

# Maison de l'Ordre des Avocats (MOdA)

# Daylight access analysis

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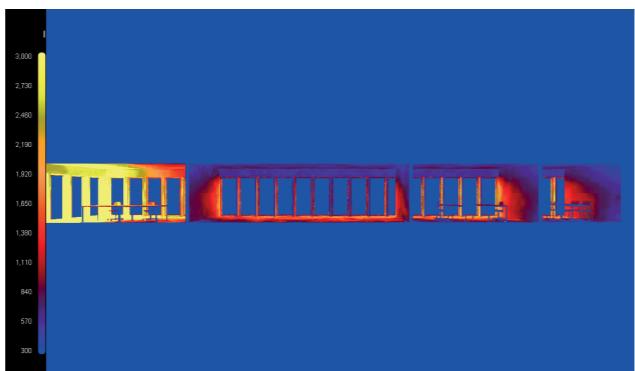
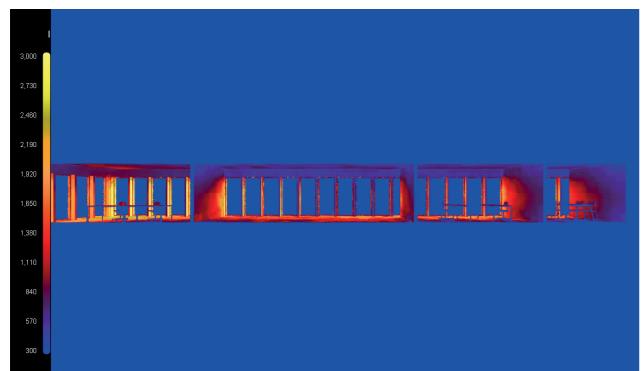
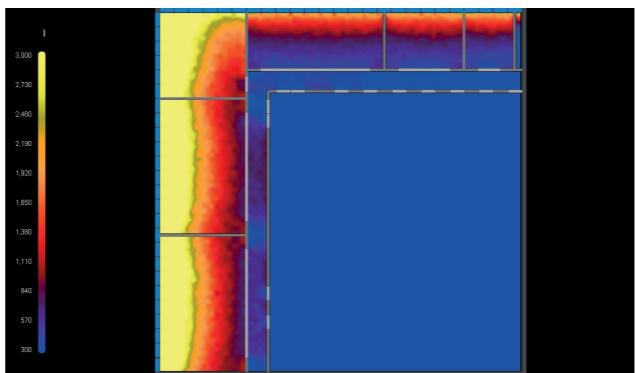
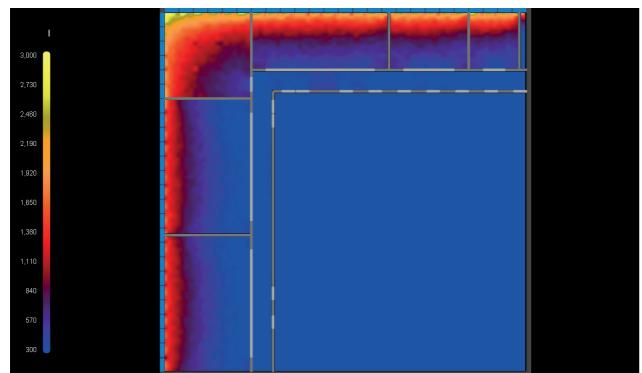
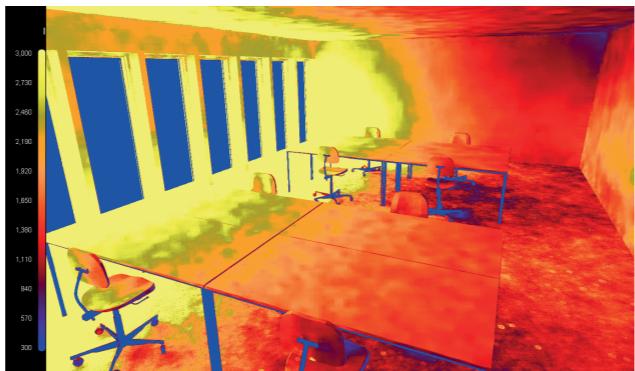
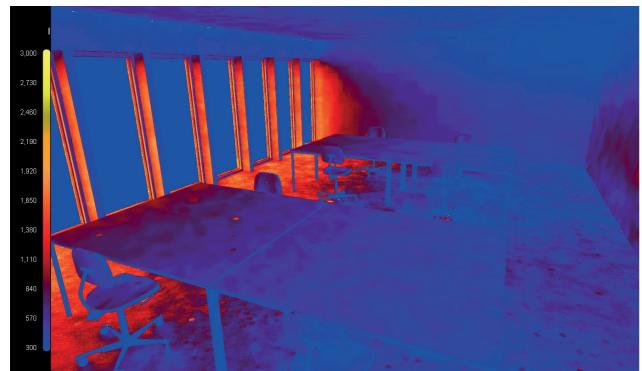


To evaluate the building's lighting performance, a daylight analysis was conducted, focusing on how natural light interacts with different parts of the interior. Simulations at 9:00 AM and 3:00 PM during the spring and autumn equinoxes (March 21 and September 21) provided insights into the daylight distribution when solar angles are balanced. The results, illustrated through color-coded visual maps, sunlight primarily brightens the perimeter closest to the windows, while the core areas receive little direct light, indicating a need for supplemental illumination.

Within the interior, this lighting dynamic creates a clear contrast between well-lit zones and those requiring artificial support. The open-plan edges, adjacent to large glazed surfaces, benefit from shifting sunlight that adds a sense of movement and vibrancy throughout the day. In contrast, the deeper sections of the office rely on ceiling-mounted ambient lighting to ensure consistent visibility. Reflective elements—such as light-toned flooring and white walls—help diffuse daylight further into the space, subtly enhancing brightness without introducing glare. This interplay between natural and artificial systems suggests opportunities to refine lighting strategies using passive techniques, like reflective ceiling surfaces or light shelves, to reduce energy demand and improve comfort.



# March

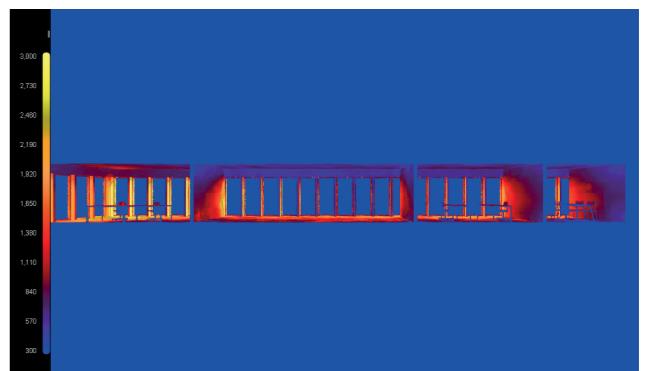
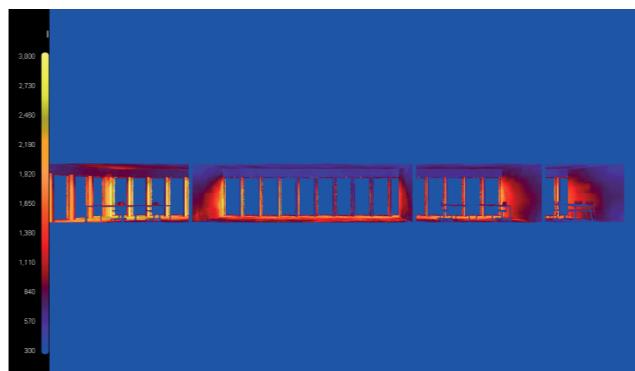
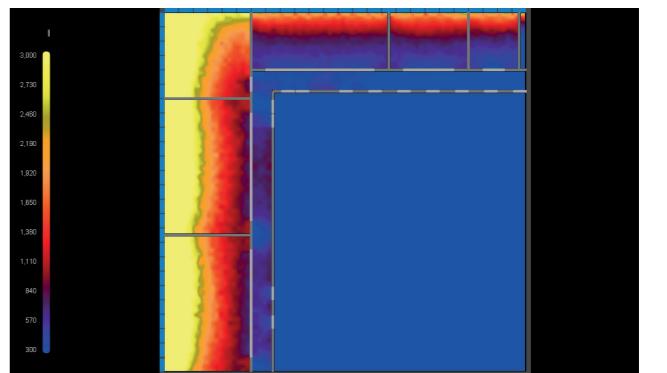
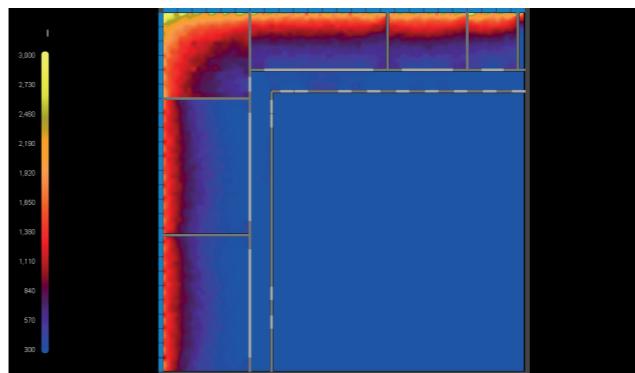
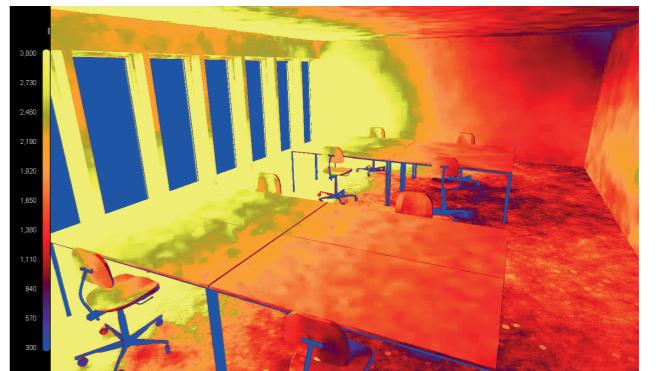
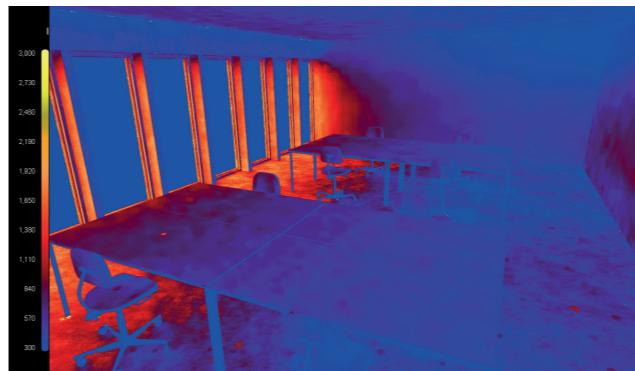


9:00

15:00

The lighting pattern observed during the March equinox mirrors that of September due to the sun's similar position in the sky. As spring begins and days start to lengthen, natural light enters the building in a predictable manner. At 9:00 AM, east-facing areas are again brightly lit, while the rear portions remain underexposed. In the afternoon, west-facing zones receive strong sunlight, but the same limitation applies—light doesn't travel deeply into the interior. The consistent behavior across both times of day underscores the importance of integrating passive daylighting strategies, such as reflective surfaces or ceiling-integrated light shelves, to extend natural illumination and reduce dependency on artificial lighting systems.

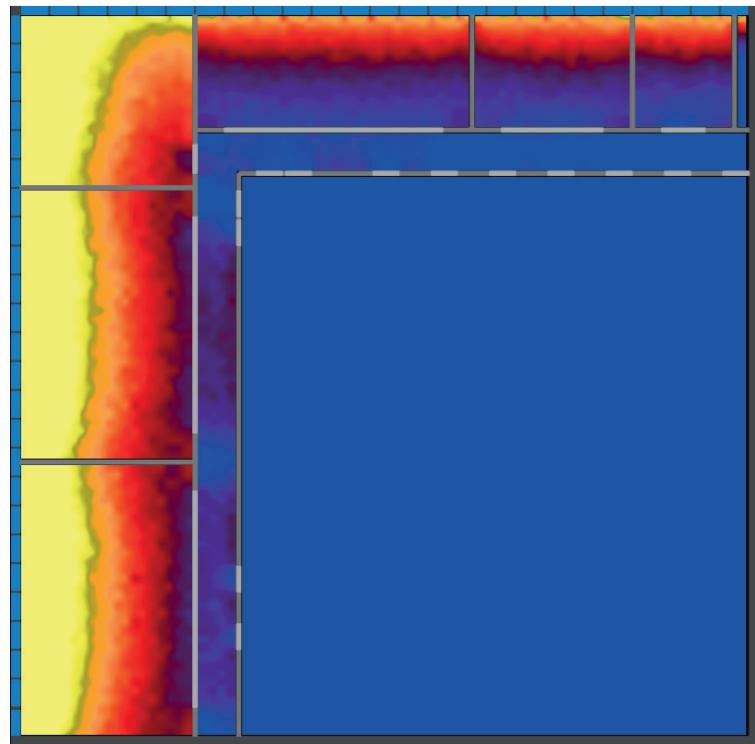
# September



9:00

15:00

During the September equinox, which marks the transition from summer to autumn, daylight hours are evenly balanced, offering a clear picture of natural light distribution in the space. At 9:00 AM, sunlight enters through east-facing windows, creating concentrated brightness near the openings while leaving the deeper sections of the interior in shade. By 3:00 PM, the sun shifts to the west, illuminating the opposite side of the building with similar intensity. However, just like in the morning, the light does not reach far into the central core, indicating a consistent need for supplemental lighting in those zones. Reflective finishes—like the light-colored roof, ceiling, and flooring—help scatter sunlight slightly deeper, softening contrasts and enhancing spatial clarity.



The light simulation diagram is based on a small section of the building, but it still provides a clear understanding of how natural light enters and spreads throughout the space. Even though it doesn't represent the entire building, this focused analysis helps identify lighting patterns and areas that may require artificial support or passive strategies. It serves as a useful reference for improving overall lighting conditions and making informed design decisions.



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# Existing



Recessed LED Downlights

Lumens: ~800–2,000 lm (depending on size and application)

Wattage: 8–20 W

Dimming: Usually dimmable (compatible with DALI, 0-10V, or Triac systems)

CRI: 80–90 (high CRI versions available for better color accuracy)

Moisture Rating: IP20–IP44



Linear LED Fixtures

Lumens: ~3,000–7,000+ lm (depending on length and output)

Wattage: 30–60 W

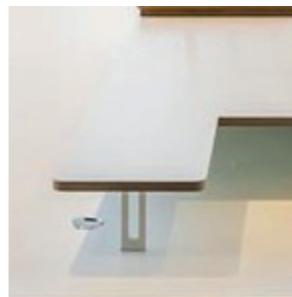
Very efficient, especially for long runs in offices or studios

Dimming: Commonly DALI, 0-10V, or phase-cut dimmable

CRI: 80–90

High CRI available for workspaces that require color accuracy

Moisture Rating: IP20–IP44



Task Lighting (Desk Lamps, Under-Cabinet, etc.)

Lumens: ~300–1,000 lm

Designed to light a focused area without overpowering surrounding zones

Wattage: 4–10 W (efficient LED versions)

Dimming: Some have built-in touch dimming or basic switch dimming

CRI: 85–90+

Higher CRI is preferred for tasks involving color or detail

Moisture Rating: IP20



Blackout Roller Blinds

block out sunlight

dense, opaque fabrics

100% privacy and prevents glare

In conclusion, the combination of recessed LED downlights, linear LED fixtures, and task lighting provides a flexible and energy-efficient lighting system throughout the space. Each type plays a specific role—downlights offer ambient lighting with minimal glare, linear LEDs deliver consistent brightness across larger areas, and task lighting provides focused illumination for detail-oriented activities. All fixtures support dimming options and maintain high CRI values, ensuring visual comfort and color accuracy. Paired with blackout roller blinds that offer complete light control and privacy when needed, the setup allows the interior lighting environment to adapt throughout the day—balancing natural daylight with artificial sources to maintain efficiency, comfort, and usability across various scenarios.

# Lighting solution



Model: Mark Architectural Lighting S2PD 2FT 80CRI 27K 1400LMF DBW FLLC  
Type: Suspended Pendant Direct (S2PD) linear LED light  
Length: 2 feet  
Color Rendering Index (CRI): 80 (moderate color accuracy)  
Color Temperature: 2700K (warm white)  
Lumens Output: 1641 lumens  
Wattage: 25W



Model: VRDL4 1000LM MD 18K 90CRI CAL  
Type: Recessed circular LED downlight  
Light Output: 413 lumens  
Wattage: 13.4W  
Color Temperature: 1800K (very warm light, candle-like)  
Color Rendering Index (CRI): 90 (excellent color accuracy)



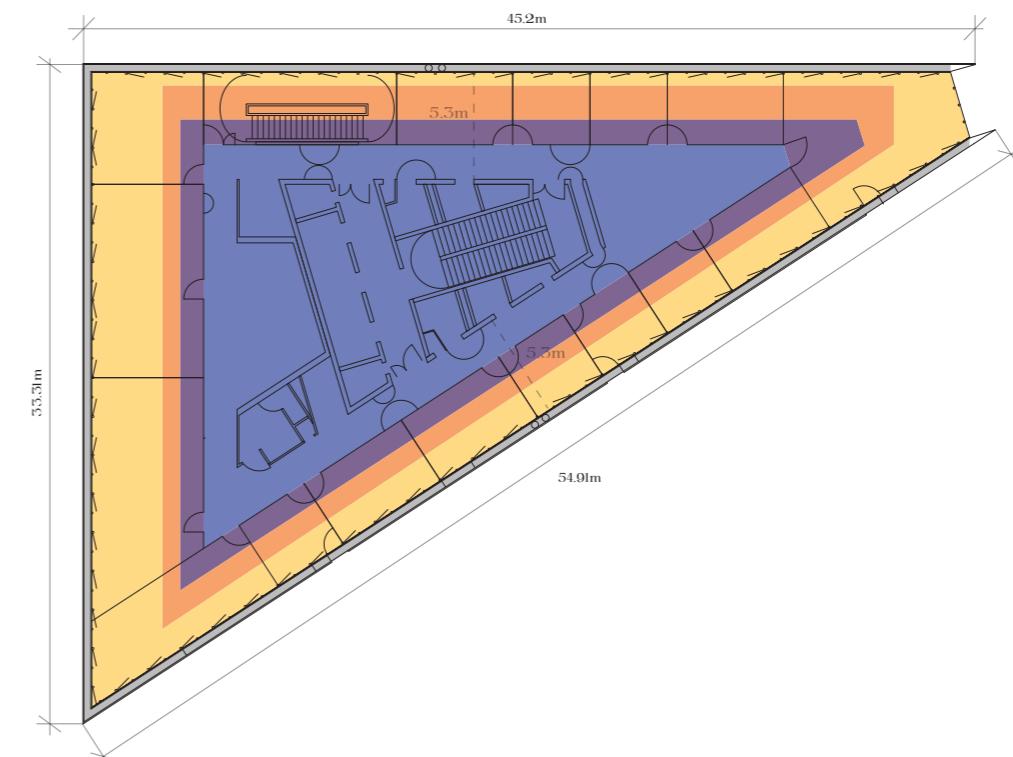
Model: CHSL 2x2 90CRI 30K 4000LM MNML 2SDC  
Type: 2x2 Recessed LED Troffer/Panel Light  
Light Output: 4000 lumens  
Wattage: (Not specified — typically ~30-40W for this lumen range)  
Color Temperature: 3000K (warm white)  
Color Rendering Index (CRI): 90 (excellent color accuracy)



LED Task Lamps or Under-Shelf Lights  
Lumens: 400–900 lm  
Wattage: 5–9 W  
Dimming: Touch dimming  
Moisture Rating: IP20



Transparent Rolling Curtain  
Made from PVC-coated polyester or fiberglass; often graded by "openness factor" (1%–10%)



The farthest part from any daylight source, often enclosed or shaded by interior walls or furniture. This zone remains dim throughout the day and requires a layered lighting system to function effectively. A mix of ambient recessed downlights, task-specific fixtures, and indirect lighting (bounced from walls or ceilings) ensures visual comfort and usability in these darker areas.



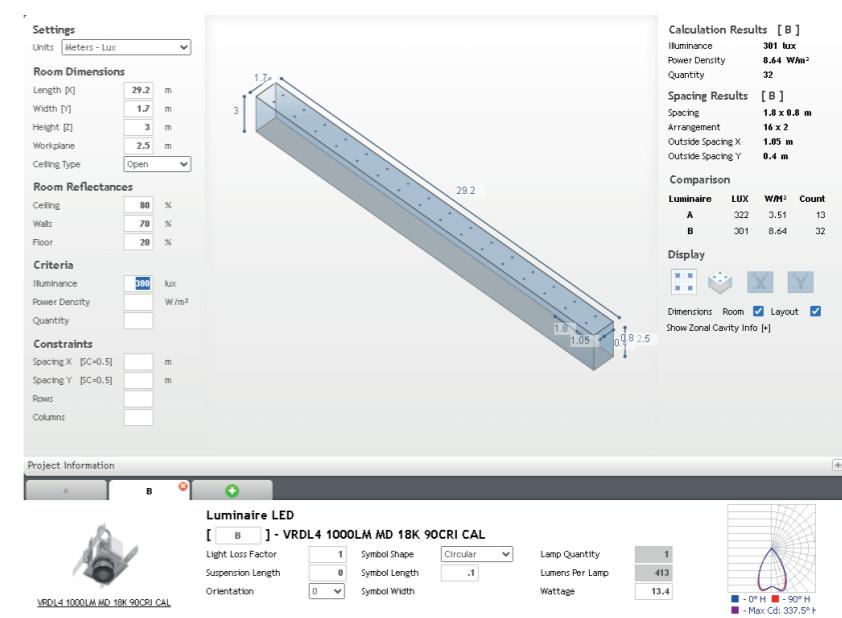
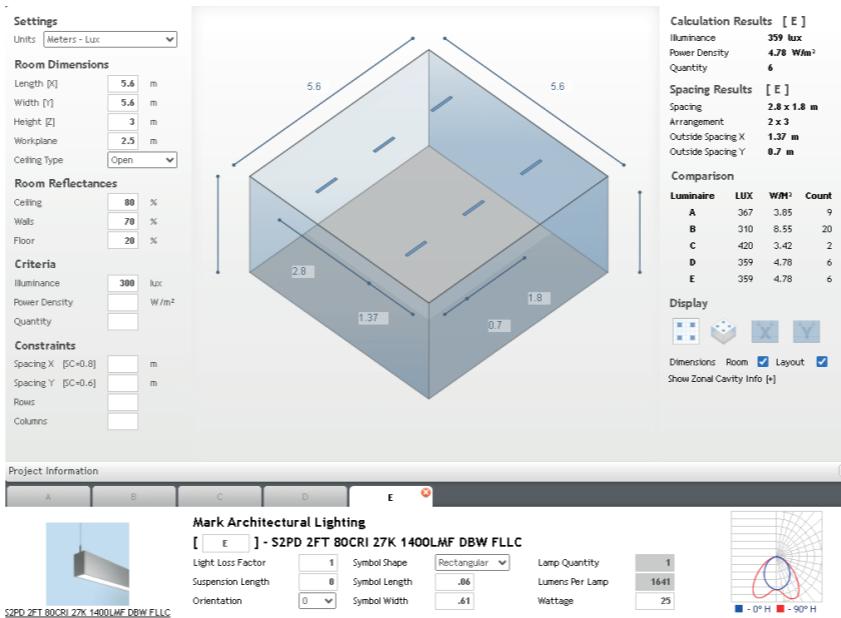
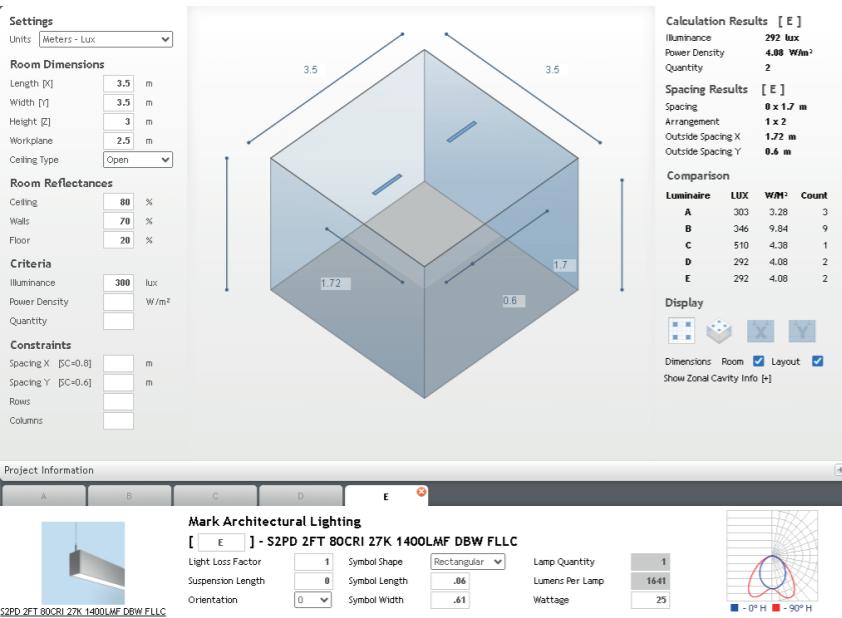
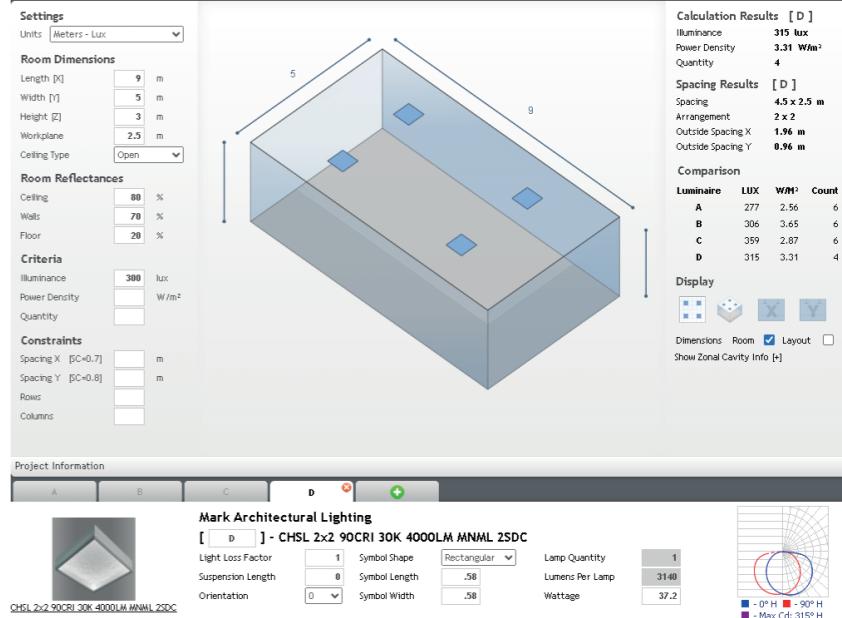
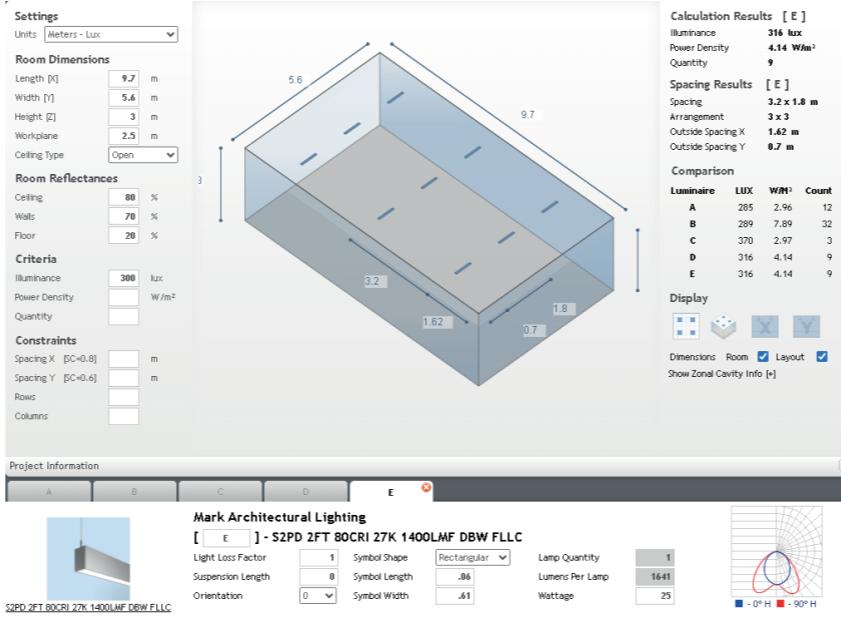
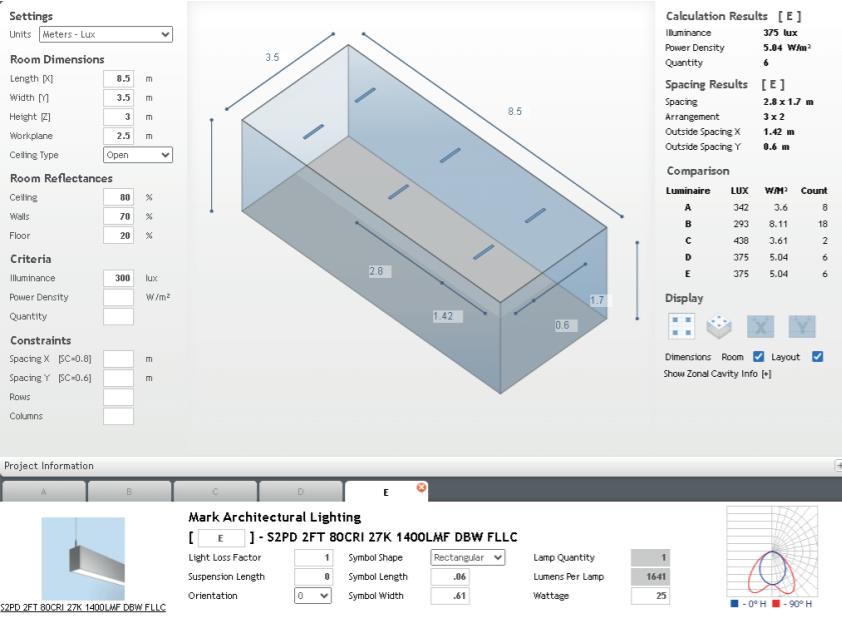
Located deeper into the room, away from direct window exposure, this zone receives a moderate level of daylight due to interior depth or shading from furnishings. Daylight here fluctuates throughout the day and may not be reliable alone. Recessed LED downlights and task lighting are used to maintain consistent illumination without creating harsh contrasts or shadows.

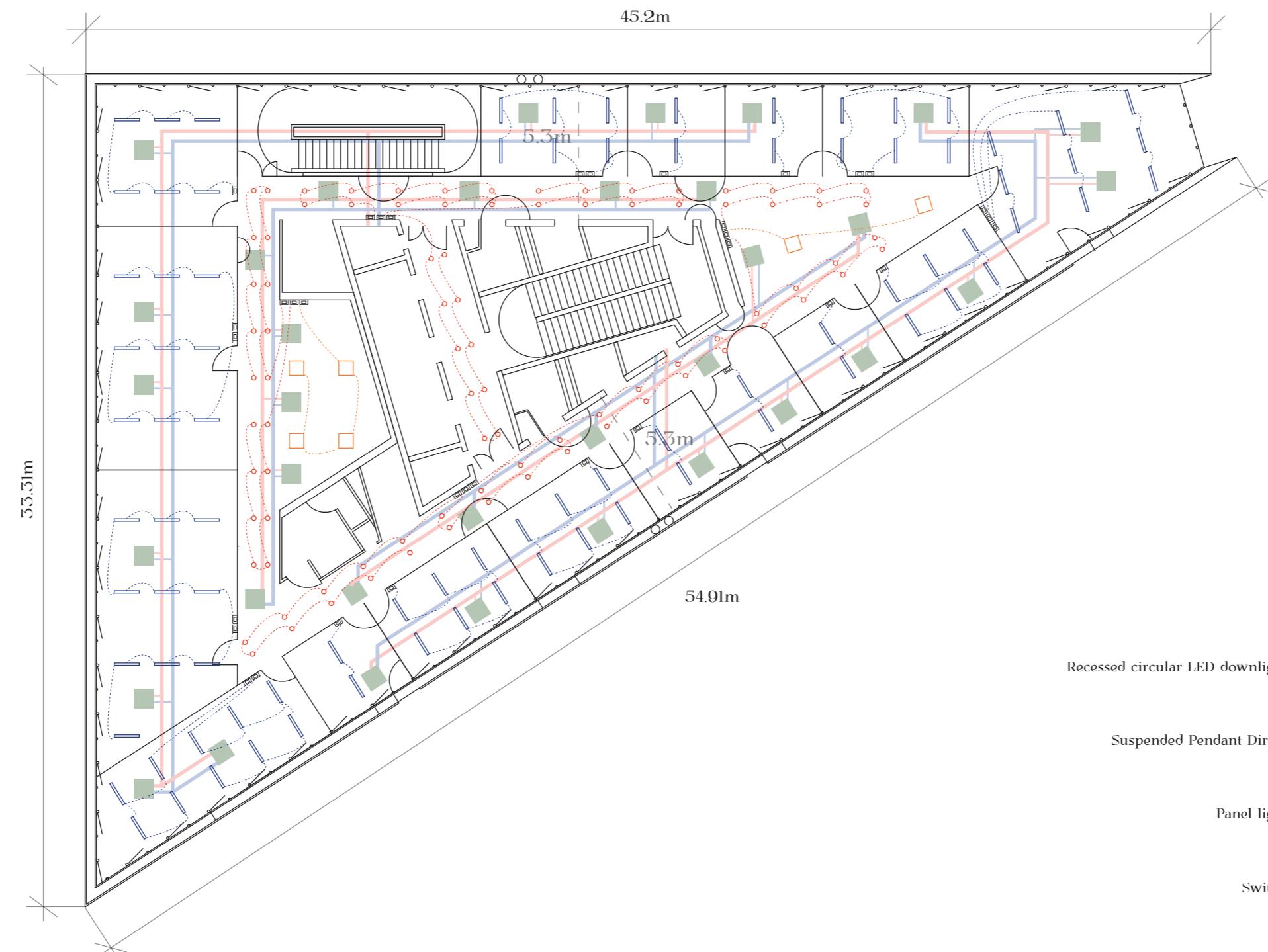


Just slightly set back from the window line, this zone still benefits from generous natural light but is partially shaded by structural elements like columns, ceiling overhangs, or partitions. These areas are typically well-lit for most of the day, but may require supplementary lighting—such as dimmable linear LEDs—during cloudy weather or late afternoon. It strikes a good balance between natural and controlled lighting.



This area is located directly next to the open-plan glazed facade, where large windows allow strong daylight to enter throughout most of the day—especially during morning and afternoon hours around the equinox. Due to this high exposure, minimal artificial lighting is needed during the daytime. Over-lighting should be avoided to reduce glare and conserve energy. Curtains or blackout roller blinds may also be used to moderate the intensity when necessary.





Recessed circular LED downlight



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Suspended Pendant Direct



—

Panel light



□

Switch



■

SCALE BAR 1:200

