

Canal Bank

Exterior Lighting Specification Report

RM Breen & Associates

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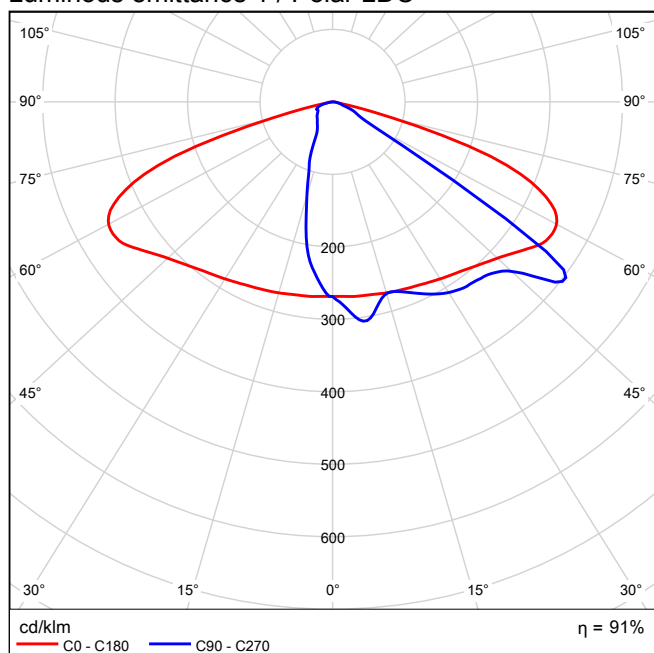
Cree Europe XSPM-E-2SH-B-DY XSPM Dynadimmer 2SH 1x3 MDA-SA*40K 41W



Light output ratio: 91.41%
 Lamp luminous flux: 5807 lm
 Luminaire luminous flux: 5308 lm
 Power: 41.0 W
 Luminous efficacy: 129.5 lm/W

Colorimetric data
 1x3 MDA-SA*40K 41W: CCT 4000 K, CRI 70

Luminous emittance 1 / Polar LDC



XSPM High Output

Building upon the innovation of the Cree XSP Series Street Light, the new XSPM luminaire increases lumen output and efficacy compared to its predecessors.

Cree XSPM brings together the latest advancements in LED technology, combining extreme optical control, advanced thermal management and brilliant quality of light.

And it doesn't stop there — we added clean, modern housing (the same cobra-head style as the XSP series) and versatile mounting options, all with an attractive price point.

Whether for new construction or upgrade applications, XSPM is perfect for urban streets, parking lots, internal roadways and general site lighting.

FEATURES

- Full cut-off optics (NanoOptic® Precision Delivery Grid™)
- Input Power: A = 58W, B / C = 41W
- Lumen output: 1900 – 7000lm
- System efficacy: Up to 145lm/W
- CCT: 3000K, 4000K, 5700K (CRI Standard min.70, CRI 80 @3000K on request for MOQ)
- Initial Colour Consistency: 4 MacAdam steps
- Input Voltage: 220-240V
- Driver equipped with temperature sensor to preserve optimal working conditions
- Power factor: Up to > 0.98 at full load
- Lifetime: L80F10 Up to >180Khrs Ta=25°C (>180Khrs L80 IESNA TM-21)
- Surge protection: 10kV CM/DM surge immunity according to EN 61000-4-5 and EN 61547 (Class I SPD equipped with LED signal)
- Fuse option available
- Operative temperature: -40°C up to +50°C
- Insulation class: Class I – Class II
- Enclosure rated IP66 per IEC 60529
- Impact resistance IK08
- Cable type H07RN-F (Cable length Up to 12mt)
- Control options: Fixed, Field Adjustable Output, DALI, Virtual Midnight reprog., Flux Regulator, Lineswitch, Dynadimmer, Constant Lumen Output
- Nema socket option available
- Tool-less entry
- Removable tray
- LED Board equipped with integral ESD and Surge protection
- Fixture assembled without the use of glues, totally dismountable and recyclable.

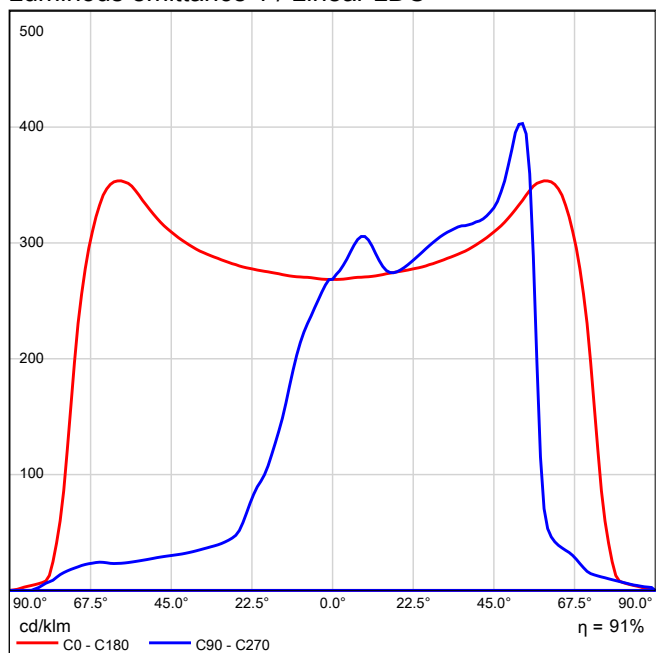
CONSTRUCTION AND MATERIALS

- Die cast, low copper <0,1%, aluminum alloy housing w/ UV stabilized polymeric door for long weathering and reliability
- Luminaire is designed to mount directly to 76mm or 60mm outer dimension tenons or poles and can be tilted +/- 20°, in steps of 5°
- Luminaire fitter 02 can mount to 60mm OD tenons and fitter 03 to 76mm
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion.

WARRANTY AND CERTIFICATIONS

- Limited Warranty†: Class 1 — 10 years on Colorfast DeltaGuard® finish / 10 years on luminaire; Class 2 — 10 years on Colorfast DeltaGuard® finish / 5 years on luminaire
- CE mark / CB mark / ENEC mark / RoHs compliant
- UMSUG Charge code (UK Power performance test)
- Risk group exempt in accordance with Standard CEI EN 62471 for photobiological safety (Tested IEC/TR62778)
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Compliant to: EN 60598-1; EN 60598-2-3

Luminous emittance 1 / Linear LDC



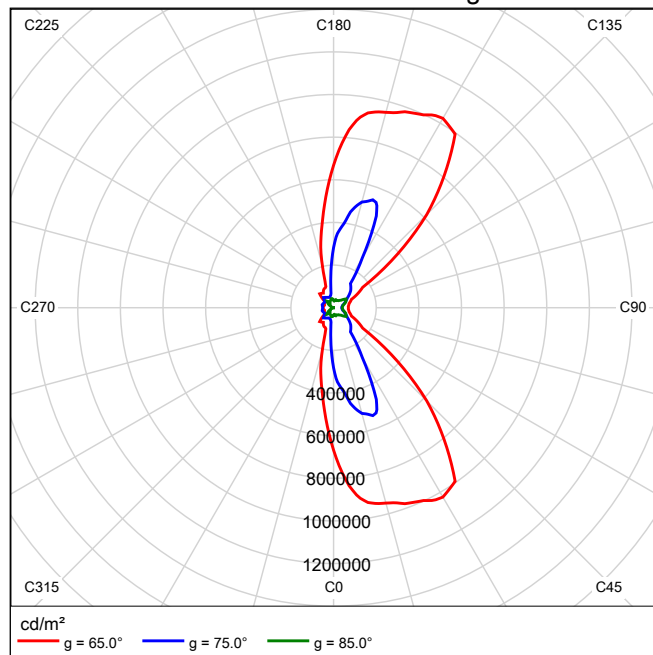
† See www.cree-europe.com/en/resources/warranty for warranty terms

AVAILABLE DISTRIBUTIONS

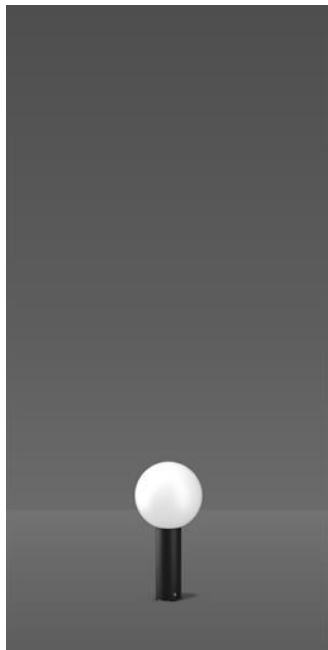
- 2LG (Type II Long) Asymmetric optic for street lighting, cycle paths and footpaths
- 275 (Type II Short 0.75) Asymmetric optic for street lighting
- 210 (Type II Short 1.0) Asymmetric optic for street lighting
- 2SH (Type II Short) Asymmetric optic for street lighting
- 3SH (Type III Short) Asymmetric optic for street lighting
- 3ME (Type III Medium) Asymmetric optic for street lighting and car parks
- 4ME (Type IV Medium) Asymmetric optic for street lighting and car parks

It is not possible to generate a cone diagram, as the light distribution is asymmetrical.

Luminous emittance 1 / Luminance diagram



RZB Rudolf Zimmermann, Bamberg GmbH 611880.0031 Mega Kugel 1x1xQA60/clear E27 20 W



Series: Mega Kugel
Type of Protection: IP 65
Protection Class: I
Voltage: - 250 / 0 - 60 Hz

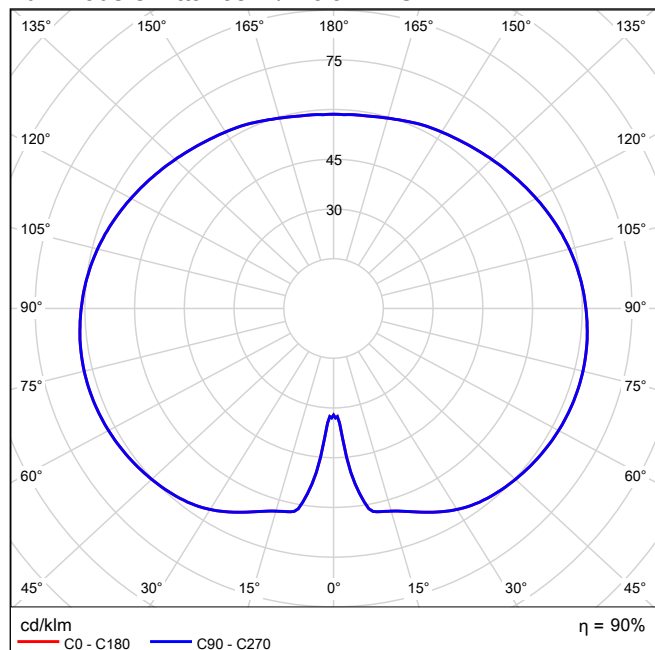
Bollard tube Ø 115mm made of corrosion resistant Aluminium profile, powder coated. Recessed stainless steel fixing plate. Non-corrosive gear compartment made of mould-cast dual compound thermoplastic with integral TP gasket. Opal glass diffuser with silk-matte finish. Integral electronic gear. With membrane valve to minimize condensation. Connection box for max. 2 x 3 x 2,5mm² loop-in-and-out.

Available Colours: anthracite metallic
Type of Installation: ground installation
Dimensions: D 300, H 600
Lamp: 1 x QA60 (klar) max. 57 W
Socket 1: E27
Operating Mode Lamp 1: Converter not necessary
Safety Marks: F-mark
Impact Protection: IK02 (0,20 Joule)
Beam Angle: 180°
Unified Glare Ratio: 16,1
EEC: A++ - E

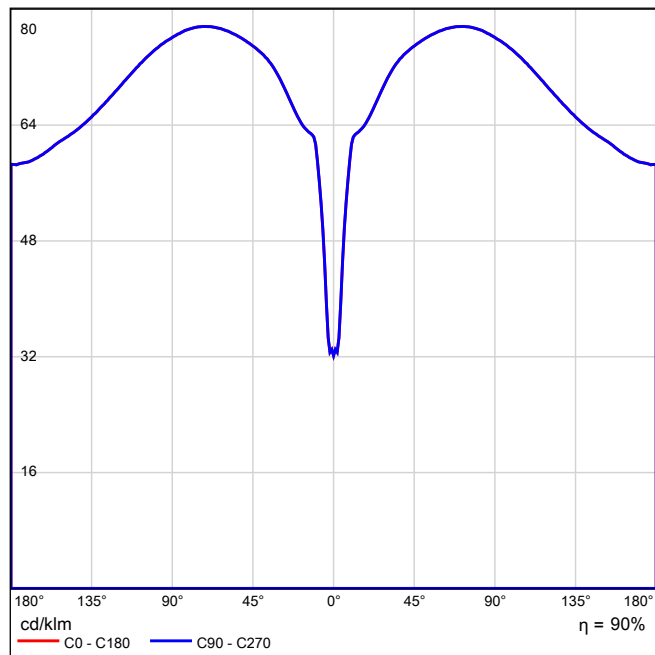
Light output ratio: 90.05%
Lamp luminous flux: 570 lm
Luminaire luminous flux: 513 lm
Power: 11.0 W
Luminous efficacy: 46.7 lm/W

Colorimetric data
1x1xQA60/clear E27 20 W: CCT 2700 K, CRI 80

Luminous emittance 1 / Polar LDC

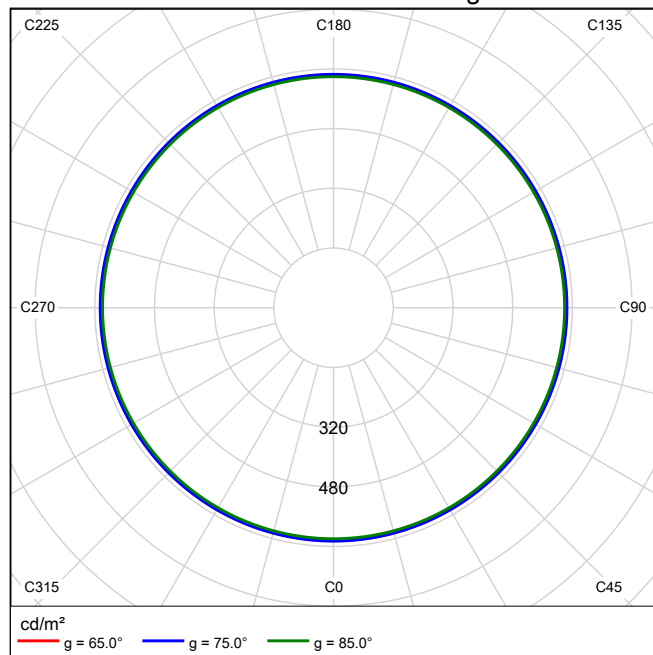


Luminous emittance 1 / Linear LDC



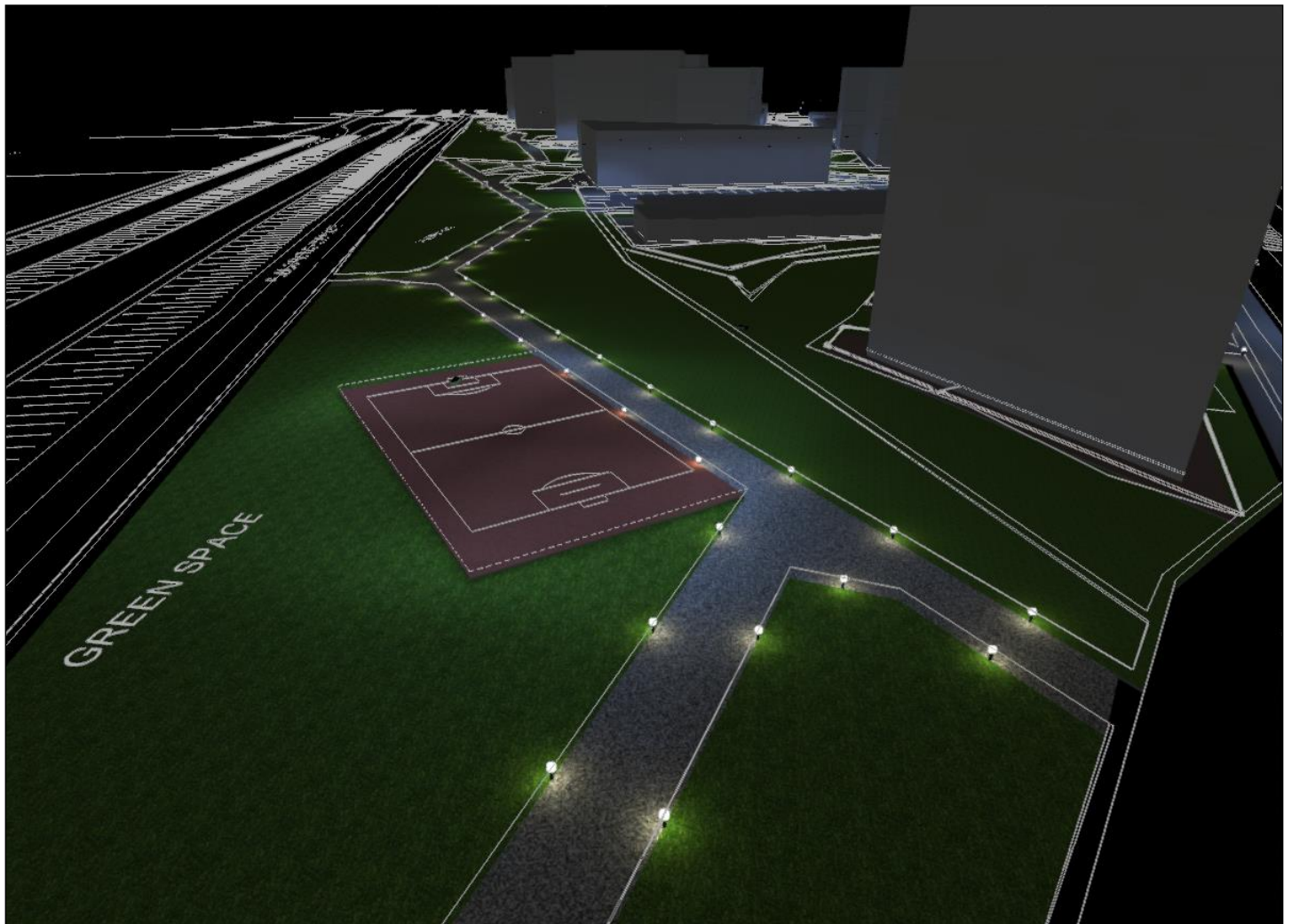
It is not possible to generate a cone diagram, as the light distribution is asymmetrical.

Luminous emittance 1 / Luminance diagram

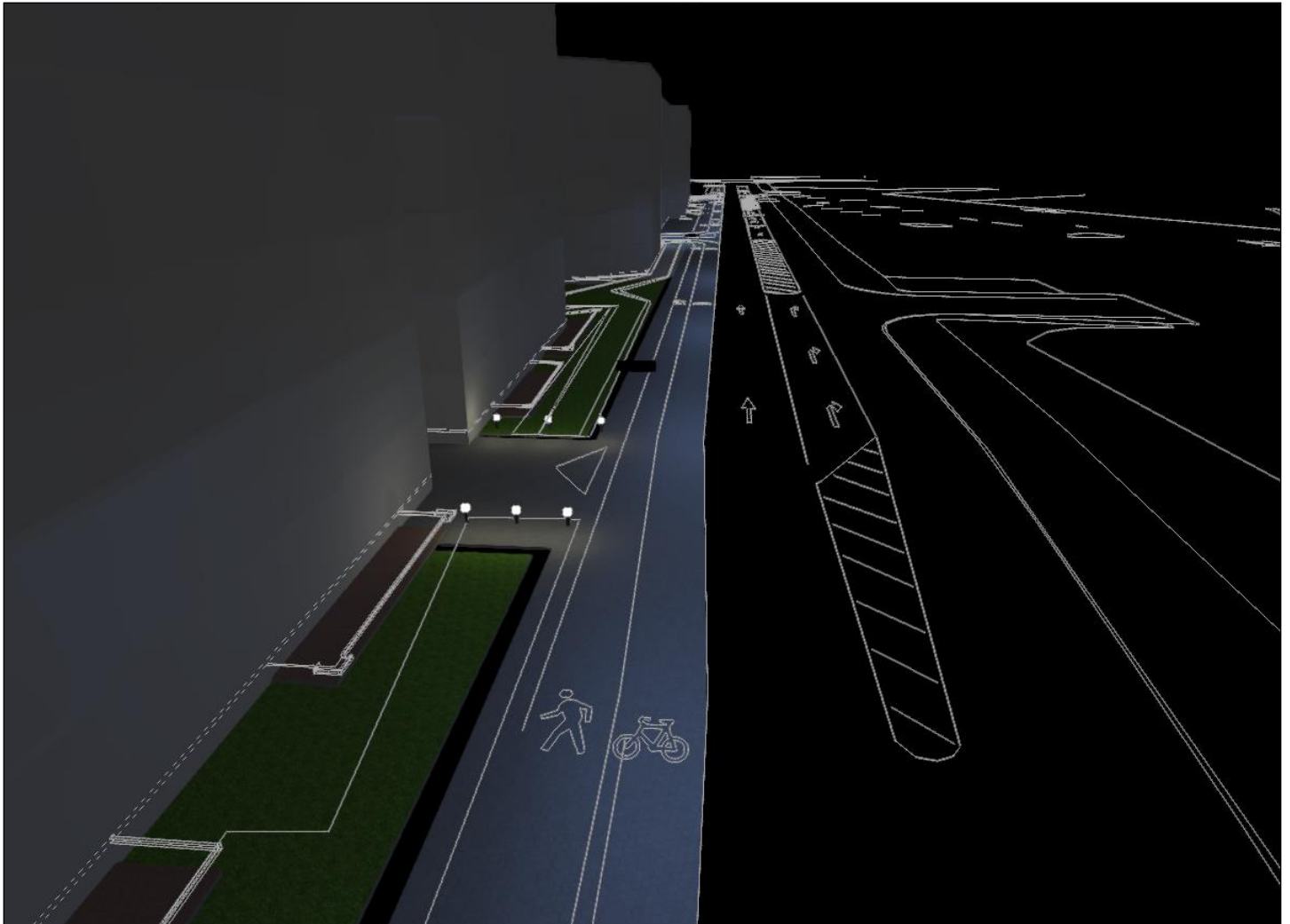


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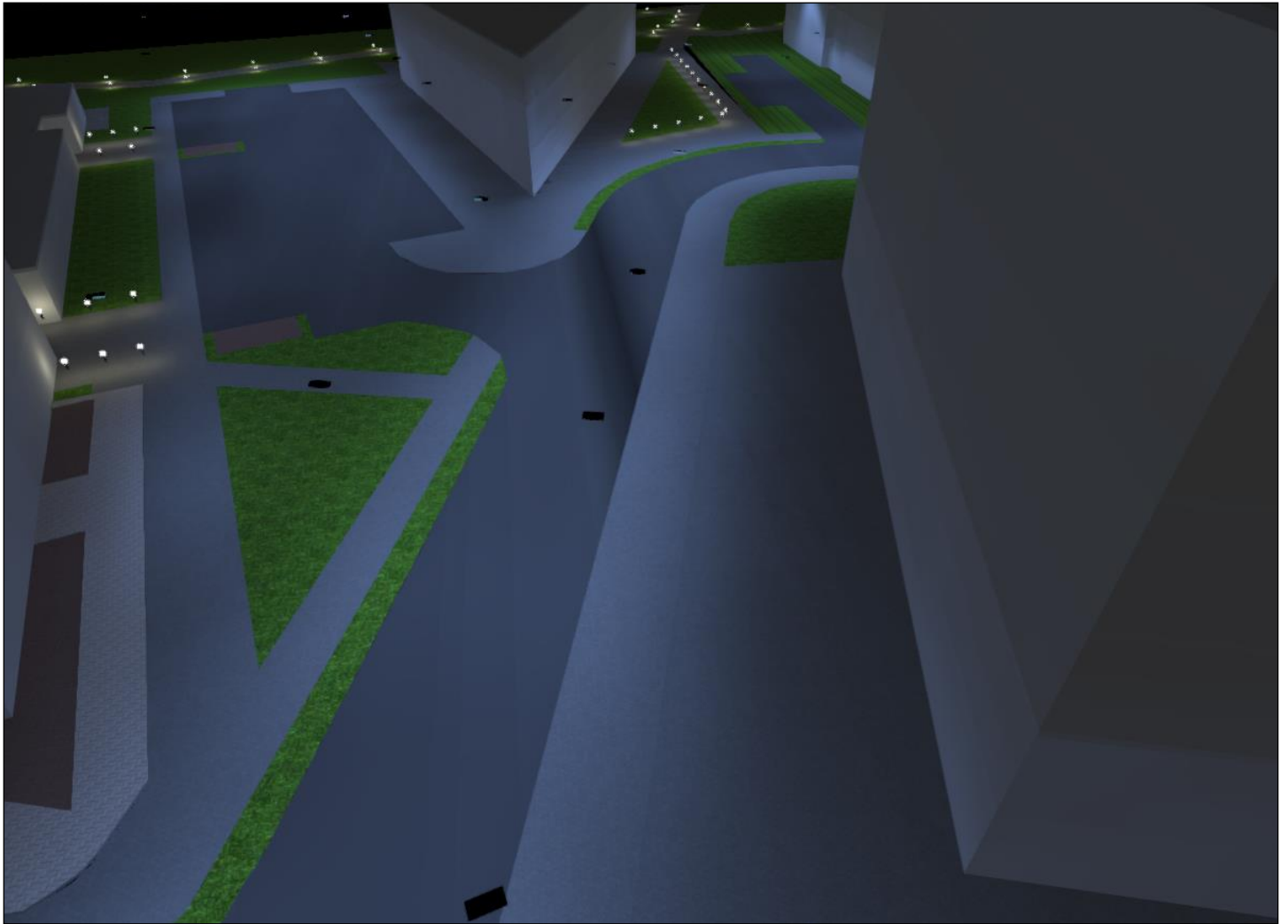
Park View



Main Road View



Site Road Entrance View



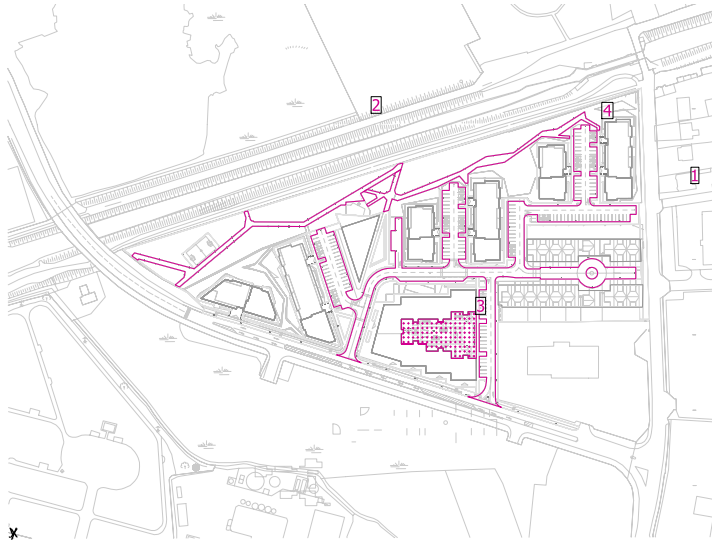
Apartment Building View



Student Plaza View



Canal Bank



Light loss factor: 0.80

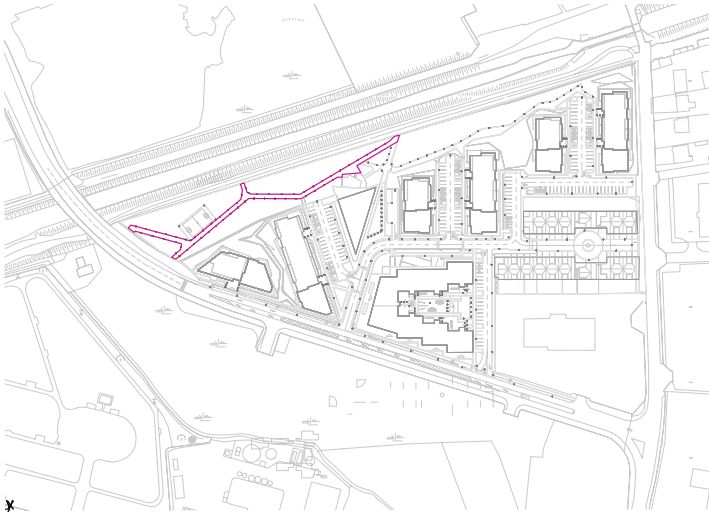
General

Surface	Result	Average (Target)	Min	Max	Min/average	Min/max
3 Student Accommodation Plaza	Perpendicular illuminance [lx] Height: 0.100 m	17.8	2.26	78.1	0.13	0.029

Surface result objects

2 Park Path 1	Perpendicular illuminance (adaptive) [lx]	10.1	0.12	139	0.012	0.001
	Luminance [cd/m ²]	0.88	0.011	12.2	0.012	0.001
4 Park Path 2	Perpendicular illuminance (adaptive) [lx]	6.58	0.23	137	0.035	0.002
	Luminance [cd/m ²]	0.58	0.020	12.0	0.034	0.002
1 Roads	Perpendicular illuminance (adaptive) [lx]	31.5	0.068	62.1	0.002	0.001
	Luminance [cd/m ²]	0.73	0.002	1.44	0.003	0.001

Park Path 1 / Perpendicular illuminance (adaptive)



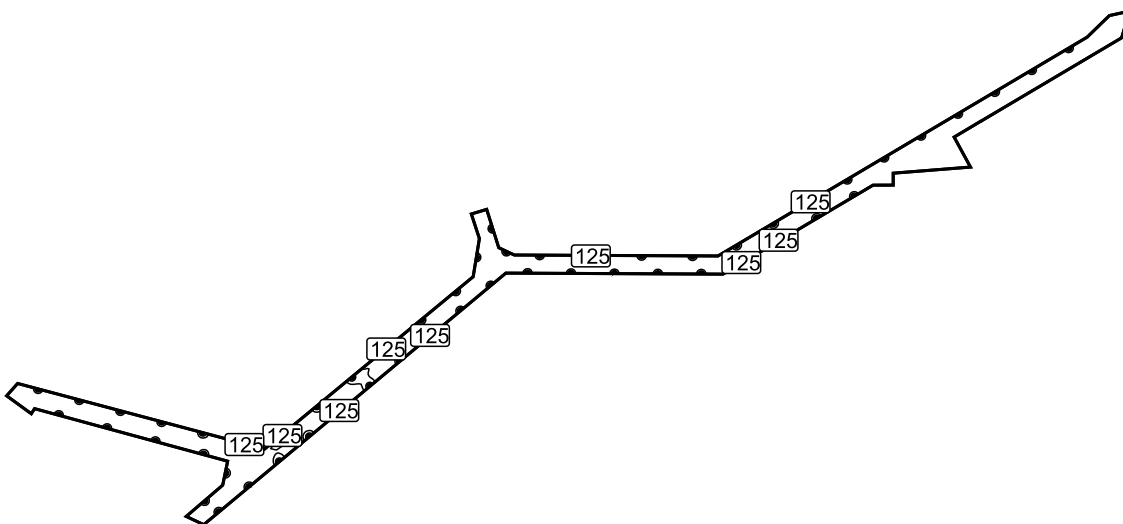
Light loss factor: 0.80

Park Path 1: Perpendicular illuminance (adaptive) (Surface)

Light scene: Light scene 1

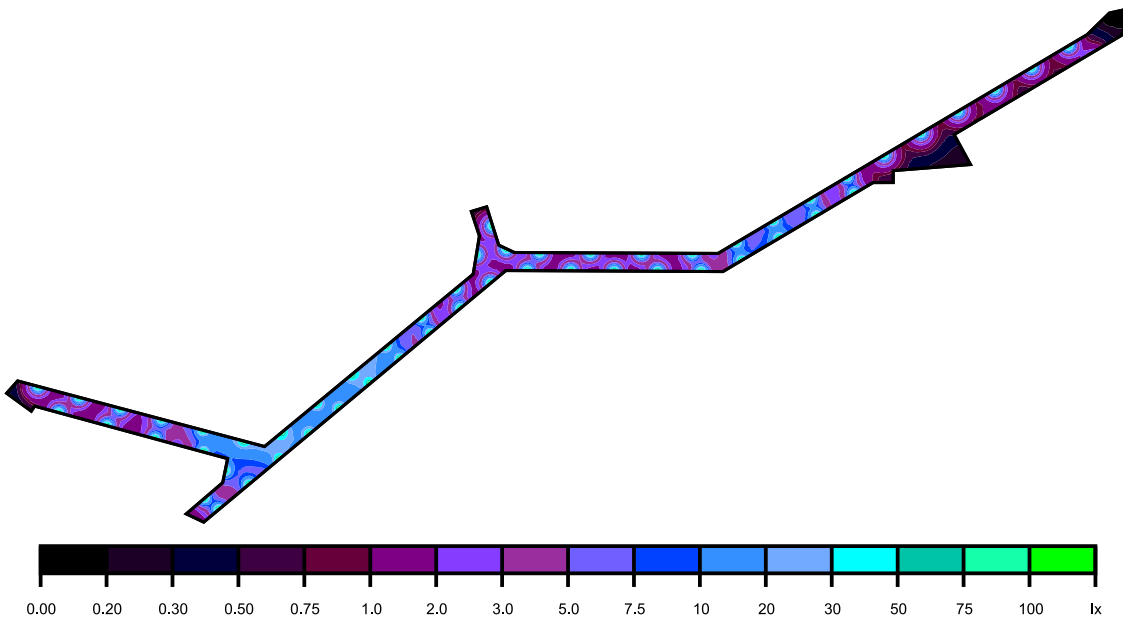
Average: 10.1 lx, Min: 0.12 lx, Max: 139 lx, Min/average: 0.012, Min/max: 0.001

Isolines [lx]



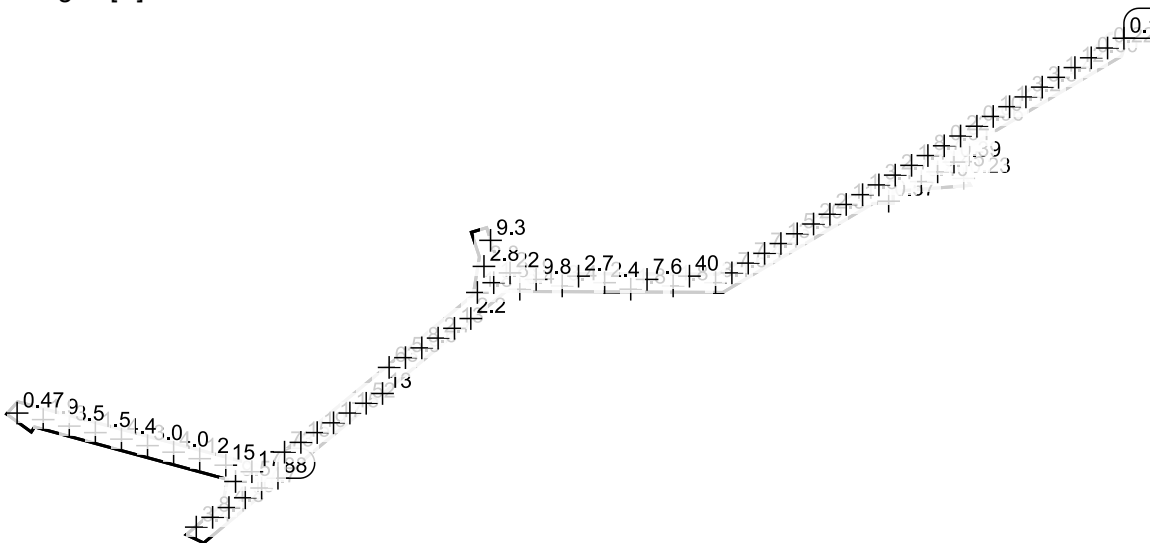
Scale: 1 : 1250

False colors [lx]



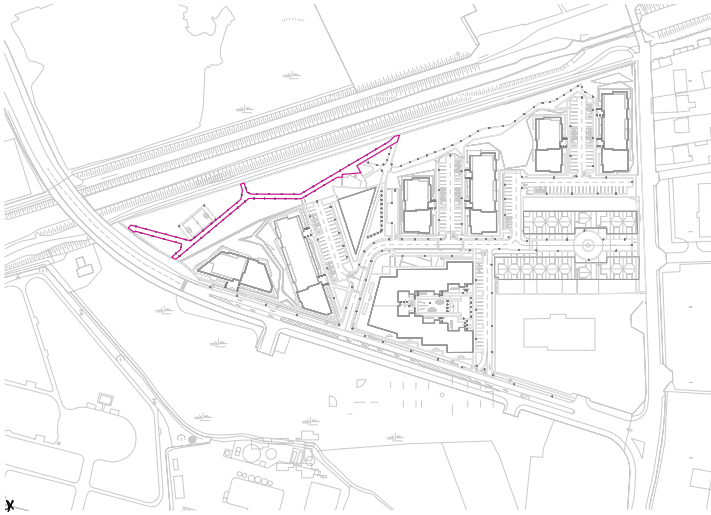
Scale: 1 : 1250

Value grid [lx]



Scale: 1 : 1250

Park Path 1 / Luminance



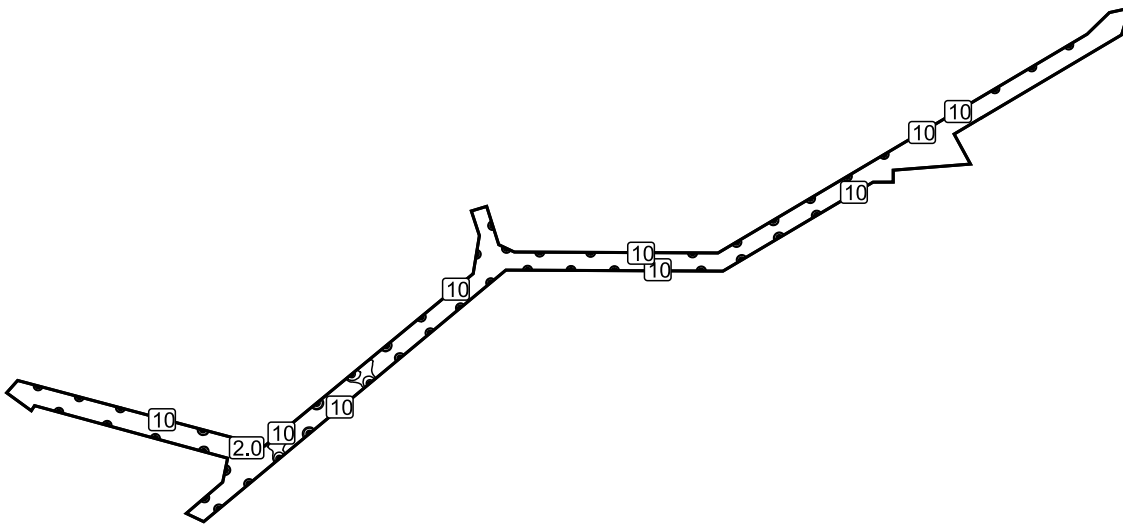
Light loss factor: 0.80

Park Path 1: Luminance (Surface)

Light scene: Light scene 1

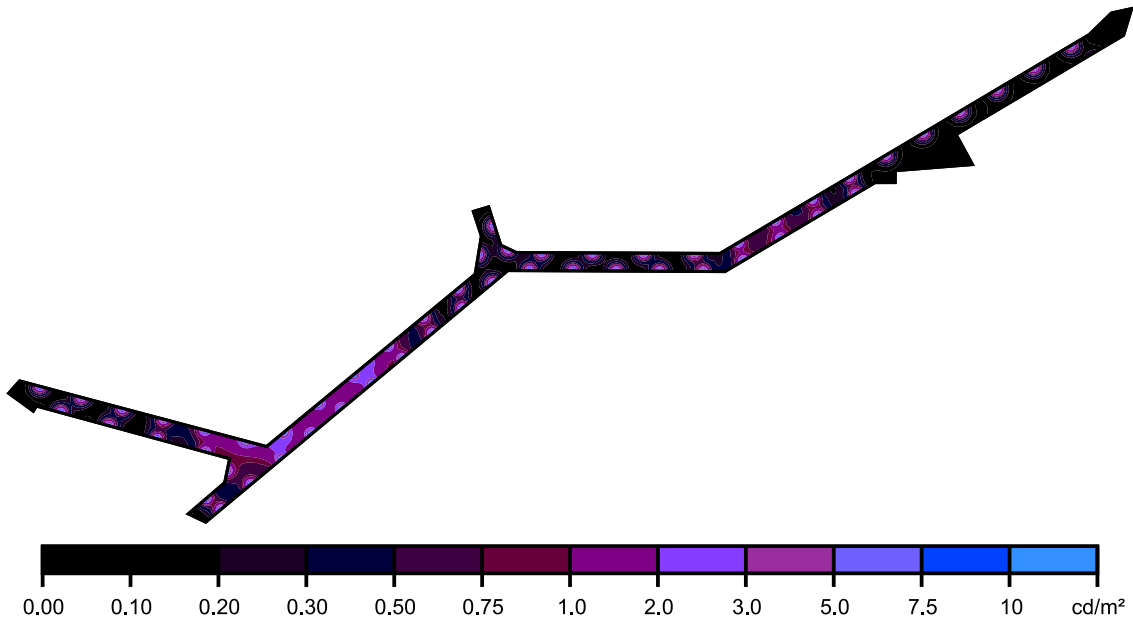
Average: 0.88 cd/m², Min: 0.011 cd/m², Max: 12.2 cd/m², Min/average: 0.012, Min/max: 0.001

Isolines [cd/m²]



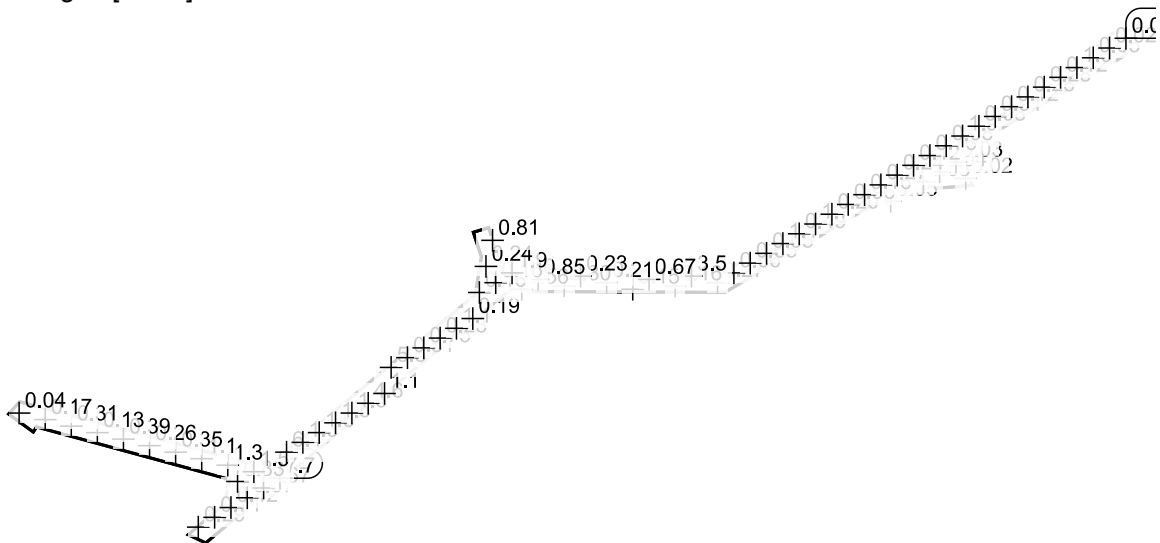
Scale: 1 : 1250

False colors [cd/m²]



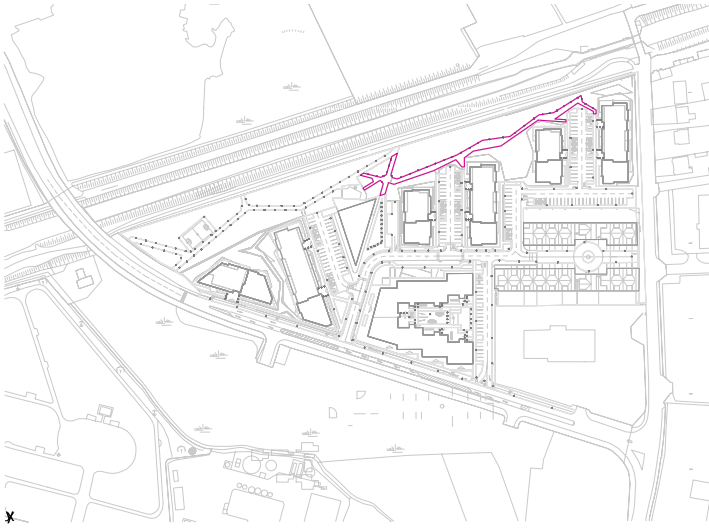
Scale: 1 : 1250

Value grid [cd/m²]



Scale: 1 : 1250

Park Path 2 / Perpendicular illuminance (adaptive)



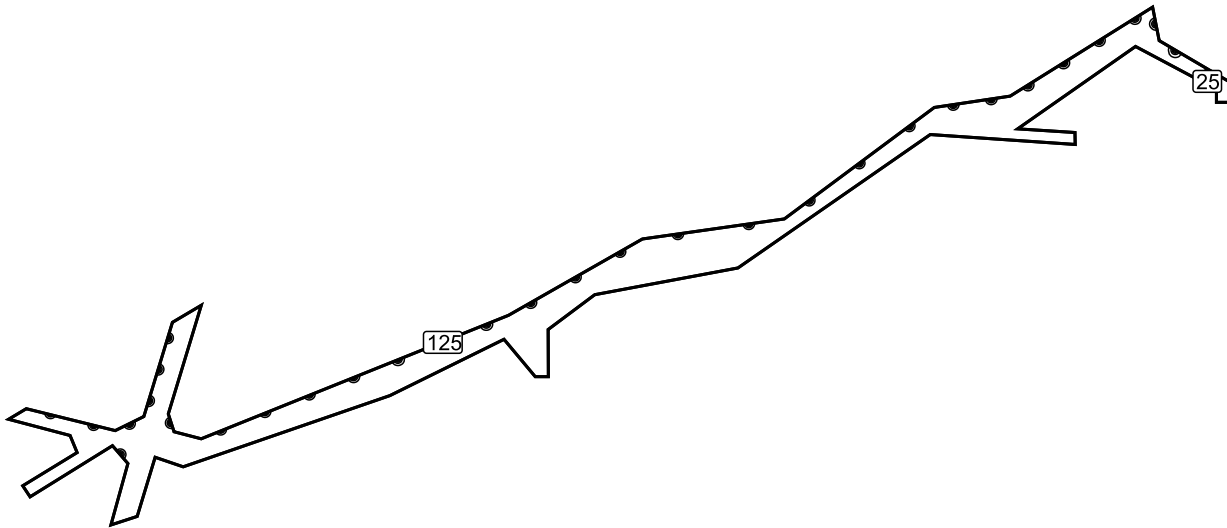
Light loss factor: 0.80

Park Path 2: Perpendicular illuminance (adaptive) (Surface)

Light scene: Light scene 1

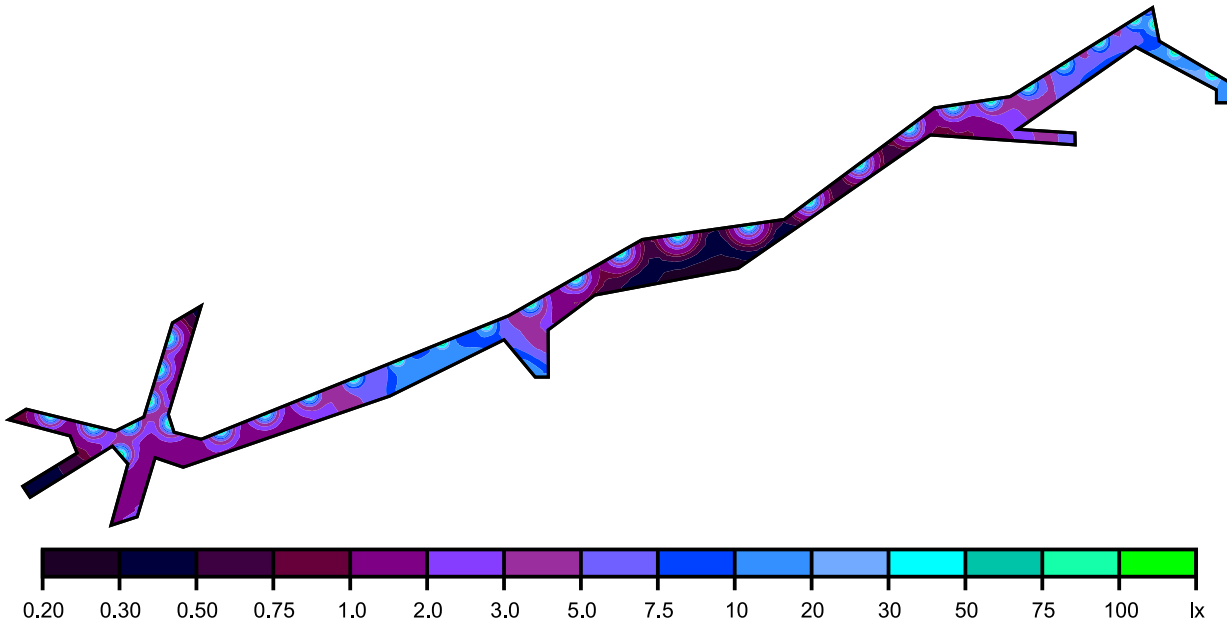
Average: 6.58 lx, Min: 0.23 lx, Max: 137 lx, Min/average: 0.035, Min/max: 0.002

Isolines [lx]



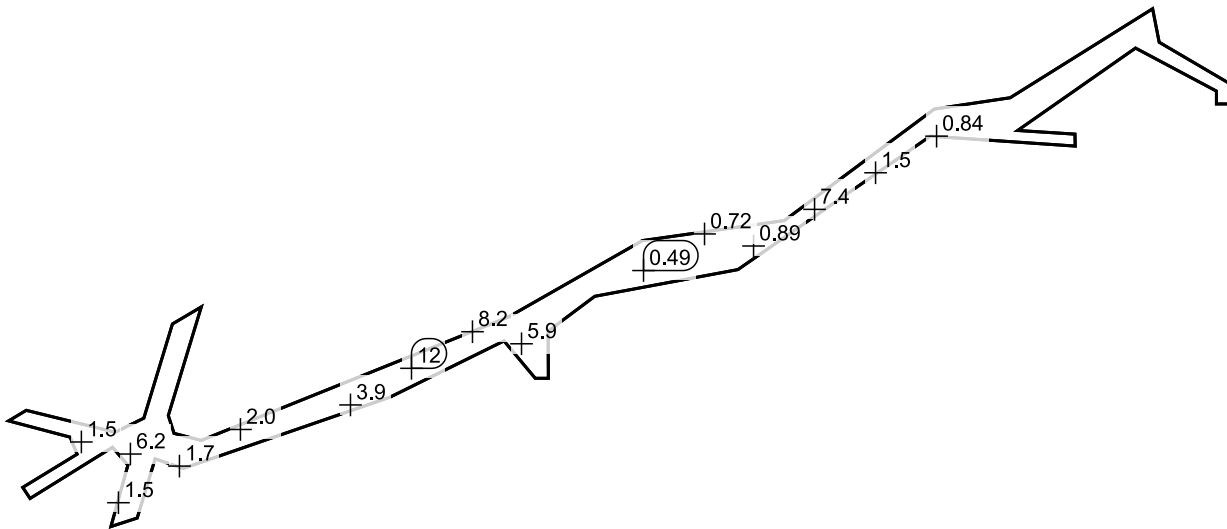
Scale: 1 : 1000

False colors [lx]



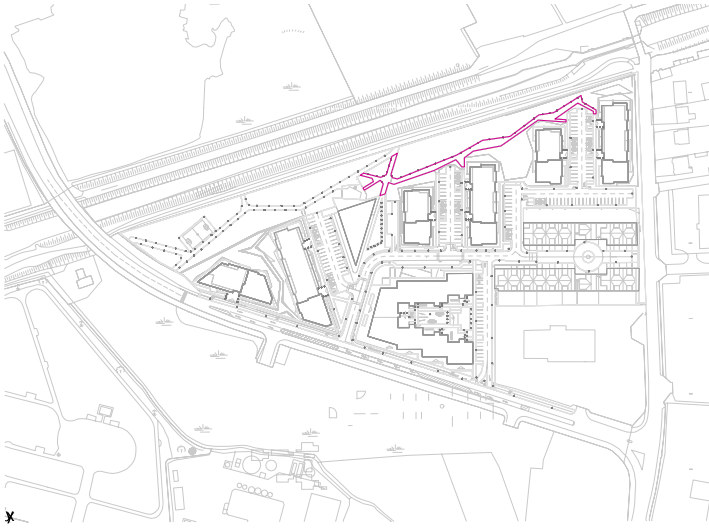
Scale: 1 : 1000

Value grid [lx]



Scale: 1 : 1000

Park Path 2 / Luminance



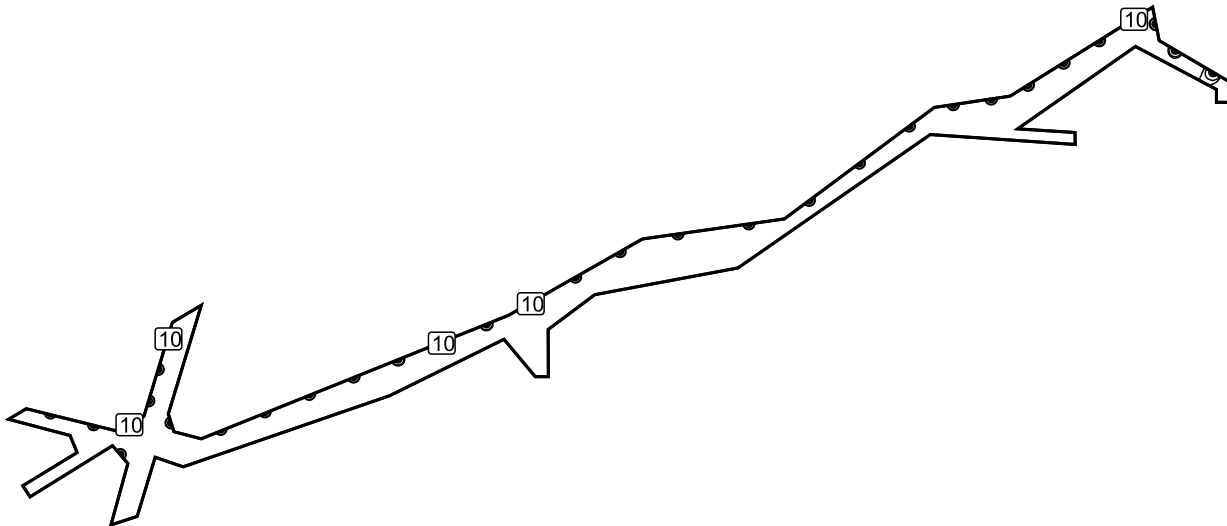
Light loss factor: 0.80

Park Path 2: Luminance (Surface)

Light scene: Light scene 1

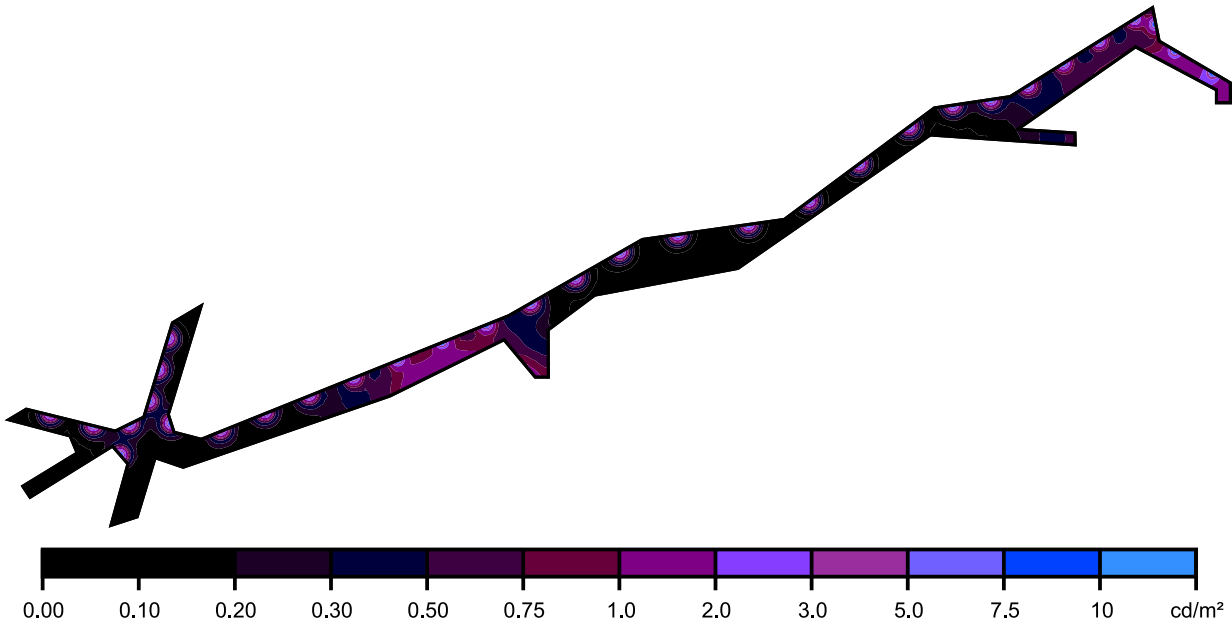
Average: 0.58 cd/m², Min: 0.020 cd/m², Max: 12.0 cd/m², Min/average: 0.034, Min/max: 0.002

Isolines [cd/m²]



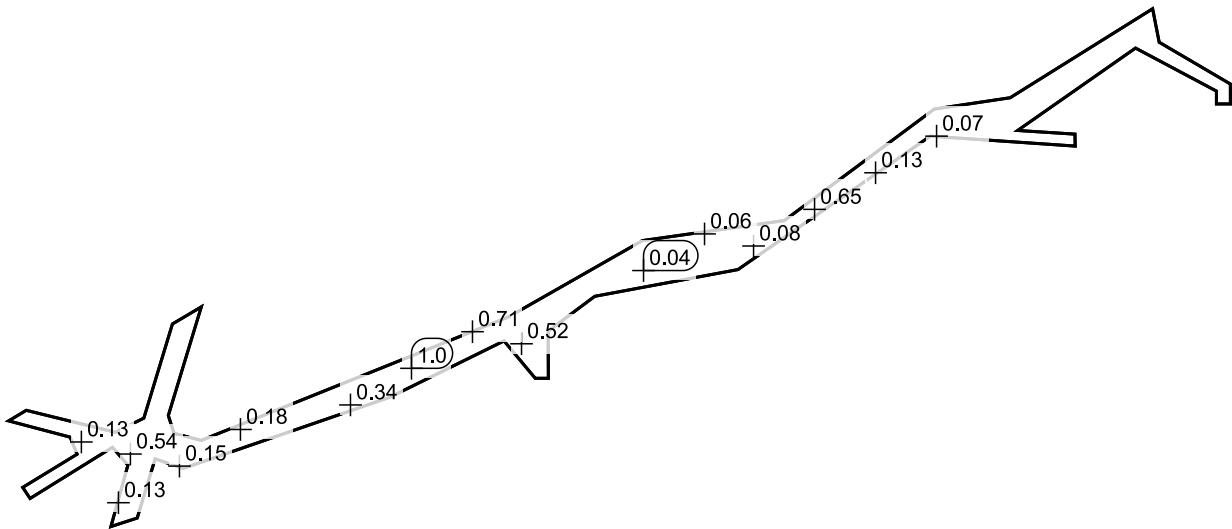
Scale: 1 : 1000

False colors [cd/m²]



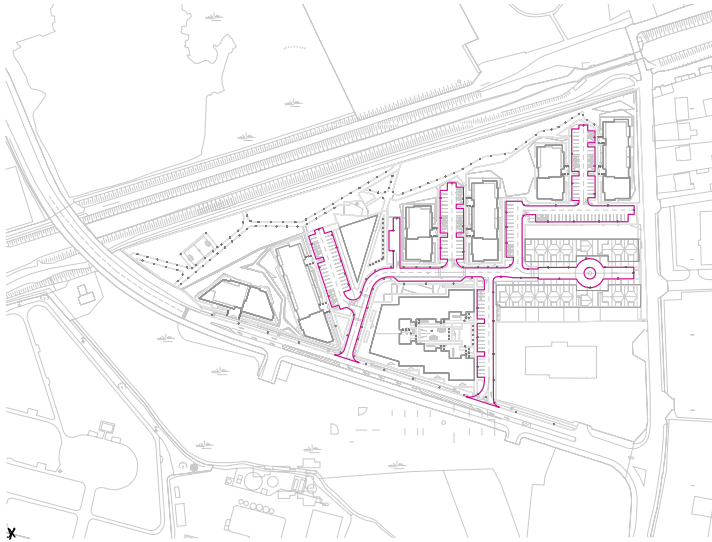
Scale: 1 : 1000

Value grid [cd/m²]



Scale: 1 : 1000

Roads / Perpendicular illuminance (adaptive)



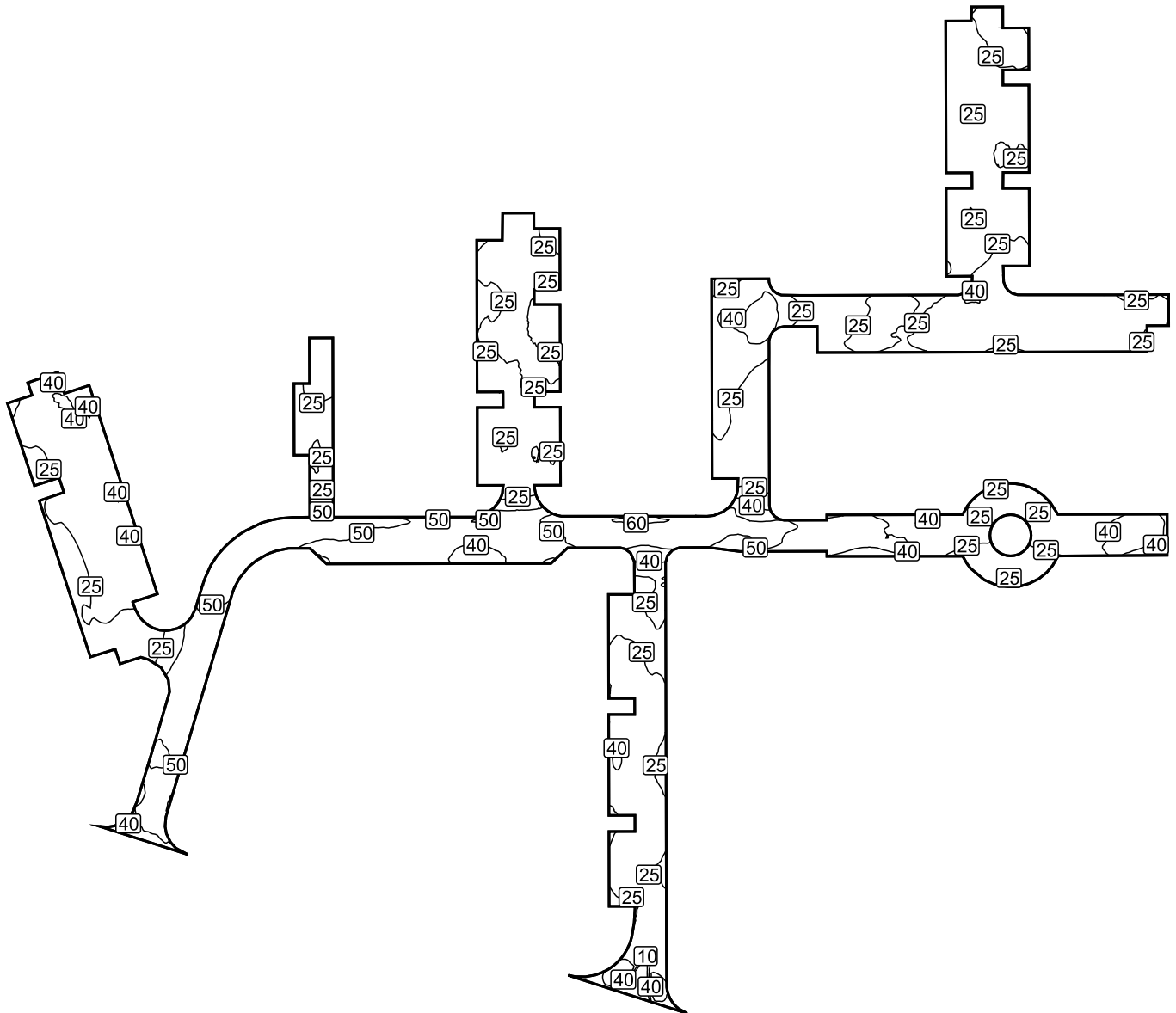
Light loss factor: 0.80

Roads: Perpendicular illuminance (adaptive) (Surface)

Light scene: Light scene 1

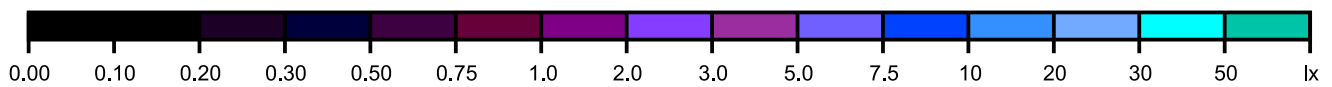
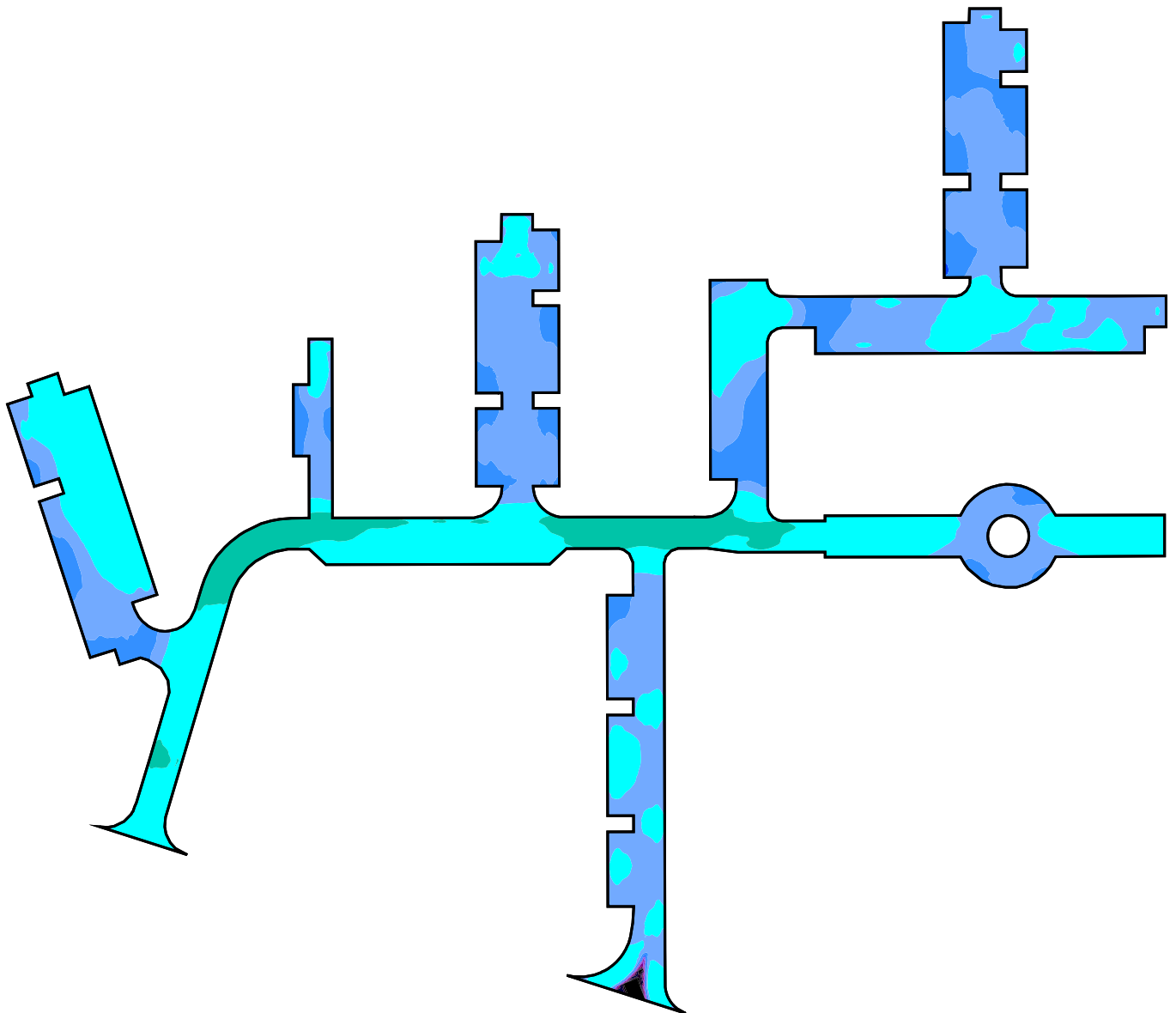
Average: 31.5 lx, Min: 0.068 lx, Max: 62.1 lx, Min/average: 0.002, Min/max: 0.001

Isolines [lx]



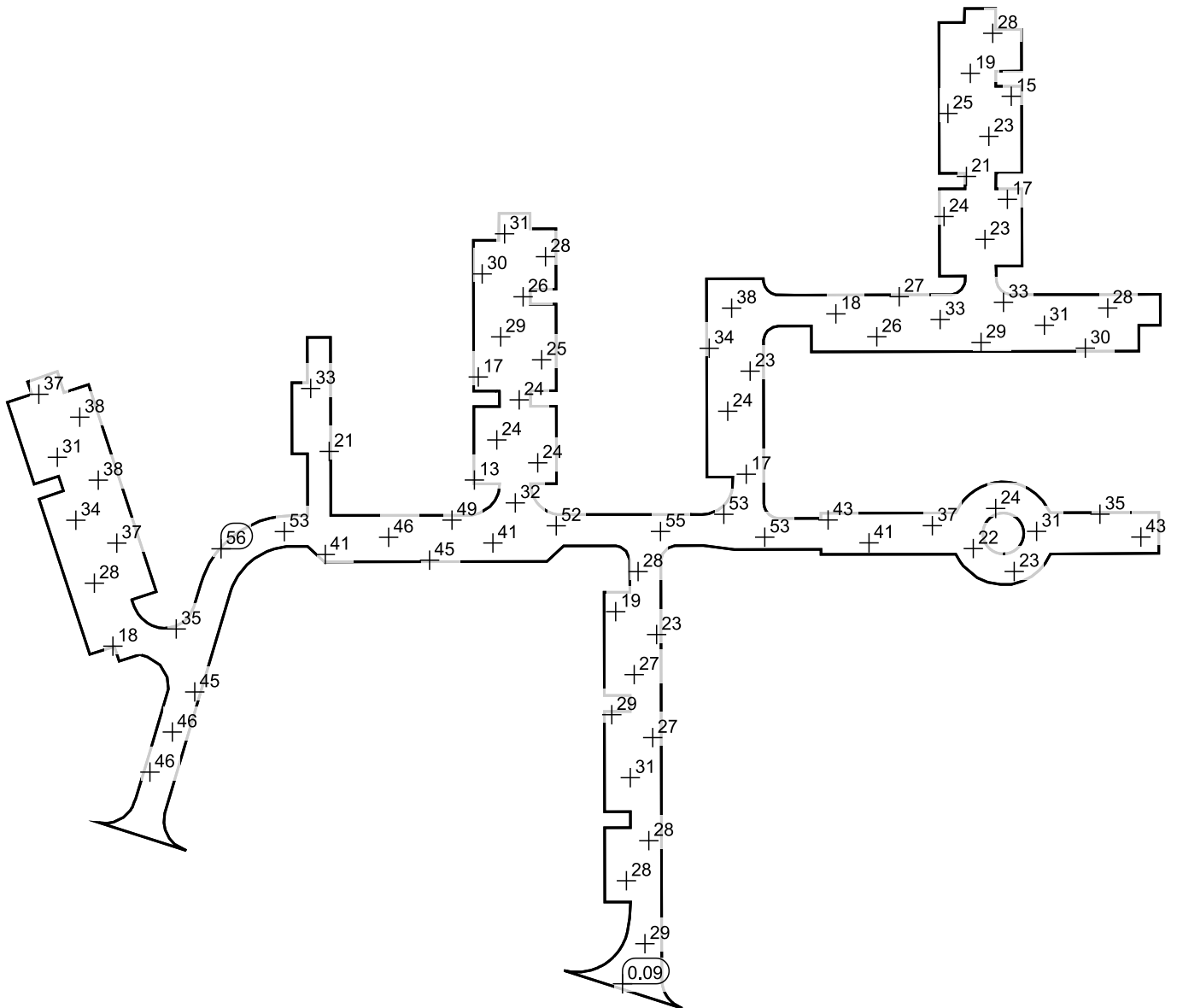
Scale: 1 : 1250

False colors [lx]



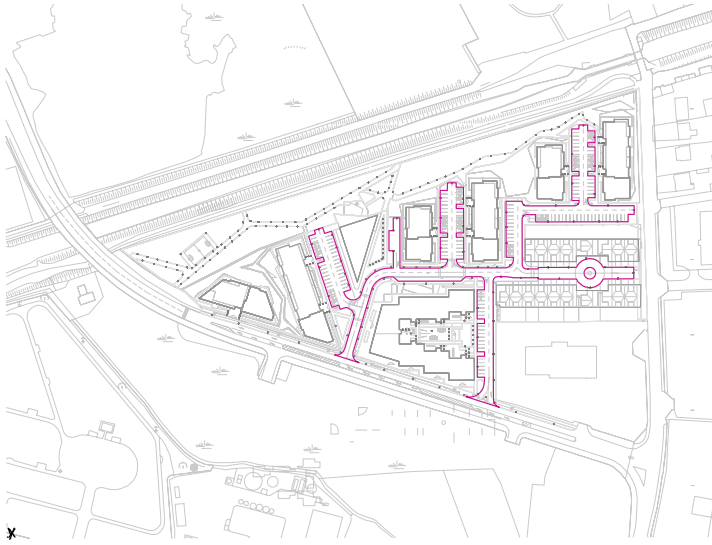
Scale: 1 : 1250

Value grid [lx]



Scale: 1 : 1250

Roads / Luminance



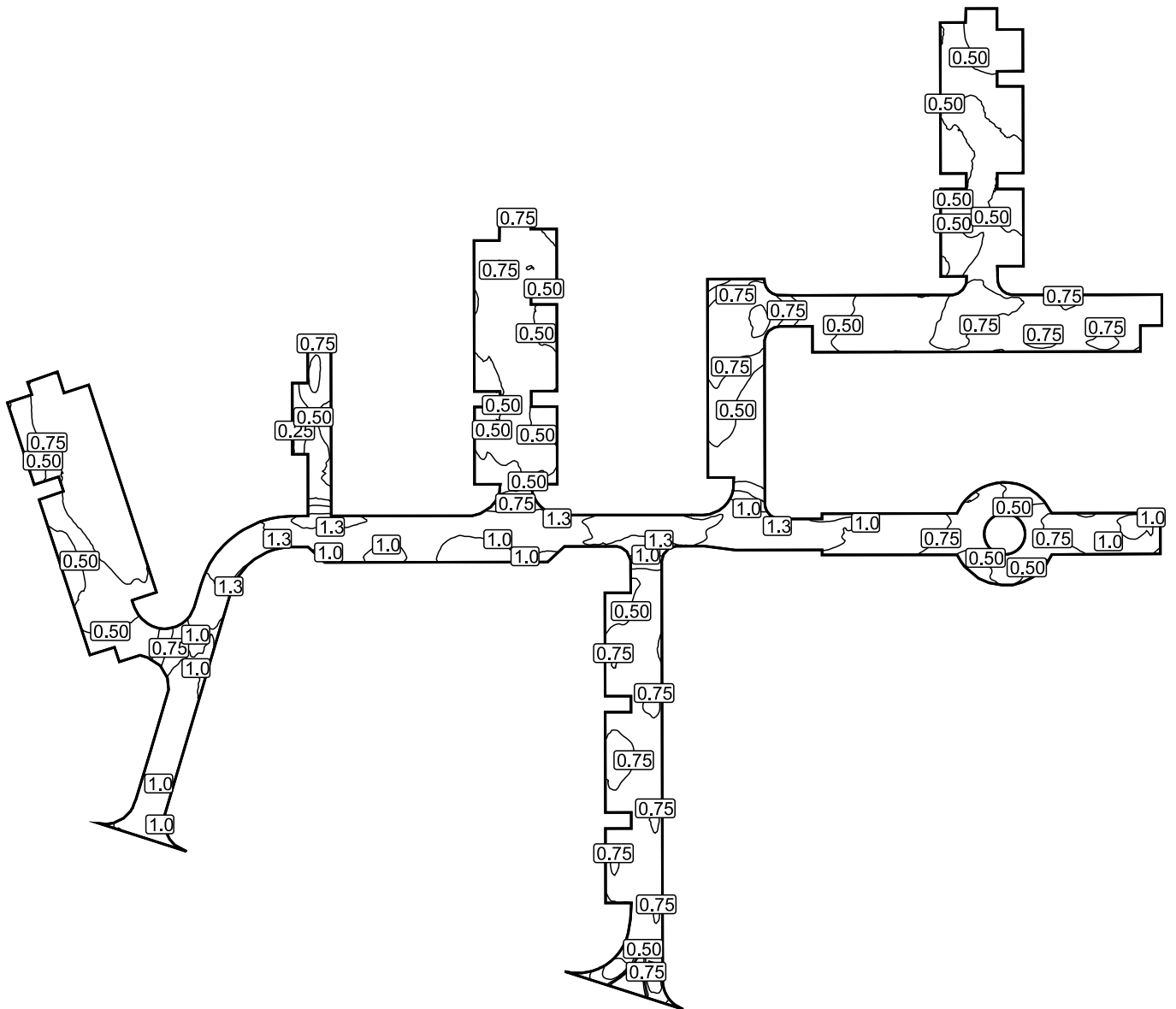
Light loss factor: 0.80

Roads: Luminance (Surface)

Light scene: Light scene 1

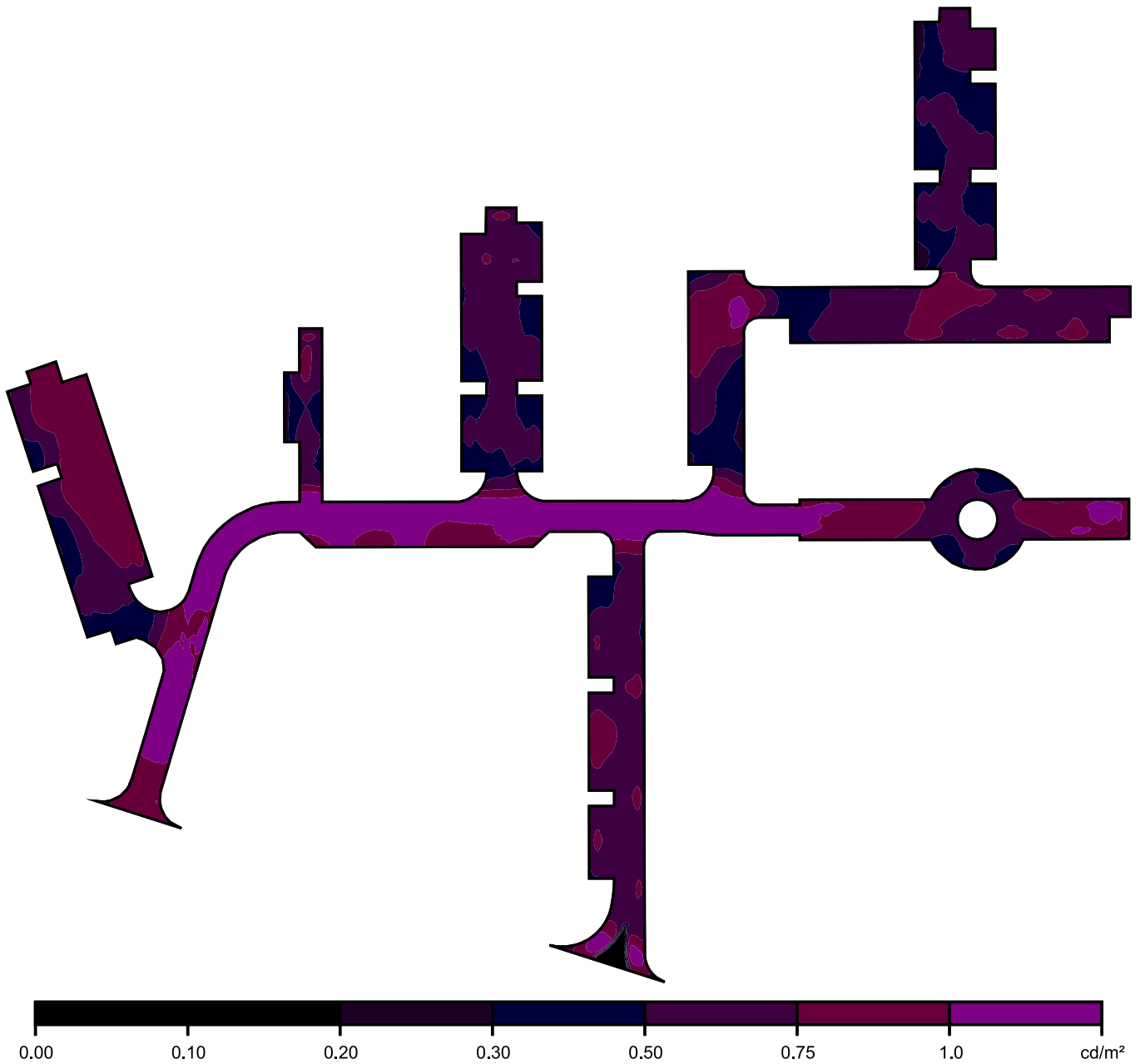
Average: 0.73 cd/m², Min: 0.002 cd/m², Max: 1.44 cd/m², Min/average: 0.003, Min/max: 0.001

Isolines [cd/m²]



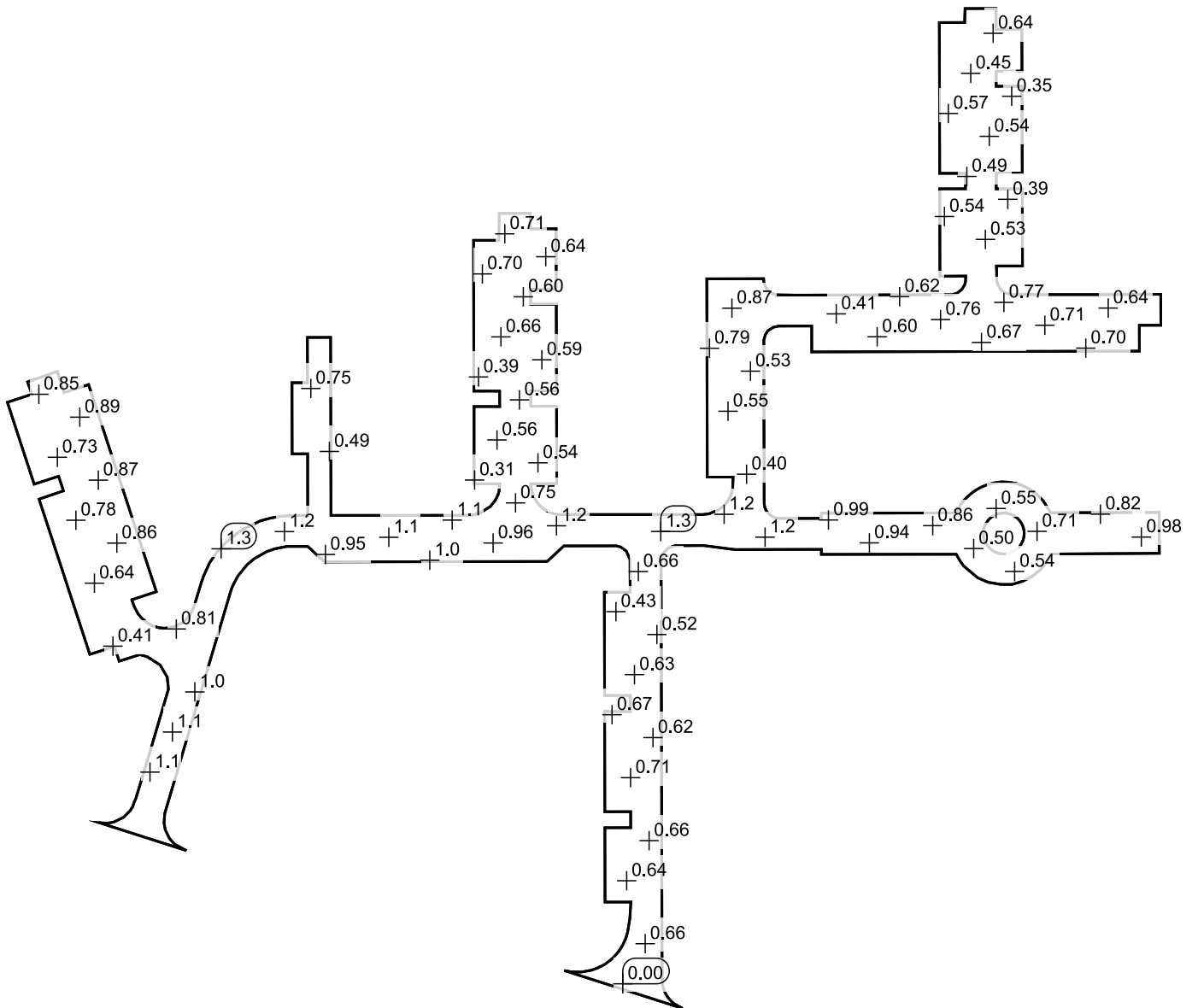
Scale: 1 : 1250

False colors [cd/m²]



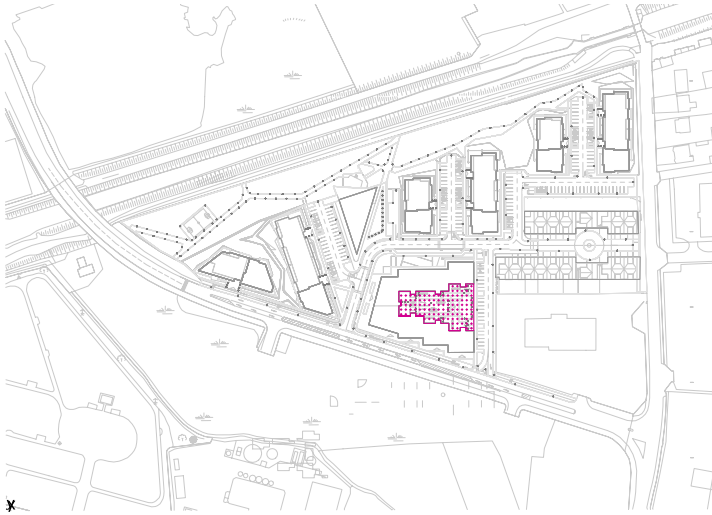
Scale: 1 : 1250

Value grid [cd/m²]



Scale: 1 : 1250

Student Accommodation Plaza / Perpendicular illuminance



Light loss factor: 0.80

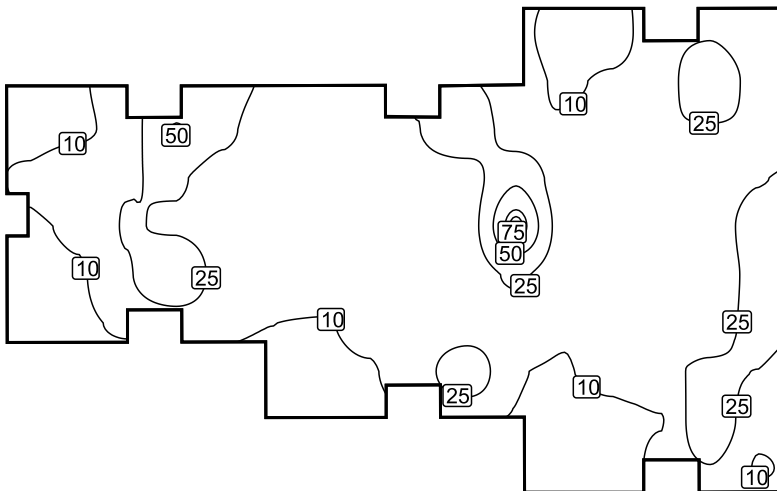
Student Accommodation Plaza: Perpendicular illuminance (Grid)

Light scene: Light scene 1

Average: 17.8 lx, Min: 2.26 lx, Max: 78.1 lx, Min/average: 0.13, Min/max: 0.029

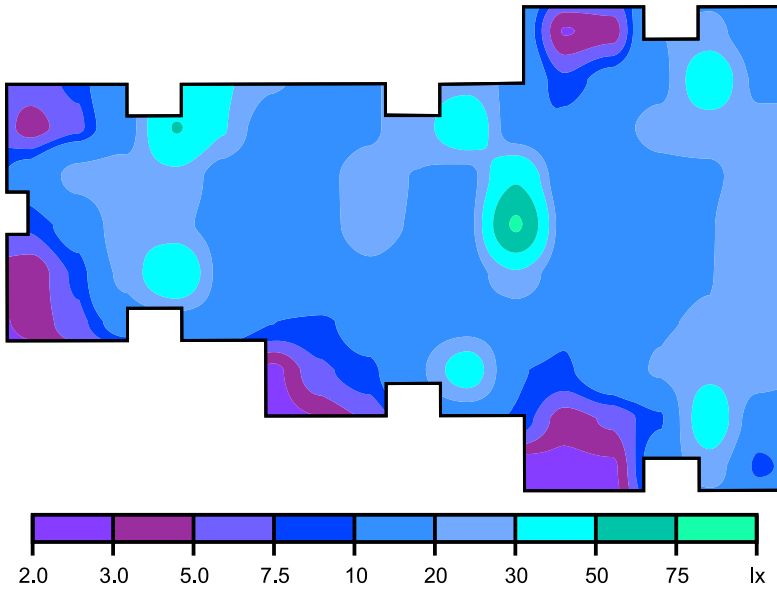
Height: 0.100 m

Isolines [lx]



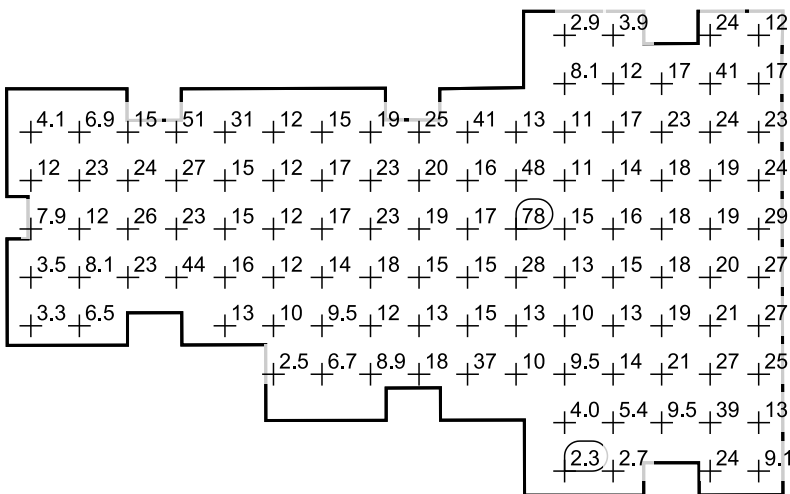
Scale: 1 : 500

False colors [lx]



Scale: 1 : 500

Value grid [lx]



Scale: 1 : 500

Value chart [lx]

m	-23.382	-20.167	-16.952	-13.738	-10.523	-7.308	-4.094	-0.879	2.336	5.550	8.765	11.980	15.194	18.409	21.624	24.839
13.707	/	/	/	/	/	/	/	/	/	/	/	2.87	3.88	/	23.6	11.5
10.499	/	/	/	/	/	/	/	/	/	/	/	8.14	12.1	17.2	40.9	17.5
7.291	4.06	6.87	15.5	51.0	31.0	12.0	14.7	18.5	24.7	41.2	13.3	11.3	16.5	22.7	23.6	23.2
4.084	12.3	22.8	24.1	26.8	15.2	12.0	17.4	23.2	19.6	16.3	47.6	11.4	13.9	17.5	18.5	24.5
0.876	7.88	12.3	26.0	23.0	15.4	12.1	17.2	23.1	19.0	16.7	78.1	14.9	16.2	18.1	19.5	29.3
-2.332	3.52	8.13	22.9	44.0	15.6	12.1	14.0	17.7	15.1	14.8	28.3	12.7	14.7	18.0	19.7	27.3
-5.539	3.33	6.52	/	/	13.1	10.1	9.47	12.3	13.0	14.6	12.6	10.3	13.5	18.9	21.0	27.3
-8.747	/	/	/	/	/	2.50	6.75	8.90	17.6	37.3	10.4	9.49	14.1	20.9	27.5	24.8
-11.955	/	/	/	/	/	/	/	/	/	/	/	3.97	5.39	9.48	38.7	13.3
-15.163	/	/	/	/	/	/	/	/	/	/	/	2.26	2.65	/	24.0	9.14