



COMPARISON OF TEST REPORT

*(SANDINGLED AND PHILIPS TCH0861*28W)*

REPORT NO. : SD-2013-4-05
TEST DATE: April 5th, 2013

Temperature: 26.5°C	Humidity: 71%RH	Test Department: R&D	Test By Tim	Check By Jack
			Shenzhen sanding Optoelectronics Co.,Ltd	

Test Instrument:
 AC Power Source: ZVISION
 DC Power Supply: WY305-V
 Digital Power Meter: PF9810-V2
 Spectrophotocolor Meter: PMS-50
 Integrating Sphere: R80-2M
 Lux Meter: TES1330A

Test Environment:
 Temperature: 26.5°C
 Humidity: 71%RH

1. Product Model No.

Product Model:

Sandingled T5-SM14(14w)
Ballast: N/A
Starter: N/A

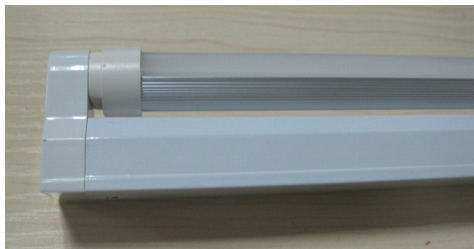


Figure1-1 Sanding led T5-SM14

Product Model:

Philips TCH086 1*28W
Ballast:
Starter:



Figure1-2 Philips TCH086

Remark:

All the test are made after the tubes have been worked for 30 minutes

2. Color Parameter Test:

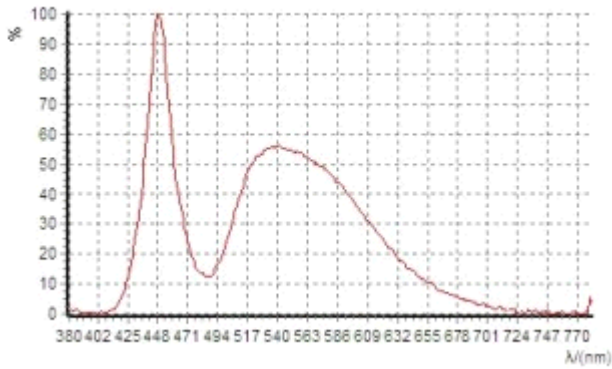


Figure2-1 Sanding led T5-SM14 Spectrum curve

X=0.3023 **Y**=0.3432
U=0.1857 **V**=0.3161
Tc=6026K
 Electrical :I(test) 64ma
 V(Positive) 235v
 Light Effi:97.362lm/w
 Spectrum: (Peak): 448.5nm
 (Main):495.8nm
 (Centroid):438.3nm
 (Center): 439.0
 Color Purity:0.099
Render Index: Ra=71.7

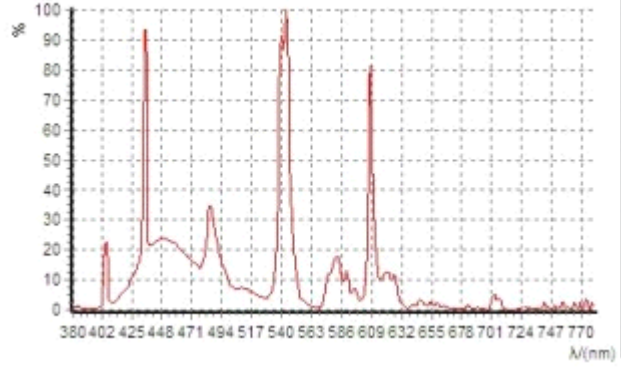


Figure2-2 Philips TCH086 Spectrum curve

X=0.2825 **Y**=0.3076
U=0.1845 **V**=0.3013
Tc=6321K
 Electrical :I(test) 132ma
 V(Positive) 235v
 Light Effi:72.063lm/w
 Spectrum: (Peak): 543.2nm
 (Main):484.9nm
 (Centroid):459.5nm
 (Center): 420.0
 Color Purity:0.192
Render Index: Ra=62.2

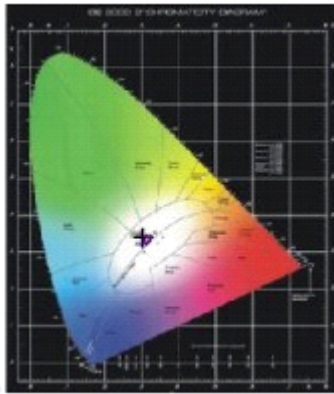


Figure3-1 sanding led T5-SM14 Chromaticity Coordinate

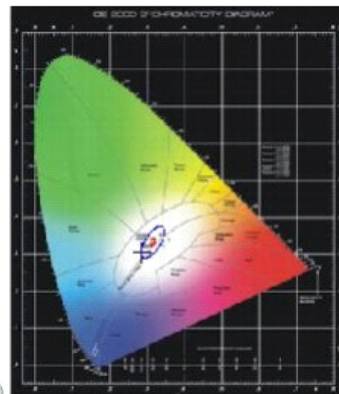


Figure3-2 Philips TCH086 Chromaticity Coordinate

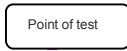
Test Conclusions:

Light of sanding LED tube is softer since the Spectrum curve is smoother when compared with Philips Fluorescent It's more comfortable for eyes as Chromaticity Coordinate of sanding LED Tube are closer to the dark curve



3. Optical Parameter Test:

Figure4-1 sandingled T5-SM14W illuminance



Luminous flux = 1435.2lm

1m=170lx

2m=55lx

3m=32lx

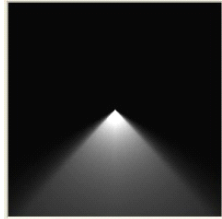
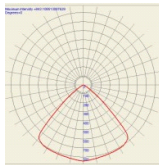
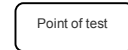


Figure4-2 Philips TCH0861*28W illuminance

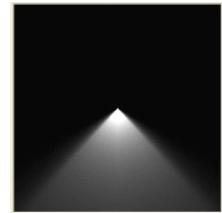


Luminous flux = 2190.07lm

1M=140LX

2M=50LX

3M=27LX



Test Conclusions:

The Beam angle of Sanding LED Tube is 140° while the illumination is 15%--25% more than that of Philips'

4. Electrical Parameter Test:

Figure5-1 Sandingled T5-SM14 Electrical Test



$U = 233.0V$ Ac $I = 64.0 A$

Apparent Power = $D \times I = 12.59W$

Active Power = 13.93W

Reactive Power = 0.66W

Power Factor = 0.921

Figure5-2 Philips TCH086 Electrical Test



$U = 232.6VAc$ $I = 129.9 A$

Apparent Power = $U \times I = 28W$

Active Power = 29.7W

Reactive Power = 1.7W

Power Factor = 0.982

Test Conclusions:

1. It saves about 50% electricity for sanding LED tube when compared with Philips Fluorescent TCH086 while the Active Power is much lower.
2. The power consumption of the sanding LED tube is 52% less than that of Philips Fluorescent as the Apparent Power is low.