



Residential Street Lighting

Installation : LED Solar Powered Street Lighting

Project number : TLA/VIV/BOO2

Customer : Vivid Solar Street Lighting

Processed by : DJT

Date : 20.05.2022

Project description:

Designed to P5 spec:

Average illuminance >3 lumens.

Minimum illuminance 0.6 lumens.

All posts 6m high and angled 15°

Phase 1 was completed as S5 spec which has been replaced with P5 spec. Phase 1 is compliant with P5.

Phase 2 requires 7 additional posts and relocation of 6 posts from phase 1.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

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E: info@thelumenarchitect.com W: www.thelumenarchitect.com

Boorley Green Maddoxford CAD Setup.rdf

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1 Luminaire data

1.1 E-Able Power, Integrated solar street light (AL-A020)

1.1.1 Data sheet

Manufacturer: E-Able Power

AL-A020 Integrated solar street light

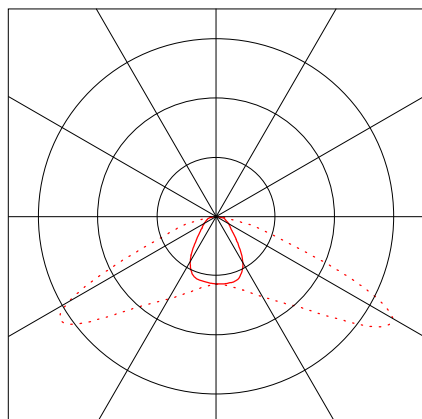
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 113.56 lm/W
Classification : A40 ↓99.9% ↑0.1%
CIE Flux Codes : 39 77 95 100 100
UGR 4H 8H : 21.7 / 30.6
Power : 20 W
Luminous flux : 2553 lm

Equipped with

Quantity : 1
Designation :
Colour :
Luminous flux : 2553 lm

Dimensions : 140 mm x 240 mm x 1 mm



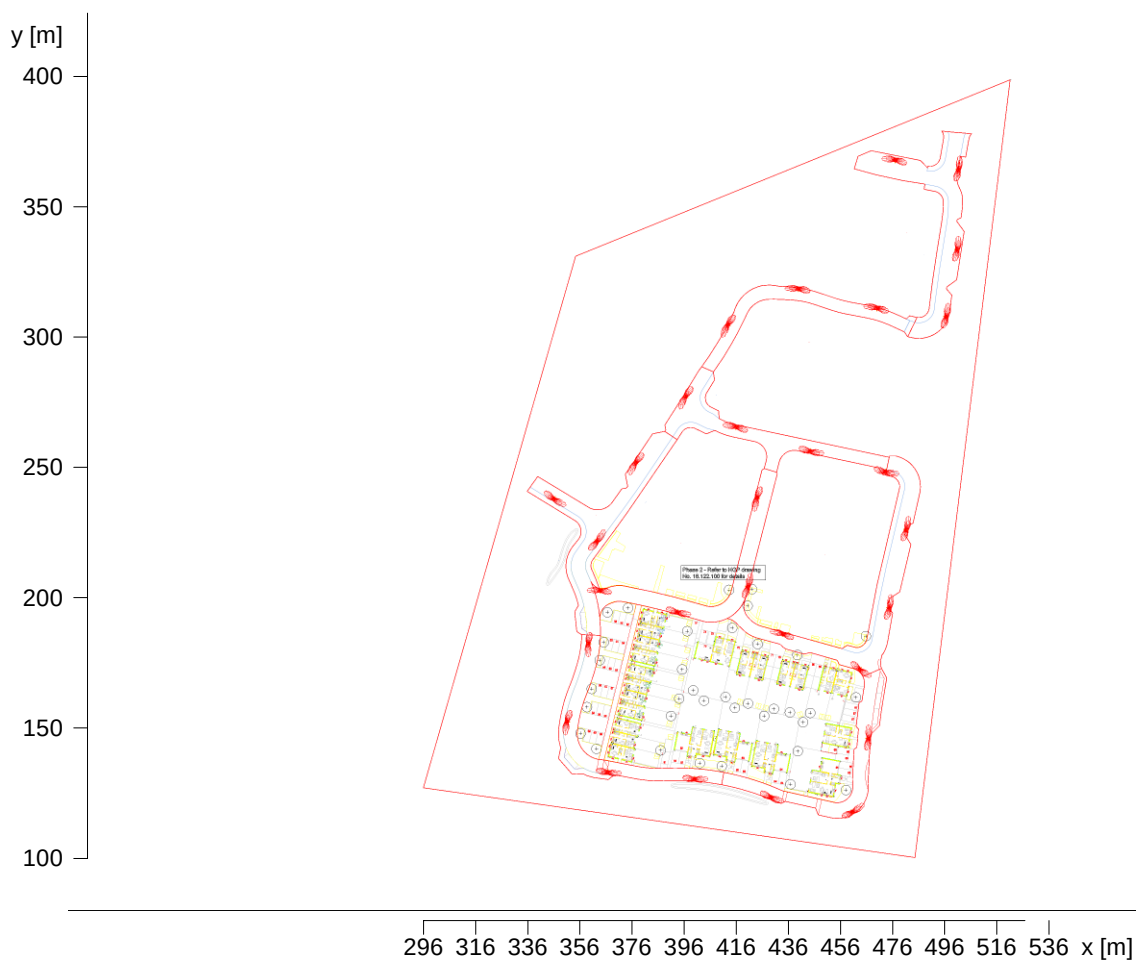
Object : Residential Street Lighting
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2 Exterior 1

2.1 Description, Exterior 1

2.1.1 Floor plan



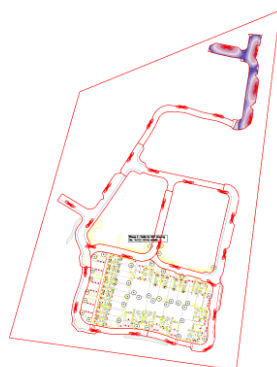
Object : Residential Street Lighting
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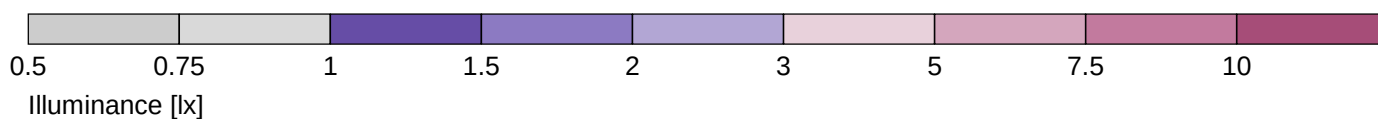
2 Exterior 1

2.2 Summary, Exterior 1

2.2.1 Result overview, Road 1



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.1 lx
Minimum illuminance	Emin	0.6 lx
Maximum illuminance	Emax	10.5 lx
Uniformity U ₀	Emin/Em	1:7.15 (0.14)
Diversity U _d	Emin/Emax	1:18.4 (0.05)

Type No. Make

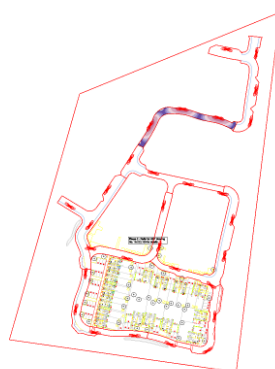
1	29 x	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
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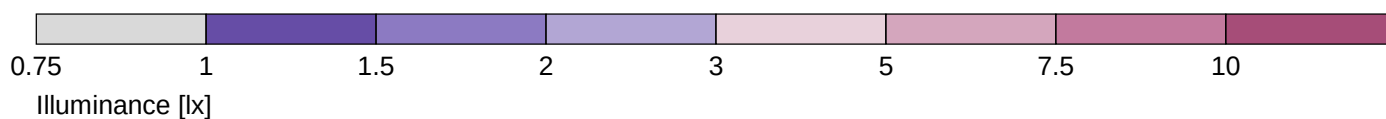


2.2 Summary, Exterior 1

2.2.2 Result overview, Road 2



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.4 lx
Minimum illuminance	Emin	0.8 lx
Maximum illuminance	Emax	10.4 lx
Uniformity U _o	Emin/Em	1:5.21 (0.19)
Diversity U _d	Emin/Emax	1:12.4 (0.08)

Type No. Make

1	29 x	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

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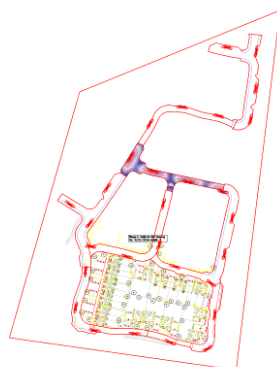
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Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

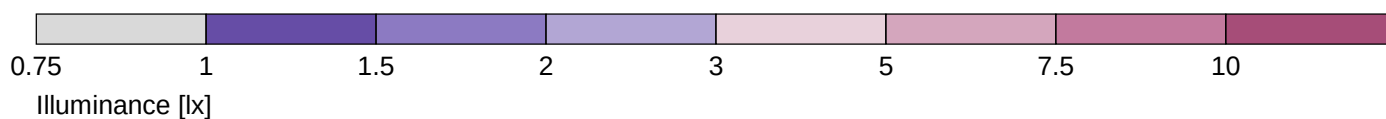


2.2 Summary, Exterior 1

2.2.3 Result overview, Road 3



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.4 lx
Minimum illuminance	Emin	0.9 lx
Maximum illuminance	Emax	10.6 lx
Uniformity U _o	Emin/Em	1:4.83 (0.21)
Diversity U _d	Emin/Emax	1:11.7 (0.09)

Type No. Make

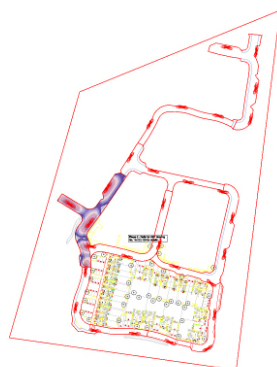
1	29 x	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

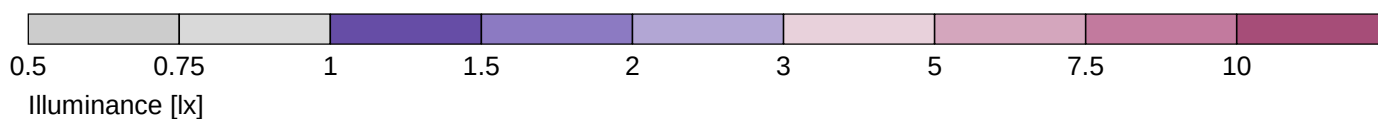


2.2 Summary, Exterior 1

2.2.4 Result overview, Road 4



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.3 lx
Minimum illuminance	Emin	0.7 lx
Maximum illuminance	Emax	10.5 lx
Uniformity U _o	Emin/Em	1:6.5 (0.15)
Diversity U _d	Emin/Emax	1:16 (0.06)

Type No. Make

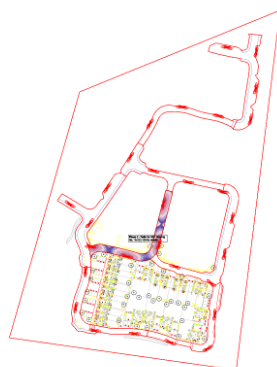
1	29 x	E-Able Power
		Order No. : AL-A020
		Luminaire name : Integrated solar street light
		Equipment : 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

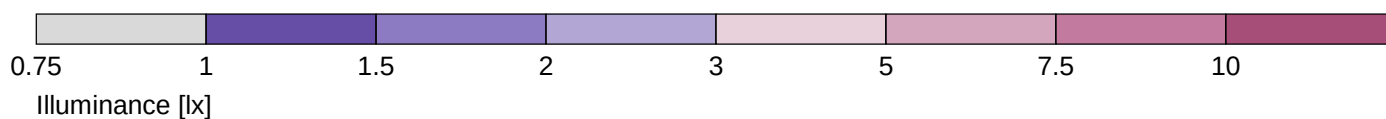


2.2 Summary, Exterior 1

2.2.5 Result overview, Road 5



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.6 lx
Minimum illuminance	Emin	0.8 lx
Maximum illuminance	Emax	10.4 lx
Uniformity U _o	Emin/Em	1:6.11 (0.16)
Diversity U _d	Emin/Emax	1:13.9 (0.07)

Type No. Make

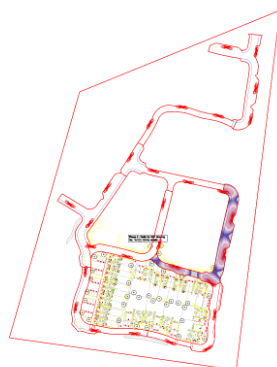
1	29 x	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

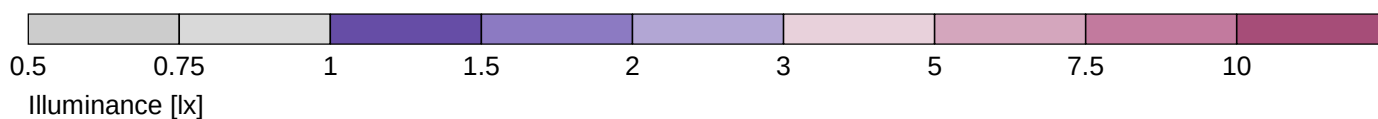


2.2 Summary, Exterior 1

2.2.6 Result overview, Road 6



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.3 lx
Minimum illuminance	Emin	0.6 lx
Maximum illuminance	Emax	10.6 lx
Uniformity U _o	Emin/Em	1:7.08 (0.14)
Diversity U _d	Emin/Emax	1:17.7 (0.06)

Type No. Make

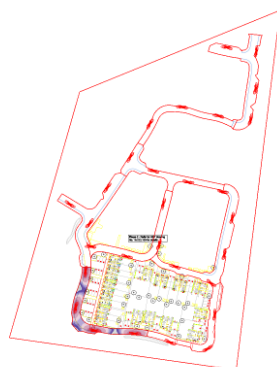
1	29 x	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

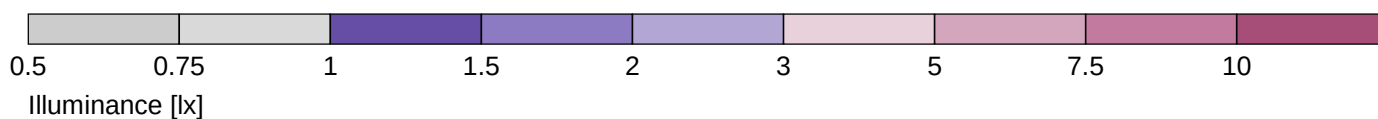


2.2 Summary, Exterior 1

2.2.7 Result overview, Road 7



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	5 lx
Minimum illuminance	Emin	0.6 lx
Maximum illuminance	Emax	10.5 lx
Uniformity U _o	Emin/Em	1:8.21 (0.12)
Diversity U _d	Emin/Emax	1:17.1 (0.06)

Type No. Make

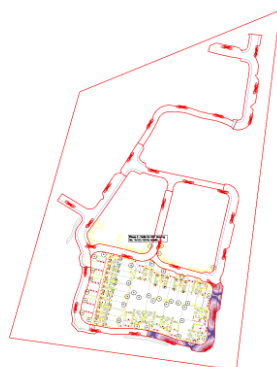
1	29 x	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

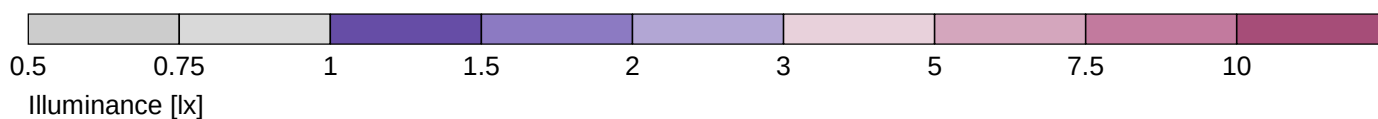


2.2 Summary, Exterior 1

2.2.8 Result overview, Road 8



296 356 416 476 536 x [m]



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height (phot. centre) [m]:	6.00 m
Maintenance factor	0.80

Total luminous flux	59276 lm
Total power	522 W
Total power per area (43630.26 m²)	0.01 W/m²

Illuminance

Average illuminance	Em	4.4 lx
Minimum illuminance	Emin	0.6 lx
Maximum illuminance	Emax	10.5 lx
Uniformity Uo	Emin/Em	1:7.05 (0.14)
Diversity Ud	Emin/Emax	1:17 (0.06)

Type No. Make

1	29 x	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

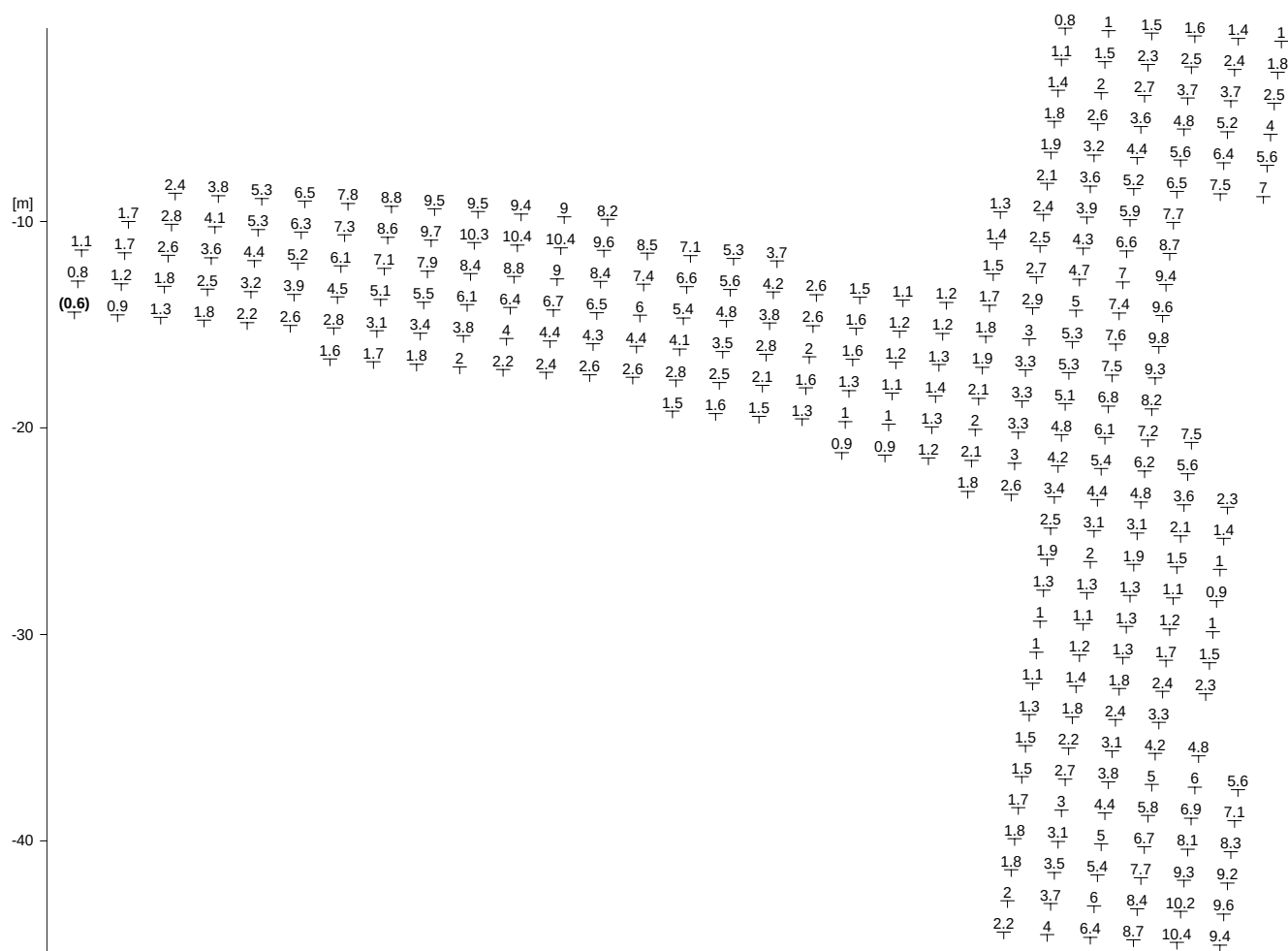
Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022



2 Exterior 1

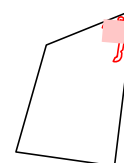
2.3 Calculation results, Exterior 1

2.3.2 Table, Road 1 (E)



Part1

Average illuminance : 4.1 lx
 Minimum illuminance : 0.6 lx
 Maximum illuminance : 10.5 lx
 Uniformity Uo : 1 : 7.15 (0.14)
 Diversity Ud : 1 : 18.38 (0.05)



Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022

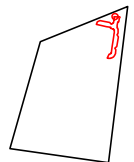


2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.2 Table, Road 1 (E)

(0,6)



Part2

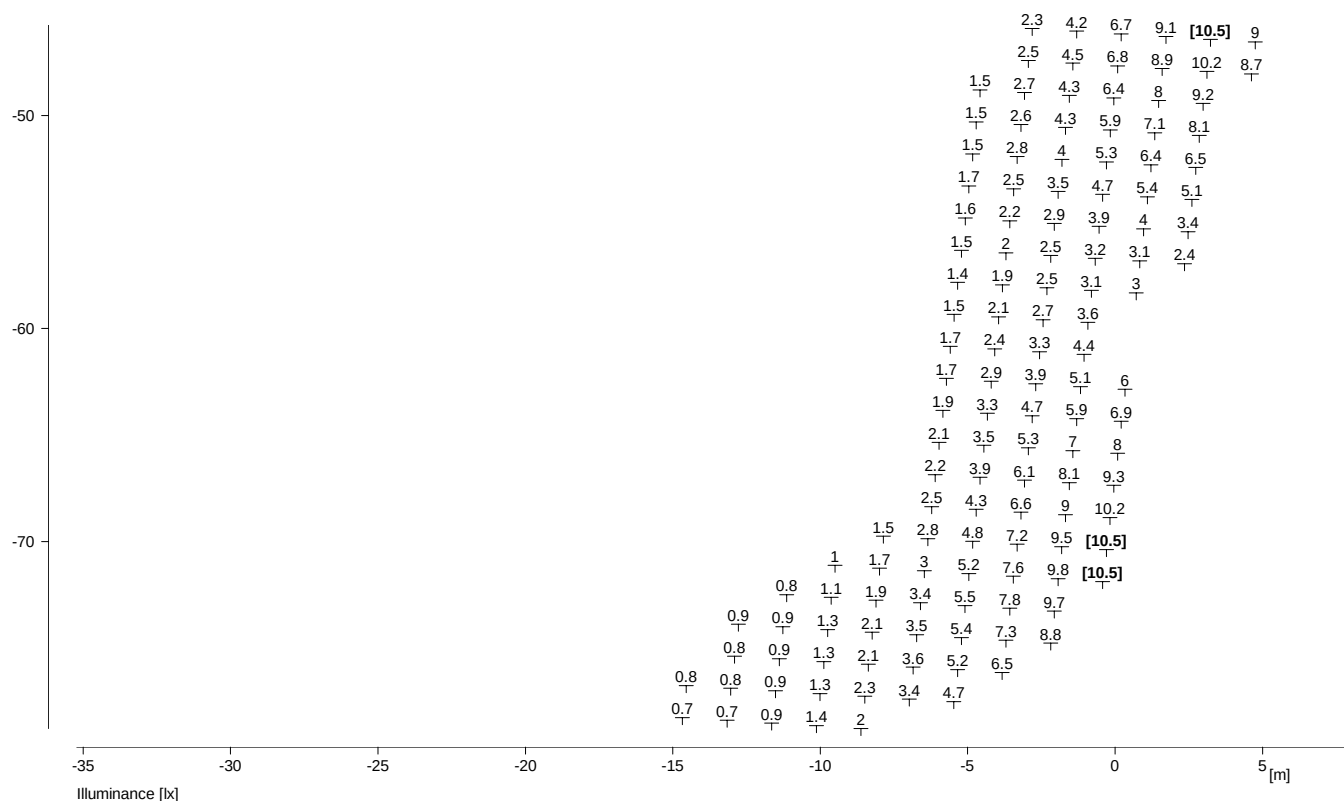
Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.2 Table, Road 1 (E)



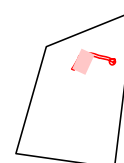
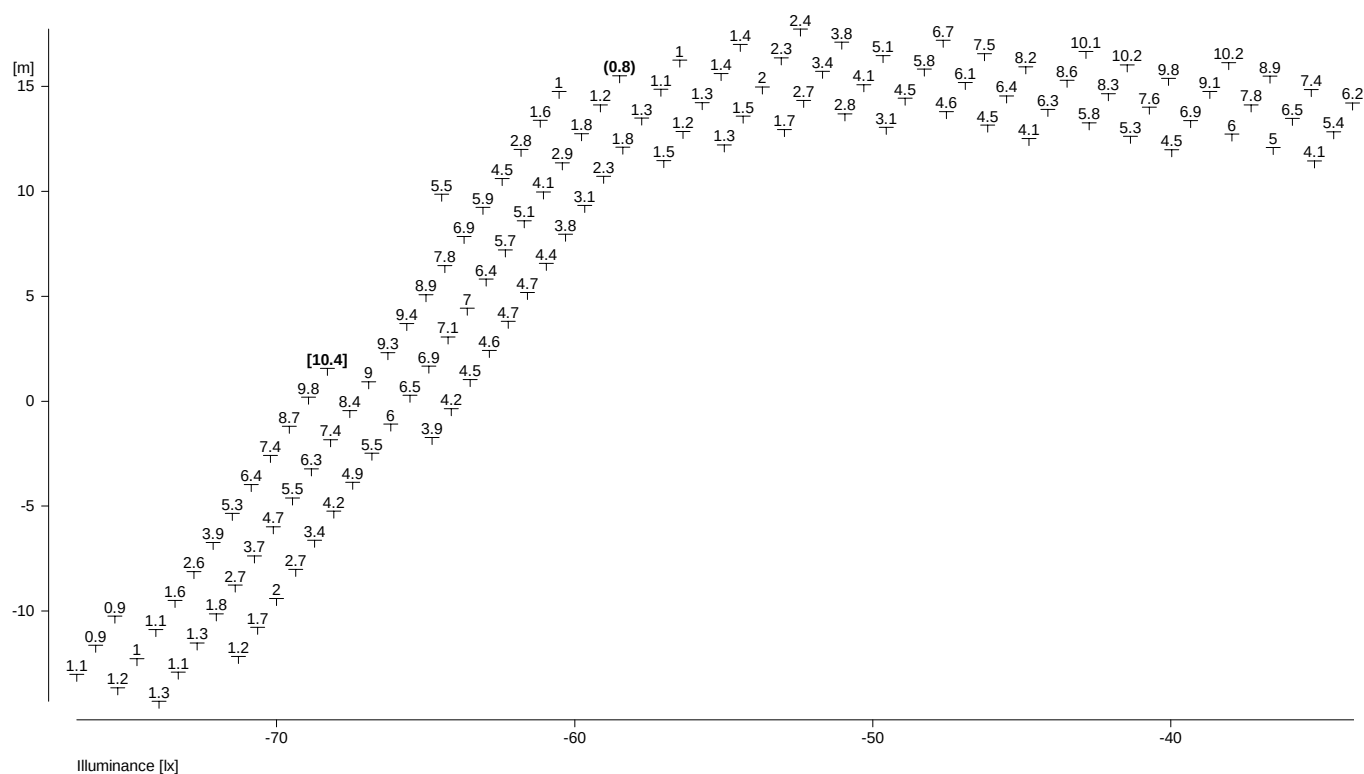
Part3

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.3 Table, Road 2 (E)



Part1

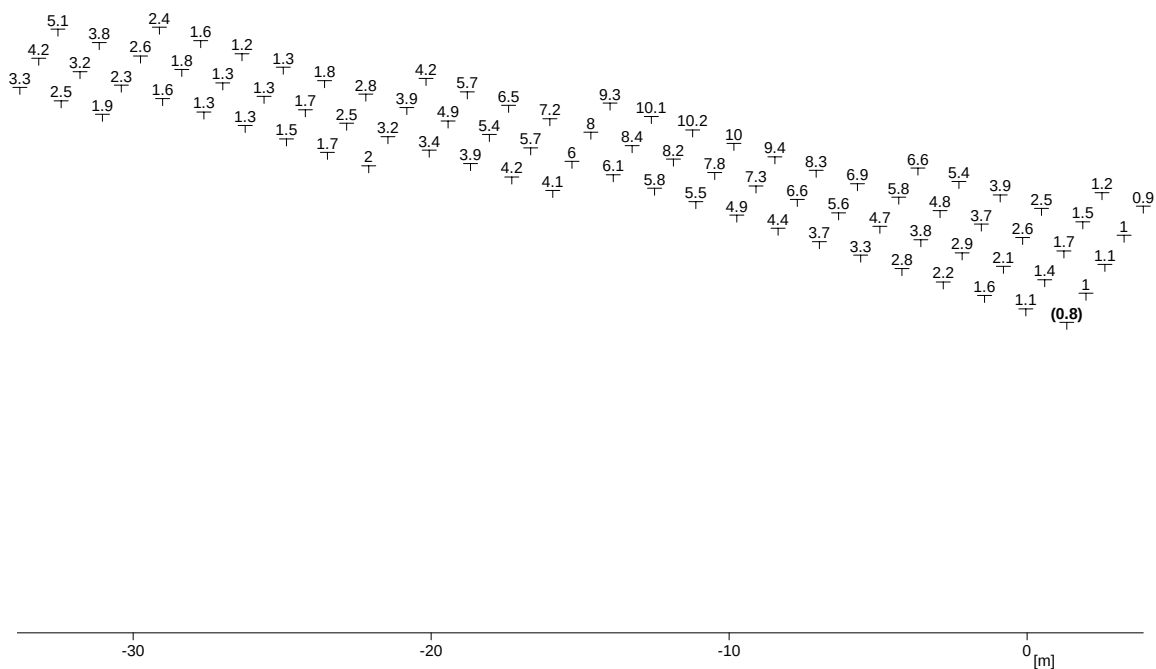
Height reference plane	:	0.03 m
Average illuminance	Em	: 4.4 lx
Minimum illuminance	Emin	: 0.8 lx
Maximum illuminance	Emax	: 10.4 lx
Uniformity Uo	Emin/Em	: 1 : 5.21 (0.19)
Diversity Ud	Emin/Emax	: 1 : 12.41 (0.08)

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.3 Table, Road 2 (E)



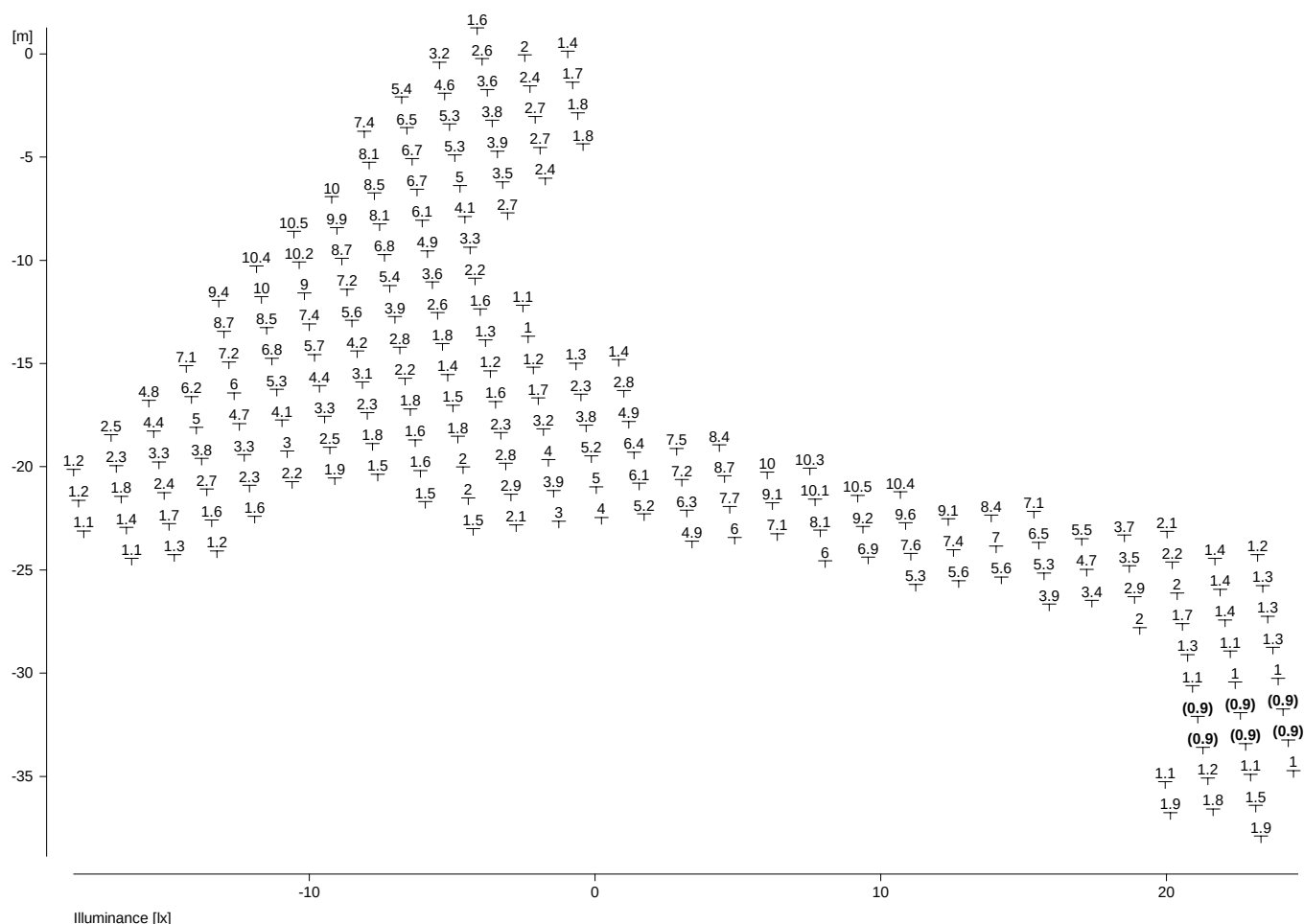
Part2

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

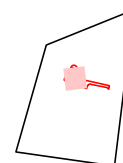


2.3 Calculation results, Exterior 1

2.3.4 Table, Road 3 (E)



Height reference plane	: 0.03 m
Average illuminance	Em : 4.4 lx
Minimum illuminance	Emin : 0.9 lx
Maximum illuminance	Emax : 10.6 lx
Uniformity Uo	Emin/Em : 1 : 4.83 (0.21)
Diversity Ud	Emin/Emax : 1 : 11.69 (0.09)

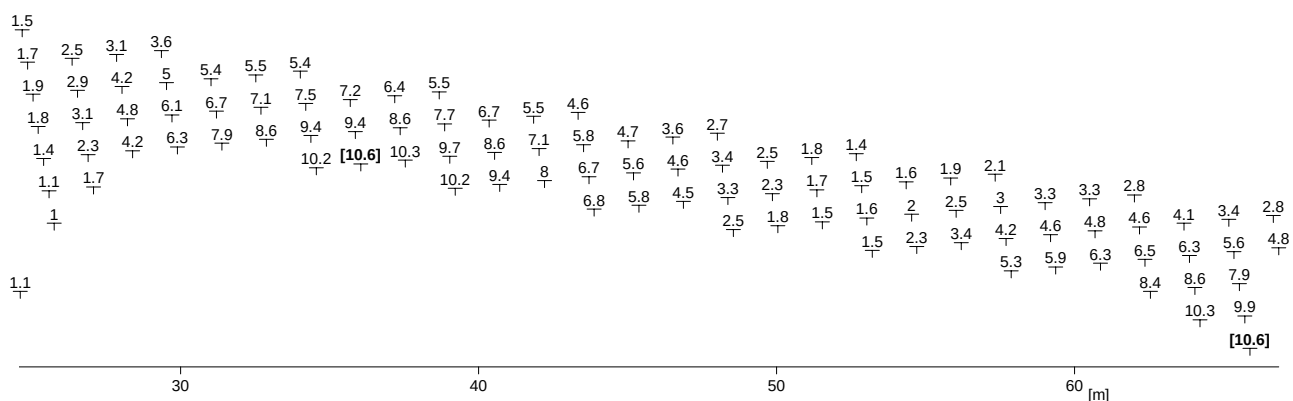


Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022

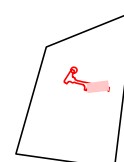


2.3 Calculation results, Exterior 1

2.3.4 Table, Road 3 (E)



Part2

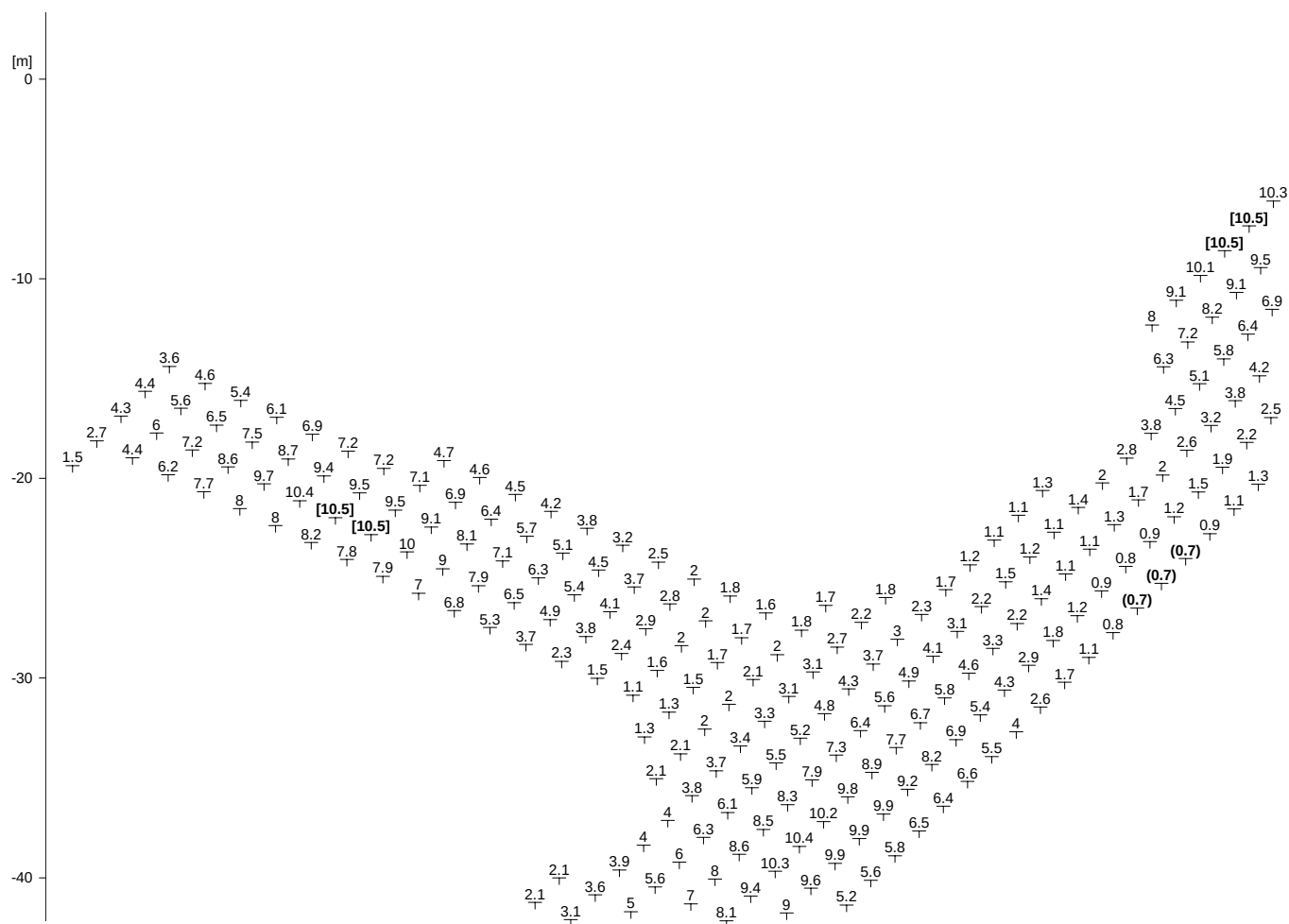


Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.5 Table, Road 4 (E)



Height reference plane	: 0.03 m
Average illuminance	Em : 4.3 lx
Minimum illuminance	Emin : 0.7 lx
Maximum illuminance	Emax : 10.5 lx
Uniformity Uo	Emin/Em : 1 : 6.50 (0.15)
Diversity Ud	Emin/Emax : 1 : 16.03 (0.06)



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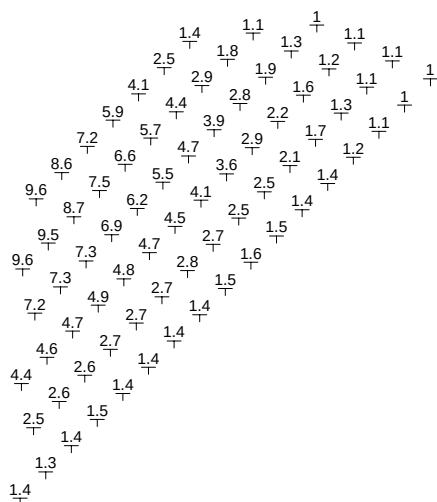
E: info@thelumenarchitect.com W: www.thelumenarchitect.com

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.5 Table, Road 4 (E)



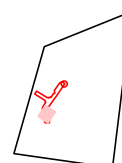
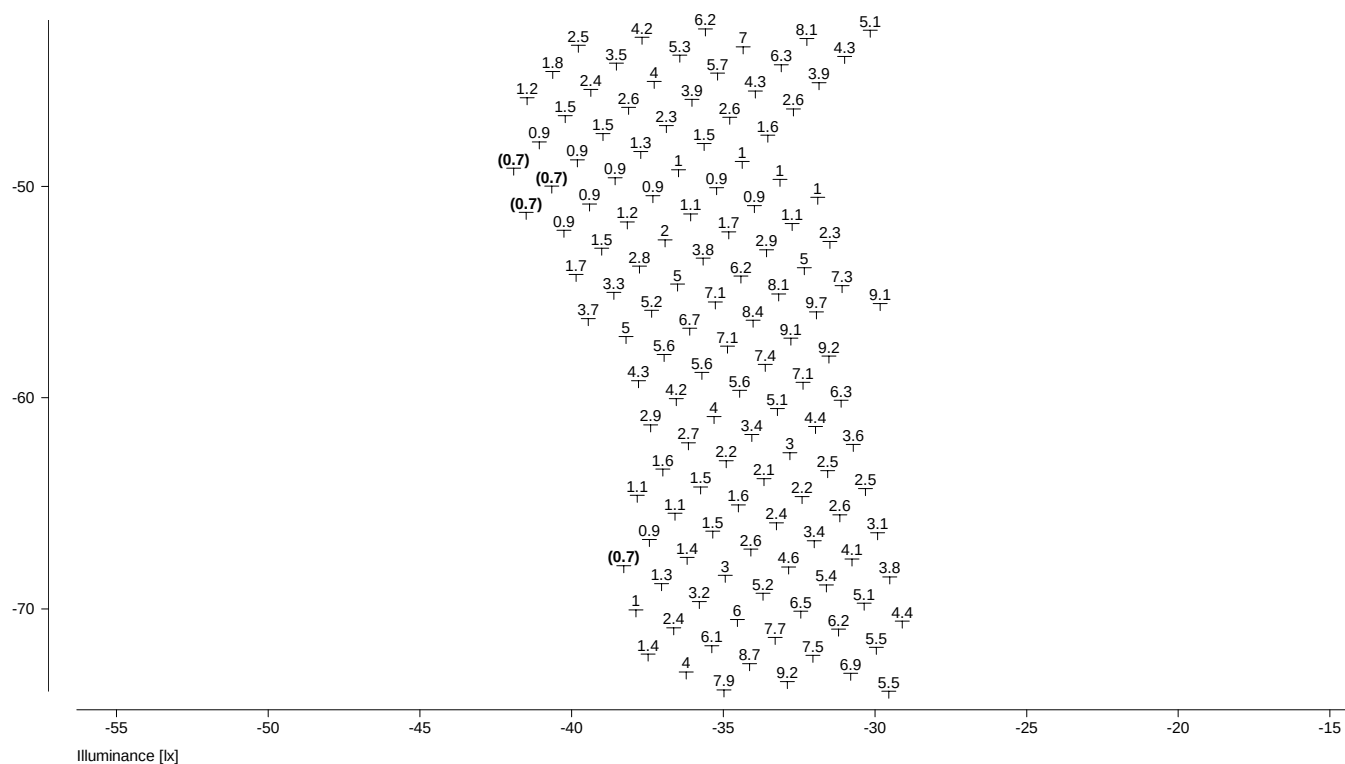
Part2

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.5 Table, Road 4 (E)



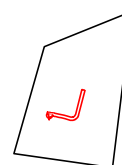
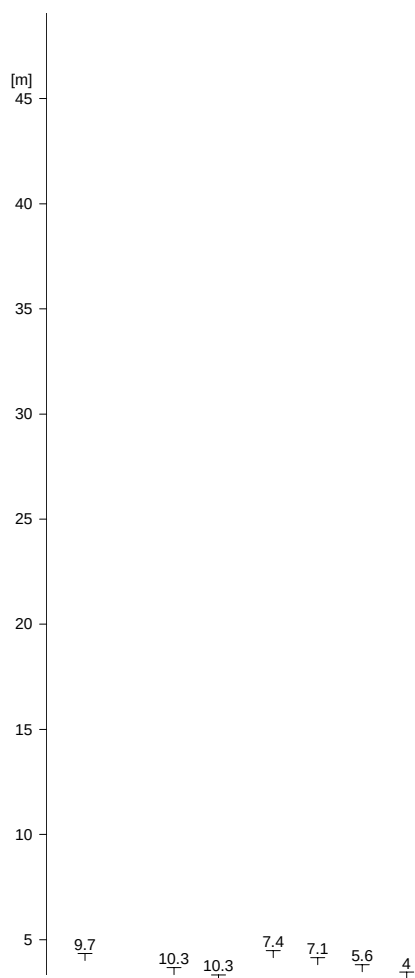
Part3

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.6 Table, Road 5 (E)



Part1

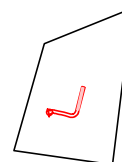
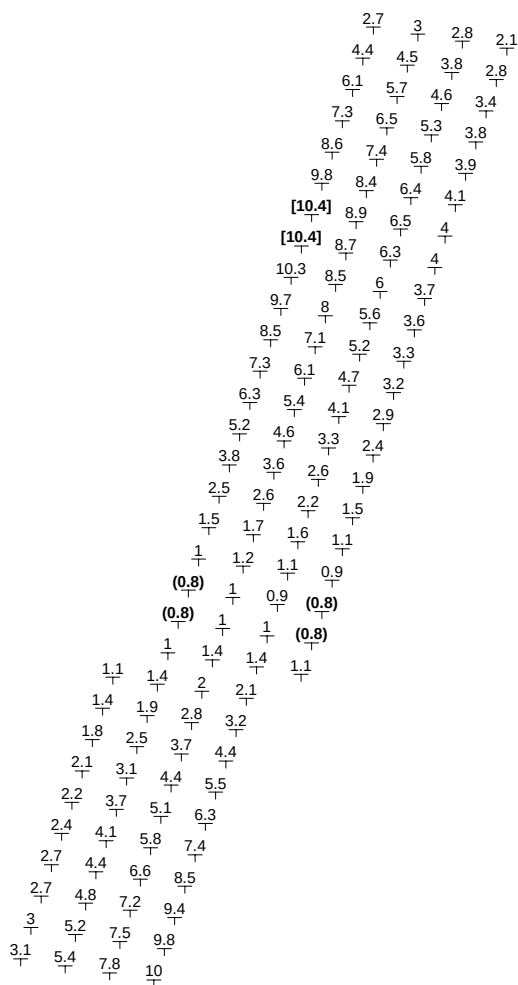
Height reference plane		: 0.03 m
Average illuminance	Em	: 4.6 lx
Minimum illuminance	Emin	: 0.8 lx
Maximum illuminance	Emax	: 10.4 lx
Uniformity Uo	Emin/Em	: 1 : 6.11 (0.16)
Diversity Ud	Emin/Emax	: 1 : 13.86 (0.07)

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.6 Table, Road 5 (E)



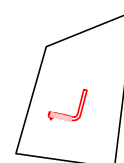
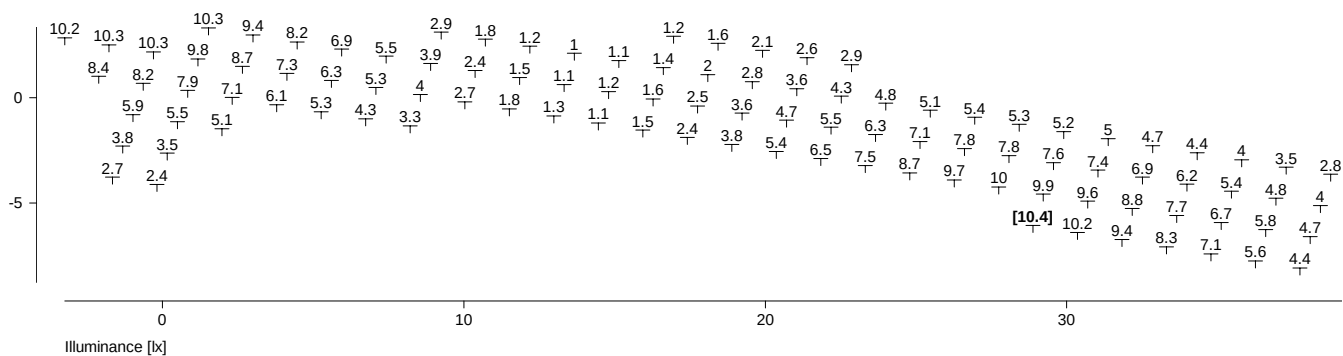
Part2

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.6 Table, Road 5 (E)



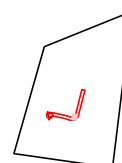
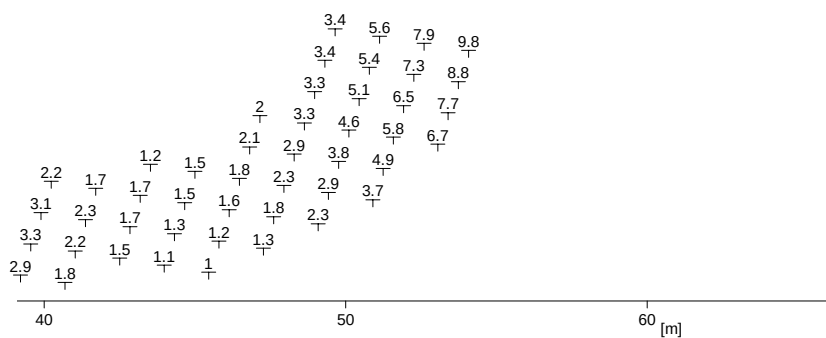
Part3

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.6 Table, Road 5 (E)



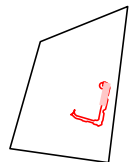
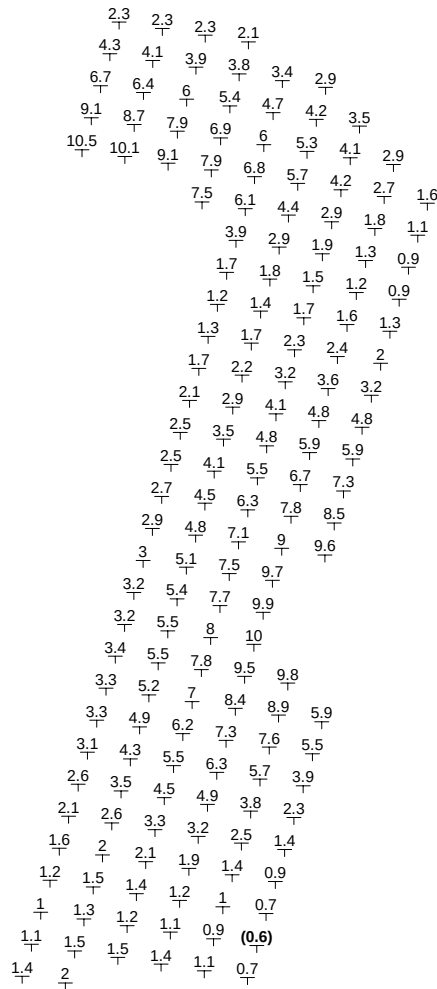
Part4

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.7 Table, Road 6 (E)



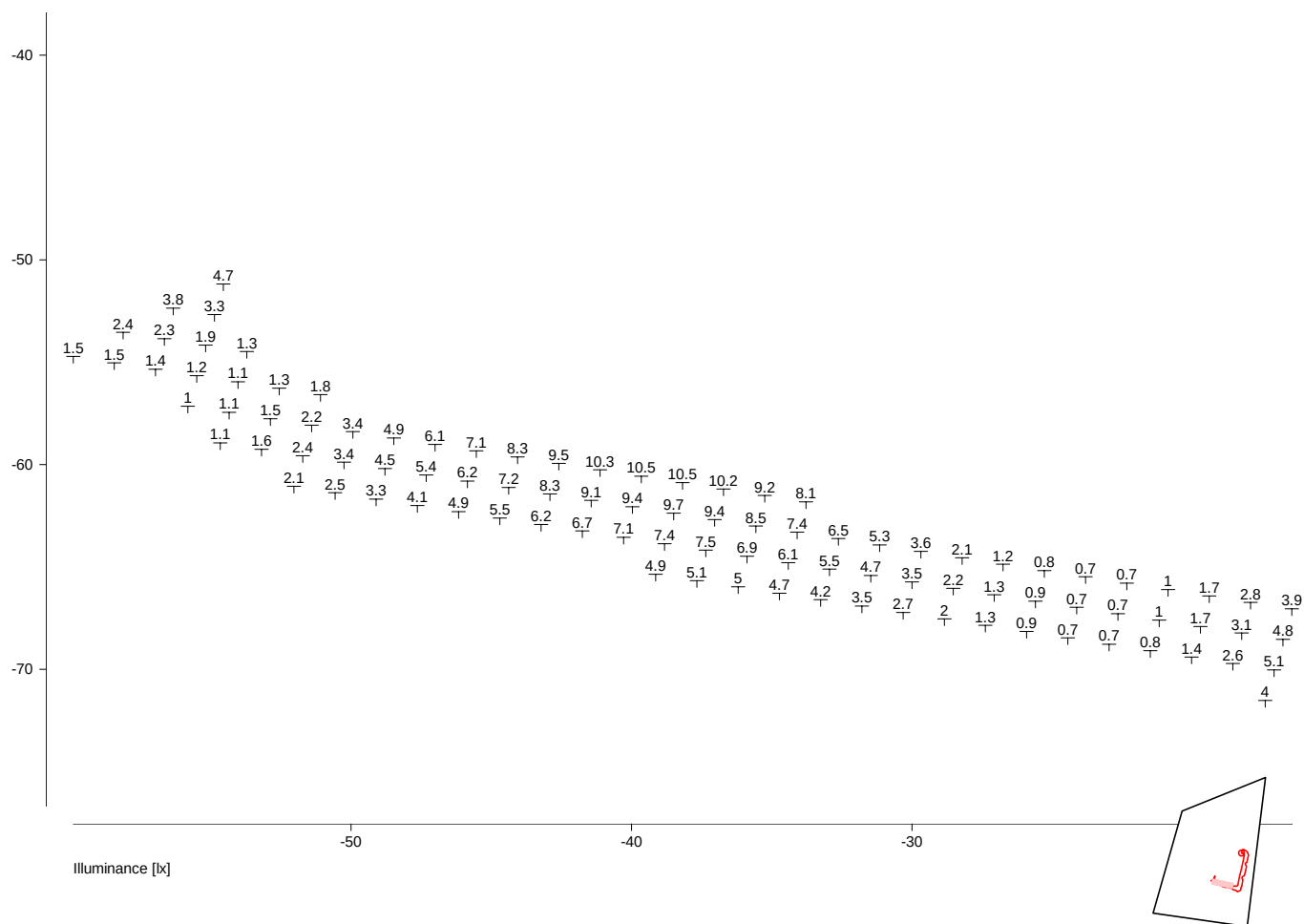
Part2

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.7 Table, Road 6 (E)



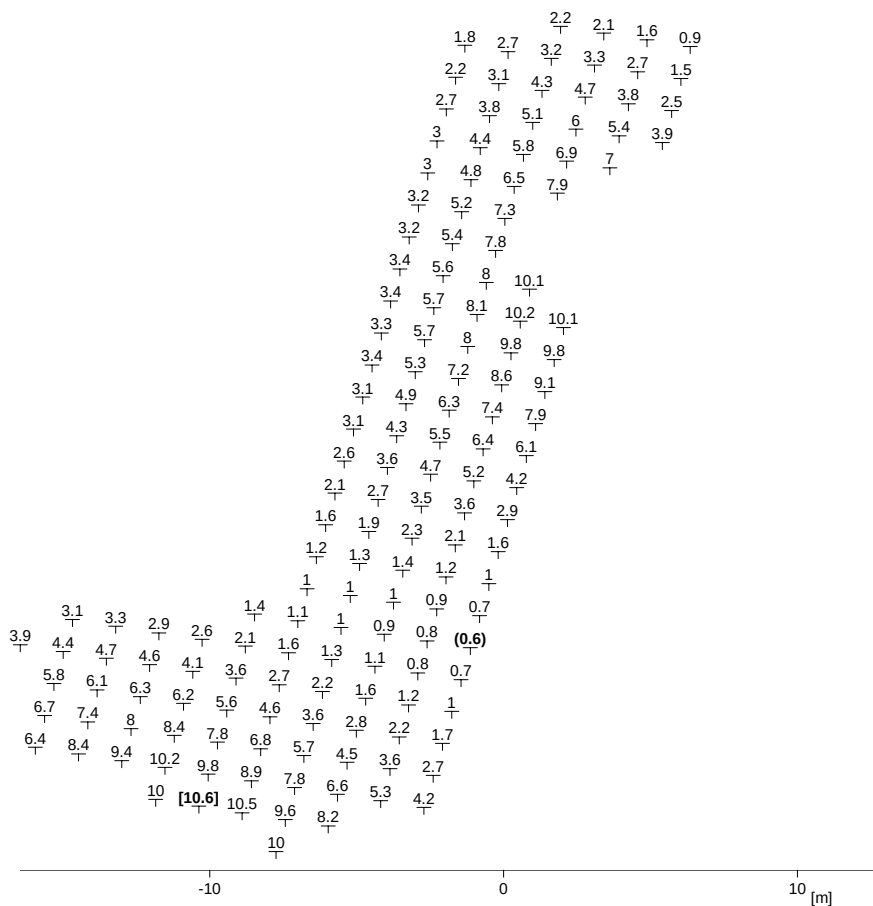
Part3

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.7 Table, Road 6 (E)



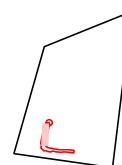
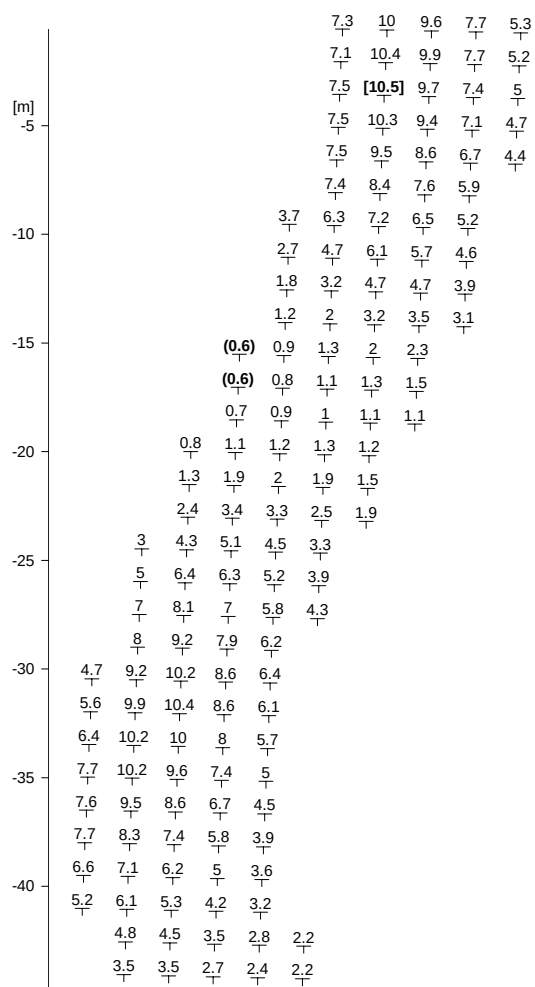
Part4

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.8 Table, Road 7 (E)



Part1

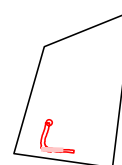
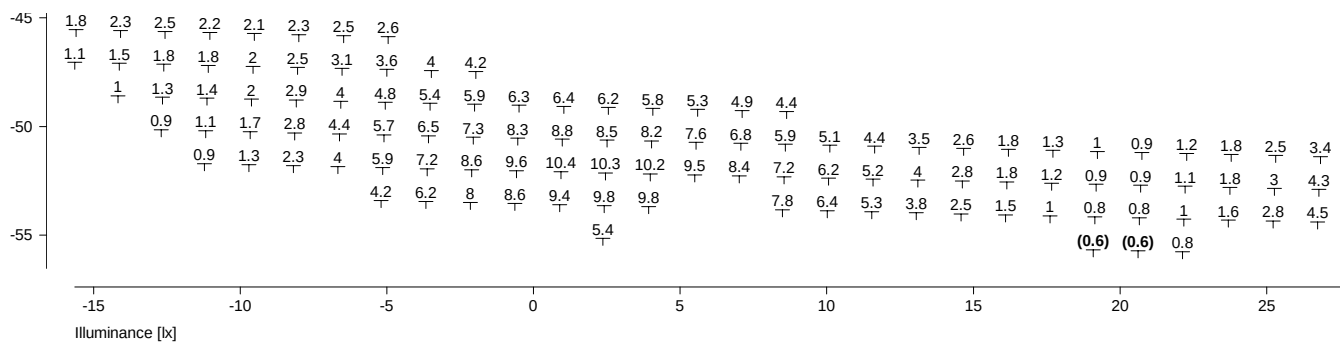
Height reference plane	: 0.03 m
Average illuminance	Em : 5 lx
Minimum illuminance	Emin : 0.6 lx
Maximum illuminance	Emax : 10.5 lx
Uniformity Uo	Emin/Em : 1 : 8.21 (0.12)
Diversity Ud	Emin/Emax : 1 : 17.13 (0.06)

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO2
 Date : 20.05.2022



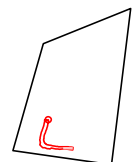
2.3 Calculation results, Exterior 1

2.3.8 Table, Road 7 (E)



Part3

2.3.8 Table, Road 7 (E)



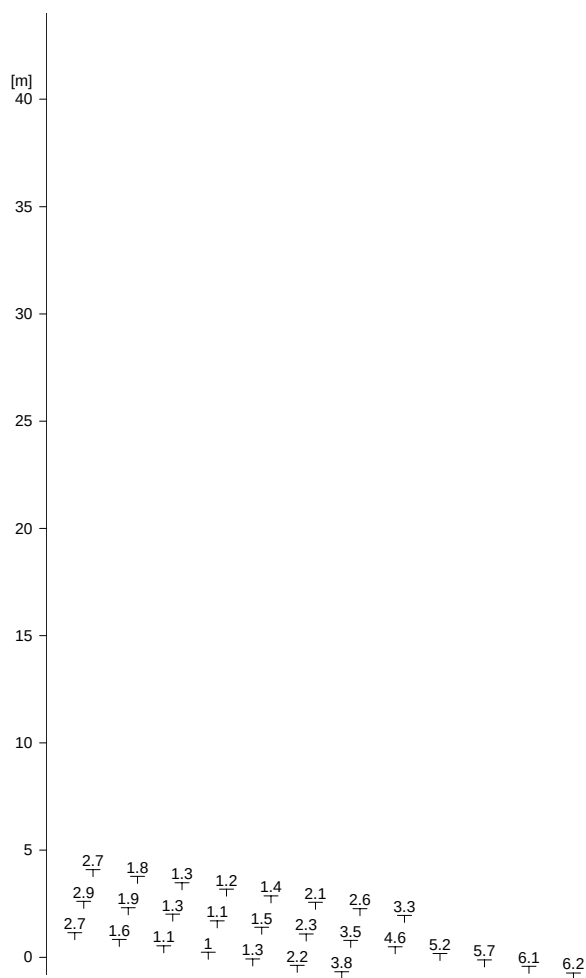
Boorley Green Maddoxford CAD Setup.rdf

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

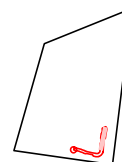
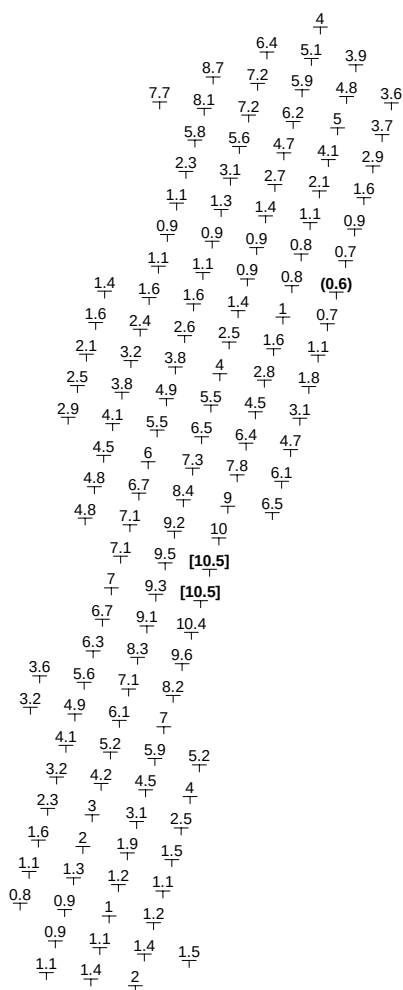
2.3.9 Table, Road 8 (E)



Part1

Height reference plane		: 0.03 m
Average illuminance	Em	: 4.4 lx
Minimum illuminance	Emin	: 0.6 lx
Maximum illuminance	Emax	: 10.5 lx
Uniformity Uo	Emin/Em	: 1 : 7.05 (0.14)
Diversity Ud	Emin/Emax	: 1 : 17.03 (0.06)

2.3.9 Table, Road 8 (E)



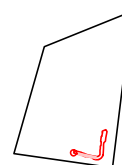
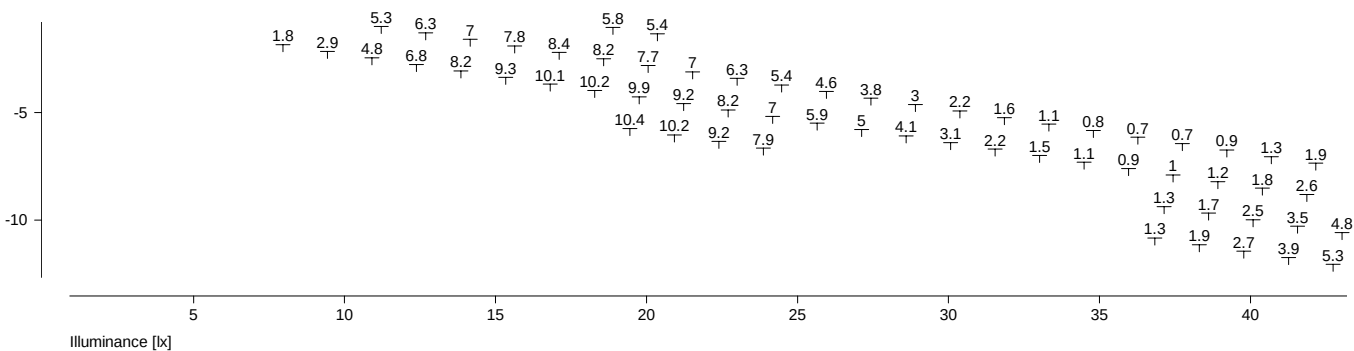
Part2

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.9 Table, Road 8 (E)



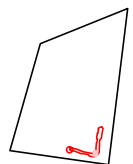
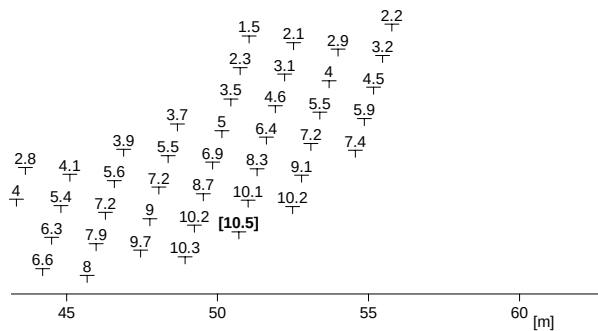
Part3

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO2
Date : 20.05.2022



2.3 Calculation results, Exterior 1

2.3.9 Table, Road 8 (E)



Part4