



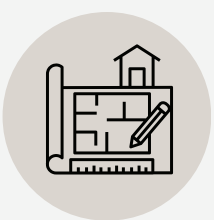
Baiduri Bank, established in 1994, is a major financial institution in Brunei Darussalam that has become one of the largest banks in the country.



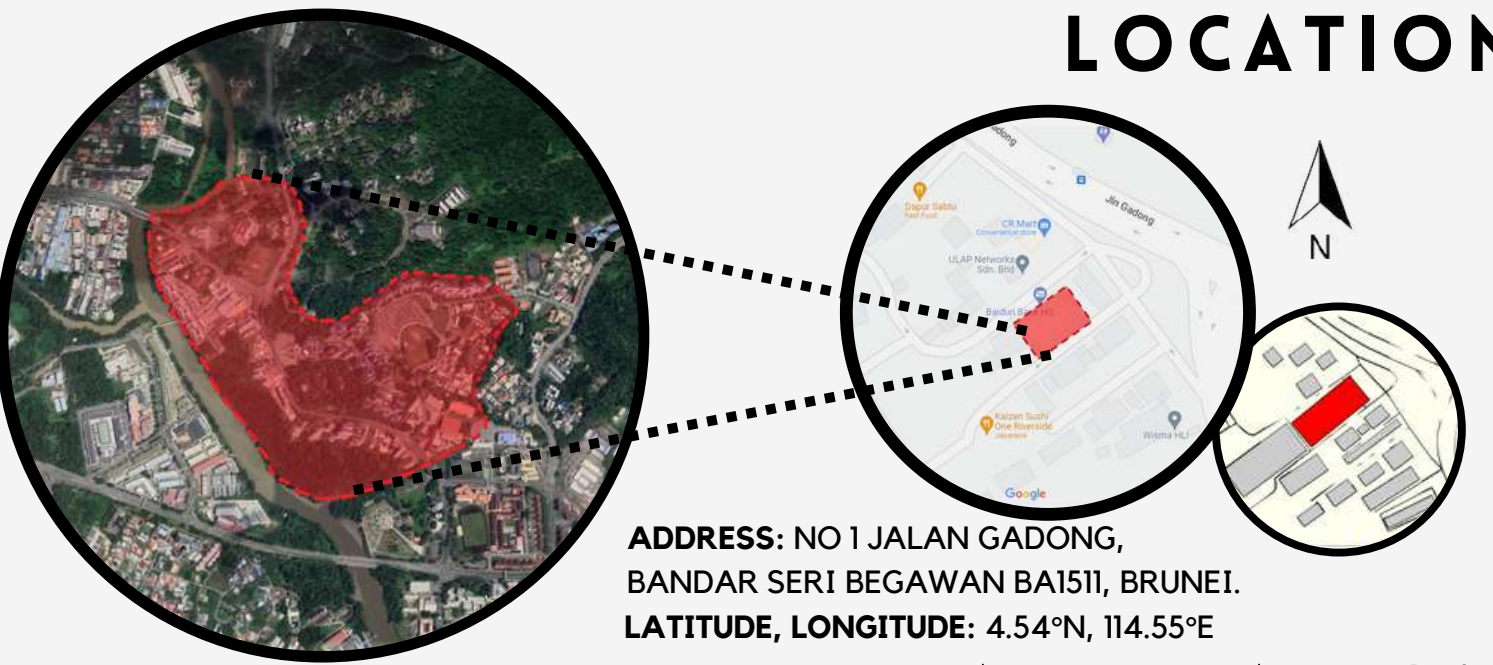
Baiduri Bank offers various products and services, such as personal and corporate banking, investment banking, insurance, and wealth management services.



Head office is situated in Bandar Seri Begawan, it is modern, well-equipped, and architecturally distinctive. State-of-the-art technology is used and facilities to provide a comfortable and secure banking experience for its customers.

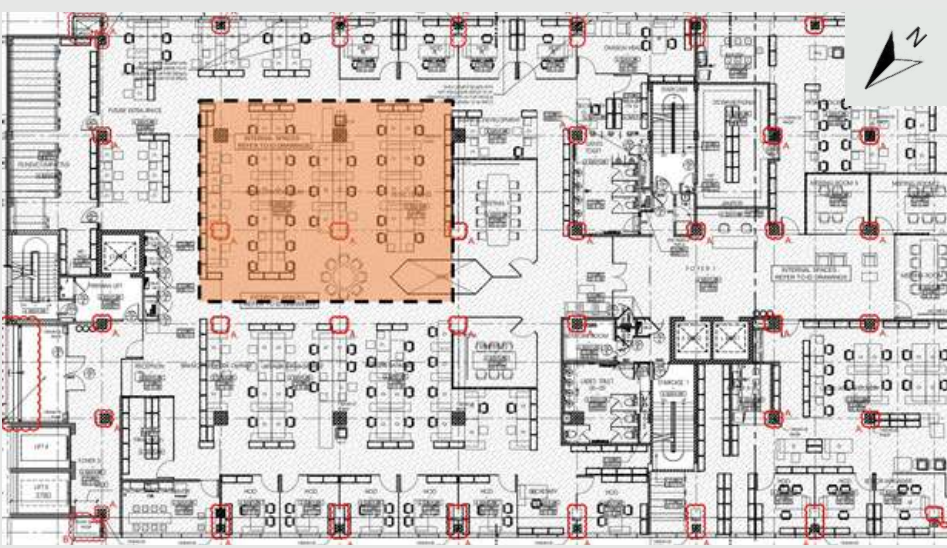


LOCATION

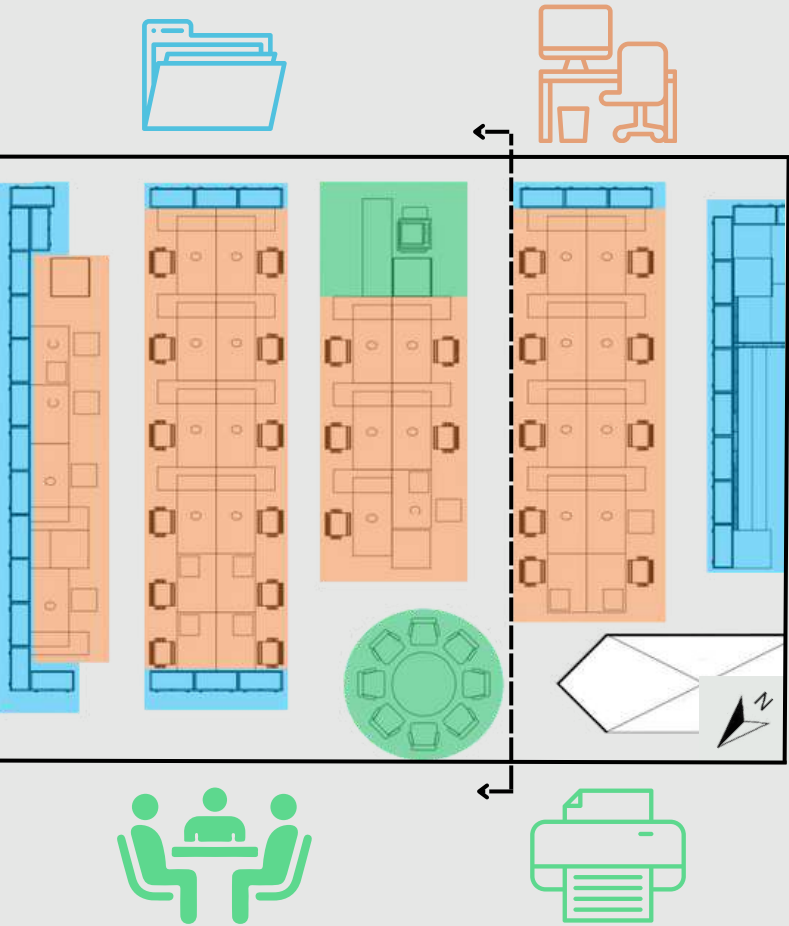


CHOSEN SPACE- OFFICE

OVERALL FLOOR PLAN - 2ND FLOOR



The lighting there was not meeting the needs of the employees in terms of brightness, color temperature, or glare this could cause many unforeseen but long-term problems for the employee's health.



The working area is where people spend most of their time in, working for long hours, illuminance needs to be best here to provide employees with a comfortable working environment.

Meeting area and printing area, a small round table, light needs to be emphasized here as it is a area where employees print and discuss stuff.

The cabinets and storage cabinets. This area will not be the priority when light placing as they usually require less light as there is less human activity happening there.

3D RENDERING



- The space we chose consists of:
- 3 rows of working tables
 - 2 rows of cabinets/storage area
 - A round meeting table
 - A printing area

Our design intention was to plan out a brightly lit room, creating a comfortable and suitable environment for the employees to be most productive yet have a warm atmosphere.

ROOM INDEX

$$K = \frac{L \times W}{H_m \times (L + W)}$$

K - Room index
L - Length of chosen space
W - Width of chosen space
H_m - Mounted height of fitting above the working plane
length (L) = 10m, width (W) = 6m, height (H) = 4.14m, mounted height of fitting above the working plane (H_m) = 3.14m

$$K = \frac{6 \times 10}{3.14 \times (6 + 10)} = 1.19$$

1.19 ≈ 1.25 (Room Index)

UTILIZATION & MAINTENANCE FACTOR

ROOM INDEX	UTILIZATION FACTOR TABLE										
	C	W	F	0.60	0.80	0.70	0.70	0.70	0.50	0.50	0.30
C	0.80	0.80	0.30	0.35	0.36	0.36	0.35	0.30	0.30	0.27	0.30
W	0.50	0.50	0.30	0.44	0.44	0.43	0.41	0.37	0.37	0.34	0.36
F	0.30	0.10	0.20	0.51	0.47	0.50	0.48	0.46	0.42	0.39	0.41
0.60	0.37	0.35	0.36	0.36	0.35	0.30	0.30	0.27	0.30	0.27	0.26
0.80	0.44	0.42	0.44	0.43	0.41	0.37	0.37	0.34	0.36	0.33	0.32
1.00	0.51	0.47	0.50	0.48	0.46	0.42	0.42	0.39	0.41	0.39	0.37
1.25	0.56	0.52	0.55	0.53	0.51	0.47	0.47	0.44	0.46	0.43	0.42
1.50	0.60	0.55	0.59	0.57	0.54	0.51	0.50	0.47	0.49	0.47	0.46
2.00	0.67	0.59	0.65	0.62	0.59	0.56	0.55	0.53	0.54	0.52	0.51
2.50	0.71	0.62	0.69	0.65	0.62	0.59	0.58	0.56	0.57	0.56	0.54
3.00	0.73	0.64	0.71	0.67	0.64	0.61	0.60	0.59	0.60	0.58	0.57
4.00	0.77	0.66	0.74	0.70	0.66	0.64	0.63	0.62	0.62	0.61	0.59
5.00	0.79	0.68	0.76	0.71	0.67	0.66	0.64	0.63	0.63	0.62	0.61

Reflectance Rate: ceiling (C) = 0.80, walls (W) = 0.50, floor (F) = 0.10
Utilization Factor (UF) = 0.52
Maintenance Factor (MF) = 0.8
• The maintenance factor is assumed to be 0.8 as it has not been given.

LUMEN METHOD (AMBIENT LIGHTING)

$$N = \frac{E \times A}{F \times UF \times MF}$$

E - Illuminance level required
A - Area at working plane height
F - Average luminous flux from each lamp
UF - Utilization factor
MF - Maintenance factor

$$E = 500 \text{ lux}, A = 60\text{m}^2, F = 4720 \text{ lm}, UF = 0.52, MF = 0.82$$

$$N = \frac{500 \times 60}{4720 \times 0.52 \times 0.8} = \frac{30000}{1963.52} = 15.278$$

$$15.278 \approx 16 \text{ Lamps (Lumen Method)}$$



Suspended Linear LED Lights

REASONS

Highly energy efficient. reduce energy costs in an office space, making them a more environmentally friendly and cost-effective lighting solution.



Bright, natural-looking light that can help reduce eye strain and improve comfort in the office. offer a consistent and uniform lighting level across the office, reducing the potential for hotspots or shadows.

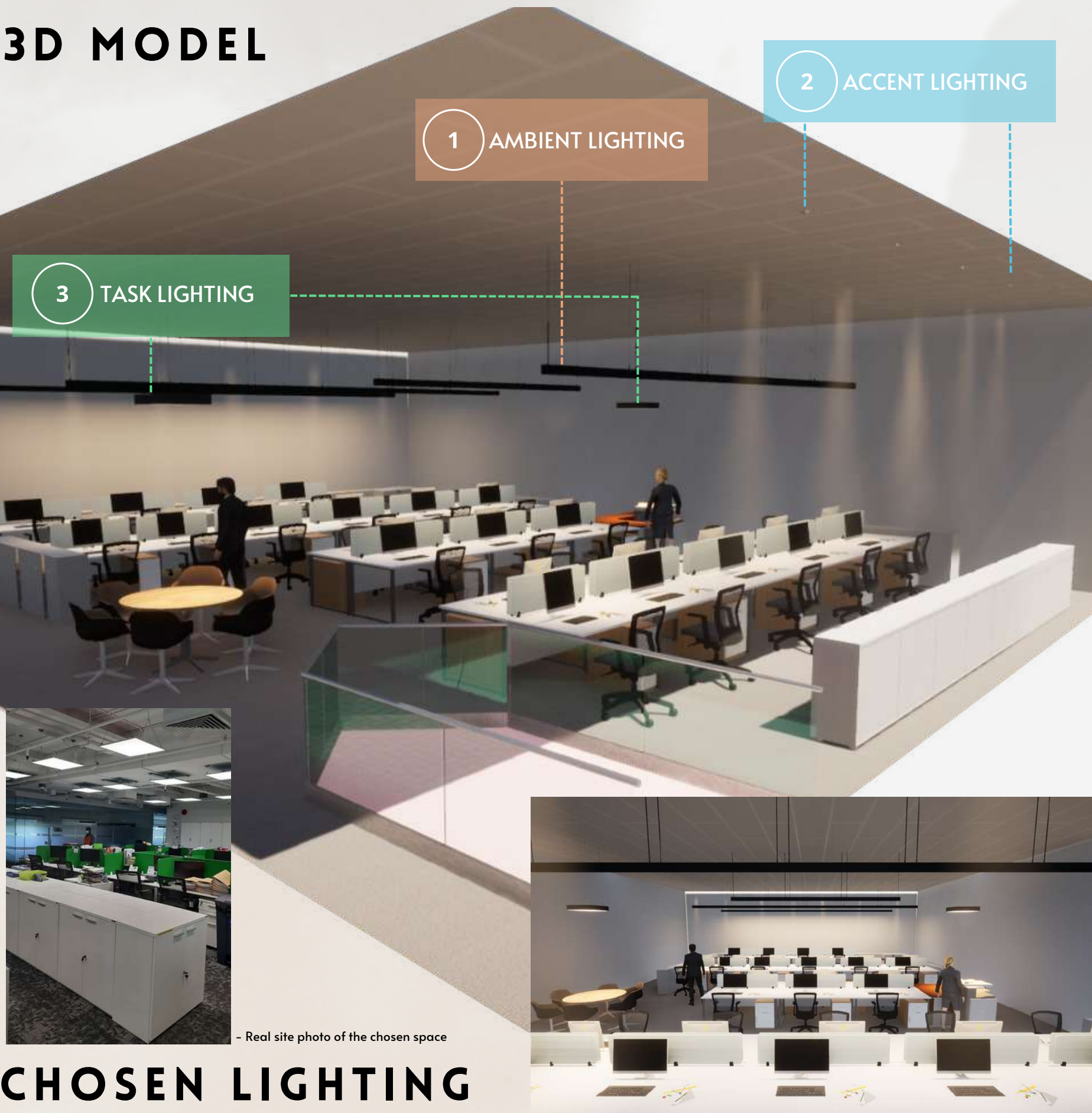
Longer lifespan than traditional lighting, reducing the need for frequent replacements and maintenance. This can save time and money on maintenance costs in the long run.



Do not contain any harmful chemicals such as mercury, making them a more environmentally friendly choice. They are also easily recyclable, reducing the impact on the environment.

LIGHTING PROPOSALS

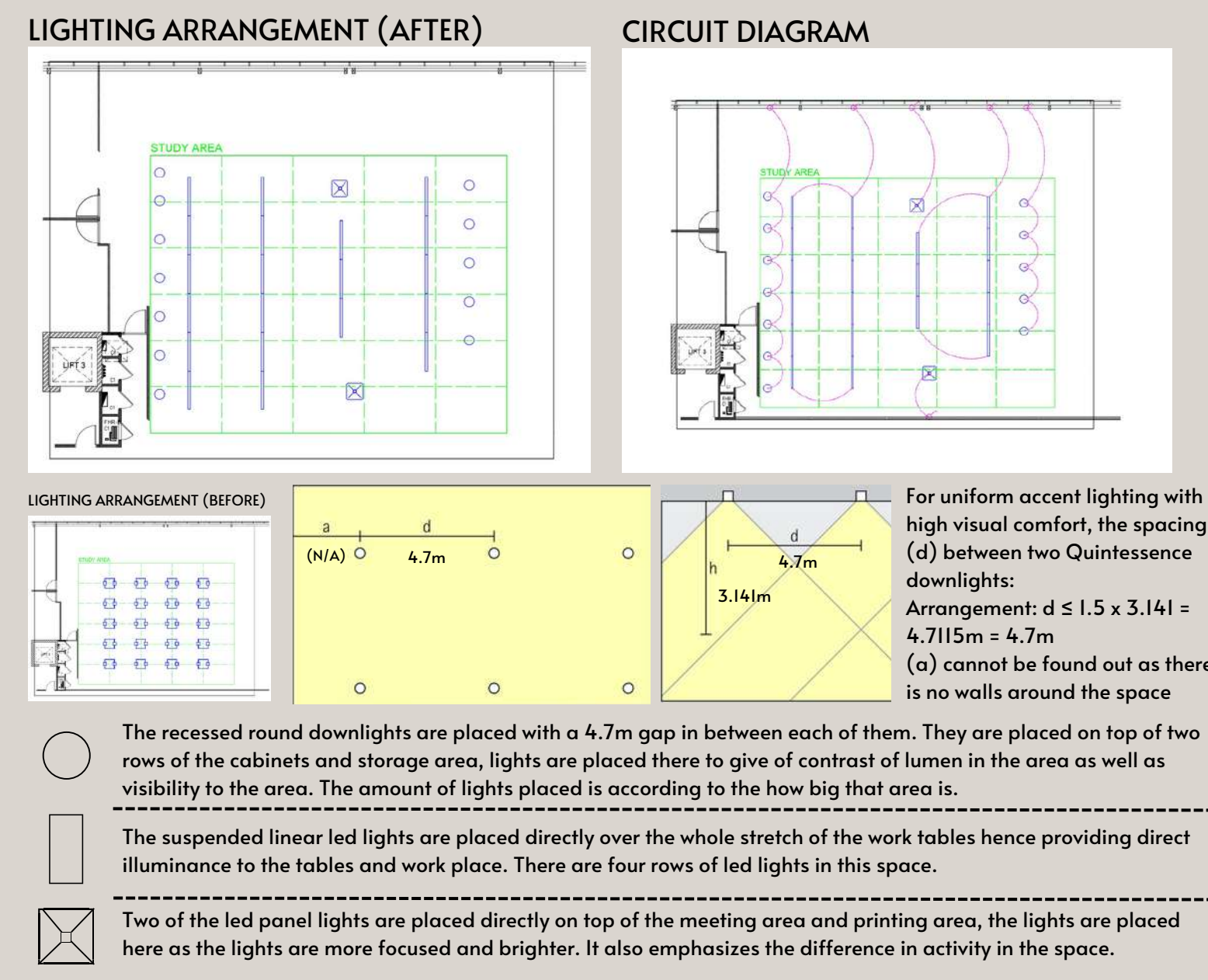
3D MODEL



CHOSEN LIGHTING

Types of Light	Suspended Linear LED Light	Recessed Round Downlight	LED Panel Light
Specifications			
Brand Name	J Brand Warelight	ERCO CRI 97	Clearhalo Pendant Lighting
Wattage	40W	24.4W	25W
Voltage	200V	110V	220V
Lumen/Watt	118 lm/W	71 lm/W	85 lm/W
Beam angle	91°	56°	60°
Colour	Warm White	Warm White	Warm White
Dimensions	1200mm L x 70mm W x 85mm H	177mm D x 132 H	495mm L x 495mm W x 76mm H
Kelvin	4000K	4000K	3000K
Lumen	4720 lm	1930 lm	2125 lm
Number of Lamps	16	12	2

REFLECTED CEILING PLAN



STRATEGIES

1 WORKING AREA



Ambient lighting Aesthetics – LED Linear has a strong offering towards looks and aesthetics of a space. Our main intention going for a type of light that is minimalistic yet beneficial to having a better lighting.

Directional light – LEDs are directional, reducing the need for reflectors and diffusers that can trap light. They can cover a wide range of places reducing shadows or blind spots.



2 CABINETS & STORAGE AREA



Accent lighting was used for this part of the space. Recessed round lights are a popular choice for accent lighting in modern interiors due to their sleek and unobtrusive design. They offer flexibility, as dimmer switches can be used to create various lighting effects to suit different moods or occasions.

Additionally, the use of LED bulbs in recessed round lights results in energy efficiency, lower electricity bills, and a reduced environmental impact.

3 MEETING & PRINTING AREA

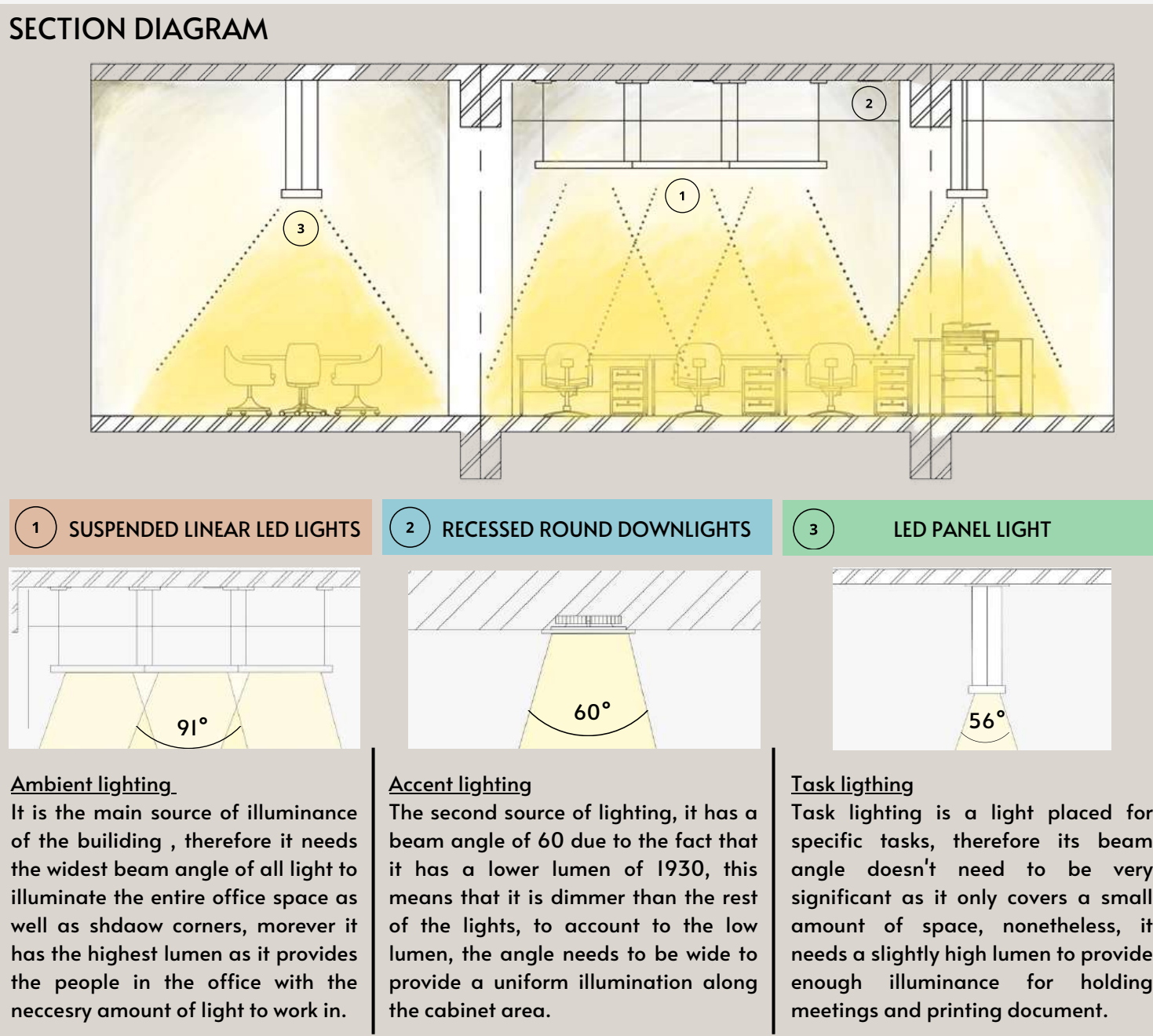


LED panel lights are ideal for task lighting in a space due to their bright and uniform light output, energy efficiency, customizability, and slim design.



They provide a practical and functional lighting solution for tasks such as reading or working on a computer, while also offering a modern and seamless look that suits minimalist interiors.

LUMINOUS DIAGRAM



CONCLUSION



BEFORE



AFTER

Previously, the office space we had selected had warm lights, and the lighting was not concentrated on the workspace and was distributed evenly throughout the area. As a result, people who used the workspace were unable to get enough light to complete their tasks and were forced to work under harsh lighting for an extended period of time. After the lighting in this section has been redesigned, the entire area achieved a cooler colour and direct light illuminates each working table, the meeting table and the printing area. This will increase the efficiency of work among employees and helps to produce a more pleasant place to work since they will have adequate illumination. This can create a positive impact on the workers' well-being as a whole.

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