Tube T8 1200 – 4ft 18W(Glass Tube)

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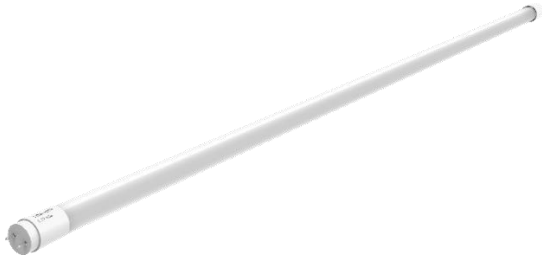

1. Specification:

A. General Data

Model	Tube T8 1200 3000K	Tube T8 1200 4000K	Tube T8 1200 5000K	Tube T8 1200 6500K
P/N	DELS-T834018A2AE11	DELS-T844018A2AE11	DELS-T854018A2AE11	DELS-T8C4018A2AE11
Westnet Code	00172781	00172782	00172783	00172784
Rated Voltage	230 VAC	230 VAC	230 VAC	230 VAC
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50 Hz
Rated Wattage	18W	18W	18W	18W
Deviation Tolerance of Wattage	±10 %	±10 %	±10 %	±10 %
Rated Current	0.095A	0.095A	0.095A	0.095A
Maximum Input Current	0.109A	0.109A	0.109A	0.109A
Dimmable	NO	NO	NO	NO
Beam Angle	200°	200°	200°	200°
Stroboscopic effect metric (SVM)	0.4	0.4	0.4	0.4
Flicker metric (PstLM)	1	1	1	1
Energy Efficiency Class(EEC)	E	E	E	E
Peak luminous intensity (cd)	Non-directional			
R9 CRI	1	1	1	1
Survival factor	0.9	0.9	0.9	0.9
Safety requirements	CE	CE	CE	CE
Ingress protection rating	IP20	IP20	IP20	IP20
Impact resistance	N.A	N.A	N.A	N.A
Displacement Factor	0.7	0.7	0.7	0.7
Base	G13	G13	G13	G13

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Photobiological Group	RG 0	RG 0	RG 0	RG 0

*** Displacement factor tolerance +/- 10%**

B. Light Data

Color	Warm white	Neutral White	Daylight	Cool White
Color Temperature (CCT)	3000K	4000K	5000K	6500K
Rated Lumen Output(Total)*	1980lm			
Color Rendering Index	≧80			
Efficacy(Total)*	110 lm/W			
Color Consistency**	6 Step MacAdam Ellipse (6 SDCM)			

*tolerance +/- 10%

** 3000K center point (0.43387, 0.40319) ; 4000K center point (0.38177, 0.37959) ; 5000K center point (0.34464, 0.35506) ; 6500K center point (0.31230, 0.32825)

C. Lifetime

(Supplied Voltage:AC230V; Ambient Temperature: 25ºC)

Lumen Maintenance Factor	70%of the rated lifetime
Rated Lifetime – $L_{70}B_{50}$	20,000 hrs
Lumen Maintenance factor	94.8%

D. Temperature Operation

Normal operation temperature	-20ºC ~ 40ºC
Relative Humidity	10%~ 90%

E. Geometric Data

Maximum overall length	1212 ± 1.5 mm
Glass cover diameter	25 ± 1 mm
End cap diameter	28 ± 1 mm
Mass	170 ± 10%

F. Environmental relevant materials

Mercury (Hg)	Comply with RoHS Directive 2011/65/EU
Lead (Pb)	
Cadmium(Cd)	
Hexavalent Chromium(Cr6+)	
Polybrominated Biphenyls(PBBs)	
Polybrominated Diphenyl Ethers(PBDEs)	
Bis (2-ethylhexyl) phthalate(DEHP)	
Butyl benzyl phthalate(BBP)	

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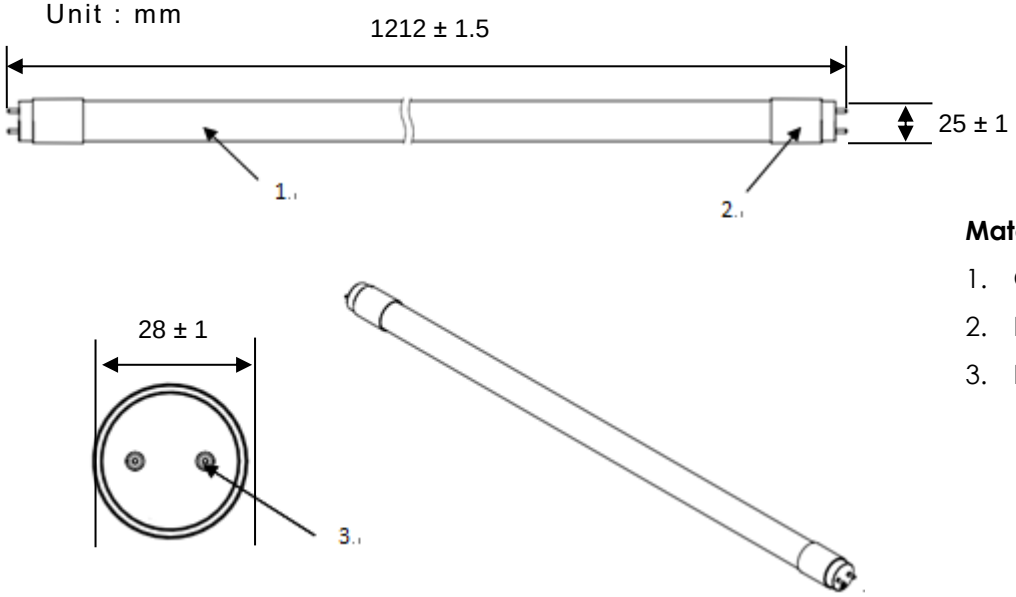
Dibutyl phthalate(DBP)	
Diisobutylphthalate(DIBP)	

2. Outline Drawing

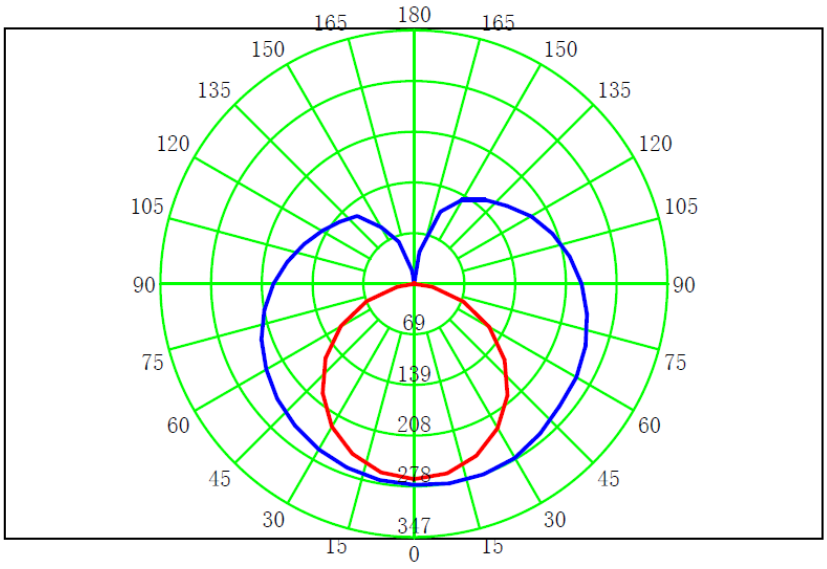
Unit : mm

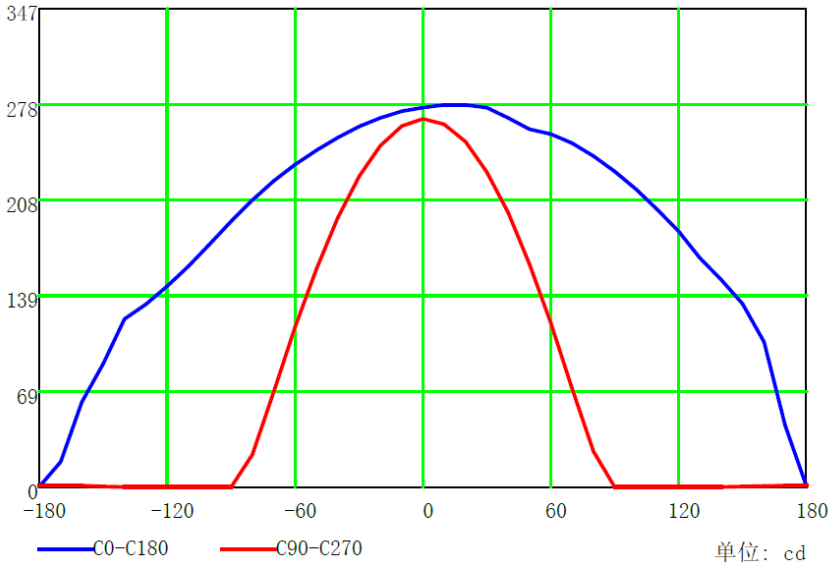


Material Information

1. Cover : Glass
2. End cap : Plastic
3. Pin : Metal

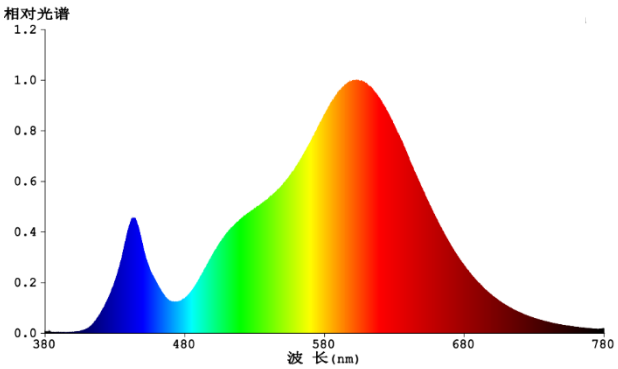
3. Light Distribution Curve



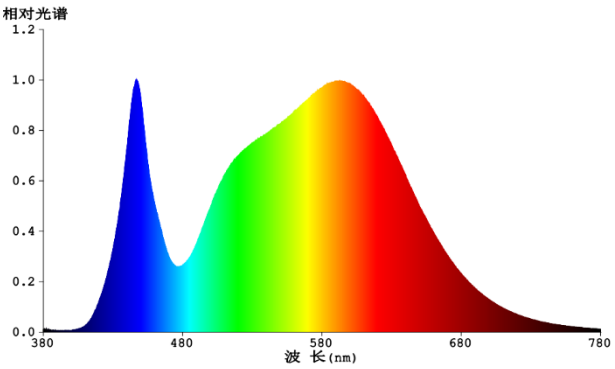


4. Spectrum Distribution

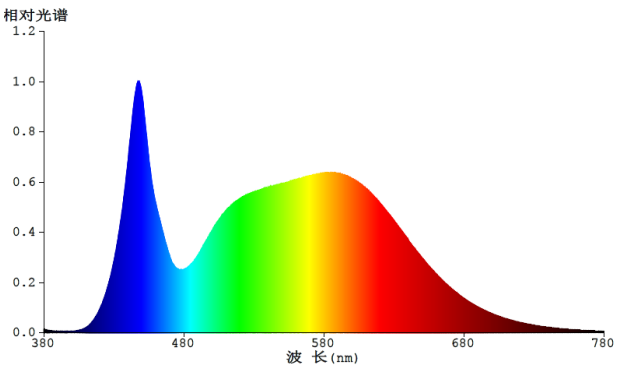
- 3000K Color Temperature



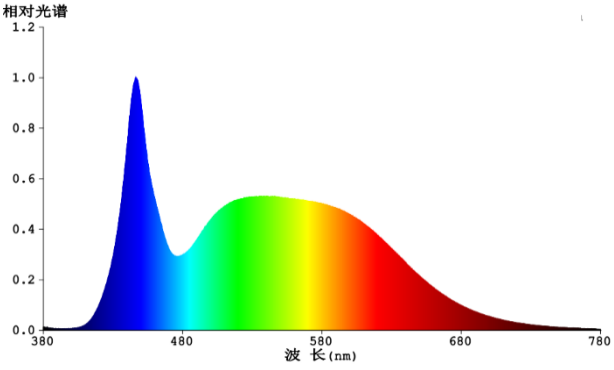
- 4000K Color Temperature



- 5000K Color Temperature



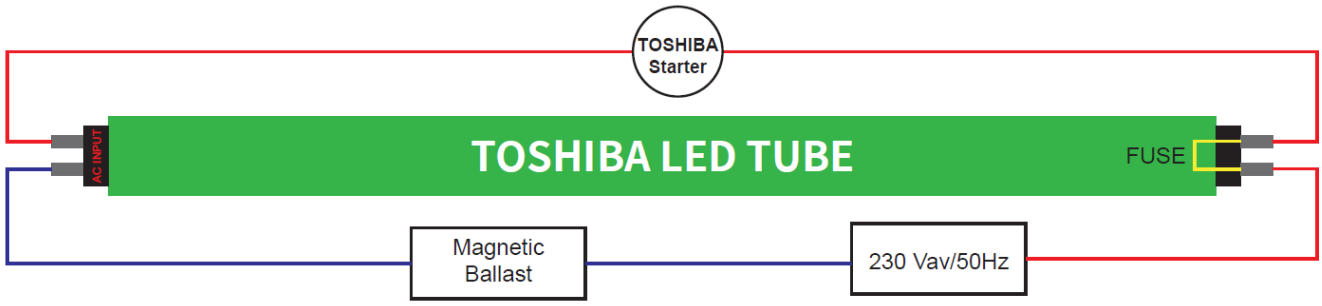
- 6500K Color Temperature



5. Installation Options

- Retrofitting in a CCG luminaire
  - (1) Make sure that the supply voltage is disconnected
  - (2) Remove the conventional lamp
  - (3) Remove the starter and power factor correction capacitor
  - (4) Install TOSHIBA own starter.
  - (5) Rewire the luminaire as shown in the circuit diagram below

(6) Insert LED tube into lamp holders and turn on the supply voltage to check the light distribution



NOTE :

- It can't be guaranteed LED tube can match up all kinds of electromagnetic ballasts.

6. Warnings

- Before replacing, turn off power and let lamp cool to avoid electrical shock or burn.
- The LED tube must not be damaged or operated in a damaged condition.
- If having flickering issue on LED tube when installing with the electromagnetic ballast, please change suitable electromagnetic ballasts.

7. Cautions

- Not intended for use with emergency light fixtures or exit lights.
- When operating with CCG (Electromagnetic Ballast), if the conventional starter is not removed, the LED tube will start blinking. Switch off immediately, the LED tube can be damaged.

8. Notes

- All characteristics are estimated at room temperature (25°C), free air burning, base up burning position and at rated voltage. In view of the complex manufacturing process for light above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technic individual products may vary from the typical values.
- The LED tube emits light only with a limited angle, not like a fluorescent tube with 360 degree output.
- Due to the characteristic light distribution of the LED tube, the current luminaire light characteristic will likely change.

9. Logistic information

Model	4ft Glass tube 3000K	4ft Glass tube 4000K	4ft Glass tube 5000K	4ft Glass tube 6500K
Pieces per pack	1	1	1	1
EAN code on pack	4711112387946	4711112387953	4711112387960	4711112387977
Size of pack	1255x30x30 mm			
Weight per pack (G.W)	0.21 kg ± 10%			
Packs per inner box	N/A	N/A	N/A	N/A
EAN code on inner box	N/A	N/A	N/A	N/A
ITF code on inner box	N/A	N/A	N/A	N/A
Size of inner box	N/A	N/A	N/A	N/A
Weight per inner box(G.W)	N/A	N/A	N/A	N/A
Packs per outer box	25			
EAN code on outer box	N/A	N/A	N/A	N/A
ITF code on outer box	14711112387943	14711112387950	14711112387967	14711112387974
Size of outer box	1240*170*170 mm			
Weight per outer box(G.W)	6.5 kg ± 10%			
Packing Photograph	4ft Glass tube 3000K  4ft Glass tube 4000K 			

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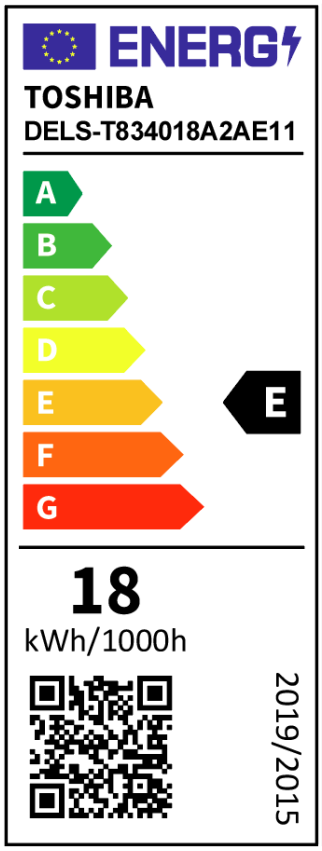
	4ft Glass tube 5000K  4ft Glass tube 6500K 

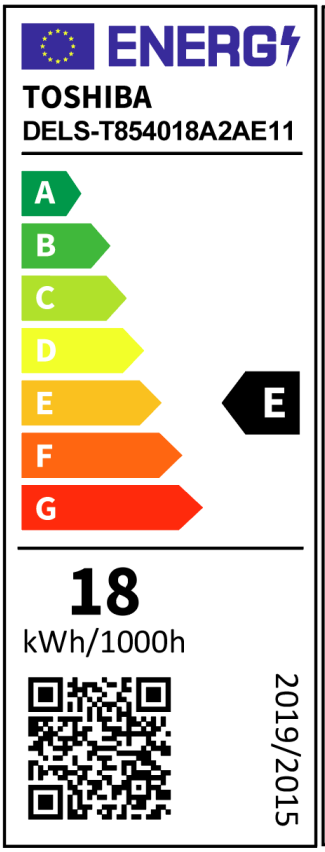
10. ERP Label

3000K

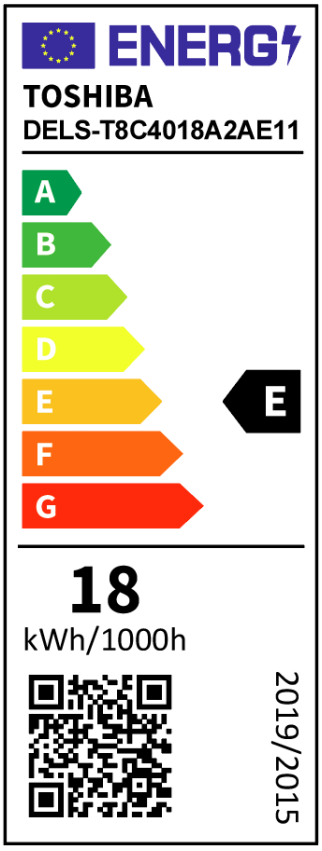


4000K

5000K



6500K



11. Conformity

2014/35/EU; Low Voltage Directive	EN 62776 : 2015、EN 62471 : 2008、EN62493 : 2015
2014/30/EU; EMC Directive	EN 55015: 2019+A11、EN 61000-3-2:2019、EN 61000-3-3: 2013+A1 EN 61547:2009
2009/125/EC; ErP Directive	(EU) 2019/2015、(EU) 2019/2020、(EU) 2021/340、(EU) 2021/341
2011/65/EU+(EU)2015/863; RoHS Directive	EN 50581: 2012