



MJ Quinn Logistics Centre

Randles Car Park Lighting Calculation

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Site 1

Building 1

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Site 1 - Building 1

MJ Quinn Logistics Centre

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Site 1 - Building 1 - MJ Quinn Logistics Centre

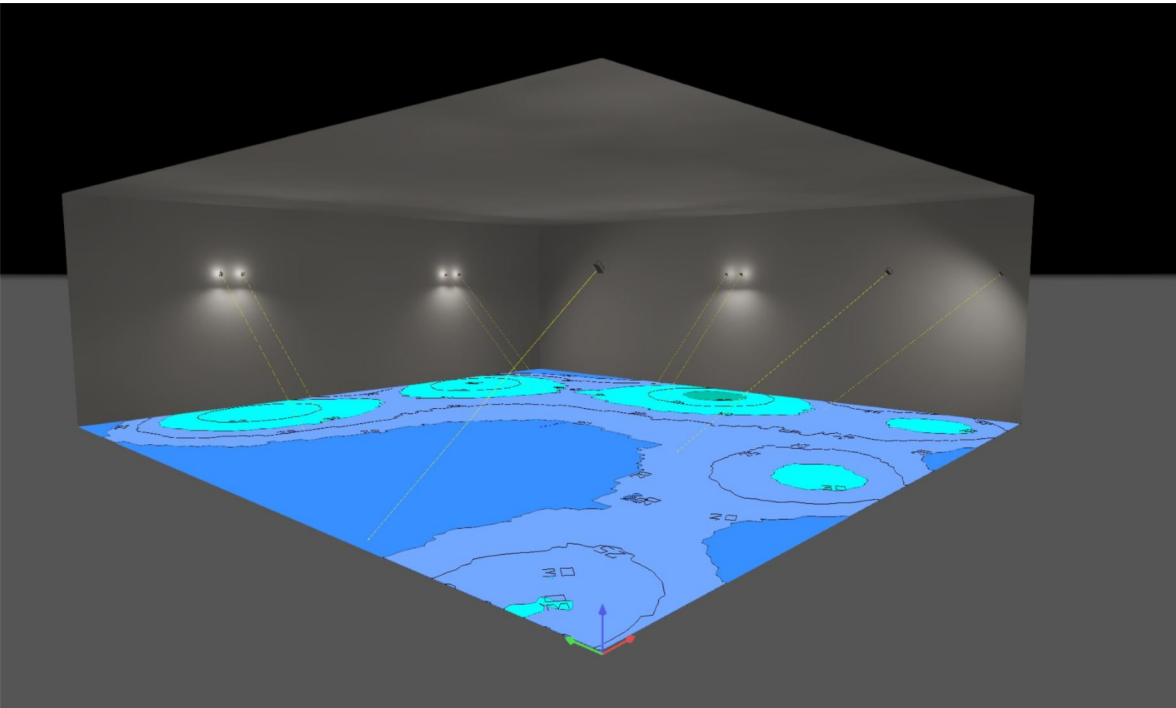
CAR PARK

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Contacts



Design Engineer
SS



Description

Design Engineer
SS

Images

ClipboardImage



Luminaire list

 Φ_{total}

54000 lm

 P_{total}

462.6 W

Luminous efficacy

116.7 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
9	MPE	FLD3-50T	LED Flood Light FLD3 50W 6500K	51.4 W	6000 lm	116.7 lm/W

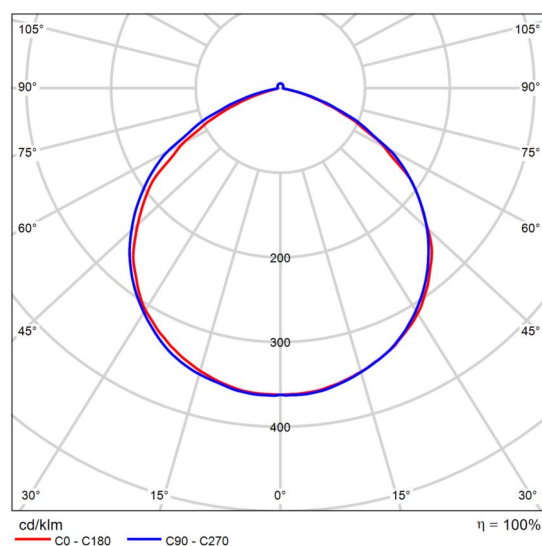
Product data sheet

MPE - LED Flood Light FLD3 50W 6500K



Article No.	FLD3-50T
P	51.4 W
Φ_{Lamp}	6000 lm
$\Phi_{\text{Luminaire}}$	6000 lm
η	99.99 %
Luminous efficacy	116.7 lm/W
CCT	6500 K
CRI	82

- Led flood light
- Lamp body made of powder coated aluminum
- Lighting surface is protected by tempered glass
- Ingress Protection IP65
- Driver is integrated inside the lamp
- Size: 235 x 205 x 36 mm
- Voltage: 220-240VAC
- Power: 50W
- Power Factor (PF): >0.9
- Luminance: 6000 lm
- Luminous Efficacy: 120 lm/W
- Color Temperature (CCT): 6000-6500K
- RA >80 High Color Rendering Index
- Beam angle: 120°
- Chip LED: SMD 2835
- Life Time: 30,000 hours
- Instant Light: 0s
- European Standard CE – RoHS



Polar LDC

Building 1

Luminaire list Φ_{total}

54000 lm

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Building 1 · MJ Quinn Logistics Centre (Light scene 1)

Room list

Building 1 · MJ Quinn Logistics Centre (Light scene 1)

Room list

CAR PARK

 P_{total}

462.6 W

 A_{Room} 1251.63 m²

Lighting power density

0.37 W/m² = 1.44 W/m²/100 lx (Room) $\bar{E}_{\text{perpendicular (Working plane)}}$

25.7 lx

pcs.	Manufacturer	Article No.	Article name	P	$\Phi_{\text{Luminaire}}$
9	MPE	FLD3-50T	LED Flood Light FLD3 50W 6500K	51.4 W	6000 lm

Building 1 · MJ Quinn Logistics Centre

Luminaire list Φ_{total}

54000 lm

 P_{total}

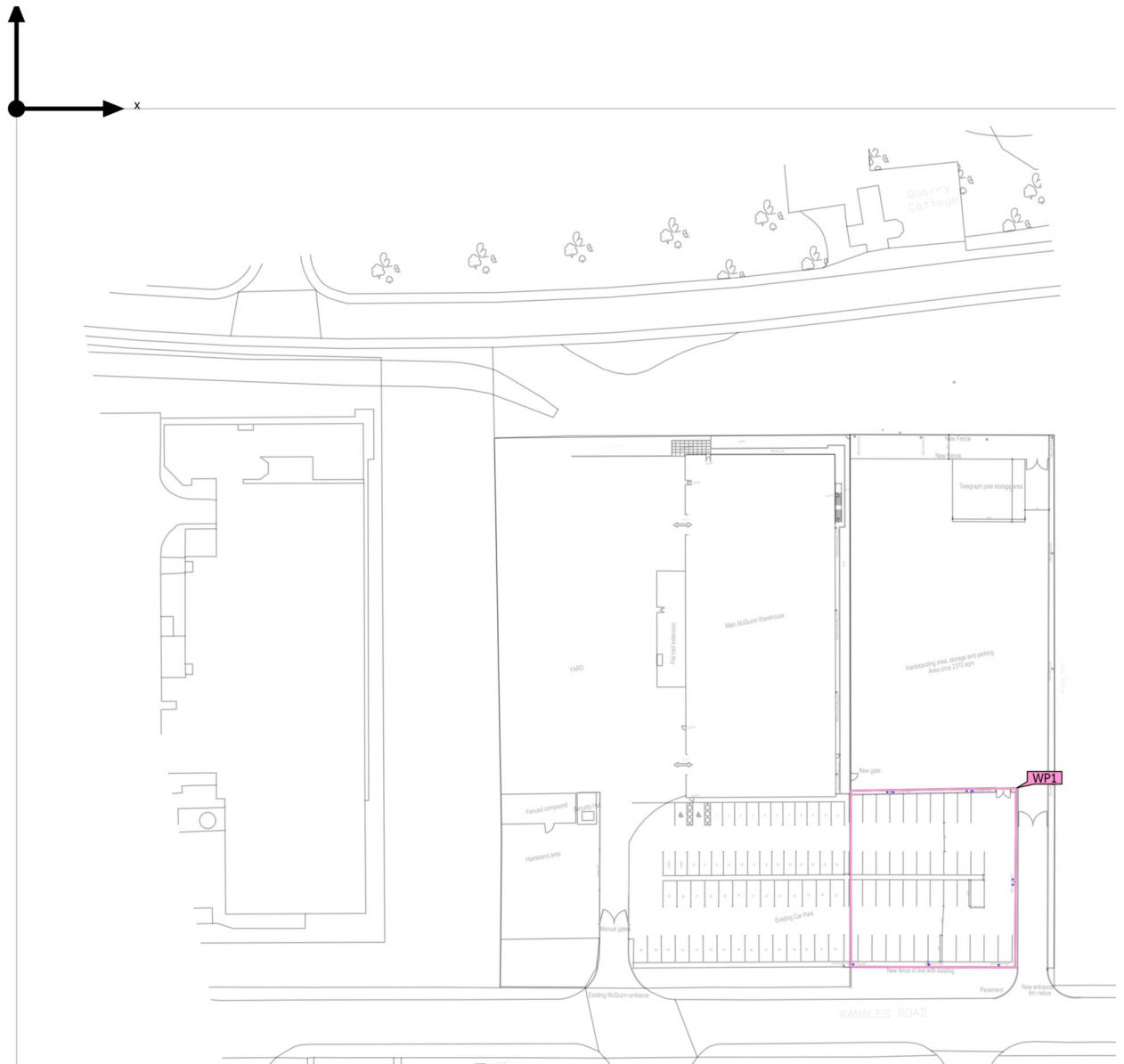
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Luminous efficacy

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Building 1 · MJ Quinn Logistics Centre (Light scene 1)

Calculation objects

Building 1 · MJ Quinn Logistics Centre (Light scene 1)

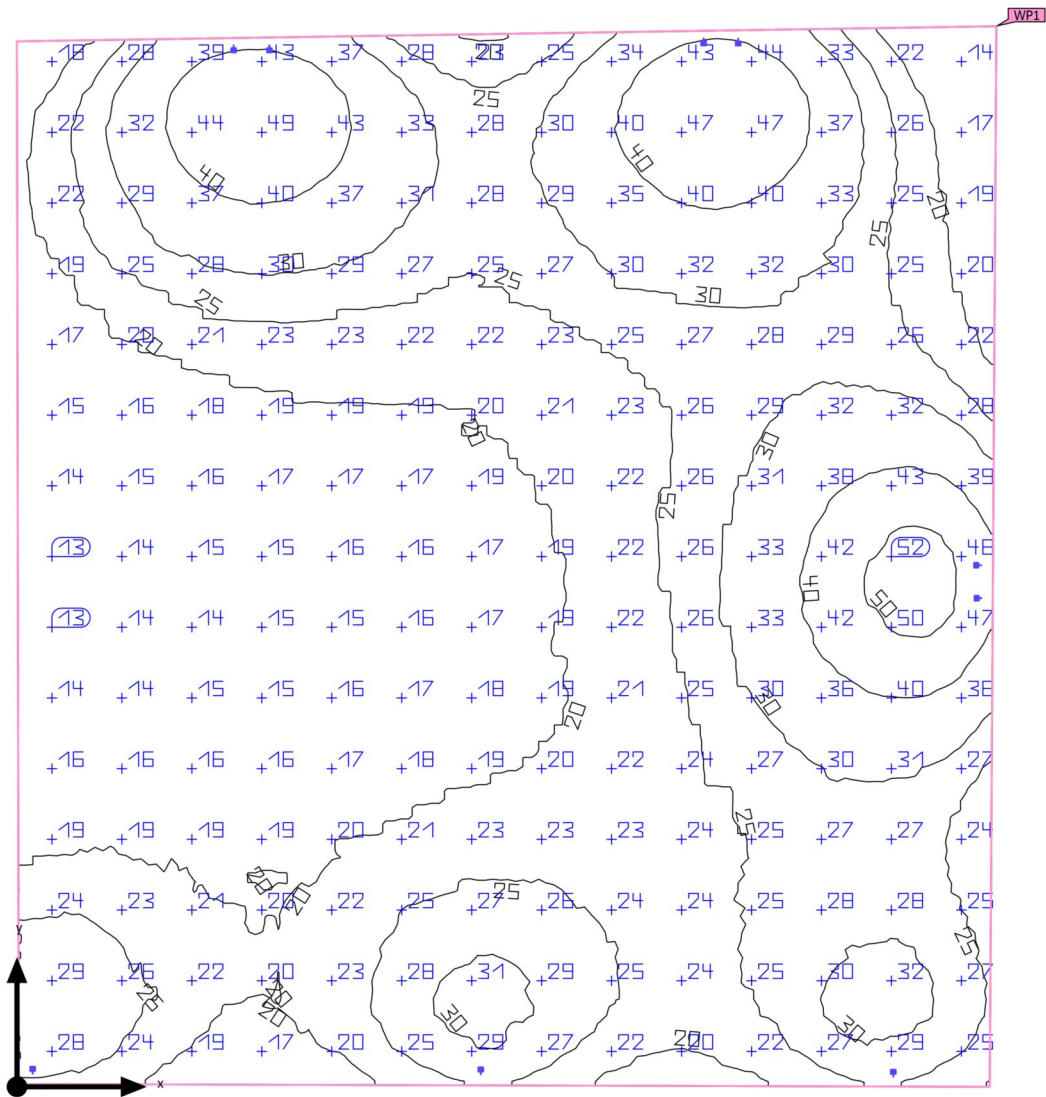
Calculation objects

Working planes

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (CAR PARK) Perpendicular illuminance (adaptive) Height: 0.000 m, Wall zone: 0.000 m	25.7 lx (≥ 25.0 lx) ✓	10.2 lx	53.4 lx	0.40 (≥ 0.25) ✓	0.19	WP1

Building 1 · MJ Quinn Logistics Centre · CAR PARK (Light scene 1)

Summary



Ground area	1251.63 m ²	Clearance height	12.000 m
Reflection factors	Ceiling: 70.0 %, Walls: 50.0 %, Floor: 20.0 %	Mounting height	8.000 m
Maintenance factor	0.80 (fixed)	Height _{Working plane}	0.000 m
		Wall zone _{Working plane}	0.000 m

Building 1 · MJ Quinn Logistics Centre · CAR PARK (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$\bar{E}_{\text{perpendicular}}$	25.7 lx	≥ 25.0 lx	✓	WP1
	$U_o (g_1)$	0.40	≥ 0.25	✓	WP1
Energy estimation ⁽²⁾	Consumption	1014 kWh/a	max. 43850 kWh/a	✓	
Room	Lighting power density	0.37 W/m ²	–		
		1.44 W/m ² /100 lx	–		

(1) Based on a rectangular space of 34.215 m x 37.050 m and SHR of 0.25.

(2) Calculated using DIN:18599-4.

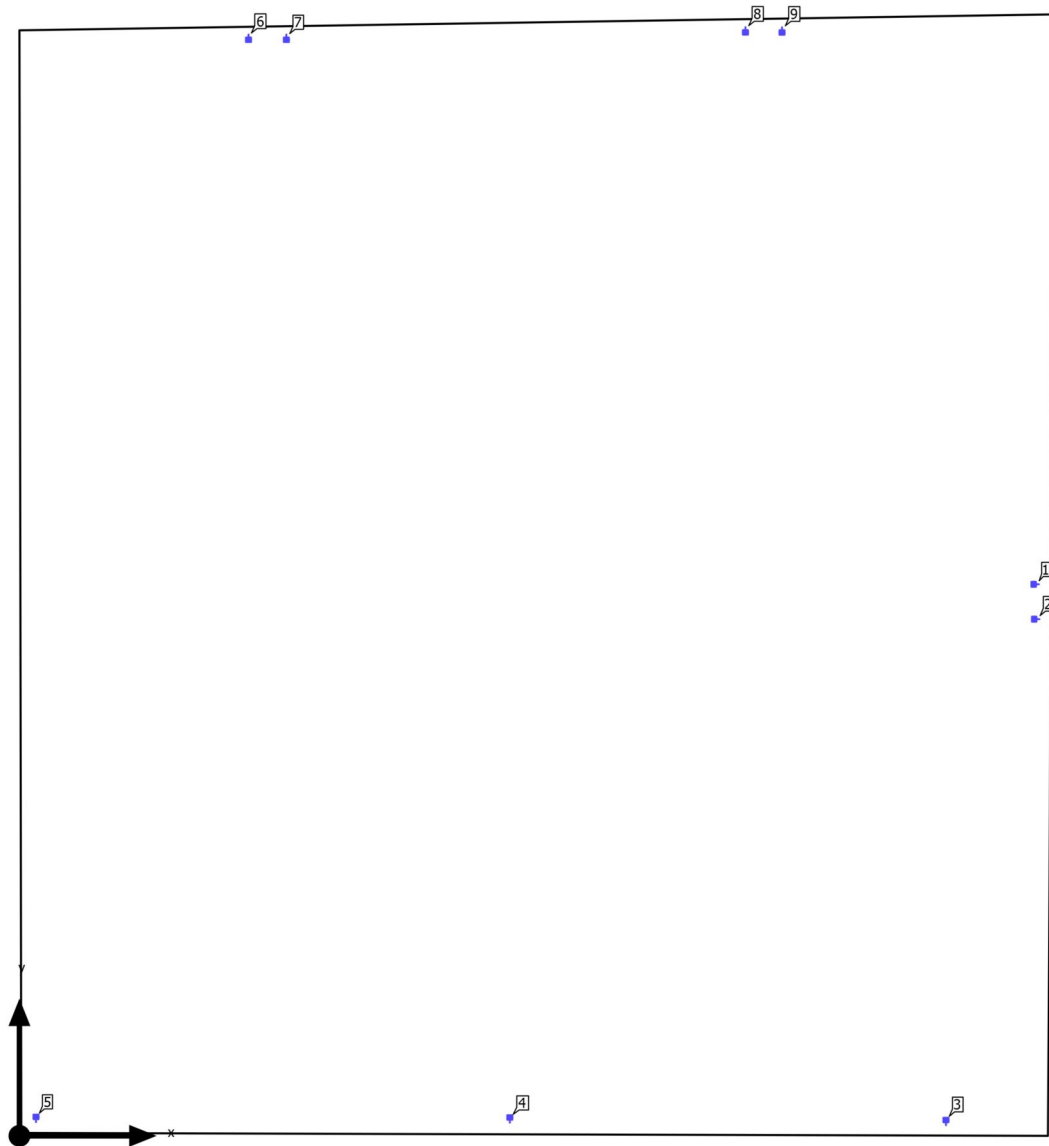
Utilisation profile: Places of public assembly - Public car parks (indoor) (42.4 Parking areas)

Luminaire list

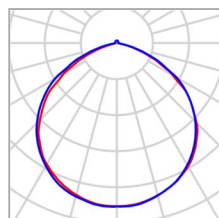
pcs.	Manufacturer	Article No.	Article name	R _{UG}	P	Φ	Luminous efficacy
9	MPE	FLD3-50T	LED Flood Light FLD3 50W 6500K	–	51.4 W	6000 lm	116.7 lm/W

Building 1 · MJ Quinn Logistics Centre · CAR PARK

Luminaire layout plan



Building 1 · MJ Quinn Logistics Centre · CAR PARK

Luminaire layout plan

Manufacturer	MPE	P	51.4 W
Article No.	FLD3-50T	$\Phi_{\text{Luminaire}}$	6000 lm
Article name	LED Flood Light FLD3 50W 6500K		
Fitting	1x FLD3-50T		

Individual luminaires

X	Y	Mounting height	Luminaire
33.561 m	18.224 m	8.000 m	1
33.579 m	17.072 m	8.000 m	2
30.617 m	0.474 m	8.000 m	3
16.207 m	0.557 m	8.000 m	4
0.551 m	0.577 m	8.000 m	5
7.572 m	36.261 m	8.000 m	6
8.823 m	36.260 m	8.000 m	7
23.991 m	36.503 m	8.000 m	8
25.200 m	36.500 m	8.000 m	9

Building 1 · MJ Quinn Logistics Centre · CAR PARK

Luminaire list Φ_{total}

54000 lm

 P_{total}

462.6 W

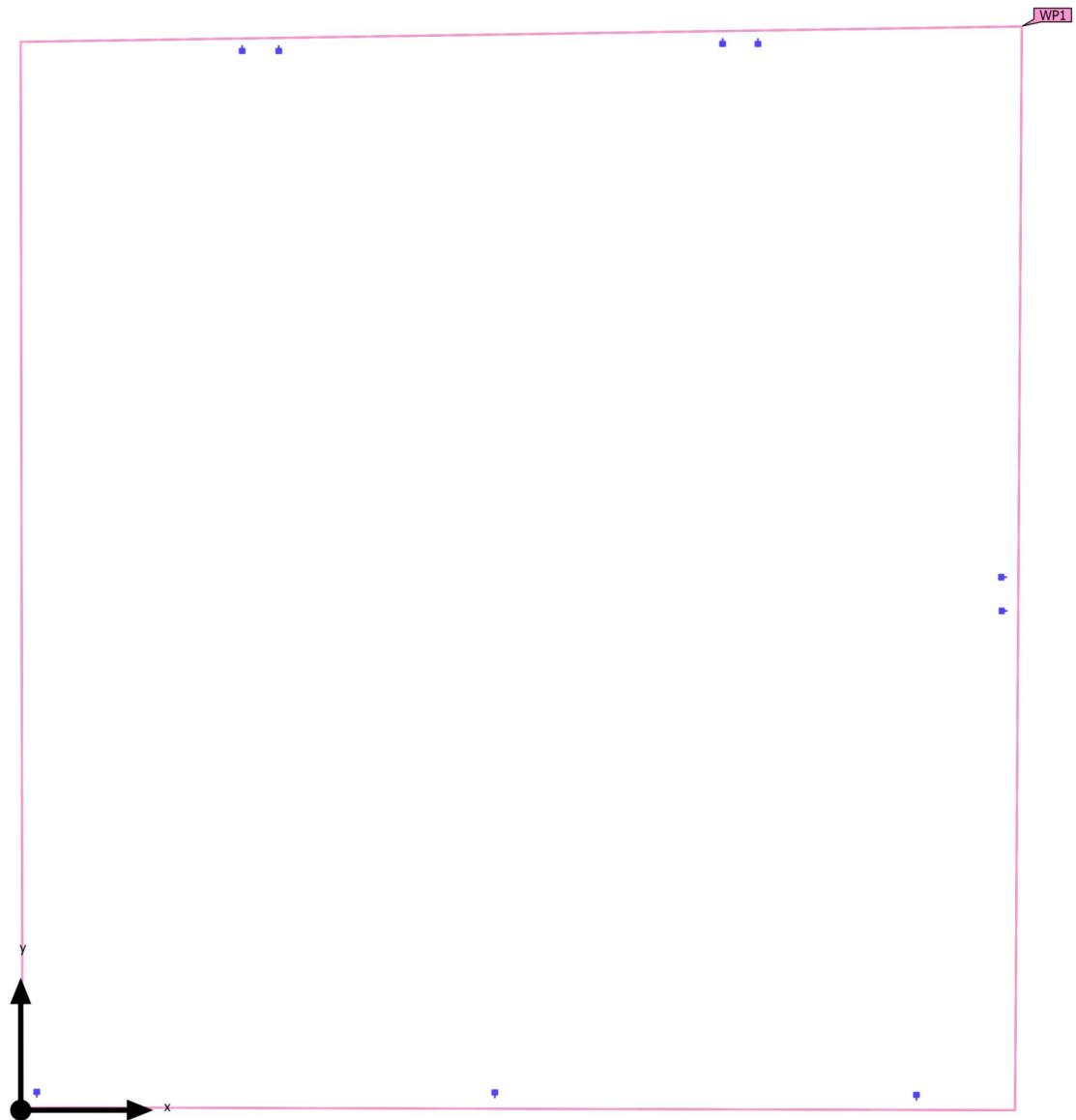
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Building 1 · MJ Quinn Logistics Centre · CAR PARK (Light scene 1)

Calculation objects



Building 1 · MJ Quinn Logistics Centre · CAR PARK (Light scene 1)

Calculation objects

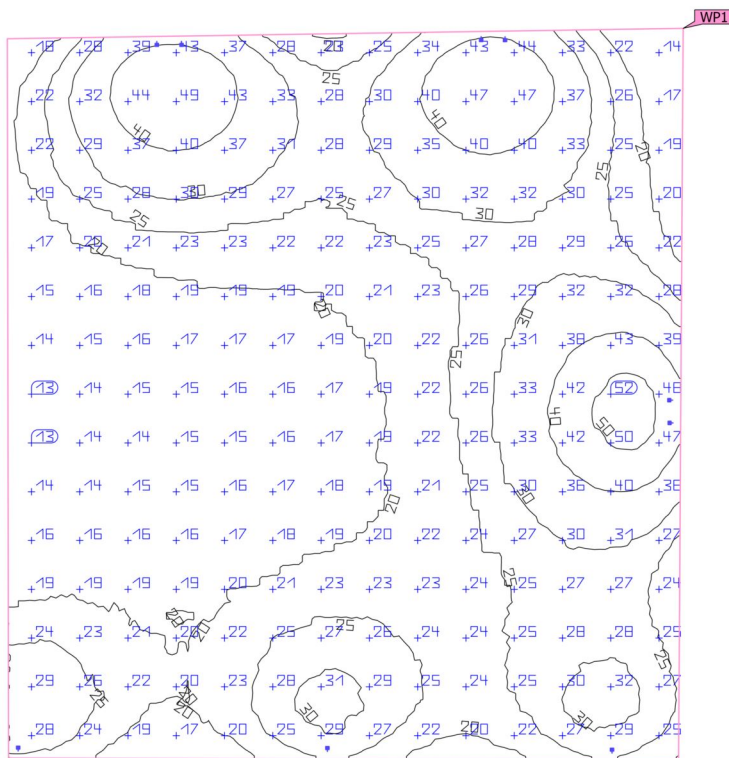
Working planes

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
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Utilisation profile: Places of public assembly - Public car parks (indoor) (42.4 Parking areas)

Building 1 · MJ Quinn Logistics Centre · CAR PARK (Light scene 1)

Working plane (CAR PARK)

Properties	$\bar{E}$ (Target)	E_{min}	E_{max}	$U_o (g_1)$ (Target)	g_2	Index
Working plane (CAR PARK)	25.7 lx	10.2 lx	53.4 lx	0.40	0.19	WP1
Perpendicular illuminance (adaptive)	(≥ 25.0 lx)			(≥ 0.25)		
Height: 0.000 m, Wall zone: 0.000 m	✓			✓		

Utilisation profile: Places of public assembly - Public car parks (indoor) (42.4 Parking areas)