

**DAYLIGHT ACCESS ANALYSIS AND
ELECTRIC LIGHTING STUDY**

THE PLATFORM OFFICE BUILDING

REPORT INTRODUCTION

DAYLIGHT ACCESS ANALYSIS IN THE PLATFORM OFFICE BUILDING.

THIS REPORT FOCUSES ON THE ANALYSIS OF DAYLIGHT ACCESS IN THE PLATFORM OFFICE BUILDING. IN ORDER TO CONDUCT THIS MORE EFFICIENTLY, THE AREA OF ANALYSIS IS FOCUSED PRIMARILY ON A 15 BY 15 METER AREA OF THE FIRST [OFFICE] FLOORPLAN OF THE PLATFORM OFFICE BUILDING. THE ANALYSIS WILL COMPARE THE DAYLIGHT ACCESS OF THE ORIGINAL EXISTING BUILDING DESIGN, AS WELL AS THE IMPROVED DESIGN OF THE WINDOW SIZING, OVERHANG, AND FAÇADE TO ENSURE THAT THE DAYLIGHT ACCESS TOTAL IS MORE THAN 50% (>50) OF THE OFFICE / WORKING AREA, EXCLUDING THE YELLOW AND PURPLE AREAS (300 AND 3000 LUX).

THE DAYLIGHT ACCESS ANALYSIS WILL FOCUS ON THE SUNLIGHT IN BANGKOK, THAILAND, WITH THE SPRING SOLSTICE (MARCH 21ST) AS THE MAIN DAY FOR ANALYSIS. THE ANALYSIS WILL COVER A COMPARISON OF THREE TIMES THROUGHOUT THE DAY : 9.00 AM, 12.00 PM, AND 15.00 PM. TO ENSURE OPTIMAL DAYLIGHT ANALYSIS, THE IMPROVED DESIGN OF THE WINDOWS, OVERHAND, AND FAÇADE WILL HELP TO MAKE SURE THAT ALL THREE SAID TIMINGS (9.00 AM, 12.00 PM, AND 15.00 PM) HAVE A DAYLIGHT ACCESS TOTAL OF MORE THAN 50%. DOING THIS WILL PROVIDE USERS WITH OPTIMAL COMFORT.

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ELECTRIC LIGHTING STUDY IN THE PLATFORM OFFICE BUILDING.

THIS REPORT PRESENTS AN ELECTRIC LIGHTING STUDY CONDUCTED FOR THE PLATFORM OFFICE BUILDING, FOCUSING ON THE DESIGN AND OPTIMIZATION OF LIGHTING SYSTEMS TO MEET BOTH FUNCTIONAL AND AESTHETIC REQUIREMENTS. THE PRIMARY OBJECTIVE IS TO ANALYZE THE LIGHTING SOLUTIONS IMPLEMENTED ACROSS DIFFERENT ZONES OF THE BUILDING, ENSURING THEY PROVIDE ADEQUATE ILLUMINANCE, ENERGY EFFICIENCY, AND USER COMFORT. BY CONSIDERING VARIOUS FACTORS SUCH AS ILLUMINANCE LEVELS, POWER DENSITY, AND LIGHTING DISTRIBUTION, THIS STUDY EXAMINES HOW THE SELECTED LIGHTING CONFIGURATIONS ALIGN WITH THE SPECIFIC NEEDS OF EACH ZONE, INCLUDING CO-WORKING SPACES, MEETING ROOMS, AND THE AUDITORIUM.

THE REPORT ALSO HIGHLIGHTS THE IMPORTANCE OF ACHIEVING A BALANCE BETWEEN MEETING THE LIGHTING REQUIREMENTS FOR VARIOUS FUNCTIONS AND MAINTAINING ENERGY EFFICIENCY. THROUGHOUT THE STUDY, KEY METRICS SUCH AS ILLUMINANCE (MEASURED IN LUX), POWER DENSITY (W/M^2), AND LUMINAIRE QUANTITY ARE ANALYZED, WITH A FOCUS ON THEIR IMPACT ON OVERALL BUILDING PERFORMANCE AND OCCUPANT EXPERIENCE. BY PROVIDING AN IN-DEPTH REVIEW OF THE LIGHTING SOLUTIONS, THIS REPORT AIMS TO OFFER INSIGHTS INTO HOW WELL-DESIGNED LIGHTING CAN ENHANCE BOTH THE PRODUCTIVITY AND COMFORT OF USERS WHILE CONTRIBUTING TO THE BUILDING'S SUSTAINABILITY GOALS.



IMAGE 01. 'SECOND FLOOR INTERIOR' ; PHOTO BY PETER TIJHUIS.



IMAGE 02. 'LEFT VIEW OF THE BUILDING' ; PHOTO BY PETER TIJHUIS.

DAYLIGHT ACCESS ANALYSIS

FOCUSED AREA OF DAYLIGHT ACCESS ANALYSIS.

THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

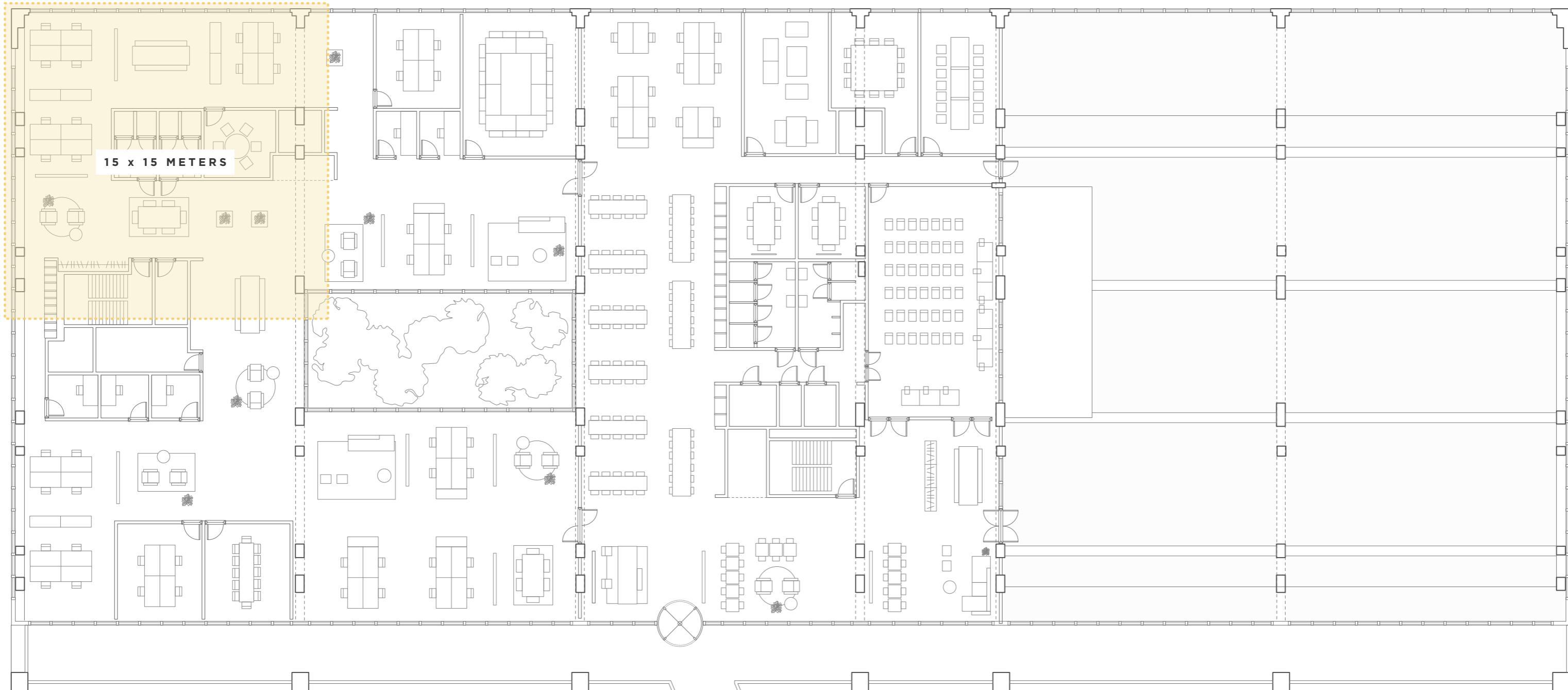


FIG.01

TO MAKE SURE THAT THE ANALYSIS IS AS ACCURATE AS POSSIBLE, RATHER THAN USING THE WHOLE AREA OF THE FIRST [OFFICE] FLOORPLAN OF THE PLATFORM OFFICE BUILDING, THE ANALYZED AREA IS FOCUSED ON A 15 BY 15 METER CORNER. THE LOCATION OF THE 15 BY 15 METER CHOSEN AREA IS LOCATED ON THE TOP LEFT CORNER OF THE FIRST FLOOR, ENSURING THAT IT WILL ANALYZE THE HOTTEST SIDES OF THE BUILDING : THE EAST AND SOUTH FACING SIDE. THIS WAY, THE ANALYSIS WILL LOOK OVER THE HOTTEST TIMES OF THE DAY, COVERING THE MORNING SUN FROM THE EAST AND AFTERNOON HEAT LOAD FROM THE SOUTH.

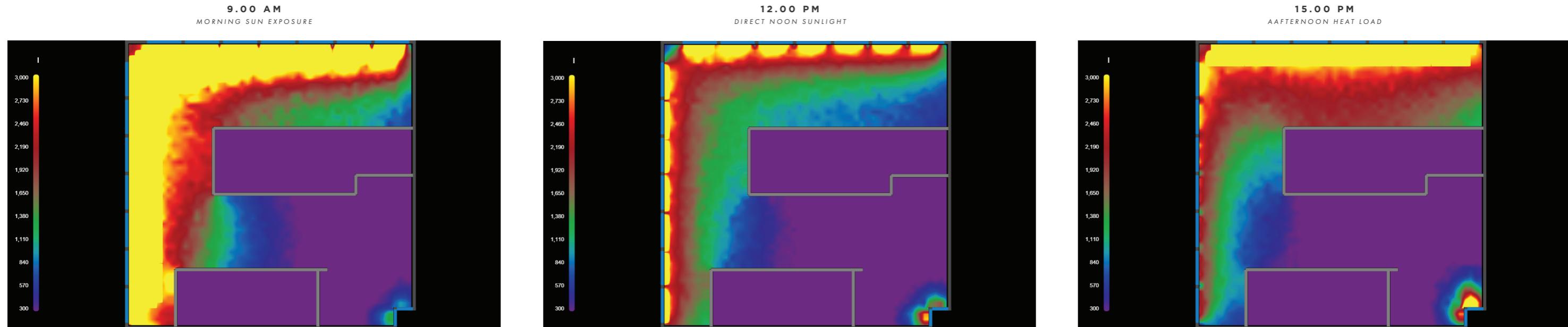
SCALE 1:200



DAYLIGHT ACCESS ; EXISTING BUILDING DESIGN (PLAN).

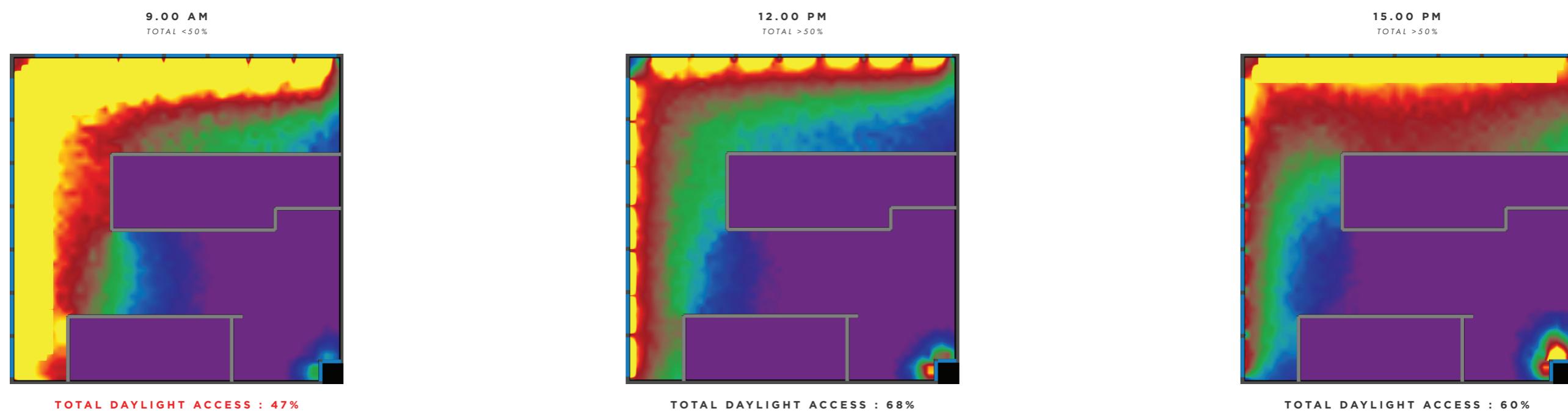
THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

MARCH 21ST - SPRING SOLSTICE.



AVERAGE AREA WITH ILLUMINANCE ; DAYLIGHT ACCESS 300-3000 LUX.

TOTAL OFFICE AREA : 140sqm

**FIG.02**

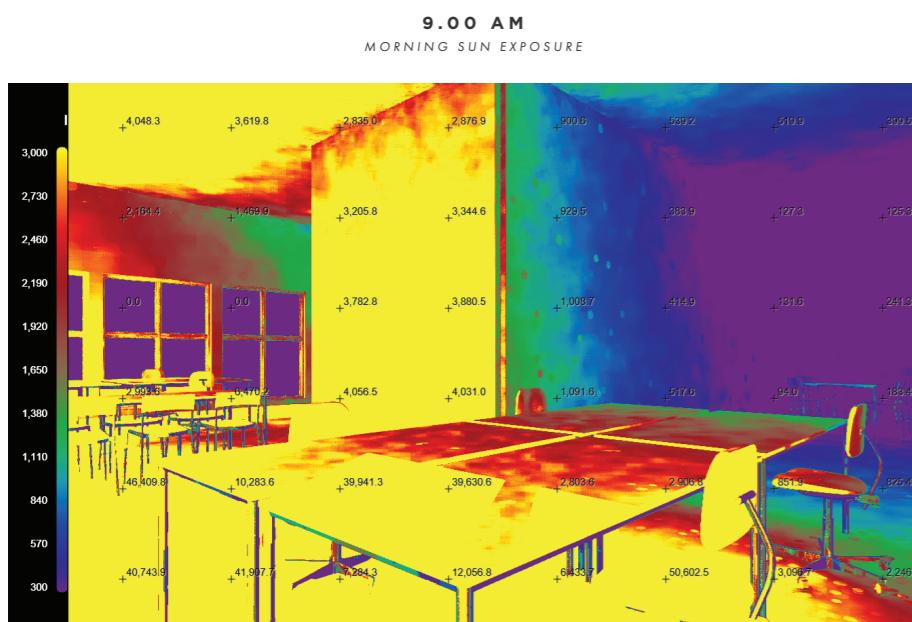
THE IMAGES PRESENT A DAYLIGHT ACCESS ANALYSIS FOR THE EXISTING DESIGN ON THE FIRST OFFICE FLOOR, SHOWN DURING THE SPRING SOLSTICE ON MARCH 21ST AT THREE DIFFERENT TIMES: 9:00 AM, 12:00 PM, AND 3:00 PM. AT 9:00 AM, 47% OF THE OFFICE SPACE ACHIEVES THE TARGET DAYLIGHT ILLUMINANCE OF 300-3000 LUX, FALLING SHORT OF THE OPTIMAL TARGET OF OVER 50%. HOWEVER, BY NOON AND AT 3:00 PM, THE SPACE REACHES THIS TARGET WITH 55% AND 53% OF THE AREA RESPECTIVELY RECEIVING SUITABLE DAYLIGHT. HENCE, WHILE THE DESIGN EFFECTIVELY UTILIZES NATURAL LIGHT DURING NOON AND THE AFTERNOON, ENHANCEMENTS MAY BE NEEDED TO IMPROVE MORNING DAYLIGHT ACCESS.

DAYLIGHT ACCESS ; EXISTING BUILDING DESIGN (PERSPECTIVE).

THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

AVERAGE DAYLIGHT ACCESS (300-3000 LUX) = 58.33%

MORE THAN > 50 %

**FIG.03**

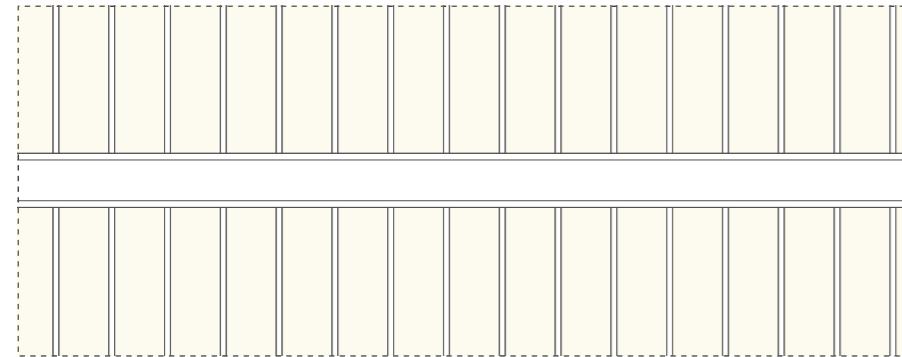
THE IMAGES PROVIDE A PERSPECTIVE VIEW OF THE DAYLIGHT ACCESS ANALYSIS FOR THE EXISTING DESIGN OF AN OFFICE BUILDING, SHOWN AT THREE DIFFERENT TIMES—9:00 AM, 12:00 PM, AND 3:00 PM—DURING THE SPRING SOLSTICE ON MARCH 21ST. AT 9:00 AM, THE DAYLIGHT ACCESS IS 47%, WHICH DOES NOT MEET THE GOAL OF OVER 50%. HOWEVER, BY NOON AND IN THE AFTERNOON, THE DAYLIGHT ACCESS IMPROVES SIGNIFICANTLY, WITH 68% AT 12:00 PM AND 60% AT 3:00 PM, SURPASSING THE TARGET. THE TOTAL AVERAGE DAYLIGHT ACCESS (300-3000 LUX) ACROSS THESE TIMES IS APPROXIMATELY 58.33 PERCENT.

DESIGN IMPROVEMENTS.

ADJUSTMENTS MADE TO THE EXISTING BUILDING DESIGN IN ORDER TO IMPROVE DAYLIGHT ACCESS.

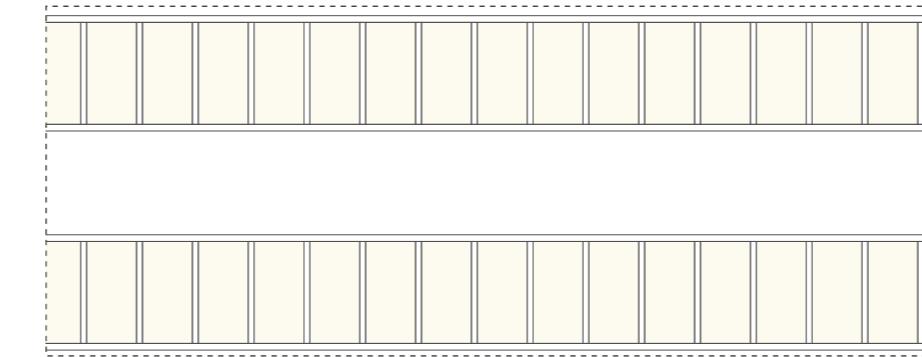
EXISTING BUILDING DESIGN.

WINDOWS, FACADE, OVERHANG, AND FLOOR REFLECTIVITY.

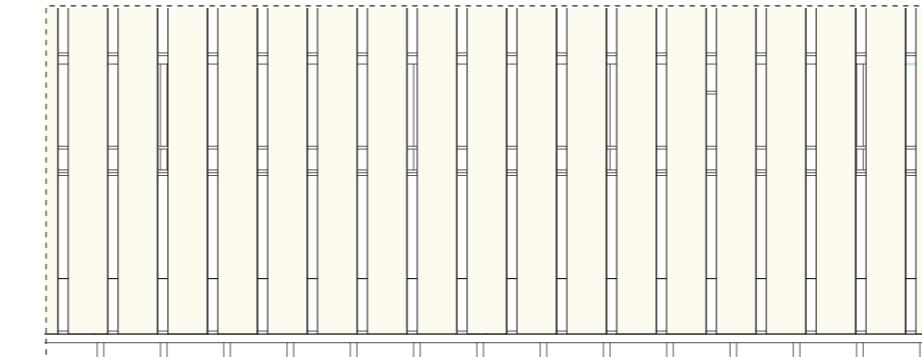
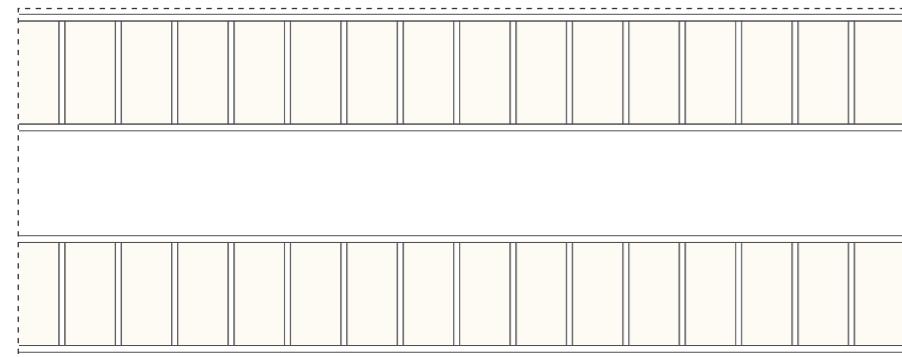


IMPROVED BUILDING DESIGN.

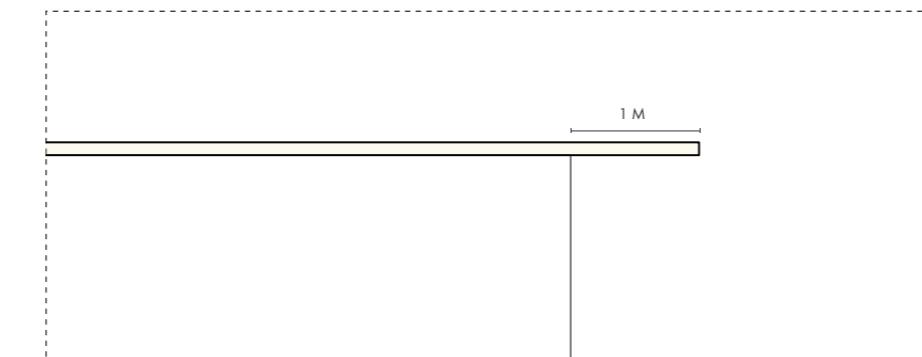
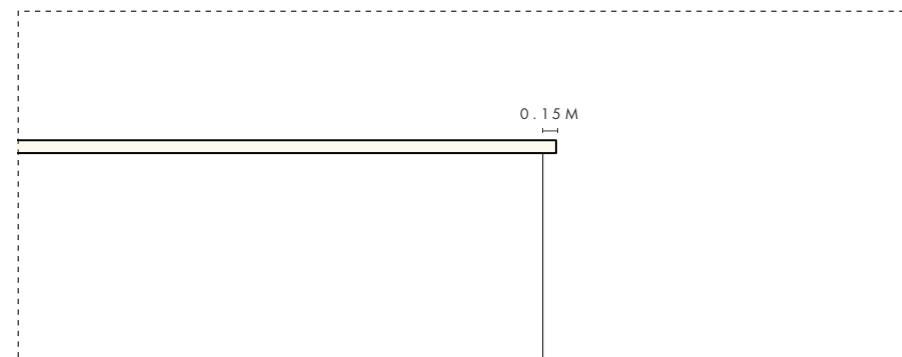
WINDOWS, FACADE, OVERHANG, AND FLOOR REFLECTIVITY.

**FIG.04**

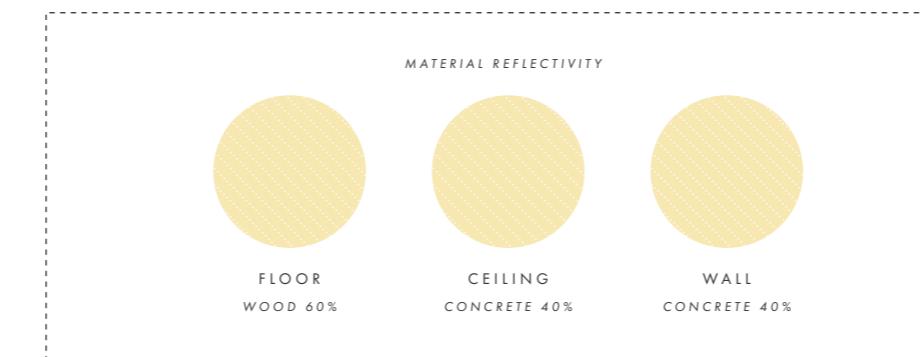
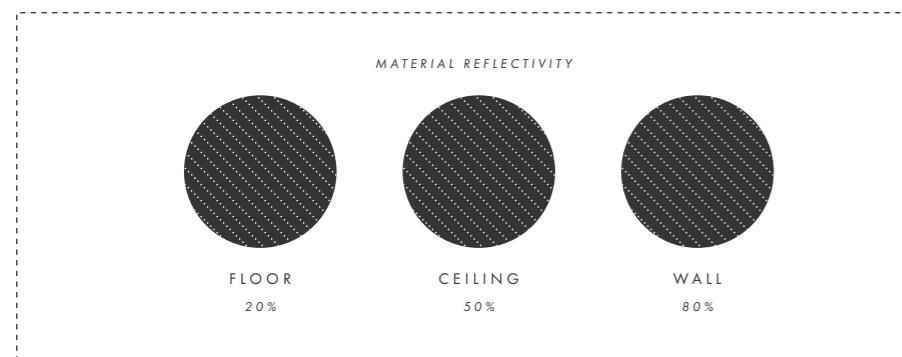
BY DECREASING THE SIZE OF THE WINDOWS, THERE IS LESS TRANSPARENT AREAS AND MORE OPAQUE AREAS, WHICH ULTIMATELY LEADS TO LESS SUNLIGHT ENTERING THE BUILDING, HENCE, DECREASING THE AMOUNT OF 3000 LUX (YELLOW AREAS) DAYLIGHT ENTERING THE BUILDING.

**FIG.05**

ALONGSIDE THE DECREASING OF WINDOW SIZES THROUGHOUT THE DESIGN OF THE PLATFORM OFFICE BUILDING, I ALSO ADDED A FACADE TO THE EXTERIOR. CURRENTLY, THE EXISTING DESIGN DOES NOT HAVE ANY FORM OF SHADING / FACADE, SO THE LEVELS OF HARSH DAYLIGHT WILL LESSEN.

**FIG.06**

I EXTENDED THE LENGTH OF THE OVERHANG THAT RUNS ALONG THE TOP RIM OF THE BUILDING. IT'S ORIGINAL LENGTH WAS 0.15M, WHICH DOES NOT HELP THAT MUCH IN TERMS OF BLOCKING THE SUNLIGHT THAT ENTERS THE BUILDING, HENCE, I EXTENDED THE OVERHANG TO 1 METER, WHICH IS MUCH BETTER.

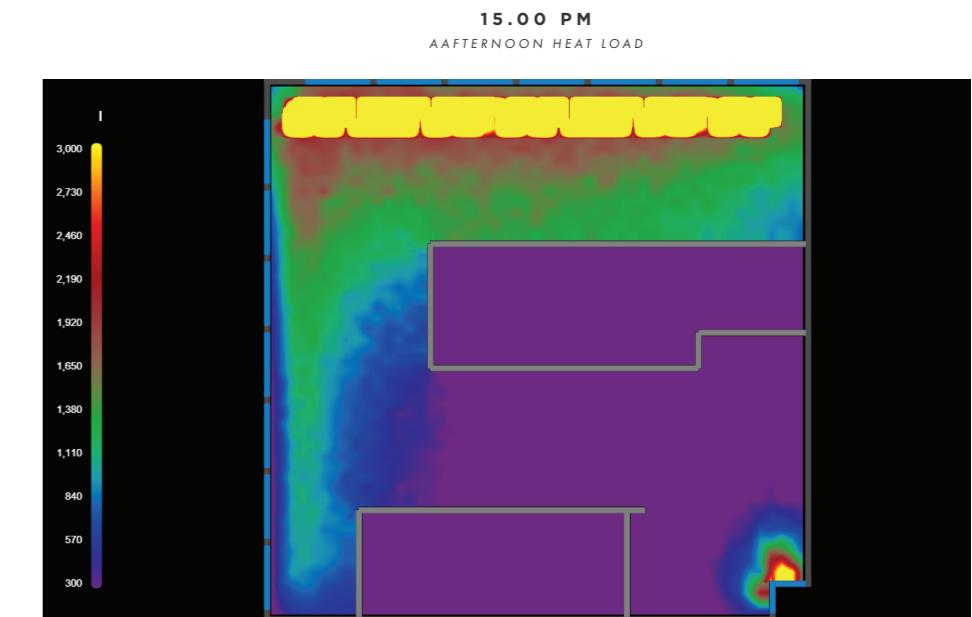
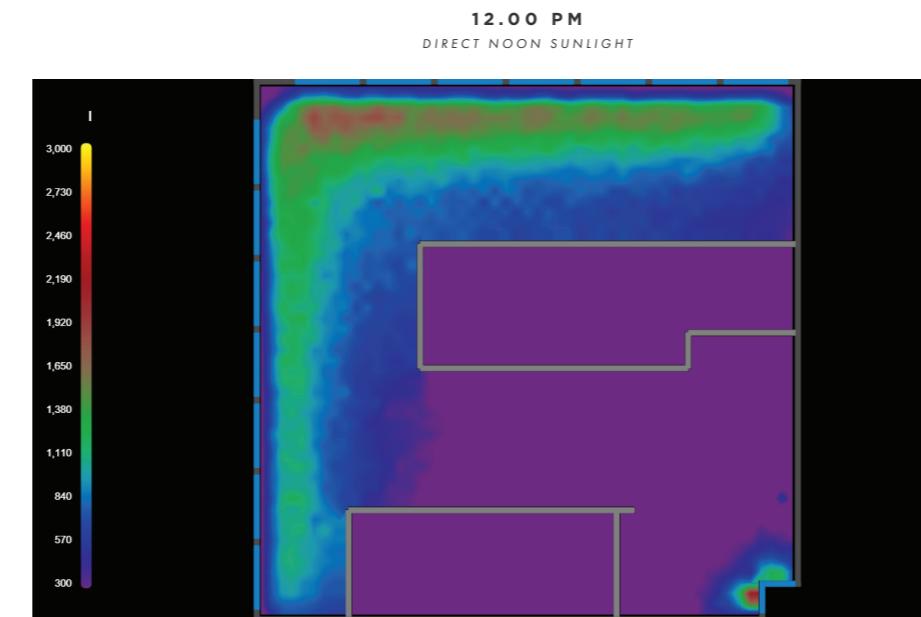
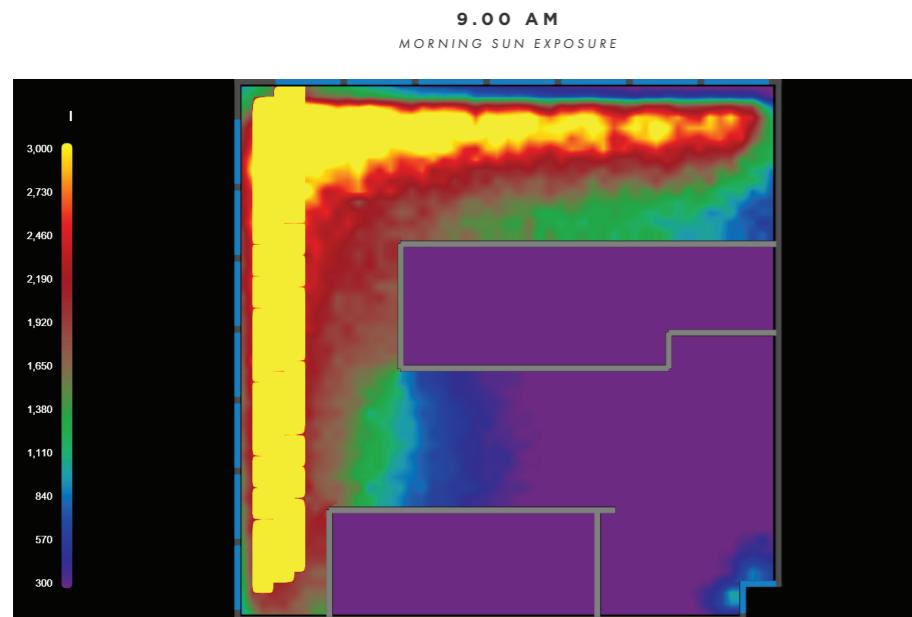
**FIG.07**

LASTLY, BY CHANGING THE REFLECTIVITY OF THE MATERIALS OF THE SURFACES IN THE BUILDING (FLOOR, CEILING, AND WALL), THE AREAS OF 300 LUX (YELLOW) AND 3000 LUX (PURPLE) CAN BE DECREASED, ALLOWING FOR A MORE OPTIMAL DAYLIGHT ACCESS PERCENTAGE.

DAYLIGHT ACCESS ; IMPROVED BUILDING DESIGN (PLAN).

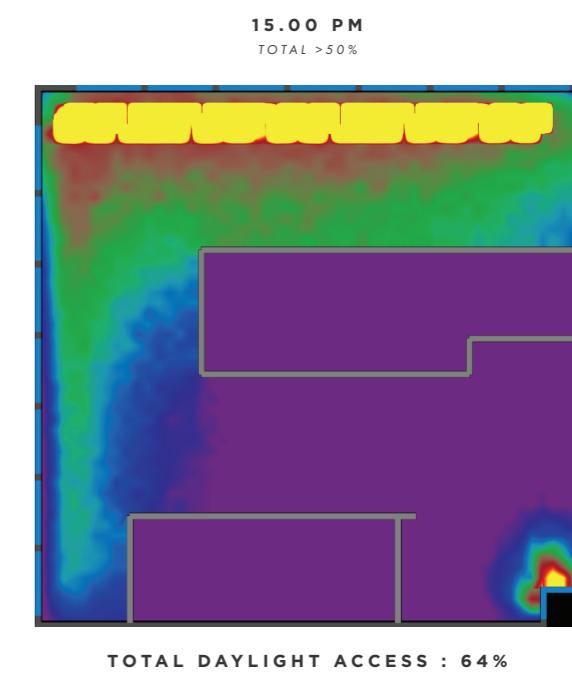
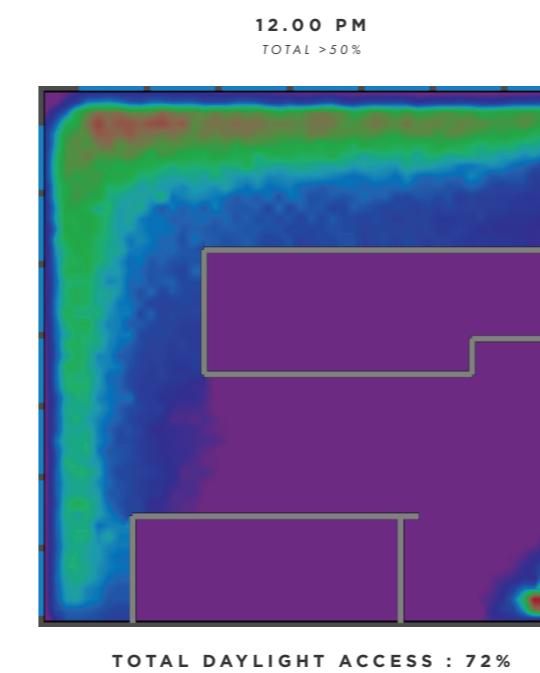
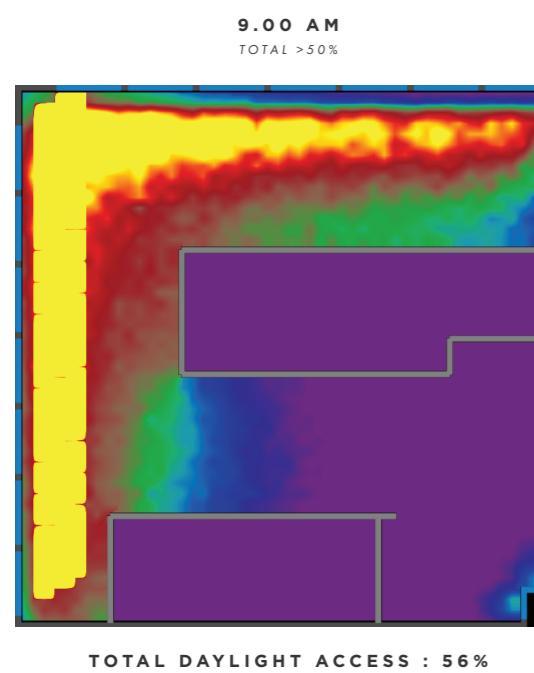
THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

MARCH 21ST - SPRING SOLSTICE.



AVERAGE AREA WITH ILLUMINANCE ; DAYLIGHT ACCESS 300-3000 LUX.

TOTAL OFFICE AREA : 140sqm

**FIG.08**

THE IMAGES PRESENT A DAYLIGHT ACCESS ANALYSIS FOR THE IMPROVED DESIGN OF AN OFFICE BUILDING ON THE FIRST OFFICE FLOOR, SHOWN DURING THE SPRING SOLSTICE ON MARCH 21ST AT THREE DIFFERENT TIMES: 9:00 AM, 12:00 PM, AND 3:00 PM. AT 9:00 AM, 56% OF THE OFFICE SPACE ACHIEVES THE TARGET DAYLIGHT ILLUMINANCE OF 300-3000 LUX, SURPASSING THE OPTIMAL TARGET OF OVER 50%. BY NOON AND AT 3:00 PM, THE AREA RECEIVING SUITABLE DAYLIGHT CONTINUES TO EXCEL, WITH 59% AND 55% OF THE SPACE RESPECTIVELY MEETING THE CRITERIA. HENCE, THE IMPROVED DESIGN EFFECTIVELY UTILIZES NATURAL LIGHT THROUGHOUT THE ENTIRE DAY, DEMONSTRATING ENHANCED PERFORMANCE IN MORNING DAYLIGHT ACCESS COMPARED TO THE EXISTING DESIGN.

DAYLIGHT ACCESS ; IMPROVED BUILDING DESIGN (PERSPECTIVE).

THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

AVERAGE DAYLIGHT ACCESS (300-3000 LUX) = 64%

MORE THAN >50%

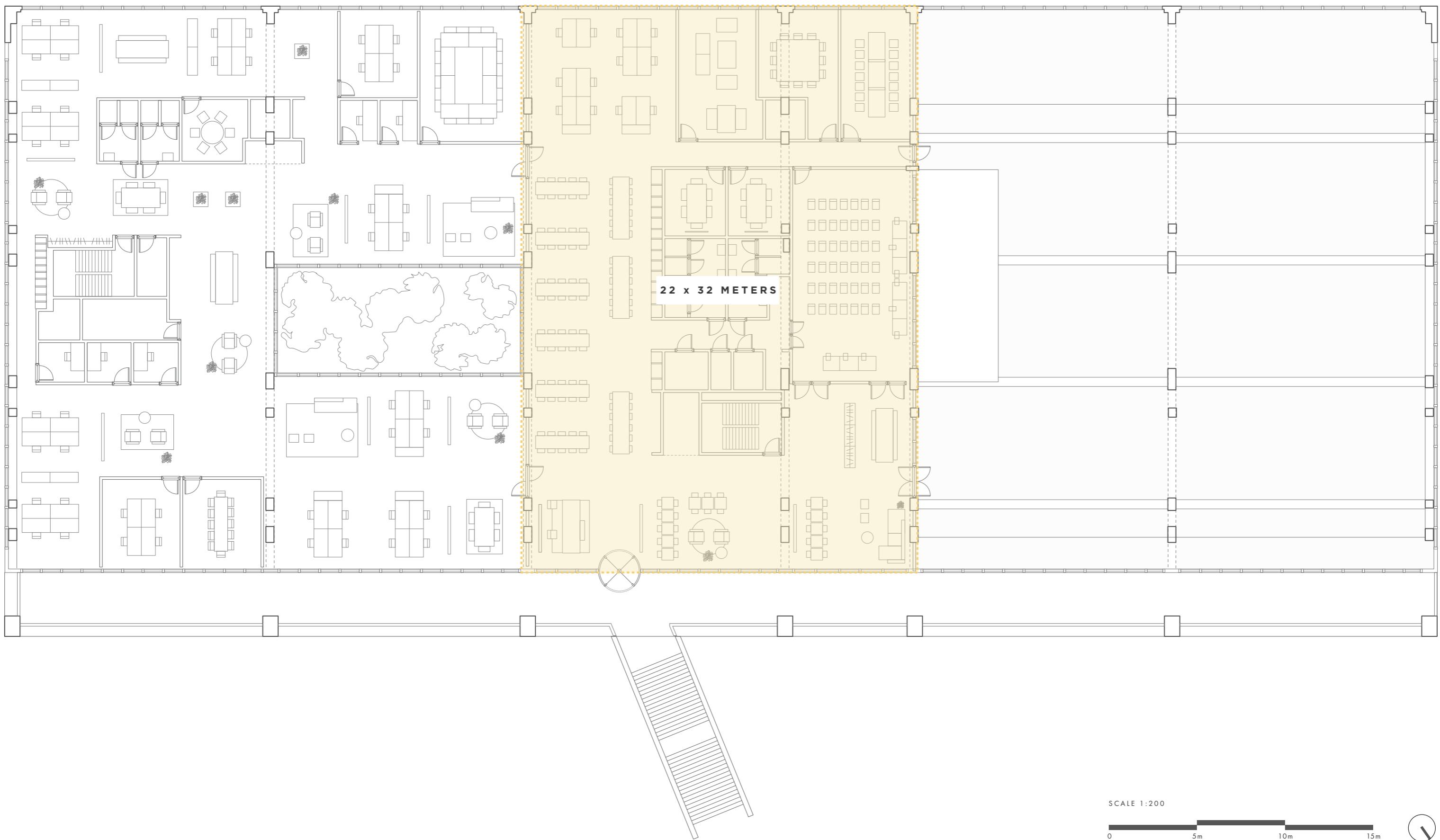
**FIG.09**

THE IMAGES PROVIDE A PERSPECTIVE VIEW OF THE DAYLIGHT ACCESS ANALYSIS FOR THE IMPROVED DESIGN OF AN OFFICE BUILDING, SHOWN AT THREE DIFFERENT TIMES—9:00 AM, 12:00 PM, AND 3:00 PM—DURING THE SPRING SOLSTICE ON MARCH 21ST. THE INFORMATION AND DATA SHOWS THAT ALL OF THE THREE TIMES SURPASS THE GOAL OF A TOTAL DAYLIGHT ACCESS OF MORE THAN 50 PERCENT, WITH THE TOTAL AVERAGE OF DAYLIGHT ACCESS (300-3000 LUX) PERCENTAGE BEING 64 PERCENT.

ELECTRIC LIGHTING STUDY

FOCUSED AREA OF ELECTRIC LIGHTING.

THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.



SCALE 1:200

0 5m 10m 15m

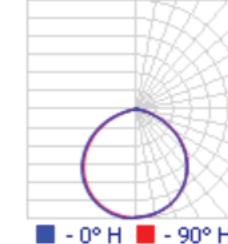


ELECTRICAL LIGHTING FIXTURES.

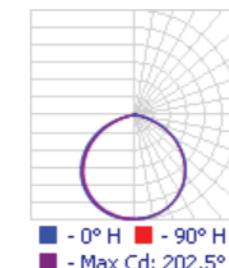
CHOSEN LIGHTING FOR THE PLATFORM OFFICE BUILDING.

LIGHTING FIXTURE 01 (LF1)**SQUARE LIGHTING**
LUMINAIRE LED [FLAT PANEL]**Luminaire LED**[**B**] - VRP 1X1 1500LM 27K 90CRI 120V FPC250

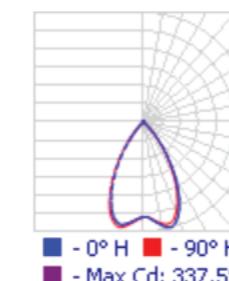
Light Loss Factor	1	Symbol Shape	Rectangular	Lamp Quantity	1
Suspension Length	0	Symbol Length	.24	Lumens Per Lamp	1214
Orientation	0	Symbol Width	.24	Wattage	14.6

VRP 1X1 1500LM 27K 90CRI 120V FPC250**LIGHTING FIXTURE 02 (LF2)****RECTANGULAR LIGHTING**
LUMINAIRE LED [FLAT PANEL]**Luminaire LED**[**A**] - VRP 1X4 1500LM 27K 80CRI 120V FPC125

Light Loss Factor	1	Symbol Shape	Rectangular	Lamp Quantity	1
Suspension Length	0	Symbol Length	.24	Lumens Per Lamp	1402
Orientation	0	Symbol Width	1.16	Wattage	11.5

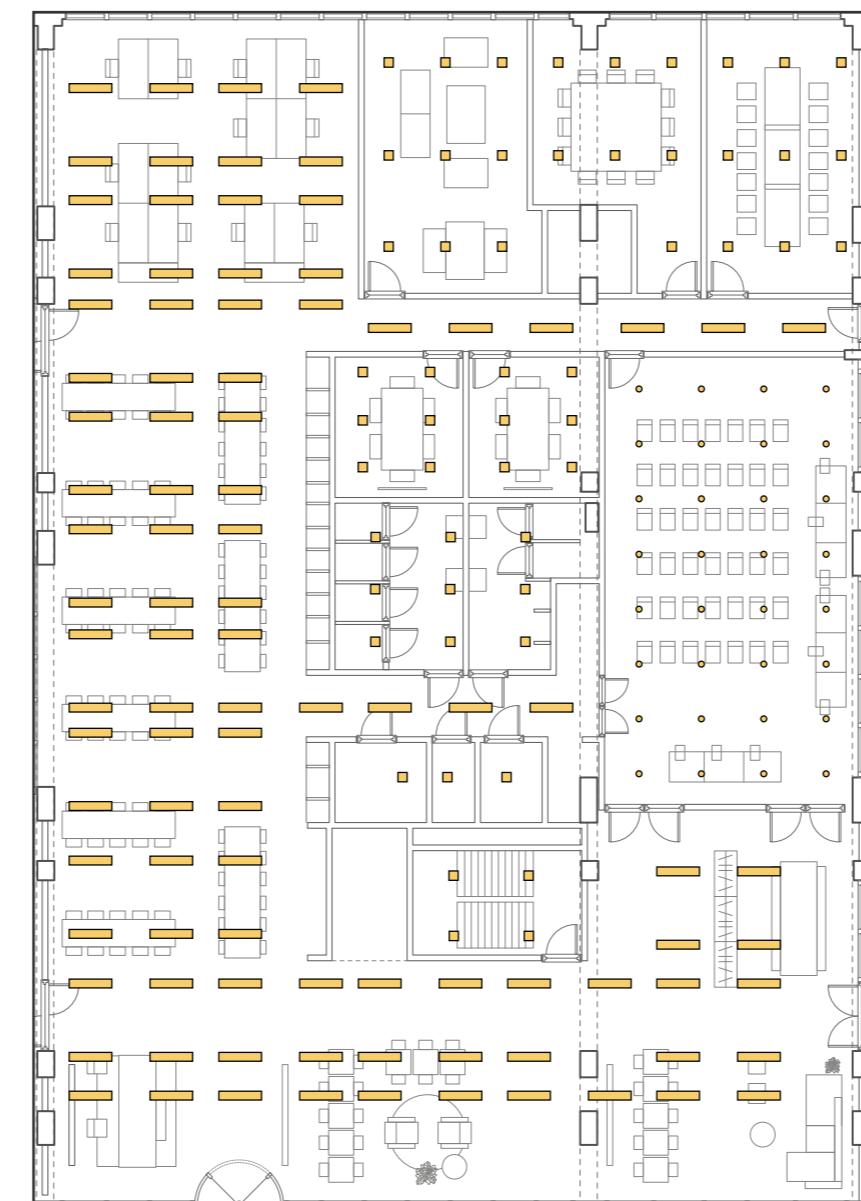
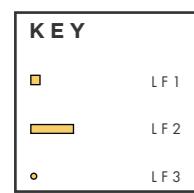
VRP 1X4 1500LM 27K 80CRI 120V FPC125**LIGHTING FIXTURE 03 (LF3)****CIRCULAR LIGHTING**
LUMINAIRE LED [DOWNGLIGHT]**Luminaire LED**[**A**] - VRDL4 1000LM MD 27K 80CRI CPL

Light Loss Factor	1	Symbol Shape	Circular	Lamp Quantity	1
Suspension Length	0	Symbol Length	.1	Lumens Per Lamp	1046
Orientation	0	Symbol Width		Wattage	13.4

VRDL4 1000LM MD 27K 80CRI CPL

ELECTRIC LIGHTING PLACEMENT ; CEILING PLAN.

THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

**FIG. 10**

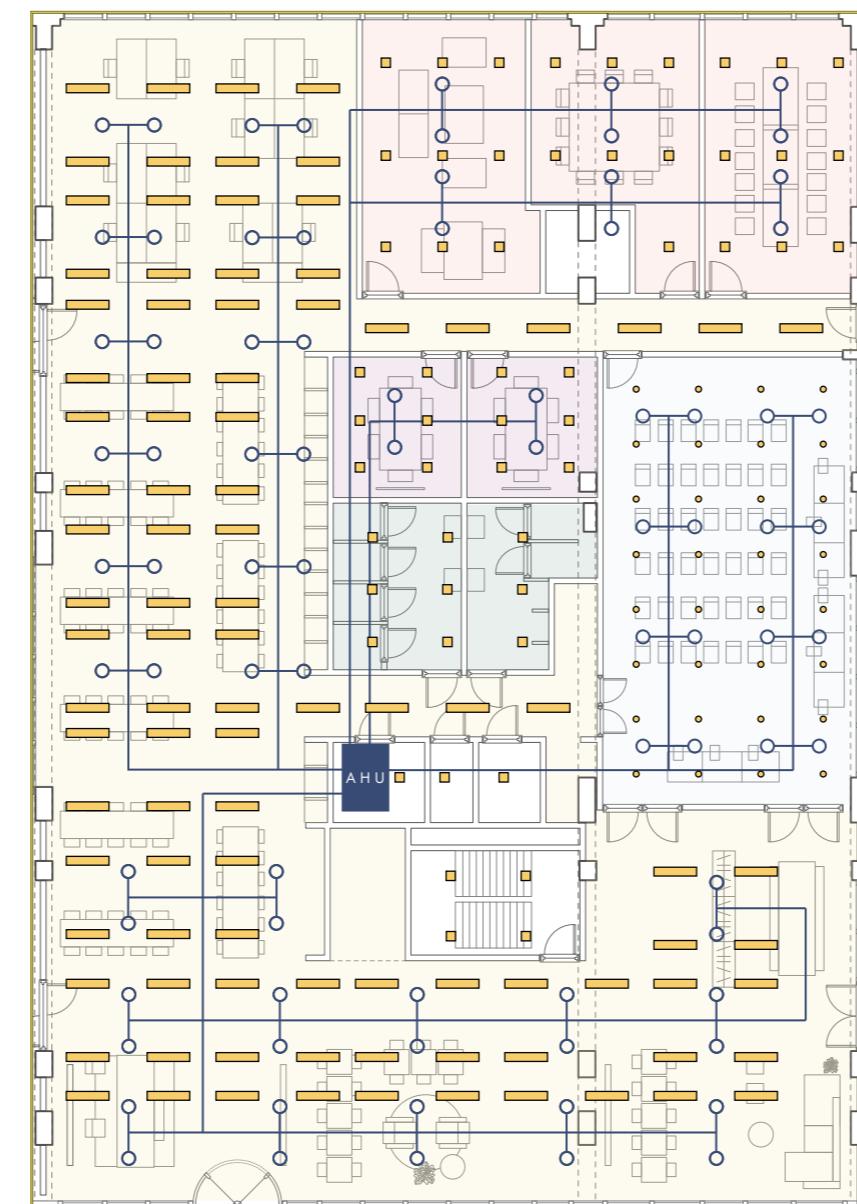
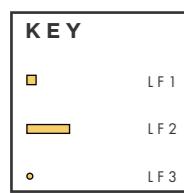
IN ORDER TO CONDUCT A THOROUGH ELECTRIC LIGHTING PLACEMENT ANALYSIS, I FIRST SEPERATED THE FIRST FLOOR PLAN OF THE PLATFORM OFFICE BUILDING IN HALF. AS SEEN IN THE CEILING PLAN ABOVE, THERE ARE THREE TYPES OF LIGHTING FIXTURES THAT ARE BEING USED : LF1, LF2, AND LF3. IN ORDER TO CONSERVE ENERGY, THERE ARE LESS ELECTRICAL LIGHTING IN AREAS THAT ARE LOCATED ON THE PERIMETER OF THE BUILDING.

SCALE 1:200



ELECTRIC LIGHTING PLACEMENT WITH AIRCON SYSTEM.

THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

**FIG. 11**

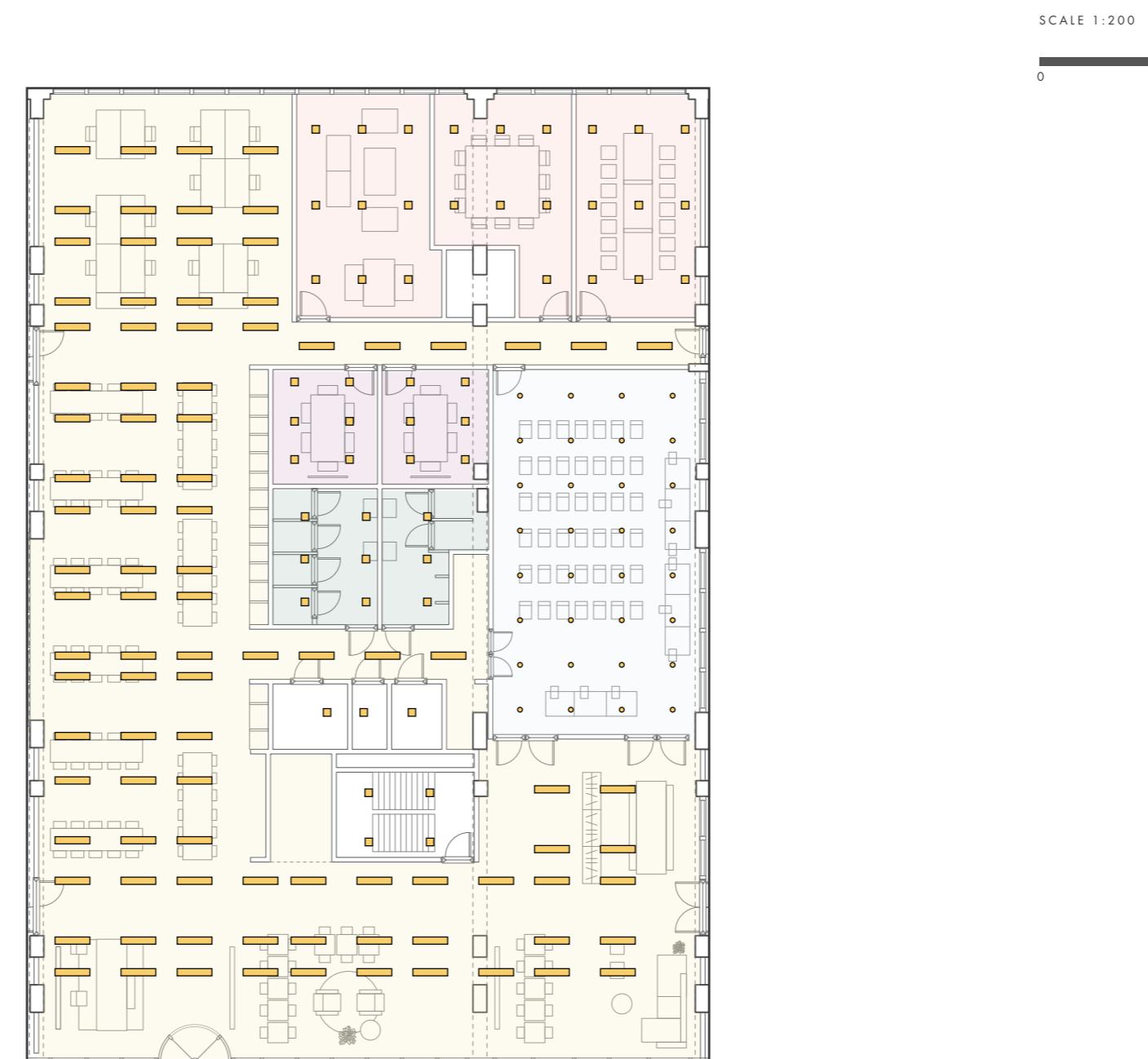
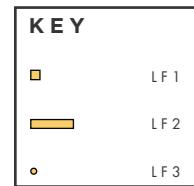
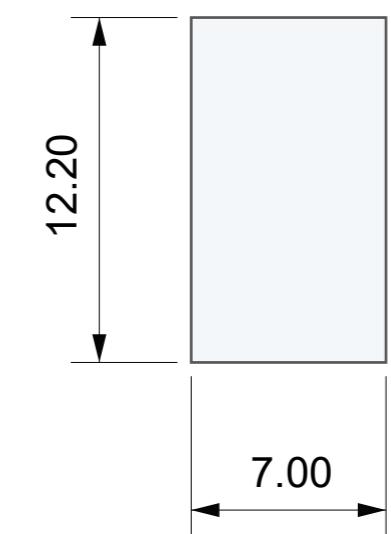
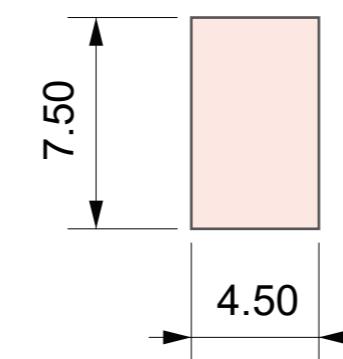
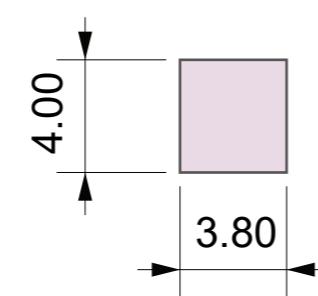
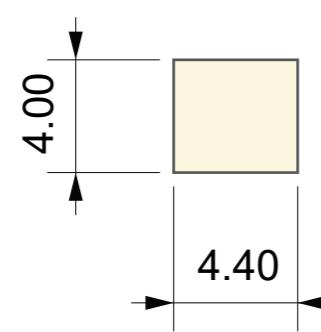
IN ORDER TO MAKE SURE THAT THE PLACEMENT OF THE ELECTRICAL LIGHTING IS NEAT AND ORGANIZED, I FOLLOWED THE PLACEMENT OF THE HVAC AND AIR DUCT / DIFFUSER SYSTEMS OF THE BUILDING. AS SEEN IN THE DRAWING ABOVE, THE AIR DIFFUSERS ARE LOCATED IN BETWEEN AROUND THREE TO FOUR LIGHTS.

SCALE 1:200



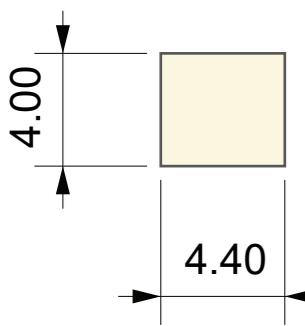
ELECTRIC LIGHTING PLACEMENT ; ZONING.

THE PLATFORM OFFICE BUILDING ; FIRST [OFFICE] FLOOR PLAN.

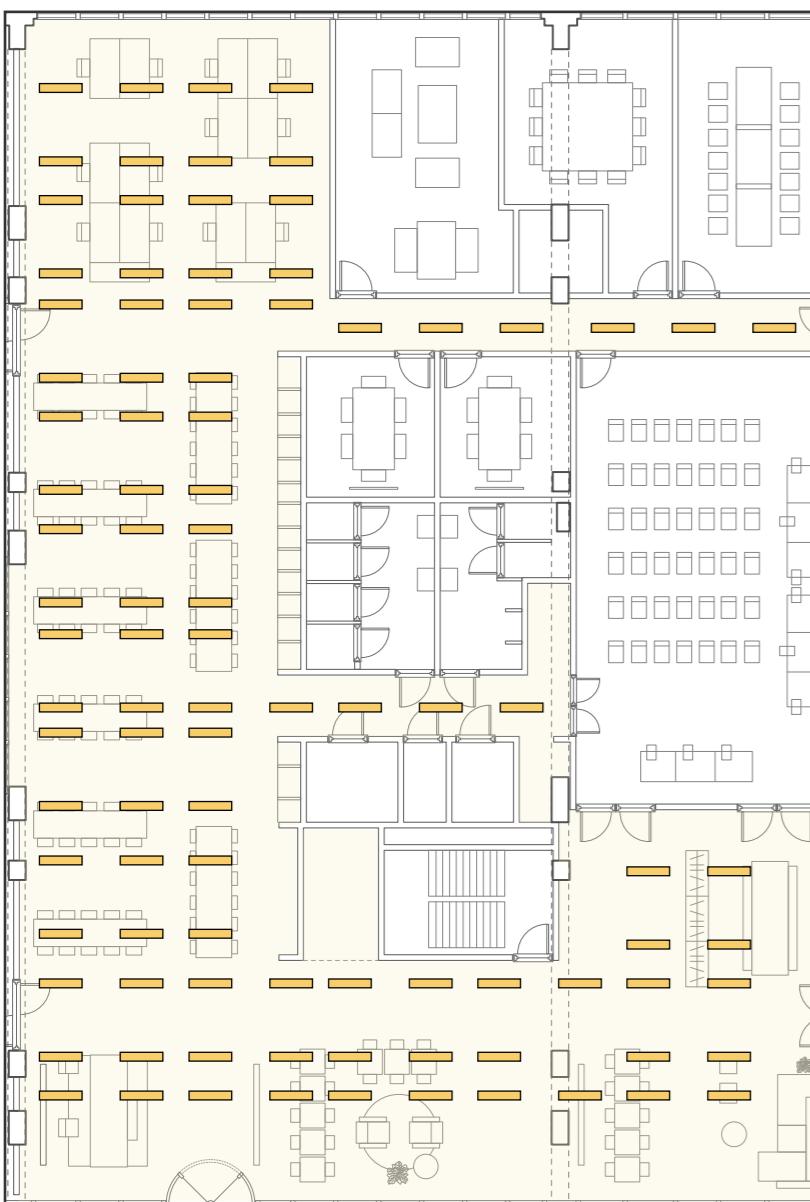
**ROOM TYPOLOGY / ZONING.****CO-WORKING SPACE****MEETING ROOM 01****MEETING ROOM 02****AUDITORIUM**

CO-WORKING SPACE

ELECTRIC LIGHTING DETAILS.



FLOORPLAN ; SCALE 1:200



SCALE 1:200

0 5m 10m 15m



PRODUCT USED: (LF2)

LUMINAIRE LED - VRP 1x4 1500LM 27K 90CRI 120V FPC125

**Luminaire LED**

[A] - VRP 1X4 1500LM 27K 80CRI 120V FPC125

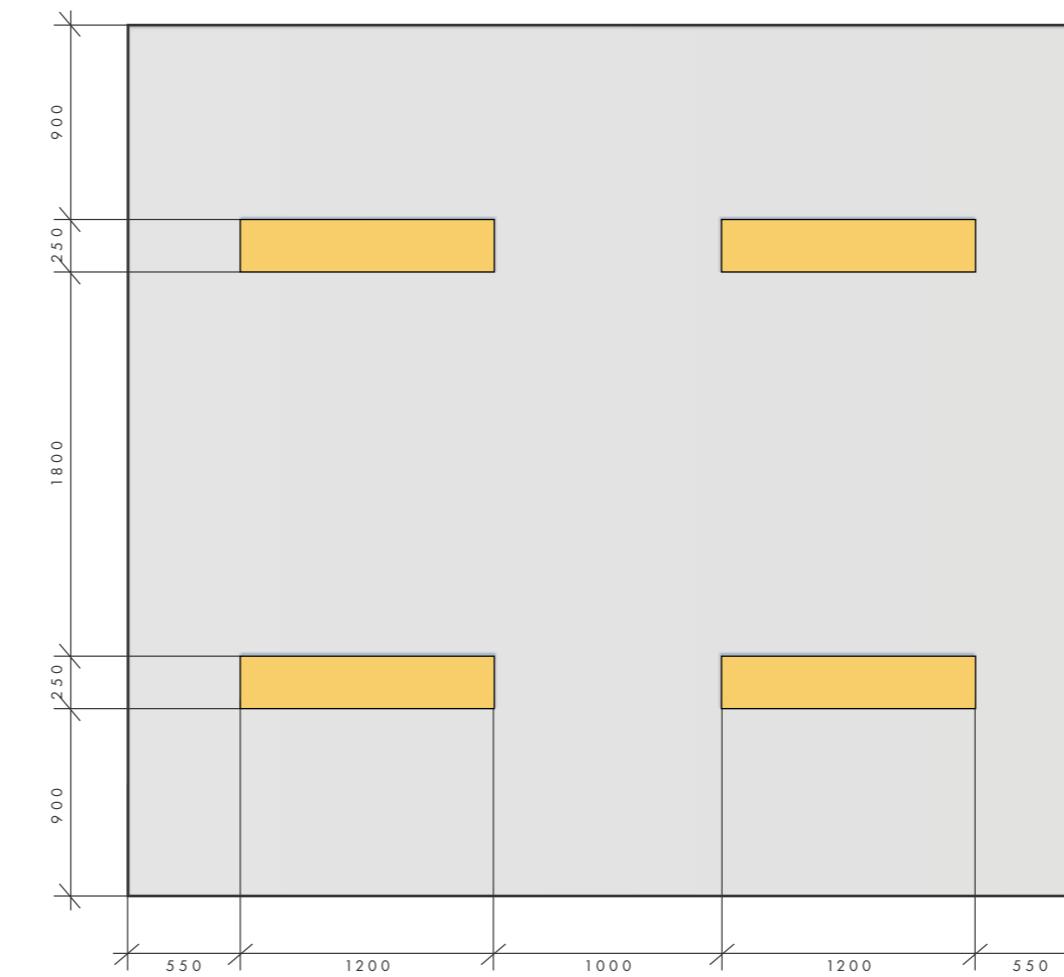
Light Loss Factor	1	Symbol Shape	Rectangular	Lamp Quantity	1
Suspension Length	0	Symbol Length	.24	Lumens Per Lamp	1402
Orientation	0	Symbol Width	1.16	Wattage	11.5

VRP 1X4 1500LM 27K 80CRI 120V FPC125

REQUIREMENT : 300 LUX

ILLUMINANCE : 300 LUX

QUANTITY : 4 PCS.

POWER DENSITY : 2.61W/m²**Calculation Results [A]**

Illuminance 271 lux
Power Density 2.61 W/m²
Quantity 4

Spacing Results [A]

Spacing 2 x 2.2 m
Arrangement 2 x 2
Outside Spacing X 0.88 m
Outside Spacing Y 0.52 m

DisplayDimensions Room Layout

Show Zonal Cavity Info [+]

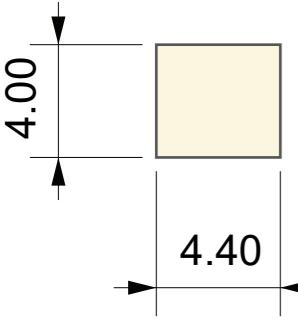
FIG. 12

THE ELECTRIC LIGHTING LAYOUT SHOWN IN THE IMAGE IS FOR THE CO-WORKING OFFICE AREA. THE CHOICE OF ELECTRIC LIGHTING ACHIEVES THE REQUIREMENT OF AROUND 300LUX, AND THE POWER DENSITY IS 2.61 W/M², INDICATING EFFICIENT ENERGY USAGE FOR THE SPACE. THE LAYOUT UTILIZES FOUR VRP LED LUMINAIRES, EACH PRODUCING 1500 LUMENS, WHICH IS OPTIMIZED FOR THE CO-WORKING OFFICE ENVIRONMENT.

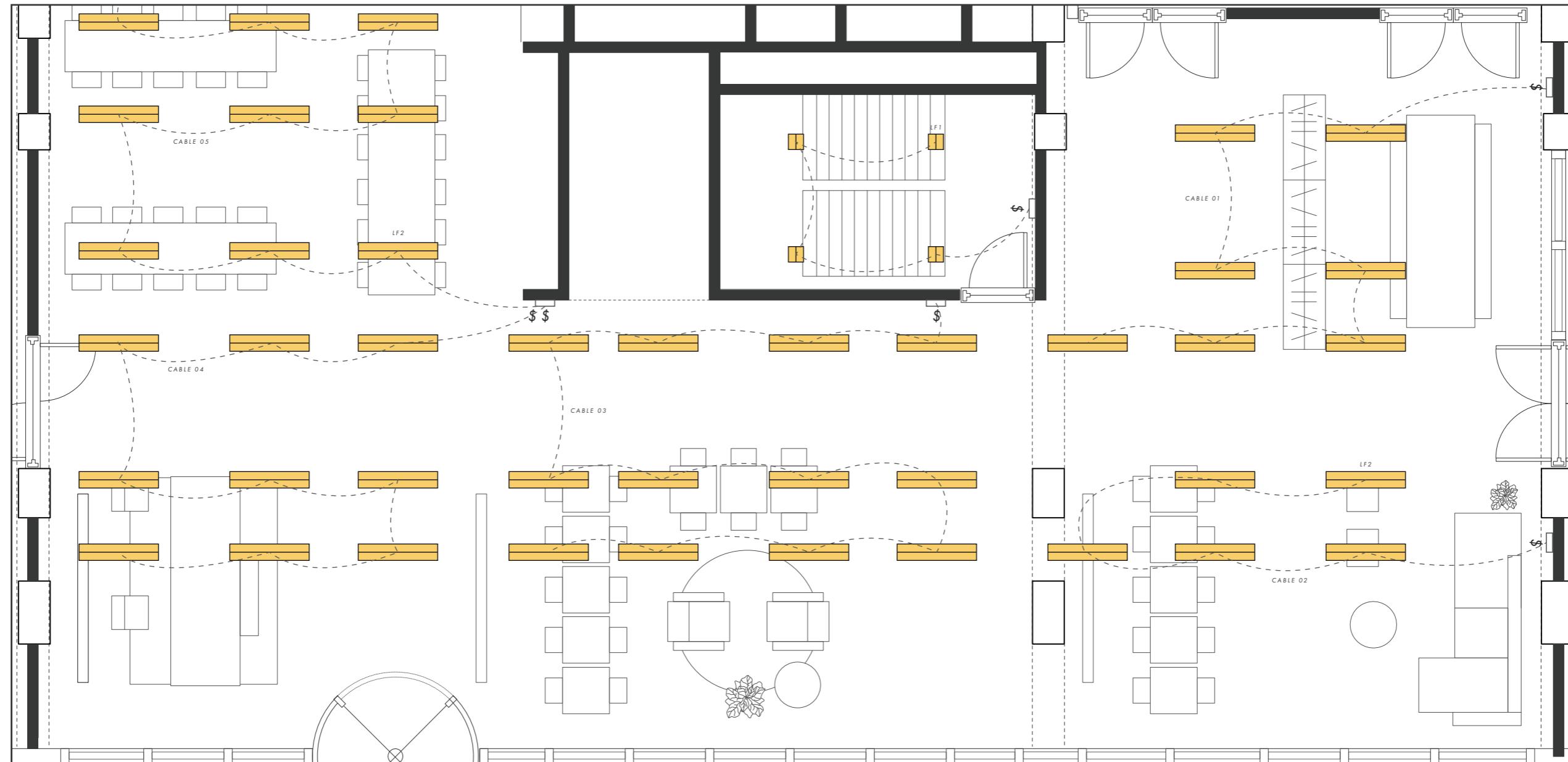
ELECTRIC LIGHTING PLAN ; CO-WORKING SPACE

LIGHTING PLAN WITH CABLES AND SWITCHES.

SCALE 1:75



LIGHTING FIXTURE 02 (LF2)
LUMINAIRE LED - VRP 1x4 1500LM 27K 90CRI 120V FPC125

**FIG. 13**

THE ELECTRIC LIGHTING PLAN ABOVE SHOWS THE CABLE / CIRCUIT CONNECTIONS AND SWITCH LOCATIONS FOR THE BOTTOM HALF OF THE CO-WORKING OFFICE SPACE TYPOLOGY. THE SWITCHES ARE PLACED STRATEGICALLY NEXT TO MAIN ENTRANCES AND STORAGE ROOMS (SO JANITORS CAN HAVE EASY ACCESS), AND THE CIRCUITS ARE DIVIDED IN A WAY THAT NOT ALL LIGHTS HAVE TO BE TURNED ON AT THE SAME TIME, ENSURING EFFICIENT ENERGY SAVING DURING THE DAYTIME WHEN AREAS NEAR THE PERIMETER RECEIVE SUNLIGHT.

KEY

LIGHT SWITCHES



LUMINAIRE LED LIGHTS



LED STRIP LIGHT

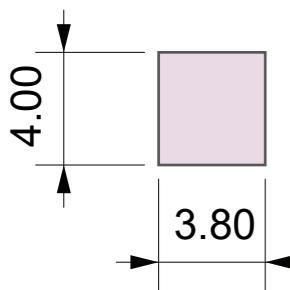


CABLES



MEETING ROOM 01

ELECTRIC LIGHTING DETAILS.



FLOORPLAN ; SCALE 1:200



SCALE 1:200



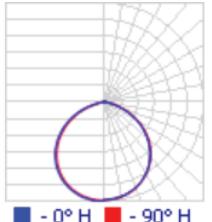
PRODUCT USED: (LF1)

LUMINAIRE LED - VRP 1x1 1500LM 27K 90CRI 120V FPC250

**Luminaire LED**

[B] - VRP 1X1 1500LM 27K 90CRI 120V FPC250

Light Loss Factor	1	Symbol Shape	Rectangular	Lamp Quantity	1
Suspension Length	0	Symbol Length	.24	Lumens Per Lamp	1214
Orientation	0	Symbol Width	.24	Wattage	14.6

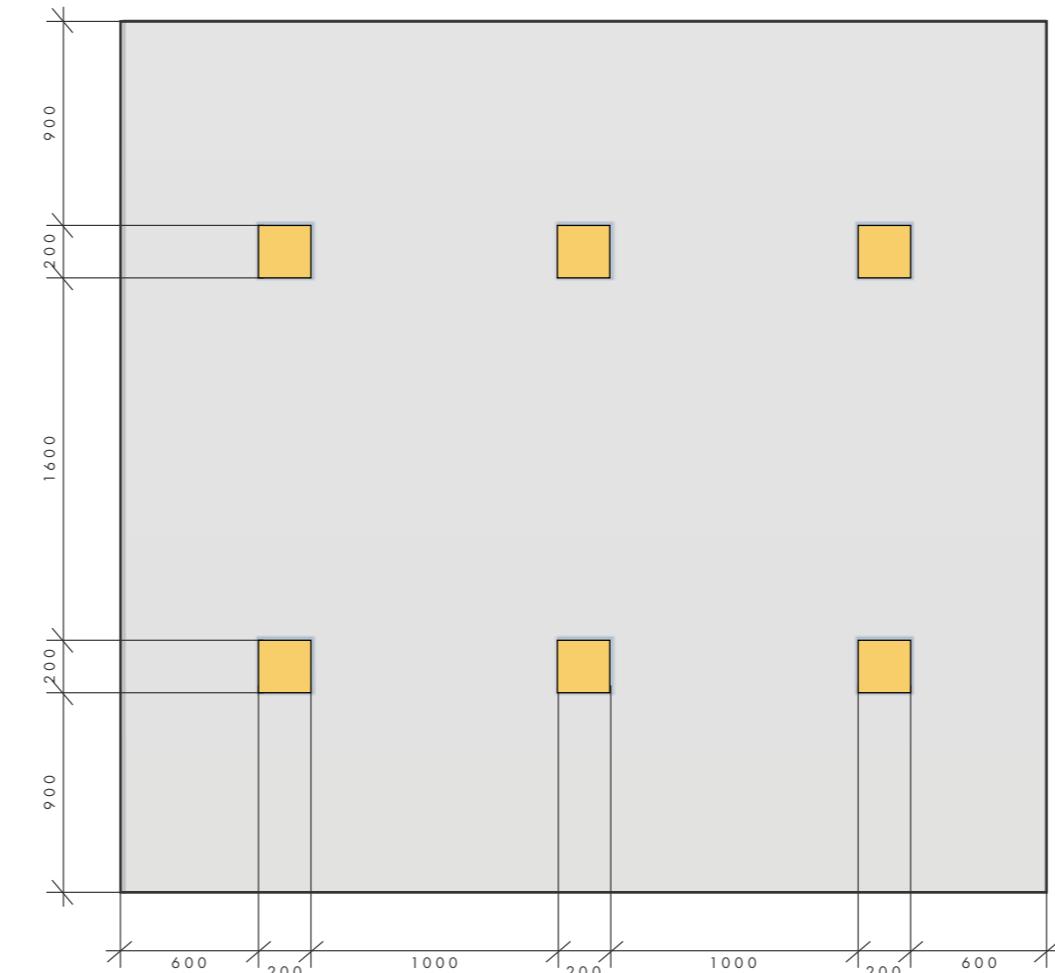


VRP 1X1 1500LM 27K 90CRI 120V FPC250

REQUIREMENT : 300 LUX

ILLUMINANCE : 400 LUX

QUANTITY : 6 PCS.

POWER DENSITY : 5.76 W/m²**Calculation Results [B]**

Illuminance	400 lux
Power Density	5.76 W/m ²
Quantity	6

Spacing Results [B]

Spacing	1.3 x 1.8 m
Arrangement	3 x 2
Outside Spacing X	0.58 m
Outside Spacing Y	0.88 m

Comparison

Luminaire	LUX	W/M ²	Count
A	396	5.29	6
B	400	5.76	6

Display

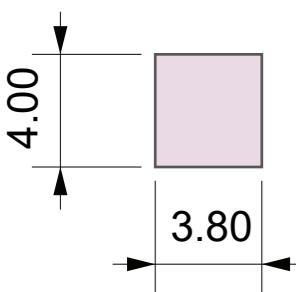
Dimensions Room Layout
Show Zonal Cavity Info [+]

FIG. 14

THE LIGHTING DESIGN FOR THE MEETING ROOM 01 TYPOLOGY ENSURES THAT THE ILLUMINANCE REQUIREMENT OF 300 LUX IS COMFORTABLY EXCEEDED, WITH AN ACTUAL ILLUMINANCE OF 400 LUX. THIS IS ACHIEVED USING SIX VRP LED LUMINAIRES, EACH PROVIDING 1500 LUMENS, WITH A POWER DENSITY OF 5.76 W/M². THIS LIGHTING SETUP IS BENEFICIAL FOR MEETING ROOMS, WHERE FOCUSED, BRIGHT LIGHTING ENHANCES VISIBILITY FOR DISCUSSIONS, PRESENTATIONS, AND COLLABORATIVE WORK.

ELECTRIC LIGHTING PLAN ; MEETING ROOM 01.

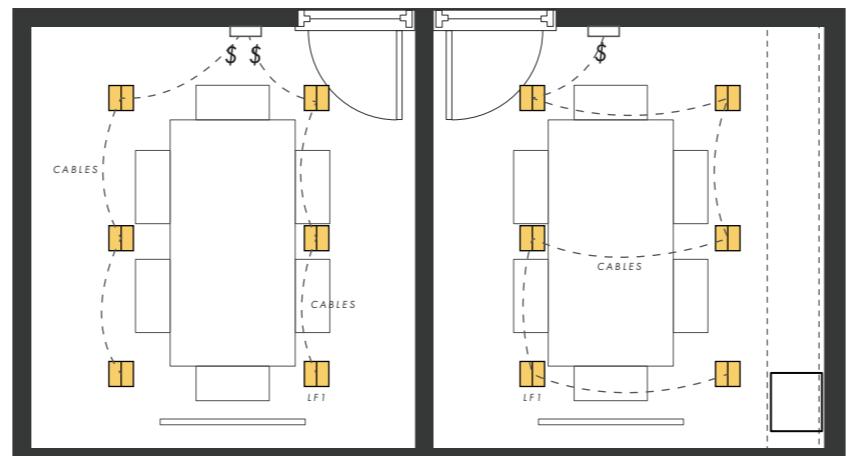
LIGHTING PLAN WITH CABLES AND SWITCHES.



SCALE 1:75



LIGHTING FIXTURE 01 (LF1)
LUMINAIRE LED - VRP 1x1 1500LM 27K 90CRI 120V FPC250

**FIG. 15**

THE ELECTRIC LIGHTING PLAN ABOVE SHOWS THE CABLE / CIRCUIT AND SWITCH PLAN FOR THE MEETING ROOM 01 TYPOLOGIES. THESE ROOMS USE THE LIGHTING FIXTURE 01 (LF1) OF SQUARE SHAPED LUMINAIRE LED LIGHTING. THERE ARE TWO VARIATIONS FOR THE CIRCUIT OF THE MEETING ROOMS, ONE WITH TWO CIRCUITS AND SWITCHES, AND THE OTHER WITH ONLY ONE CIRCUIT AND SWITCH. THE SWITCHES ARE LOCATED NEXT TO THE ENTRY FOR EASY ACCESS,

KEY

LIGHT SWITCHES



LUMINAIRE LED LIGHTS



LED STRIP LIGHT

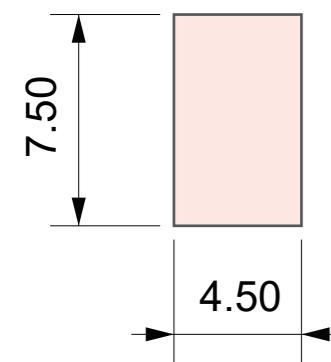


CABLES

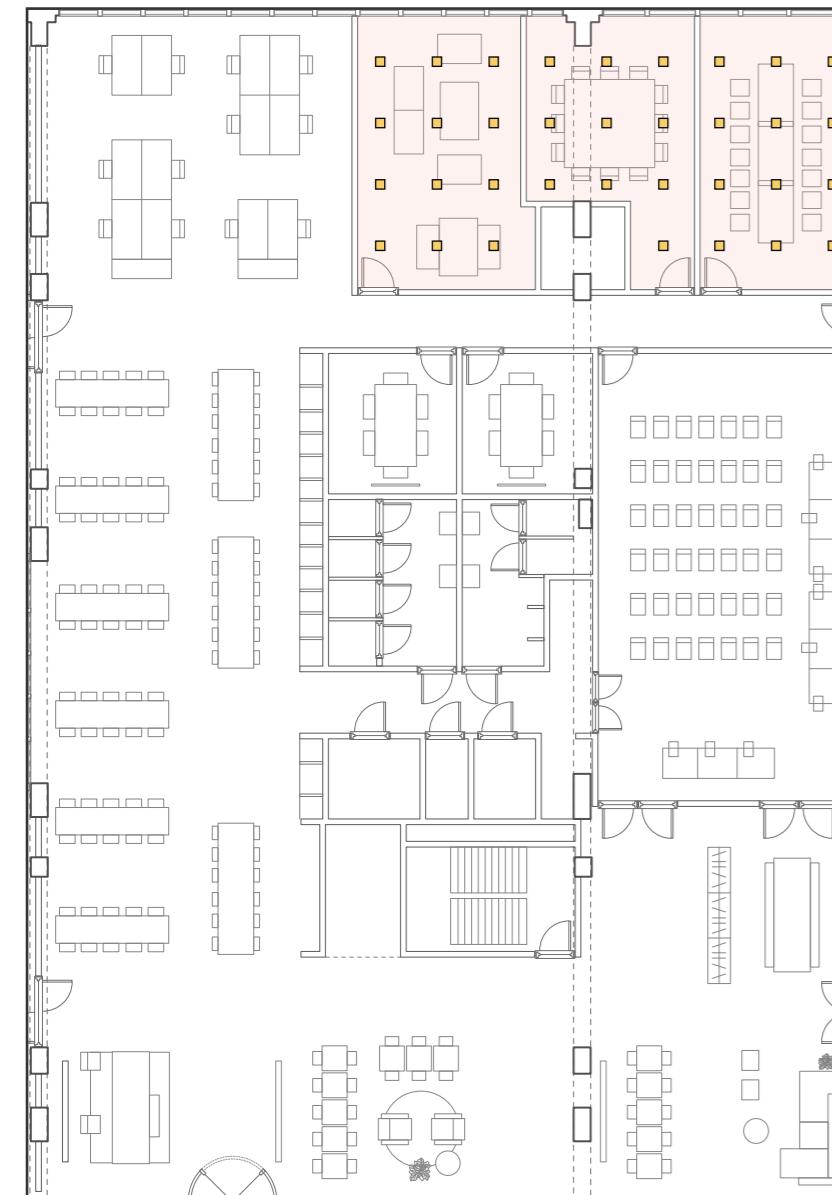


MEETING ROOM 02.

ELECTRIC LIGHTING DETAILS.



FLOORPLAN ; SCALE 1:20



SCALE 1:20



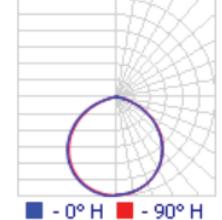
PRODUCT USED: (LF

LUMINAIRE LED - VRP 1x1 1500LM 27K 90CRI 120V FPC25

Luminaire LED

[B] - VRP 1X1 1500LM 27K 90CRI 120V FPC250

Light Loss Factor	<input type="text" value="1"/>	Symbol Shape	Rectangular <input type="button" value="▼"/>	Lamp Quantity	<input type="text" value="1"/>
Suspension Length	<input type="text" value="0"/>	Symbol Length	<input type="text" value=".24"/>	Lumens Per Lamp	<input type="text" value="1214"/>
Orientation	<input type="text" value="0"/> <input type="button" value="▼"/>	Symbol Width	<input type="text" value=".24"/>	Wattage	<input type="text" value="14.6"/>



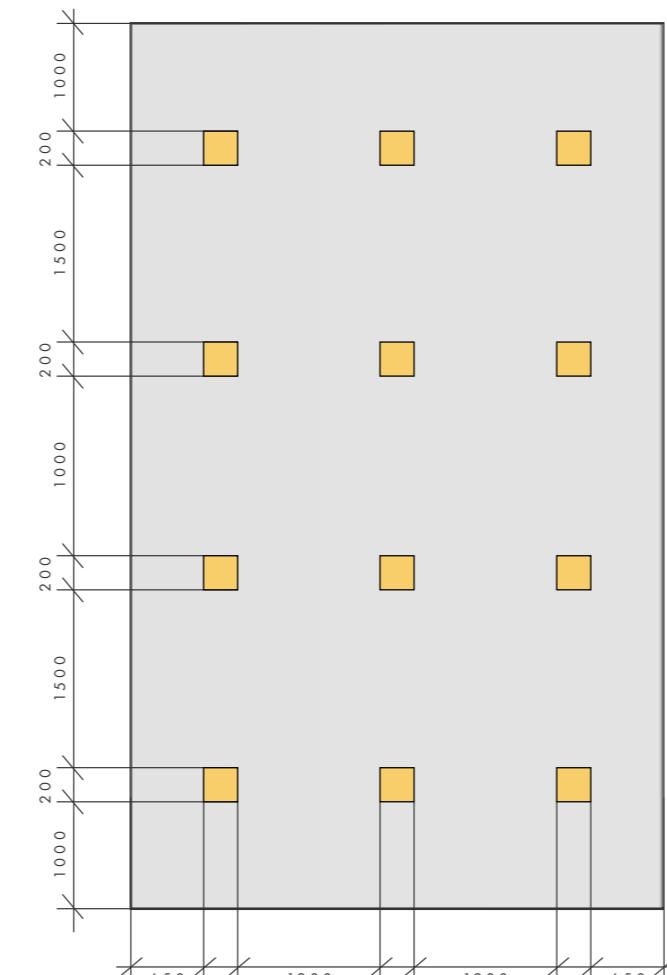
VRP 1X1 1500LM 27K 90CRI 120V FPC25

REQUIREMENT : 300 LU

ILLUMINANCE : 401 LU

QUANTITY : 12PCS

| POWER DENSITY : 5.19 W/m²



Calculation Results [B]

Illuminance	401 lux
Power Density	5.19 W/m ²
Quantity	12

Spacing Results [B]

Spacing Results [D]
 Spacing 1.8 x 1.5
 Arrangement 4 x 3
 Outside Spacing X 0.93 m
 Outside Spacing Y 0.62 m

Compariso

Luminaire	LUX	W/M ²	Count
A	380	4.76	1
B	401	5.19	1

Display



Dimensions Room Layout []

FIG. 1

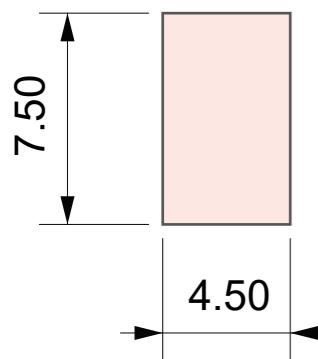
THE LIGHTING DESIGN FOR MEETING ROOM 02 ENSURES THAT THE ILLUMINANCE REQUIREMENT OF 300 LUX IS SURPASSED, WITH AN ACTUAL ILLUMINANCE OF 401 LUX. THIS IS ACHIEVED USING 12 VRP LED LUMINAIRES, EACH PROVIDING 1500 LUMENS, WITH A POWER DENSITY OF 5.19 W/M². THIS LIGHTING CONFIGURATION IS IDEAL FOR MEETING ROOMS, WHICH BRIGHT AND EVEN LIGHTING ENHANCES THE WORK ENVIRONMENT.

ELECTRIC LIGHTING PLAN ; MEETING ROOM 02.

LIGHTING PLAN WITH CABLES AND SWITCHES.

SCALE 1:75

0 5m 6m



LIGHTING FIXTURE 01 (LF1)
LUMINAIRE LED - VRP 1x1 1500LM 27K 90CRI 120V FPC250

**FIG. 17**

THE ELECTRIC LIGHTING PLAN ABOVE SHOWS THE CIRCUIT / CABLE CONNECTIONS AND LIGHT SWITCH PLACEMENTS FOR THE ARTIFICIAL LIGHTING IN THE MEETING ROOM 02 ZONING TYPOLOGIES. ASIDE FROM THE MAIN LF1 TYPE LIGHTING, THERE IS AN ADDITIONAL LED STRIP LIGHT ALONG THE TOP OF THE WALL LOCATED NEXT TO THE ENTRY DOOR, ADDING TO THE ROOMS AMBIANCE. THE LED STRIP LIGHT AND MAIN LIGHTING ARE CONTROLLED BY TWO SEPERATE SWITCHES.

KEY

LIGHT SWITCHES



LUMINAIRE LED LIGHTS



LED STRIP LIGHT

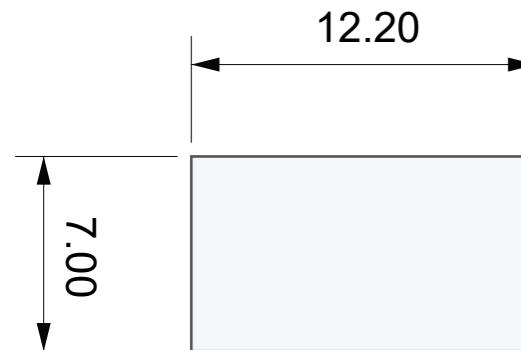


CABLES

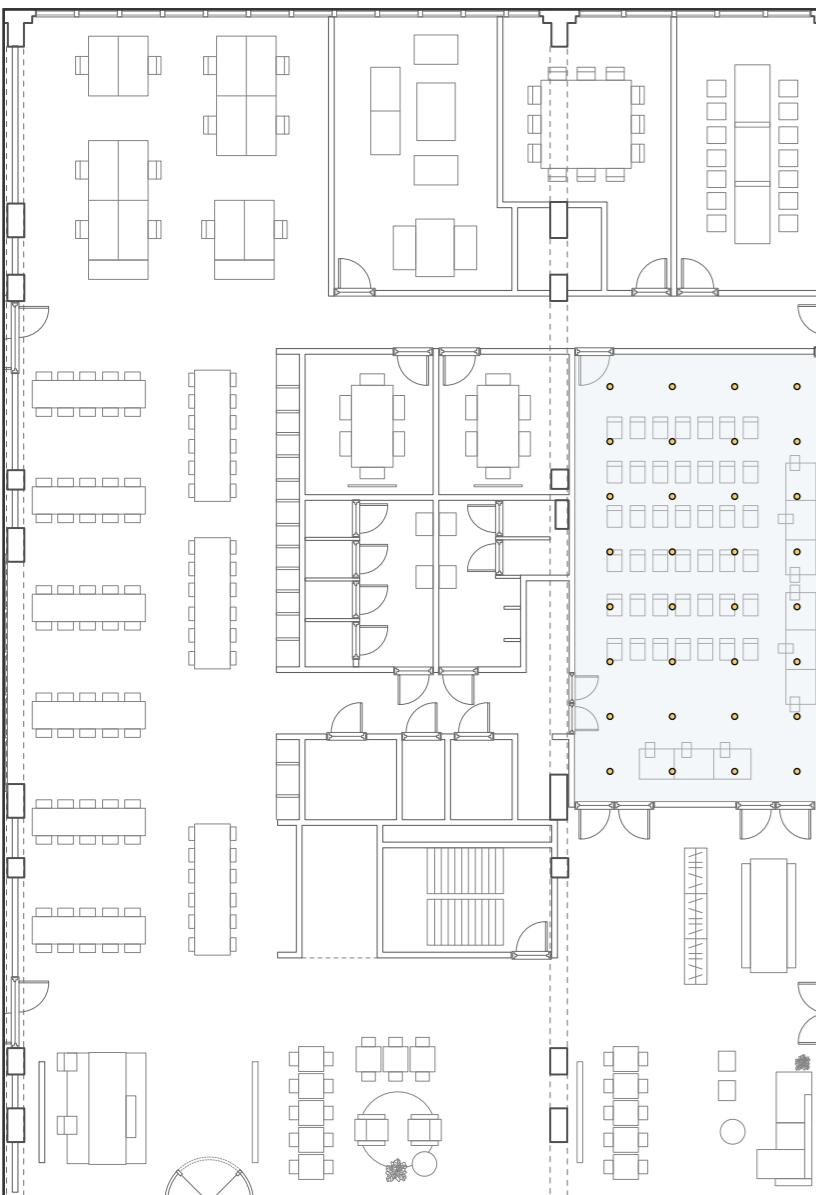


AUDITORIUM.

ELECTRIC LIGHTING DETAILS.



FLOORPLAN ; SCALE 1:20



SCALE 1:200



PRODUCT USED: (LF3)

LUMINAIRE LED - VRDL4 1000LM MD 27K 80CRI CP

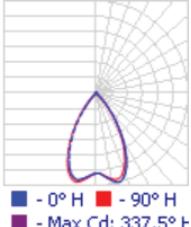


VRDL4 1000LM MD 27K 80CRI C

Luminaire LED

[A] - VRDL4 1000LM MD 27K 80CRI CPL

Light Loss Factor	<input type="text" value="1"/>	Symbol Shape	<input type="button" value="Circular"/> <input checked="" type="checkbox"/>	Lamp Quantity
Suspension Length	<input type="text" value="0"/>	Symbol Length	<input type="text" value=".1"/>	Lumens Per Lamp
Orientation	<input type="text" value="0"/> <input type="button" value="▼"/>	Symbol Width		Wattage

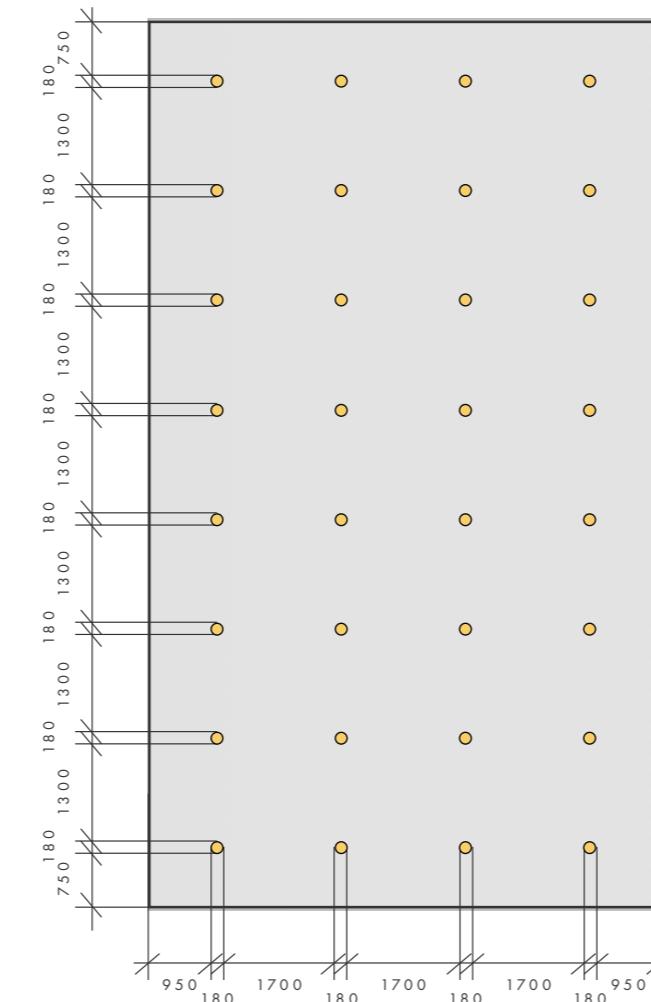


REQUIREMENT : 300 LU

ILLUMINANCE : 399 LU

QUANTITY : 32PC

| POWER DENSITY : 6.82 W/m²



Calculation Results [B]

Illuminance	399 lux
Power Density	6.82 W/m
Quantity	32

Spacing Results [B]

Spacing 1.5 x 1.7
Arrangement 8 x 4
Outside Spacing X 0.8 m
Outside Spacing Y 0.9 m

Comparison

Luminaire	LUX	W/M ²	Count
A	400	3.23	24
B	300	6.82	22

Display



Dimensions Room Layout

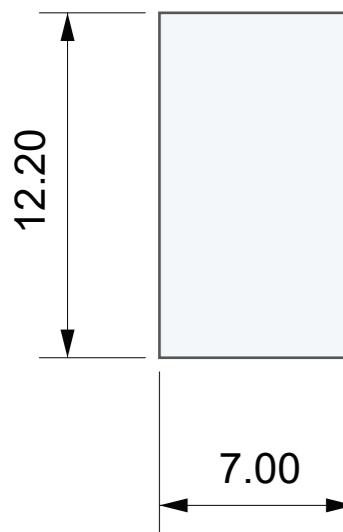
FIG. 1

THE LIGHTING DESIGN FOR THE AUDITORIUM ENSURES THAT THE ILLUMINANCE REQUIREMENT OF 300 LUX IS EXCEEDED, WITH AN ACTUAL ILLUMINANCE OF 399 LUX. THIS IS ACHIEVED USING 32 VRDL4 LED LUMINAIRES, EACH PROVIDING 1000 LUMENS, AND A POWER DENSITY OF 6.82 W/M². THIS SETUP IS IDEAL FOR AUDITORIUMS, WHERE HIGH AND EVENLY DISTRIBUTED LIGHTING ENHANCES VISIBILITY FOR PRESENTATIONS, PERFORMANCES, AND EVENTS.

ELECTRIC LIGHTING PLAN ; AUDITORIUM.

LIGHTING PLAN WITH CABLES AND SWITCHES.

SCALE 1:75



LIGHTING FIXTURE 03 (LF3)
LUMINAIRE LED - VRDL4 1000LM MD 27K 80CRI CPL

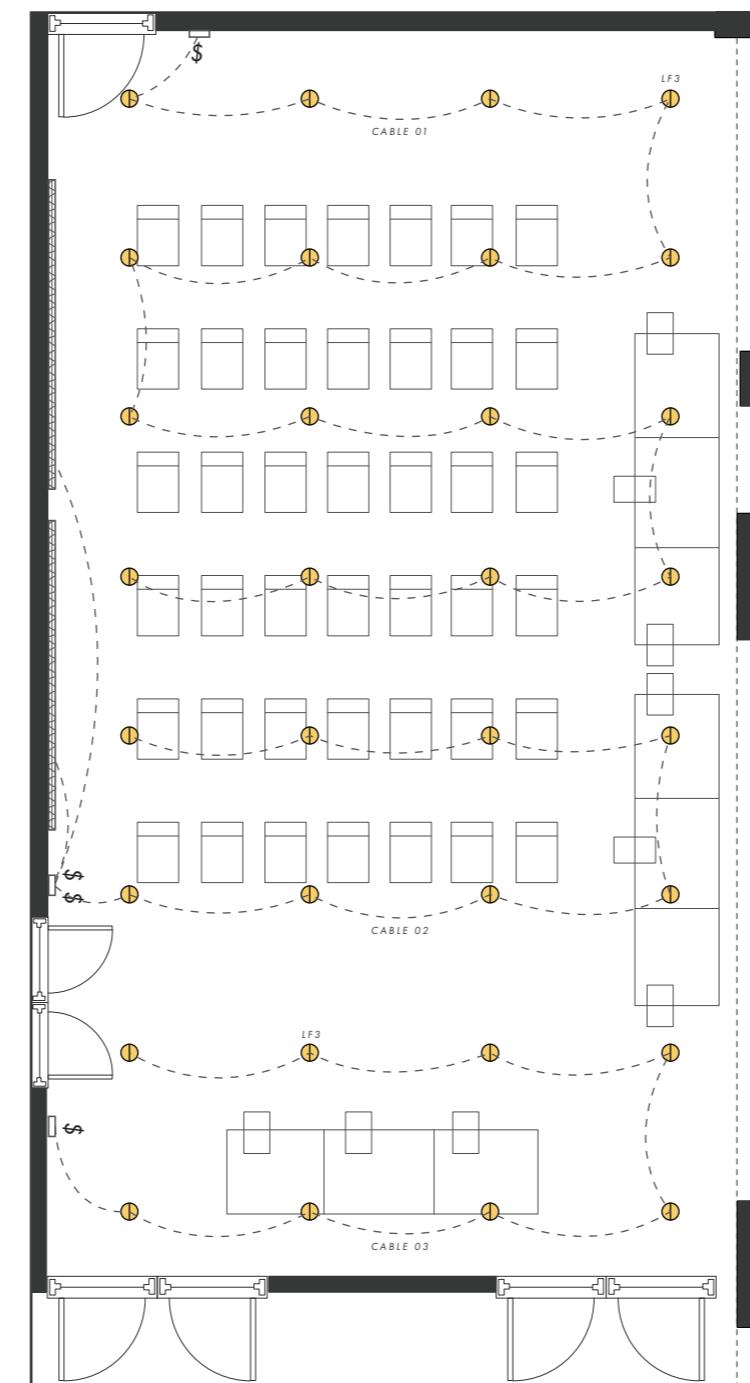


FIG. 19

THE ELECTRICAL LIGHTING PLAN ABOVE SHOWS THE CABLE / CIRCUIT ORGANIZATION AND THE SWITCH PLACEMENT FOR THE MAIN AUDITORIUM OF THE PLATFORM OFFICE BUILDING. THE AUDITORIUM USES THE CIRCULAR LF2 ELECTRIC LIGHT TYPE, AND THE CABLES ARE ORGANIZED IN A WAY WHERE THE FRONT AND THE BACK HAVE TWO SEPERATE SWITCH CONTROLS, ENABLING AN OPTIMAL ENVIRONMENT FOR PRESENTATION AND LECTURE ENVIRONMENTS.

KEY

LIGHT SWITCHES



LUMINAIRE LED LIGHTS



LED STRIP LIGHT



CABLES



