UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
School of Professional & Executive Development

ABOVE SANTS

Jou Serra –Marcela Valdés - Xarlie Sotelo

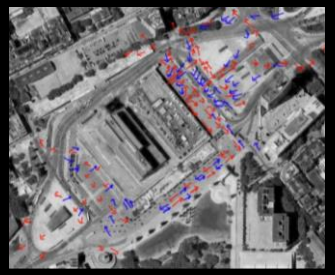
SITIO

Las estaciones son algo más que un lugar desde el que subir a un tren o desembarcar del mismo.

Además de prestar sus servicios a los viajeros y usuarios, muchas de ellas constituyen una referencia en las localidades donde su ubican.

ANÁLISIS CONTEXTUAL

CONEXIONES PEATONALES

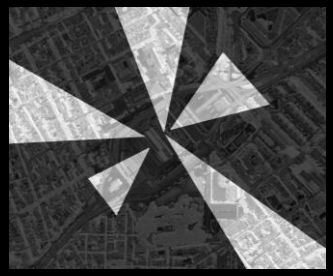


MOVIMIENTOS Y
DESPLAZAMIENTOS

VIALIDAD

PLAZAS / ISLAS

AREAS DE PARKING

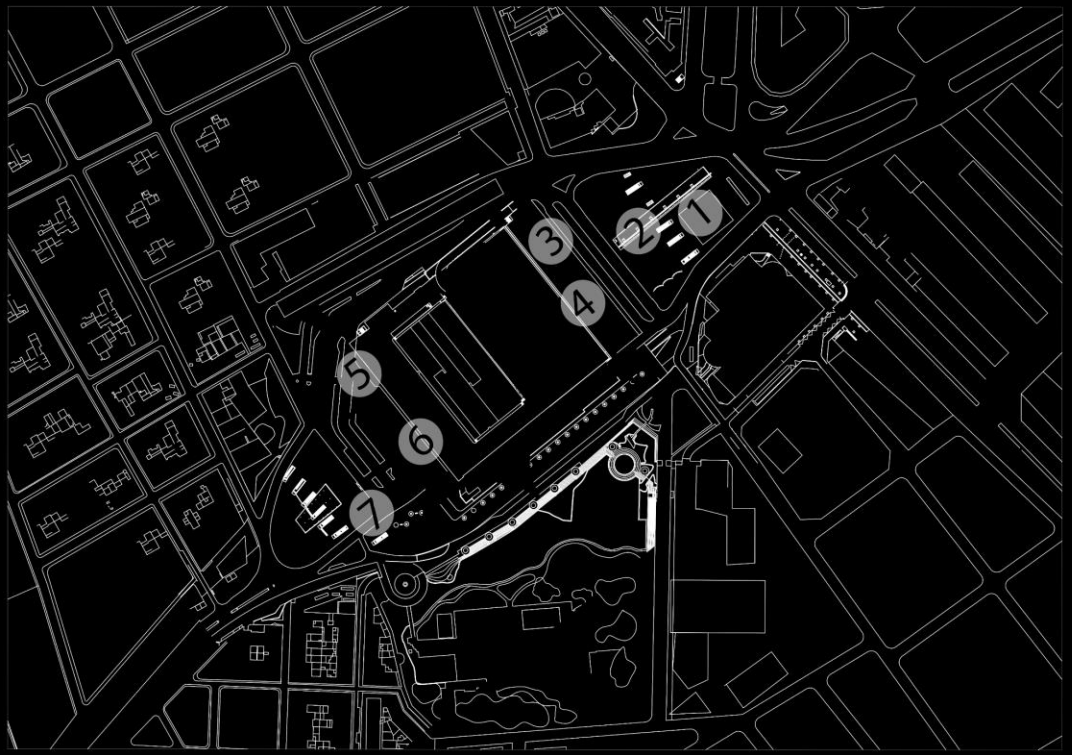


VISTAS IMPORTANTES

AUSENCIA DE SOMBRAS Y
REFUGIOS (BALDÍO)

NIVELES
DESLUMBRAMIENTO
ESCALAS
TEMPERATURA DE COLOR

ANÁLISIS DE ILUMINACIÓN ACTUAL



1

Penumbra
Sin iluminación
Sin acentos

2

Contrastes
Sutil
Continuidad
Dirección
Perspectiva

3

Confusión visual
Iluminación plana
Espacio desolado
Luminarias y escala humana

4

Deslumbramiento
Alta intensidad.
Temp. color fría
Aspecto cancha deportiva

5

Sensaciòn de terreno baldío
Alta intensidad
Sensación inseguridad
Iluminación plana
No da dirección
Ni acentos ni jerarquiza

6

Exceso de informaciòn lumínica
Falta de luz en peatones
La luz no guía

7

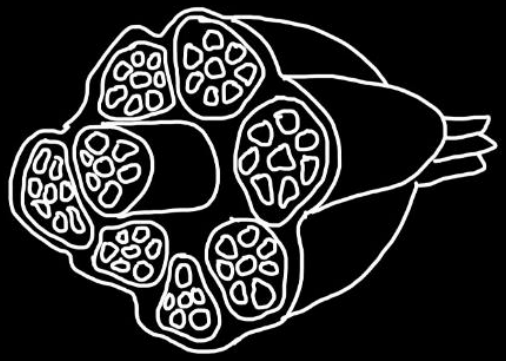
Deslumbramiento
Exceso de intensidad lumínica
La luz no resalta la arquitectura
Sensación de exposición

CONTRABRIEFING

NECESIDADES	OBJETIVOS
Sombra	*Estructura para sombra de día y luz de noche*
Ausencia de un paisaje diurno y nocturno	*Priorizar vistas*
Conexión entre interior y exterior	*Luz natural en estación*
Accesos a “la isla”	*Mejorar la conectividad con pasarelas peatonales*
Sensación de algo “mecánico”	*Mayor fluidez, curvas, diferentes intensidades, jerarquías y ambientes*
Falta de amplitud y perspectiva	*Trabajar en el nivel superior e inferior*
Uso del espacio que parece un terreno baldío	*Mirador y parques: Incentivar el “estar”, la permanencia.*

FLUIDEZ Y PERMANENCIA

INTEGRACIÓN Y CONEXIÓN



El ser humano es un ser activo, por naturaleza **en movimiento**, que se confronta con su medio natural y social. La motricidad afecta al ser humano en su totalidad.

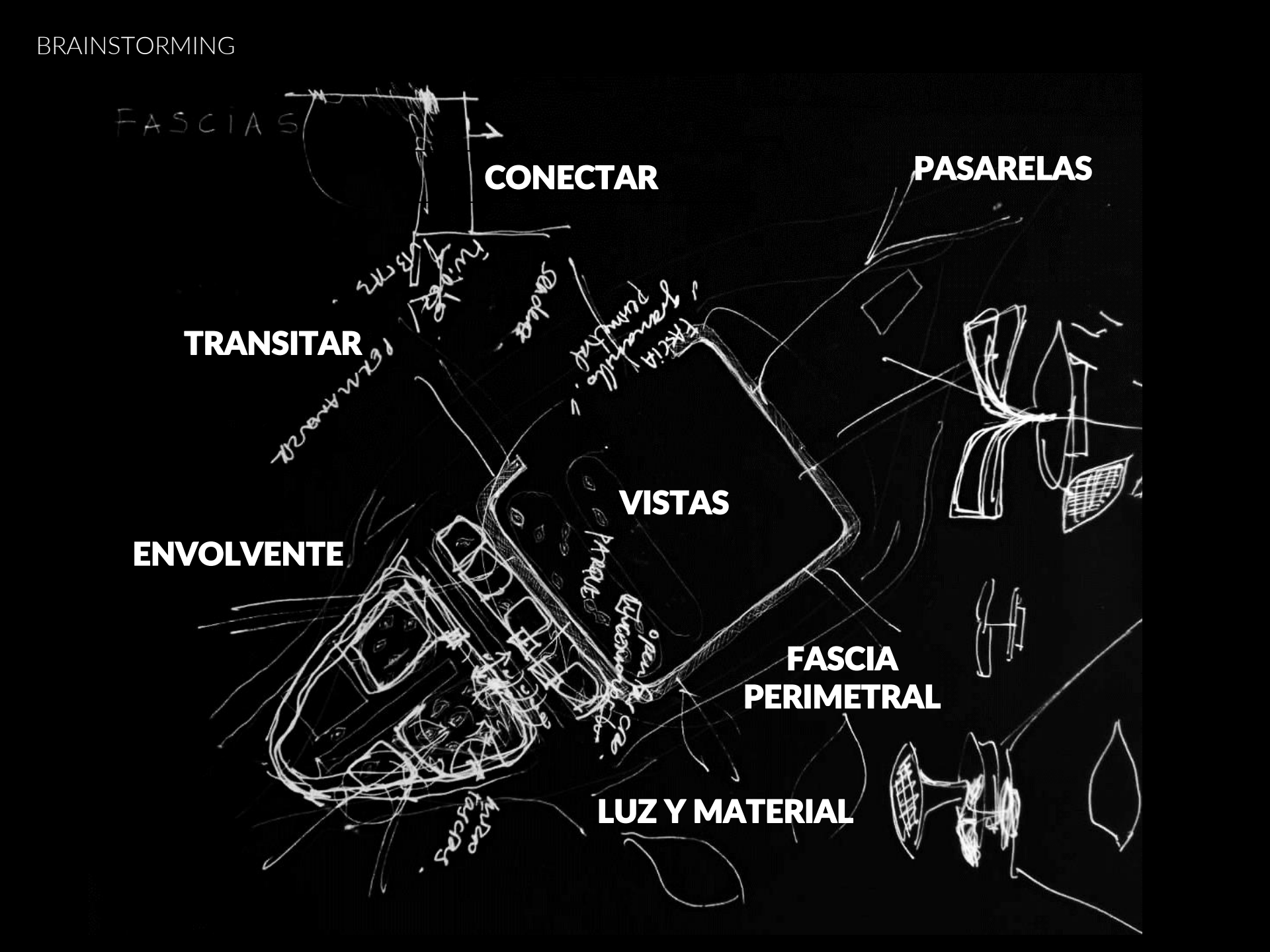
CONCEPTO FASCIAS

TEJIDO FIBROSO CON APARIENCIA DE **MEMBRANA SEMITRASLÚCIDA**

DE FORMA A LA VEZ **ELÁSTICA Y FIRME**

TEJIDO CONECTIVO QUE ENVUELVE TODOS LOS MÚSCULOS Y TODAS SUS FIBRAS

BRAINSTORMING



REFERENCIAS

CHRISTO RUNNING FENCE

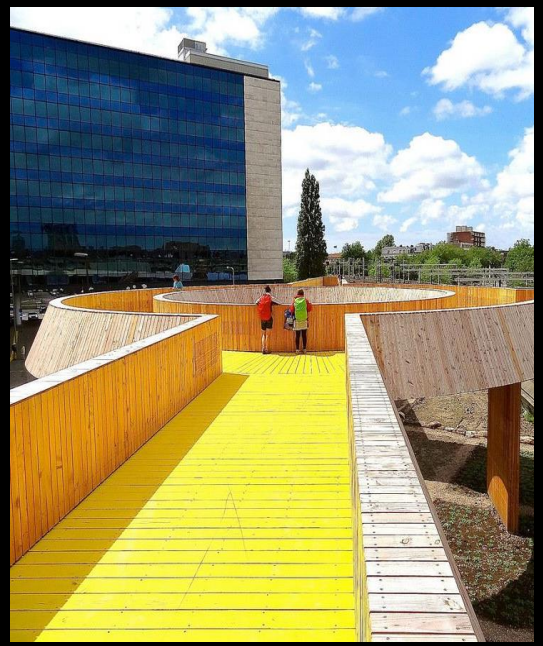
SENDERO

MATERIA

ORCHID FOREST CIKOLE

SUSPENSIÓN

LUZ



LUTCHSINGLE - ROTTERDAM STUDIO ZUS

TRANSITAR

MIRAR

REFERENCIA MATERIALIDAD

Referencia conceptual y de material

LA ESTRUCTURA SE NUTRE CON UNA LUZ LINEAL SIGUIENDO LA ESTÉTICA DE LAS PASARELAS.

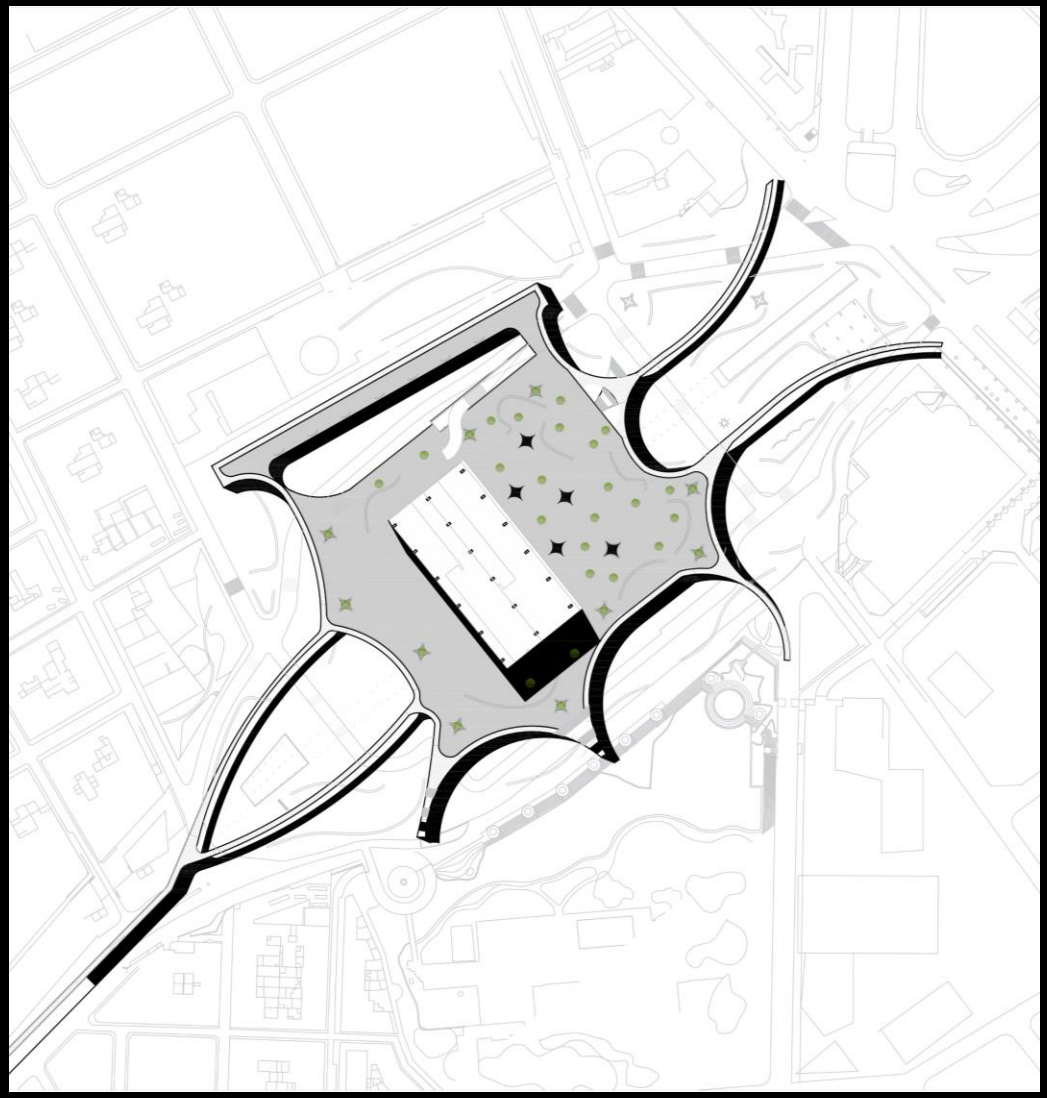
ACTÚA COMO UNA EXTENSIÓN VISUAL DE LA MALLA FASCIAL

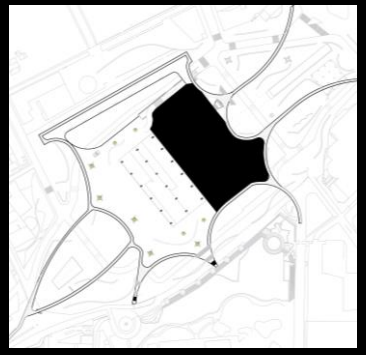
DA EL CONFORT PARA LOS PEATONES QUE TRANSITAN POR LAS PLAZAS, QUE QUIEREN UN MOMENTO DE REPOSO Y/O COMPARTIR LA ESPERA

CONECTAR . TRANSITAR . SUBIR . PERMANECER

CRITERIOS PARA EL MASTERPLAN

Nivel superior





Apropiación del estacionamiento

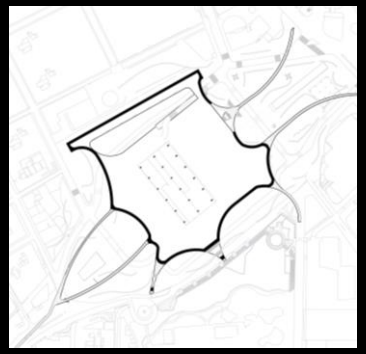
PARQUE

SUPERIOR

Sombras y luz
Conectar

PASARELAS /

PÉRGOLAS

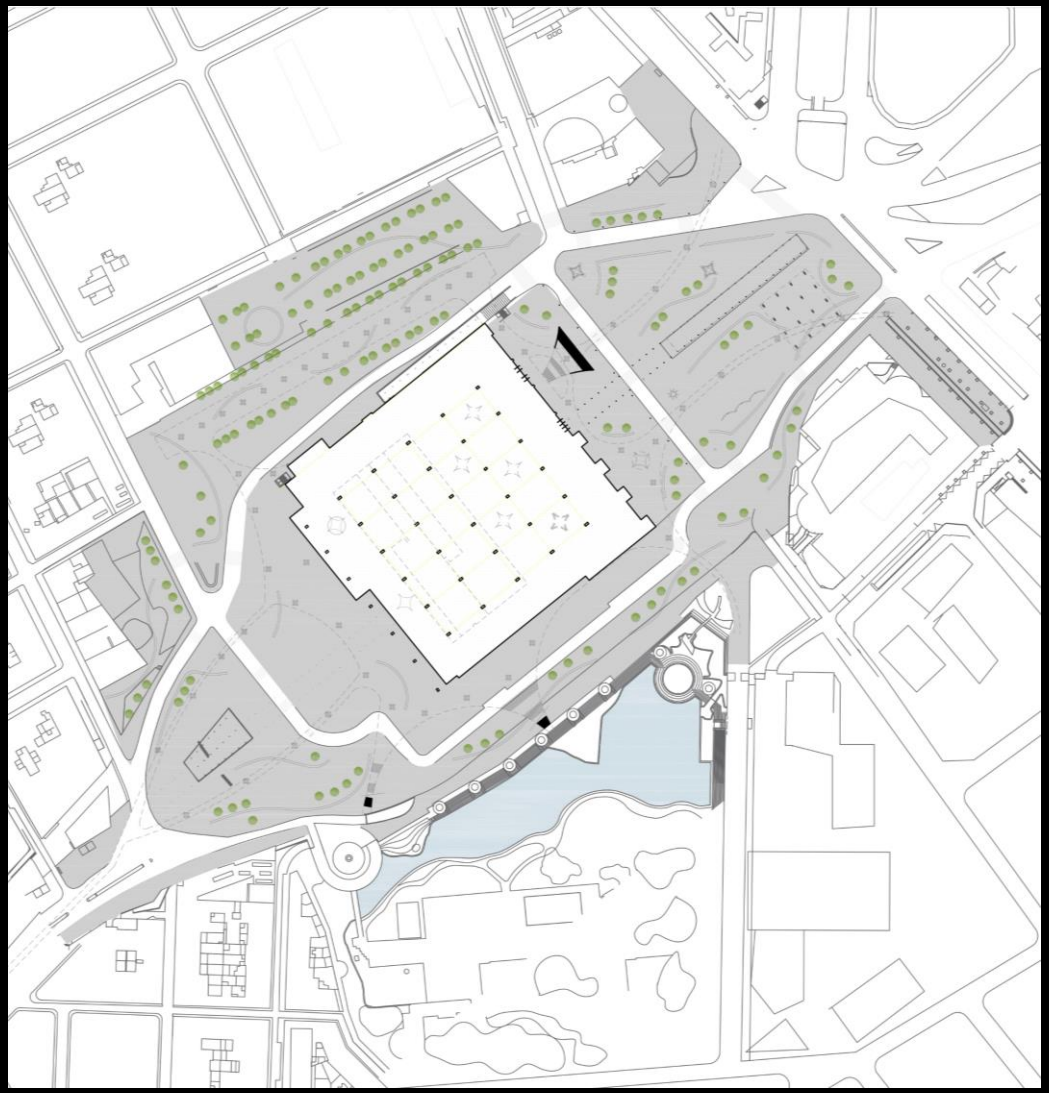


Priorizar vistas

MIRADOR

CRITERIOS PARA EL MASTERPLAN

Nivel inferior

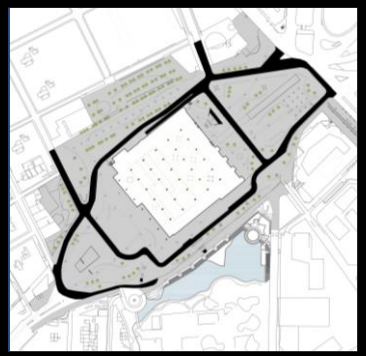


Luz natural en estación

TRAGALUCES

Iluminación integrada

MOBILIARIO



Calles y luminarias

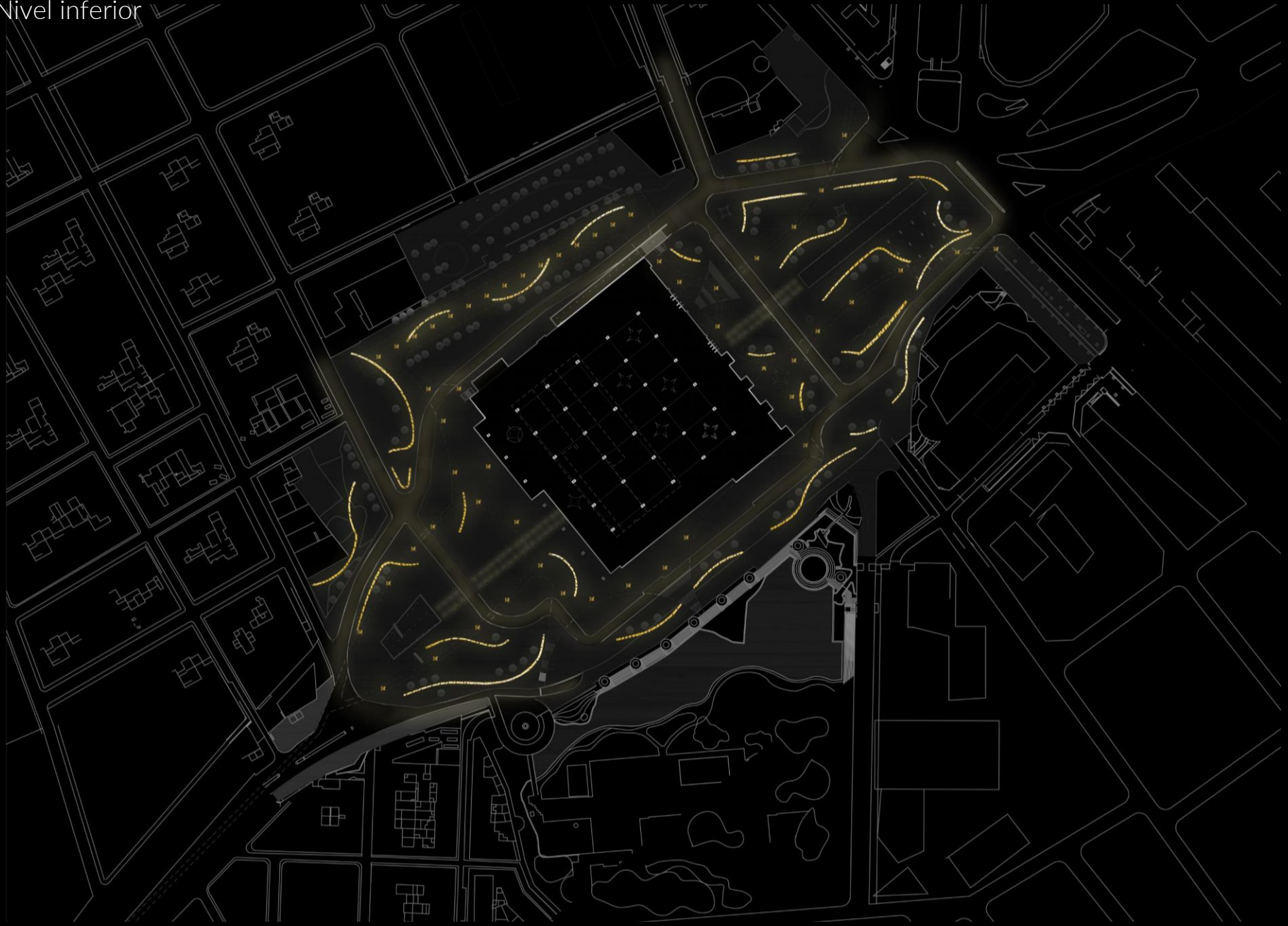
VIAL

PLANTA LUMÍNICA GENERAL

Nivel superior

PLANTA LUMÍNICA GENERAL

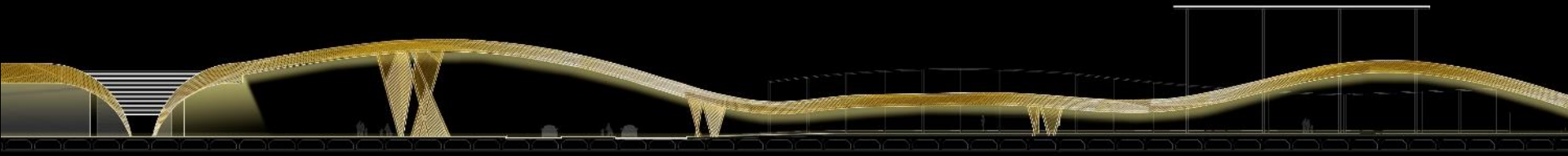
Nivel inferior



PLANTA LUMÍNICA GENERAL

Nivel superior e inferior

SECCIÓN LUMÍNICA



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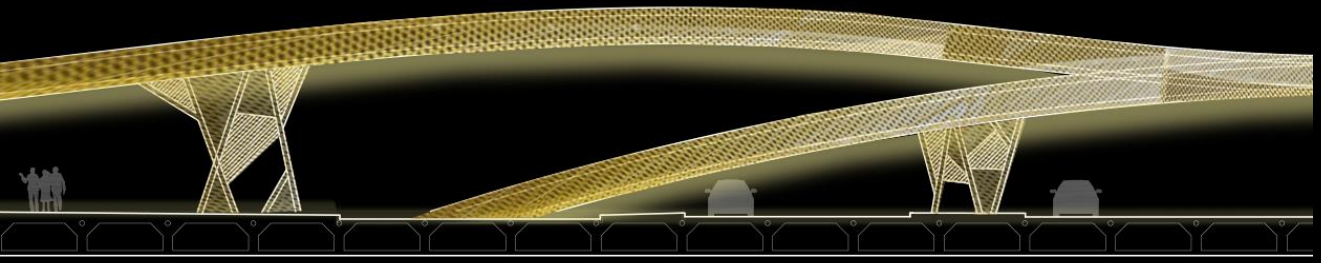
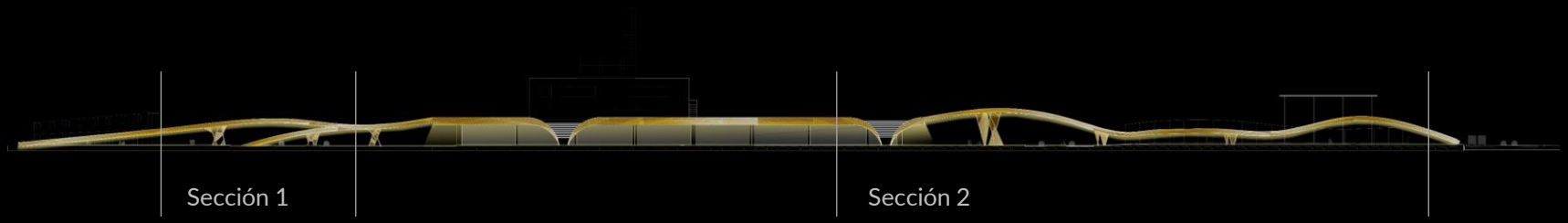
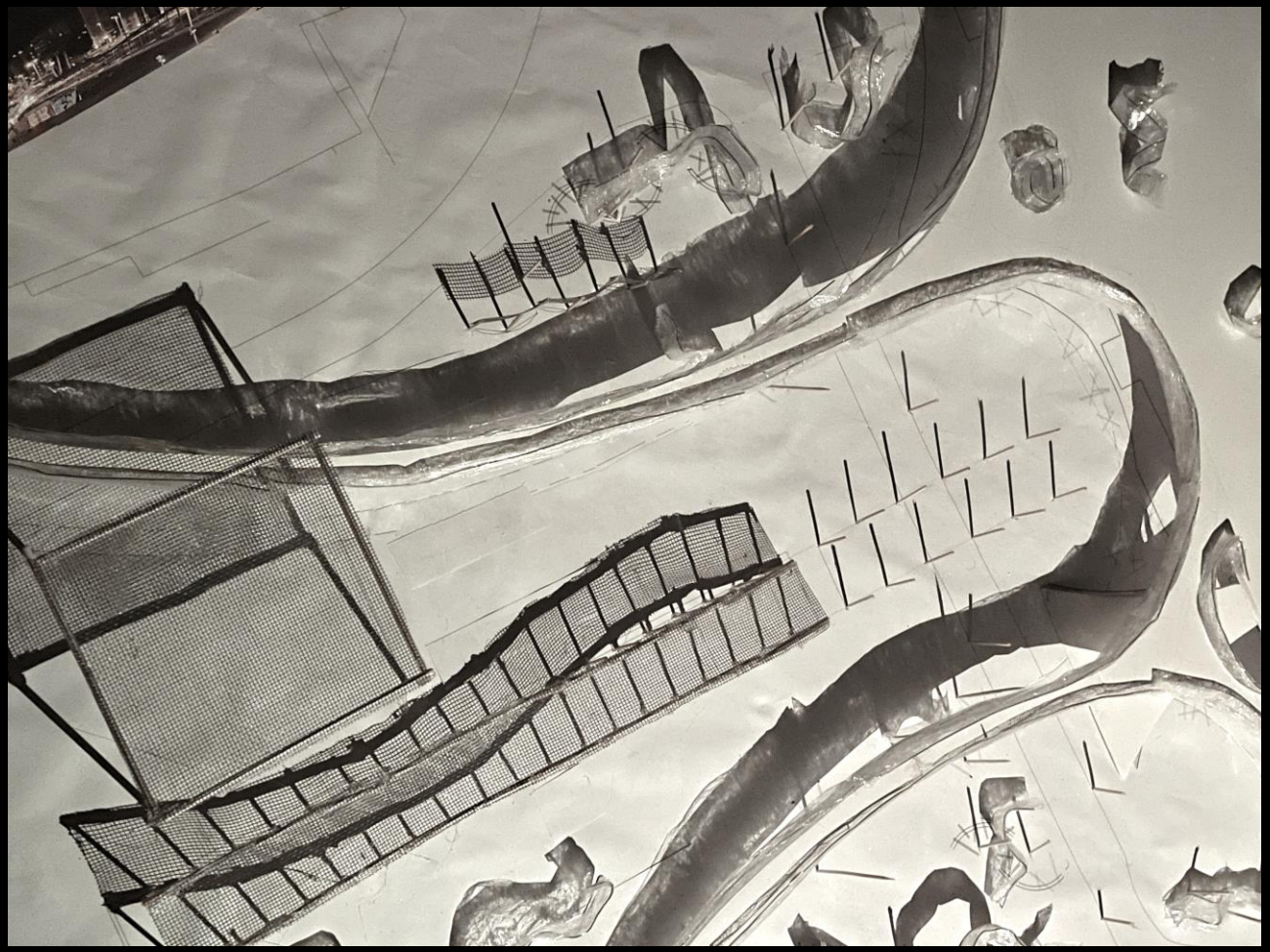


Sección 1

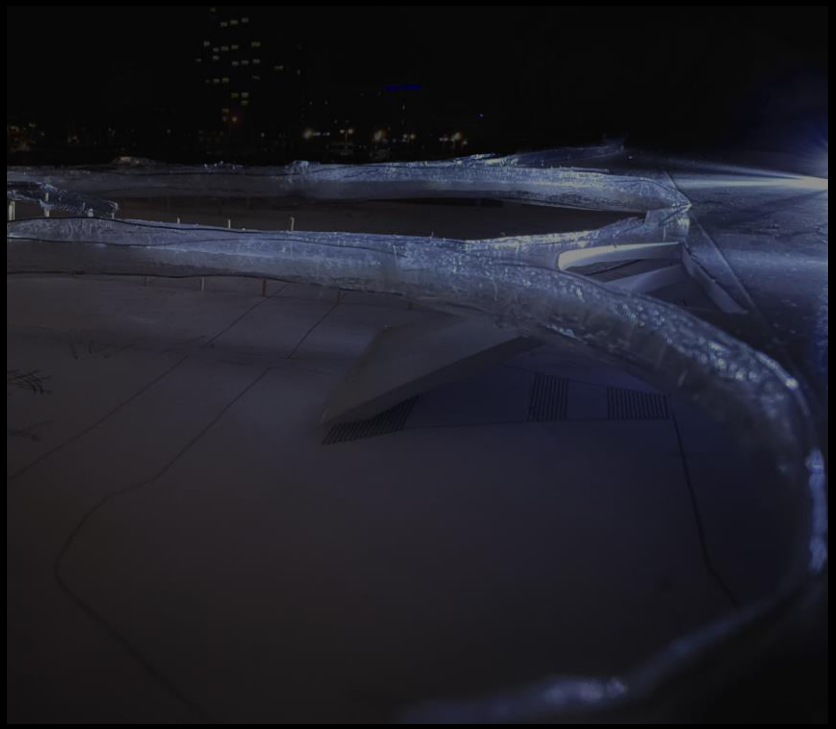


MAQUETA



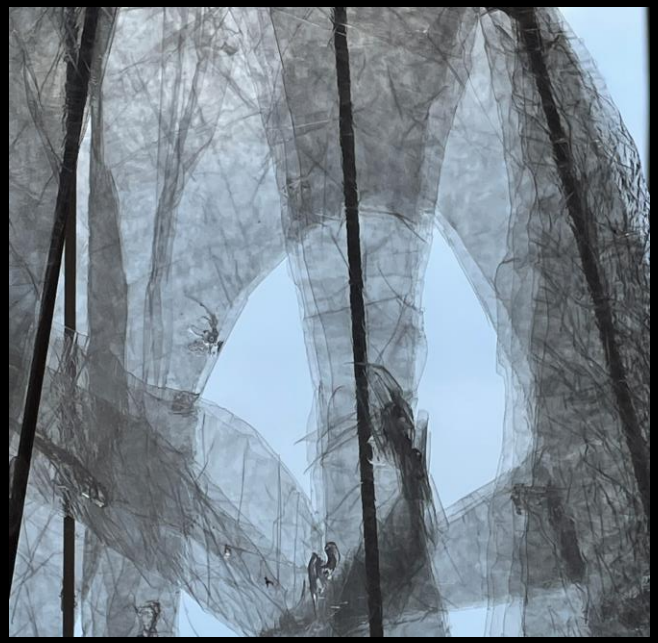
ESTUDIOS DE LUZ NATURAL Y SOMBRA

MAQUETA



ESTUDIOS DE ILUMINACIÓN ARTIFICIAL

ESTUDIO DE FORMA Y MATERIALIDAD



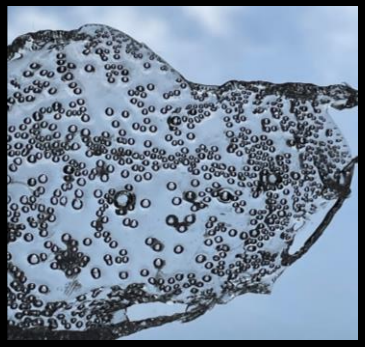
SEMITRASLÚCIDO

FIBRAS

BRILLO Y REFLEXIÓN

ESTUDIO DE FORMA Y MATERIALIDAD

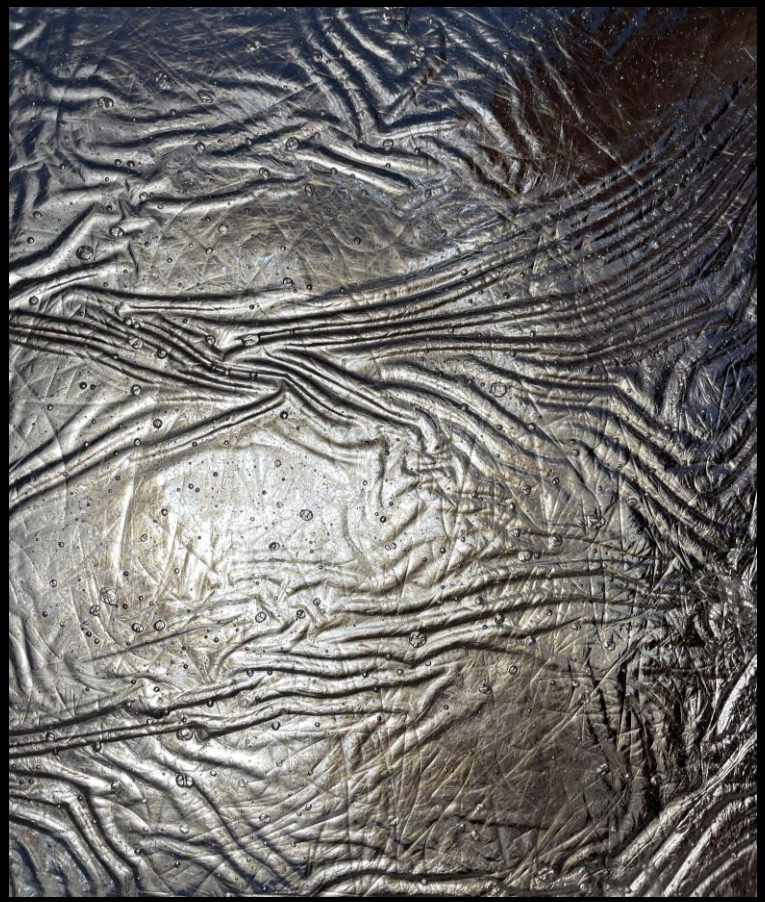
Pruebas de materiales con luz natural



Pruebas de materiales con iluminación artificial

MATERIAL ESCOGIDO

Pruebas de materiales con luz natural

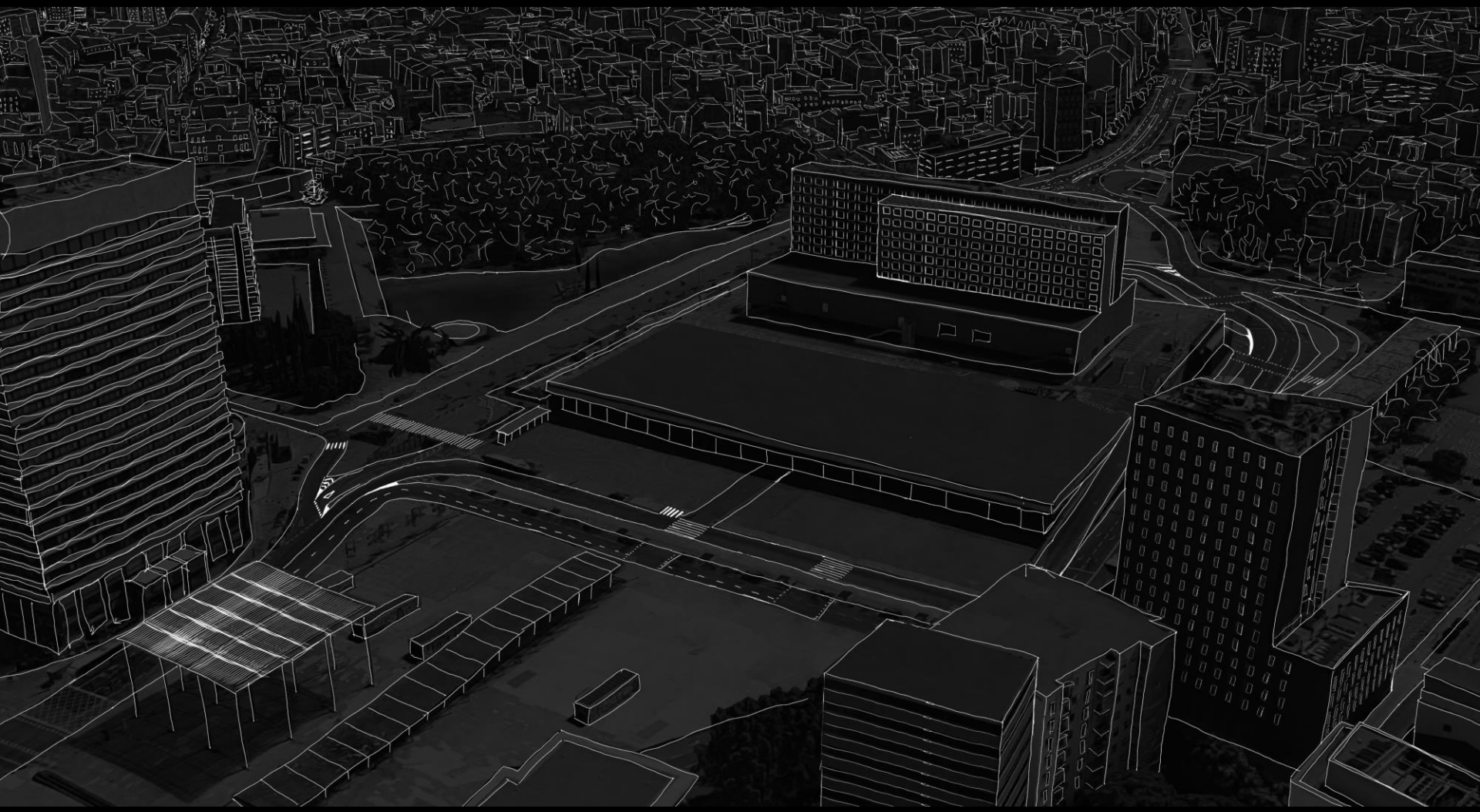


Pruebas de materiales con iluminación artificial

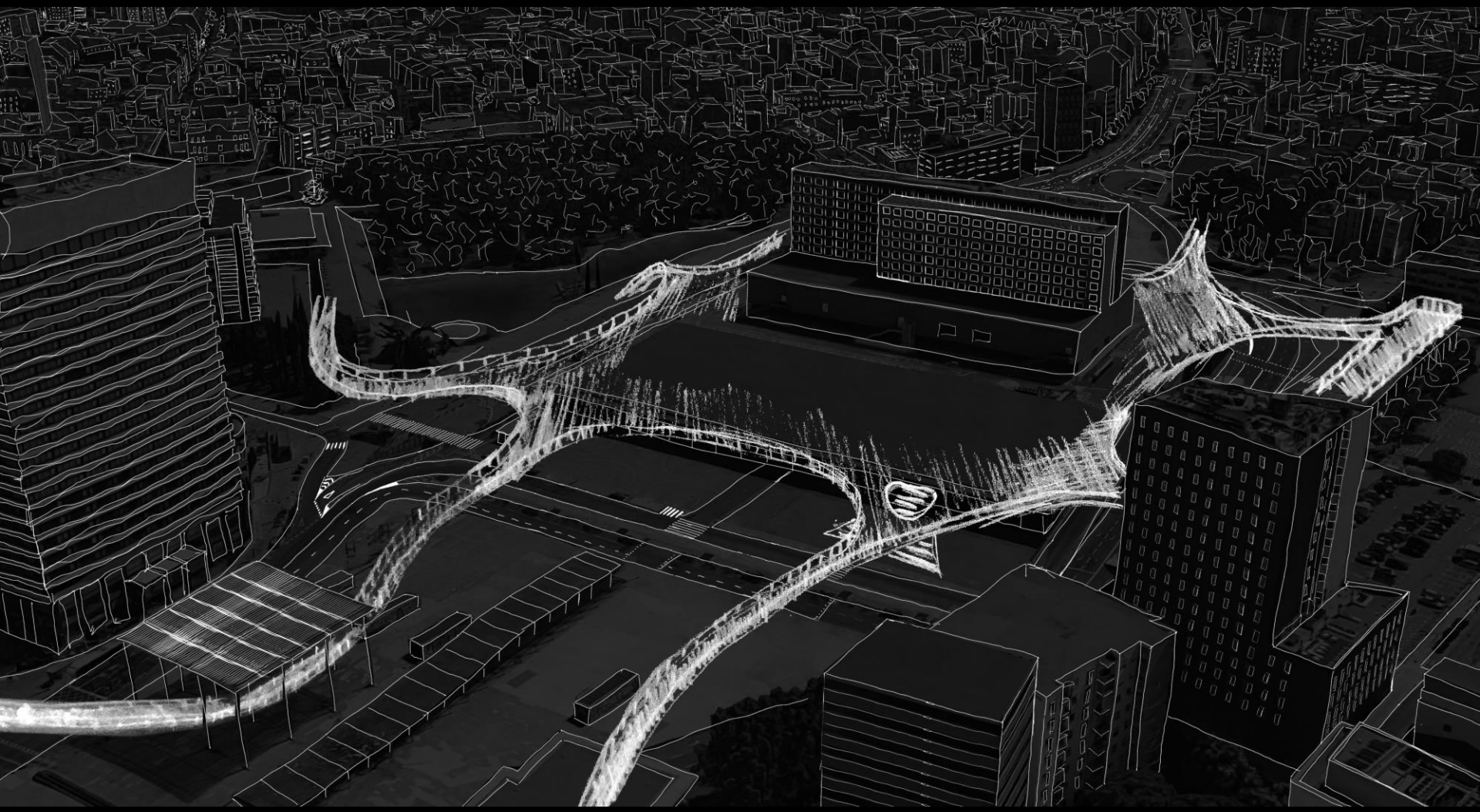
FIBRA DE VIDRIO + RESINA EPOXY / BASE PAPEL FILM PARA TEXTURA

THE MAKING OF FASCIAS

SKETCH N°1



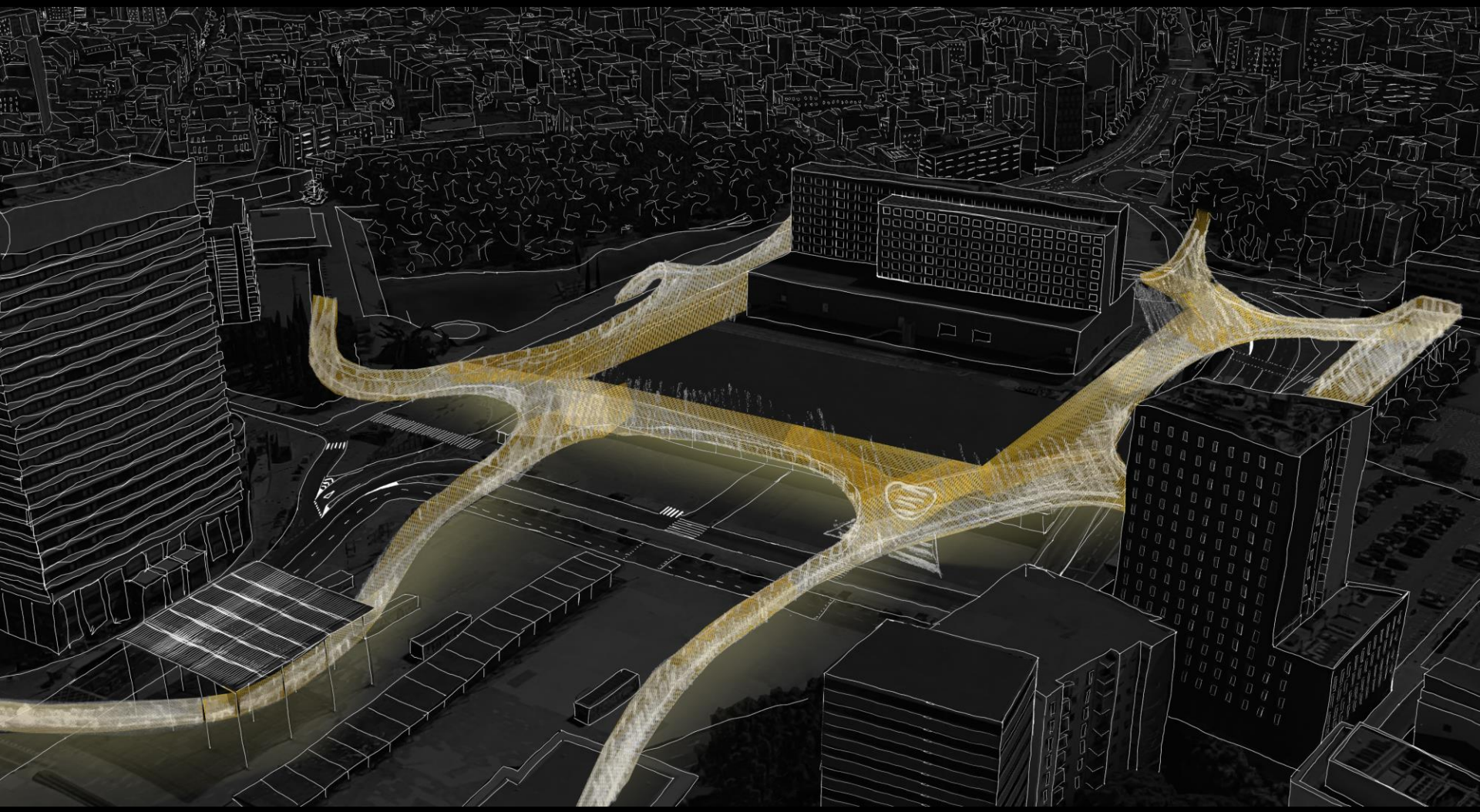
SKETCH N°1



ESTRUCTURAS

NEXO CON EL NIVEL SUPERIOR / MIRADOR (PUESTA EN VALOR DE LAS VISTAS)

SKETCH N°1

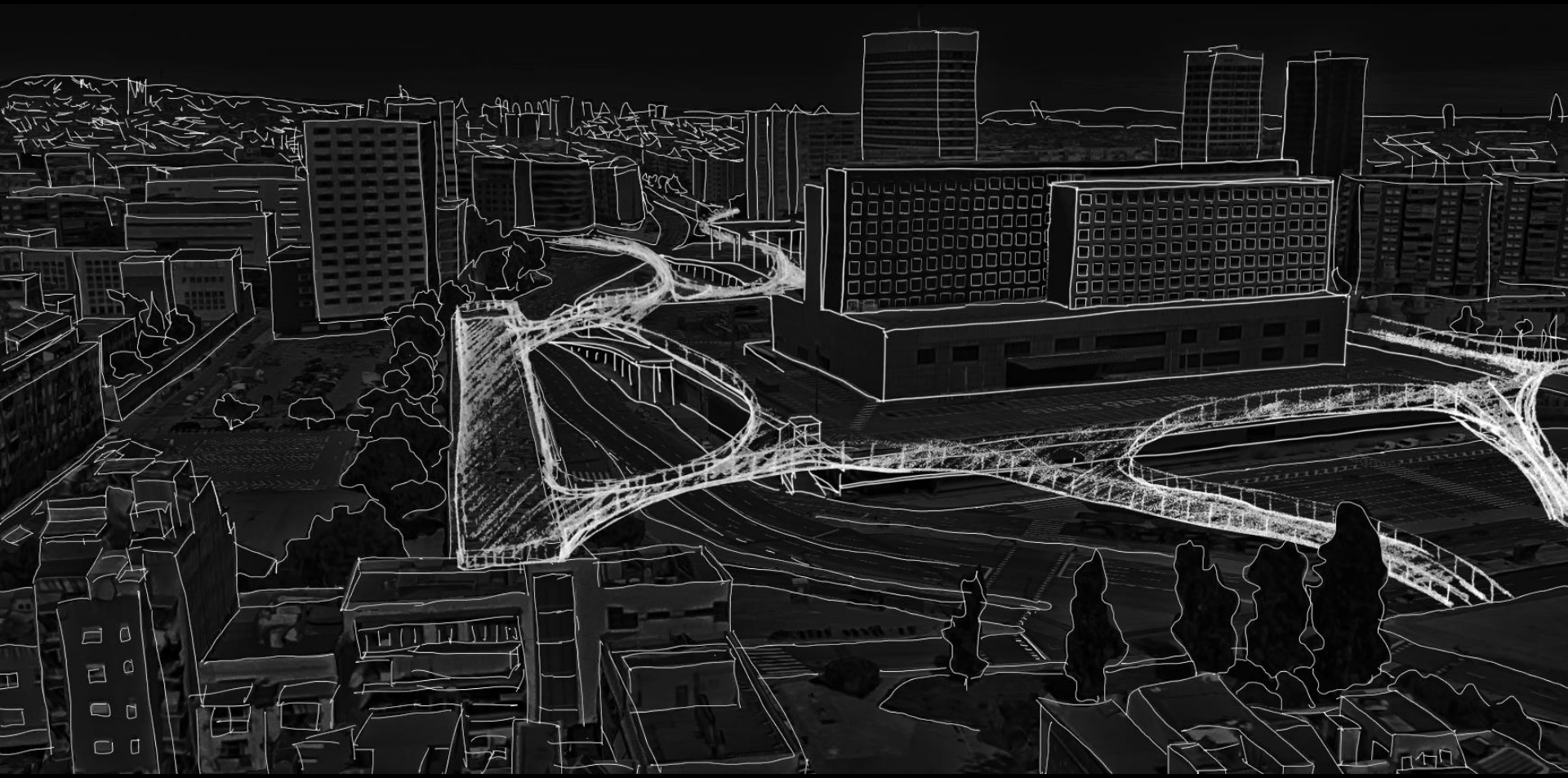


VOLUMEN LUMÍNICO

PERÍMETRO ENVOLVENTE ALREDEDOR DE LA ESTACIÓN DE SANTS

SKETCH N°2

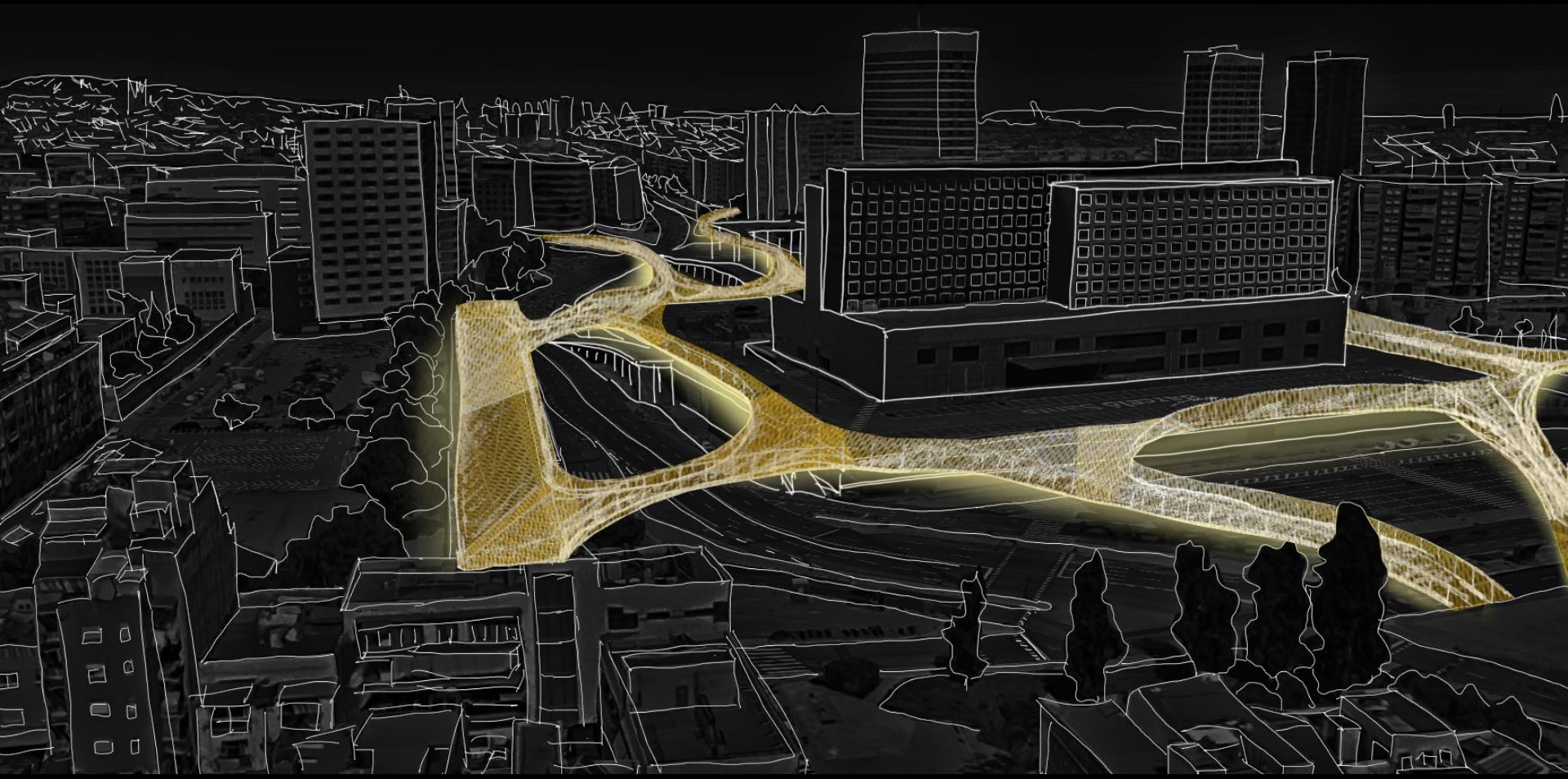
SKETCH N°2



ESTRUCTURA

ESPACIOS DE TRÁNSITO Y CONEXIÓN / SOMBRA / FLUIDEZ

SKETCH N°2



VOLÚMENES LUMÍNICOS

CUERPO VISUAL ATRACTIVO / LUMINARIAS INTEGRADAS EN ESTRUCTURA

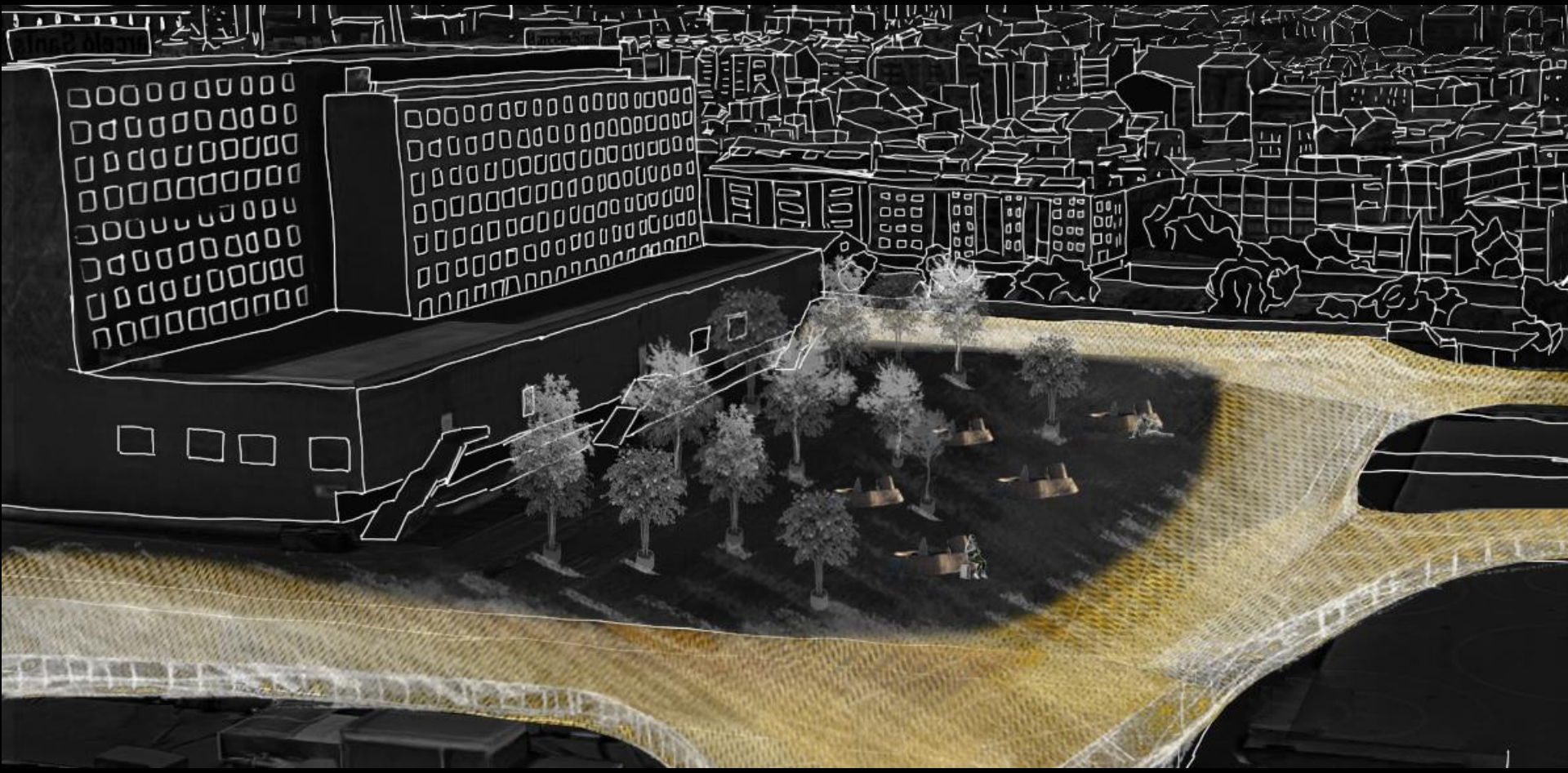
SKETCH N°3

SKETCH N°3

PARQUE SUPERIOR

APROPIACIÓN DEL NIVEL SUPERIOR PARA LA CREACIÓN DE UN PARQUE DENTRO DEL PERÍMETRO-MIRADOR

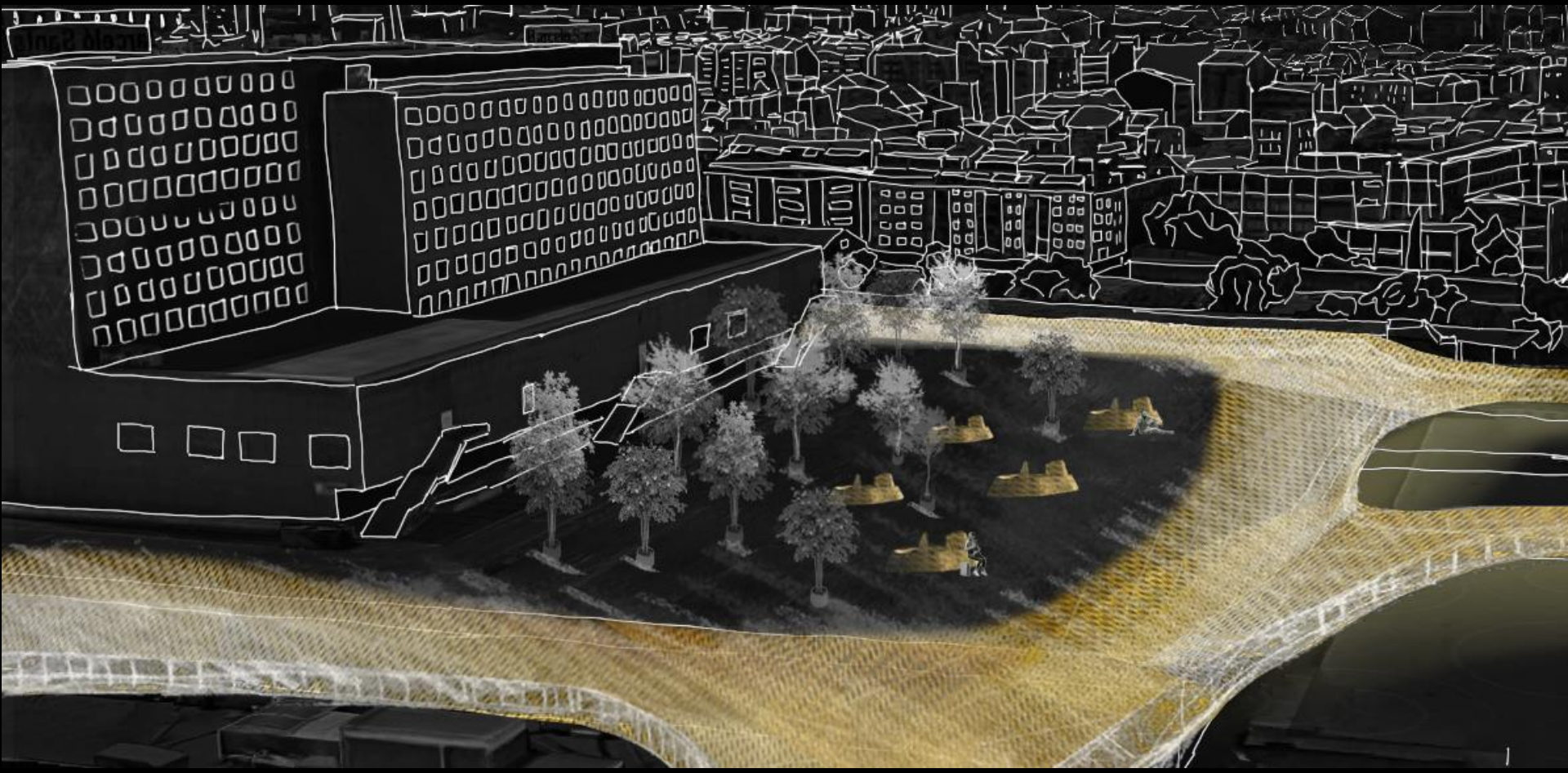
SKETCH N°3



TRAGALUCES

ILUMINACIÓN NATURAL A LA ESTACIÓN Y LUMINARIA ESCULTURAL

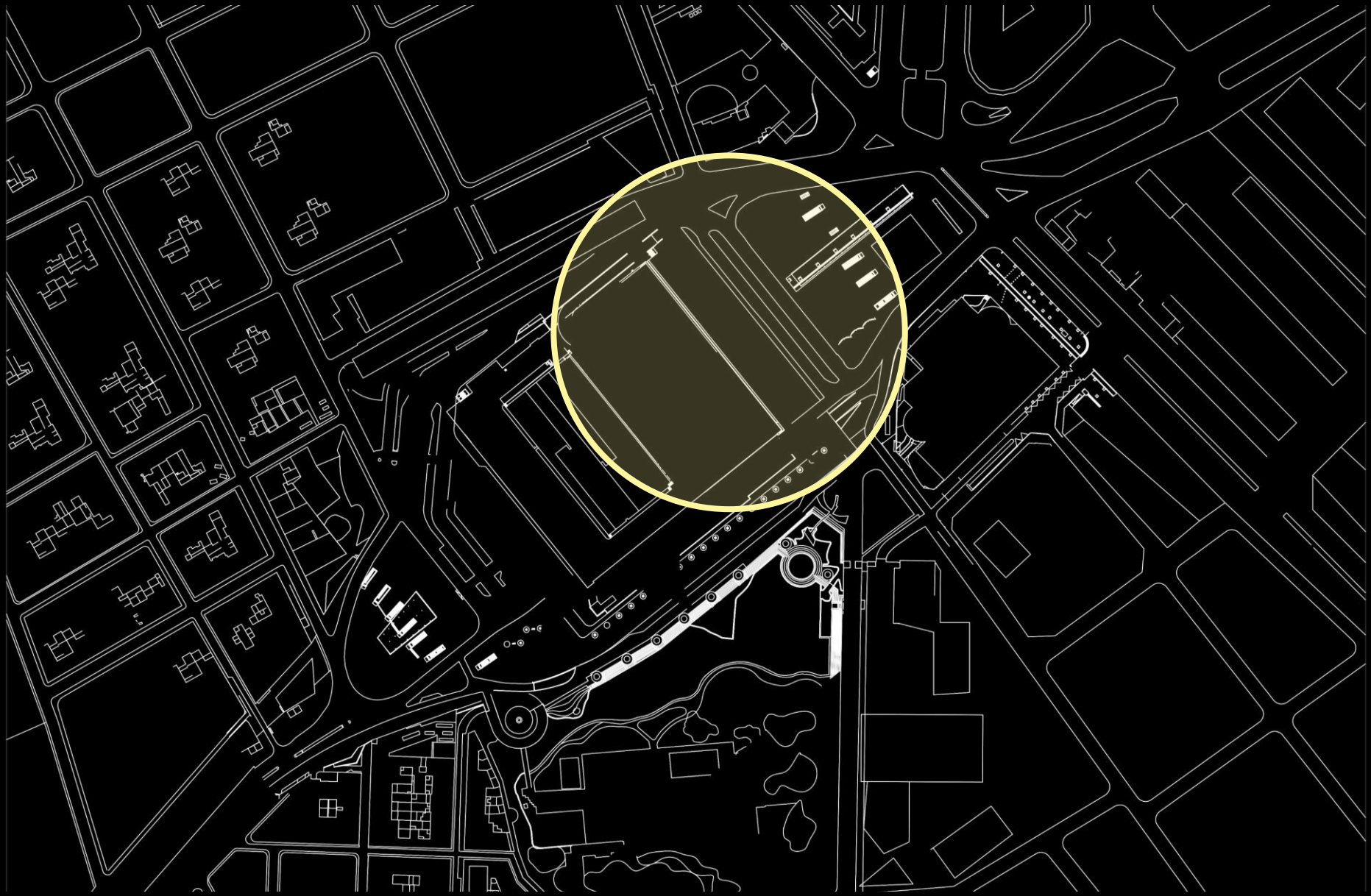
SKETCH N°3



ILUMINACIÓN

ESPACIO QUE GENERE ZONAS DE PERMANENCIA / VISTAS

ÁREA DE INTERVENCIÓN / ZONA ZOOM



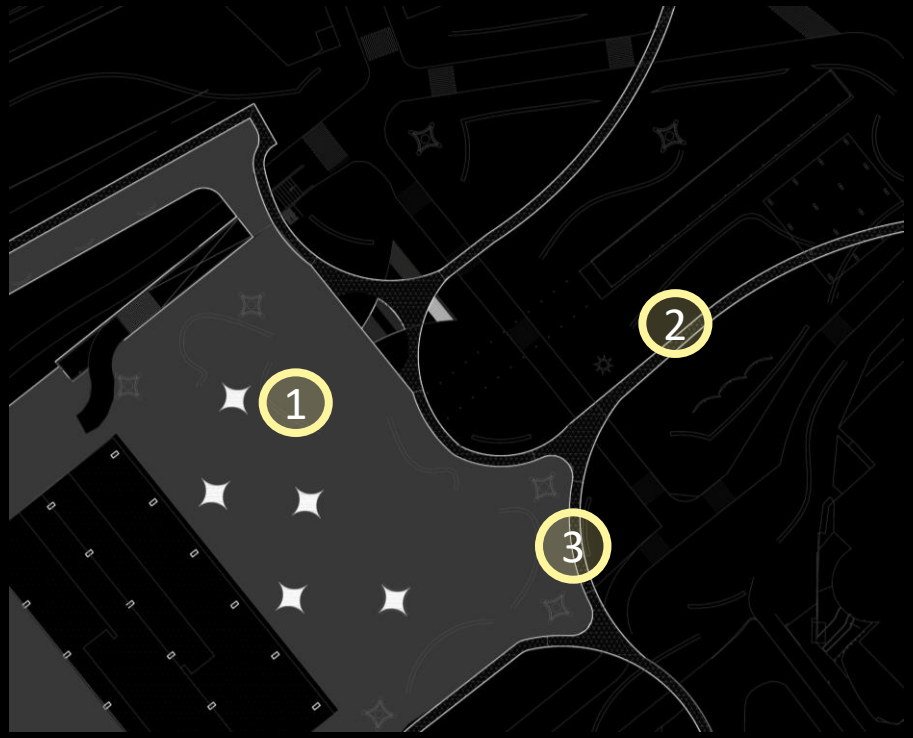
Zona de referencia en la localidad

Entrada principal

Área que reúne las 6 intervenciones

Desarrollo en dos niveles

Luz a parque



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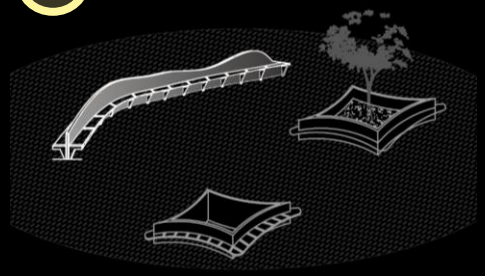
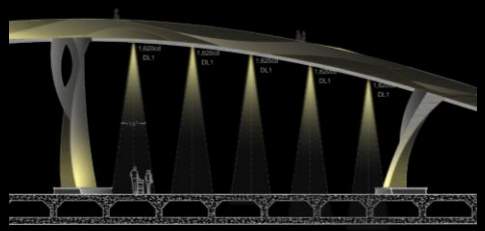


PARQUE SUPERIOR

Espacio a conquistar

Combinación de intervenciones

2



PASARELAS

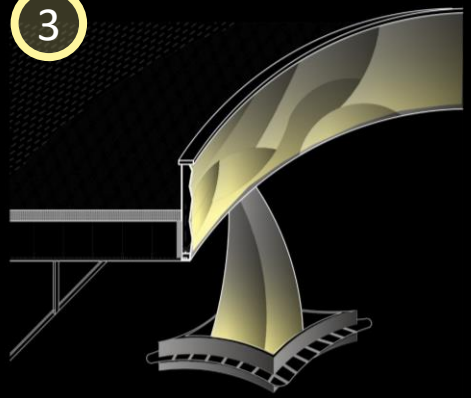
Uplight interior de fascia – luminancia / conexión

Luz difusa entre material semi-traslúcido

Luz rasante en columnas

Downlight integrados

3



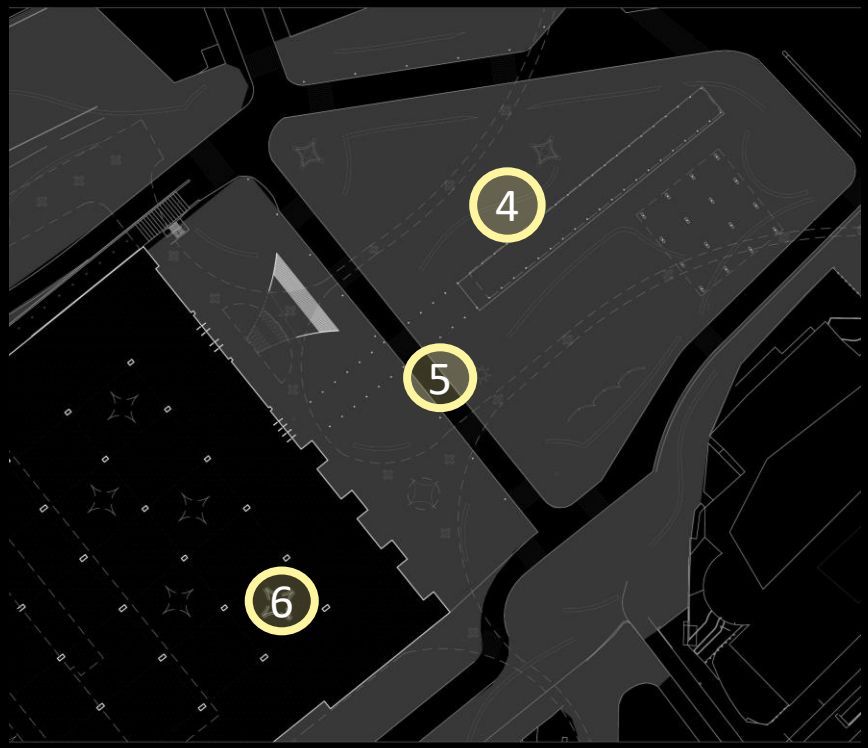
MIRADOR

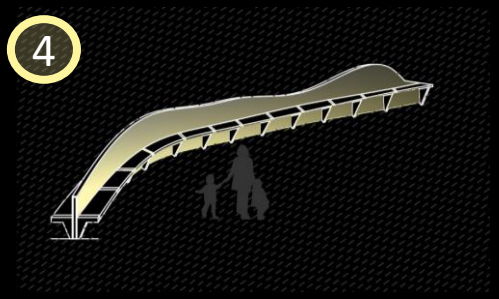
Uplight interior de fascia – luminancia prtimetral

Luz difusa entre material semi-traslucido

Luz rasante en columnas

INTERVENCIONES

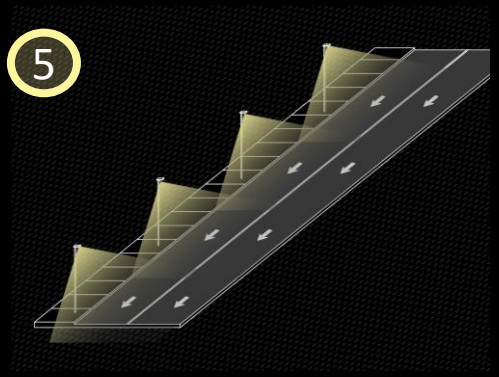




MOBILIARIO URBANO

Uplight interior de fascia – LUMINANCIA

Luz difusa entre material semi-traslucido



VIAL

Luminaria de columna – óptica asimétrica

TRAGALUZ

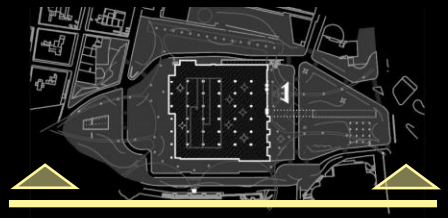
Uplight interior de fascia – LUMINANCIA

Luz difusa sobre material semi-traslucido

Luz directa-indirecta

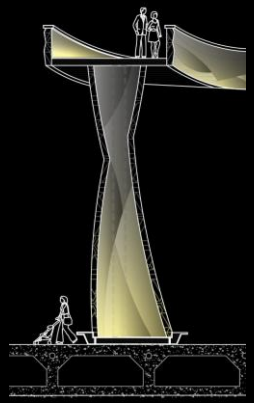
Interior-exterior

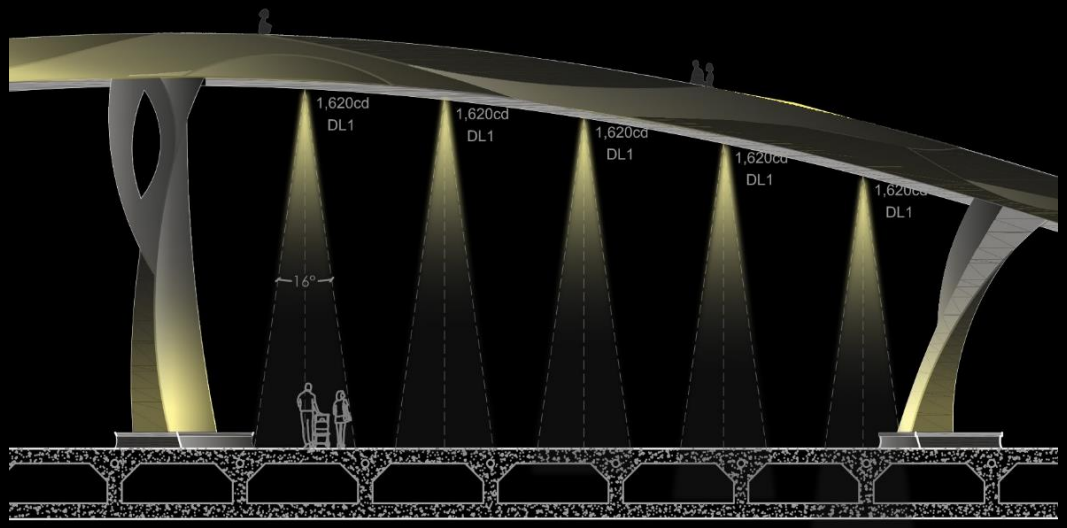
INTERVENCIÓN - PASAREL A



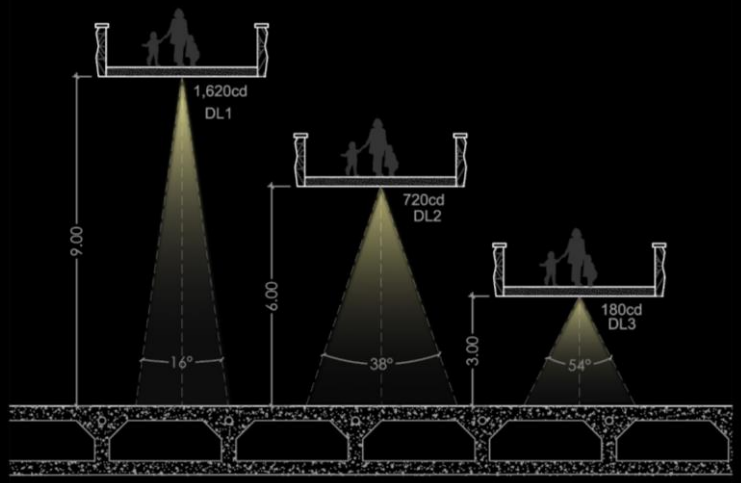
LOCALIZACIÓN

SECCIÓN LONGITUDINAL



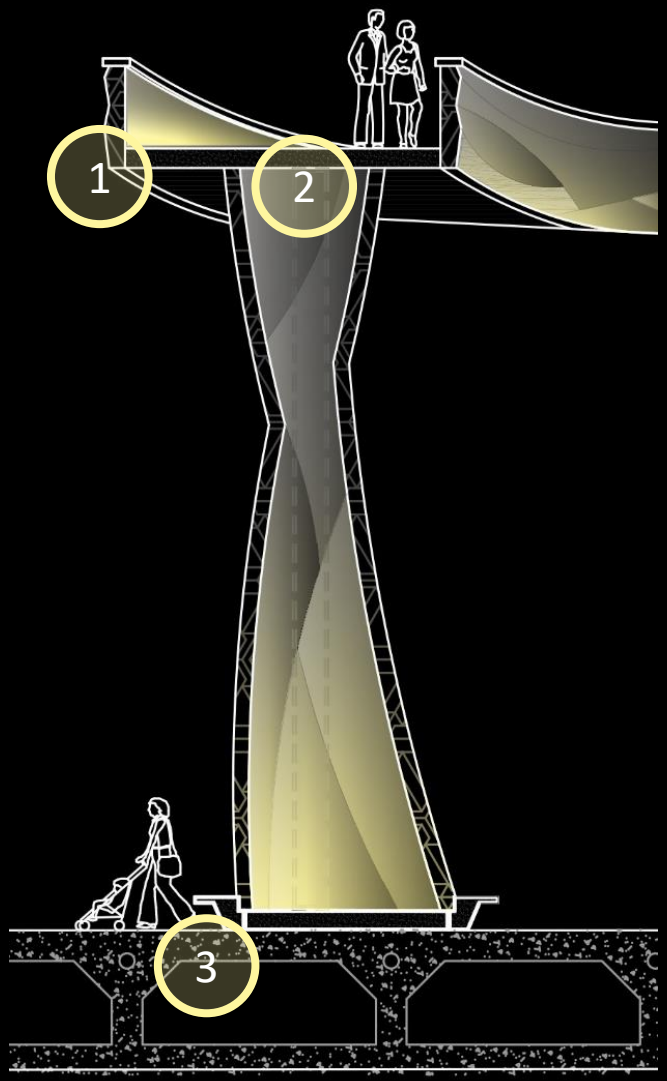


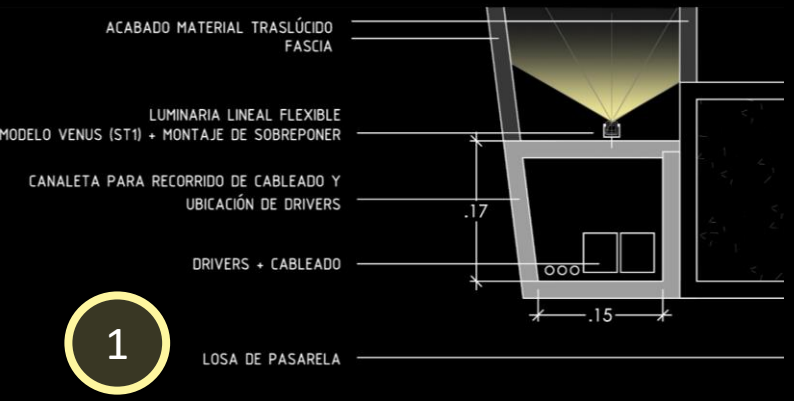
ELEVACIÓN PASAREL A - ESTUDIO ANGULOS



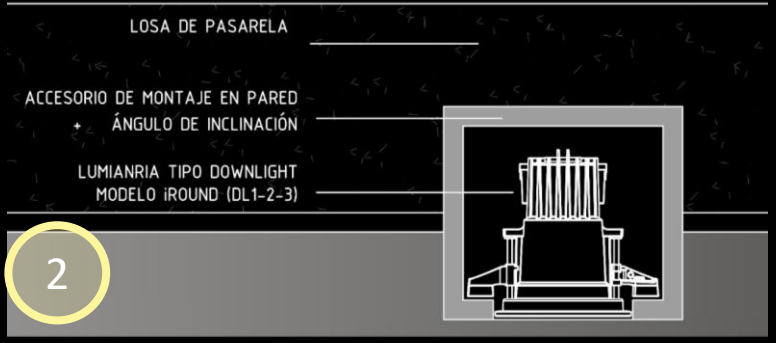
SECCIÓN PASAREL A PUENTE - ESTUDIO ANGULOS

INTERVENCIÓN - PASARELA

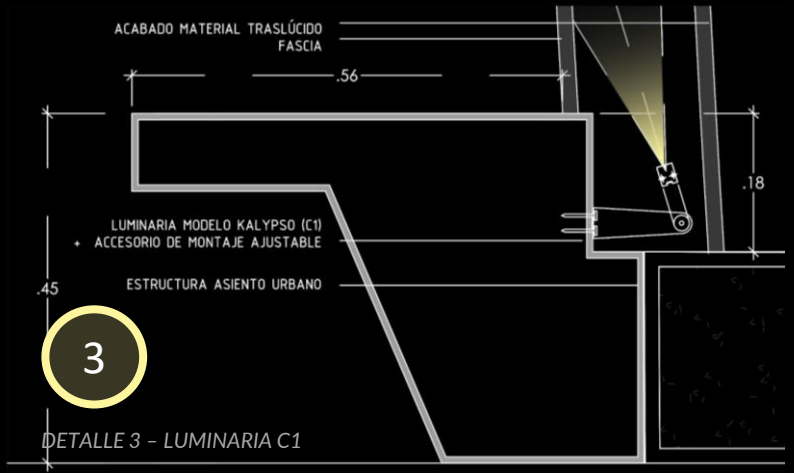




DETALLE 1 – LUMINARIA ST1

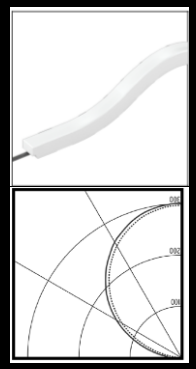


DETALLE 2 – LUMINARIA DL1-2-3

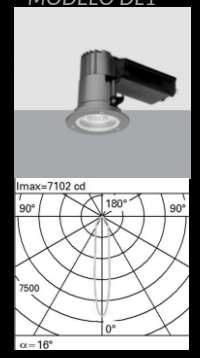


DETALLE 3 – LUMINARIA C1

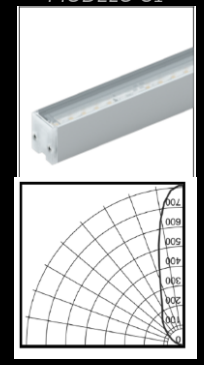
MODELO ST1



MODELO DL1

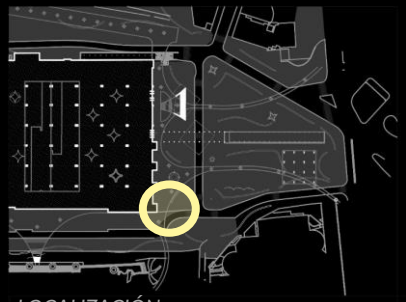


MODELO C1

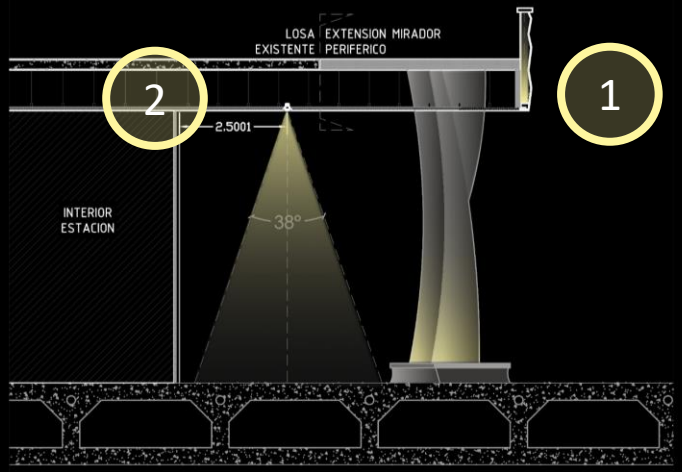


INTERVENCIÓN - PASARELA

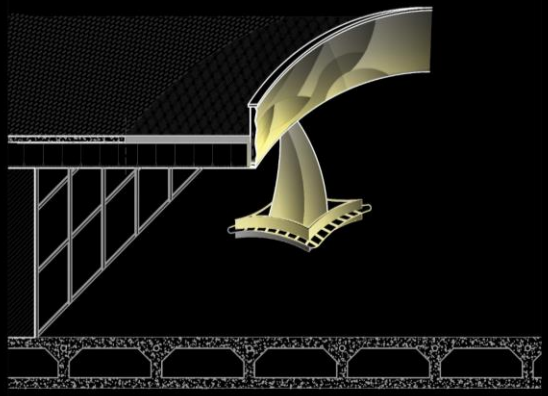
INTERVENCIÓN - MIRADOR



LOCALIZACIÓN

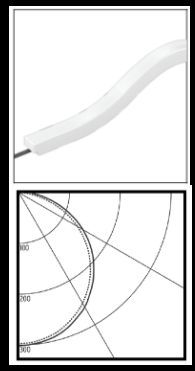


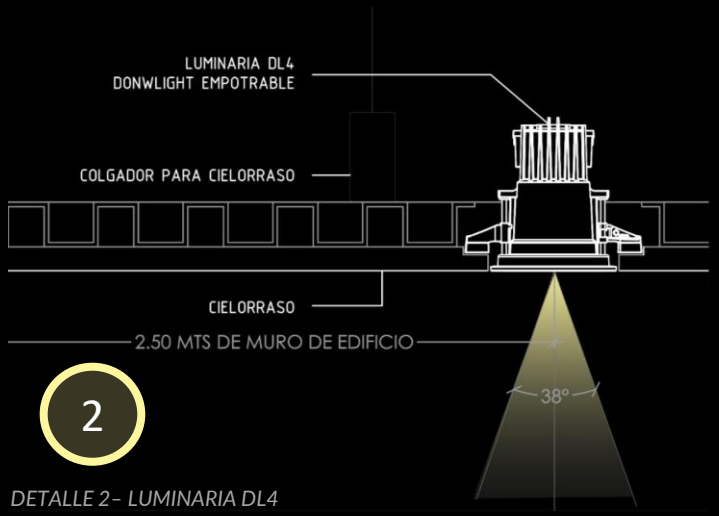
SECCIÓN MIRADOR



DETALLE 1 – LUMINARIA ST2

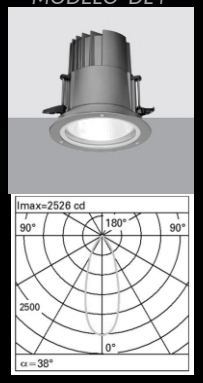
MODELO ST2





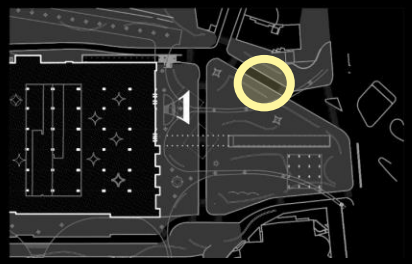
DETALLE 2– LUMINARIA DL4

MODELO DL4

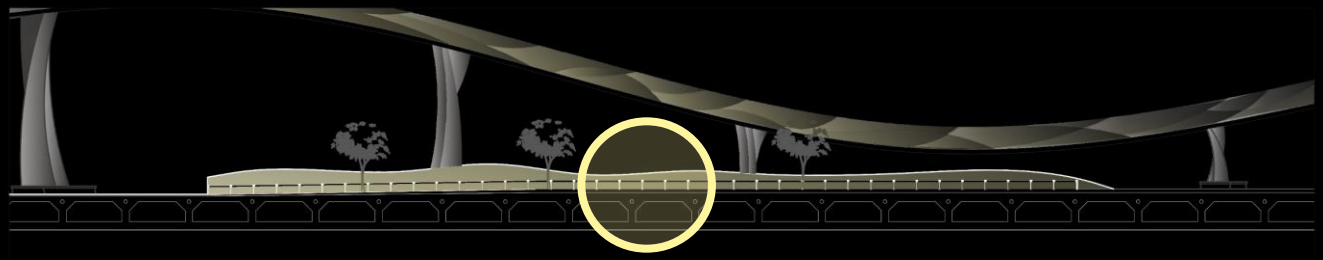


INTERVENCIÓN - MIRADOR

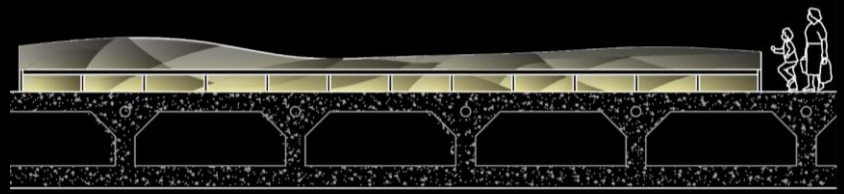
INTERVENCIÓN - MOBILIARIO



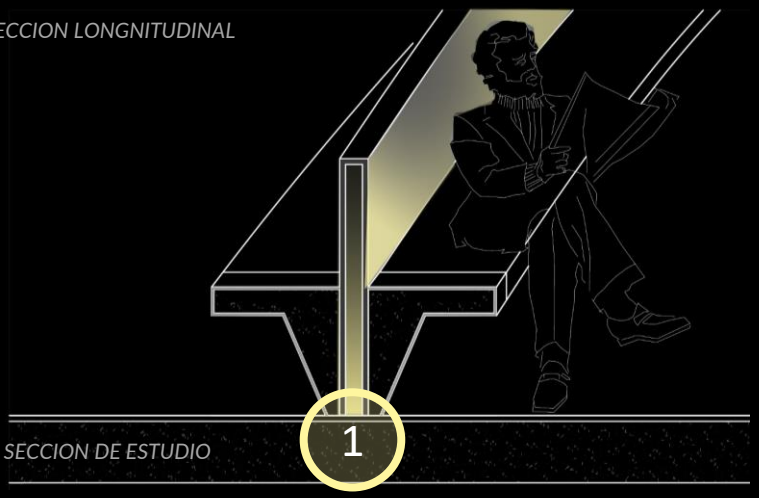
LOCALIZACIÓN



SECCION LONGNITUDINAL



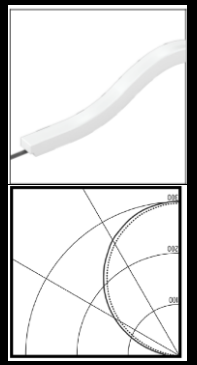
SECCIÓN MOBILIARIO



SECCION DE ESTUDIO

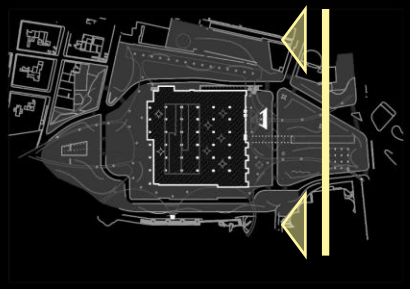
DETALLE 1– LUMINARIA ST1

MODELO ST1

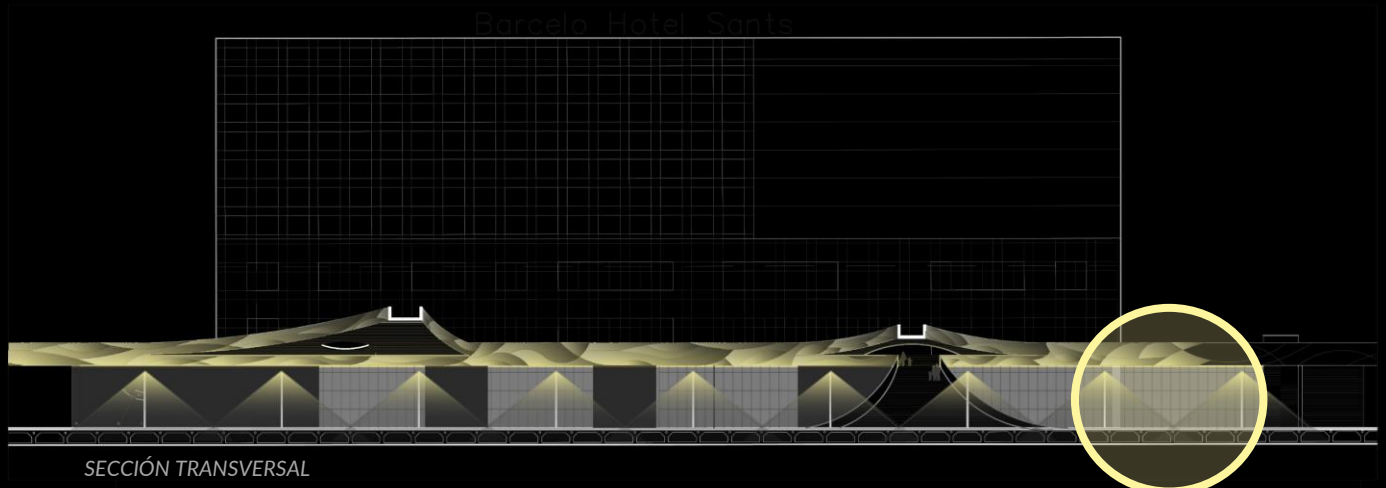


INTERVENCIÓN - MOBILIARIO

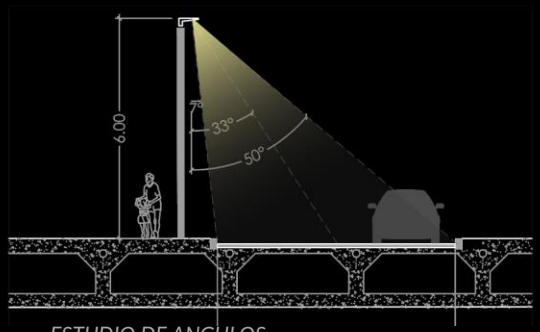
INTERVENCIÓN - VIAL



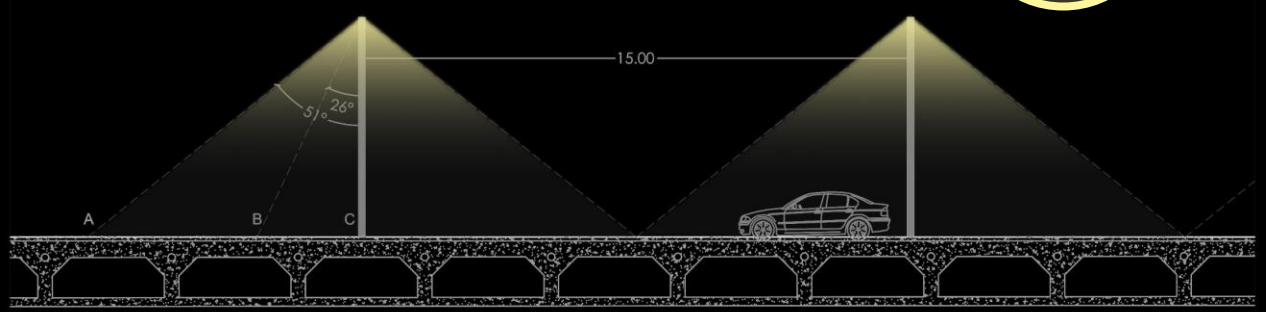
LOCALIZACIÓN

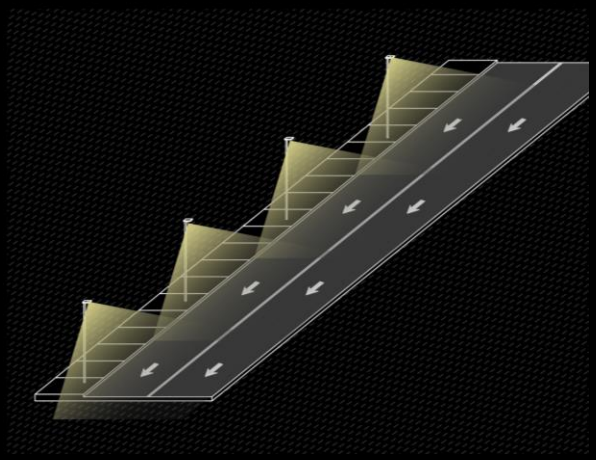


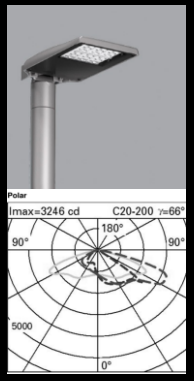
SECCIÓN TRANSVERSAL



ESTUDIO DE ANGULOS







MODELO P1

2/ Clases de alumbrado
Situación del proyecto

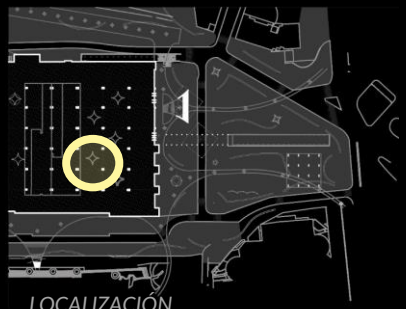
D3-D4	CE2/S1/S2/S3/S4
E1	CE1A/CE2/S1/S2/S3/S4

TABLA 9
Series CE de clases de alumbrados para viales

	Em	Um
CE1A	25 lux	0,4

INTERVENCIÓN - VIAL

INTERVENCIÓN - TRAGALUZ



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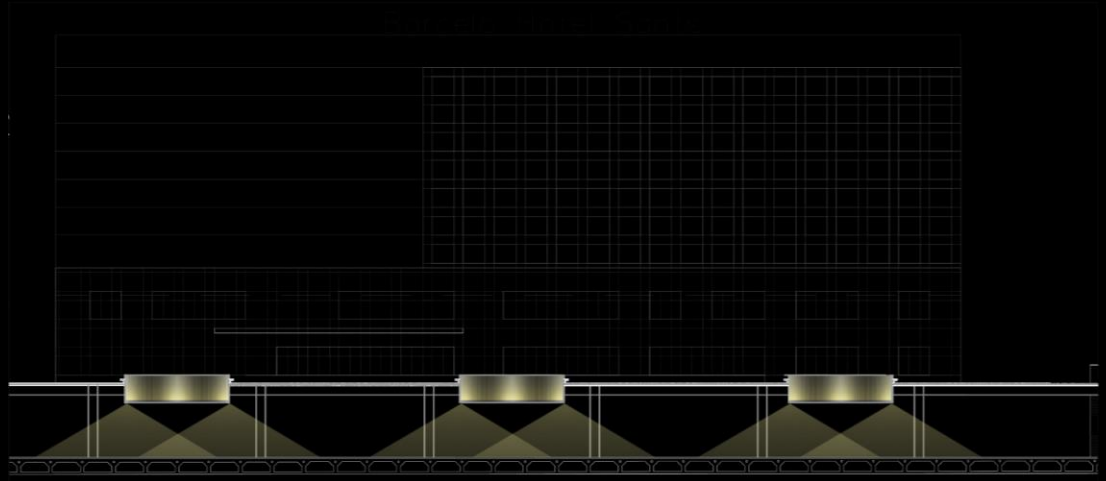
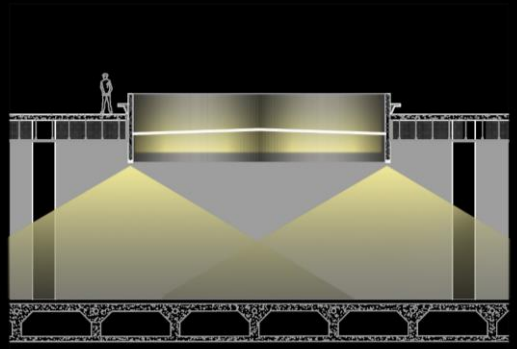
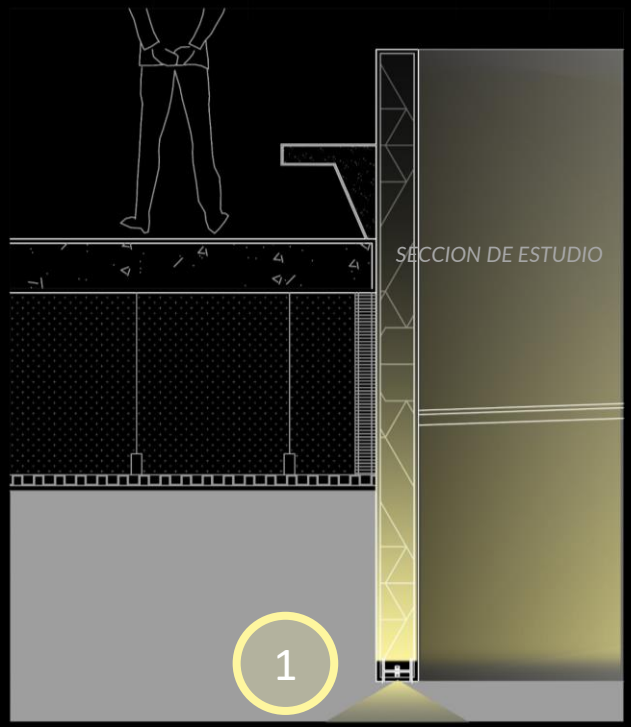


SECCIÓN TRANSVERSAL





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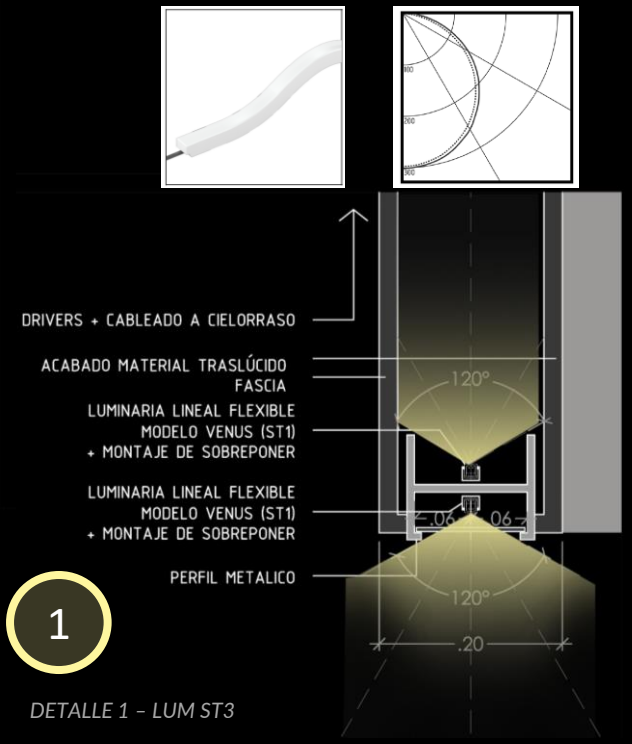


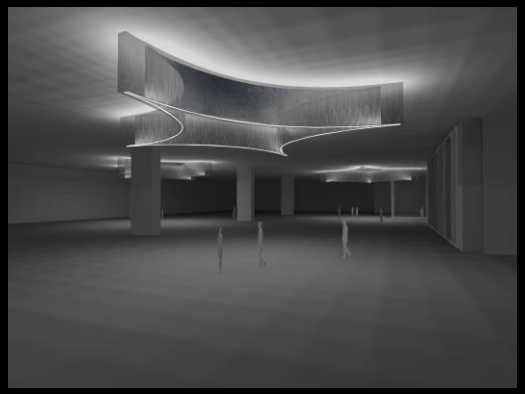
DETALLE 1 – LUM ST3

INTERVENCIÓN - TRAGALUZ

INTERVENCIÓN - TRAGALUZ

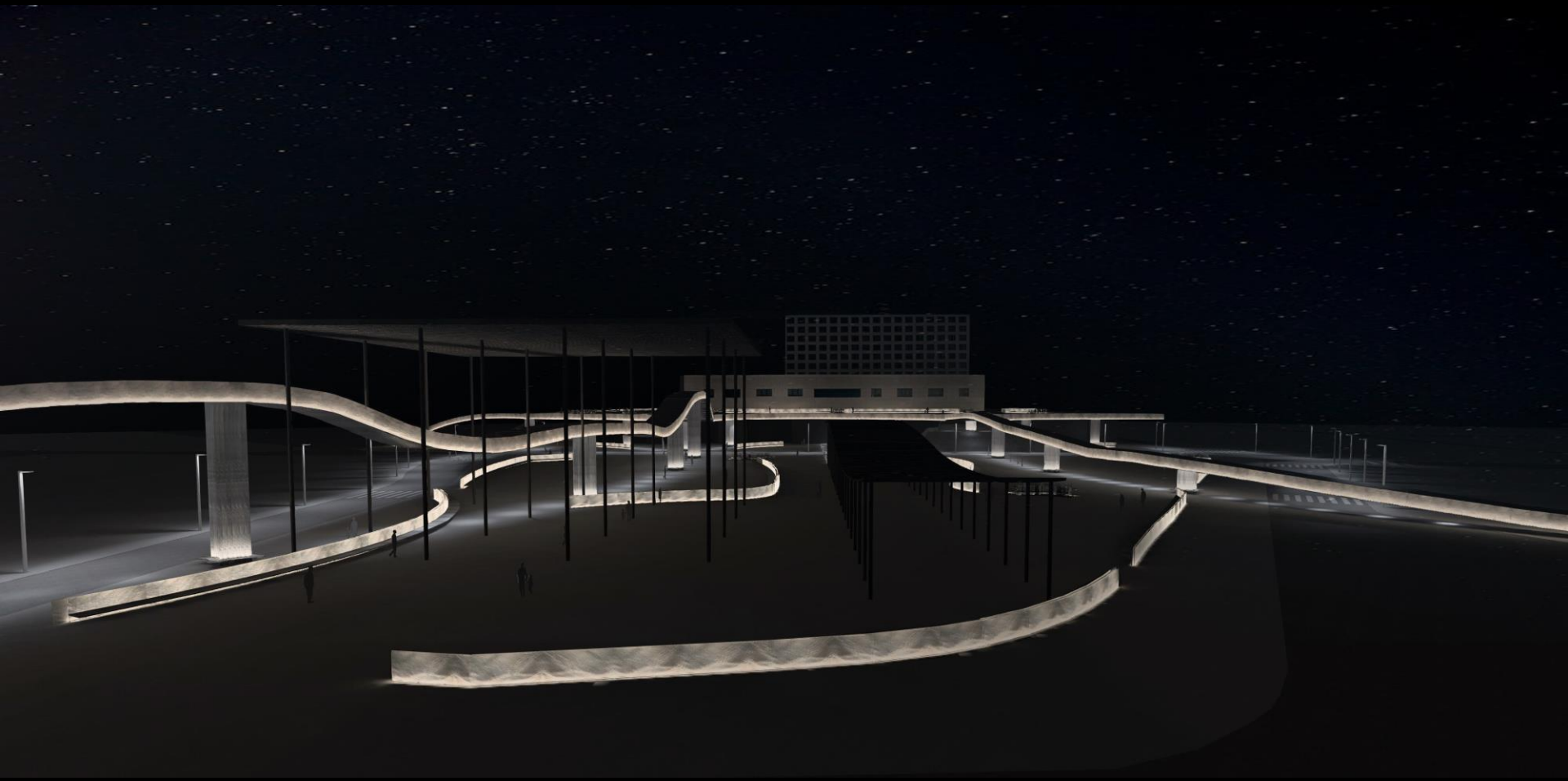




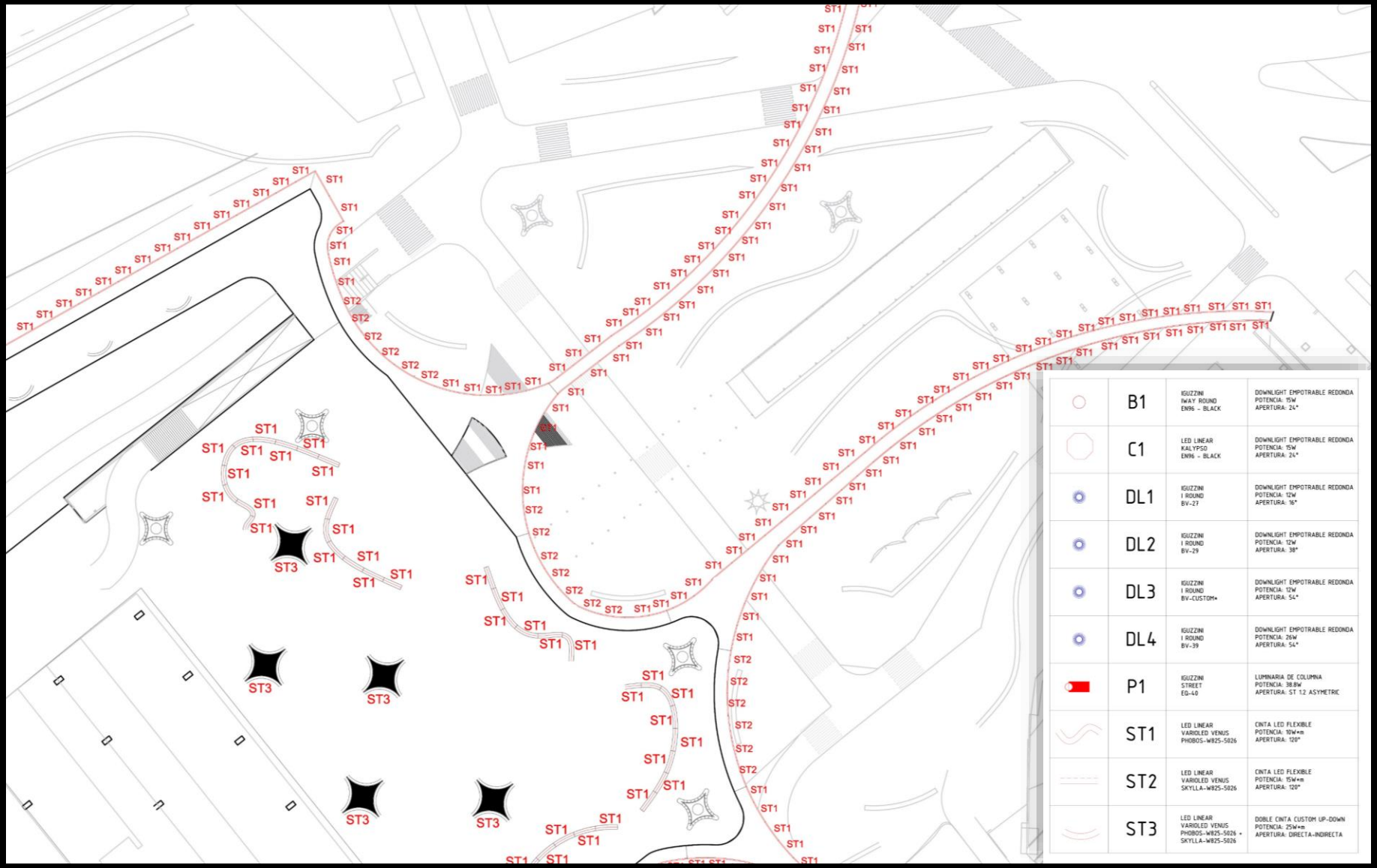



ESTUDIO DIURNO

ESTUDIO NOCTURNO



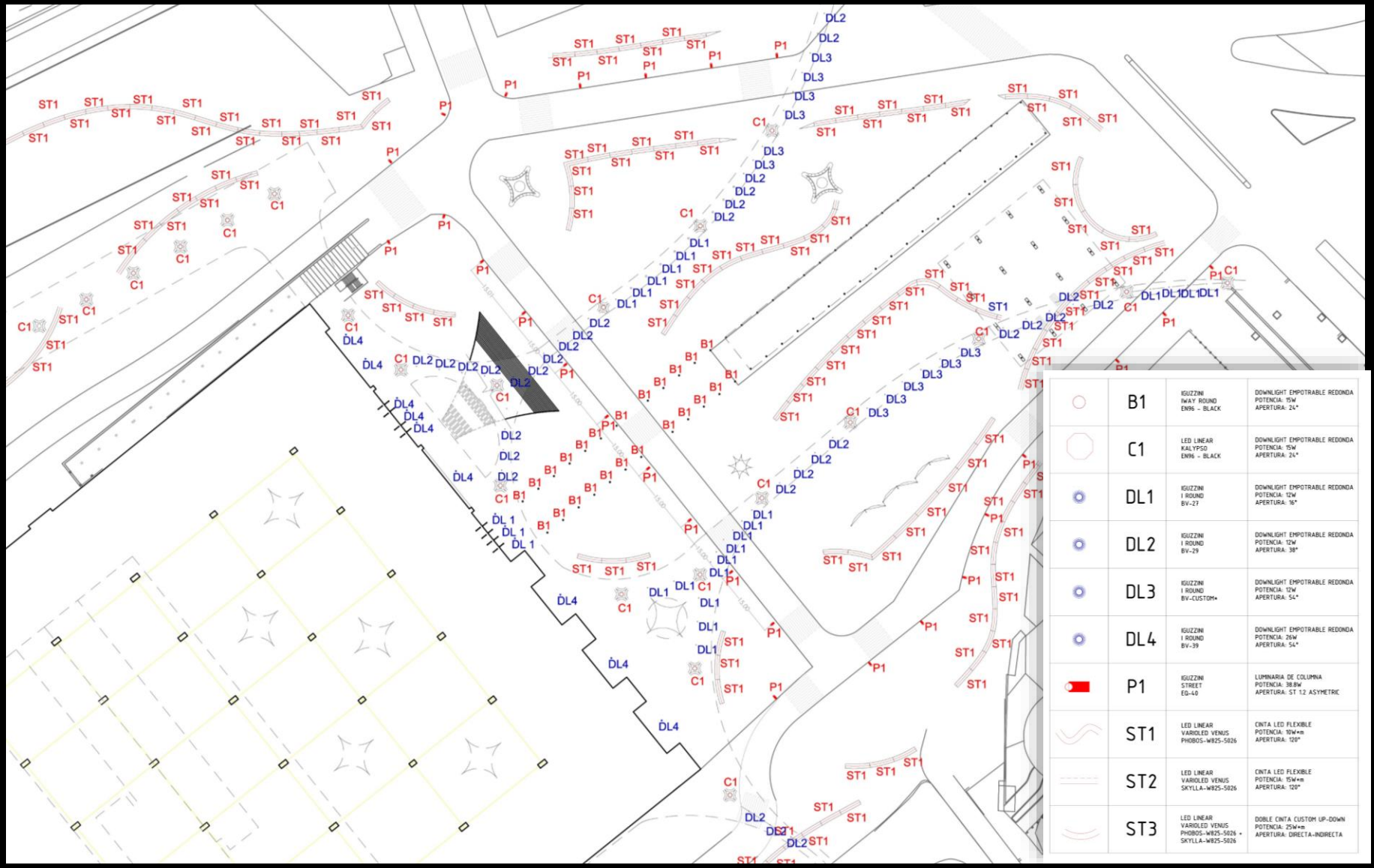
IMPLANTACIÓN N100



PLANO DE IMPLANTACIÓN

N100

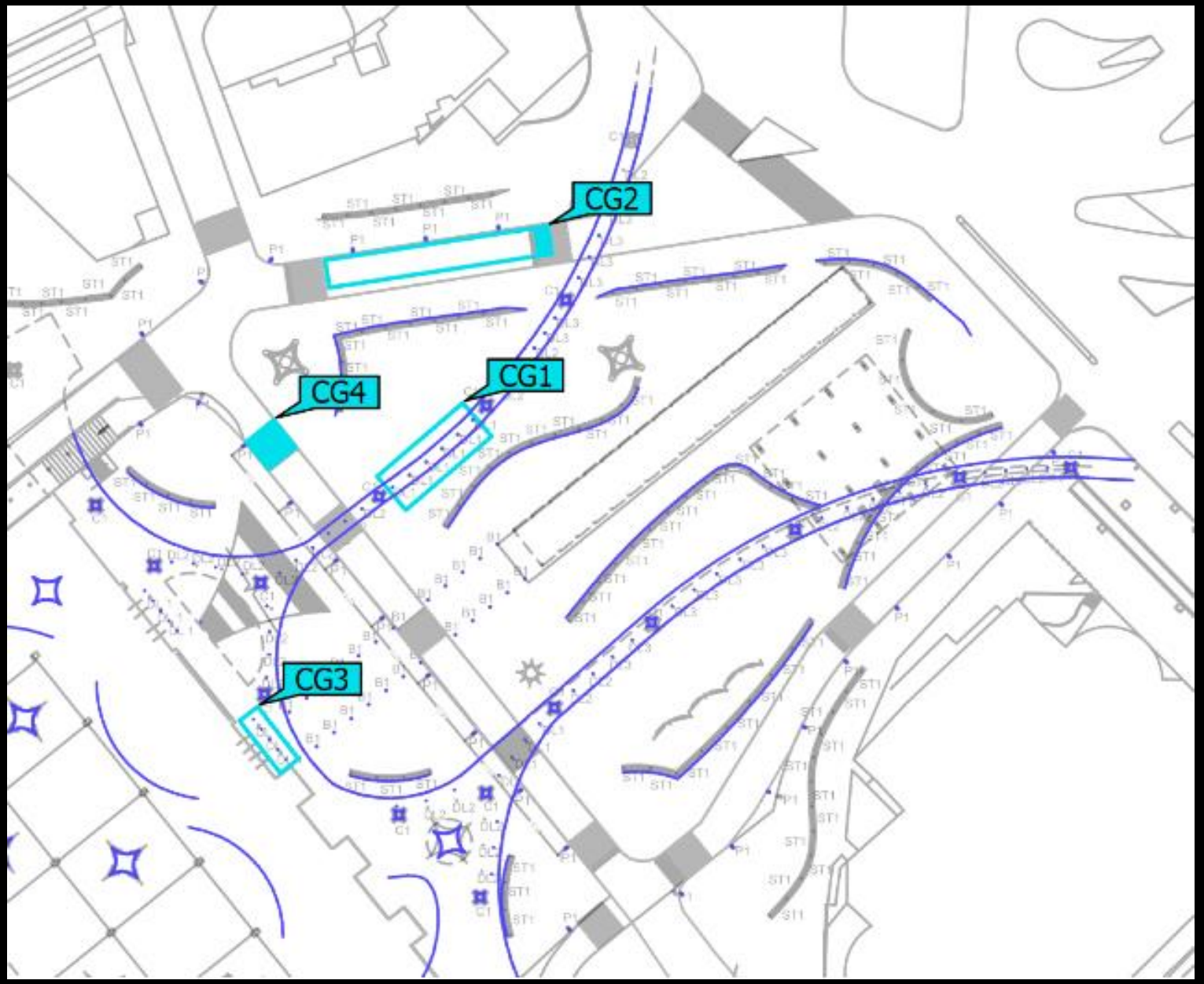
IMPLANTACIÓN N000



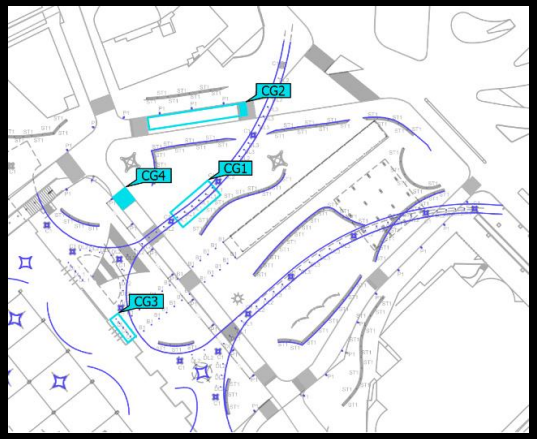
PLANO DE IMPLANTACIÓN

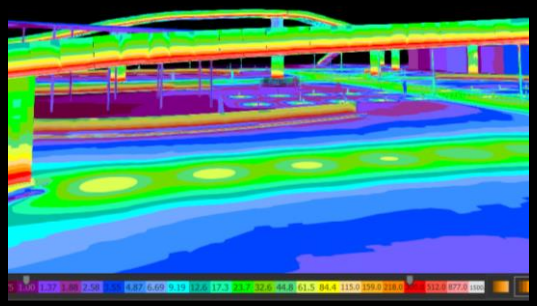
N000

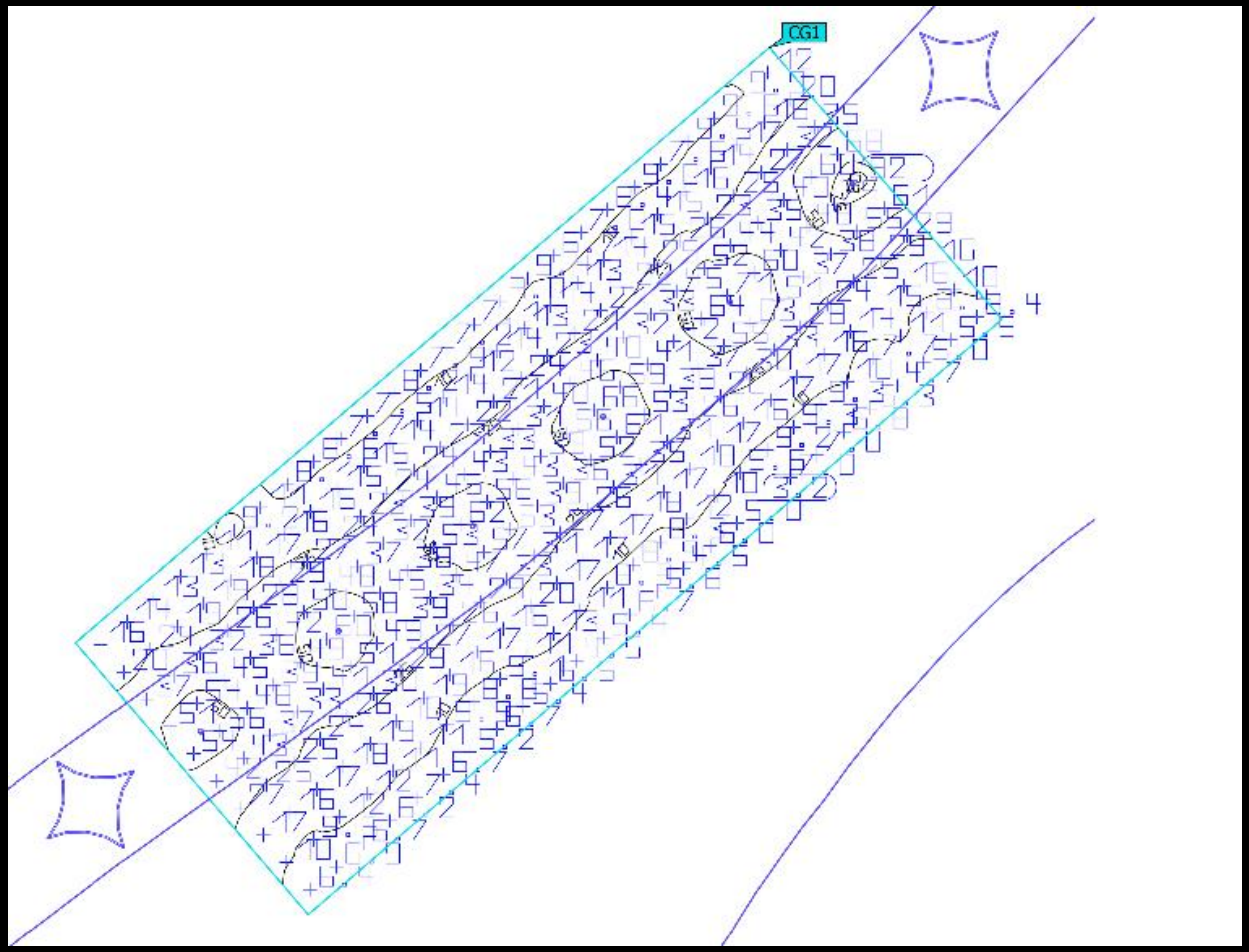
DIALUX – SUPERFICIES DE CÁLCULO



CALCULOS DIALUX – BAJO PASARELA

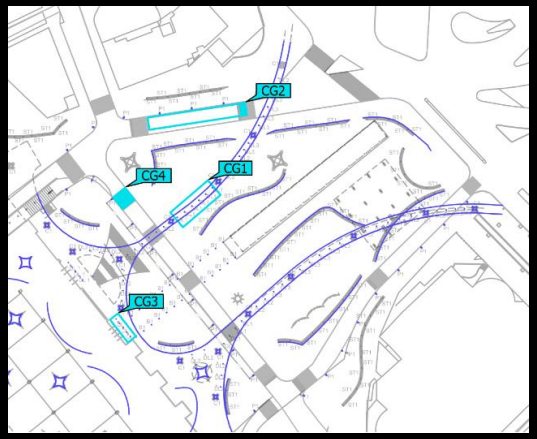


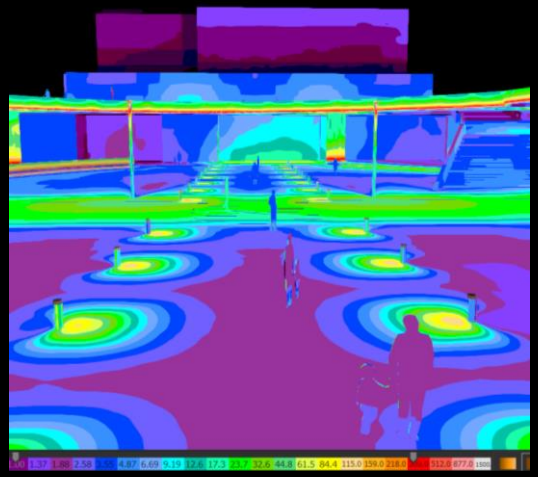


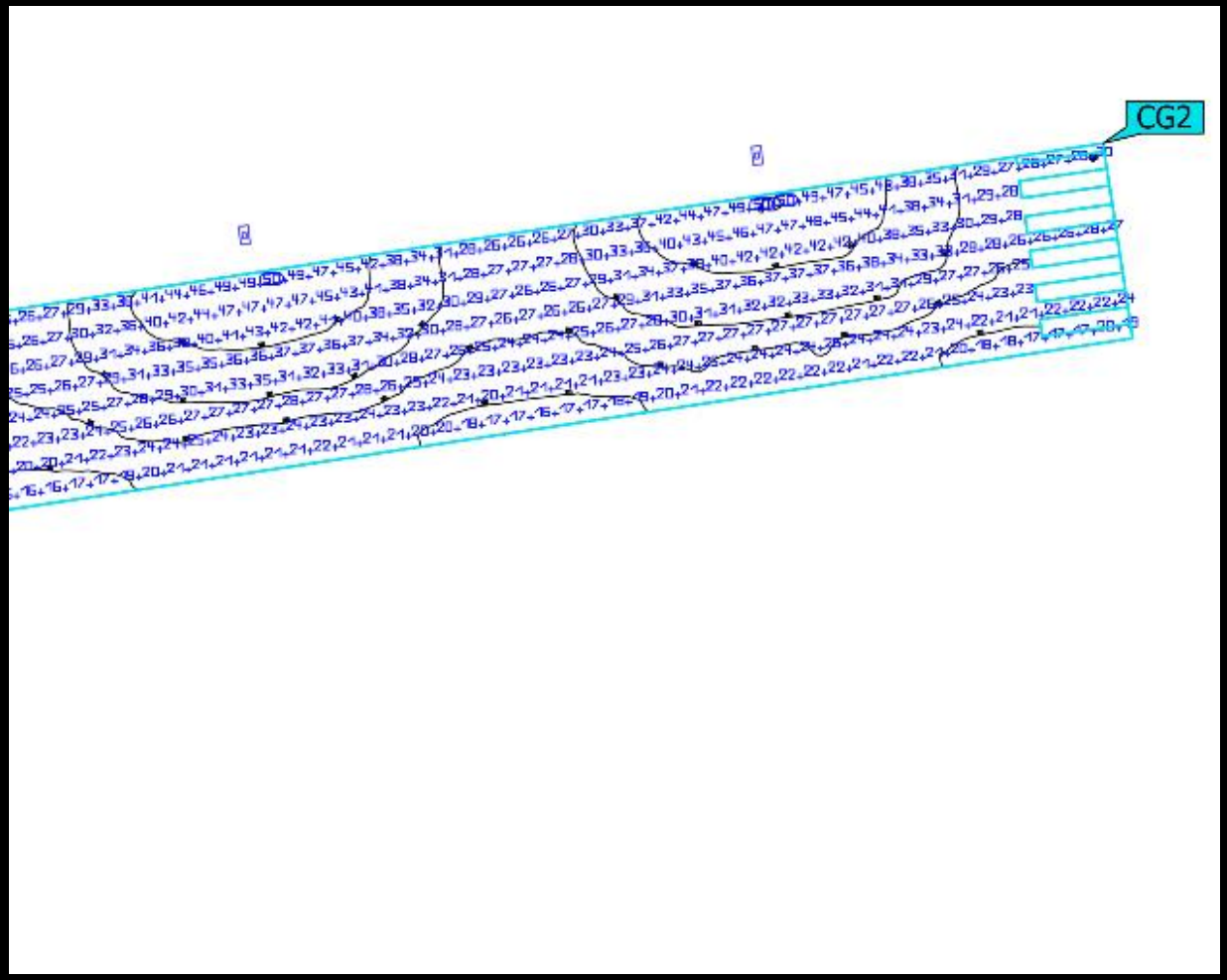


Propiedades	Ē	$E_{mín}$	$E_{máx}$	g_1	g_2	Índice
Superficie de cálculo 1 Iluminancia perpendicular Altura: 0.020 m	25.6 lx	3.17 lx	81.8 lx	0.12	0.039	CG1

CALCULOS DIALUX - VIAL

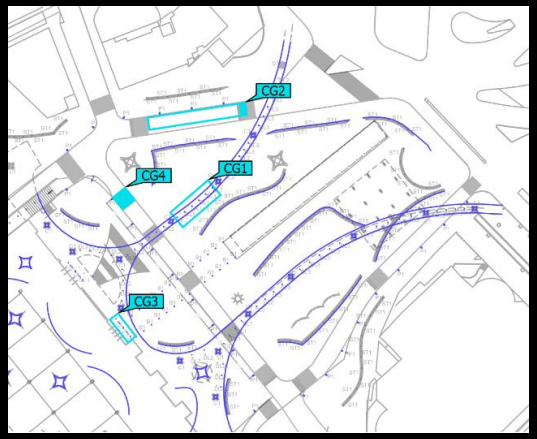


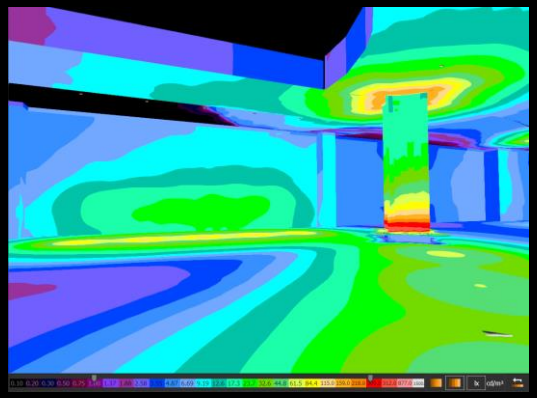


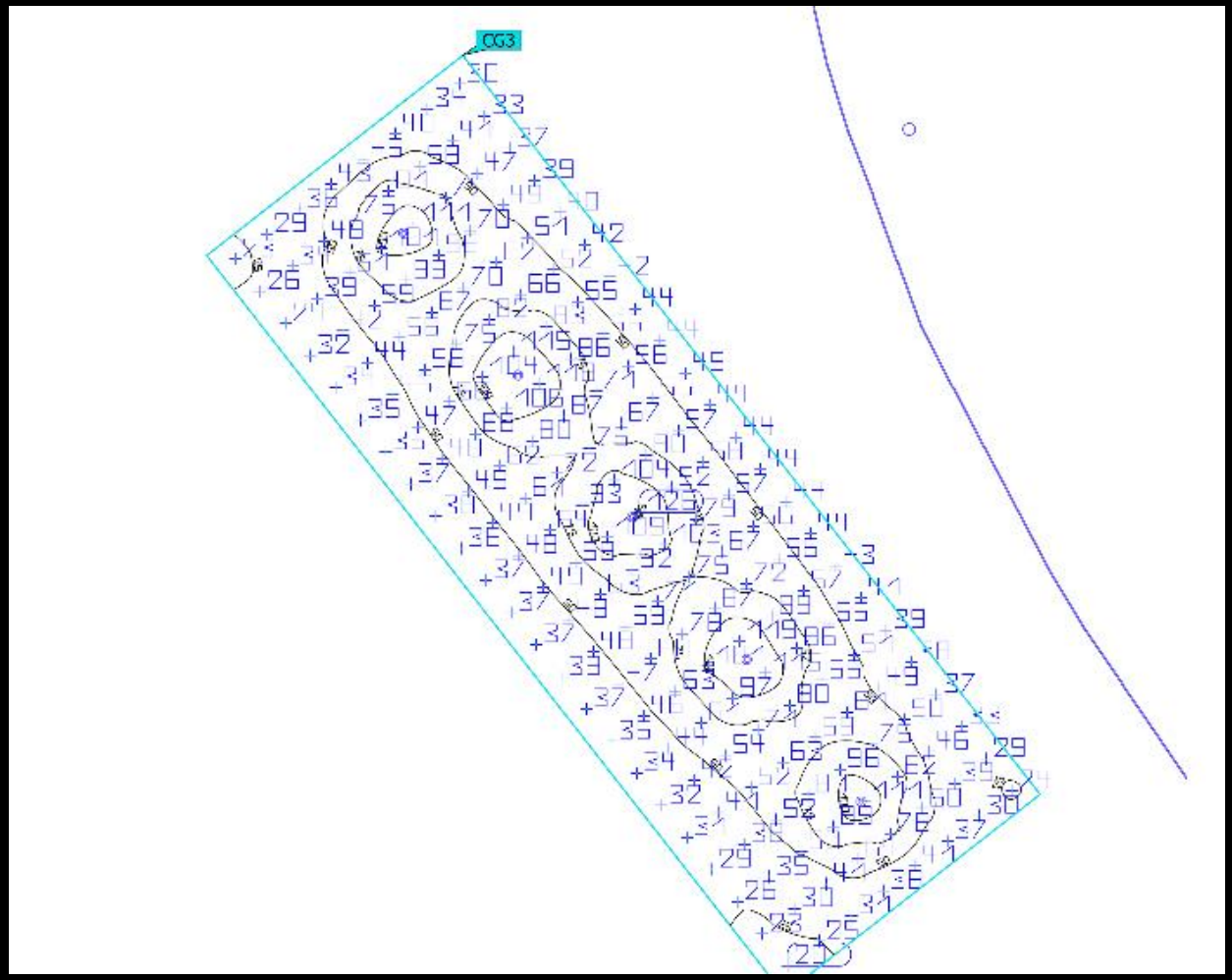


Propiedades	Ē	$E_{mín}$	$E_{máx}$	g_1	g_2	Índice
Superficie de cálculo 2 Iluminancia perpendicular Altura: 0.000 m	28.9 lx	14.9 lx	50.2 lx	0.52	0.30	CG2

CALCULOS DIALUX – ACCESO

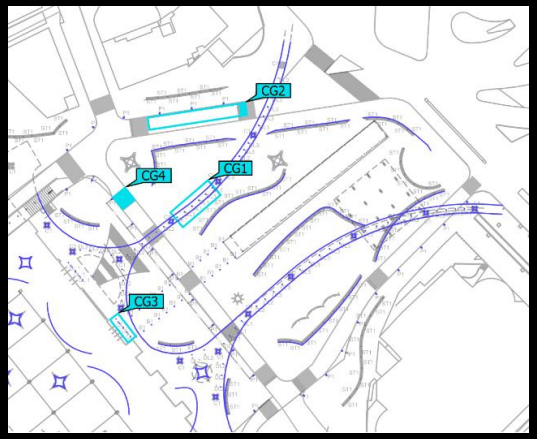


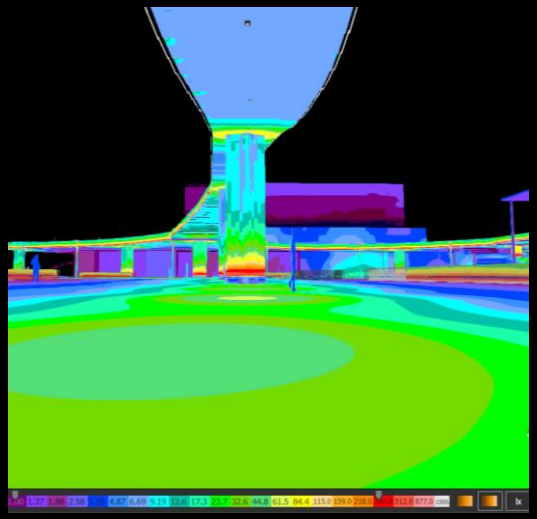


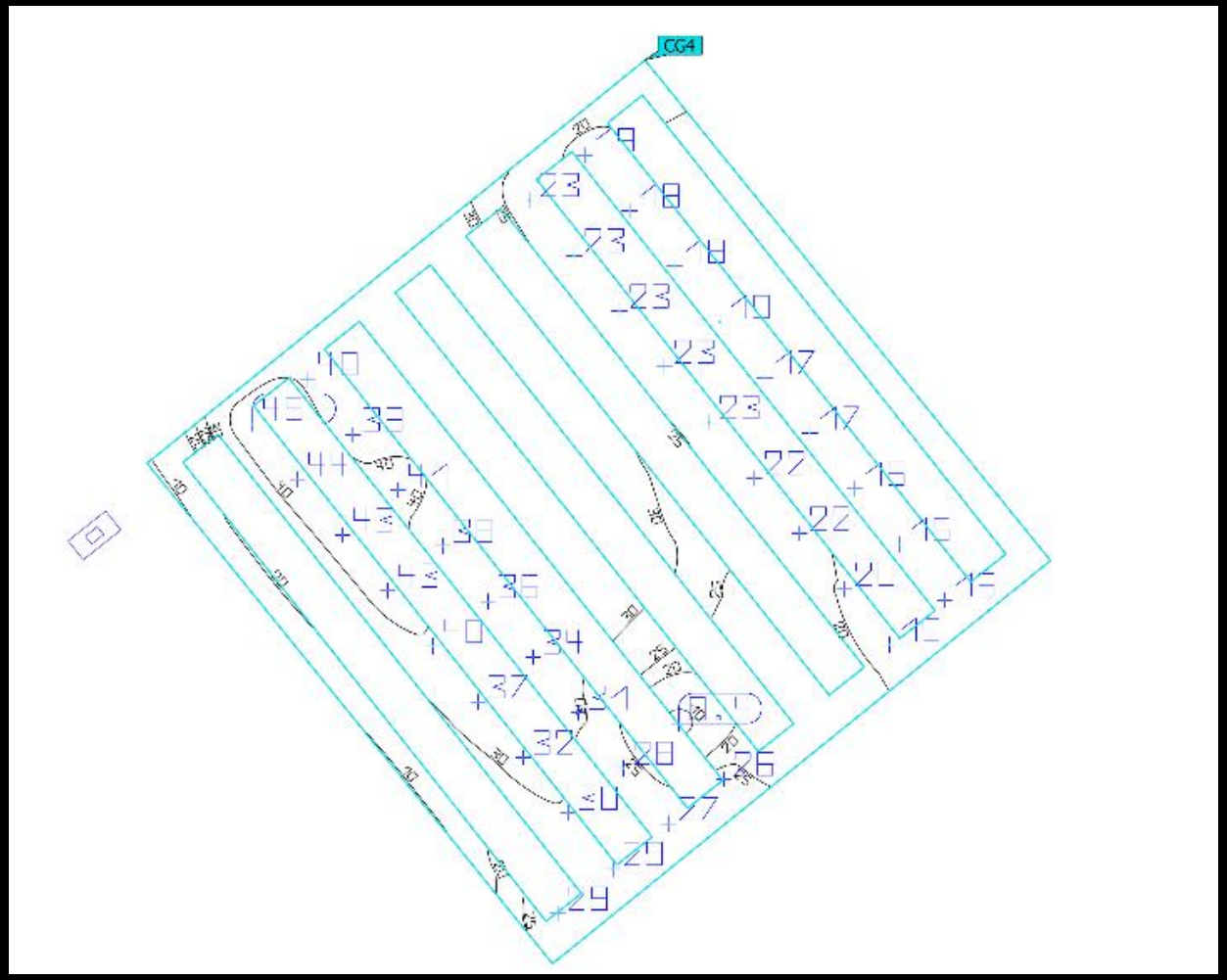


Propiedades	Ē	$E_{mín}$	$E_{máx}$	g_1	g_2	Índice
Superficie de cálculo 3 Iluminancia perpendicular Altura: 0.020 m	57.8 lx	19.8 lx	126 lx	0.34	0.16	CG3

CALCULOS DIALUX – PASO DE CEBRA







Propiedades	Ē	$E_{mín}$	$E_{máx}$	g_1	g_2	Índice
Superficie de cálculo 4 Iluminancia perpendicular Altura: 0.000 m	27.5 lx	8.45 lx	44.6 lx	0.31	0.19	CG4

NIVELES DE ILUMIANCIÓN . FASCIA

ILUMINACIÓN HORIZONTAL

A 0.75M DE FACIA . 23LUX

ILUMINACIÓN VERTICAL

23 LUX

ILUMINACIÓN VERTICAL

A 2.50M /1.50M DE ALTURA DE FACIA / 16LUX

SISTEMAS DE CONTROL: DALI Y DMX

SISTEMAS DE SENSORES:

- **Reloj astronómico** para encendidos exteriores e interiores

Ajustes a la zona horaria y también estacionales

- Se va encendiendo la luz artificial junto a la puesta de sol
- Desde las 02hrs hasta las 05hrs de la madrugada se atenúa la intensidad lumínica
- Va disminuyendo la luz artificial junto a la salida del sol

- **Sensor crepuscolar** para interiores, en tragaluces y ventanas laterales

PROGRAMACIÓN:

Para la programación se consideran los siguientes parámetros:

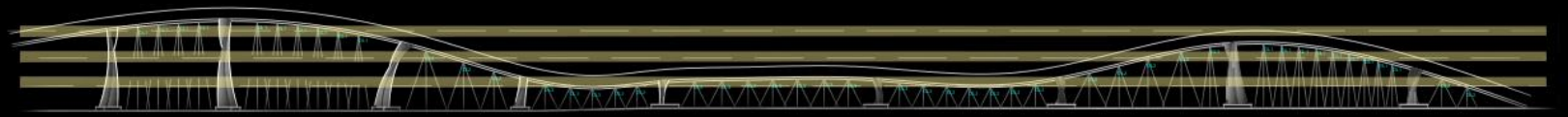
- Flujo de personas y circulación
- Seguridad

LUZ DINÁMICA:

Control de la luz en las columnas durante horarios transcurridos nocturnos

Degradado de intensidad sutil y movimiento circular

CONTROL - ENCENDIDOS



SECCIÓN LONGITUDINAL PASARELA

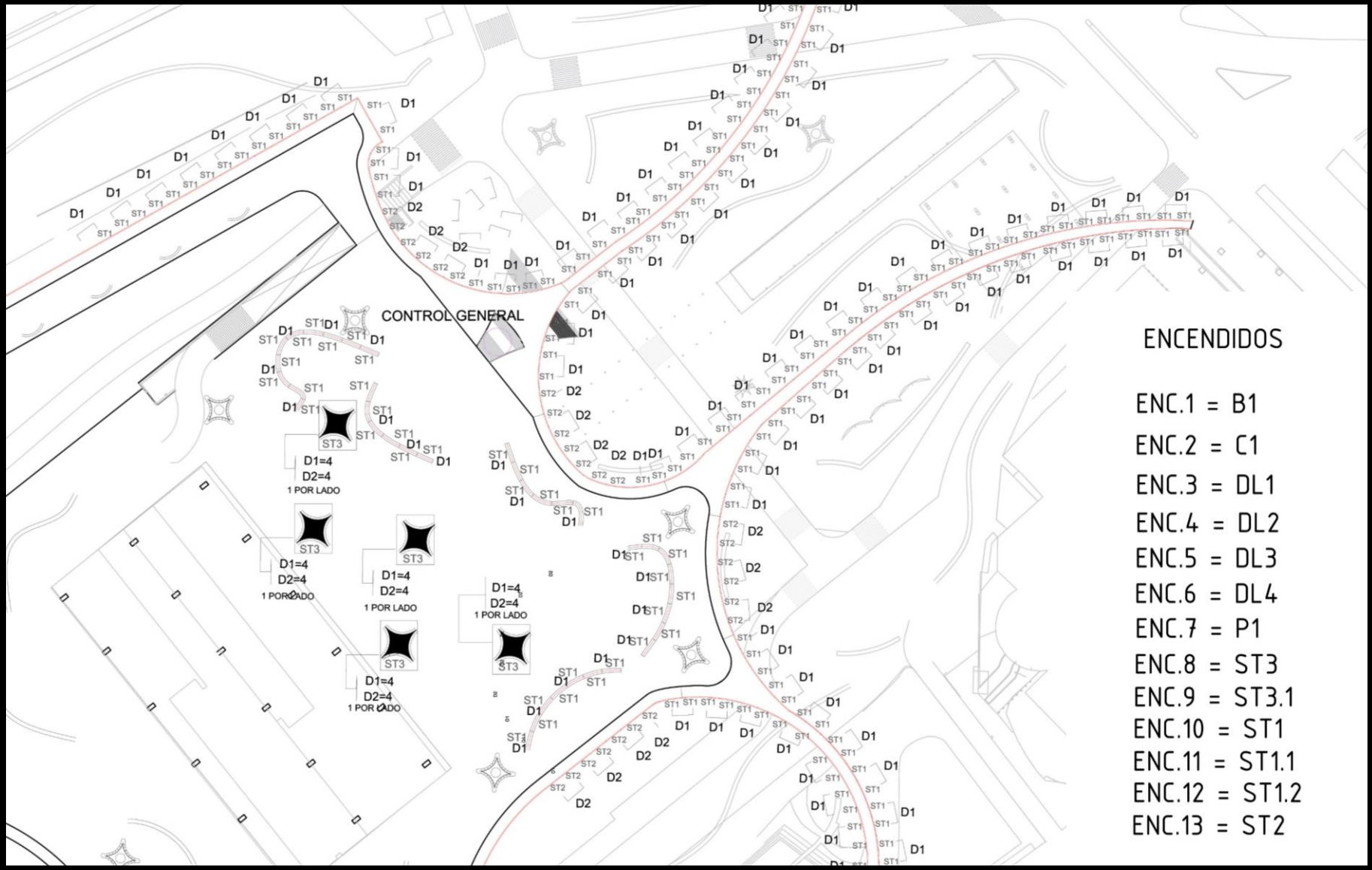
3 GRUPOS DE ENCENDIDOS

Según la estrategia que considera altura de las pasarelas y ópticas de luminarias

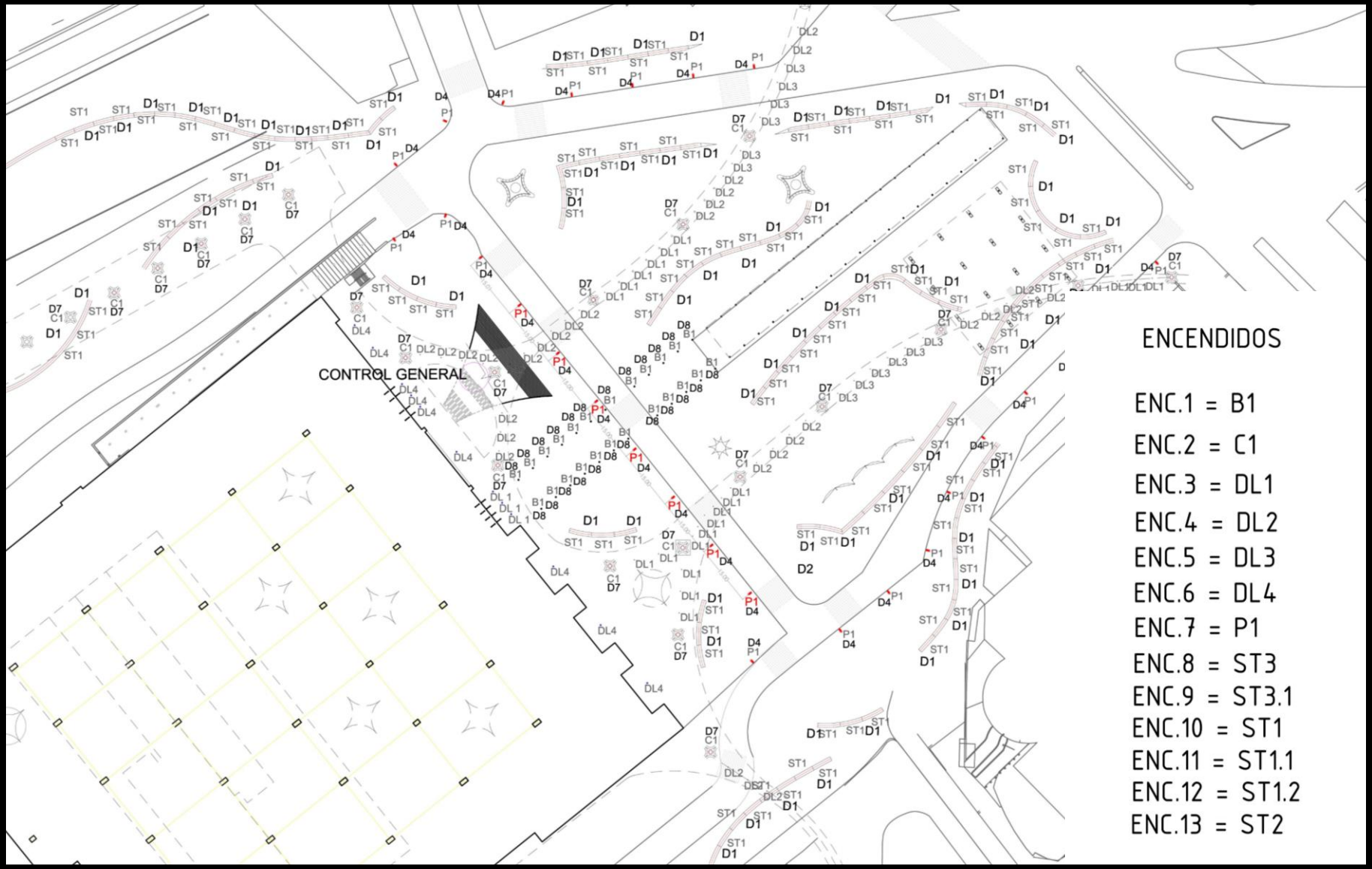
Objetivo:

Ajustar intensidades para lograr el nivel de luz y uniformidad requeridos

PLANO DE CONTROL



CONTROL - TABLA DE ENCENDIDOS



CONTROL - TABLA DE ENCENDIDOS

REF.	#ENC	SENSORES	UBICACIÓN	LUMINARIA	W	CANTIDAD	W TOTAL	PROTOCOLO LUTRON	Driver /Transfor
B1	ENC.1	Sensor de movimiento	plaza països catalans / suelo	EN96 Iguzzini	12.3	24	295,2	1 Dali	MY92
C1	ENC. 2	programación movimento	plaza països catalans / bajo torres y fascias	EN90_ Kalipso Led Linear	12/m	60m	720	1 Dmx	VarioPSU
DL1	ENC. 3	-	plaza països catalans / bajo puntes	BV27 Led linear	12	24	288	1 Dali	driver incluido
DL2	ENC. 4	-	plaza països catalans / bajo puntes	BV29 Led linear	12	31	372	1 Dali	driver incluido
DL3	ENC. 5	-	plaza països catalans / bajo puntes	BV33 custom made Led linear	12	12	144	1 Dali	driver incluido
DL4	ENC. 6	-	plaza països catalans / bajo fascia	BV39 custom made Led linear	26	9	234	1 Dali	driver incluido
P1	ENC. 7	-	plaza països catalans / vial	EQ40 Iguzzini	38.8	27	1047,6	1 Dali	1 por aparato MY92
ST3	ENC. 8	-	Estación de sants / tragaluces	Skilla Led linear	15/m	192m	2880	6 Dali	1 cada 10m = 3 trasnformadores por tragaluz. Transformador que aguante una potencia de 200w y conversor a Dali
ST3	ENC. 9	-	Estación de sants / tragaluces	Fogos Led linear	10/m	192m	1920	6 Dali	1 cada 10m = 3 trasnformadores por tragaluz. Transformador que aguante una potencia de 150w y conversor a Dali
ST1	ENC. 10	-	mobiliario bajo	Flex Venus Led linear	10/m	635m	6350	Dali	1 cada 10m = 60 transformadores en total. Trasnformador que aguante una potencia de 100w y conversor a Dali
ST1	ENC.11	-	mobiliario alto	Flex Venus Led linear	10/m	185m	1850	Dali	1 cada 10m = 20 transformadores en total. Trasnformador que aguante una potencia de 100w y conversor a Dali
ST1	ENC. 12	-	puentes y fascias	Flex Venus Led linear	10/m	870m	8700	Dali	1 cada 10m = 90 transformadores en total. Trasnformador que aguante una potencia de 100w y conversor a Dali
ST2	ENC.13	-	puentes y fascias	Flex Venus Skilla Led linear	15/m	100m	1500	Dali	1 cada 10m = 20 transformadores en total. Trasnformador que aguante una potencia de 150w y conversor a Dali

TABLA DE ENCENDIDOS

PARAMÉTRICO

CODIGO	ZONA	PROTOCOLO	PROVEEDOR	TIPO	REF	VOLTAJE	LUMENS	CCT	CRI	DESCRIBCIÓN	IMAGEN	WATTS	CANTIDAD	W TOTAL
B1	ACCESO EXTERIOR	ASTRONOMICO DALI	IGUZZINI	BOLARDO	iWAY ROUND EN96	220-240	248	3000	80	LUMINARIA LED PARA EXTERIORES PARA INTALACIÓN DE PISO, TIPO BOLARDO, FOTOMETRIA ASIMETRICA (180°)		9.7	24	232.8
C1	COLUMNAS FASCIAS	DALÍ	LEDLINEAR	LINEAL GRAZER UPLIGHT	HD15-930-0639-30D	24V DC	1540	3000	90	LUMINARIA LED LINEAL PARA EXTERIORS DE ALTA EFICIENCIA, TIPO GRAZER (30°)		48	21	1008
				ACCESORIO	Art.-#: 13000165 Art.-#: 15000141 Art.-#: 15000142 DRIVER	R DALI POR ESPECIFICAR		220-240		MONTAJE DE PARED VarioCon Female Mini 2x0.34 mm² 0.2 m IP67 VarioCon Female Mini 2x0,34mm² 2m IP67				
DL1	PASARELA	DALÍ	IGUZZINI	DOWNLIGHT EMPOTRABLE	iROUND BV27 DRIVER REMOTO DALI	220-240	1750	3000	80	DOWNLIGHT EMPOTRABLE PARA EXTERIORES. OPTICA DE 16° - PEDIOD ESPECIAL PARA DRIVER REMOTO DALI		12	28	336
DL2	PASARELA	DALÍ	IGUZZINI	DOWNLIGHT EMPOTRABLE	iROUND BV29 DRIVER REMOTO DALI	220-240	1750	3000	80	DOWNLIGHT EMPOTRABLE PARA EXTERIORES. OPTICA DE 38° - PEDIOD ESPECIAL PARA DRIVER REMOTO DALI		12	38	456
DL3	PASARELA	DALÍ	IGUZZINI	DOWNLIGHT EMPOTRABLE	iROUND BV2*** DRIVER REMOTO DALI	220-240	1750	3000	80	DOWNLIGHT EMPOTRABLE PARA EXTERIORES. OPTICA ESPECIAL P BAJO PEDIDO DE 54° - PEDIOD ESPECIAL PARA DRIVER REMOTO DALI		12	20	240

PARAMÉTRICO

CODIGO	ZONA	PROTOCOLO	PROVEEDOR	TIPO	REF	VOLTAJE	LUMENS	CCT	CRI	DESCRIBCIÓN	IMAGEN	WATTS	CANTIDAD	W TOTAL
DL4	ACCESOS	DALI	IGUZZINI	DOWNLIGHT EMPOTRABLE	iROUND BV39 DRIVER REMOTO	220-240	3700	3000	80	DOWNLIGHT EMPOTRABLE PARA EXTERIORES. OPTICA DE 38° -		23	12	276
P1	VIAL	ASTRONIMICO DALI	IGUZZINI	LUMINARIA PARA COLUMINA	EQ40	220-240	5530	3000	70	LUMINARIA LED DE EXTERIORES PARA INSTALACION EN COLUMINAS TIPO VIAL (ST1.2)		38.8	27	1047.6
ST1	BARANDAS FASCIAS Y MOBILIARIO	DALÍ	LEDLINEAR	LINEAL FLEXIBLE INDIRECTA ACCESORIO DRIVER CLIP MONTAJE	PHOBOS-W825-5026 DRIVER DALI POR ESPECIFICAR VarioClip TV 30mm (301/1.4310/V2a)	24V DC 220-240	480	3000	80	5MTS - LUMINARIA LED FLEXIBLE PARA EXTERIORES DE 10W POR METRO		50	346	17300
ST2	FACHADA PERIMETRAL	DALÍ	LEDLINEAR	LINEAL FLEXIBLE INDIRECTA ACCESORIO DRIVER CLIP MONTAJE	SKYLLA-W825-5026 DRIVER DALI POR ESPECIFICAR VarioClip TV 30mm (301/1.4310/V2a)	24V DC 220-240	770	3000	80	5MTS - LUMINARIA LED FLEXIBLE PARA EXTERIORES DE 15W POR METRO		75	26	1950
ST3	TRAGALUZ	DALÍ	LEDLINEAR	LINEAL FLEXIBLE DIRECTA INDIRECTA ACCESORIO DRIVER CLIP MONTAJE	SKYLLA-W825-5026 (UP) PHOBOS-W825-5026 (DOWN) DRIVER DALI POR ESPECIFICAR VarioClip TV 30mm (301/1.4310/V2a)	24V DC 24V DC 220-240	770 480	3000 3000	80 80	5METROS DE LUMINARIA LINEAL CUSTOM		125	40	5000
													watts	27846.4
													mts2 peatonal	55000
													total mts2	55000

iWay round

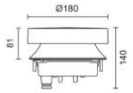
Design Jean-Michel Wilmotte — **iGuzzini**

Last information update: September 2022

Product configuration: EN96+EP15.15+B513.00
EN96: Ø180mm optical assembly - Warm White LED - 220÷240Vac DALI - Super Comfort 180° optic
EP15.15: Post for iWay optical compartment Ø170 mm - h = 529 mm - Grey
B513.00: Counter-plate with anchor bolts - Indeterminate

Product code
EN96: Ø180mm optical assembly - Warm White LED - 220÷240Vac DALI - Super Comfort 180° optic

Technical description
Outdoor, ground or pavement-mounted direct light luminaire, designed to use LED lamps, with a 180° asymmetric optic. The complete product consists of an optical assembly and a cylindrical post to be ordered separately. The optical assembly is made up of various parts, including a top cover made of painted aluminium; a PMMA flux enhancer; a transparent polycarbonate emission lens with an extruded internal bracket and an LED circuit fixed in radial mode; a black-painted, die-cast aluminium cone; a die-cast aluminium lower box for housing the control gear; and silicone seals to guarantee a watertight seal between the top cover, the lens and the cone. The external aluminium parts have been subjected to a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The following painting stage consists of a primer and a liquid acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. At the bottom, the optical assembly is completed by a nickel-plated brass cable clamp and an H07RN-F 4x1mm rubber outlet cable L=1700 mm. The electrical connection requires IP or BOX IP connectors that need to be ordered separately. All external screws used are made of AISI 303 (A1) stainless steel.



Installation
The optical assembly is installed on the lower cylindrical post using a bayonet fitting and secured with two special Torx type screws.

Colour	Weight (Kg)
White (01) | Black (04) | Grey (15) | Rust Brown (F5)	1.9

Mounting
ground anchored

Wiring
Electronic control gear unit DALI Vin: 170÷264Vac 164÷264Vdc, 50/60Hz. To adjust the light flow, the control gear can be programmed using a special programming interface (see catalogue) and the output cable from the optical assembly. The control gear is supplied in ON-Off mode and can be transformed into Midnight mode using the interface mentioned above. The DALi driver is compatible with Telemanagement systems. An active control system modifies the current intensity to preserve the lifetime of the LEDs under any external ambient temperature conditions.

Complies with EN60598-1 and pertinent regulations

IK10 IP66

Accessory code
EP15.15: Post for iWay optical compartment Ø170 mm - h = 529 mm - Grey

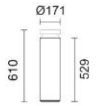
Technical description
The post is made of aluminium alloy treated with powder paint, which provides a high level of resistance to weather and UV rays. Upper cover made of painted aluminium. Walky optical assembly fixed to post using a single torx-type (safety), stainless steel screw. Inside the post and fixed to the lower base are two stainless steel rods that give the product a high level of impact resistance. The post is anchored to the floor using the fixing base that is made of painted, zinc-plated steel.

Installation
The post can be fastened to the ground/pavement using screw anchors (on pavements) or via a fixing base and plate with anchors that are surface treated with passivation for added protection against corrosion (to be ordered separately).

Colour	Weight (Kg)
Grey (15)	4.5

Mounting
ground surface|ground anchored

Complies with EN60598-1 and pertinent regulations

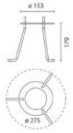


Accessory code
B513.00: Counter-plate with anchor bolts - Indeterminate

Technical description
Fixing plate with anchor bolts

Colour	Weight (Kg)
Indeterminate (00)	0.5

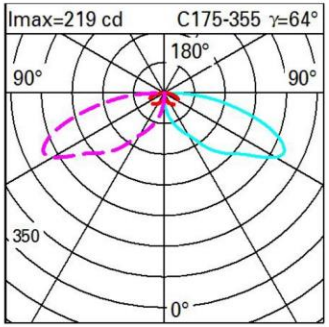
Complies with EN60598-1 and pertinent regulations



Technical data

lm system:	248	Ballast losses [W]:	2.6
W system:	12.3	Lamp code:	LED
lm source:	1650	Number of lamps for optical assembly:	1
W source:	9.7	ZVEI Code:	LED
Luminous efficiency (lm/W, real value):	20.1	Number of optical assemblies:	1
lm in emergency mode:	-	Intervallo temperatura ambiente:	from -30°C to 50°C.
Total light flux at or above an angle of 90° [Lm]:	2	Power factor:	See installation instructions
Light Output Ratio (L.O.R.) [%]:	15	Inrush current:	15 A / 360 µs
CRI (minimum):	80	Maximum number of luminaires of this type per miniature circuit breaker:	B10A: 14 luminaires B16A: 23 luminaires C10A: 23 luminaires C16A: 39 luminaires
Colour temperature [K]:	3000		
MacAdam Step:	3	Overvoltage protection:	10kV Common mode & 6kV Differential mode
Life Time LED 1:	73,000h - L80 - B10 (Ta 25°C)		
Life Time LED 2:	64,000h - L80 - B10 (Ta 40°C)	Dimming mode:	CCR
		Control:	DALI

Polar



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Edition: Saturday, 03. September 2022 · Reserve technical changes.
Online: https://www.led-linear.com/products/kalypso-ip67

LED LINEAR™
A Fagerhult Group Company

KALYPSO White High Efficiency HD IP67

Area: **Outdoor Luminaires**
Category: **Grazer**
Mounting: **Surface Mounting fixed horizontal / Surface Mounting fixed vertical / Surface Mounting adjustable / Wall Mounted adjustable**

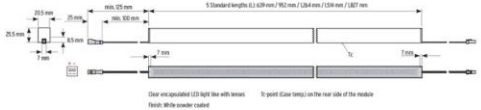
Compact and robust grazing luminaire in a small form factor. KALYPSO is designed with a cable groove that makes it possible to install the fixture without cables and clips disturbing the finish.

- High lumen output in minimalistic design with a small cross section of (W x H) 20.5 mm x 25.5 mm.
- Screwed translucent end caps for continuous rows and an optimal sealing at both ends of the luminaire.
- Robust polyurethane encapsulated fixture with IP67 and IK10 classification.

Detailed specification text in download section.

DIMENSIONS & AVAILABLE LENGTHS

20.5 mm x 25.5 mm



5 Standard lengths (L): 639 mm / 952 mm / 1,264 mm / 1,514 mm / 1,827 mm

TECHNICAL SPECIFICATIONS

Certifications

Key Features

Continuous row · Surface-mounted / Ceiling

Awards

Technical Data/Performance

Static White · IP67 · Lifetime · OneBinOnly · Photometrical code · SDCM3 · CIE S-025 compliant · LM80 compliant · Impact resistant · Reel-to-Reel (R2R)

UV protected · Resistant to solvents · Saltwater resistant · Temporary immersion protection · Compliant with EU ECODESIGN guidelines

LED LINEAR™
A Fagerhult Group Company

ELECTRICAL & OUTPUT DATA

Voltage	24 Volt (23 V_{min}, 25 V_{max})
Case Temperature (Tc_{min} & Tc_{max})	Tc_{min} = -25°C, Tc_{max} = specific, see Table below
Storage Temperature (Ts_{min} & Ts_{max})	Ts_{min} = –30°C, Ts_{max} = 85°C
Ambient Temperature (Ta_{min} & Ta_{max})	Ta_{min} = -25°C, Ta_{max} = specific, see Table below

KALYPSO White High Efficiency HD IP67	HD6	HD10	HD15	HD25	HD36
Power (W/m)[A]	6	10	15	25	36
Efficacy (lm/W)[A]	113	113	120	118	119
max. length (m)	1.83	1.83	1.83	1.83	1.83
max. serial run length (m)	5.0	5.0	4.0	3.0	2.0
CRI / R9 (up to)	96 / 81	96 / 81	86 / 36	86 / 36	86 / 36
Temperature Tc-point (Tc_{max})[B]	70°C	70°C	70°C	75°C	85°C
max. ambient temp. (Ta_{max})	50°C	50°C	50°C	45°C	35°C

low output → high output

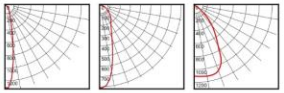
KALYPSO White High Efficiency HD IP67			HD6	HD10	HD15	HD25	HD36
Color temperature[C]			luminaire lumens/meter (lm/m)[A] @ 10° Diffuse				
Order Code		Delivered CCT					
W820		2,000K	390	650	1040	1830	2490
W822		2,200K	450	750	1200	1940	2840
W825		2,500K	510	860	1370	2220	3250
W927	W927	2,700K	460	770	1450	2360	3450
W930	W930	3,000K	470	780	1540	2510	3660
W935	W935	3,500K	480	800	1620	2630	3840
W940	W940	4,000K	490	820	1660	2690	3930
W850		5,000K	680	1130	1800	2940	4290

! To configure the specific luminaire please use the online configurator.
Please note: The orange values are CRI 90 specifications.

[A]The given data are typical values. Due to tolerances of the production process and the electrical components, photometric values and electrical power can vary up to 10%
[B]The Tc-point should be measured in thermal equilibrium according to IEC EN 60598-1.
[C]In case of IP67 products, tolerances in the color temperature can occur.
! Note: –40% luminous flux at opal and –25% with diffuse cover.

AVAILABLE OPTICS

Lens 10° **Lens 30°** **Lens 60°**



FICHAS TÉCNICAS – DL1

iRound

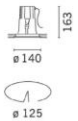
Design Maurizio Varratta — **iGuzzini**

Last information update: August 2022

Product configuration: BV27
BV27: Ceiling-mounted recessed luminaire with IP66 protection rating, small body, Warm White COB Leds, fixed Spot Optic

Product code
BV27: Ceiling-mounted recessed luminaire with IP66 protection rating, small body, Warm White COB Leds, fixed Spot Optic

Technical description
Downlighter designed to use warm white COB Led lamps with a fixed Spot optic. Consists of a round optical assembly, frame, output cable, and outer casing, to be ordered separately where necessary. The optical assembly and frame are made of EN1706AC 46100LF aluminium alloy and subjected to a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The next painting stage consists of a primer and a liquid acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. The tempered sodium-calcium sealing glass is transparent, with customised serigraphy on the edge, 4 mm thick, joined to the frame with silicone. Complete with monochrome Warm White COB LED circuit and an optic with a 99.93% polished super-pure aluminium reflector with a polished, anodized surface and built-in electronic ballast. Supplied with an output cable L=1m long. Ceiling-mounting system consists of special A2 stainless steel screws complete with black aluminium alloy and plastic coupling supports. The frame comes complete with A2 stainless steel captive screws. There is a single tool (No. 3 Allen key) for opening the frame and for the fixing system. The outer casing for concrete ceilings is made of black-painted ready-galvanised sheet aluminium complete with an end cap and threaded bar, to be ordered separately. All external screws used are made of A2 stainless steel.



Installation
Recessed in false ceilings 5 - 50mm thick. Hole for preparation of false ceiling ø=125mm. Installed on concrete ceilings using an outer casing, to be ordered separately.

Colour	Weight (Kg)
Grey (15)	0.95

Mounting
ceiling recessed

Wiring
Control gear complete with electronic ballast (220÷240Vac 50/60Hz)

Notes
Plastic adapter disk available for flush-mounting the frame on ceilings made of concrete exposed to view (can only be used with the product with aluminium frame, without the stainless cover). Products set up for installation of a stainless steel safety kit L=2000mm.

Complies with EN60598-1 and pertinent regulations

IK07 IP66

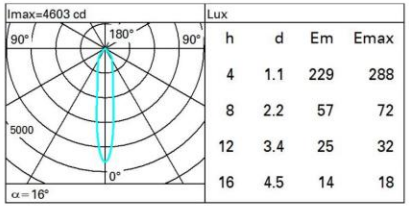
Technical data

lm system:	1313	Life Time LED 1:	100,000h - L80 - B10 (Ta 25°C)
W system:	13.5	Life Time LED 2:	93,000h - L80 - B10 (Ta 40°C)
lm source:	1750	Ballast losses [W]:	1.5
W source:	12	Lamp code:	LED
Luminous efficiency (lm/W, real value):	97.2	Number of lamps for optical assembly:	1
lm in emergency mode:	-	ZVEI Code:	LED
Total light flux at or above an angle of 90° [Lm]:	0	Number of optical assemblies:	1
Light Output Ratio (L.O.R.) [%]:	75	Intervallo temperatura ambiente:	from -20°C to +35°C.
Beam angle [°]:	16°	Power factor:	See installation instructions
CRI (minimum):	80	Inrush current:	42 A / 100 µs
Colour temperature [K]:	3000	Maximum number of luminaires of this type per miniature circuit breaker:	B10A: 21 luminaires B16A: 34 luminaires C10A: 35 luminaires C16A: 57 luminaires
MacAdam Step:	2	Overvoltage protection:	2kV Common mode & 1kV Differential mode

NOTA:

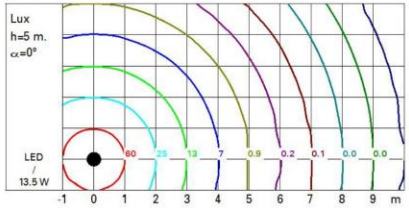
Se requiere un driver DALI remoto bajo pedido especial

Polar



h	d	Em	Emax
4	1.1	229	288
8	2.2	57	72
12	3.4	25	32
16	4.5	14	18

Isolux



UGR diagram

Corrected UGR values (at 1750 lm bare lamp luminous flux)

Riflect.: ceil/cav		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
walls		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
work pl.		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room dim				viewed crosswise					viewed endwise		
x	y										
2H	2H	19.8	21.3	20.1	21.6	21.9	19.8	21.3	20.1	21.6	21.9
	3H	19.7	20.8	20.0	21.1	21.4	19.7	20.8	20.0	21.0	21.4
	4H	19.6	20.6	19.9	20.9	21.3	19.6	20.6	19.9	20.9	21.3
	6H	19.4	20.6	19.8	20.9	21.3	19.4	20.6	19.8	20.9	21.3
	8H	19.4	20.5	19.8	20.9	21.2	19.4	20.5	19.8	20.9	21.2
	12H	19.3	20.5	19.7	20.8	21.2	19.3	20.4	19.7	20.8	21.2
4H	2H	19.6	20.6	19.9	20.9	21.3	19.6	20.6	19.9	20.9	21.3
	3H	19.3	20.5	19.8	20.8	21.2	19.3	20.5	19.8	20.8	21.2
	4H	19.2	20.3	19.7	20.7	21.1	19.2	20.3	19.7	20.7	21.1
	6H	19.1	20.3	19.5	20.7	21.1	19.1	20.3	19.5	20.7	21.1
	8H	19.0	20.3	19.4	20.7	21.2	19.0	20.3	19.4	20.7	21.2
	12H	18.8	20.3	19.3	20.7	21.2	18.8	20.3	19.3	20.7	21.2
8H	4H	19.0	20.3	19.4	20.7	21.2	19.0	20.3	19.4	20.7	21.2
	6H	18.8	20.1	19.3	20.6	21.1	18.8	20.1	19.3	20.6	21.1
	8H	18.8	20.0	19.3	20.4	21.0	18.8	20.0	19.3	20.4	21.0
	12H	18.9	19.7	19.4	20.2	20.7	18.9	19.7	19.4	20.2	20.7
12H	4H	18.8	20.3	19.3	20.7	21.2	18.8	20.3	19.3	20.7	21.2
	6H	18.8	19.9	19.3	20.4	21.0	18.8	20.0	19.3	20.4	21.0
	8H	18.9	19.7	19.4	20.2	20.7	18.9	19.7	19.4	20.2	20.7

Variations with the observer position at spacing:

S =			
1.0H	4.0 / -11.5	4.0 / -11.5
1.5H	6.3 / -13.6	6.3 / -13.6
2.0H	8.3 / -14.3	8.3 / -14.3

FICHAS TÉCNICAS – DL2

iRound

Design Maurizio Varratta — iGuzzini

Last information update: August 2022

Product configuration: BV27
BV27: Ceiling-mounted recessed luminaire with IP66 protection rating, small body, Warm White COB Leds, fixed Spot Optic

Product code
BV27: Ceiling-mounted recessed luminaire with IP66 protection rating, small body, Warm White COB Leds, fixed Spot Optic

Technical description
Downlighter designed to use warm white COB Led lamps with a fixed Spot optic. Consists of a round optical assembly, frame, output cable, and outer casing, to be ordered separately where necessary. The optical assembly and frame are made of EN1706AC 46100LF aluminium alloy and subjected to a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The next painting stage consists of a primer and a liquid acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. The tempered sodium-calcium sealing glass is transparent, with customised serigraphy on the edge, 4 mm thick, joined to the frame with silicone. Complete with monochrome Warm White COB LED circuit and an optic with a 99.93% polished super-pure aluminium reflector with a polished, anodized surface and built-in electronic ballast. Supplied with an output cable L=1m long. Ceiling-mounting system consists of special A2 stainless steel screws complete with black aluminium alloy and plastic coupling supports. The frame comes complete with A2 stainless steel captive screws. There is a single tool (No. 3 Allen key) for opening the frame and for the fixing system. The outer casing for concrete ceilings is made of black-painted ready-galvanised sheet aluminium complete with an end cap and threaded bar, to be ordered separately. All external screws used are made of A2 stainless steel.

Installation
Recessed in false ceilings 5 - 50mm thick. Hole for preparation of false ceiling ø=125mm. Installed on concrete ceilings using an outer casing, to be ordered separately.

Colour	Weight (Kg)
Grey (15)	0.95

Mounting
ceiling recessed

Wiring
Control gear complete with electronic ballast (220÷240Vac 50/60Hz)

Notes
Plastic adapter disk available for flush-mounting the frame on ceilings made of concrete exposed to view (can only be used with the product with aluminium frame, without the stainless cover). Products set up for installation of a stainless steel safety kit L=2000mm.

Complies with EN60598-1 and pertinent regulations

IK07 IP66

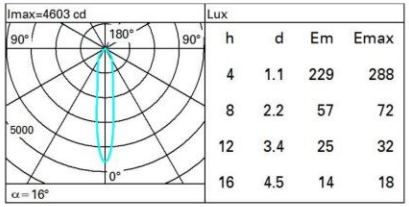
Technical data

lm system:	1313	Life Time LED 1:	100,000h - L80 - B10 (Ta 25°C)
W system:	13.5	Life Time LED 2:	93,000h - L80 - B10 (Ta 40°C)
lm source:	1750	Ballast losses [W]:	1.5
W source:	12	Lamp code:	LED
Luminous efficiency (lm/W, real value):	97.2	Number of lamps for optical assembly:	1
lm in emergency mode:	-	ZVEI Code:	LED
Total light flux at or above an angle of 90° [Lm]:	0	Number of optical assemblies:	1
Light Output Ratio (L.O.R.) [%]:	75	Intervallo temperatura ambiente:	from -20°C to +35°C.
Beam angle [°]:	16°	Power factor:	See installation instructions
CRI (minimum):	80	Inrush current:	42 A / 100 µs
Colour temperature [K]:	3000	Maximum number of luminaires of this type per miniature circuit breaker:	B10A: 21 luminaires B16A: 34 luminaires C10A: 35 luminaires C16A: 57 luminaires
MacAdam Step:	2	Overvoltage protection:	2kV Common mode & 1kV Differential mode

NOTA:

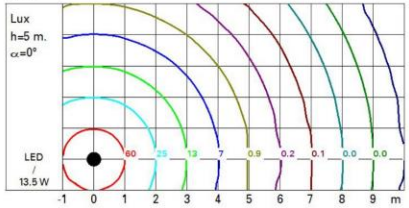
Se requiere un driver DALI remoto bajo pedido especial

Polar



h	d	Em	Emax
4	1.1	229	288
8	2.2	57	72
12	3.4	25	32
16	4.5	14	18

Isolux



UGR diagram

Corrected UGR values (at 1750 lm bare lamp luminous flux)

Riflect.: ceil/cav		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
walls		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
work pl.		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room dim				viewed crosswise					viewed endwise		
x	y										
2H	2H	19.8	21.3	20.1	21.6	21.9	19.8	21.3	20.1	21.6	21.9
	3H	19.7	20.8	20.0	21.1	21.4	19.7	20.8	20.0	21.0	21.4
	4H	19.6	20.6	19.9	20.9	21.3	19.6	20.6	19.9	20.9	21.3
	6H	19.4	20.6	19.8	20.9	21.3	19.4	20.6	19.8	20.9	21.3
	8H	19.4	20.5	19.8	20.9	21.2	19.4	20.5	19.8	20.9	21.2
	12H	19.3	20.5	19.7	20.8	21.2	19.3	20.4	19.7	20.8	21.2
4H	2H	19.6	20.6	19.9	20.9	21.3	19.6	20.6	19.9	20.9	21.3
	3H	19.3	20.5	19.8	20.8	21.2	19.3	20.5	19.8	20.8	21.2
	4H	19.2	20.3	19.7	20.7	21.1	19.2	20.3	19.7	20.7	21.1
	6H	19.1	20.3	19.5	20.7	21.1	19.1	20.3	19.5	20.7	21.1
	8H	19.0	20.3	19.4	20.7	21.2	19.0	20.3	19.4	20.7	21.2
	12H	18.8	20.3	19.3	20.7	21.2	18.8	20.3	19.3	20.7	21.2
8H	4H	19.0	20.3	19.4	20.7	21.2	19.0	20.3	19.4	20.7	21.2
	6H	18.8	20.1	19.3	20.6	21.1	18.8	20.1	19.3	20.6	21.1
	8H	18.8	20.0	19.3	20.4	21.0	18.8	20.0	19.3	20.4	21.0
	12H	18.9	19.7	19.4	20.2	20.7	18.9	19.7	19.4	20.2	20.7
12H	4H	18.8	20.3	19.3	20.7	21.2	18.8	20.3	19.3	20.7	21.2
	6H	18.8	19.9	19.3	20.4	21.0	18.8	20.0	19.3	20.4	21.0
	8H	18.9	19.7	19.4	20.2	20.7	18.9	19.7	19.4	20.2	20.7

Variations with the observer position at spacing:

S =	1.0H	4.0 / -11.5	4.0 / -11.5
	1.5H	6.3 / -13.6	6.3 / -13.6
	2.0H	8.3 / -14.3	8.3 / -14.3

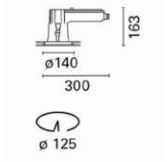
FICHAS TÉCNICAS – DL3

iRound

Design Maurizio Varratta — **iGuzzini**

Last information update: August 2022

Product configuration: BV33
BV33: Ceiling-mounted recessed luminaire with IP66 protection rating, small body with box, Warm White COB Leds, fixed Flood Optic - Dimm. DALI



Product code
BV33: Ceiling-mounted recessed luminaire with IP66 protection rating, small body with box, Warm White COB Leds, fixed Flood Optic - Dimm. DALI

Technical description
Downlighter designed to use warm white COB Led lamps with a fixed Flood optic. Consists of a round optical assembly, frame, lateral component holder box and an outer casing to be ordered separately where necessary. The optical assembly and frame are made of EN1706AC 46100LF aluminium alloy and subjected to a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The next painting stage consists of a primer and a liquid acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. The tempered sodium-calcium sealing glass is transparent, with customised serigraphy on the edge, 4 mm thick, joined to the frame with silicone. Complete with monochrome Warm White COB LED circuit and an optic with a 99.93% polished super-pure aluminium reflector with a polished, anodized surface and built-in DALI electronic ballast. The lateral component holder box and top end cap are made of high performance black plastic; supplied with a silicone internal seal to guarantee watertightness. The optical assembly and lateral box are connected by a stainless steel threaded connector with a cable gland rubber gasket for a watertight seal. Set up for pass-through wiring using two PG13.5 grey polyamide cable glands, suitable for cables with diameter 8.5÷12.5mm. Ceiling-mounting system consists of special A2 stainless steel screws complete with black aluminium alloy and plastic coupling supports. The frame comes complete with A2 stainless steel captive screws. There is a single tool (No. 3 Allen key) for opening the frame and for the fixing system. The outer casing for concrete ceilings is made of black-painted ready-galvanised sheet aluminium complete with an end cap and threaded bar, to be ordered separately. All external screws used are made of A2 stainless steel.

Installation
Recessed in false ceilings 5 - 50mm thick. Hole for preparation of false ceiling ø=125mm. Installed on concrete ceilings using an outer casing, to be ordered separately.

Colour	**Weight (Kg)**
Grey (15)	1.3

Mounting
ceiling recessed

Wiring
Control gear complete with dimmable DALI electronic ballast (220÷240Vac 50/60Hz)

Notes
Plastic adapter disk available for flush-mounting the frame on ceilings made of concrete exposed to view (can only be used with the product with aluminium frame, without the stainless cover). Products set up for installation of a stainless steel safety kit L=2000mm..

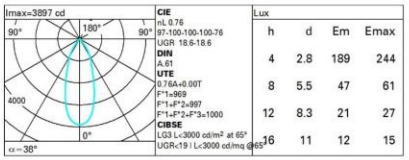
Complies with EN60598-1 and pertinent regulations

IK07 IP66

Technical data

lm system:	2050	Ballast losses [W]:	2.6
W system:	21.6	Lamp code:	LED
lm source:	2700	Number of lamps for optical assembly:	1
W source:	19	ZVEI Code:	LED
Luminous efficiency (lm/W, real value):	94.9	Number of optical assemblies:	1
lm in emergency mode:	-	Intervallo temperatura ambiente:	from -20°C to +35°C.
Total light flux at or above an angle of 90° [Lm]:	0	Power factor:	See installation instructions
Light Output Ratio (L.O.R.) [%]:	76	Inrush current:	5 A / 50 µs
Beam angle [°]:	38°	Maximum number of luminaires of this type per miniature circuit breaker:	B10A: 31 luminaires B16A: 50 luminaires C10A: 52 luminaires C16A: 85 luminaires
CRI (minimum):	80	Minimum dimming %:	1
Colour temperature [K]:	3000	Overvoltage protection:	4kV Common mode & 3kV Differential mode
MacAdam Step:	2	Dimming mode:	CCR
Life Time LED 1:	100,000h - L80 - B10 (Ta 25°C)	Control:	DALI
Life Time LED 2:	100,000h - L80 - B10 (Ta 40°C)		

Polar

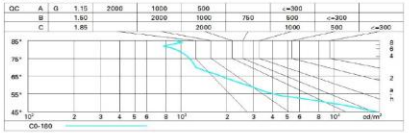


Lux			
h	d	Em	Emax
4	2.8	189	244
8	5.5	47	61
12	8.3	21	27
16	11	12	15

Utilisation factors

R	77	75	73	71	55	53	33	00	DRR
K0.8	68	64	61	59	63	61	60	58	76
1.0	71	67	65	63	67	64	64	61	81
1.5	75	72	70	68	71	69	69	66	87
2.0	77	75	74	72	74	73	72	70	92
2.5	78	77	76	75	76	75	74	72	95
3.0	79	78	78	77	77	76	75	74	97
4.0	80	80	79	79	78	78	77	75	99
5.0	81	80	80	80	79	79	77	76	100

Luminance curve limit



NOTA:

Se requiere que el driver DALI sea remoto, bajo pedido especial

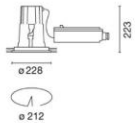
FICHAS TÉCNICAS – DL4

iRound

Design Maurizio Varratta — **iGuzzini**

Last information update: August 2022

Product configuration: BV43
BV43: Ceiling-mounted recessed luminaire with IP66 protection rating, large body with box, Warm White COB Leds, fixed Flood Optic - Dimm. DALI



Product code
BV43: Ceiling-mounted recessed luminaire with IP66 protection rating, large body with box, Warm White COB Leds, fixed Flood Optic - Dimm. DALI

Technical description
Downlighter designed to use warm white COB Led lamps with a fixed Flood optic. Consists of a round optical assembly, frame, lateral component holder box and an outer casing to be ordered separately where necessary. The optical assembly and frame are made of EN1706AC 46100LF aluminium alloy and subjected to a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The next painting stage consists of a primer and a liquid acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. The tempered sodium-calcium sealing glass is transparent, with customised serigraphy on the edge, 4mm thick, joined to the frame with silicone. Complete with monochrome Warm White COB LED circuit and an optic with a 99.93% polished super-pure aluminium reflector with a polished, anodized surface and built-in DALI electronic ballast. The lateral component holder box and top end cap are made of high performance black plastic; supplied with a silicone internal seal to guarantee watertightness. The optical assembly and separate lateral box are connected by nickel-plated brass threaded connectors with rubber cable glands for a watertight seal and H05RN-F L=500mm rubber cable. Set up for pass-through wiring using two PG13.5 grey polyamide cable glands, suitable for cables with diameter 8.5÷12.5mm. Ceiling-mounting system consists of special A2 stainless steel screws complete with black aluminium alloy and plastic coupling supports. The frame comes complete with A2 stainless steel captive screws. There is a single tool (No. 3 Allen key) for opening the frame and for the fixing system. The outer casing for concrete ceilings is made of black-painted ready-galvanised sheet aluminium complete with an end cap and threaded bar, to be ordered separately. All external screws used are made of A2 stainless steel.

Installation
Recessed in false ceilings 5 - 50mm thick. Hole for preparation of false ceiling ø=125mm. Installed on concrete ceilings using an outer casing, to be ordered separately.

Colour
Grey (15)

Weight (Kg)
3.5

Mounting
ceiling recessed

Wiring
Control gear complete with dimmable DALI electronic ballast (220÷240Vac 50/60Hz)

Notes
Plastic adapter disk available for flush-mounting the frame on ceilings made of concrete exposed to view (can only be used with the product with aluminium frame, without the stainless cover). Products set up for installation of a stainless steel safety kit L=2000mm.

Complies with EN60598-1 and pertinent regulations

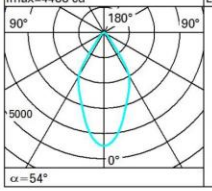
IK07 IP66

Technical data

lm system:	3421	Ballast losses [W]:	3.1
W system:	34.1	Lamp code:	LED
lm source:	4500	Number of lamps for optical assembly:	1
W source:	31	ZVEI Code:	LED
Luminous efficiency (lm/W, real value):	100.3	Number of optical assemblies:	1
lm in emergency mode:	-	Intervallo temperatura ambiente:	from -20°C to +35°C.
Total light flux at or above an angle of 90° [Lm]:	0	Power factor:	See installation instructions
Light Output Ratio (L.O.R.) [%]:	76	Inrush current:	10 A / 200 µs
Beam angle [°]:	54°	Maximum number of luminaires of this type per miniature circuit breaker:	B10A: 18 luminaires B16A: 30 luminaires C10A: 31 luminaires C16A: 51 luminaires
CRI (minimum):	80	Minimum dimming %:	1
Colour temperature [K]:	3000	Overvoltage protection:	4kV Common mode & 4kV Differential mode
MacAdam Step:	2	Dimming mode:	CCR
Life Time LED 1:	100,000h - L80 - B10 (Ta 25°C)	Control:	DALI
Life Time LED 2:	83,000h - L80 - B10 (Ta 40°C)		

Polar

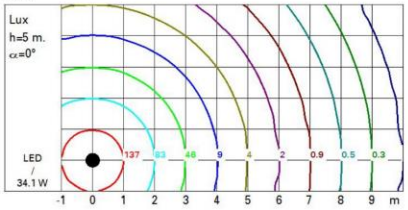
Imax=4488 cd



Lux

h	d	Em	Emax
4	4.1	193	280
8	8.2	48	70
12	12.2	21	31
16	16.3	12	18

Isolux



UGR diagram

Corrected UGR values (at 4500 lm bare lamp luminous flux)

Riflect.:											
ceil.cav		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
walls		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
work pl.		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room dim				viewed crosswise					viewed endwise		
x	y										
2H	2H	18.6	19.3	18.9	19.5	19.8	18.6	19.3	18.9	19.5	19.8
	3H	18.6	19.2	18.9	19.5	19.8	18.6	19.2	18.9	19.5	19.7
	4H	18.5	19.1	18.8	19.4	19.7	18.5	19.1	18.8	19.4	19.7
	6H	18.4	19.0	18.8	19.3	19.6	18.4	19.0	18.8	19.3	19.6
	8H	18.4	18.9	18.8	19.3	19.6	18.4	18.9	18.8	19.2	19.6
	12H	18.4	18.9	18.7	19.2	19.6	18.4	18.9	18.7	19.2	19.6
4H	2H	18.5	19.1	18.8	19.4	19.7	18.5	19.1	18.8	19.4	19.7
	3H	18.5	19.0	18.9	19.3	19.7	18.5	19.0	18.9	19.3	19.7
	4H	18.4	18.9	18.8	19.2	19.6	18.4	18.9	18.8	19.2	19.6
	6H	18.4	18.7	18.8	19.1	19.6	18.4	18.7	18.8	19.1	19.6
	8H	18.3	18.7	18.8	19.1	19.5	18.3	18.7	18.8	19.1	19.5
	12H	18.3	18.6	18.7	19.0	19.5	18.3	18.6	18.7	19.0	19.5
8H	4H	18.3	18.7	18.8	19.1	19.5	18.3	18.7	18.8	19.1	19.5
	6H	18.2	18.5	18.7	19.0	19.5	18.2	18.5	18.7	19.0	19.5
	8H	18.2	18.4	18.7	18.9	19.4	18.2	18.4	18.7	18.9	19.4
	12H	18.1	18.4	18.6	18.8	19.4	18.1	18.4	18.6	18.8	19.4
12H	4H	18.3	18.6	18.7	19.0	19.5	18.3	18.6	18.7	19.0	19.5
	6H	18.2	18.4	18.7	18.9	19.4	18.2	18.4	18.7	18.9	19.4
	8H	18.1	18.4	18.6	18.8	19.4	18.1	18.4	18.6	18.8	19.4

Variations with the observer position at spacing:

S =	1.0H	4.2 / -4.1	4.2 / -4.1
	1.5H	6.7 / -6.4	6.7 / -6.4
	2.0H	8.7 / -8.2	8.7 / -8.2

Street

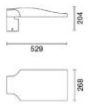
Design IGuzzini | **iGuzzini**

Last information update: August 2022

Product configuration: EQ40
EQ40: Pole-mounted system - ST1.2 optic - Warm White - Midnight - ø46-60-76mm

Product code
EQ40: Pole-mounted system - ST1.2 optic - Warm White - Midnight - ø46-60-76mm

Technical description
Outdoor luminaire with direct light street optic, designed to use LED lamps. The optical assembly and the pole attachment system are made of EN1706AC 46100LF aluminium alloy and subjected to a multi-step, pre-treatment process, in which the main phases are: degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The painting stage consists of a primer and a textured liquid acrylic paint, cured at 150 °C, with a high level of weather and UV ray resistance. Option of adjusting the inclination in relation to the road surface by +20°/-5° (in 5° steps) for a pole-top installation and +5°/20° (in 5° steps) for a lateral installation. 5 mm thick extra-clear sodium-calcium closure glass fastened to the product with 4 screws. The high IP rating is guaranteed by the silicone gasket placed between the two elements. Electronic control gear with 100%-70% Middle of the Night profile. Driver with automatic internal temperature control system. Wiring and optical compartment can be opened with common tools. The light flow emitted in the upper hemisphere of the system in the horizontal position is null (in conformity with the strictest standards for the prevention of light pollution). All external screws are made of stainless steel.



Installation
The floodlight can be installed with a pole-top or lateral mounting using a die-cast aluminium pole-top for 46/60/76mm diameter ends.

Colour
Grey (15)

Weight (Kg)
6.05

Mounting
wall arm|pole-top

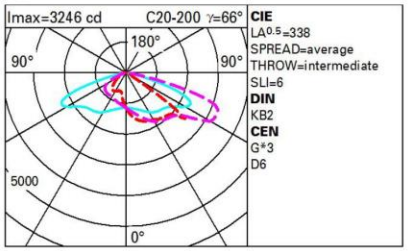
Complies with EN60598-1 and pertinent regulations

IK09 IP67 LCA

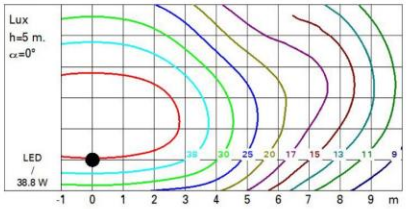
Technical data

lm system:	5530	Ballast losses [W]:	3.8
W system:	38.8	Voltage [Vin]:	230
lm source:	-	Lamp code:	LED
W source:	-	Number of lamps for optical assembly:	1
Luminous efficiency (lm/W, real value):	142.5	ZVEI Code:	LED
lm in emergency mode:	-	Number of optical assemblies:	1
Total light flux at or above an angle of 90° [Lm]:	0	Intervallo temperatura ambiente:	from -40°C to 35°C.
Light Output Ratio (L.O.R.) [%]:	100	Power factor:	See installation instructions
CRI (minimum):	70	Inrush current:	26 A / 180 µs
Colour temperature [K]:	3000	Maximum number of luminaires of this type per miniature circuit breaker:	B10A: 17 luminaires B16A: 28 luminaires C10A: 29 luminaires C16A: 47 luminaires
MacAdam Step:	3	Overvoltage protection:	10kV Common mode & 6kV Differential mode
Life Time LED 1:	100,000h - L90 - B10 (Ta 25°C)	Control:	Midnight preset/DALI NFC

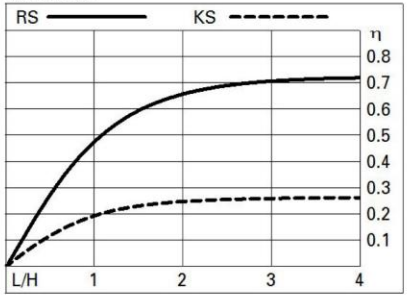
Polar



Isolux



Utilisation factors



FICHAS TÉCNICAS – ST1 – ST2 – ST3

LED Linear™ GmbH · Dr.-Alfred-Herrhausen-Allee 20 · 47228 Duisburg · Germany
Phone +49 2065 94322-100 · info@led-linear.com
Edition: Saturday, 03. September 2022 · Reserve technical changes.
Online: https://www.led-linear.com/products/varioled-flex-venus-family-ip67

LED LINEAR™
A Fagerhult Group Company

VarioLED™ Flex VENUS White Top View IP67

Area: **Outdoor Luminaires**
Category: **Flexible light lines**
Mounting: **Surface-mounted, Clips and profile without mounting channel / Surface-mounted, Clips and profile with mounting channel / Surface-mounted, SST Clips / Surface-mounted, Clips**

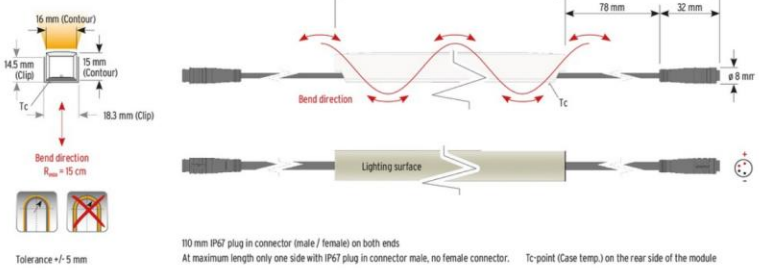
Light lines bendable in one direction (top view or side view) with a perfectly homogeneous and dot-free light surface for outdoor architectural lighting.

- VENUS is a polyurethane encapsulated luminaire. Restistance and chemical stability against urban gases.
- With an efficiency up to 95 lm/W, VENUS stands out as one of the most efficient light line available to date.
- The various lumen output and a large panel of available CCTs turns VENUS into a modular lighting design toolkit.

Detailed specification text in download section.

DIMENSIONS & AVAILABLE LENGTHS

Measurements VarioClip and VarioContour (W x H) 18.3 mm x 14.5 mm



Tolerance +/- 5 mm

110 mm IP67 plug in connector (male / female) on both ends
At maximum length only one side with IP67 plug in connector male, no female connector.

Tc-point (Case temp.) on the rear side of the module

Fixture build to length (not field cutable): L = (N x 62.5 mm) + 26 mm; N = 3 ... 80; L_{min} = 213.5 mm: Nmax = 80; L_{max} = 5,026 mm

NOTA:

ST3 luminaria custom para iluminación directa e indirecta

LED LINEAR™
A Fagerhult Group Company

ELECTRICAL & OUTPUT DATA

Voltage	24 Volt (23 V_{min}, 25 V_{max})
Case Temperature (Tc_{min} & Tc_{max})	Tc_{min} = -25°C, Tc_{max} = specific, see Table below
Storage Temperature (Ts_{min} & Ts_{max})	Ts_{min} = –30°C, Ts_{max} = 85°C
Ambient Temperature (Ta_{min} & Ta_{max})	Ta_{min} = -25°C, Ta_{max} = specific, see Table below

VarioLED™ Flex VENUS White Top View IP67	VENUS White TV	PHOBOS White TV	SKYLLA White TV
Power (W/m)[A]	6	10	15
Efficacy (lm/W)[A]	83	83	89
max. length (m)	5.03	5.03	4.03
max. serial run length (m)	5.0	5.0	4.0
CRI / R9 (up to)	96 / 81	96 / 81	86 / 36
Temperature Tc-point (Tc_{max})[B]	70°C	70°C	70°C
max. ambient temp. (Ta_{max})	50°C	50°C	50°C

low output → high output

VarioLED™ Flex VENUS White Top View IP67			VENUS White TV	PHOBOS White TV	SKYLLA White TV
Color temperature[C]			luminaire lumens/meter (lm/m)[A]		
Order Code		Delivered CCT			
W820		2,400K	290	480	770
W822		2,700K	340	560	1070
W825		3,000K	340	570	1130
W827	W927	3,500K 3,400 K	350	590	1190
W830	W930	3,900K 3,800 K	420	710	1130
W835	W935	4,600K 4,400 K	450	740	1190
W840	W940	5,500K 5,600 K	460	760	1220
W850		7,200K	500	830	1330

! To configure the specific luminaire please use the online configurator.
Please note: The orange values are CRI 90 specifications.

[A]The given data are typical values. Due to tolerances of the production process and the electrical components, photometric values and electrical power can vary up to 10%
[B]The Tc-point should be measured in thermal equilibrium according to IEC EN 60598-1.
[C]In case of IP67 products, tolerances in the color temperature can occur.

AVAILABLE OPTICS

Polyurethane encapsulation

ANEXO: NORMATIVAS

Decreto 190 / 2015
Contaminación Luminica de Catalunya

ZONIFICACIÓN
Mapa de la protección de la contaminación lumínica

ZONA	DESCRIPCIÓN	Im	(cd/m2) Imax
E3	Parque superior	10	60
E4	Parque superior	25	150

FHS
(Flujo hemisferico superior)

ZONA	ATARDECER	NOCHE
E3	10%	5%
E4	15%	10%

NORMATIVAS
Real decreto 1890-2008
Tablas ITC - EA - 02

1/ Clasificación de vias
D - de baja velocidadm Km/hr 5 < 30
E - vias peatonales -

2/ Clases de alumbrado
Situación del proyecto

D3-D4 CE2/S1/S2/S3/S4
E1 CE1A/CE2/S1/S2/S3/S4

TABLA 9
Series CE de clases de alumbrados para viales

	Em	Um
CE1A	25 lux	0,4

3/ Alumbrados específicos

3,1 Alumbrado pasarelas peatones escaleras y rampas
CE2 20lx 0.40m
*en escaleras: iluminancias de plano veritcal no ser inferior al 50% del valor del plano horitzon

3,3 Alumbrado paso peatonales (cebra)
CE2 20lx 0.40m

3,4 Alimbrado de parques y area calzada peatonal
S2 Em 10lx Emin 3lx

Tabla 13 Superfície mayor a 10m2 luminancia max
Mobiliario Urbano 400cd/m2