



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

**Department of CSE
Computer-Aided Design and Drafting**

Section: L

Report No: # 07 (Handwritten)

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1.

1. Lux to Watt Conversion :

Here,

Illumination for Bedrooms (General), $E_v = 70 \text{ lx}$

Surface area, $A = 81 \text{ ft}^2$

luminous efficacy in lumens per watt, $\eta = 90 \frac{\text{lm}}{\text{W}}$

Lux to Watt conversion formula :-

$$P_{(W)} = 0.09290304 \times E_v(\text{lx}) \times A(\text{ft}^2) / \eta(\text{lm/W})$$
$$\therefore P_{(W)} = 0.09290304 \times 70 \times 81 / 90$$
$$= 5.85289152 \text{ W}$$

Ans:-

2.

Table-8.1.18 : Minimum Number of 13 A flat pin Socket Outlets

Location	No. of Switch Socket Outlets
Bed room	2
Living room	3
Drawing room	3
Dinning room	1
Toaster/Snack toaster	1
Kitchen	1
Bathroom	0
Verandah	1
Refrigerator	1
Air-conditioner	One for each room

Table - 8.1.20 : Recommended Fan Sizes in Rooms

Room Area (m ²)	Fan Sweep
Up to 6	915 mm
Over 6 to 9	1220 mm
Over 9 to 12	1442 mm

3.

Table-8.1.24: Recommended Area for Standby Generator Room

Capacity (KW)	Area (m ²)
1x25	20
1x48	24
1x100	30
1x150	36
1x300	48
1x500	56

AC calculation (Walton Website):

- Condition:
1. Room Size — 58.6 sf
 2. Number of Wall Exposed to sunlight — 1
 3. Wall Type — Facebrick
 4. Room Position — Top Floor
 5. Number of Window — 1
 6. Number of Door — 1
 7. Number of People — 1

Result: Recommended Air Conditioner Capacity:
1 Ton.