



Bengkulu  
University



# Study of Natural Daylighting Houses in Coastal Area (Case Study : Pasar Bengkulu Village)

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# Introduction

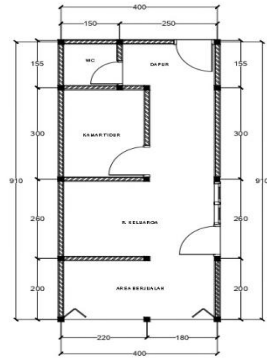
- Natural daylighting refers to direct sunlight that shines into a space from morning until evening.
- This research seeks to identify the natural lighting that enters a room, according to the standards SNI No. 03-2396-2001
- The research samples are residential houses located in coastal areas
- The results of this research provide a solution to improve the quality of natural lighting in residential homes located in coastal areas.



# Method

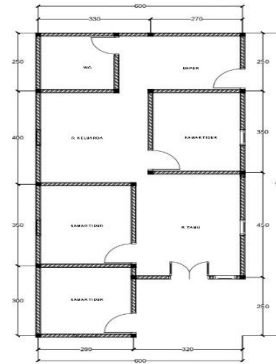
- The research method is a quantitative approach with experimental research methods.
- Primary data are collected from measuring house plans and light intensity data.
- On the other hand, secondary data is obtained from literature studies.
- Then, a simulation is carried out using Dialux Evo software version 10.1.
- The results of the simulation are compared with SNI No. 03-2396-2001,

# Result and Discussion



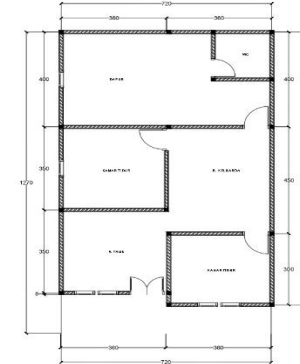
## 1. House Plan A

- Area 36 m<sup>2</sup>
- The house facing to west and the openings facing to south



## 2. House Plan B

- Area 78 m<sup>2</sup>
- The building orientation towards the West
- The openings facing to the North and South

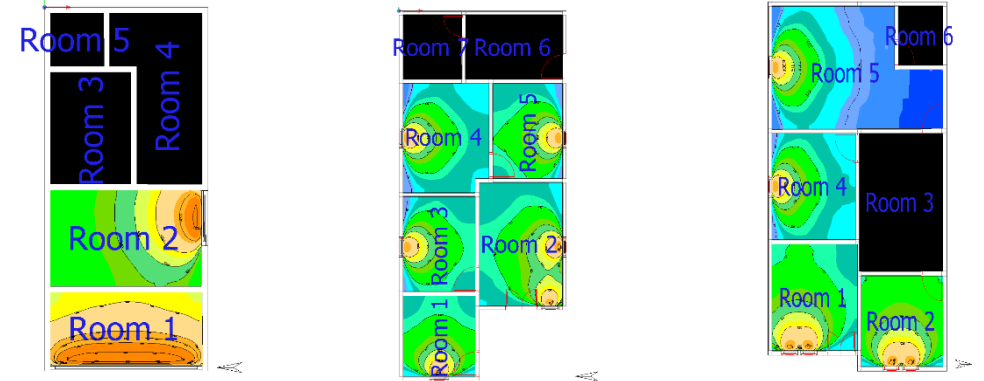


## 3. House Plan C

- Area 83 m<sup>2</sup>
- The building orientation towards the West
- The openings facing to the North and South

# Result and Discussion

	SNI STANDARD	HOUSE A	HOUSE B	HOUSE C
Living Room	120-250	177	98	63
Family Room	120-250	1215	72	0
Main Bedroom	120-250	9	0	0
Children Room	120-250	-	0	0
Children Room	120-250	-	0	-
Kitchen	250	661	487	9



Simulations were conducted on October 22 using both overcast sky and direct sunlight methods.



# Conclusion

- The conclusion is houses in the Coastal Area of RT 03, Pasar Bengkulu Village do not have natural lighting distributed in compliance with SNI standards.
- The level of light intensity can be influenced by several factors such as the distance between buildings being too close, the opening area being too wide, use of different colors and materials.
- By analyzing the simulation results, it was discovered that some rooms have lighting levels that are below or exceed the standards set for natural lighting.



# References

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