

DUB13  
**Lighting Calculation**

PREPARED FOR



Issue V0

08 September 2022

Ref: DUB13-CL-XX-E009-V0-PL-BMD

# Lighting Calculation

prepared for



**Project: DUB13**

**United Kingdom**

**Ref: DUB13-CL-XX-E009-V0-PL-BMD**

**Issue V0**

**08 September 2022**

prepared by

**Burns & McDonnell**

**London, UK**

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## Issue History

ISSUE	DATE	COMMENTS	BY	CHECKED	APPROVED
V0	08 Sep 2022	Issue for V0	JG	MJ	PM

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# 1. Executive Summary

These lighting calculations were prepared for the external area of the DUB13 project to demonstrate compliance with the lighting design criteria contained within the VDC OPR, VDC basis of design document and local regulations. The areas of concern such as the loading bay, parking areas, site entrances, walkways and roads are included, with calculation surfaces used where required to provide accurate outputs.

## 2. Lighting calculations

# DUB-13 EXTERIOR LIGHTING PLAN

Partner for Contact:  
Order No.:  
Company:  
Customer No.:

Date: 08.09.2022  
Operator:

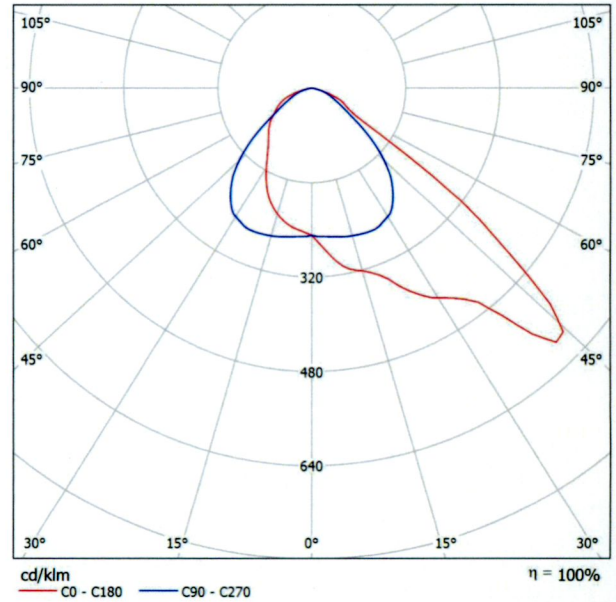


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### PHILIPS BVP125 T25 OFA52 LED80/- NO / Luminaire Data Sheet

See our luminaire catalog for an image of the luminaire.

Luminous emittance 1:



Luminaire classification according to CIE: 100  
CIE flux code: 46 91 99 100 100

Due to missing symmetry properties, no UGR table can be displayed for this luminaire.

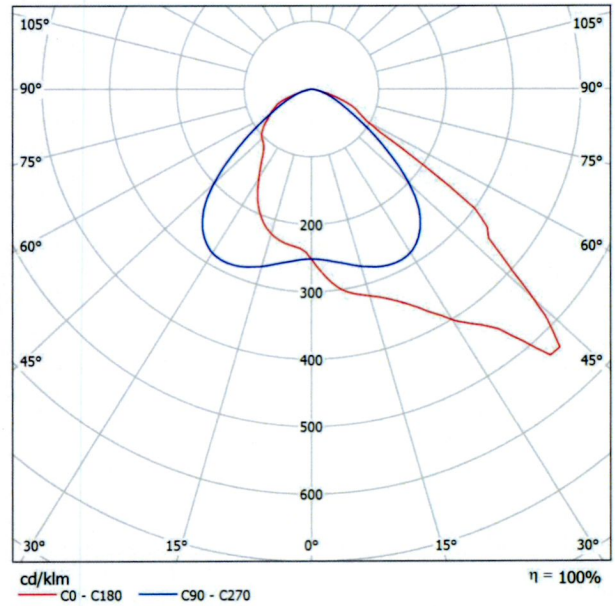


Operator  
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### PHILIPS BVP130 T25 OFA52 LED160/- NO / Luminaire Data Sheet

Luminous emittance 1:

See our luminaire catalog for an image of the luminaire.

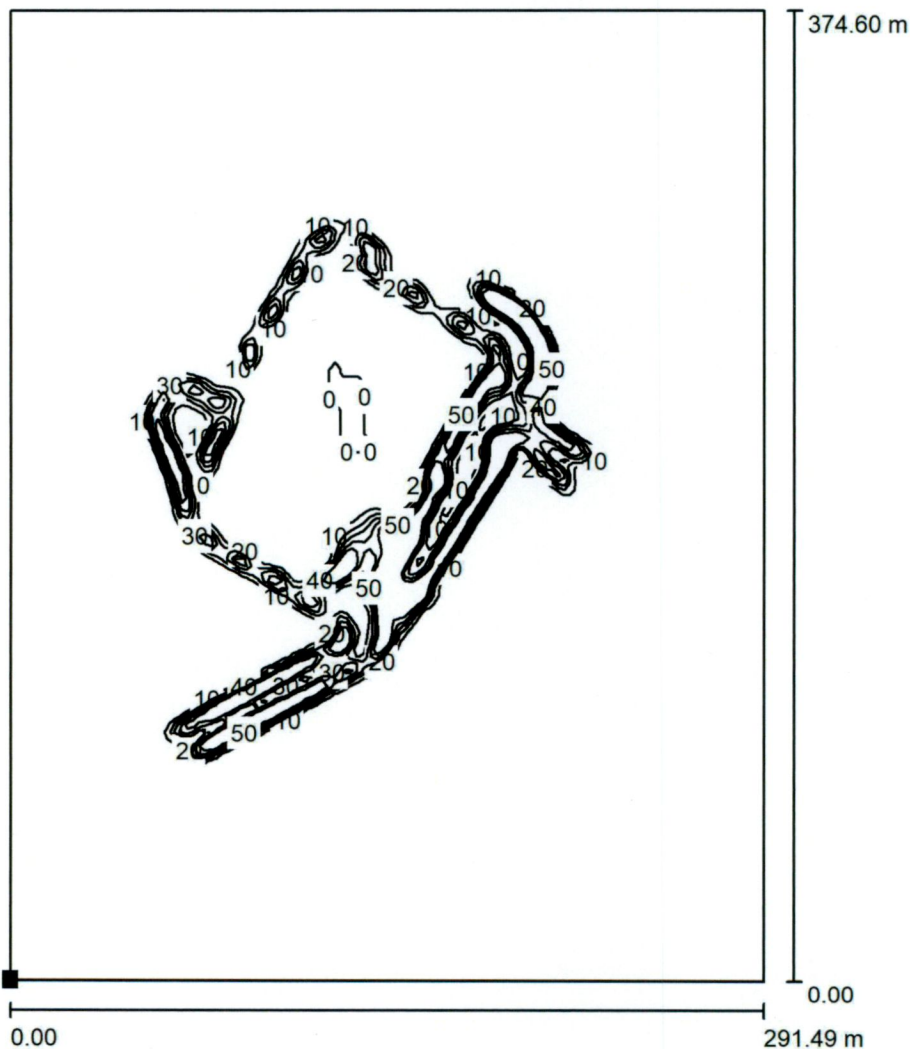


Luminaire classification according to CIE: 100  
CIE flux code: 46 90 99 100 100

Due to missing symmetry properties, no UGR table can be displayed for this luminaire.

Operator  
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Exterior Scene 1 / Ground Element 1 / Surface 1 / Isolines (E)



Values in Lux, Scale 1 : 2930

Position of surface in external scene:  
Marked point:  
(1340.200 m, 134.300 m, 0.000 m)

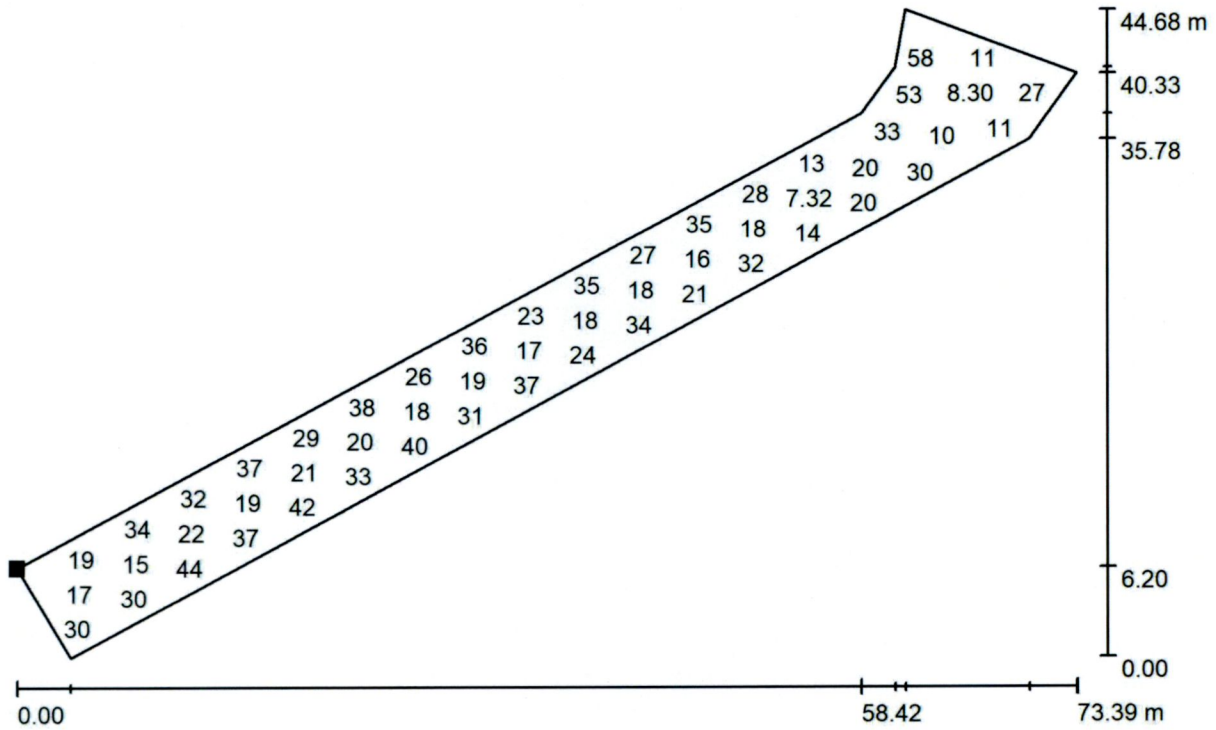


Grid: 128 x 128 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
3.70	0.00	154	0.000	0.000

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**Exterior Scene 1 / AREA 1 ROAD ENTRANCE SOUTH WEST / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 525

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1408.512 m, 231.175 m, 0.750 m)

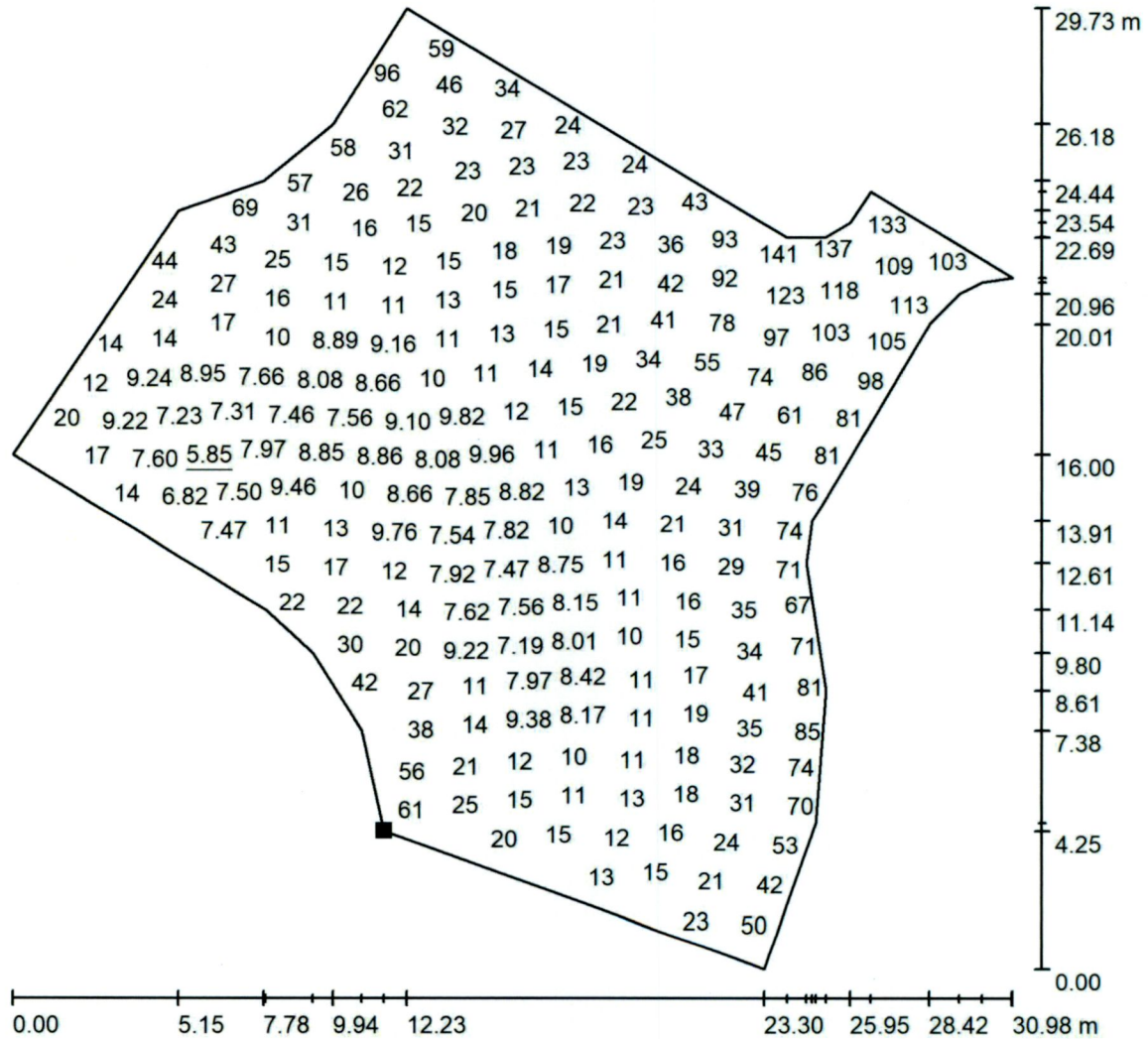


Grid: 128 x 64 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
34	6.97	111	0.207	0.063

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Exterior Scene 1 / AREA 2 AREA TO LOADING BAY / Value Chart (E, Perpendicular)



Values in Lux, Scale 1 : 233

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1470.023 m, 269.648 m, 0.750 m)

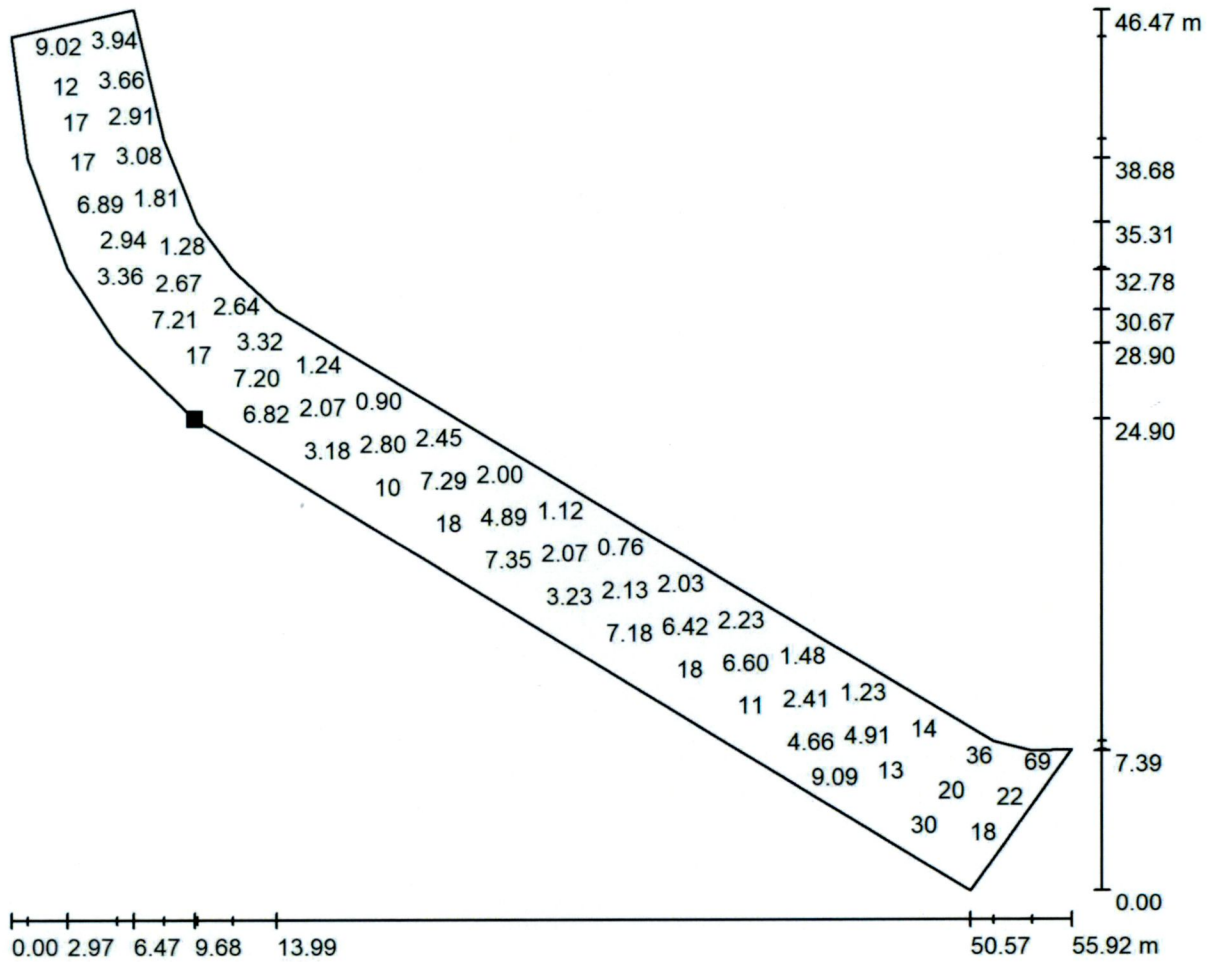


Grid: 128 x 128 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
31	5.85	172	0.187	0.034

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Exterior Scene 1 / AREA 3 PLAN EAST ACCESS ROAD / Value Chart (E, Perpendicular)



Values in Lux, Scale 1 : 400

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1417.408 m, 306.399 m, 0.750 m)

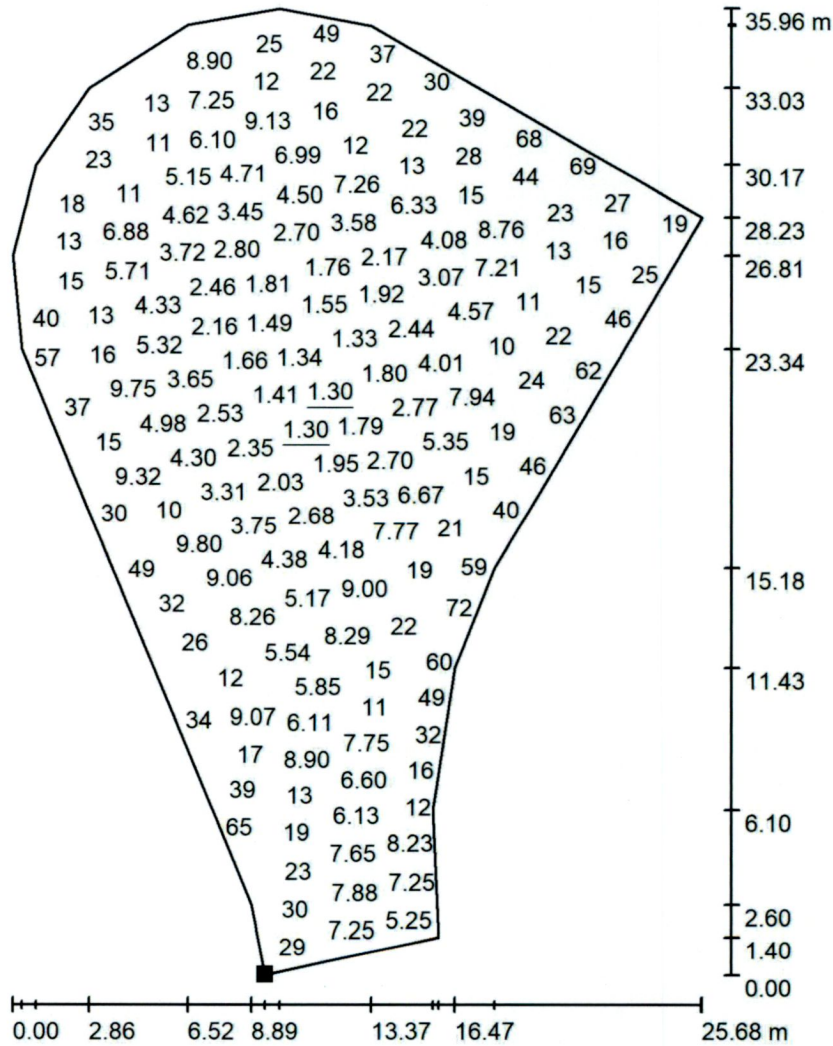


Grid: 128 x 64 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
13	0.58	92	0.046	0.006

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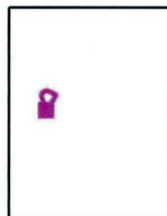
**Exterior Scene 1 / AREA 4 NORTH WEST ROAD SPACE / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 282

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1407.726 m, 326.567 m, 0.750 m)



Grid: 128 x 128 Points

$E_{av}$  [lx]  
17

$E_{min}$  [lx]  
1.30

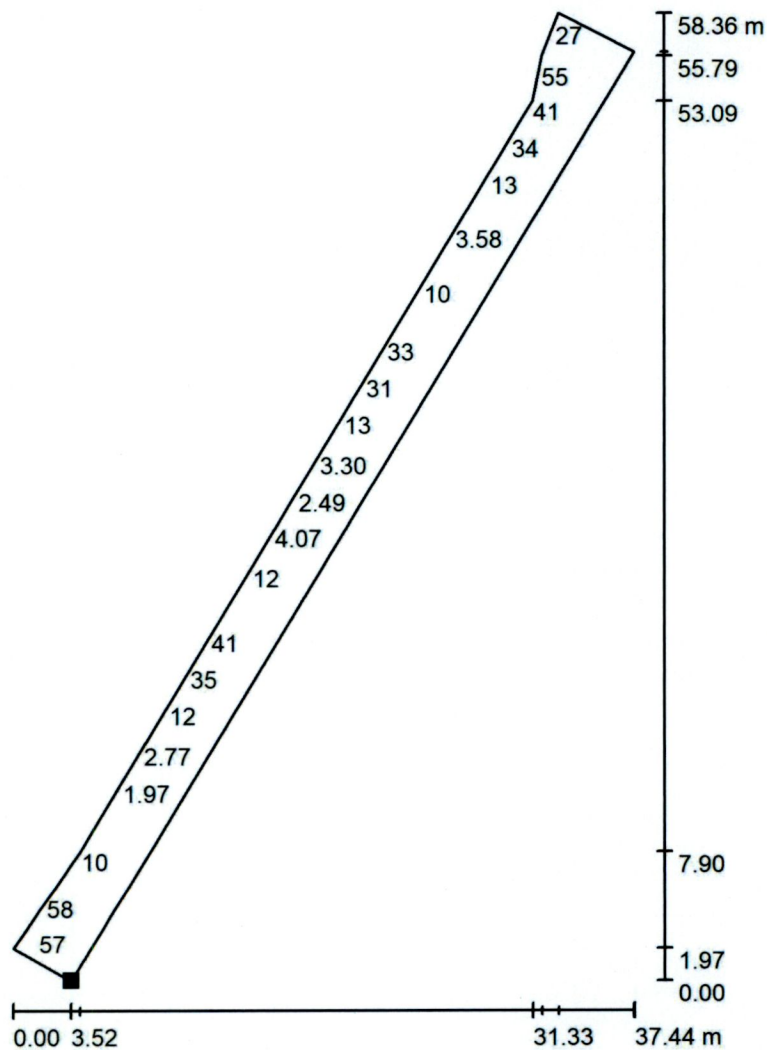
$E_{max}$  [lx]  
88

$u_0$   
0.075

$E_{min} / E_{max}$   
0.015

Operator  
Telephone  
Fax  
e-Mail

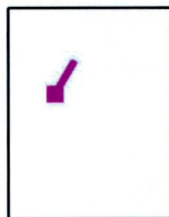
**Exterior Scene 1 / AREA 5 NORTH WEST ACCESS ROAD / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 457

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1424.082 m, 354.947 m, 0.750 m)



Grid: 128 x 32 Points

$E_{av}$  [lx]  
17

$E_{min}$  [lx]  
1.05

$E_{max}$  [lx]  
88

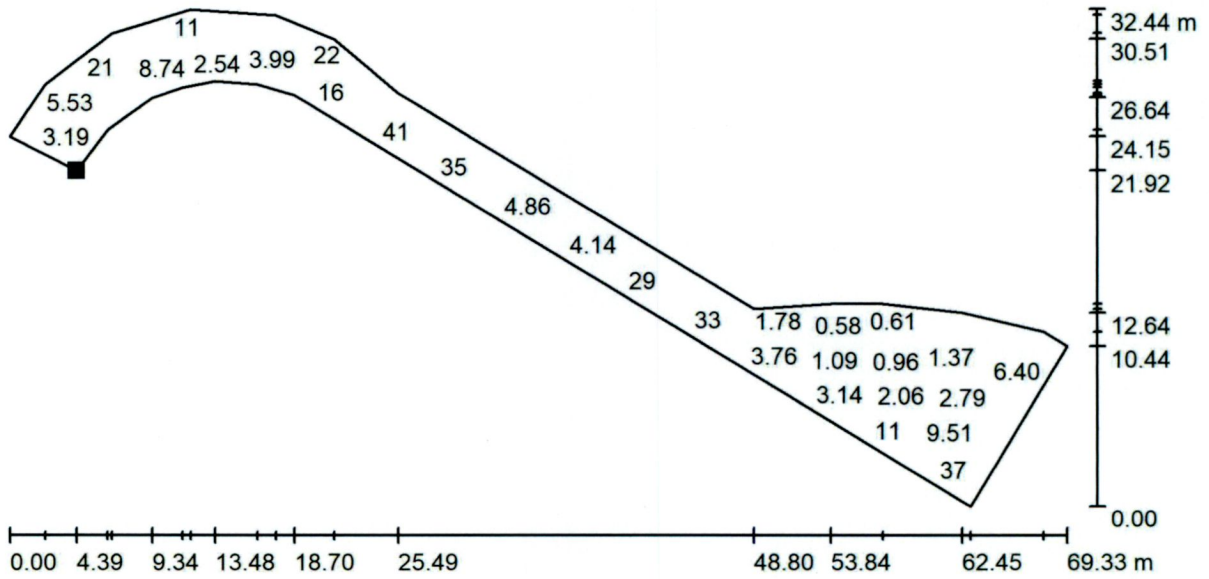
$u_0$   
0.060

$E_{min} / E_{max}$   
0.012



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Exterior Scene 1 / AREA 6 NORTH EAST ACCESS ROAD / Value Chart (E, Perpendicular)



Values in Lux, Scale 1 : 496

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1457.851 m, 411.076 m, 0.750 m)



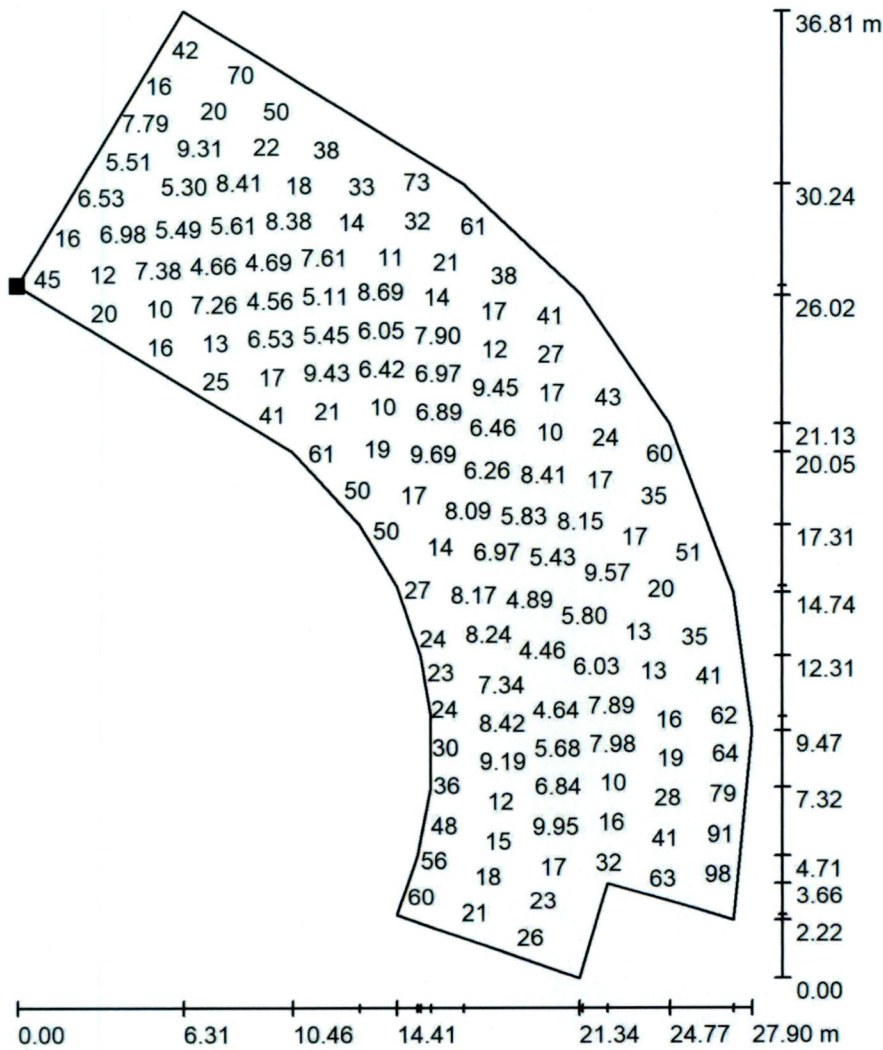
Grid: 128 x 64 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
13	0.47	78	0.036	0.006



Operator  
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e-Mail

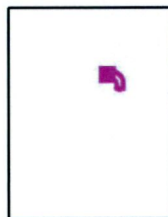
**Exterior Scene 1 / AREA 7 NORTH EAST PARKING / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 288

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1516.486 m, 389.156 m, 0.750 m)

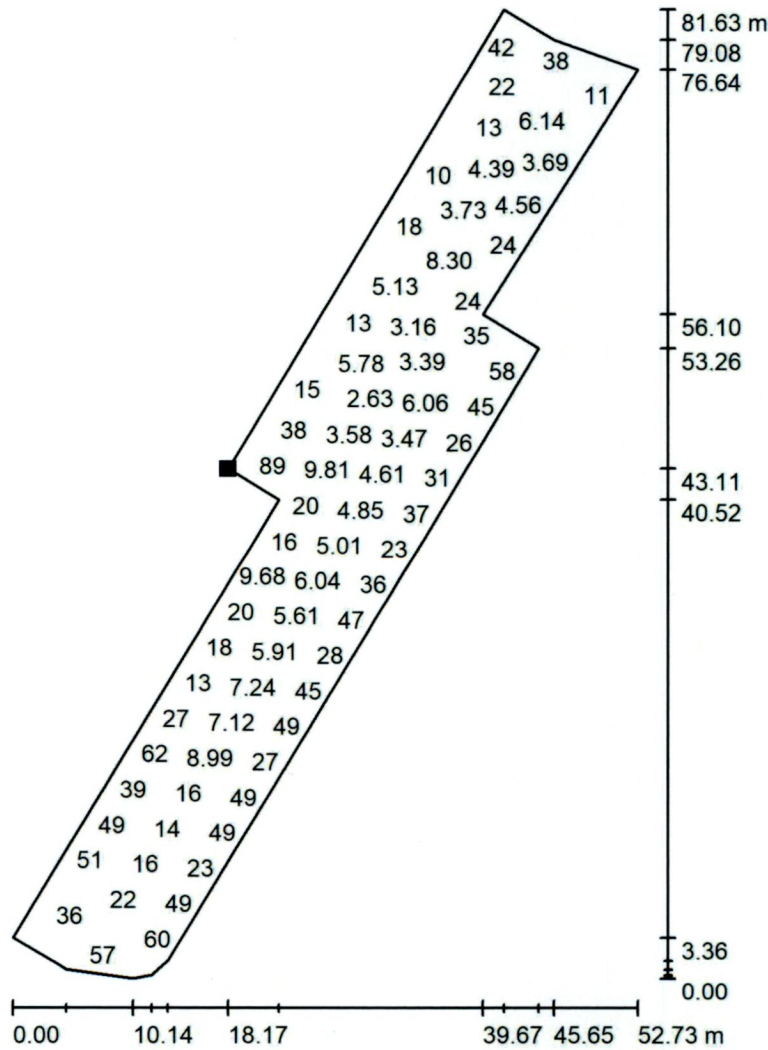


Grid: 128 x 128 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
26	4.12	124	0.162	0.033

Operator  
Telephone  
Fax  
e-Mail

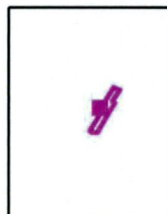
**Exterior Scene 1 / AREA 8 EAST PARKING / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 639

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1503.267 m, 329.255 m, 0.750 m)



Grid: 128 x 128 Points

$E_{av}$  [lx]  
28

$E_{min}$  [lx]  
2.30

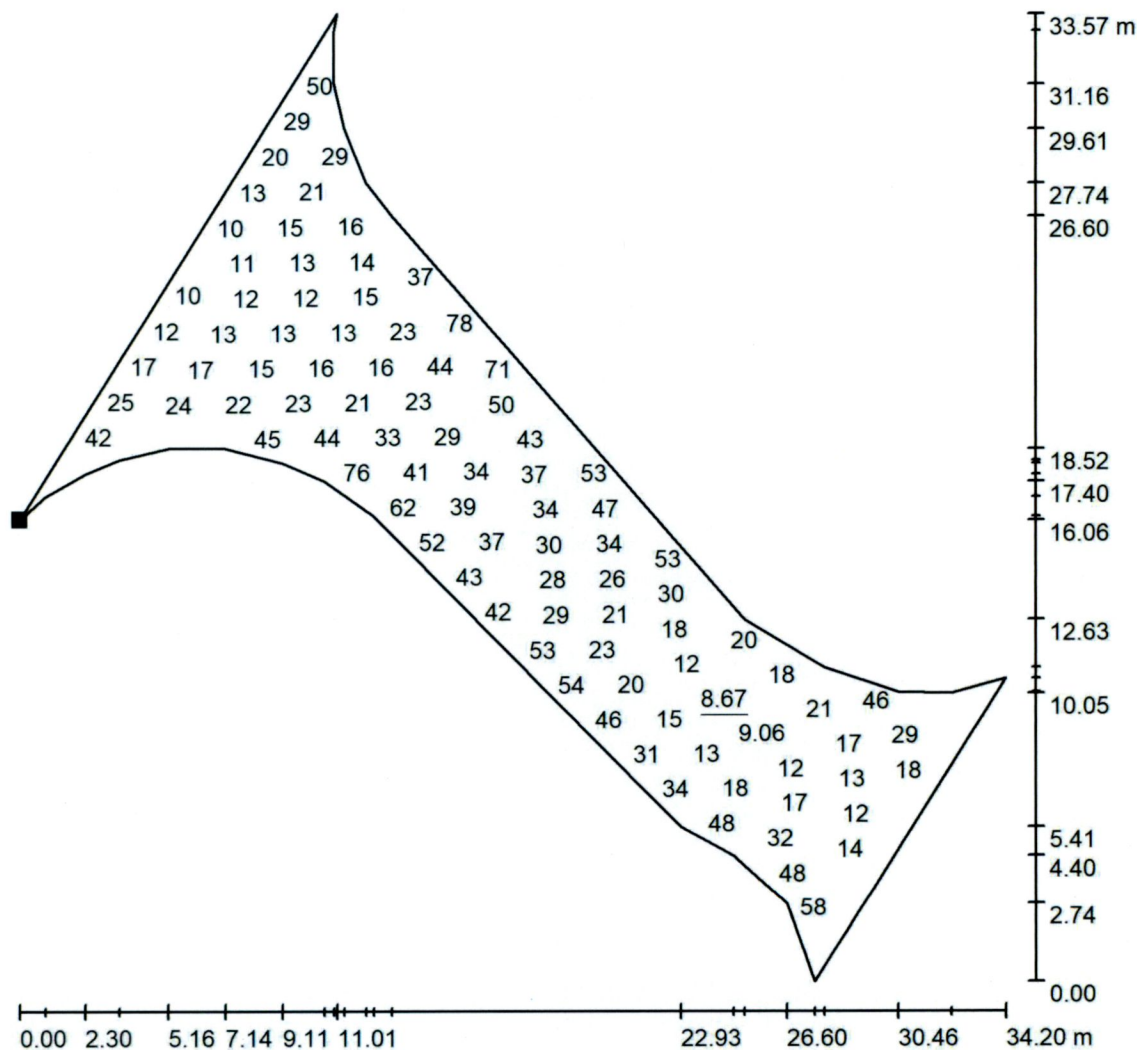
$E_{max}$  [lx]  
185

$u_0$   
0.082

$E_{min} / E_{max}$   
0.012

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Telephone  
Fax  
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**Exterior Scene 1 / AREA 9 ROAD ENTRANCE EAST / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 263

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1526.738 m, 344.862 m, 0.750 m)

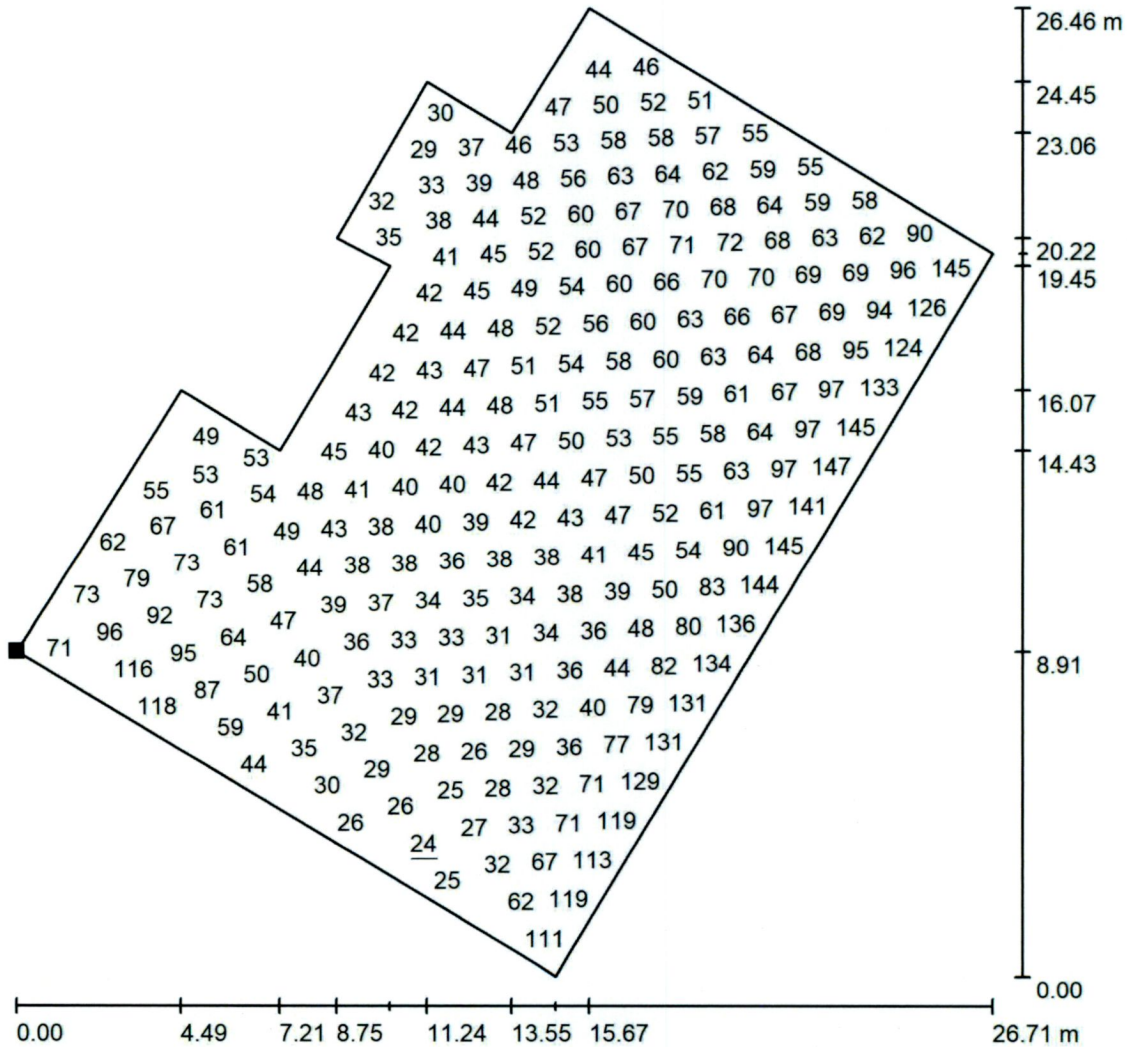


Grid: 128 x 128 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
31	8.67	95	0.281	0.091

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Exterior Scene 1 / AREA 10 LOADING BAY / Value Chart (E, Perpendicular)



Values in Lux, Scale 1 : 207

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1467.010 m, 297.373 m, 0.750 m)

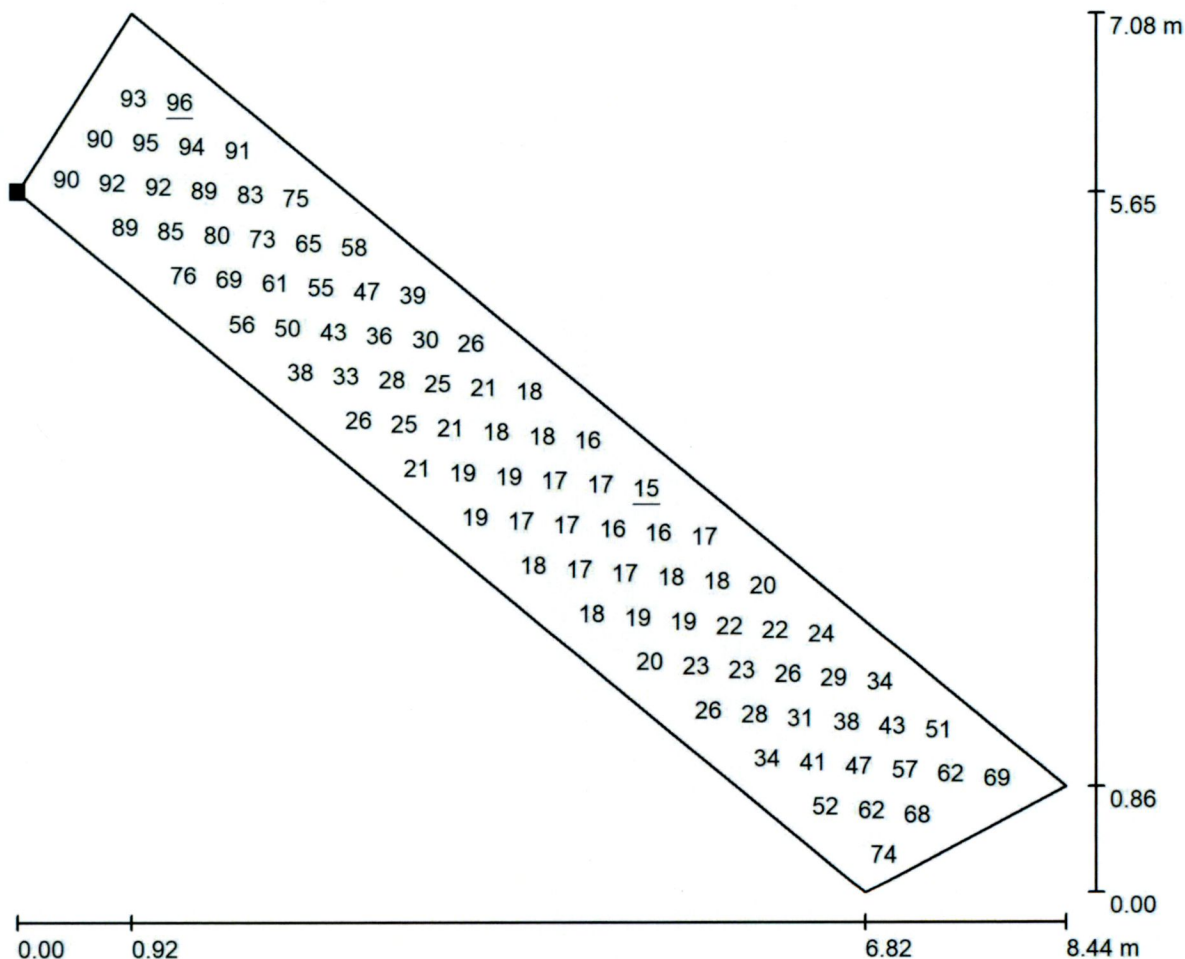


Grid: 128 x 128 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
59	24	173	0.412	0.140

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**Exterior Scene 1 / AREA 11 FRONT CROSSING OF WALKWAY / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 61

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1408.142 m, 232.084 m, 0.750 m)



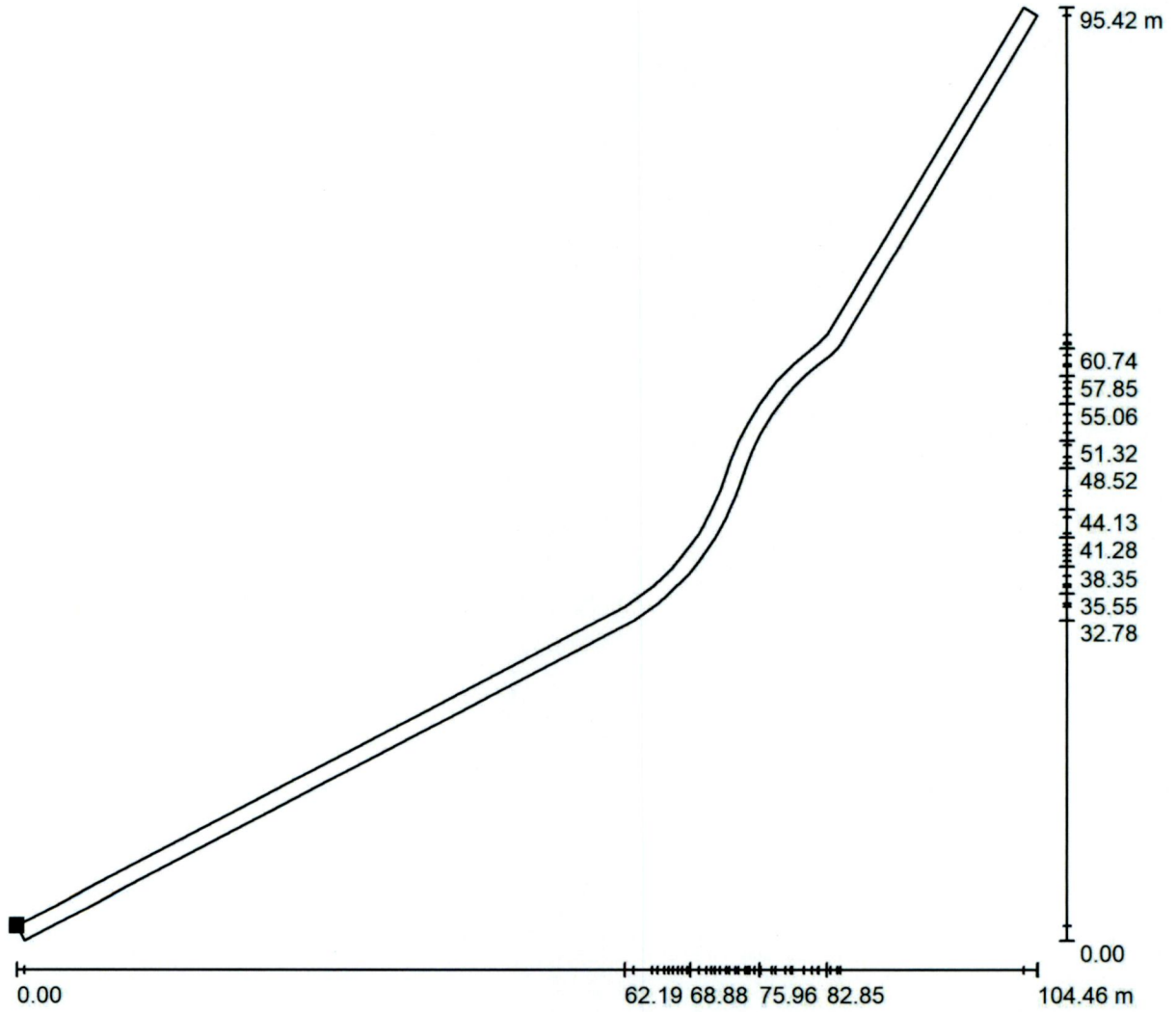
Grid: 32 x 8 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
45	15	96	0.340	0.158



Operator  
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Fax  
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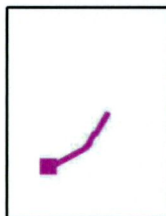
Exterior Scene 1 / AREA 12 LONG WALKWAY STRIP / Value Chart (E, Perpendicular)



Values in Lux, Scale 1 : 747

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1414.964 m, 226.438 m, 0.750 m)

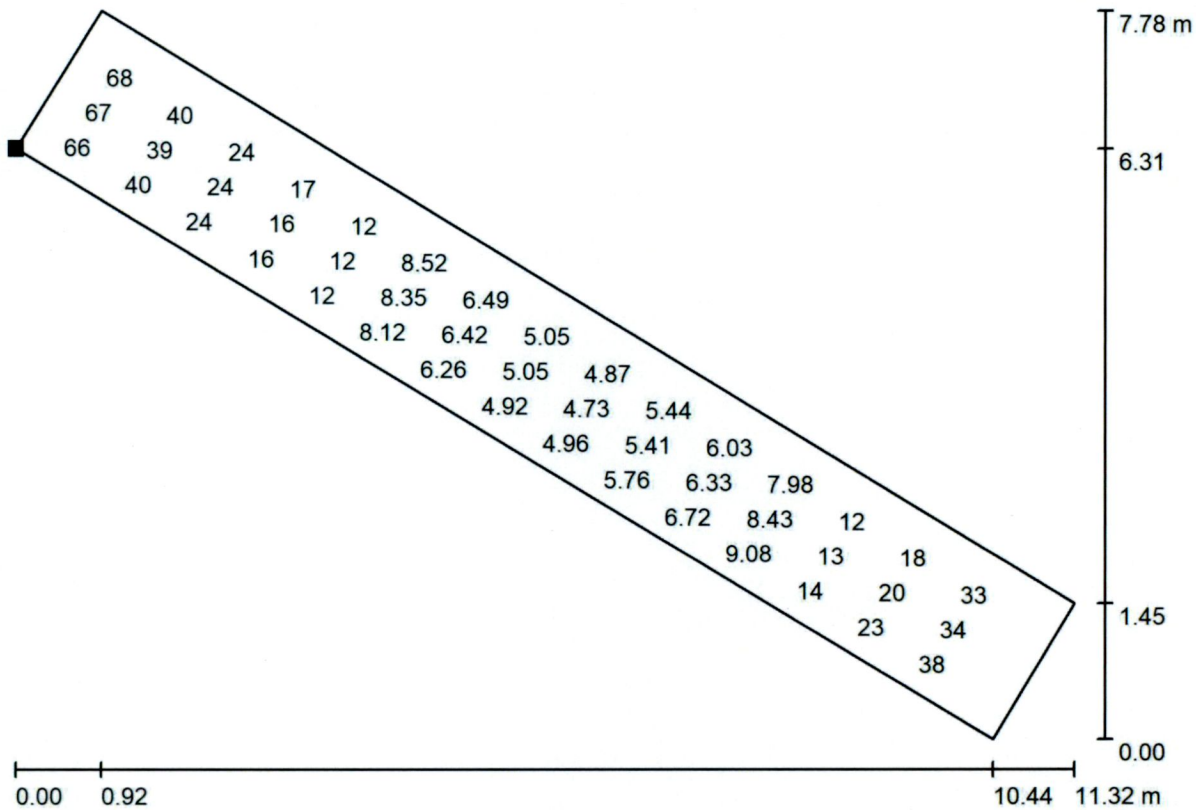


Grid: 128 x 128 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
80	22	132	0.272	0.165

Operator  
Telephone  
Fax  
e-Mail

**Exterior Scene 1 / AREA 13 WALKWAY CROSSING TO BUILDING / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 81

Not all calculated values could be displayed.

Position of surface in external scene:  
Marked point:  
(1506.671 m, 325.220 m, 0.750 m)



Grid: 32 x 8 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
21	4.70	80	0.229	0.059



CREATE AMAZING.

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