**2.0**Supply, replacement, fixing, testing, connecting and  
commissioning of energy efficient luminaries complete with all  
accessries of capacity 18/20 watt, 4 feet length, T8 LED lamps  
with sutable current control driver circuit ,suitable for  
surface/recessed mounting.LED Luminaries:-(1) A complete  
LED lighting unit consisting of a light source and driver together  
with parts of distribute light,to position and protect the light  
source,and to connect the light source to a branch circuit.The  
light source itself may be an LED array and LED module, or an  
LED lamp. (2):-Supplied LED luminaries shall confirm to  
IS:16101(2012) IS :16106(2012).Light Source(LED) in the  
Luminaries should be of make:- (1):-NICHIA/ CREE/OSRAM/  
SEOUL/ PHILIPS/LUMILEDS /LEDNIUM. (2):-LEDs to  
IS:16105(2012).IS:16108(2012),IEC:62471.1.Input operating  
voltage :-105-295 V AC.2:-Normal Voltage- 220V AC.

3.Driver  
type: constant current driver with short circuit protection(For  
tube light).

4.Control of distribution:-Full cut off.

5.Drive  
component :Industrial grade only .

6.Efficiency of driver  
electronic: > 85% (For tube light).

7.Colour temperature:5000-  
6500K(For tube light).

8.Colour rendering index(CRI):>75(For  
tube light).

9.Ingress protection :IP-20.

10.Lumen output: >100  
lumens/watt@Max.350mA drive current(For tube  
light).

11.Power factor:->0.90(For tube light).

12.Total  
hormonics distrotion(THD):-<20%(For tube light).

13.Lamp  
cover :Acrylic cover which does not result in loss of  
lumens.

14.Finishing:Power coated /Anodized.

15.Secondry  
optics:poly corbonate reflector/ poly carbonate  
lens.

16.Construction of housing: extruded  
aluminum/CRCA/Pressure die cast aluminum.

17.Mounting  
:Suitable for surface mounting/recessed  
mounting.

18.Certificate:Firm to submit LM80(In respect of LED  
used)& LM79(In respect of luminare used) test certificate from  
National/International accredited Laboratory and OEM  
certificate for complience of BIS/IEC.

19.Warranty:Firm to  
submit warranty certificate for two year along with the supply.All  
fittings shall be fitted as surface mounting/recessed mounting  
with twisted twin flexible cord of minimum size 16/0.2 mm  
copper conductor as per relevant technical specification.  
Materials prameters must remain unchanged during entire  
warranty

period.1x18watt.Make:Philips,Bajaj,Crompton,Havells&Halonix----- **230 NOS**

**3.0**Supply, replacement, fixing, testing, connecting and  
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accessries of capacity 18/20 watt, 4 feet length, T8 LED lamps  
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IS:16105(2012).IS:16108(2012),IEC:62471.1.Input operating  
voltage :-105-295 V AC.2:-Normal Voltage- 220V AC.

3.Driver  
type: constant current driver with short circuit protection(For  
tube light).

4.Control of distribution:-Full cut off.

5.Drive  
component :Industrial grade only .

6.Efficiency of driver  
electronic: > 85% (For tube light).

7.Colour temperature:5000-  
6500K(For tube light).

8.Colour rendering index(CRI):>75(For  
tube light).

9.Ingress protection :IP-20.10.Lumen output: >100  
lumens/watt@Max.350mA drive current(For tube  
light).

11.Power factor:->0.90(For tube light).

12.Total  
hormonics distrotion(THD):-<20%(For tube light).

13.Lamp  
cover :Acrylic cover which does not result in loss of  
lumens.

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copper conductor as per relevant technical specification.  
Materials prameters must remain unchanged during entire  
warranty  
period...2x18watt.Make:Philips,Bajaj,Crompton,Havells&Halonix-- **40 NOS**