■ Notice

1) No pressing or striking
2) Transport and handle carefully
3) Pay attention to the voltage before using
4) Ambient temperature: 0℃-+50℃;
5) Indoor use only
6) No twisting when power is on

■ Testing report

Light Source Test Report



CIE Color Parameters:

Chromaticity Coordinate:x=0.3143 y=0.3341/u=0.1970 v=0.3142 (duv=5.02e-00

CCT:Tc= 6385K Prop WaveL:λd=492.3nm Purity=6.4%

Peak WaveL: λp=450nm Half Width: Δλp=23.6nm Ratio:R=12.1% G=83.9% B=3.9%

Average Wave: 543nm

Rendering Index:Ra=72.4

R1 =70	R2 =75	R3 =78	R4 =74	R5 =71	R6 =67	R7 =82	R8 =62
R9 =-26	R10=41	R11=71	R12=42	R13=70	R14=88	R15=66	

Photo Parameters:

Flux:Φ=1192.9(lm) Luminous Efficacy: 67.75(lm/W) Luminous Power:P=3.492(W)

Electrical Parameters:

U=232.8V I=0.0810A P=17.60W PF=0.930

Instrument Status:

Scan Range:380.0nm-800.0nm Interval:5.0nm Ip = 40490(G=4,D=51)

REF = 55332 TMP(PMT) = 22.0degrees centigrade Test Mode: Fast Test

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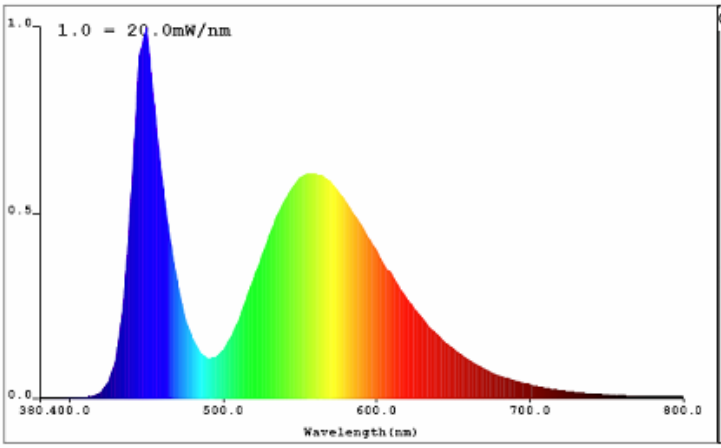
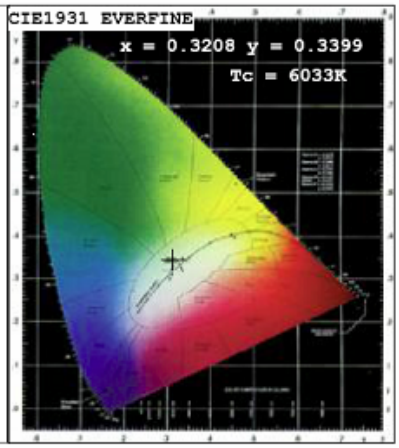
Product Type:t8-120cm	Manufacturer:QUASAR
Instrument:PMS-50 System	Test Department:QUASAR
Temperature:22.8deg	Humidity:65.0%
Test Operator:JACK-DO	Test Date:2008-11-21 11:03

Light Source Test Report





CIE Color Parameters:

Chromaticity Coordinate:x=0.3208 y=0.3399/u=0.1994 v=0.3168 (duv=4.76e-003

CCT:Tc= 6033K Prcp WaveL:λd=498.5nm Purity=3.9%

Peak WaveL: λp=450nm Half Width: Δλp=24.1nm Ratio:R=11.1% G=85.1% B=3.8%

Average Wave: 547nm

Rendering Index:Ra=63.6

R1 =58	R2 =71	R3 =77	R4 =60	R5 =59	R6 =58	R7 =79	R8 =47
R9 =-70	R10=28	R11=50	R12=26	R13=60	R14=87	R15=54	

Photo Parameters:

Flux:Φ=633.48(lm) Luminous Efficacy: 63.35(lm/W) Luminous Power:P=1.851(W)

Electrical Parameters:

U=227.5V I=0.0480A P=10.00W PF=0.948

Instrument Status:

Scan Range:380.0nm-800.0nm Interval:5.0nm Ip = 19922(G=4,D=51)

REF = 31257 TMP(PMT) = 23.2degrees centigrade Test Mode: Fast Test

Product Type:	Manufacturer:QUASAR
Instrument:PMS-50 System	Test Department:QUASAR
Temperature:25.0deg	Humidity:65.0%
Test Operator:JACK-DO	Test Date:2008-11-10 10:24