



Stag Brewery, Mortlake

Waterfront Lighting Assessment

For Reselton Properties

October 2023

Introduction 31.10.23

Background

Two applications for planning permission were submitted to the London Borough of Richmond upon Thames ('LBRuT') on 11 March 2022 for the masterplan redevelopment of the Site and are currently pending determination. Consultation with statutory and public consultees has been ongoing throughout this period.

On 19 July 2023 both applications were heard at LBRuT's Planning Committee. The LBRuT's Planning Committee resolved to approve both applications, subject to the provisions set out in the Officer's Report.

On 24 July 2023 the Secretary of State made a statement confirming the Government's intention to mandate second staircases in new residential buildings above 18 metres. This followed consultation on this matter where expert bodies advocated support for this threshold.

Matters for Substitution

Although no formal transition arrangements or legislation has been announced at this stage, the Applicant has taken the decision to make amendments to the scheme which will allow it to adhere to the forthcoming changes announced on the 24 July 2023 by the Secretary of State in relation to the Government's intention to mandate second staircases in new residential buildings above 18 metres.

Waterfront Lighting Assessment – Amendment Summary - 31.10.23

The Michael Grubb Studio Waterfront Lighting Assessment document: 547-(011)-RP-EX-LA-D, has been amended to meet LBRuT and ecological lighting level (Lux) requirements.

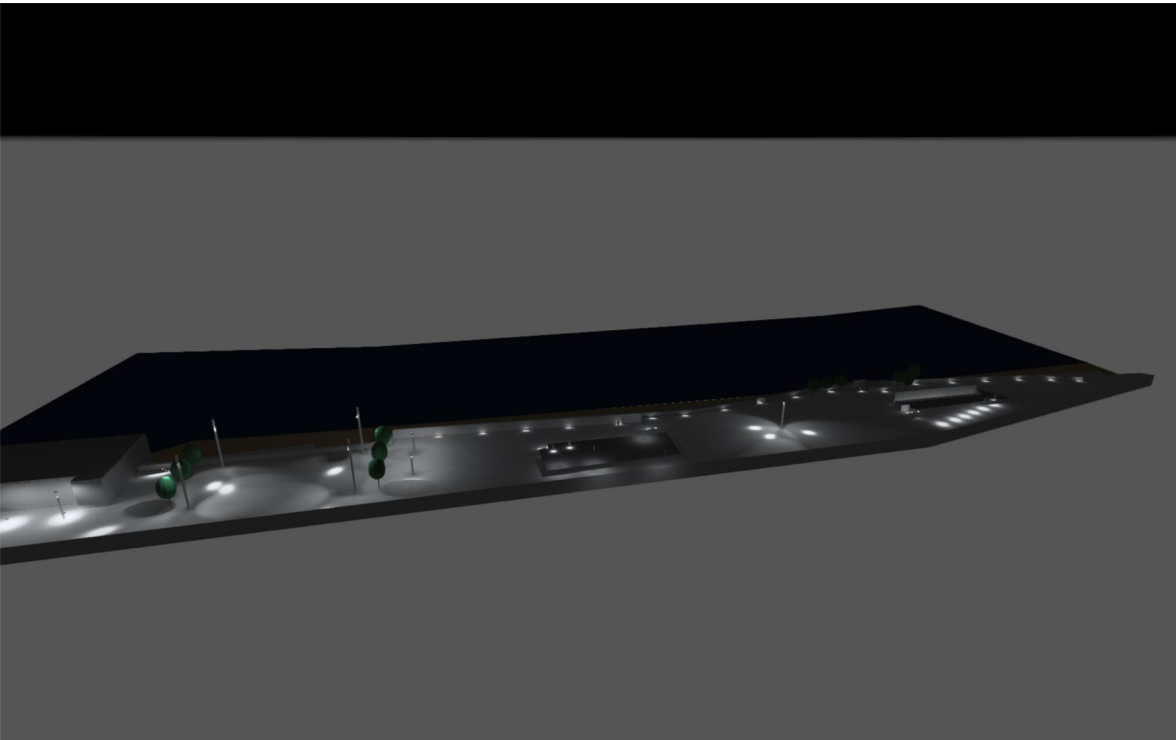
To ensure all Waterfront lighting is below 1 Lux, Reference CA/3 Column mounted luminaires have been adjusted towards the Malting's Plaza, away from the waterfront. Glare shields and snoot accessories will be specified at stage 4, for Ref.CA/3 luminaires to further reduce unwanted light spill and glare.

Luminaire references LA/3 and WA/1 have been omitted from the graded walkway and steps between the existing Waterfront Towpath and Malting's Plaza, to ensure no spill light towards the waterfront.

Please read Michael Grubb Studio Waterfront Lighting Assessment document: 547-(011)-RP-EX-LA-D, in conjunction with lighting drawings: 547-001-DR-EX-MP-F, 547-002-DR-EX-MP-D, 547-005-DR-EX-MP-F, and 547-500-CA-EX-MP-E.

Waterfront lighting is now below 1Lux with all luminaires emitting light downwards to ensure no impact on bat or other existing ecologies.

In summary the proposed changes to the scheme relate to Application A only and comprise of alterations primarily focused on enhancing the alignment of external lighting with recent landscape improvements. This entails the incorporation of lighting fixtures into two additional sets of stairs situated within the access vicinity of blocks 8 and 12. The rationale behind this modification is to augment the accessibility of these buildings to the fire brigade. By illuminating these staircases, we aim to bolster their usability and improve the efficacy of signage for individuals entering or evacuating the area during fire incidents.



Mortlake Stag Brewery

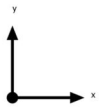
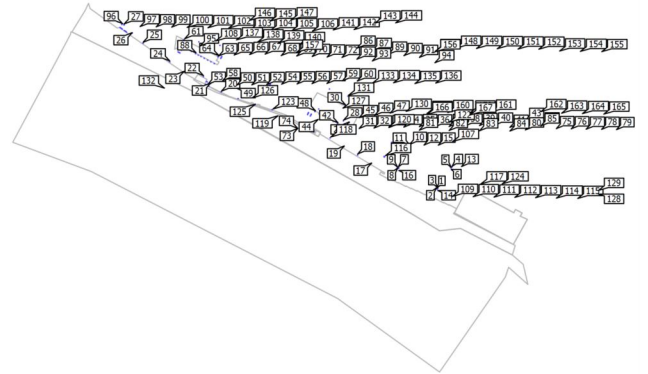
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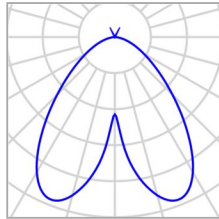
Stag Brewery Site

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Stag Brewery Site
Luminaire layout plan



Stag Brewery Site

Luminaire layout plan

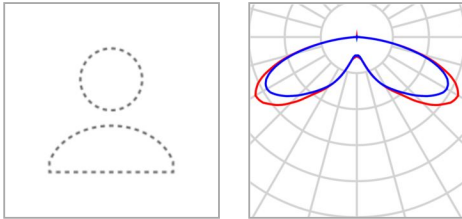
Manufacturer	L&L Luce&Light	P	14.0 W
Article No.	PLIN 6.2 A [2700K 14W 230Vac] h785	$\Phi_{\text{Luminaire}}$	1011 lm
Article name	PLIN 6.2 A [2700K 14W 230Vac] h785		
Fitting	1x Power LED		

Individual luminaires

X	Y	Mounting height	Luminaire
533.162 m	207.959 m	5.500 m	28
536.532 m	207.029 m	5.500 m	29
534.182 m	216.538 m	8.100 m	30
442.624 m	254.224 m	5.500 m	61
451.024 m	252.924 m	5.500 m	108
519.172 m	214.741 m	8.100 m	127
539.655 m	212.921 m	8.100 m	130
535.731 m	222.083 m	8.100 m	131
525.295 m	226.128 m	8.100 m	132
447.037 m	253.548 m	5.500 m	137
454.824 m	252.424 m	5.500 m	138
458.524 m	251.824 m	5.500 m	139
463.024 m	250.924 m	5.500 m	140

Stag Brewery Site

Luminaire layout plan

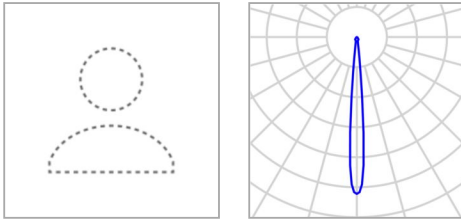


Manufacturer	Not yet a DIALux member	P	38.0 W
Article No.	SIG.1.LA052.SY.VB1	$\Phi_{\text{Luminaire}}$	4772 lm
Article name	SIGNATURE Post-Top with 2700K Symmetric distribution		
Fitting	1x LED C.5000 Lumens at 2700K		

Individual luminaires

X	Y	Mounting height	Luminaire
560.708 m	195.629 m	7.000 m	107
556.453 m	187.647 m	7.000 m	116
610.652 m	171.539 m	8.000 m	117
610.573 m	171.544 m	4.000 m	124
617.687 m	167.817 m	8.000 m	128
617.608 m	167.822 m	4.000 m	129

Stag Brewery Site

Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	29.0 W
Article No.	SX 961 40-9	Φ Luminaire	3000 lm
Article name	Olivio Medio		
Fitting	1x 3000 lm, 29 W		

Individual luminaires

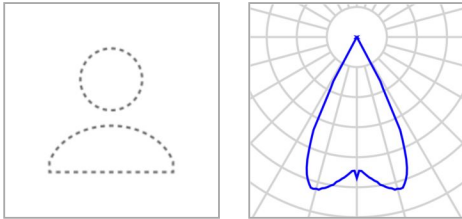
X	Y	Mounting height	Luminaire
586.536 m	169.138 m	11.500 m	1
586.473 m	169.576 m	11.500 m	2
586.842 m	169.465 m	11.500 m	3
594.766 m	181.558 m	11.500 m	4
594.461 m	181.207 m	11.500 m	5
594.390 m	181.643 m	11.500 m	6
564.303 m	181.375 m	11.500 m	7
564.203 m	180.952 m	11.500 m	8
563.923 m	181.313 m	11.500 m	9
570.801 m	194.027 m	11.500 m	10
571.041 m	193.629 m	11.500 m	11
570.603 m	193.696 m	11.500 m	12
491.358 m	229.049 m	9.000 m	133

Stag Brewery Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
490.978 m	229.114 m	9.000 m	134
491.072 m	228.682 m	9.000 m	135

Stag Brewery Site

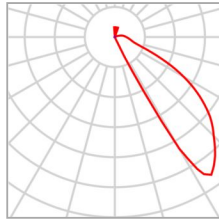
Luminaire layout plan

Manufacturer	Not yet a DIALux member	P	45.0 W
Article No.	copy from SX Gobo	$\Phi_{\text{Luminaire}}$	1279 lm
Article name	für LDTOLIVIO Grande Gobo 45 mm 20,6 m		
Fitting	1x Absolut LVK / LED Messung		

Individual luminaires

X	Y	Mounting height	Luminaire
594.338 m	181.501 m	11.000 m	13
586.670 m	169.685 m	11.000 m	14
570.975 m	193.716 m	11.000 m	15
564.489 m	181.085 m	11.000 m	16
491.439 m	228.714 m	9.000 m	136

Stag Brewery Site

Luminaire layout plan

Manufacturer	WE-EF	P	5.6 W
Article No.	133-0405	$\Phi_{\text{Luminaire}}$	178 lm
Article name	STI259 LED, Wall Luminaires / Recessed STI259 IP66:LED-18/4W/3K;STI259 LED, Wall Luminaires / Recessed		
Fitting	18x 6 LED, Warm White - 120° angle of beam LEDLUMENS=41.1 lm, LEDs No=18, TOTALLUMENS=740.0 lm, Tj=25°C LEDLUMENS=9.9 lm, LEDs No=18, TOTALLUMENS=178.0 lm, Ta=25°C		

Individual luminaires

X	Y	Mounting height	Luminaire
537.401 m	203.109 m	3.400 m	31
537.559 m	203.371 m	3.600 m	32
537.668 m	203.627 m	3.800 m	33
537.826 m	203.906 m	4.000 m	34
537.956 m	204.157 m	4.200 m	35
535.817 m	203.963 m	3.400 m	36

Stag Brewery Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
535.954 m	204.242 m	3.600 m	37
536.096 m	204.505 m	3.800 m	38
536.238 m	204.769 m	4.000 m	39
536.367 m	205.029 m	4.200 m	40
534.652 m	203.841 m	3.500 m	41
529.809 m	206.416 m	3.500 m	42
527.371 m	207.712 m	3.500 m	43
525.838 m	208.560 m	3.500 m	44
524.268 m	209.362 m	3.500 m	45
521.851 m	210.648 m	3.500 m	46
519.421 m	211.940 m	3.500 m	47
517.005 m	213.238 m	3.500 m	48
456.770 m	227.708 m	0.600 m	49
456.522 m	227.861 m	0.800 m	50
456.282 m	227.987 m	1.000 m	51
456.035 m	228.117 m	1.200 m	52
455.798 m	228.263 m	1.400 m	53
455.564 m	228.391 m	1.600 m	54
455.316 m	228.521 m	1.800 m	55
455.068 m	228.651 m	2.000 m	56
454.820 m	228.781 m	2.200 m	57
455.322 m	230.376 m	2.600 m	58
455.569 m	230.246 m	2.800 m	59
455.826 m	230.111 m	3.000 m	60

Stag Brewery Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
532.241 m	205.155 m	3.500 m	62
461.895 m	244.372 m	3.400 m	63
462.026 m	244.618 m	3.600 m	64
462.174 m	244.882 m	3.800 m	65
462.330 m	245.178 m	4.000 m	66
462.477 m	245.417 m	4.200 m	67
464.060 m	244.589 m	4.200 m	68
463.926 m	244.334 m	4.000 m	69
463.789 m	244.054 m	3.800 m	70
463.648 m	243.789 m	3.600 m	71
463.507 m	243.524 m	3.400 m	72
513.677 m	203.429 m	2.400 m	73
513.933 m	203.259 m	2.200 m	74
514.178 m	203.112 m	2.000 m	75
514.431 m	202.936 m	1.800 m	76
514.684 m	202.781 m	1.600 m	77
514.951 m	202.638 m	1.400 m	78
515.208 m	202.483 m	1.200 m	79
515.474 m	202.320 m	1.000 m	80
515.728 m	202.167 m	0.800 m	81
515.986 m	201.993 m	0.600 m	82
516.236 m	201.840 m	0.400 m	83
516.458 m	201.694 m	0.200 m	84
511.625 m	204.626 m	3.300 m	85

Stag Brewery Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
444.278 m	248.784 m	3.500 m	86
446.704 m	247.493 m	3.500 m	87
449.132 m	246.202 m	3.500 m	88
450.677 m	245.380 m	3.500 m	89
452.222 m	244.557 m	3.500 m	90
454.110 m	243.553 m	3.500 m	91
455.990 m	242.552 m	3.500 m	92
457.876 m	241.549 m	3.500 m	93
459.770 m	240.542 m	3.500 m	94
441.851 m	250.075 m	3.500 m	95
407.228 m	262.772 m	2.400 m	96
406.226 m	261.097 m	2.200 m	97
406.475 m	260.930 m	2.000 m	98
406.727 m	260.766 m	1.800 m	99
406.962 m	260.589 m	1.600 m	100
407.209 m	260.408 m	1.400 m	101
407.455 m	260.237 m	1.200 m	102
409.167 m	259.030 m	0.800 m	103
409.414 m	258.859 m	0.600 m	104
409.682 m	258.675 m	0.400 m	105
409.920 m	258.511 m	0.200 m	106
594.800 m	164.542 m	3.200 m	109
595.151 m	164.362 m	3.400 m	110
595.503 m	164.166 m	3.600 m	111

Stag Brewery Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
595.854 m	163.978 m	3.800 m	112
596.215 m	163.793 m	4.000 m	113
596.570 m	163.599 m	4.200 m	114
596.917 m	163.415 m	4.400 m	115
408.919 m	259.200 m	1.000 m	141
408.672 m	259.370 m	1.000 m	142
407.363 m	263.001 m	2.400 m	143
407.539 m	263.223 m	2.400 m	144
405.037 m	264.285 m	2.400 m	145
405.082 m	264.601 m	2.400 m	146
405.129 m	264.933 m	2.400 m	147
440.062 m	248.768 m	4.200 m	148
440.318 m	248.634 m	4.000 m	149
440.597 m	248.497 m	3.800 m	150
440.862 m	248.356 m	3.600 m	151
441.127 m	248.215 m	3.400 m	152
439.235 m	247.185 m	4.200 m	153
439.474 m	247.038 m	4.000 m	154
439.770 m	246.882 m	3.800 m	155
440.034 m	246.734 m	3.600 m	156
440.280 m	246.603 m	3.400 m	157
512.823 m	211.636 m	3.400 m	158
512.960 m	211.916 m	3.600 m	159
513.102 m	212.179 m	3.800 m	160

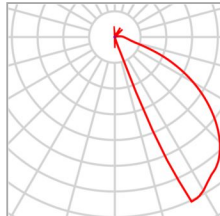
Stag Brewery Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
513.244 m	212.443 m	4.000 m	161
513.373 m	212.703 m	4.200 m	162
514.962 m	211.831 m	4.200 m	163
514.832 m	211.580 m	4.000 m	164
514.674 m	211.301 m	3.800 m	165
514.565 m	211.044 m	3.600 m	166
514.407 m	210.783 m	3.400 m	167

Stag Brewery Site

Luminaire layout plan



Manufacturer	WE-EF	P	5.6 W
Article No.	197-0367	Φ _{Luminaire}	177 lm
Article name	QRI359 LED, Wall Luminaires / Recessed QRI359 IP55:LED-18/4W/3K;QRI359 LED, Wall Luminaires / Recessed		
Fitting	18x 6 LED, Warm White - 120° angle of beam LEDLUMENS=41.1 lm, LEDs No=18, TOTALLUMENS=740.0 lm, Tj=25°C LEDLUMENS=9.8 lm, LEDs No=18, TOTALLUMENS=177.0 lm, Ta=25°C		

Individual luminaires

X	Y	Mounting height	Luminaire
549.103 m	183.776 m	3.500 m	17
541.291 m	188.614 m	3.500 m	18
533.530 m	193.455 m	3.500 m	19
463.691 m	224.441 m	3.500 m	20
457.714 m	229.224 m	3.500 m	21
453.613 m	233.216 m	3.500 m	22

Stag Brewery Site

Luminaire layout plan

X	Y	Mounting height	Luminaire
442.546 m	235.884 m	3.500 m	23
434.460 m	241.538 m	3.500 m	24
419.337 m	252.139 m	3.500 m	25
413.079 m	257.872 m	3.500 m	26
408.503 m	262.532 m	3.500 m	27
525.664 m	198.296 m	3.500 m	118
501.847 m	210.579 m	3.500 m	119
516.208 m	204.060 m	3.500 m	120
426.889 m	246.846 m	3.500 m	121
508.400 m	206.691 m	3.500 m	122
492.598 m	214.285 m	3.500 m	123
482.948 m	217.104 m	3.500 m	125
473.362 m	220.677 m	3.500 m	126

Stag Brewery Site Luminaire list

 Φ_{total}

115935 lm

 P_{total}

1786.8 W

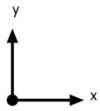
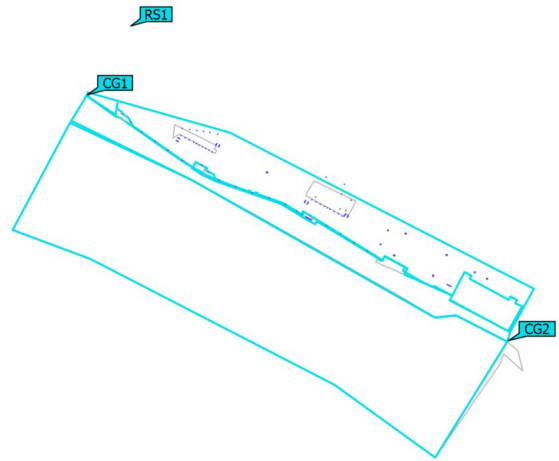
Luminous efficacy

64.9 lm/W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
13	L&L Luce&Light	PLIN 6.2 A [2700K 14W 230Vac] h785	PLIN 6.2 A [2700K 14W 230Vac] h785	14.0 W	1011 lm	72.2 lm/W
6	Not yet a DIALux member	SIG.1.LA05 2.SY.VB1	SIGNATURE Post-Top with 2700K Symmetric distribution	38.0 W	4772 lm	125.5 lm/W
15	Not yet a DIALux member	SX 961 40- 9	Olivio Medio	29.0 W	3000 lm	103.4 lm/W
5	Not yet a DIALux member	copy from SX Gobo	für LDTOLIVIO Grande Gobo 45 mm 20,6 m	45.0 W	1279 lm	28.4 lm/W
109	WE-EF	133-0405	STI259 LED, Wall Luminaires / Recessed STI259 IP66:LED-18/4W/3K;STI259 LED, Wall Luminaires / Recessed	5.6 W	178 lm	31.8 lm/W
19	WE-EF	197-0367	QRI359 LED, Wall Luminaires / Recessed QRI359 IP55:LED-18/4W/3K;QRI359 LED, Wall Luminaires / Recessed	5.6 W	177 lm	31.6 lm/W

Stag Brewery Site (everything)

Calculation objects



Stag Brewery Site (everything)

Calculation objects

Surface result objects

Properties	Ø	min	max	g ₁	g ₂	Index
Development Perpendicular illuminance (adaptive) Height: 3.000 m	9.03 lx	0.004 lx	3352 lx	0.000	0.000	RS1
Development Luminance Height: 3.000 m	2.01 cd/m ²	0.001 cd/m ²	747 cd/m ²	0.000	0.000	RS1

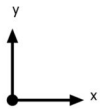
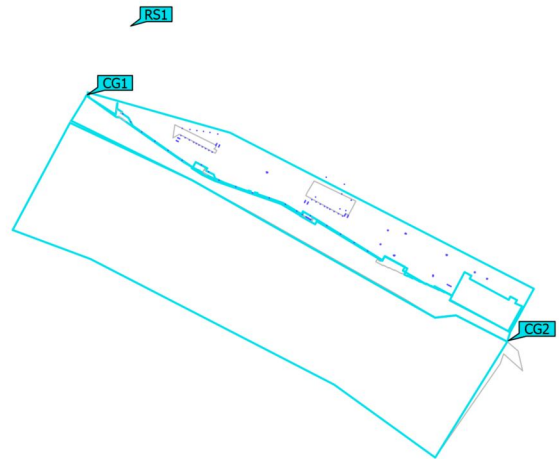
Calculation surfaces

Properties	\bar{E}	E _{min}	E _{max}	g ₁	g ₂	Index
riverside Perpendicular illuminance Height: 1.000 m	0.031 lx	0.00 lx	0.59 lx	0.00	0.00	CG1
riverside Horizontal illuminance Height: 1.000 m	0.029 lx	0.00 lx	0.49 lx	0.00	0.00	CG1
River Perpendicular illuminance Height: 0.100 m	0.023 lx	0.000 lx	2.21 lx	0.00	0.00	CG2
River Horizontal illuminance Height: 0.100 m	0.010 lx	0.000 lx	0.13 lx	0.00	0.00	CG2

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

Stag Brewery Site (Light scene 4)

Calculation objects



Stag Brewery Site (Light scene 4)

Calculation objects

Surface result objects

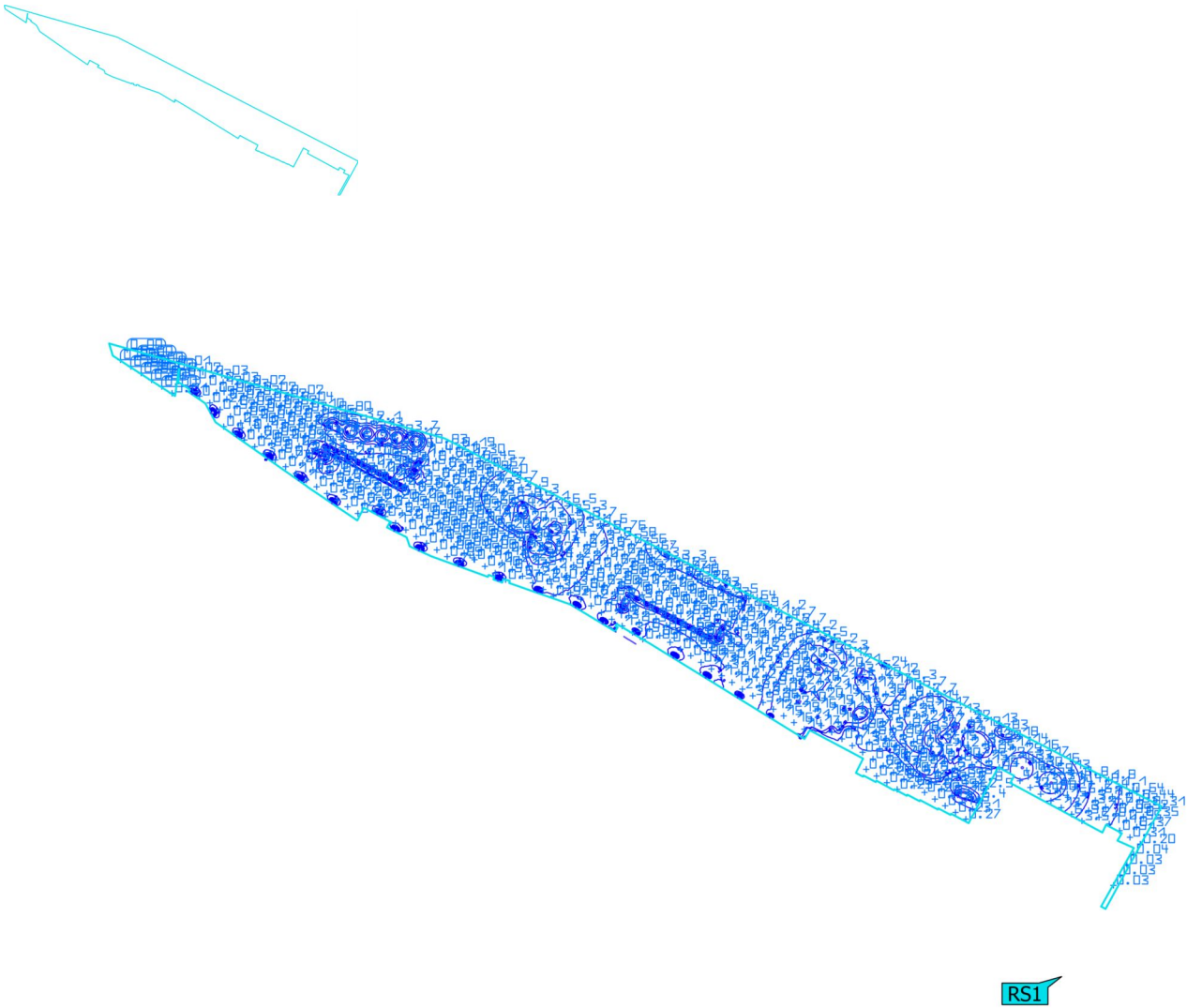
Properties	Ø	min	max	g ₁	g ₂	Index
Development Perpendicular illuminance (adaptive) Height: 3.000 m	9.75 lx	0.005 lx	3621 lx	0.001	0.000	RS1
Development Luminance Height: 3.000 m	2.17 cd/m ²	0.001 cd/m ²	807 cd/m ²	0.000	0.000	RS1

Calculation surfaces

Properties	E̅	E _{min}	E _{max}	g ₁	g ₂	Index
riverside Perpendicular illuminance Height: 1.000 m	0.034 lx	0.00 lx	0.64 lx	0.00	0.00	CG1
riverside Horizontal illuminance Height: 1.000 m	0.031 lx	0.00 lx	0.53 lx	0.00	0.00	CG1
River Perpendicular illuminance Height: 0.100 m	0.025 lx	0.000 lx	2.39 lx	0.00	0.00	CG2
River Horizontal illuminance Height: 0.100 m	0.011 lx	0.000 lx	0.14 lx	0.00	0.00	CG2

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

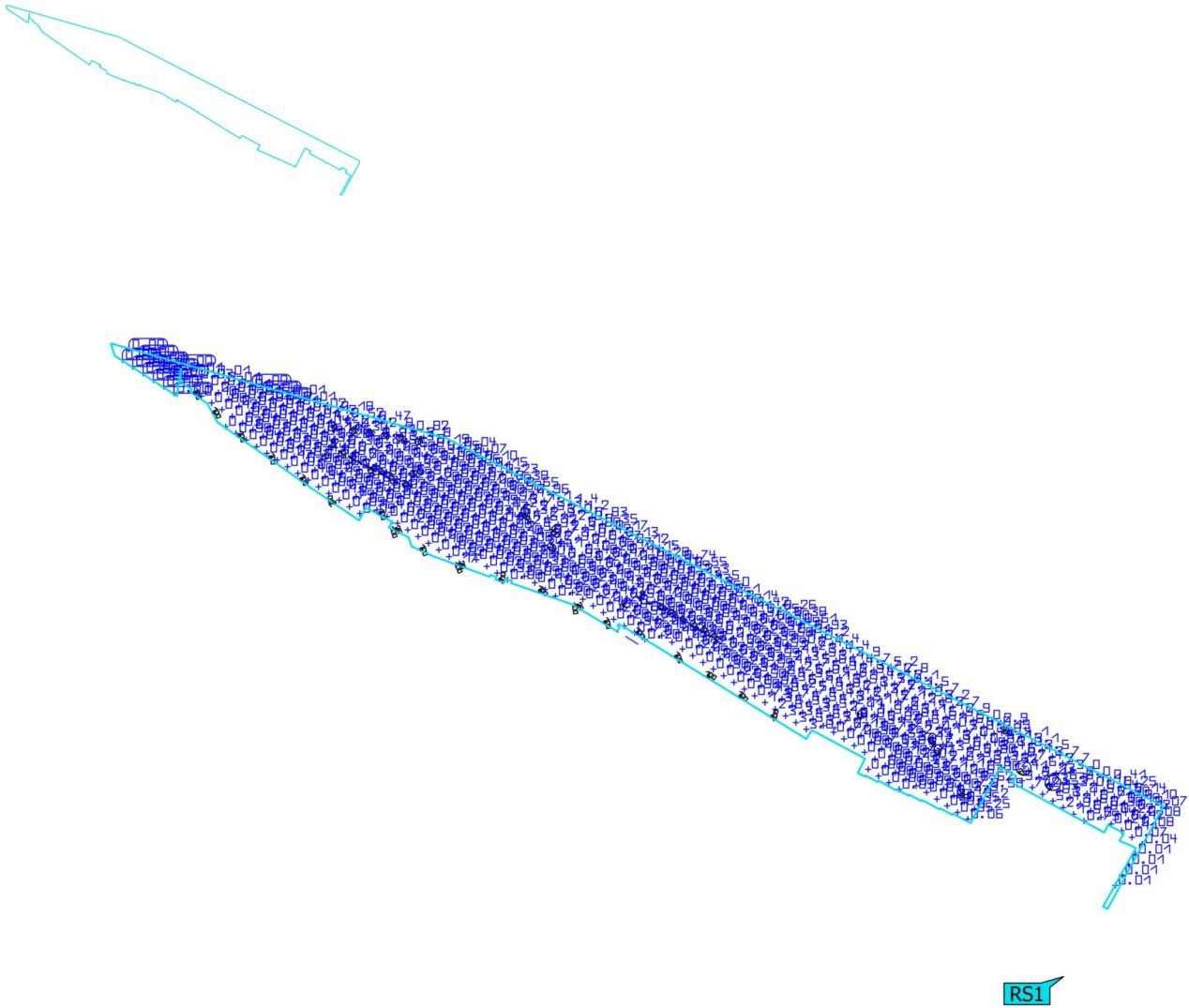
Stag Brewery Site (everything)
Development



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Development Perpendicular illuminance (adaptive) Height: 3.000 m	9.03 lx	0.004 lx	3352 lx	0.000	0.000	RS1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

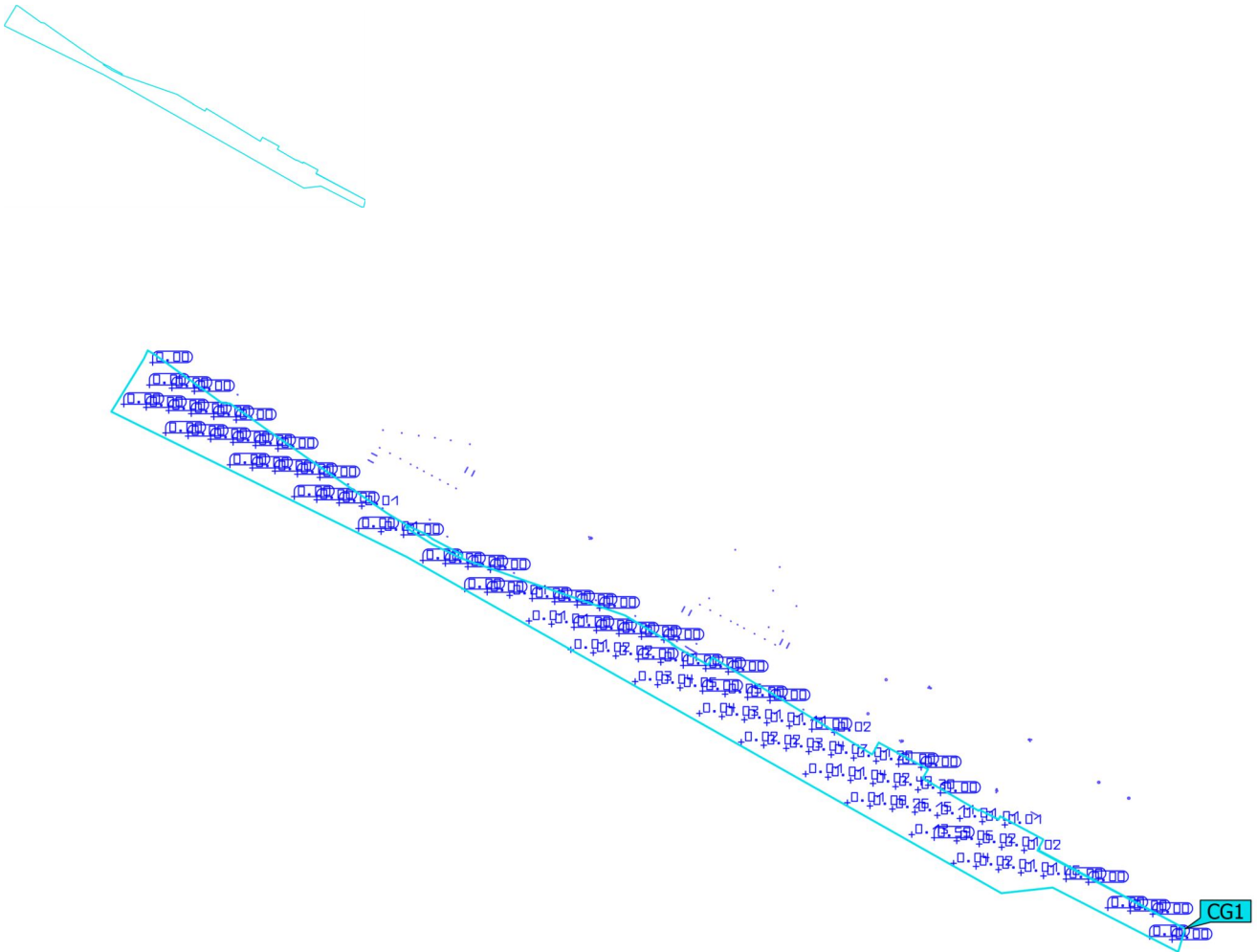
Stag Brewery Site (everything)
Development



Properties	Ø	min	max	g ₁	g ₂	Index
Development Luminance Height: 3.000 m	2.01 cd/m ²	0.001 cd/m ²	747 cd/m ²	0.000	0.000	RS1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

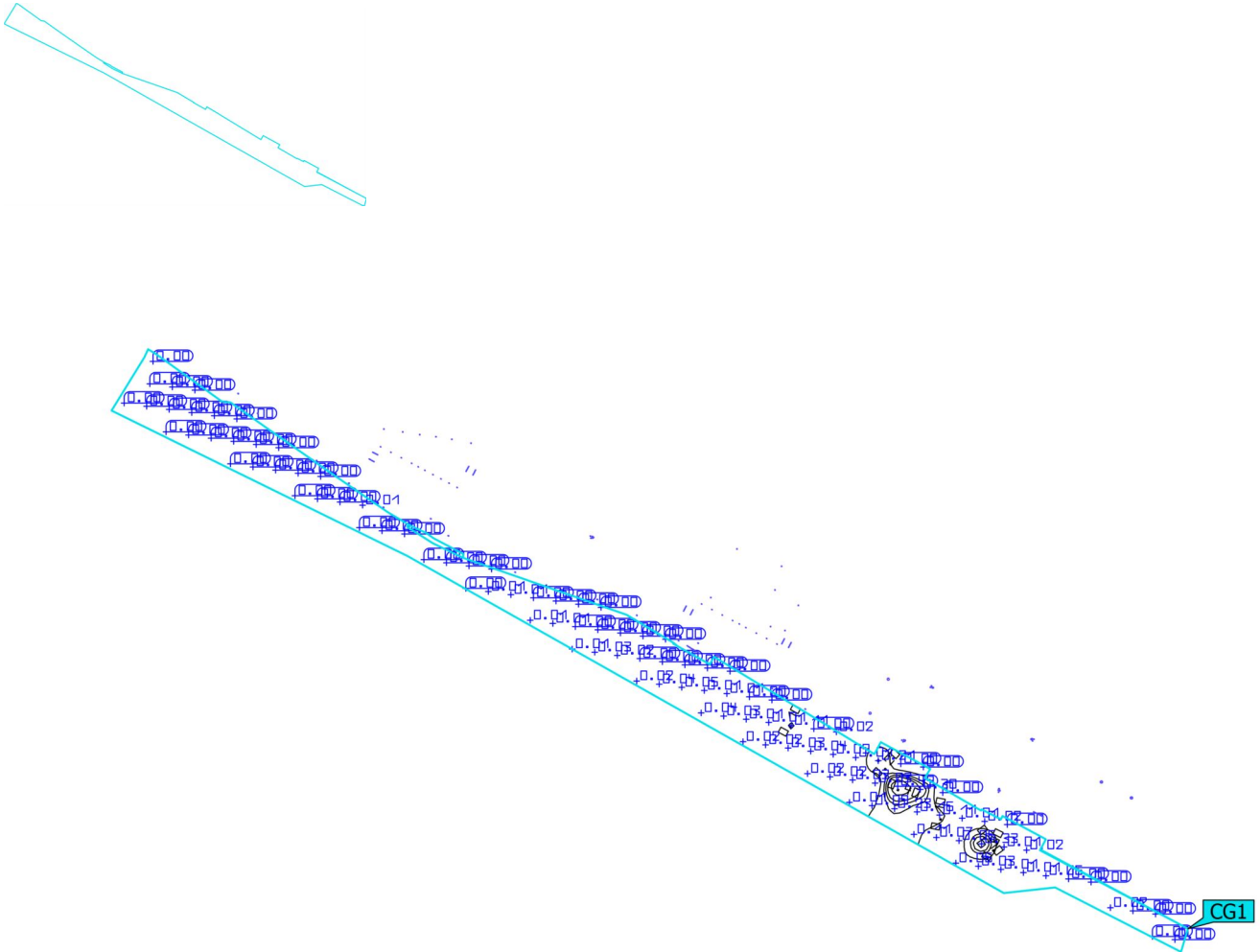
Stag Brewery Site (everything)
riverside



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
riverside Perpendicular illuminance Height: 1.000 m	0.031 lx	0.00 lx	0.59 lx	0.00	0.00	CG1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

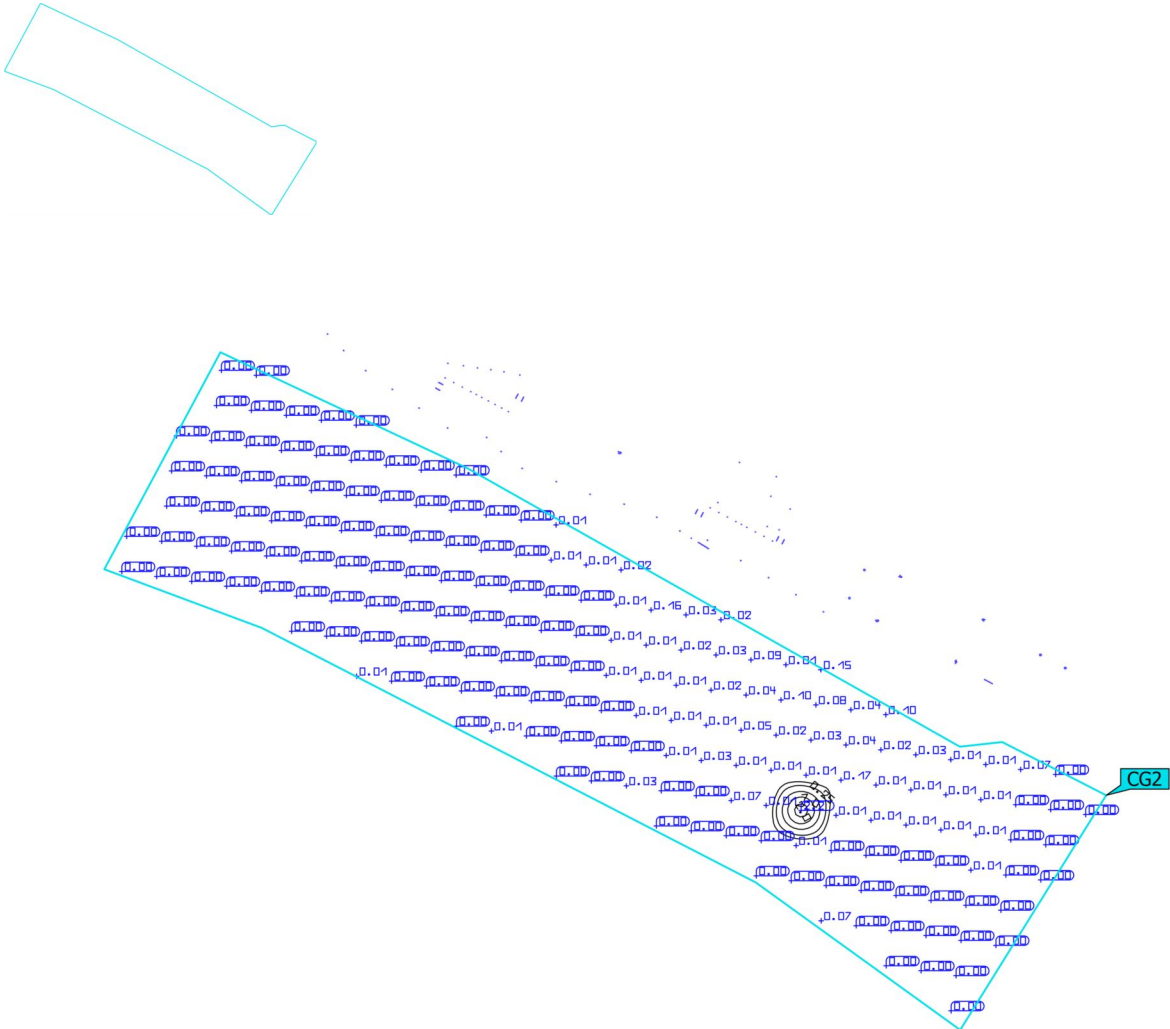
Stag Brewery Site (everything)
riverside



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
riverside Horizontal illuminance Height: 1.000 m	0.029 lx	0.00 lx	0.49 lx	0.00	0.00	CG1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

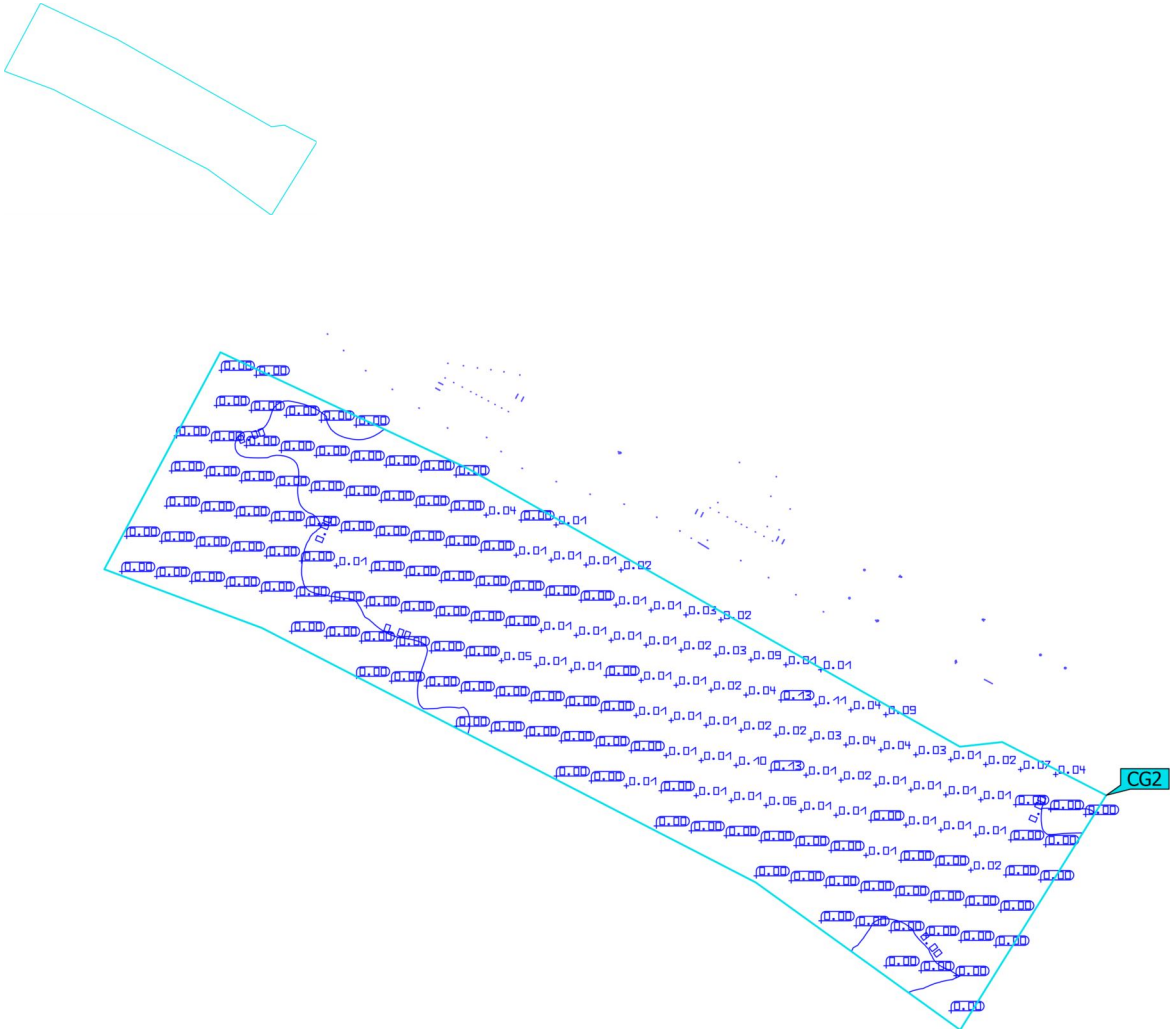
Stag Brewery Site (everything)
River



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
River Perpendicular illuminance Height: 0.100 m	0.023 lx	0.000 lx	2.21 lx	0.00	0.00	CG2

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

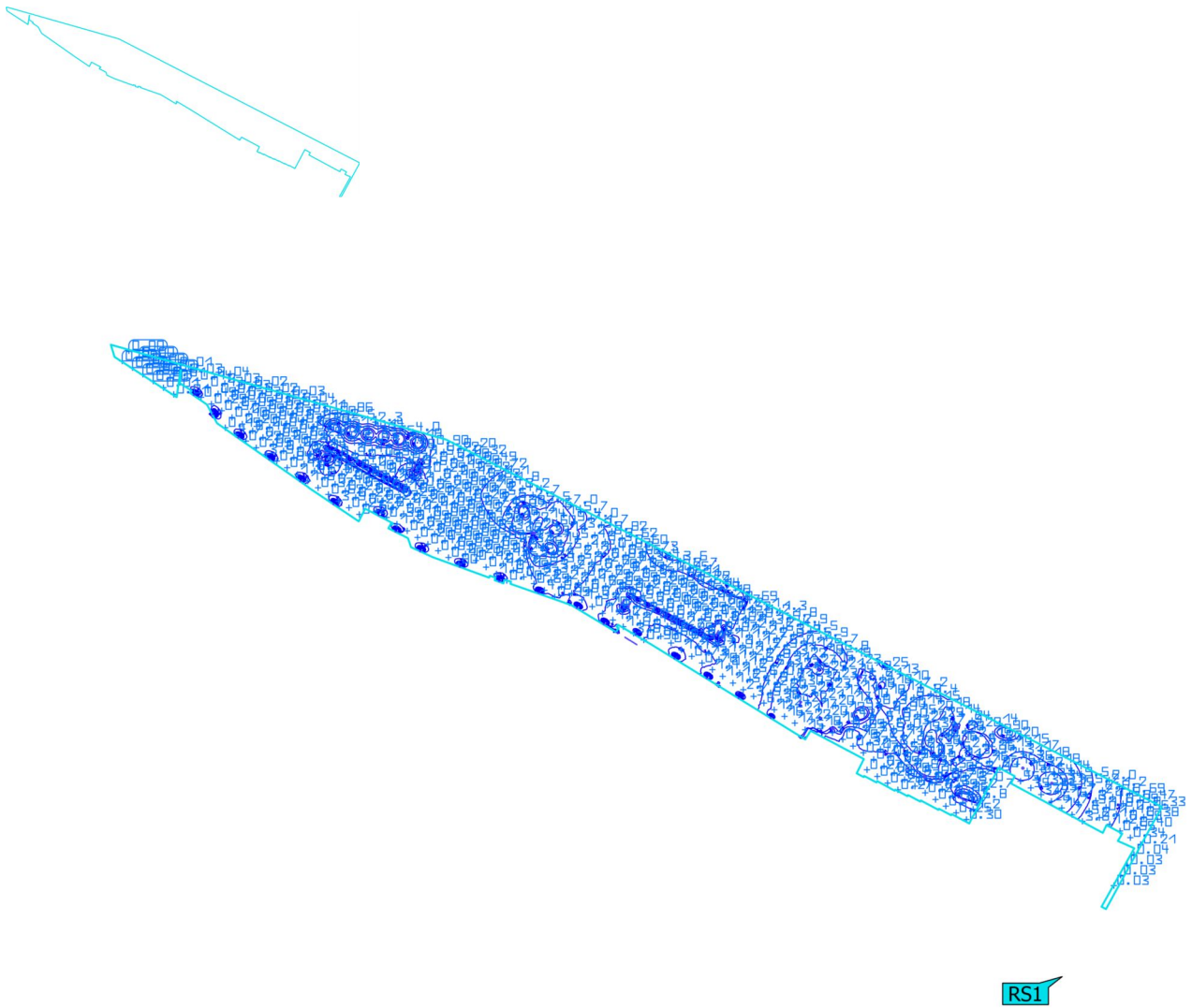
Stag Brewery Site (everything)
River



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
River Horizontal illuminance Height: 0.100 m	0.010 lx	0.000 lx	0.13 lx	0.00	0.00	CG2

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

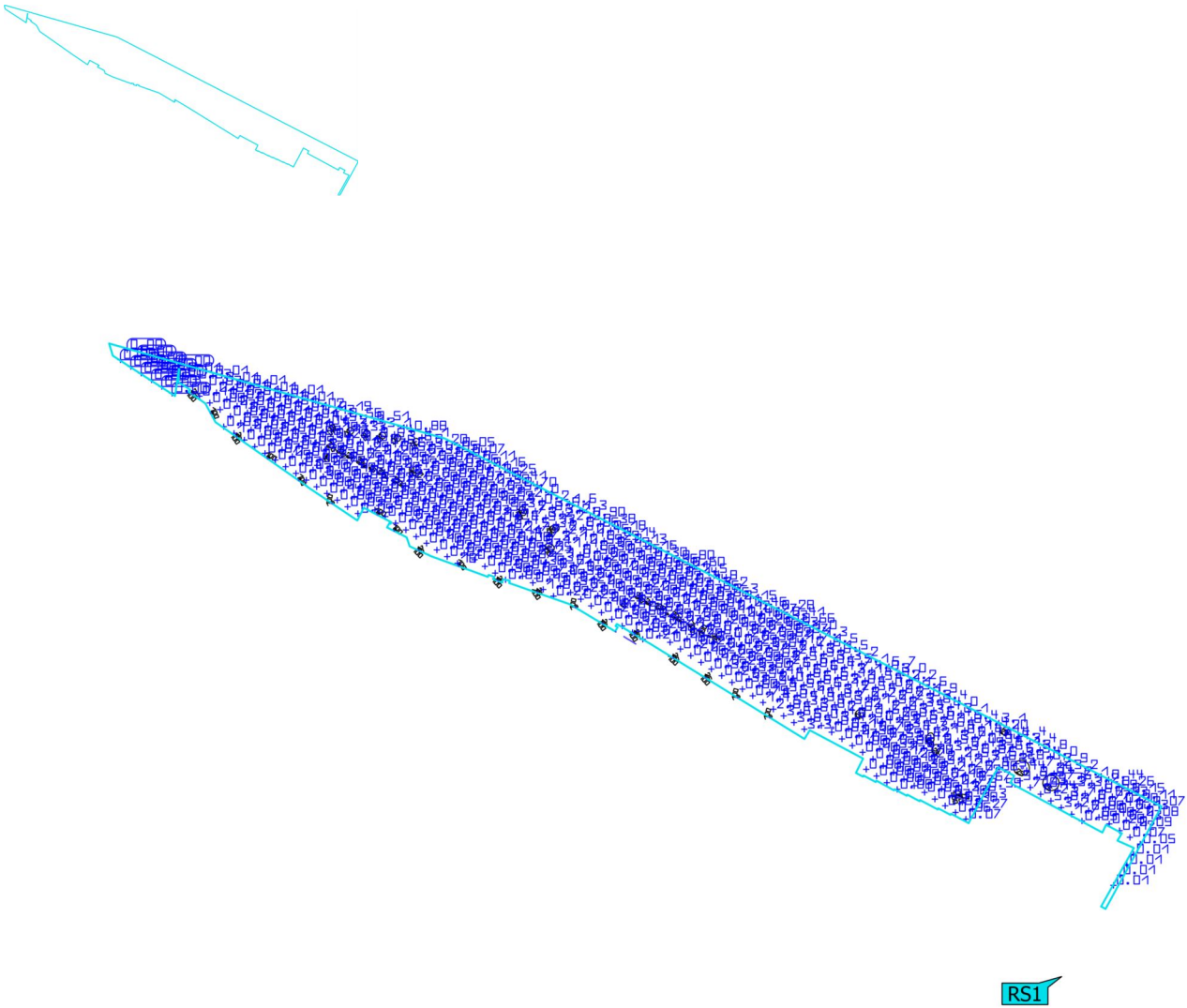
Stag Brewery Site (Light scene 4)
Development



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
Development Perpendicular illuminance (adaptive) Height: 3.000 m	9.75 lx	0.005 lx	3621 lx	0.001	0.000	RS1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

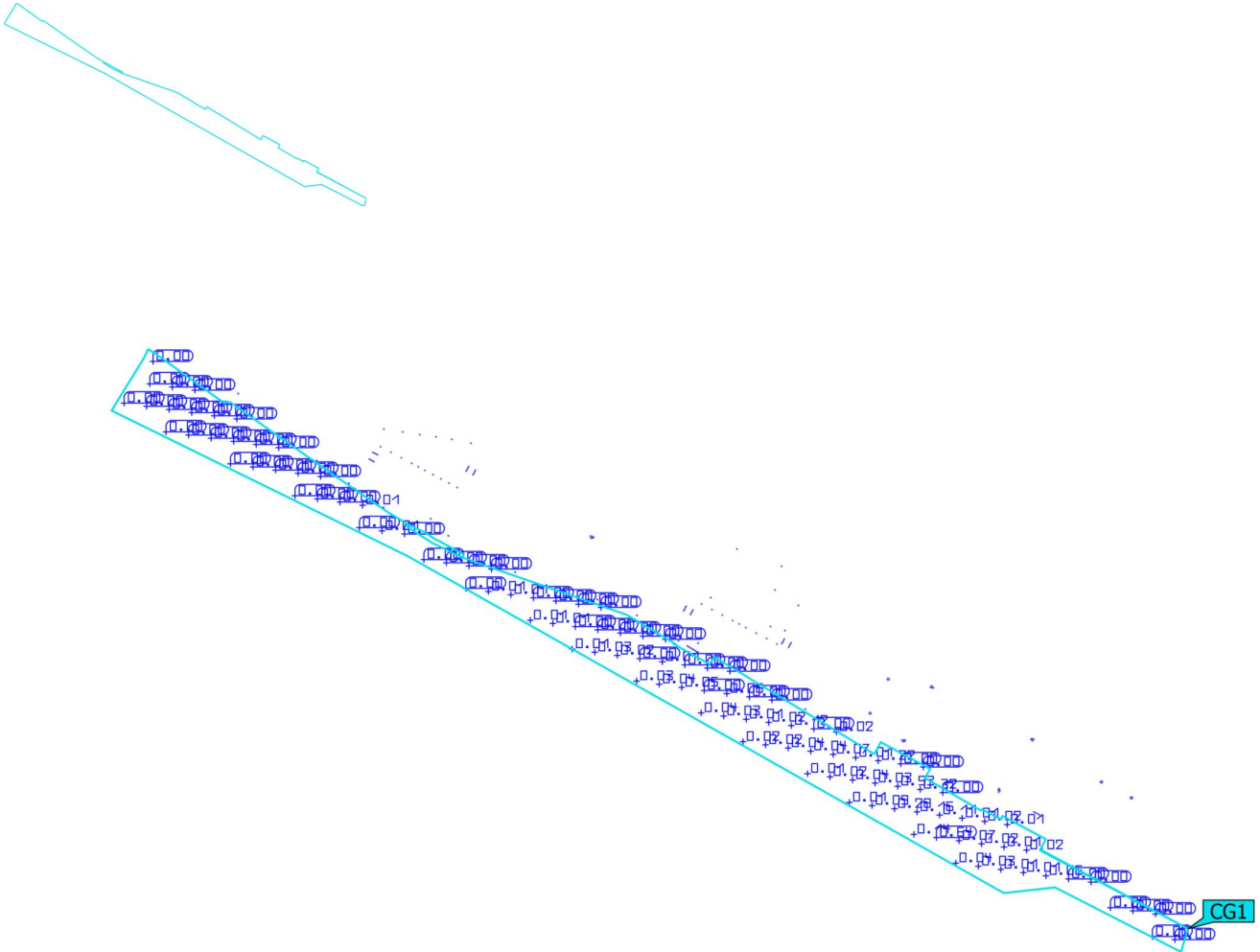
Stag Brewery Site (Light scene 4)
Development



Properties	Ø	min	max	g ₁	g ₂	Index
Development Luminance Height: 3.000 m	2.17 cd/m ²	0.001 cd/m ²	807 cd/m ²	0.000	0.000	RS1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

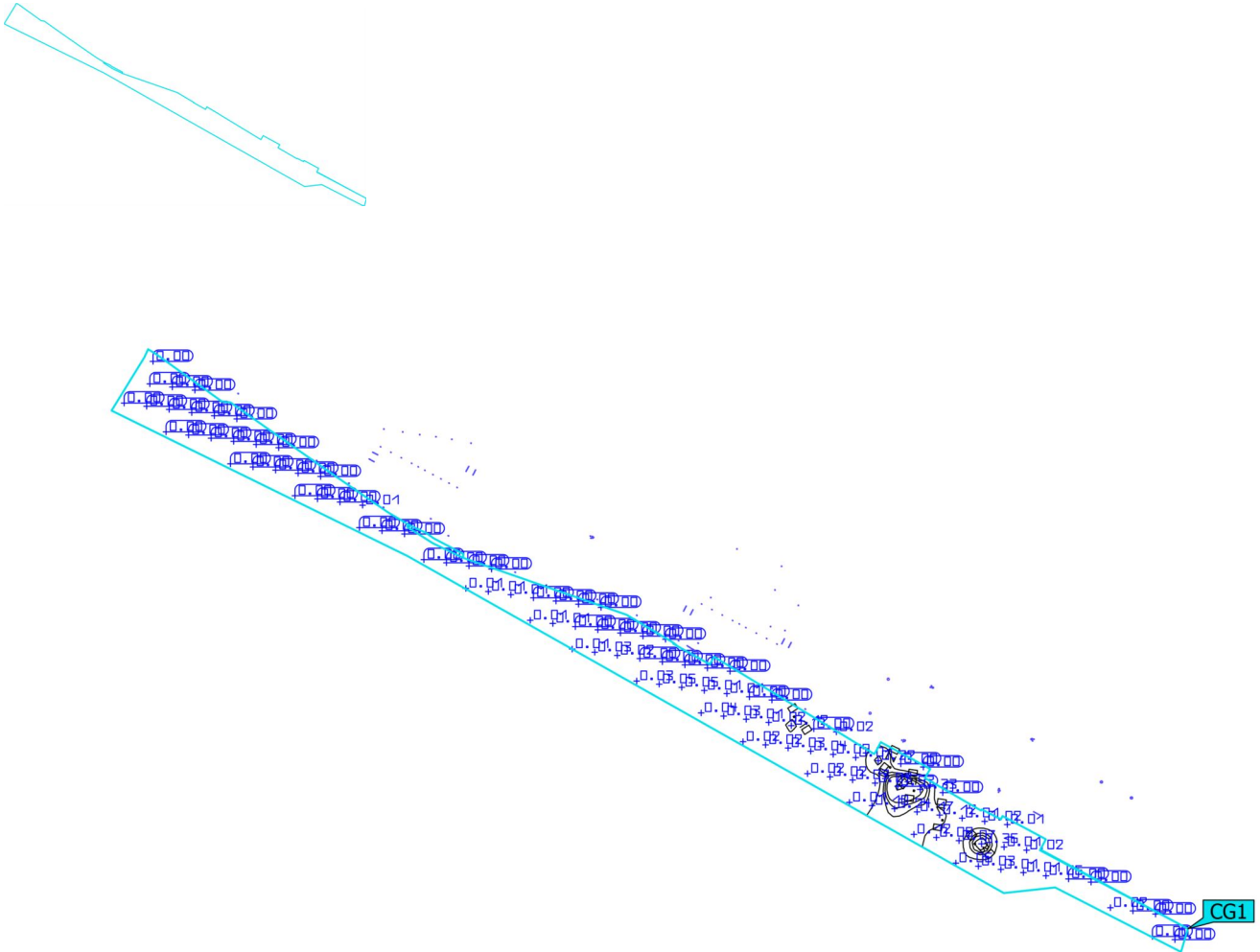
Stag Brewery Site (Light scene 4)
riverside



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
riverside Perpendicular illuminance Height: 1.000 m	0.034 lx	0.00 lx	0.64 lx	0.00	0.00	CG1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

Stag Brewery Site (Light scene 4)
riverside

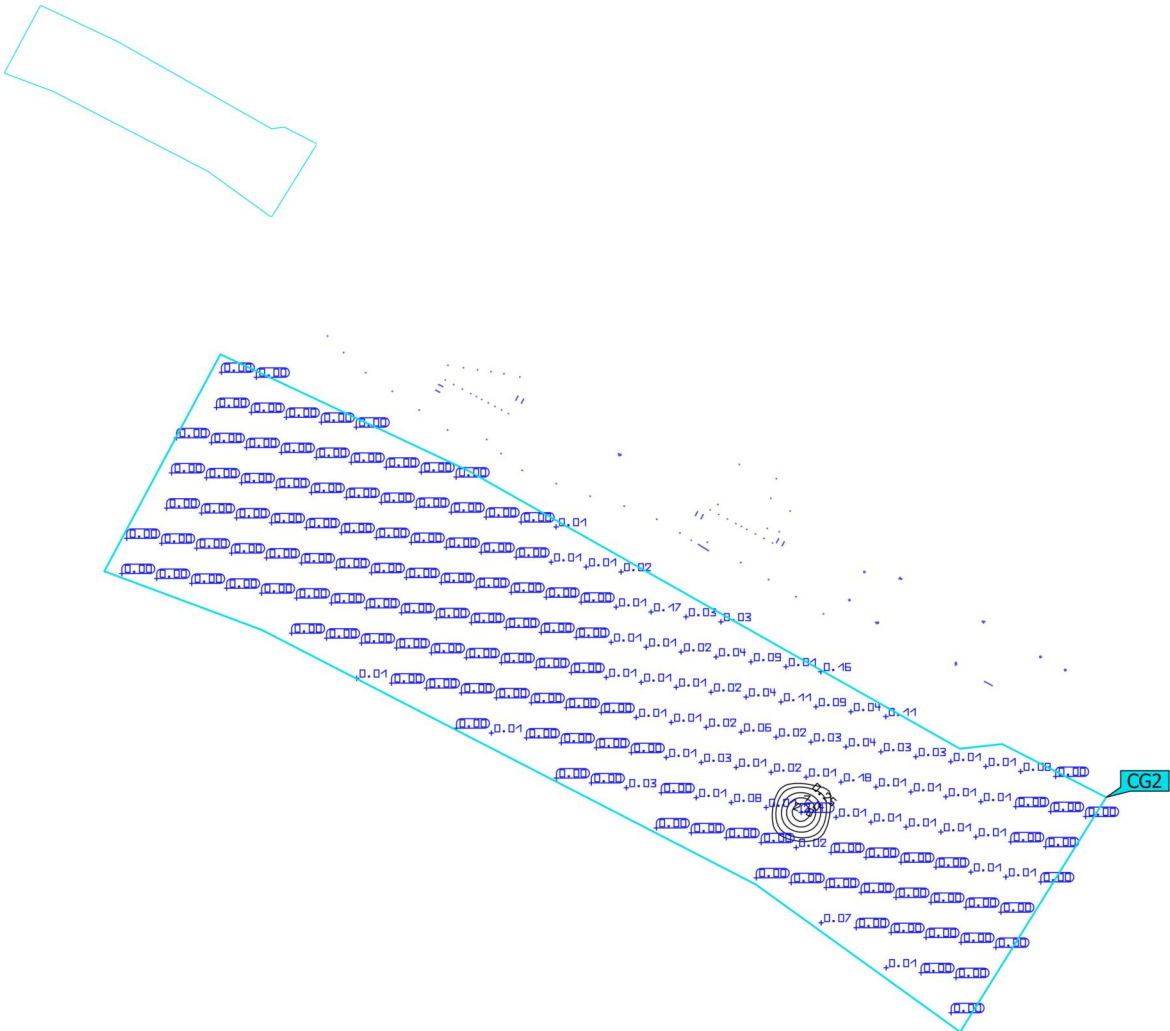


Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
riverside Horizontal illuminance Height: 1.000 m	0.031 lx	0.00 lx	0.53 lx	0.00	0.00	CG1

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

Stag Brewery Site (Light scene 4)

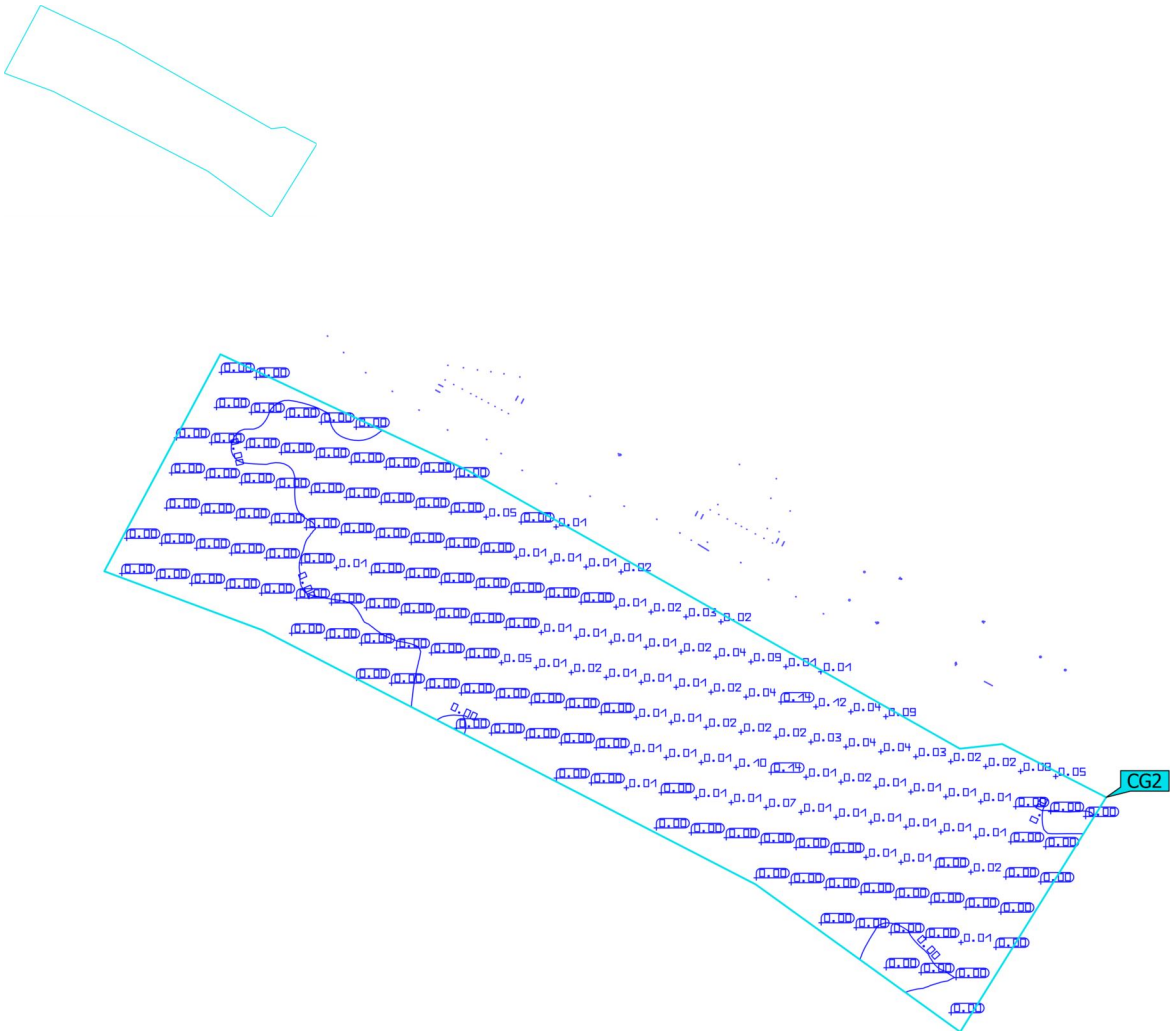
River



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
River Perpendicular illuminance Height: 0.100 m	0.025 lx	0.000 lx	2.39 lx	0.00	0.00	CG2

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

Stag Brewery Site (Light scene 4)
River



Properties	\bar{E}	E_{min}	E_{max}	g_1	g_2	Index
River Horizontal illuminance Height: 0.100 m	0.011 lx	0.000 lx	0.14 lx	0.00	0.00	CG2

Utilization profile: DIALux presetting, Standard (outdoor transportation area)

Glossary

A

A Formula symbol for a surface in the geometry

B

Background area The background area borders the direct ambient area according to DIN EN 12464-1 and reaches up to the borders of the room. In larger rooms, the background area is at least 3 m wide. It is located horizontally at floor level.

C

CCT (correlated color temperature)
 Body temperature of a thermal radiator that serves to describe its light color. Unit: Kelvin [K]. The lesser the numerical value the redder; the greater the numerical value the bluer the light color. The color temperature of gas-discharge lamps and semi-conductors are termed "correlated color temperature" in contrast to the color temperature of thermal radiators.

Allocation of the light colors to the color temperature ranges acc. to EN 12464-1:

Light color - color temperature [K]
 warm white (ww) < 3,300 K
 neutral white (nw) ≥ 3,300 – 5,300 K
 daylight white (dw) > 5,300 K

Clearance height The designation for the distance between upper edge of the floor and bottom edge of the ceiling (in the completely furnished status of room).

CRI (color rendering index)
 Designation for the color rendering index of a luminaire or a lamp acc. to DIN 6169: 1976 or CIE 13.3: 1995.

The general color rendering index Ra (or CRI) is a dimensionless figure that describes the quality of a white light source in regards to its similarity with the remission spectra of defined 8 test colors (see DIN 6169 or CIE 1974) to a reference light source.

D

Daylight factor Ratio of the illuminance achieved solely by daylight incidence at a point in the inside to the horizontal illuminance in the outer area under an unobstructed sky.

Formula symbol: D (daylight factor)
 Unit: %

Glossary

Daylight quotient effective area	A calculation surface within which the daylight quotient is calculated.
E	
Eta (η)	(light output ratio) The light output ratio describes what percentage of the luminous flux of a free radiating lamp (or LED module) is emitted by the luminaire when installed. Unit: %
G	
g_1	Often also U_o (overall uniformity) Designates the overall uniformity of the illuminance on a surface. It is the quotient from E_{min} to \bar{E} and is required, for instance, in standards for illumination of workstations.
g_2	Actually it designates the "non-uniformity" of the illuminance on a surface. It is the quotient of E_{min} to E_{max} and is generally only relevant for certifying the emergency lighting acc. to EN 1838.
I	
Illuminance	Describes the ratio of the luminous flux that strikes a certain surface to the size of this surface ($lm/m^2 = lx$). The illuminance is not tied to an object surface. It can be determined anywhere in space (inside or outside). The illuminance is not a product feature because it is a recipient value. Luxometers are used for measuring. Unit: Lux Abbreviation: lx Formula symbol: E
Illuminance, adaptive	For the determining of the middle adaptive illuminance on a surface, this is rastered "adaptively". In the area of large illuminance differences within the surface, the raster is subdivided finer; within lesser differences, a rougher classification is made.
Illuminance, horizontal	Illuminance that is calculated or measured on a horizontal (level) surface (this can be for example a table top or the floor). The horizontal illuminance is usually identified by the formula letter E_h .
Illuminance, perpendicular	Illuminance that is calculated or measured plumb-vertical to a surface. This needs to be taken into account for tilted surfaces. If the surface is horizontal or vertical, then there is no difference between the perpendicular and the horizontal or vertical illuminance.

Glossary

<p>Illuminance, vertical</p>	<p>Illuminance that is calculated or measured on a vertical surface (this can be for example the front of some shelves). The vertical illuminance is usually identified by the formula letter E_v.</p>
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<p>L</p>	
<p>LENI</p>	<p>(lighting energy numeric indicator) Lighting energy numeric indicator acc. to EN 15193</p> <p>Unit: kWh/m² year</p>
<hr/>	
<p>Light loss factor</p>	<p>See MF</p>
<hr/>	
<p>LLMF</p>	<p>(lamp lumen maintenance factor)/acc. to CIE 97: 2005 Lamp flux maintenance factor that takes the luminous flux reduction into account of a luminaire or an LED module in the course of the operating time. The lamp flux maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no luminous flux reduction existing).</p>
<hr/>	
<p>LMF</p>	<p>(luminaire maintenance factor)/acc. to CIE 97: 2005 Luminaire maintenance factor that takes the soiling into account of the luminaire in the course of the operating time. The luminaire maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no soiling existing).</p>
<hr/>	
<p>LSF</p>	<p>(lamp survival factor)/acc. to CIE 97: 2005 Lamp survival factor that takes the total failure into account of a luminaire in the course of the operating time. The lamp survival factor is specified as a decimal digit and can have a maximum value of 1 (no failures existing within the time concerned or prompt replacement after the failure).</p>
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<p>Luminance</p>	<p>Dimension for the "brightness impression" that the human eye has of a surface. The surface itself can emit light thereby or light striking it can be reflected (emitter value). It is the only photometric value that the human eye can perceive.</p> <p>Unit: Candela per square meter Abbreviation: cd/m² Formula symbol: L</p>
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<p>Luminous efficacy</p>	<p>Ratio of the emitted luminous flux Φ [lm] to the absorbed electrical power P [W] Unit: lm/W.</p> <p>This ratio can be formed for the lamp or LED module (lamp or module light output), the lamp or module with control gear (system light output) and the complete luminaire (luminaire light output).</p>
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Glossary

Luminous flux	Dimension for the total light output that is emitted from one light source in all directions. It is thus an "emitter value" that specifies the entire emitting output. The luminous flux of a light source can only be determined in a laboratory. A difference is made between the lamp or LED module luminous flux and the luminaire luminous flux.
	Unit: Lumen Abbreviation: lm Formula symbol: Φ
Luminous intensity	Describes the intensity of the light in a certain direction (emitter value). The luminous intensity is a matter of the luminous flux Φ that is emitted in a certain spherical angle Ω . The radiation characteristics of a light source are presented graphically in a light distribution curve (LDC). The luminous intensity is an SI base unit.
	Unit: Candela Abbreviation: cd Formula symbol: I
M	
MF	(maintenance factor)/acc. to CIE 97: 2005 Maintenance factor as decimal number between 0 and 1 that describes the ratio of the new value of a photometric planning parameter (e.g. of the illuminance) to a maintenance value after a certain time. The maintenance factor takes into account the soiling of luminaires and rooms as well as the luminous flux reduction and the failure of light sources. The maintenance factor is taken into account either overall or determined in detail acc. to CIE 97: 2005 by the formula $RMF \times LMF \times LLMF \times LSF$.
P	
P	(power) Electric power consumption Unit: watt Abbreviation: W
R	
Reflection factor	The reflection factor of a surface describes how much of the striking light is reflected back. The reflection factor is defined by the color of the surface.

Glossary

RMF	(room maintenance factor)/acc. to CIE 97: 2005 Room maintenance factor that takes the soiling into account of the space encompassing surfaces in the course of the operating time. The room maintenance factor is specified as a decimal digit and can have a maximum value of 1 (no soiling existing).
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S	
Surrounding area	The ambient area directly borders the area of the visual task and should be planned with a width of at least 0.5 m according to DIN EN 12464-1. It is at the same height as the area of the visual task.
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U	
UGR (max)	(unified glare rating) Measure for the psychological glare effect in interiors. In addition to luminaire luminance, the UGR value also depends on the position of the observer, the viewing direction and the ambient luminance. Among other things, EN 12464-1 specifies maximum permissible UGR values for various indoor workplaces.
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UGR observer	Calculation point in the room, for the DIALux the UGR value is determined. The location and height of the calculation point should correspond to the typical observer position (position and eye level of the user).
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V	
Visual task area	The area that is needed for carrying out the visual task in accordance with DIN EN 12464-1. The height corresponds with the height at which the visual task is executed.
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W	
Wall zone	Circumferential area between working plane and walls that is not taken into account for the calculation.
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Working plane	Virtual measuring or calculation surface at the height of the visual task that generally follows the room geometry. The working plane may also feature a wall zone.
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