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**Product Name :**  
Principles Of Solar Thermal Energy

**Product Code :**  
LBNY-0005-1840002



#### **Description :**

A lighting unit simulates natural solar radiation and allows a range of experiments to be carried out in the laboratory. The light is converted into heat in an absorber and transferred to a heat transfer fluid. Solar thermal systems convert solar energy into usable thermal energy. It allows you to demonstrate solar thermal heating of domestic water in an illustrative manner. The heat is released to the water by an integrated heat exchanger in the tank. A pump conveys the heat transfer fluid through a hot water tank.

#### **Learning Objectives/Experiments:**

Design and operation of a simple solar thermal system  
Influence of illuminance, angle of incidence and flow rate  
Influence of various absorbing surfaces  
Determining efficiency curves  
Determining the net power  
Energy balance on the solar collector.

#### **Technical Specification :**

Functional demonstration model of a solar thermal system  
2 replaceable absorbers with different coating  
Solar circuit with pump and variable flow  
Lighting unit with 25 halogen bulbs  
Sensors detect temperature and illuminance  
Spacing and tilt adjustable collector  
Hot water tank with tube coil as heat exchanger and electrical auxiliary heater.



**Laboratory Instrument India**