



Residential Street Lighting

Installation : LED Solar Powered Street Lighting

Project number : TLA/VIV/BOO

Customer : Vivid Solar Street Lighting

Processed by : DJT

Date : 17.05.2021

Project description:

Designed to S5 spec:

Average illuminance between 3 and 4.5 lumens.

Minimum illuminance 0.6 lumens.

All posts 6m high and angled 15°

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.

The Lumen Architect - Building Better Light!
E: info@thelumenarchitect.com W: www.thelumenarchitect.com

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1 Luminaire data

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

1.2.1 Data sheet

Manufacturer: E-Able Power

AL-A020 Integrated solar street light

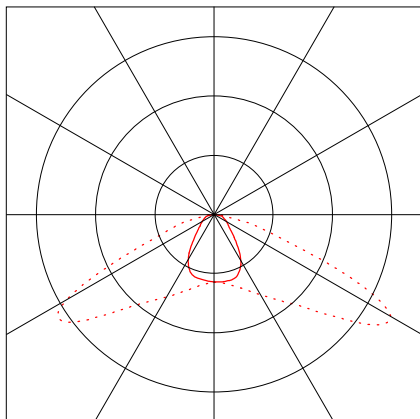
Luminaire data

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

Dimensions : 140 mm x 240 mm x 1 mm

Equipped with

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



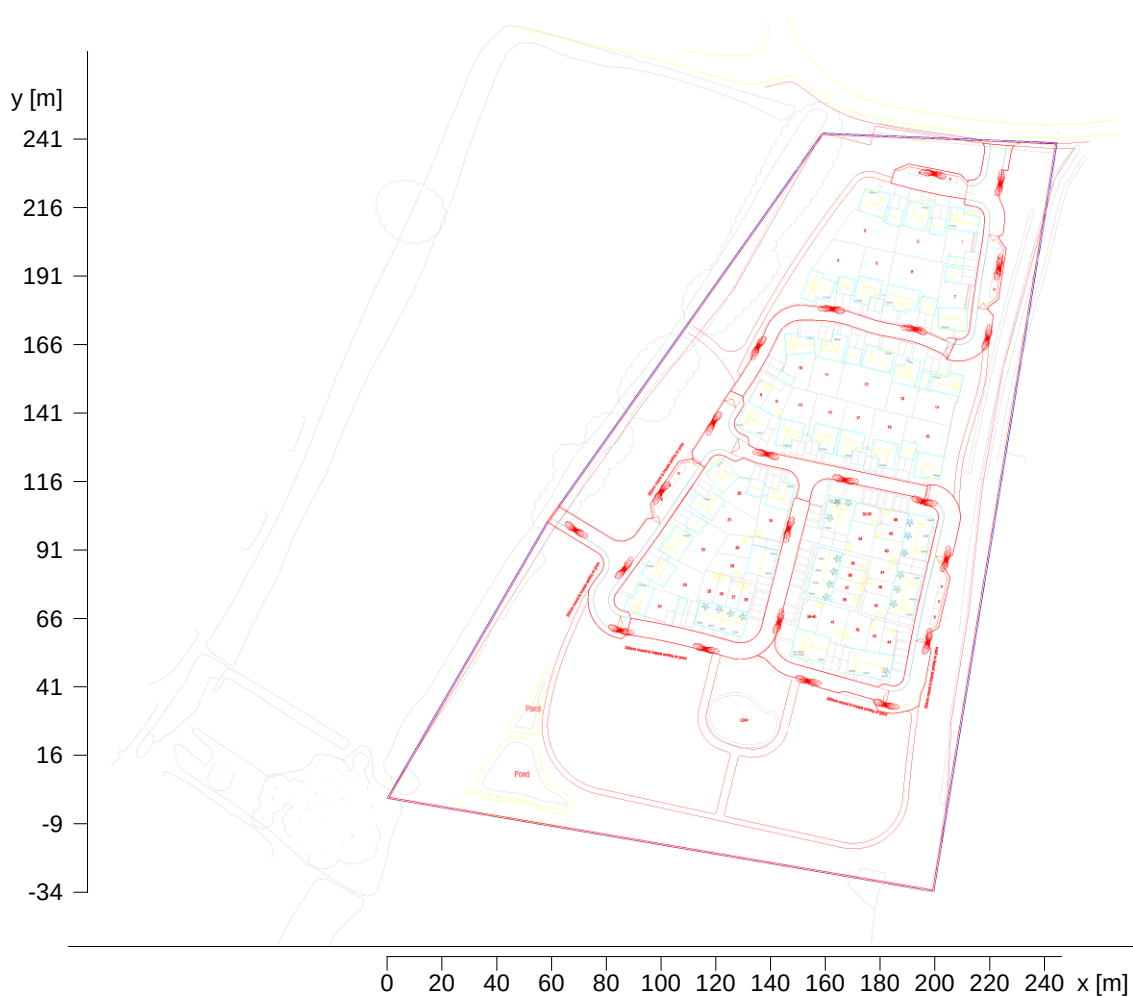
Object : Residential Street Lighting
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2 Room 1

2.1 Description, Room 1

2.1.1 Floor plan



Wall	x	y	Length	Reflectance
Floor				20.0 %
Ceiling				70.0 %
Room height		0.00 m		
Height of ref. plane		0.75 m		

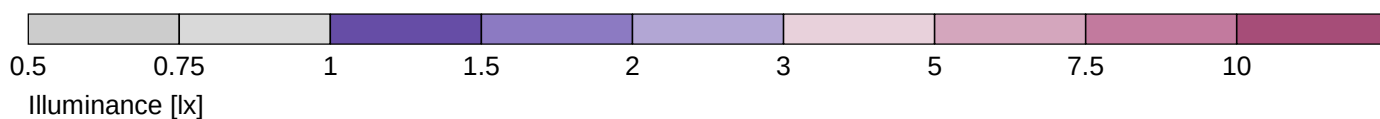
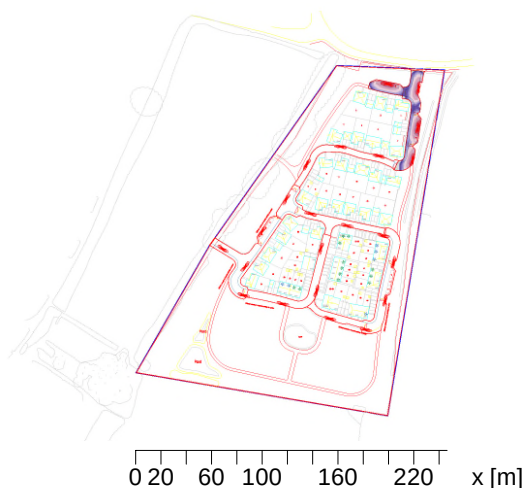
Object : Residential Street Lighting
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 Date : 17.05.2021



2 Room 1

2.2 Summary, Room 1

2.2.1 Result overview, Road 1



General

Calculation algorithm used	Average indirect fraction
Height of luminaire plane	6.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	44968 lm
Total power	396 W
Total power per area (39670.38 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 _o	Emin/Em	1:6.38 (0.16)
Diversity U _d	Emin/Emax	1:16.4 (0.06)

Type No. Make

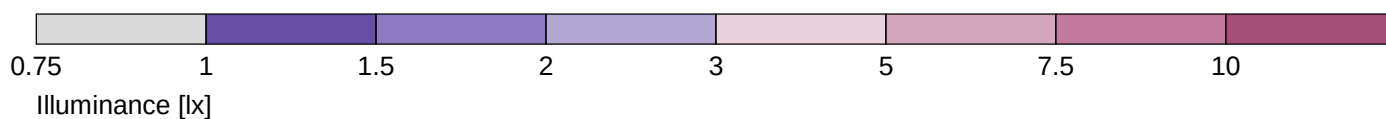
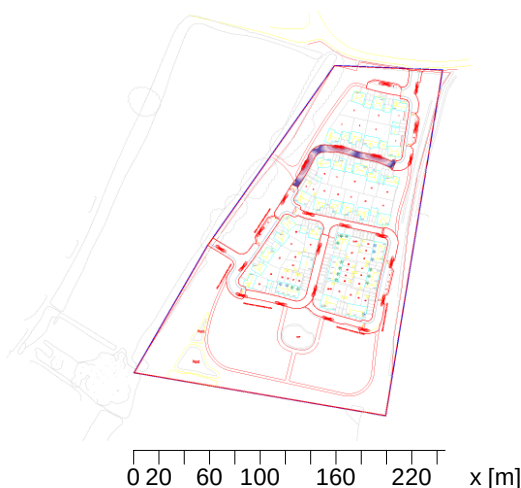
3	22	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.2 Summary, Room 1

2.2.2 Result overview, Road 2



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height of luminaire plane	6.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	44968 lm
Total power	396 W
Total power per area (39670.38 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.5 lx
Minimum illuminance	Emin	0.8 lx
Maximum illuminance	Emax	10.5 lx
Uniformity Uo	Emin/Em	1:5.79 (0.17)
Diversity Ud	Emin/Emax	1:13.6 (0.07)

Type No. Make

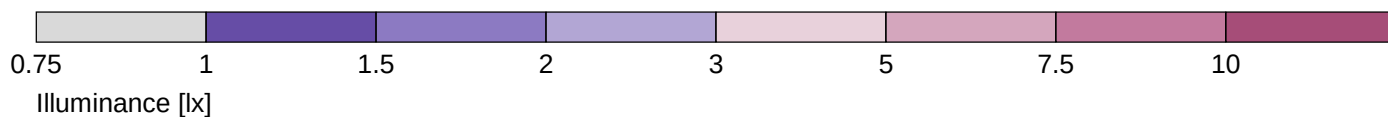
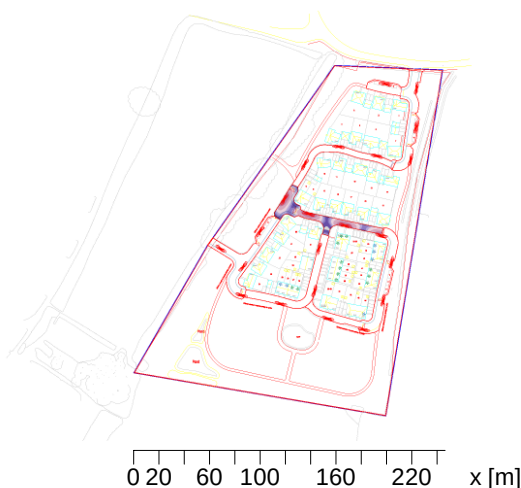
3	22	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.2 Summary, Room 1

2.2.3 Result overview, Road 3



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height of luminaire plane	6.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	44968 lm
Total power	396 W
Total power per area (39670.38 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	1:4.87 (0.21)
Diversity U _d	Emin/Emax	1:11.8 (0.08)

Type No. Make

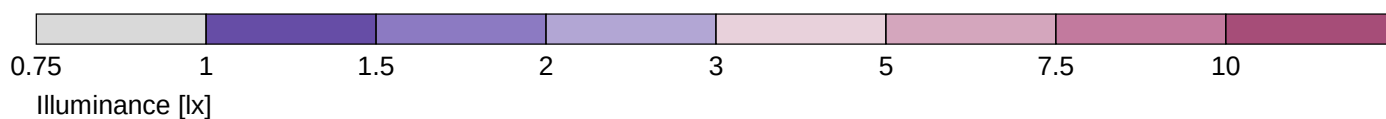
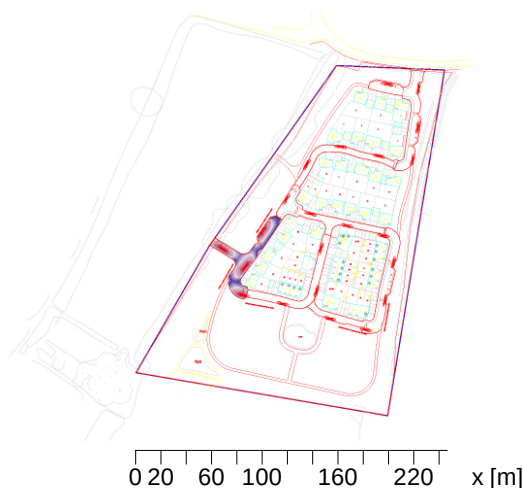
3	22	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.2 Summary, Room 1

2.2.4 Result overview, Road 4



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height of luminaire plane	6.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	44968 lm
Total power	396 W
Total power per area (39670.38 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.5 lx
Minimum illuminance	Emin	0.8 lx
Maximum illuminance	Emax	10.6 lx
Uniformity U _o	Emin/Em	1:6.01 (0.17)
Diversity U _d	Emin/Emax	1:14.1 (0.07)

Type No. Make

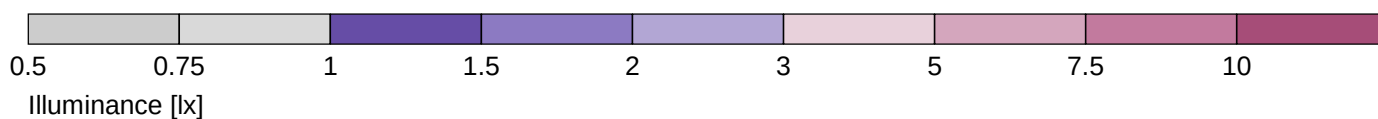
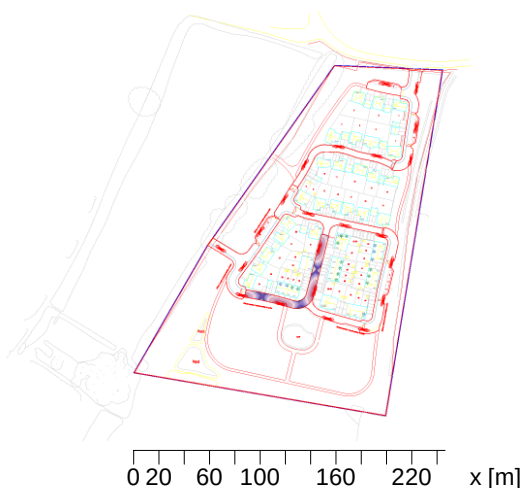
3	22	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.2 Summary, Room 1

2.2.5 Result overview, Road 5



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height of luminaire plane	6.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	44968 lm
Total power	396 W
Total power per area (39670.38 m ²)	0.01 W/m ²

Illuminance

Average illuminance	Em	4.5 lx
Minimum illuminance	Emin	0.7 lx
Maximum illuminance	Emax	10.6 lx
Uniformity Uo	Emin/Em	1:6.09 (0.16)
Diversity Ud	Emin/Emax	1:14.5 (0.07)

Type No. Make

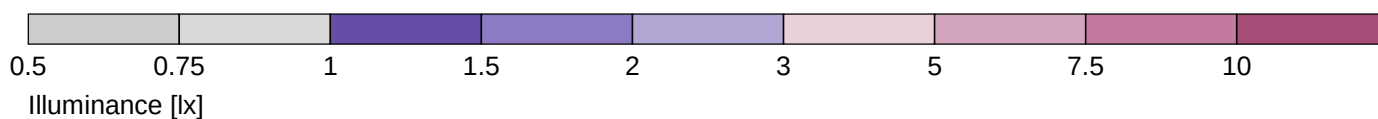
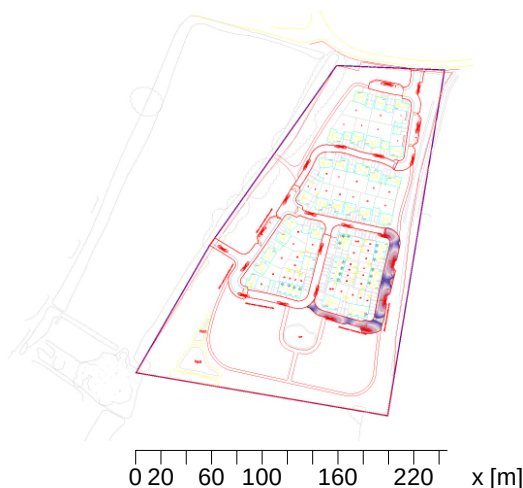
3	22	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.2 Summary, Room 1

2.2.6 Result overview, Road 6



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.03 m
Height of luminaire plane	6.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	44968 lm
Total power	396 W
Total power per area (39670.38 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 Uo	Emin/Em	1:7.23 (0.14)
Diversity Ud	Emin/Emax	1:17.7 (0.06)

Type No. Make

3	22	E-Able Power
	Order No.	: AL-A020
	Luminaire name	: Integrated solar street light
	Equipment	: 1 x 20 W / 2553 lm

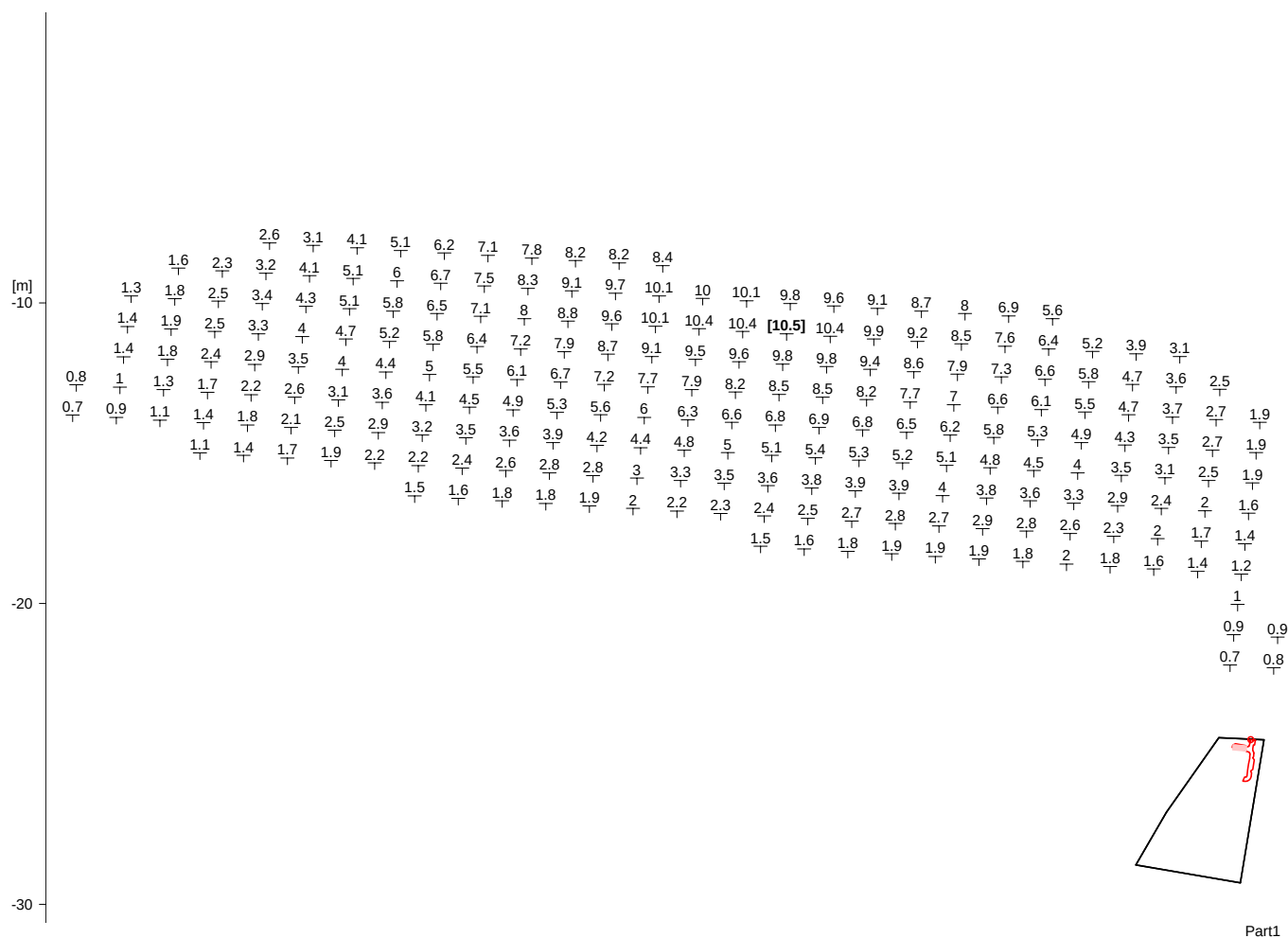
Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2 Room 1

2.3 Calculation results, Room 1

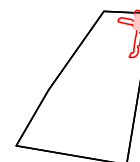
2.3.3 Table, Road 1 (E)



Average illuminance	Em	: 4.1 lx
Minimum illuminance	Emin	: 0.6 lx
Maximum illuminance	Emax	: 10.5 lx
Uniformity Uo	Emin/Em	: 1 : 6.38 (0.16)
Diversity Ud	Emin/Emax	: 1 : 16.36 (0.06)



2.3.3 Table, Road 1 (E)

[illegible]

Part2

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021

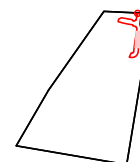


2 Room 1

2.3 Calculation results, Room 1

2.3.3 Table, Road 1 (E)

	1	1.1	1.2	1.3	1.6	1.6	1.5
	1	1.2	1.4	1.6	2	2.1	2
	1.1	1.3	1.6	1.9	2.5	2.7	2.7
	1.2	1.5	1.9	2.3	3	3.4	
	1.4	1.8	2.2	2.7	3.5	4.1	4.4
	1.5	2	2.6	3.2	3.8	4.7	5.2
	1.4	2.2	2.9	3.6	4.4	5.2	5.8
	1.5	2.2	3.2	4.1	4.9	5.8	6.4
	1.6	2.3	3.4	4.4	5.4	6.3	7.1
	1.7	2.5	3.5	4.7	5.9	7.1	7.9
	1.7	2.6	3.7	5.1	6.5	7.8	8.7
	1.8	2.7	4	5.3	6.9	8.4	9.5
	1.2	1.8	2.8	4.1	5.7	7.3	8.8
	1.3	2	3	4.4	6	7.5	9.1
	1.4	2.1	3.2	4.6	6.2	7.8	9.3
	1.4	2.2	3.2	4.7	6.4	8	9.5
	1.5	2.3	3.4	4.9	6.5	8	9.4
	1.6	2.5	3.6	4.9	6.4	7.8	9
	1.8	2.5	3.5	4.9	6.1	7.3	8.3
	1.8	2.5	3.7	4.8	5.8	6.7	7.6
	1.7	2.5	3.6	4.6	5.5	6.3	7
	1.7	2.6	3.4	4.3	5.1	5.9	6.5
	1.9	2.5	3.2	3.9	4.8	5.4	5.8
	1.8	2.3	2.9	3.5	4.3	4.7	4.9
	1.7	2.1	2.6	3.2	3.8	4	3.9
	1.6	2	2.3	2.7	3.4	3.4	3.2
	1.6	1.9	2.2	2.6	3.1	3.1	2.8
	1.3	1.6	1.9	2.2	2.6	3.1	3.2
	1.3	1.6	2	2.3	2.8	3.4	
	1.4	1.7	2.1	2.6	3.1	3.8	
	1.3	1.9	2.4	2.9	3.5	4.4	4.8
	1.3	2					



Part4

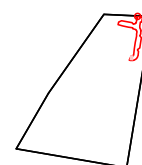
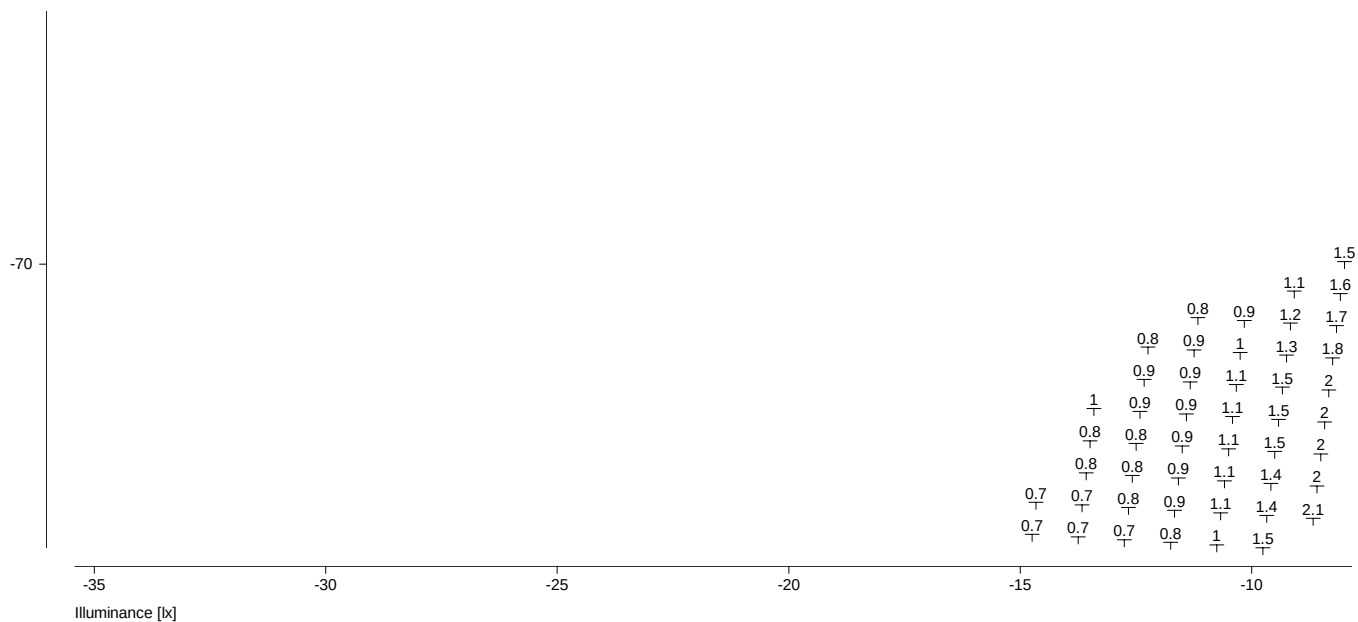
Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



2 Room 1

2.3 Calculation results, Room 1

2.3.3 Table, Road 1 (E)



Part5

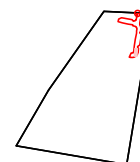
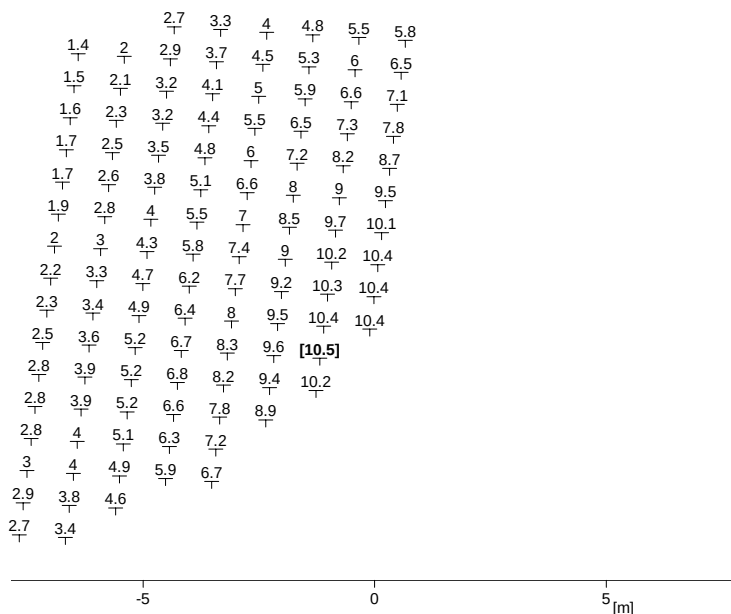
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 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2 Room 1

2.3 Calculation results, Room 1

2.3.3 Table, Road 1 (E)

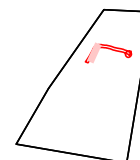


Part6



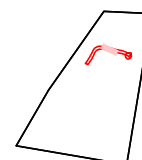
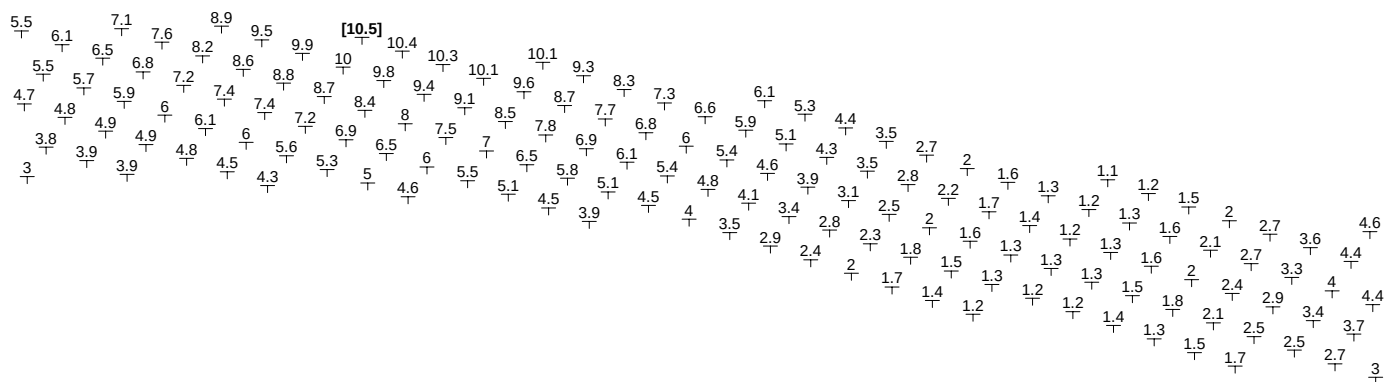
2.3.4 Table, Road 2 (E)

Part1





2.3.4 Table, Road 2 (E)



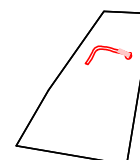
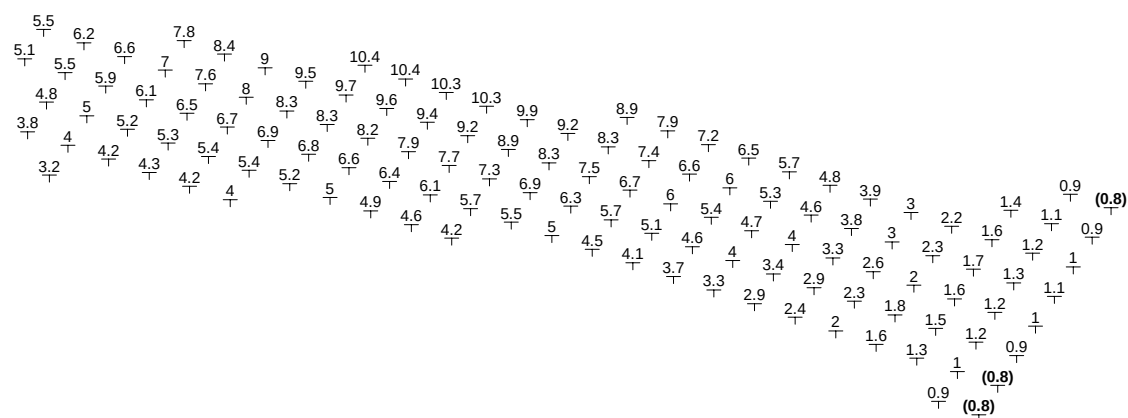
Part2

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



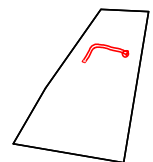
2.3 Calculation results, Room 1

2.3.4 Table, Road 2 (E)



Part3

2.3.4 Table, Road 2 (E)



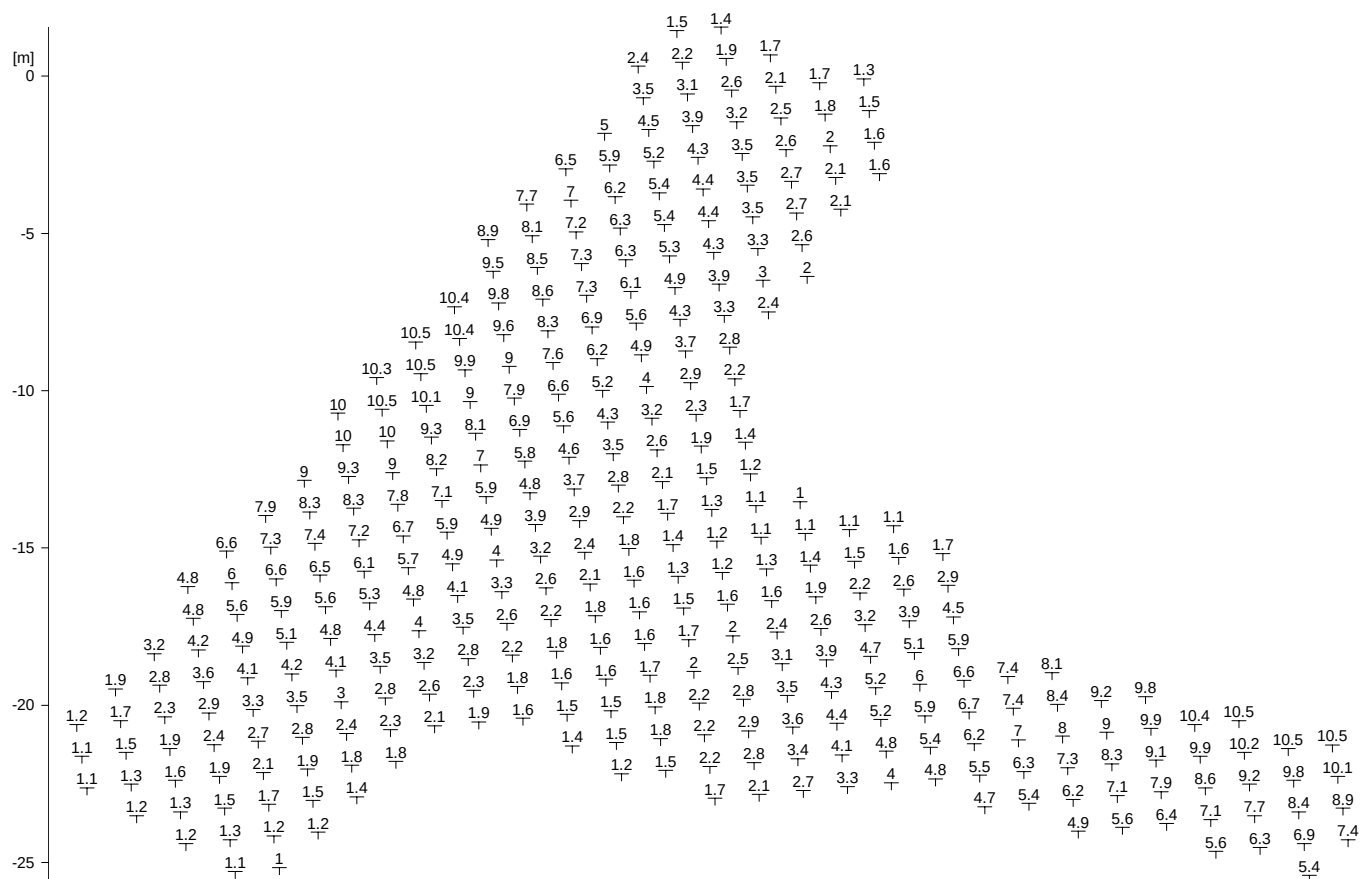
Boorley.rdf

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



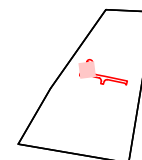
2.3 Calculation results, Room 1

2.3.5 Table, Road 3 (E)

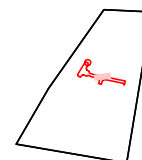
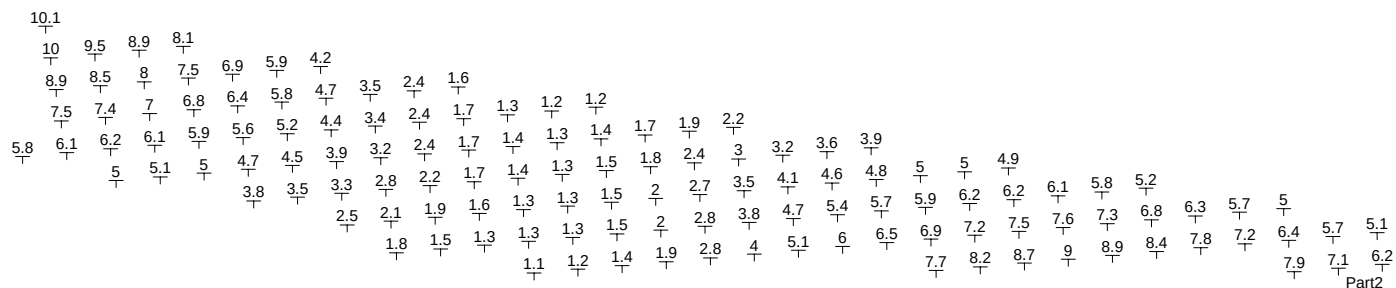


Part1

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 : 4.87 (0.21)
Diversity Ud	Emin/Emax : 1 : 11.77 (0.08)



2.3.5 Table, Road 3 (E)



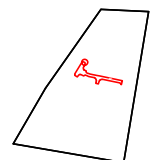
Object : Residential Street Lighting
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Date : 17.05.2021



2.3 Calculation results, Room 1

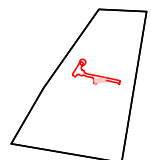
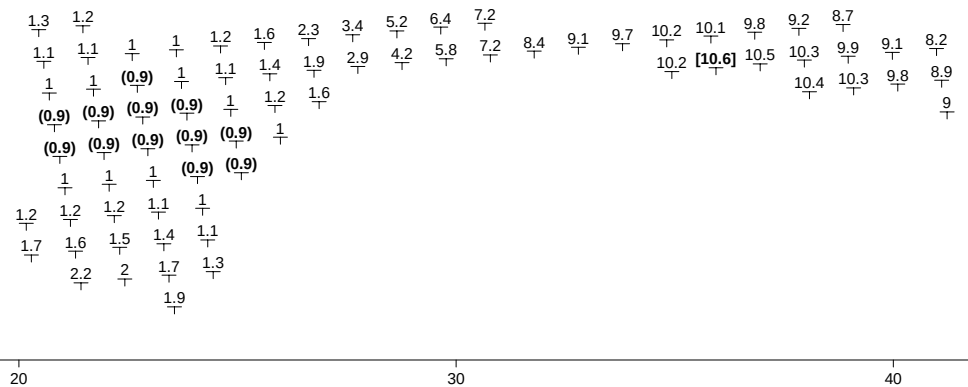
2.3.5 Table, Road 3 (E)

4.5
├
5.5
├
4.8
├
4.1
├
3.5
├
2.7
├
2.1
├



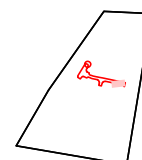
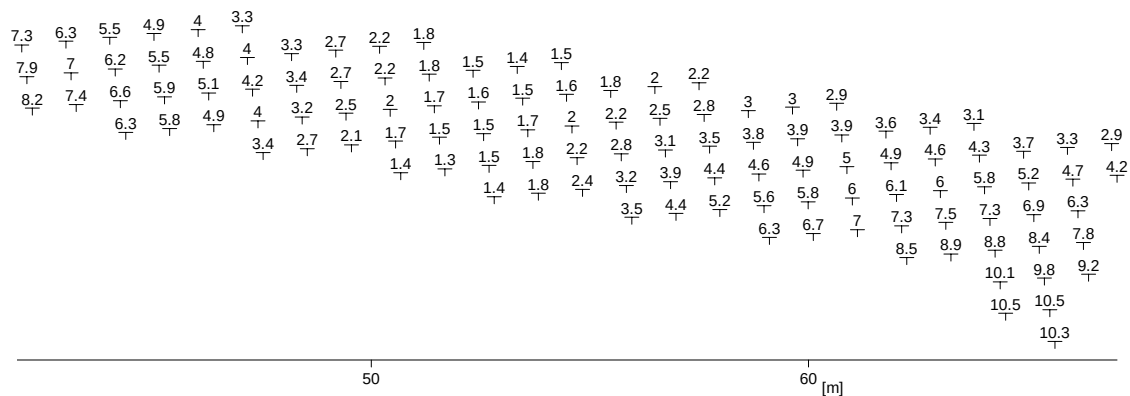
Part3

2.3.5 Table, Road 3 (E)



Part5

2.3.5 Table, Road 3 (E)



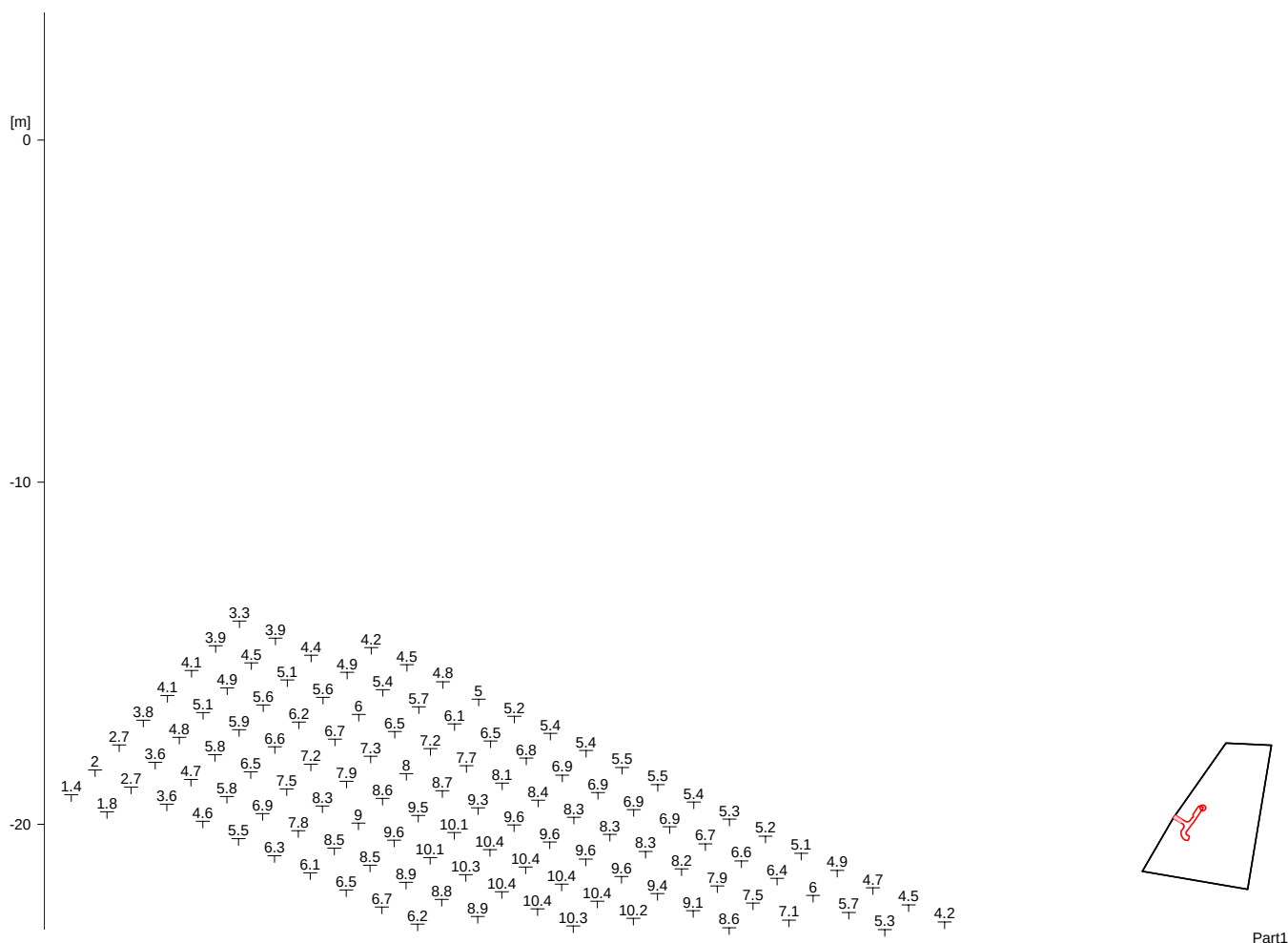
Part6

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.6 Table, Road 4 (E)



Part1

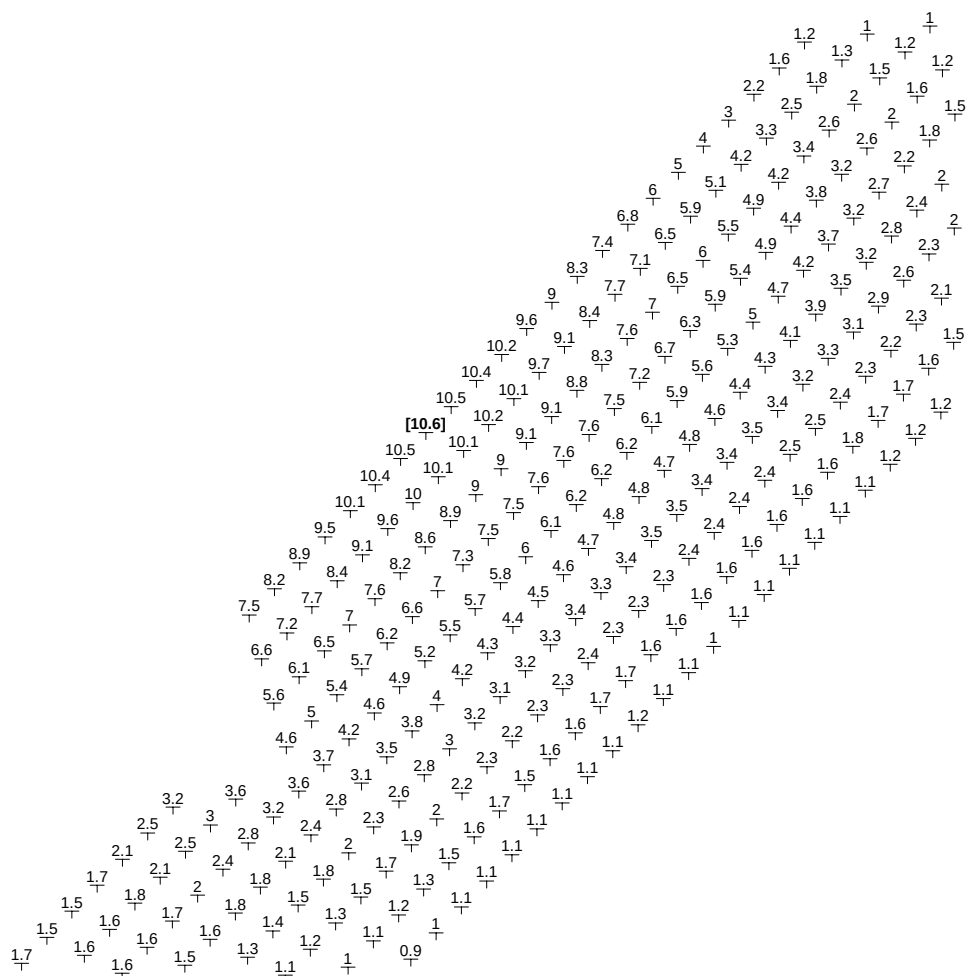
Height reference plane		: 0.03 m
Average illuminance	Em	: 4.5 lx
Minimum illuminance	Emin	: 0.8 lx
Maximum illuminance	Emax	: 10.6 lx
Uniformity Uo	Emin/Em	: 1 : 6.01 (0.17)
Diversity Ud	Emin/Emax	: 1 : 14.12 (0.07)

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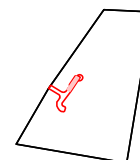


2.3 Calculation results, Room 1

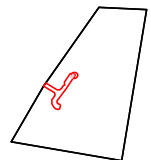
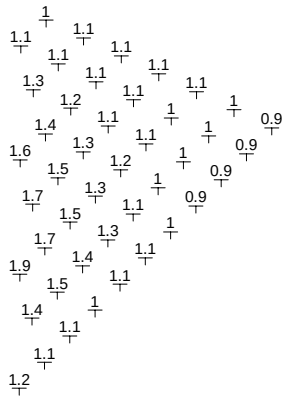
2.3.6 Table, Road 4 (E)



Part2

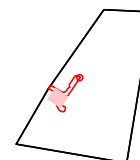
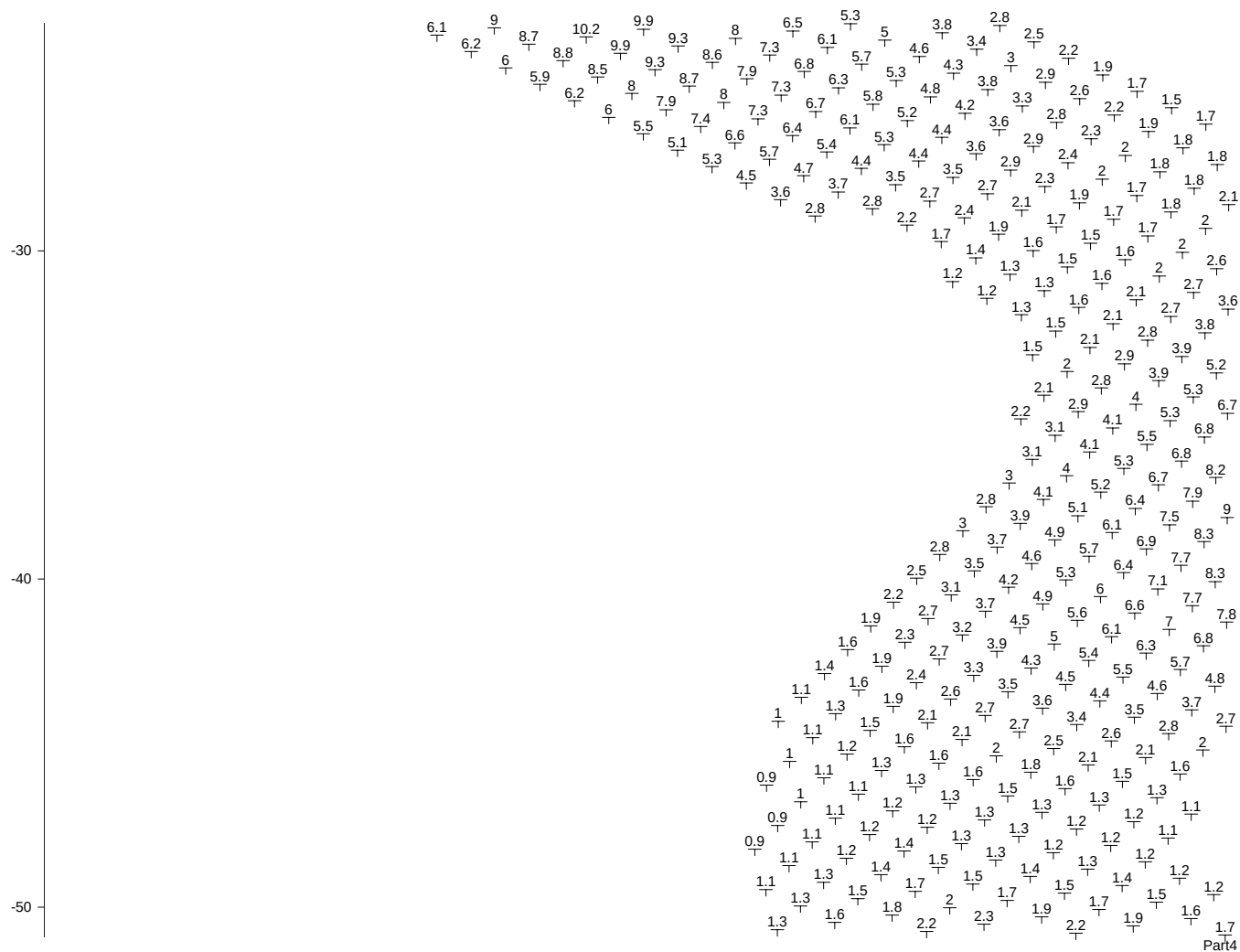


2.3.6 Table, Road 4 (E)



The Lumen Architect - Building Better Light!
E: info@thelumenarchitect.com W: www.thelumenarchitect.com

2.3.6 Table, Road 4 (E)

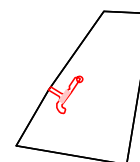
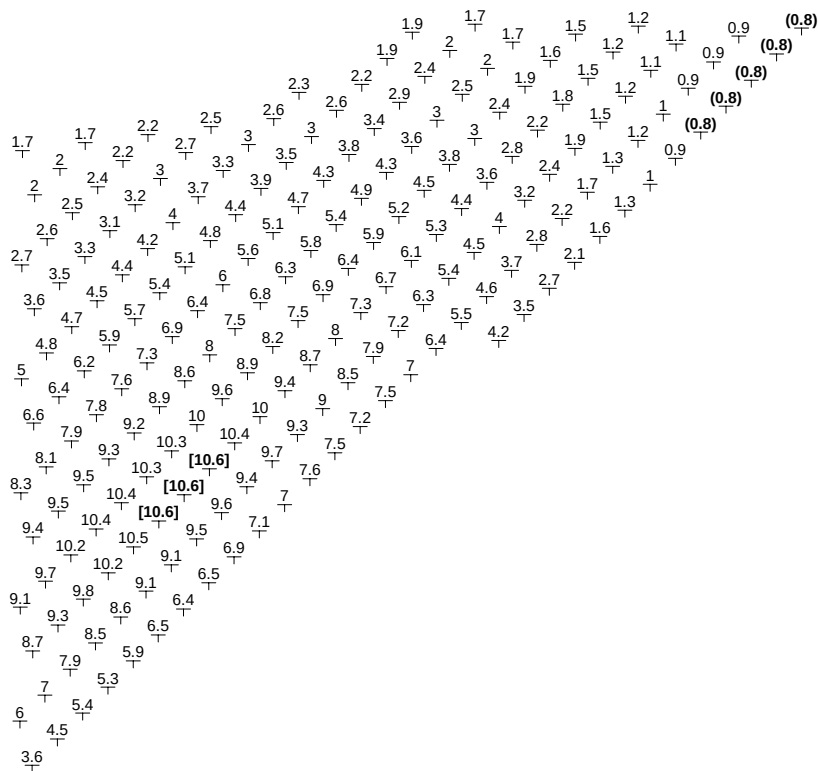


Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.6 Table, Road 4 (E)



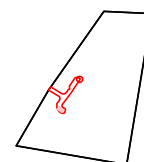
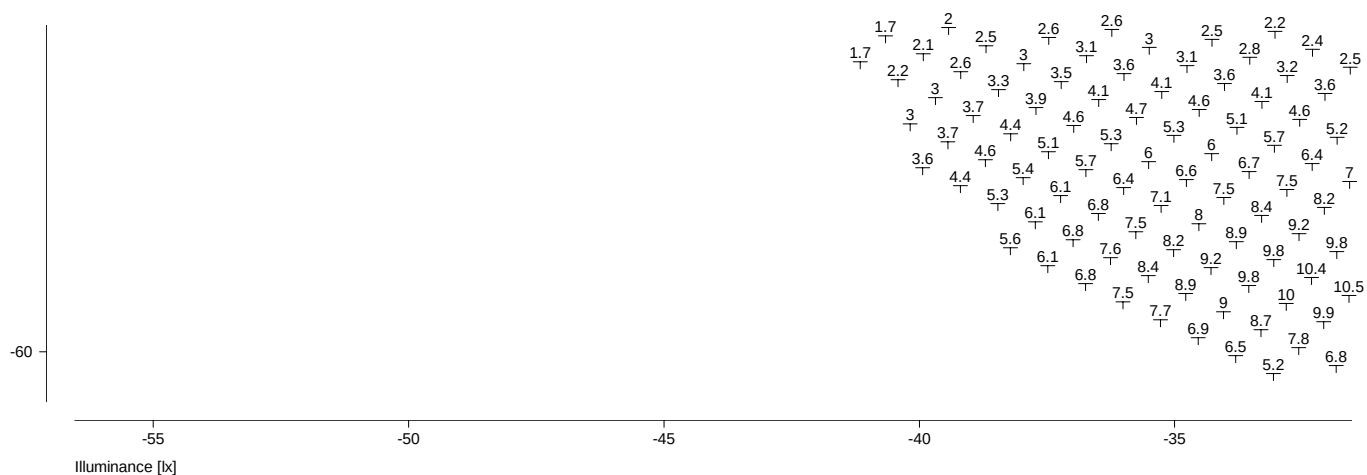
Part5

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.6 Table, Road 4 (E)



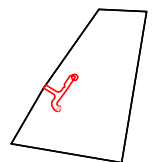
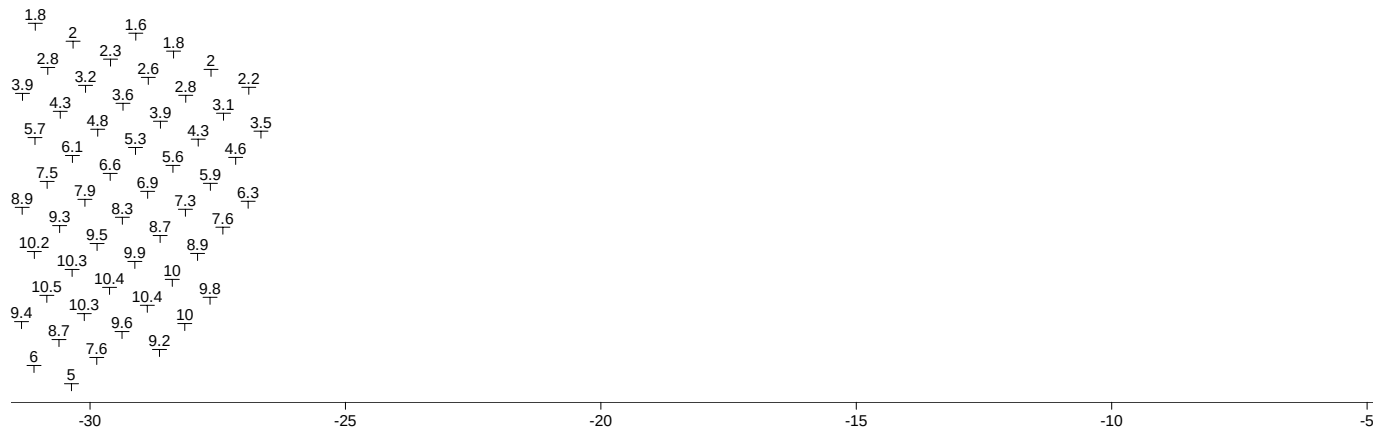
Part7

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.6 Table, Road 4 (E)



Part8

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.7 Table, Road 5 (E)



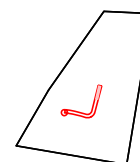
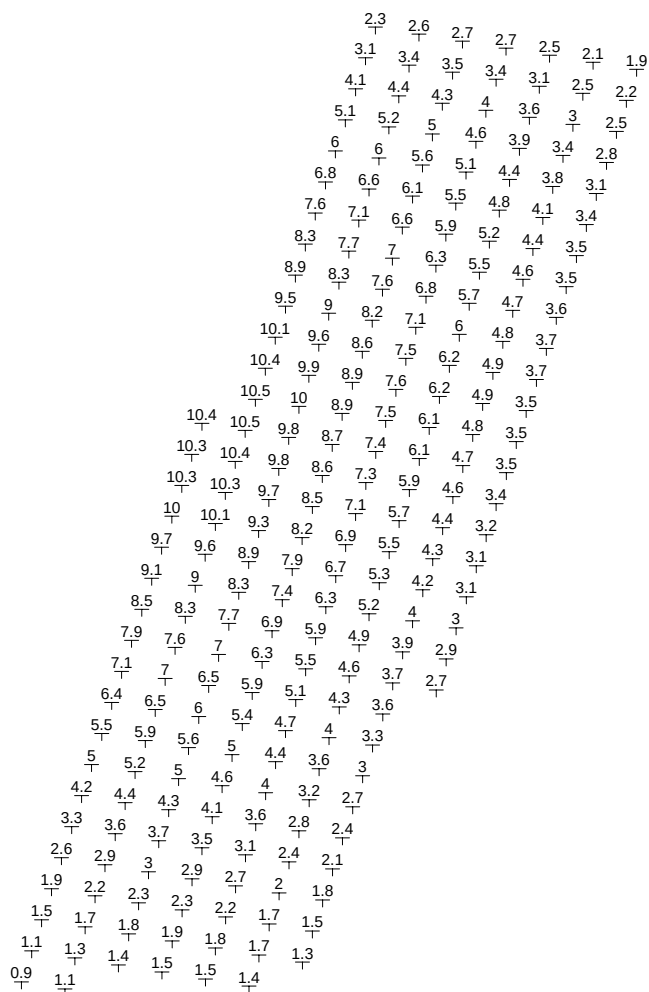
Height reference plane		: 0.03 m
Average illuminance	Em	: 4.5 lx
Minimum illuminance	Emin	: 0.7 lx
Maximum illuminance	Emax	: 10.6 lx
Uniformity Uo	Emin/Em	: 1 : 6.09 (0.16)
Diversity Ud	Emin/Emax	: 1 : 14.46 (0.07)

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.7 Table, Road 5 (E)



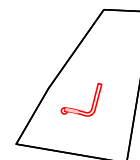
Part3

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



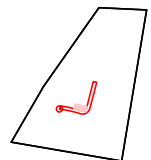
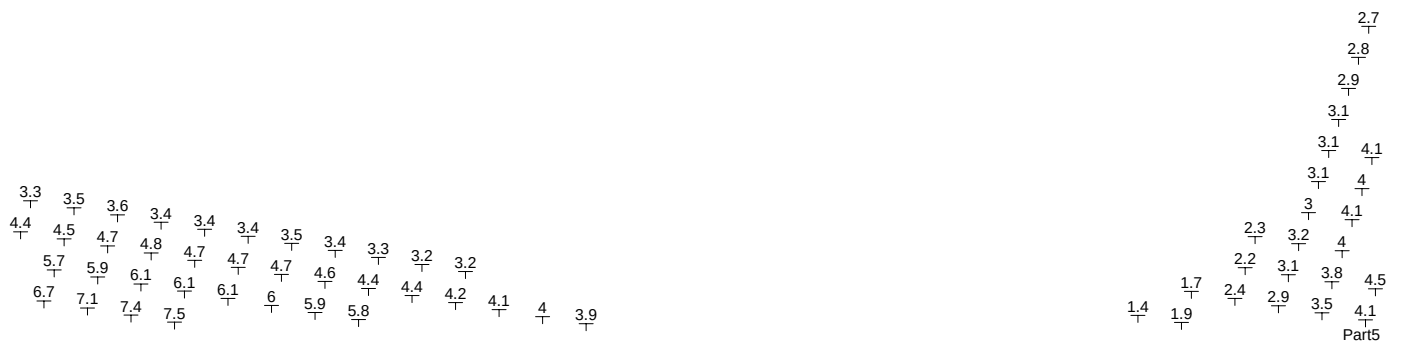
2.3 Calculation results, Room 1

2.3.7 Table, Road 5 (E)





2.3.7 Table, Road 5 (E)

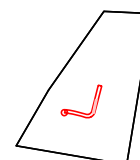
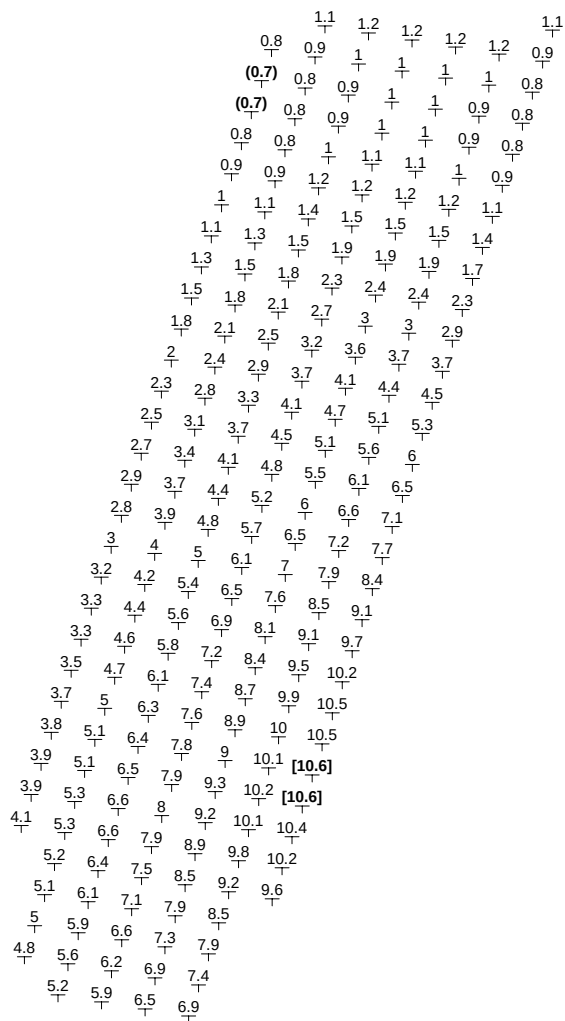


Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.7 Table, Road 5 (E)



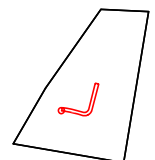
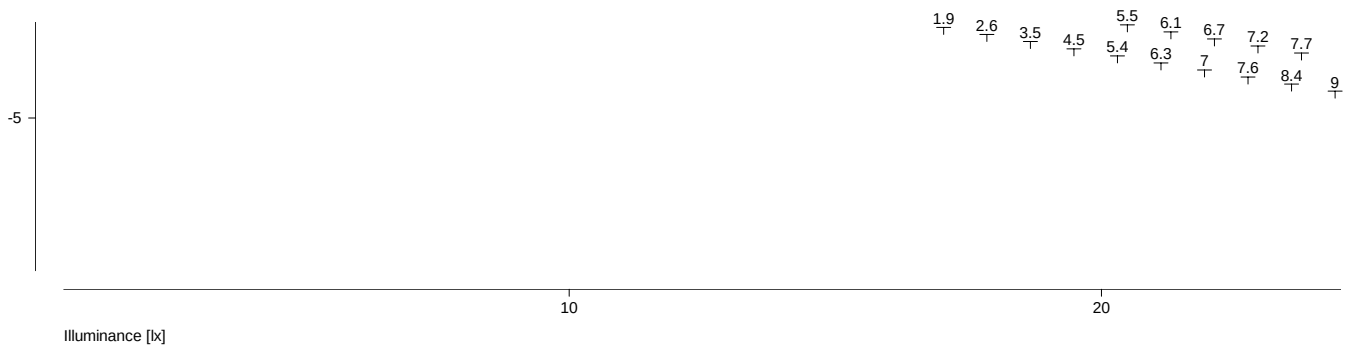
Part6

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



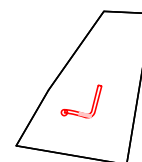
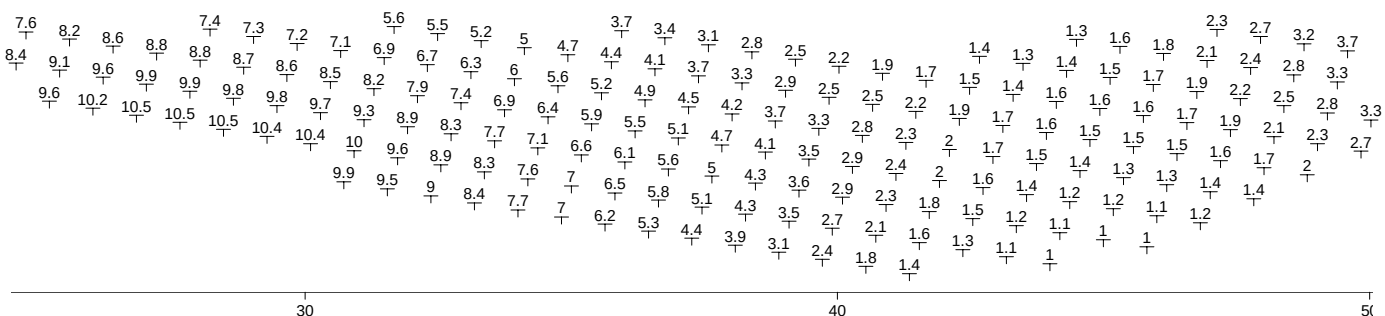
2.3 Calculation results, Room 1

2.3.7 Table, Road 5 (E)



Part7

2.3.7 Table, Road 5 (E)



Part8

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021

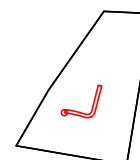


2.3 Calculation results, Room 1

2.3.7 Table, Road 5 (E)

4.8 5.5 6
4.4 4.9 5.3
3.9 4.3
3.6

0 60 [m]



Part9

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.8 Table, Road 6 (E)



Part1

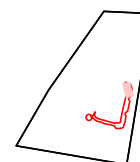
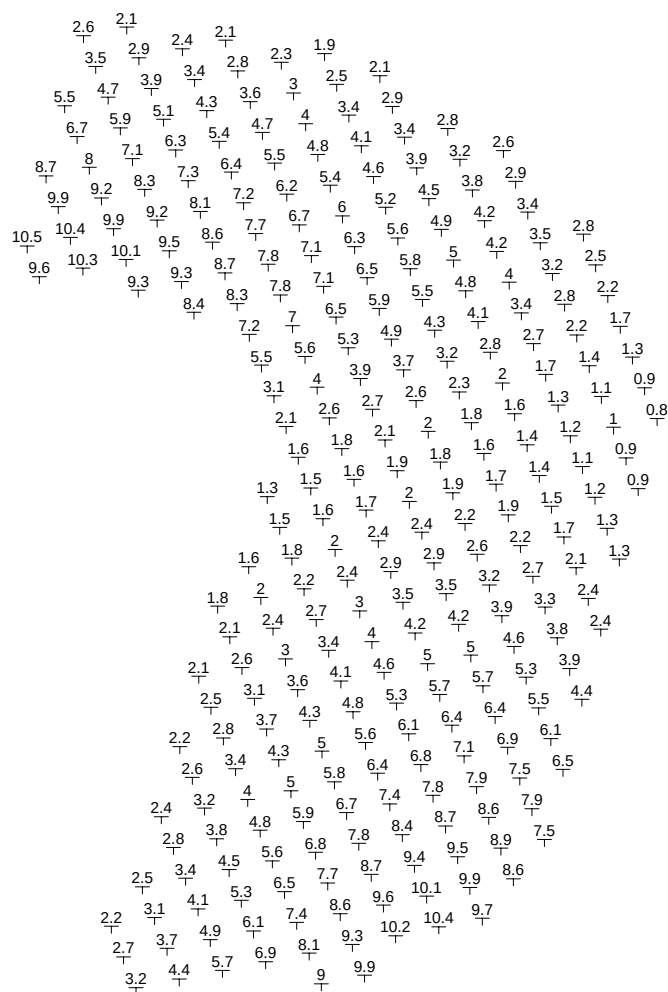
Height reference plane		: 0.03 m
Average illuminance	Em	: 4.3 lx
Minimum illuminance	Emin	: 0.6 lx
Maximum illuminance	Emax	: 10.6 lx
Uniformity Uo	Emin/Em	: 1 : 7.23 (0.14)
Diversity Ud	Emin/Emax	: 1 : 17.72 (0.06)

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.8 Table, Road 6 (E)



Part3

Object : Residential Street Lighting
Installation : LED Solar Powered Street Lighting
Project number : TLA/VIV/BOO
Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.8 Table, Road 6 (E)

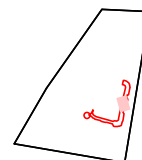
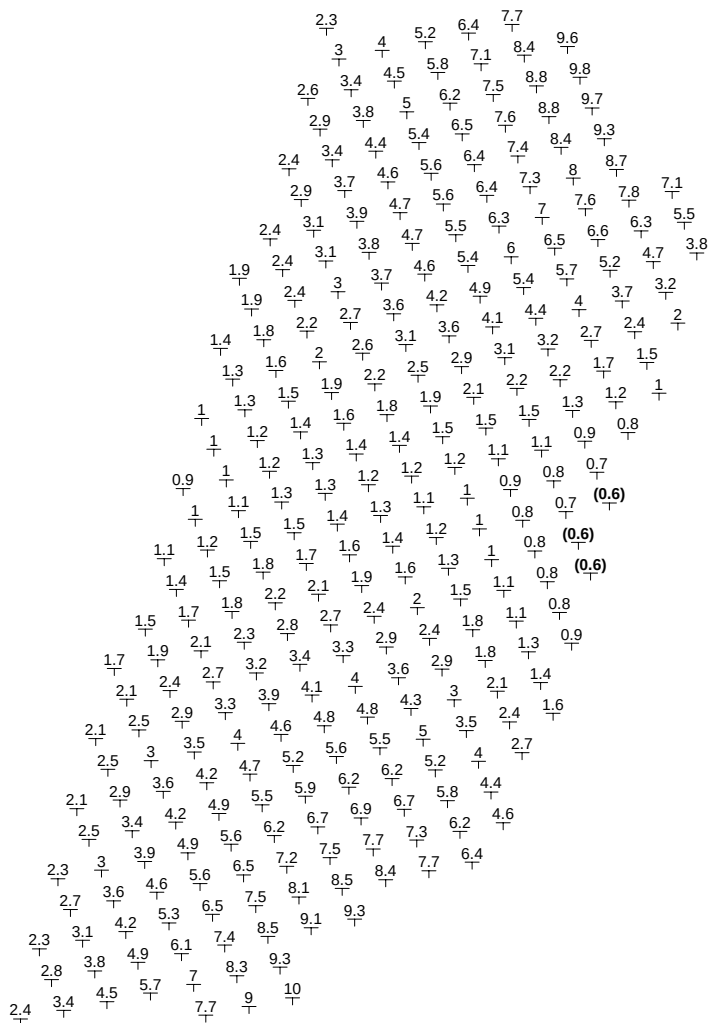


Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.8 Table, Road 6 (E)



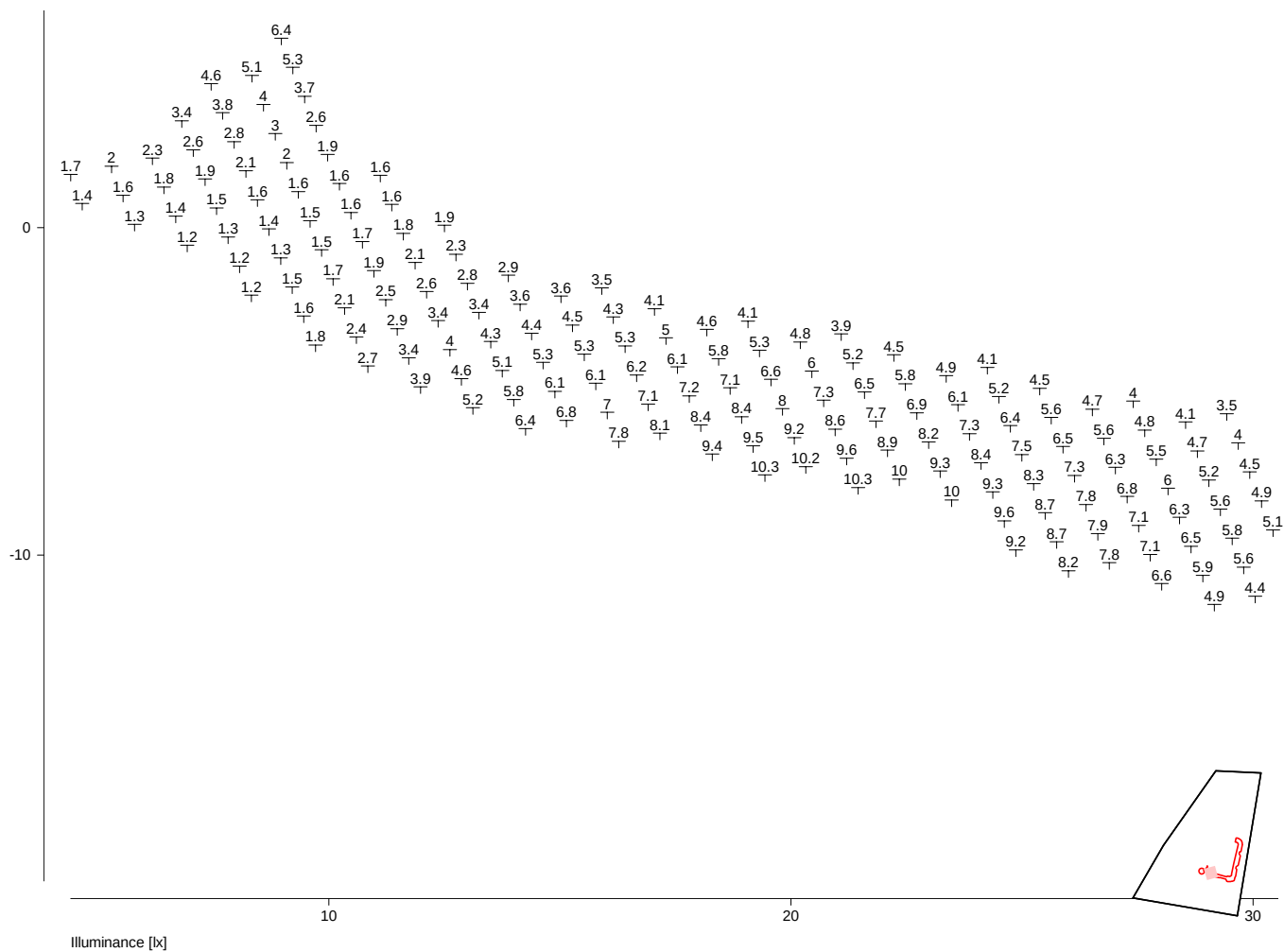
Part6

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.8 Table, Road 6 (E)



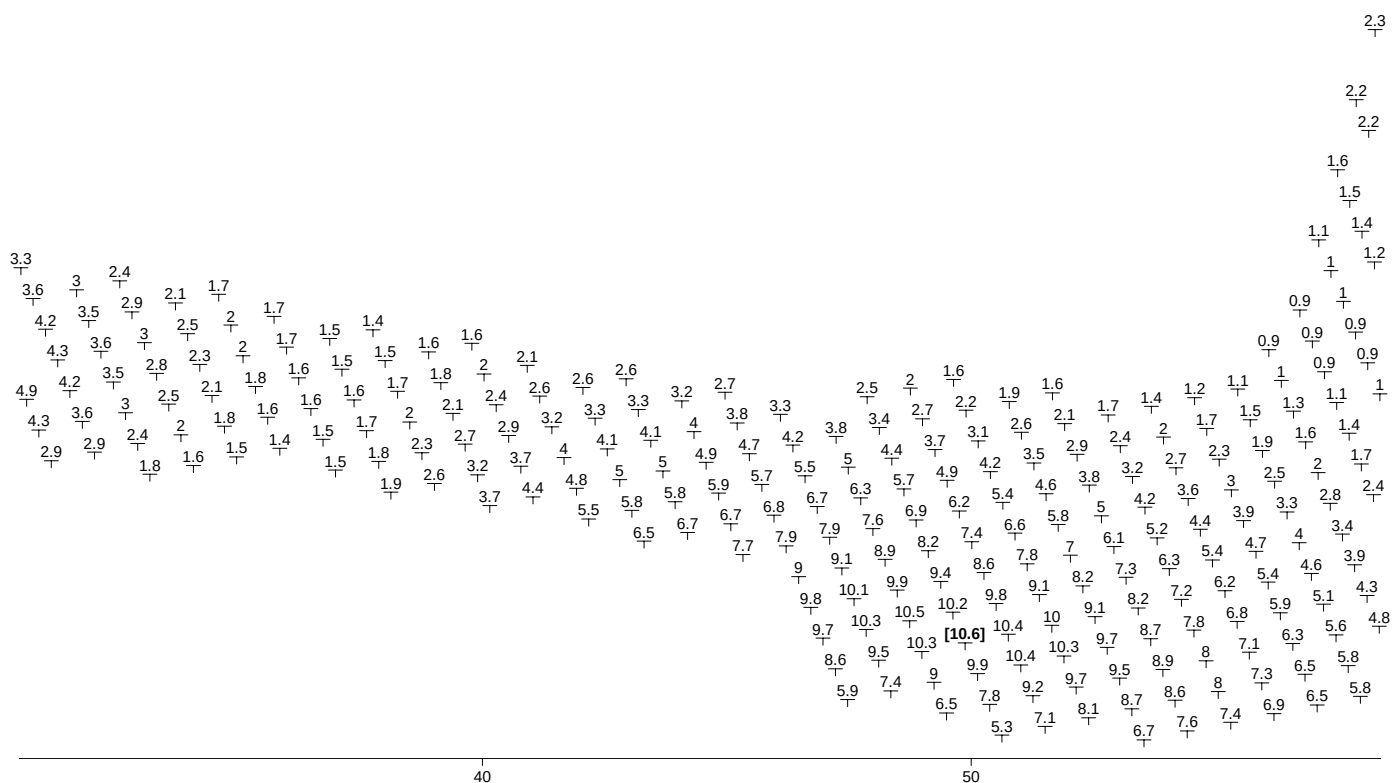
Part7

Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021

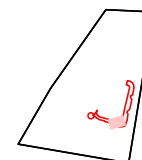


2.3 Calculation results, Room 1

2.3.8 Table, Road 6 (E)



Part8

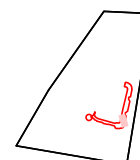
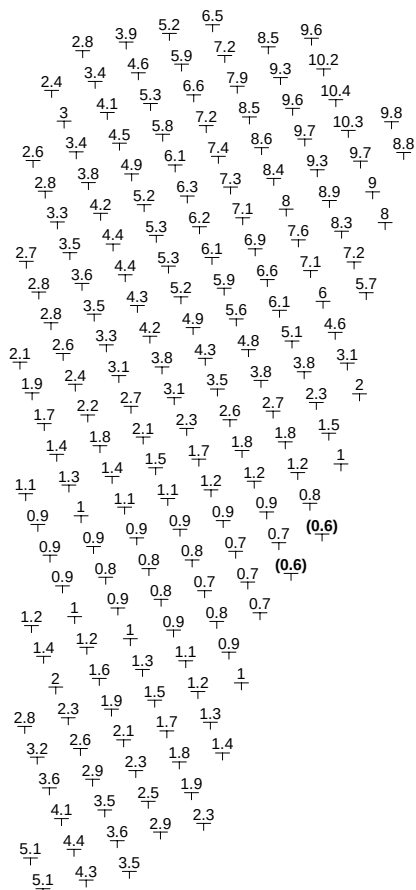


Object : Residential Street Lighting
 Installation : LED Solar Powered Street Lighting
 Project number : TLA/VIV/BOO
 Date : 17.05.2021



2.3 Calculation results, Room 1

2.3.8 Table, Road 6 (E)



Part9