

DELHI TECHNOLOGICAL
UNIVERSITY



UEE PROJECT REPORT
SOFTWARE USE : DIALUX

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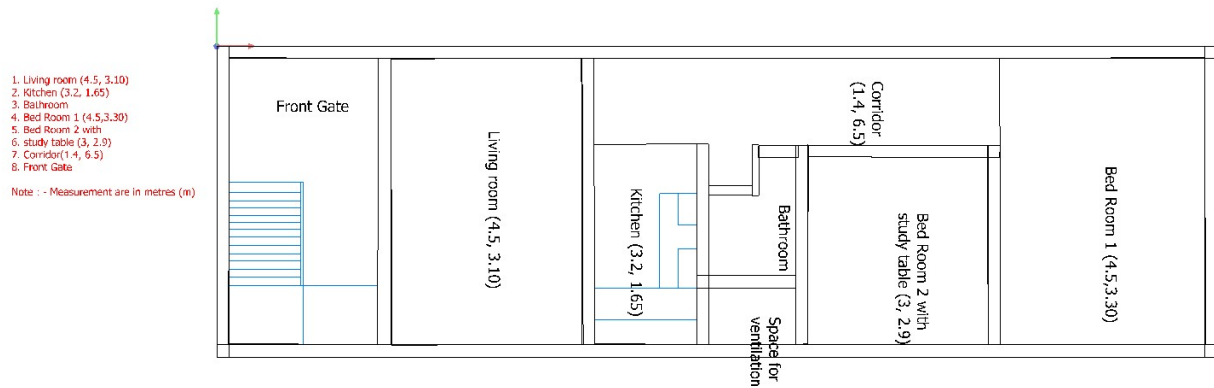
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Objective:-

- To design luminaire of indoor room according to their requirement
- To estimate which type of product is beneficial to use.
- Estimation of cost including product as well as usage cost
- To use suitable material on wall so that it will reflect light

My House Plan Including wall Thickness (16.1,5)



Product Specification(For Simulation purpose)

Manufacturer	Model No.	Article name	P	Φ	Luminous efficacy
ADUROLIGHT	15005399	Perfie 24W 3000K	24.0 W	2169 lm	90.4 lm/W
ARTEMIDE	M112410	CHOCOLATE PARETE 585 LED 3000K MOKA	16.0 W	1210 lm	75.6 lm/W
LITECONTROL	67L-W-D- 4- DM-X- CX-35K-	67L Note Dome Wall Direct	40.2 W	5601 lm	139.4 lm/W



1. Living Room

- Living room-general :- required illumination (min-150)
- Living room-home work or sustained reading (min-300-400(for drawing))

pcs	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
10	ADUROLIGHT	850078	Adriane 12W 6000K	12.2W	800lm	57.1lm/W
1	LITECONTRO L	67L-W-D-4-DM-X-CX-35K-	67L Note Dome Wall Direct	21.4W	2800lm	130.7lm/W

No of pc :-10 +1

Power consumption:- $10 \times 12.2 + 21.4 = 143.4\text{W}$

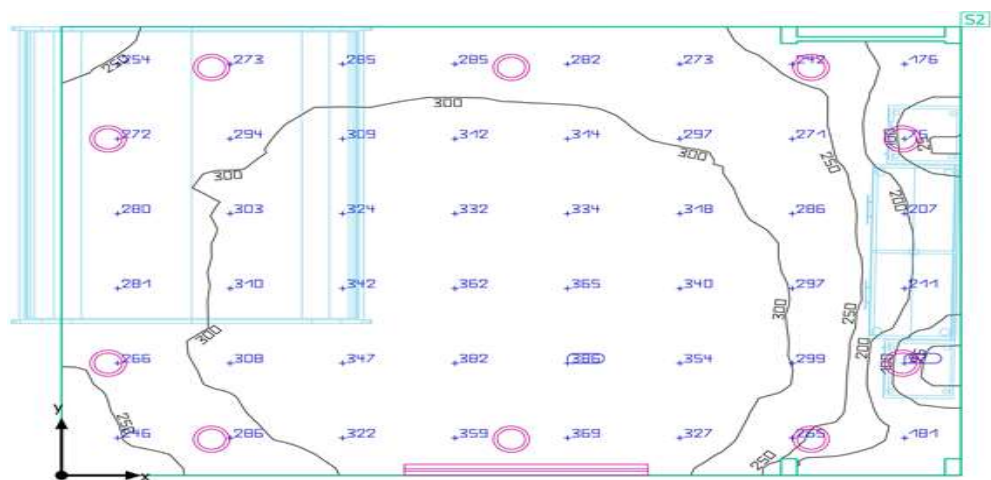
Price (havells for 12.2W) + 1tube light (21.4W) = $380 \times 10 + 400 = 4200$

Area of room = 13.5 msq

$N = (400 \times 13.5) / (800 \times .8 \times .5) = 14.0625$ (for aduro light)

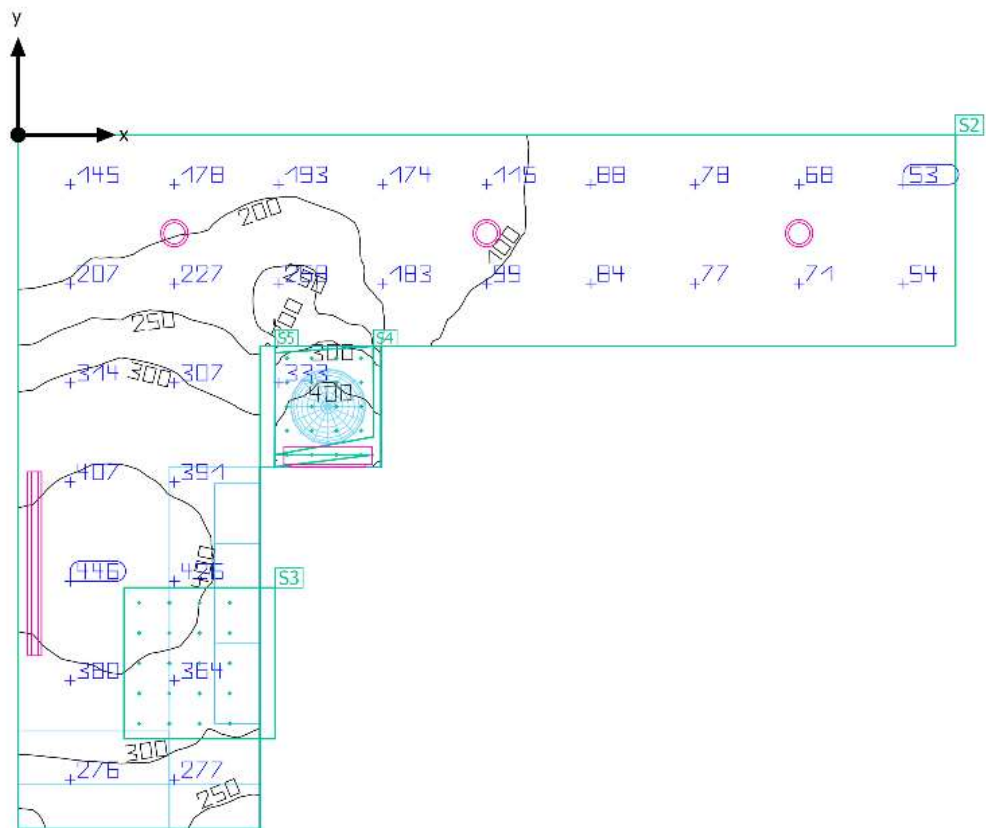
Result



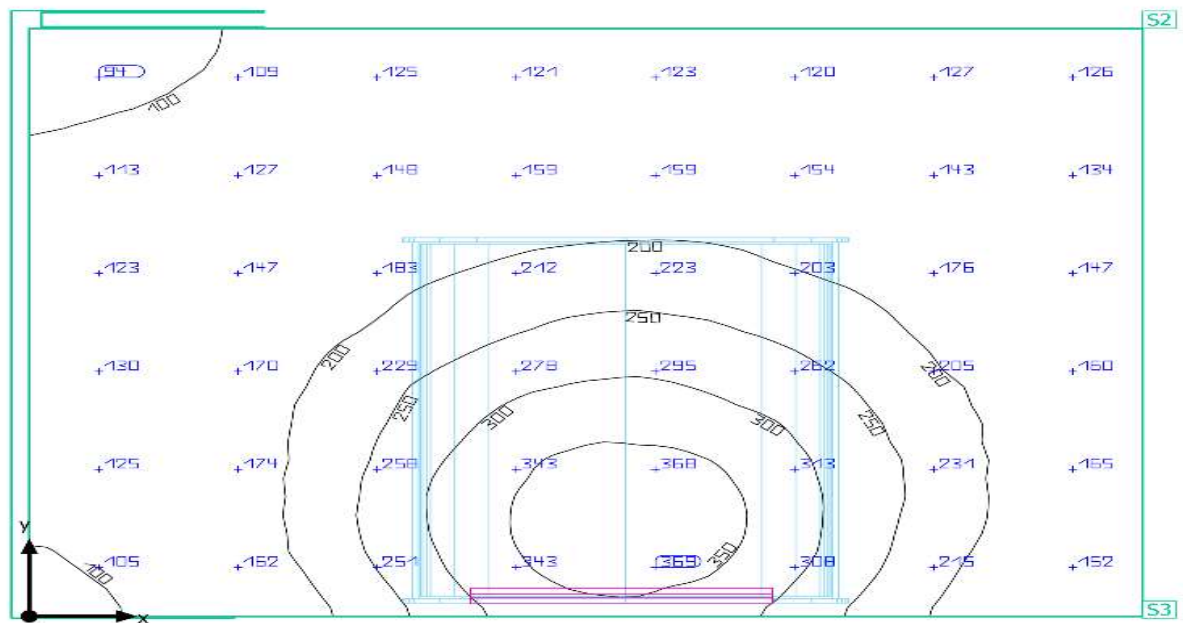
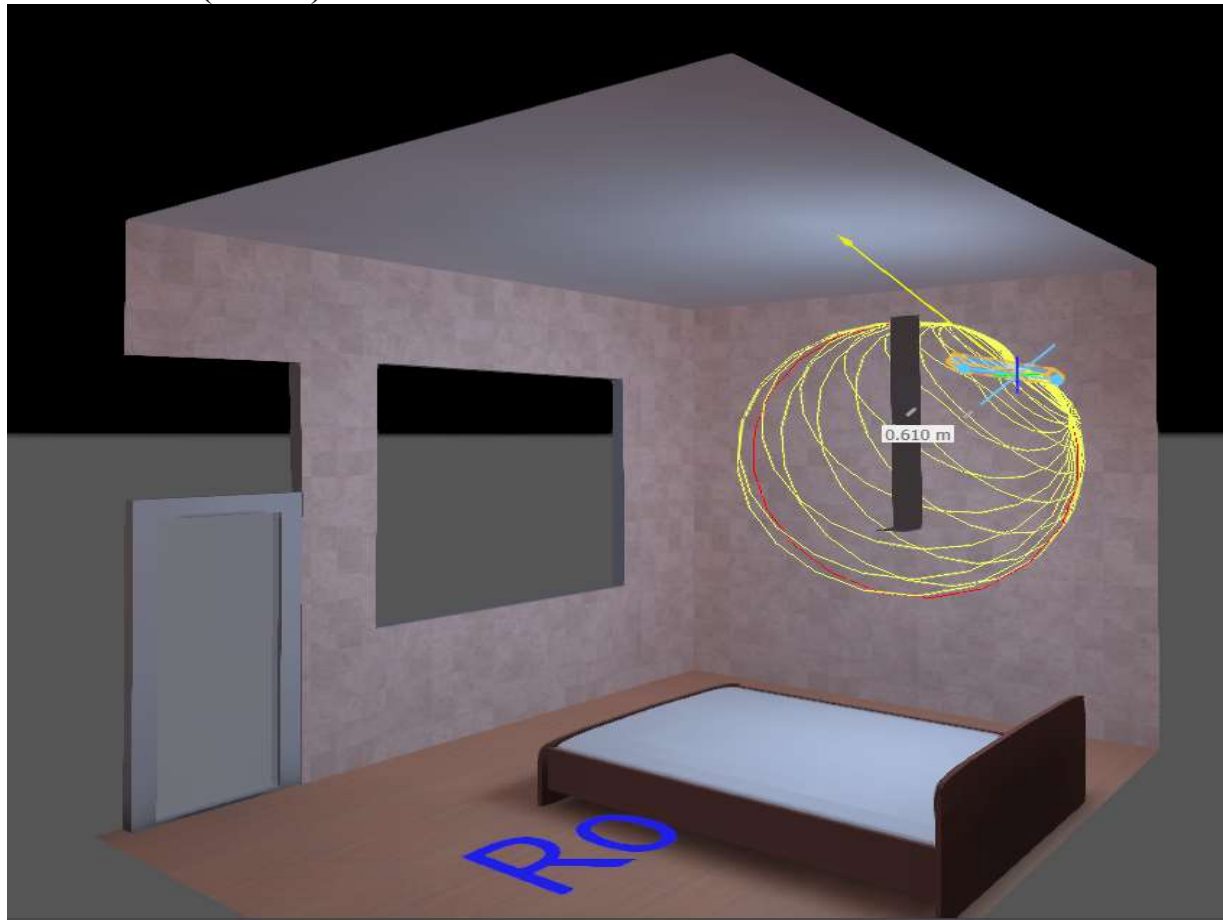


Result

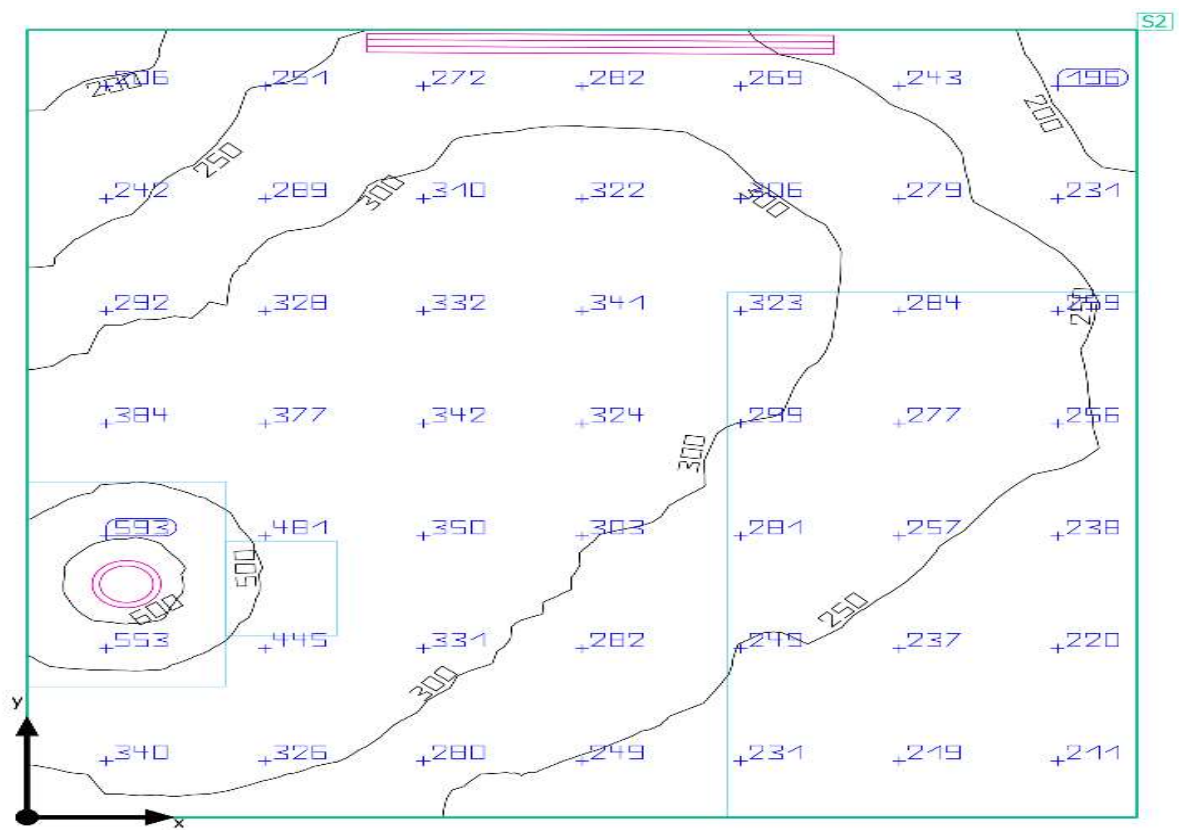




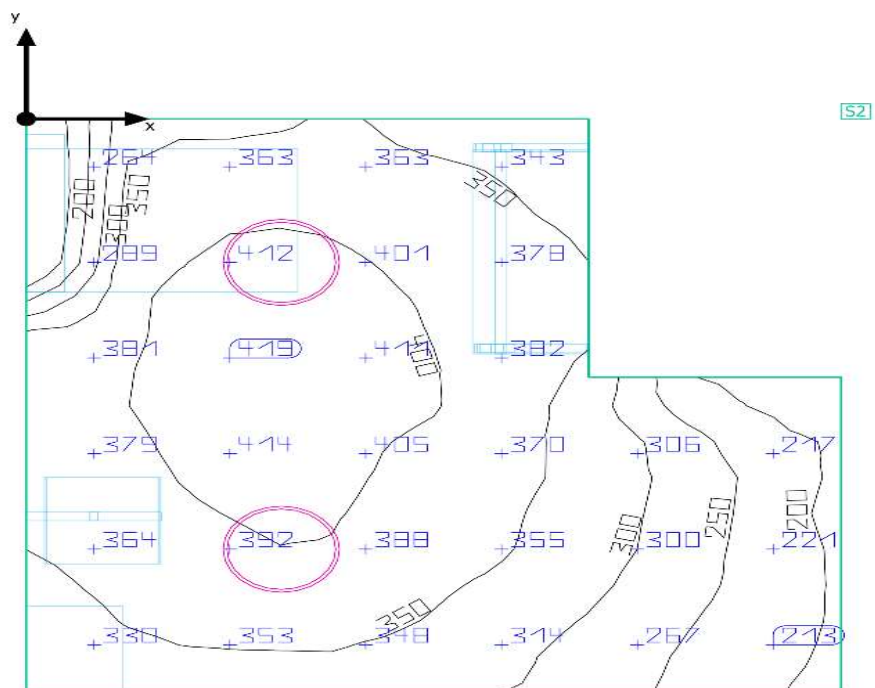
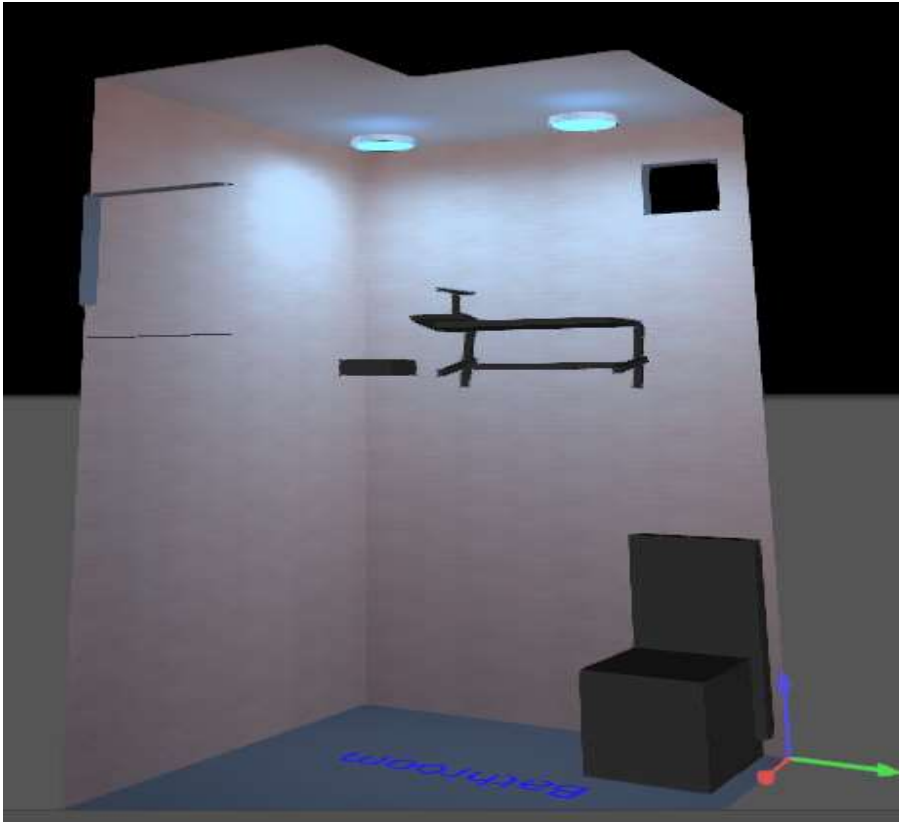
Bed-Room 1(Result)



Bed Room + study table



Bathroom



COST ESTIMATION

	No of lum pc req	Power consumption	Cost of product
LIVING ROOM	11	143.4W	4200
KITC+CORR	4	74W	2140
BATHROOM	2	24.4W	760
ROOM 1	1	21.2W	400
ROOM 1 + STT	2	32.6W	780

Net Cost = 8280 (this cost will also reduce acc to company product)

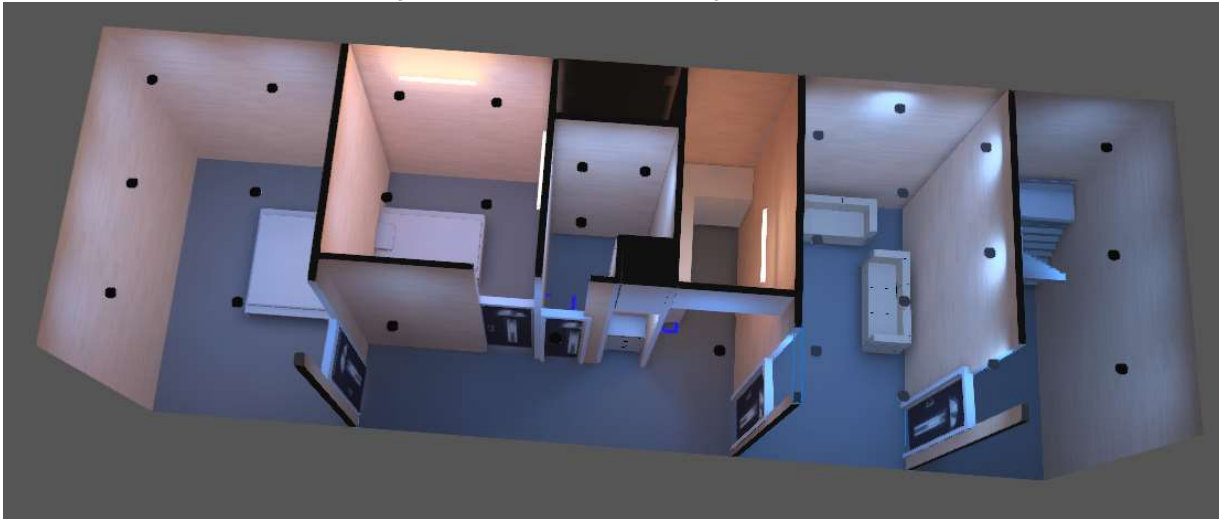
Total no pc = 20

Power consumption = 295.6W

Power consumption acc to use in month = 43KWh

Cost of consumption = 43KWh * rate + fixed rate

After Combination of all plan how it's actually look



In this plan we did some modification according to requirement of room



COST ESTIMATION

Luminaire list

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
30	ADUROLIGHT	850078	Adriane 12W 6000K	12.2 W	696 lm	57.1 lm/W
4	LITECONTROL	67L-W-D-4-DM-X-CX-35K-	67L Note Dome Wall Direct	21.4 W	2800 lm	130.7 lm/W

Cost = $30 \times 250 + 400 \times 4 = 9100$

Net Cost = 9100 (this cost will also reduce acc to company product)

Total no pc = 34

Sum of product rating : 451W

Net Cost = 8280 (this cost will also reduce acc to company product)

Total no pc = 20

Sum of product rating : 295.6

REFERENCES

- <https://storybox.karmanitalia.it/en/calculate-lumens-watts-illuminate-room>
- <https://www.youtube.com/watch?v=UONBW3fTS5s>
- <https://adurolight-move.adurosmart.com/all-products/>
- <https://www.lightshopping.com/en/artemide>
- <https://www.dialux.com/en-GB/support> (For learning purpose)
- <https://youtu.be/07YBwuBVPso> (for learning purpose)
- https://www.engineeringtoolbox.com/light-level-rooms-d_708.html (for illuminance for working area req)
- <https://electrical-engineering-portal.com/guidelines-to-residential-room-lighting>
- <http://www.derc.gov.in/sites/default/files/Tariff%20Schedule%202020-21.pdf> (for charge of electricity)