



Merthyr Tydfil Premier Inn Hotel

Lighting Report
210-582-001 Revision B

Table of Contents

Cover	1
Table of Contents	2
Contacts	4
Description	5
Images	6
Luminaire list	8

Product data sheets

Kellwood Lighting - Baker Series - LED Bulkhead - 10W - 230mm - CRI>80 2700K (16x LED 0.5W*16)	9
Kellwood Lighting - Bradley Series - LED Bollard - 14W - CRI>80 2700K - Type IV Short - 180° Cutoff (1x /)	10
Kellwood Lighting - Bradley Series - LED Bollard - 14W - CRI>80 2700K - Type IV Short - 180° Cutoff (1x /)	11

Merthyr Tydfil Premier Inn

Luminaire layout plan	12
Calculation objects / Bat Friendly	14
Calculation objects / PIR Activated light scene	16
Exterior Plant Area / Bat Friendly / Perpendicular illuminance	18
Pathway - West / Bat Friendly / Perpendicular illuminance	19
Staircase Platform / Bat Friendly / Perpendicular illuminance	20
Pathway - East / Bat Friendly / Perpendicular illuminance	21
Stairs / Bat Friendly / Perpendicular illuminance	22
Carpark South / Bat Friendly / Perpendicular illuminance	23
Woodland - West / Bat Friendly / Perpendicular illuminance	24
Adjacent properties East / Bat Friendly / Perpendicular illuminance	25
Exterior Plant Area / PIR Activated light scene / Perpendicular illuminance	26
Pathway - West / PIR Activated light scene / Perpendicular illuminance	27
Staircase Platform / PIR Activated light scene / Perpendicular illuminance	28
Pathway - East / PIR Activated light scene / Perpendicular illuminance	29
Stairs / PIR Activated light scene / Perpendicular illuminance	30
Carpark South / PIR Activated light scene / Perpendicular illuminance	31
Woodland - West / PIR Activated light scene / Perpendicular illuminance	32
Adjacent properties East / PIR Activated light scene / Perpendicular illuminance	33

Merthyr Tydfil Premier Inn

Premier Inn Hotel Extension

Calculation objects / Bat Friendly	34
Calculation objects / PIR Activated light scene	36
Bat Roost Wall / Bat Friendly / Perpendicular illuminance	38

Table of Contents

Bat Roost Wall / PIR Activated light scene / Perpendicular illuminance 39

Contacts



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Description

The proposed lighting scheme has been designed to serve the newly constructed extension to the existing building at the Merthyr Tydfil Premier Inn Hotel. The scheme provides low-level illumination to facilitate the safe ingress and egress of building users, whilst minimising light spill beyond the immediate access routes. Directional luminaires have been selected to minimise unnecessary light spill and help preserve the surrounding dark corridors.

In accordance with Guidance Note GN08/23 – Bats and Artificial Lighting at Night and the Welsh Government's Good Practice Guidance: Planning for the Conservation and Enhancement of Dark Skies in Wales, the lighting has been designed to operate only where and when it is required. The low-level luminaires are controlled by Passive Infrared (PIR) sensors and activate only when movement is detected. Following activation, the luminaires remain illuminated for a maximum of approximately three minutes before automatically switching off, minimising the duration of artificial lighting whilst maintaining safe ingress and egress and reducing the potential for disturbance to the proposed bat roosts and potential bat movement between the proposed roosts and the adjacent wooded habitat.

A maintenance factor (MF) of 1.0 has been applied throughout the lighting calculations, in accordance with the recommendations of Guidance Note GN08/23 – Bats and Artificial Lighting at Night. This represents the worst-case ('Day 1') lighting scenario and provides a conservative assessment of the potential

Managing Director
Brett Smith

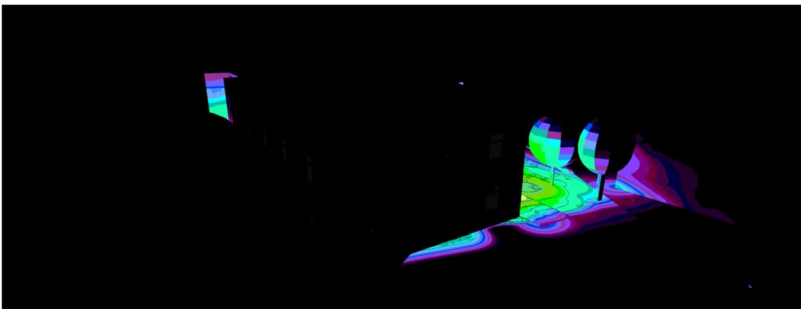
Jenks Associates
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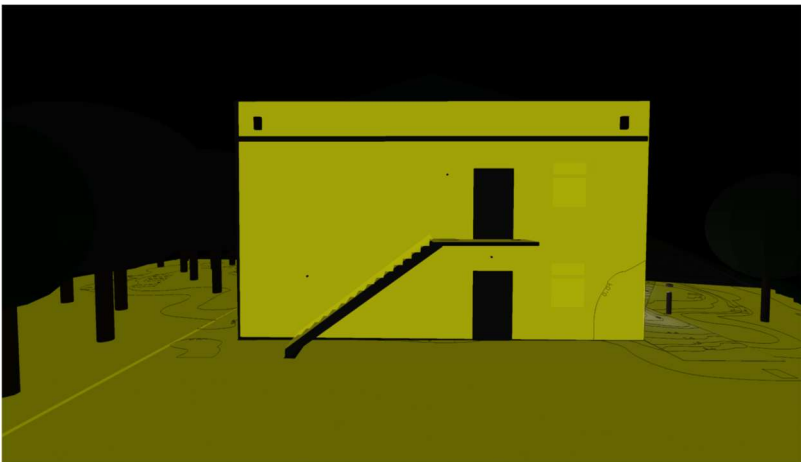
Images

Merthyr Tydfil Premier Inn

Bat Friendly Lighting
The proposed external lighting scheme has been designed to minimise potential impacts on bats and other nocturnal wildlife. Under normal operating conditions, the luminaires remain in a standard bat-friendly mode, providing low-level illumination while limiting light spill into adjacent habitats. The lighting arrangement has been designed to avoid direct illumination of the two bat boxes located on the south elevation of the extension building. The accompanying renderings and illuminance contour plots



Merthyr Tydfil Premier Inn (93)

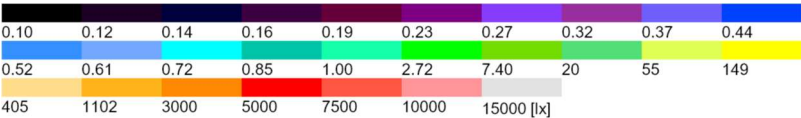
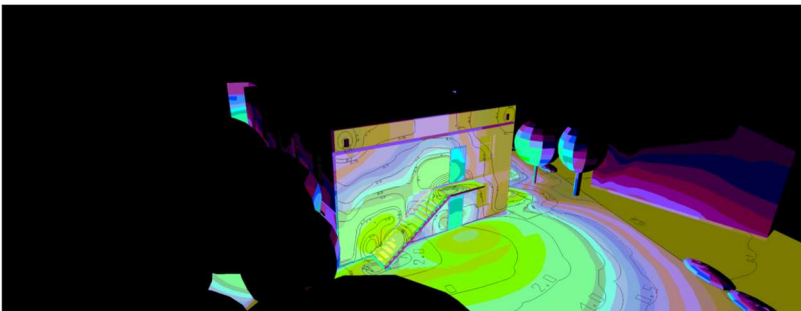


Images

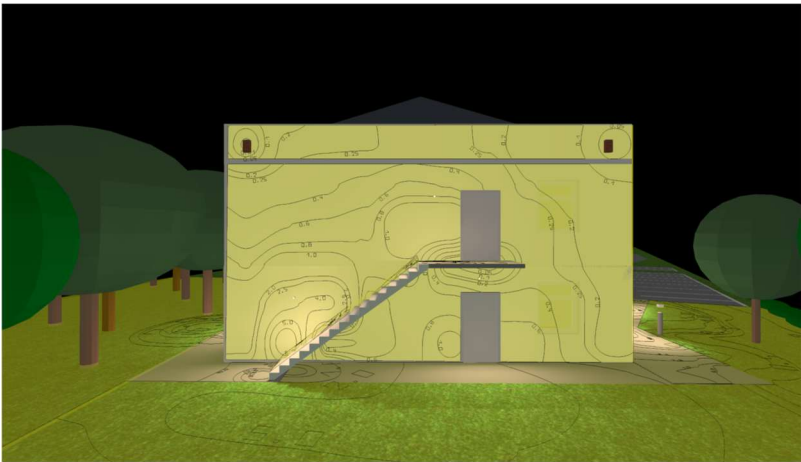
Merthyr Tydfil Premier Inn (96)



Merthyr Tydfil Premier Inn (95)



Merthyr Tydfil Premier Inn (97)



Luminaire list

Φ_{total} 3901 lm	P_{total} 94.4 W	Luminous efficacy 41.3 lm/W
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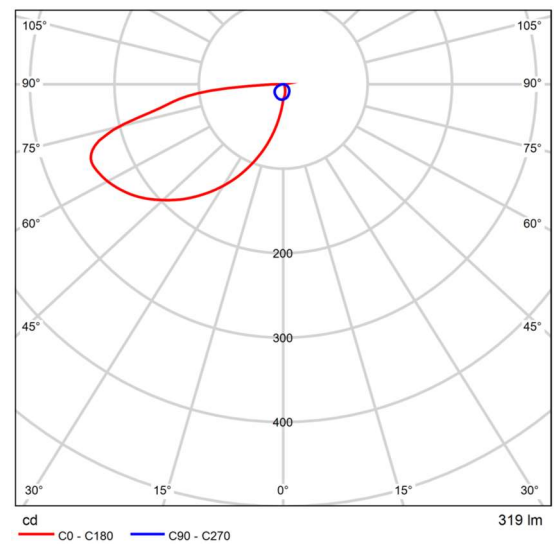
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
7	Kellwood Lighting	BAK-10-827	Baker Series - LED Bulkhead - 10W - 230mm - CRI>80 2700K	9.4 W	319 lm	34.1 lm/W
1	Kellwood Lighting	BRA-14-827-4S-CO	Bradley Series - LED Bollard - 14W - CRI>80 2700K - Type IV Short - 180° Cutoff	14.3 W	834 lm	58.2 lm/W
1	Kellwood Lighting	BRA-14-827-4S-CO	Bradley Series - LED Bollard - 14W - CRI>80 2700K - Type IV Short - 180° Cutoff	14.3 W	834 lm	58.2 lm/W

Product data sheet

Kellwood Lighting - Baker Series - LED Bulkhead - 10W - 230mm - CRI>80 2700K



Article No.	BAK-10-827
P	9.4 W
Φ_{Lamp}	—
$\Phi_{\text{Luminaire}}$	319 lm
η	—
Luminous efficacy	34.1 lm/W
CCT	3000 K
CRI	100



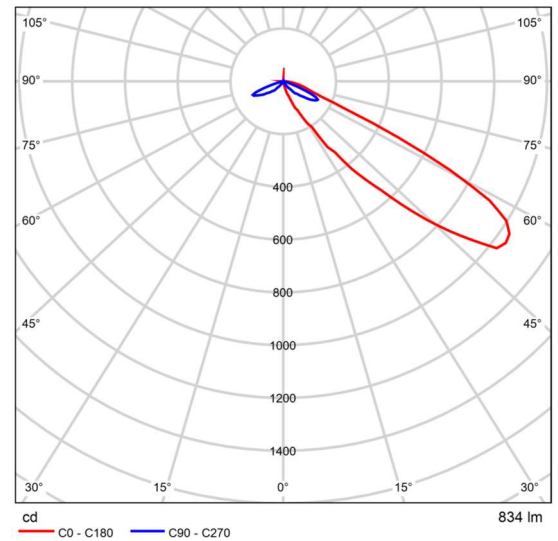
Polar LDC

Product data sheet

Kellwood Lighting - Bradley Series - LED Bollard - 14W - CRI>80 2700K - Type IV Short - 180° Cutoff



Article No.	BRA-14-827-4S-CO
P	14.3 W
Φ_{Lamp}	—
$\Phi_{\text{Luminaire}}$	834 lm
η	—
Luminous efficacy	58.2 lm/W
CCT	2700 K
CRI	100



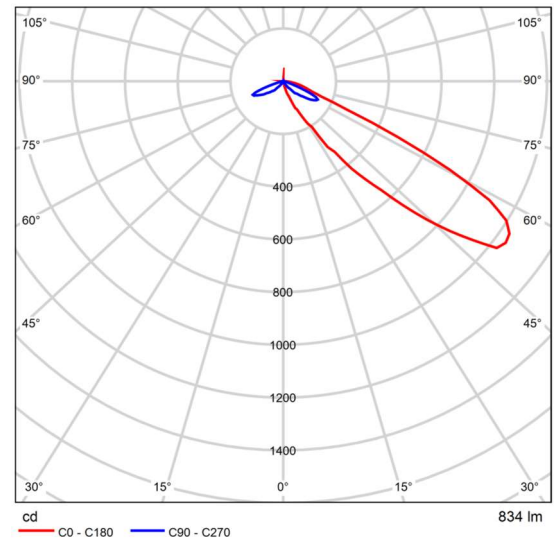
Polar LDC

Product data sheet

Kellwood Lighting - Bradley Series - LED Bollard - 14W - CRI>80 2700K - Type IV Short - 180° Cutoff

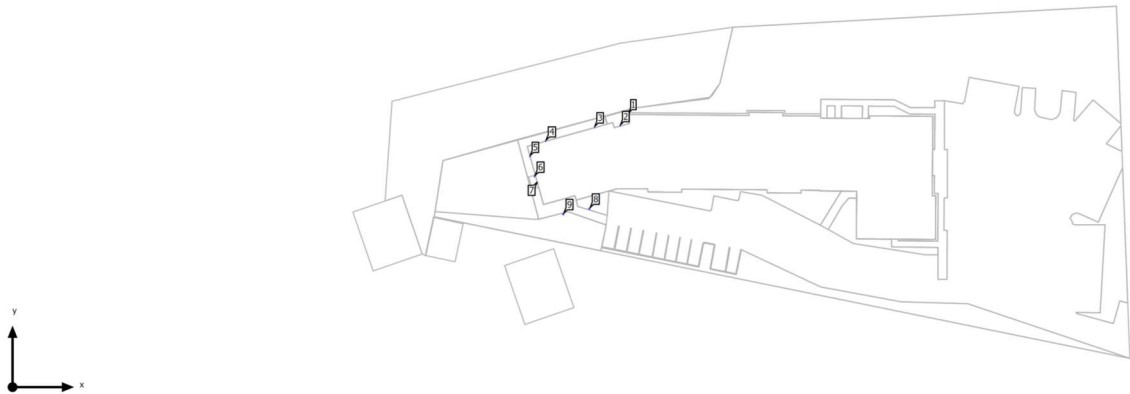


Article No.	BRA-14-827-4S-CO
P	14.3 W
Φ_{Lamp}	—
$\Phi_{\text{Luminaire}}$	834 lm
η	—
Luminous efficacy	58.2 lm/W
CCT	3000 K
CRI	100



Polar LDC

Merthyr Tydfil Premier Inn
Luminaire layout plan



Merthyr Tydfil Premier Inn

Luminaire layout plan

Kellwood Lighting - BAK-10-827 - Baker Series - LED Bulkhead - 10W - 230mm - CRI>80 2700K
16x LED

X	Y	Mounting height	MF	Luminaire
118.762 m	52.718 m	1.600 m	0.80	1
117.055 m	50.327 m	1.850 m	0.80	2
112.113 m	50.019 m	1.850 m	0.80	3
102.677 m	47.391 m	1.850 m	0.80	4
99.691 m	44.457 m	1.850 m	0.80	5
100.584 m	40.600 m	4.700 m	0.80	6
101.081 m	39.411 m	2.400 m	0.80	7

Kellwood Lighting - BRA-14-827-4S-CO - Bradley Series - LED Bollard - 14W - CRI>80 2700K -
Type IV Short - 180° Cutoff

X	Y	Mounting height	MF	Luminaire
106.078 m	33.317 m	1.100 m	0.80	9

Kellwood Lighting - BRA-14-827-4S-CO - Bradley Series - LED Bollard - 14W - CRI>80 2700K -
Type IV Short - 180° Cutoff

X	Y	Mounting height	MF	Luminaire
111.100 m	34.400 m	1.100 m	0.80	8

Merthyr Tydfil Premier Inn (Bat Friendly)

Calculation objects



Merthyr Tydfil Premier Inn (Bat Friendly)

Calculation objects

Calculation surfaces

Properties	$\bar{E}$	$E_{\min}$	$E_{\max}$	U_o	g_2	Index
Adjacent properties East Perpendicular illuminance	0.026 lx	0.000 lx	0.18 lx	0.00	0.00	CG8
Carpark South Perpendicular illuminance	0.47 lx	0.000 lx	22.2 lx	0.00	0.00	CG6
Exterior Plant Area Perpendicular illuminance	30.2 lx	2.55 lx	66.7 lx	0.084	0.038	CG1
Pathway - East Perpendicular illuminance	37.0 lx	0.24 lx	196 lx	0.006	0.001	CG4
Pathway - West Perpendicular illuminance	0.005 lx	0.001 lx	0.028 lx	-	0.036	CG2
Staircase Platform Perpendicular illuminance	0.001 lx	0.001 lx	0.001 lx	-	-	CG3
Stairs Perpendicular illuminance	0.001 lx	0.001 lx	0.001 lx	-	-	CG5
Woodland - West Perpendicular illuminance	0.002 lx	0.00 lx	0.019 lx	-	0.00	CG7

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Merthyr Tydfil Premier Inn (PIR Activated light scene)

Calculation objects



Merthyr Tydfil Premier Inn (PIR Activated light scene)

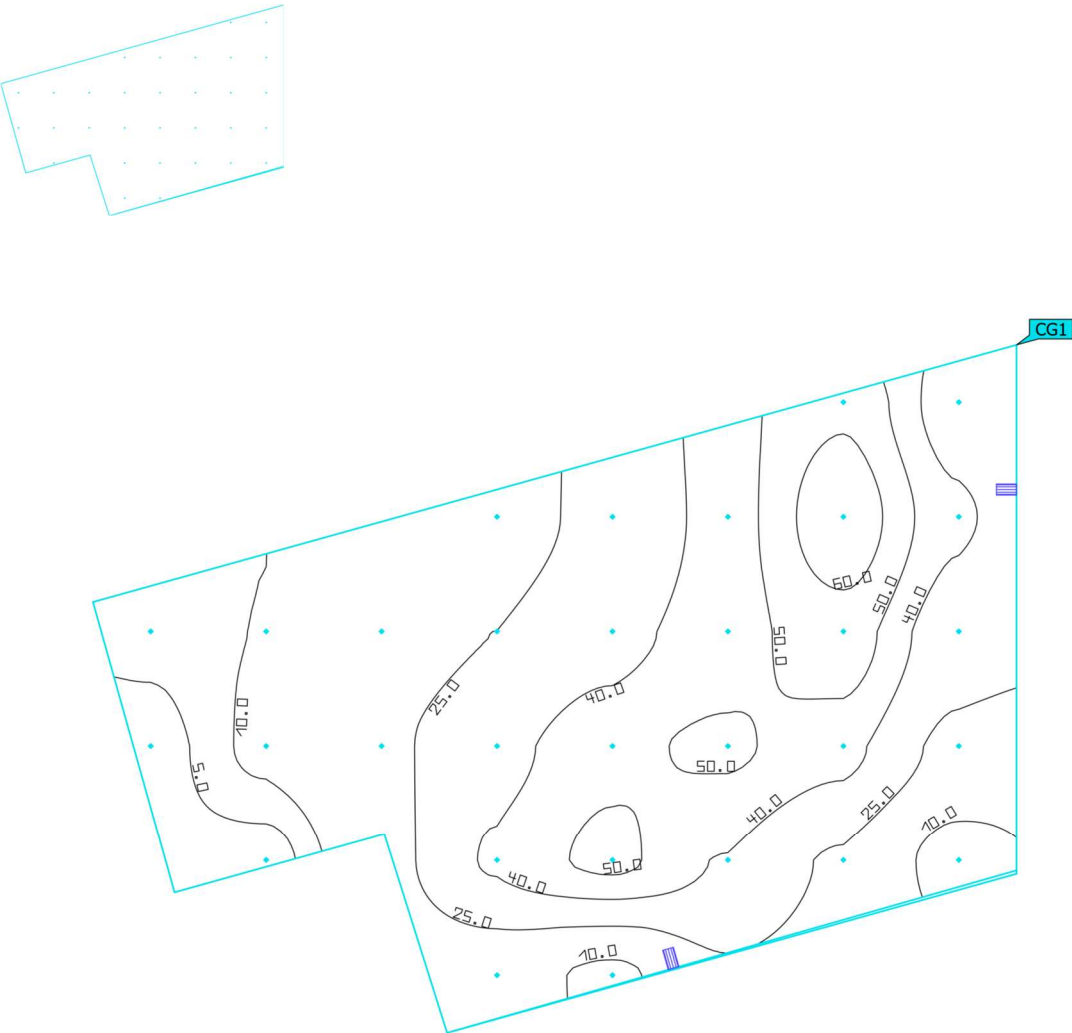
Calculation objects

Calculation surfaces

Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Adjacent properties East Perpendicular illuminance	0.073 lx	0.010 lx	0.20 lx	0.14	0.050	CG8
Carpark South Perpendicular illuminance	1.60 lx	0.071 lx	22.2 lx	0.044	0.003	CG6
Exterior Plant Area Perpendicular illuminance	30.2 lx	2.58 lx	66.7 lx	0.085	0.039	CG1
Pathway - East Perpendicular illuminance	37.1 lx	0.61 lx	196 lx	0.016	0.003	CG4
Pathway - West Perpendicular illuminance	10.00 lx	0.095 lx	41.4 lx	0.010	0.002	CG2
Staircase Platform Perpendicular illuminance	17.5 lx	0.20 lx	49.4 lx	0.011	0.004	CG3
Stairs Perpendicular illuminance	21.5 lx	0.33 lx	90.5 lx	0.015	0.004	CG5
Woodland - West Perpendicular illuminance	0.30 lx	0.00 lx	6.73 lx	0.00	0.00	CG7

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

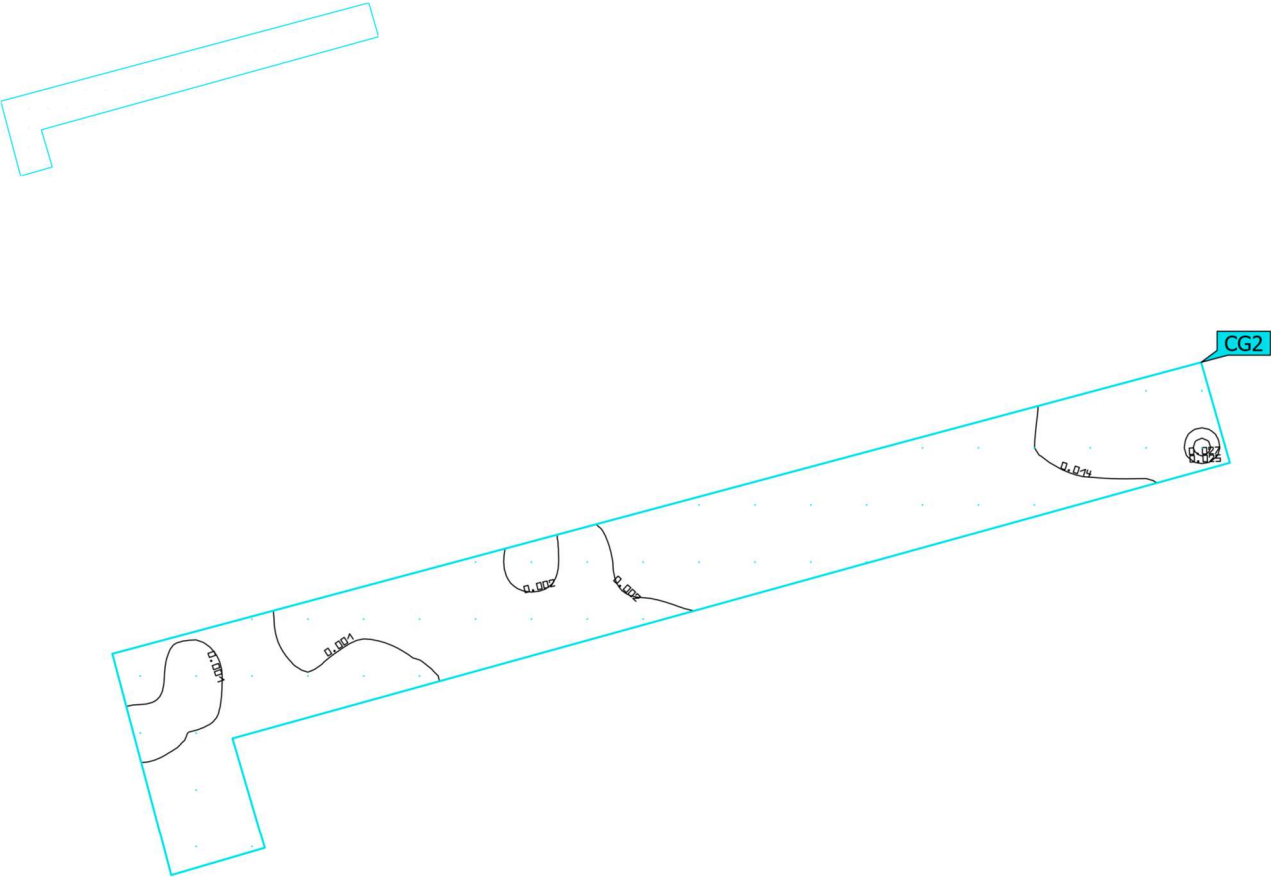
Merthyr Tydfil Premier Inn (Bat Friendly)
Exterior Plant Area



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Exterior Plant Area	30.2 lx	2.55 lx	66.7 lx	0.084	0.038	CG1
Perpendicular illuminance						

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

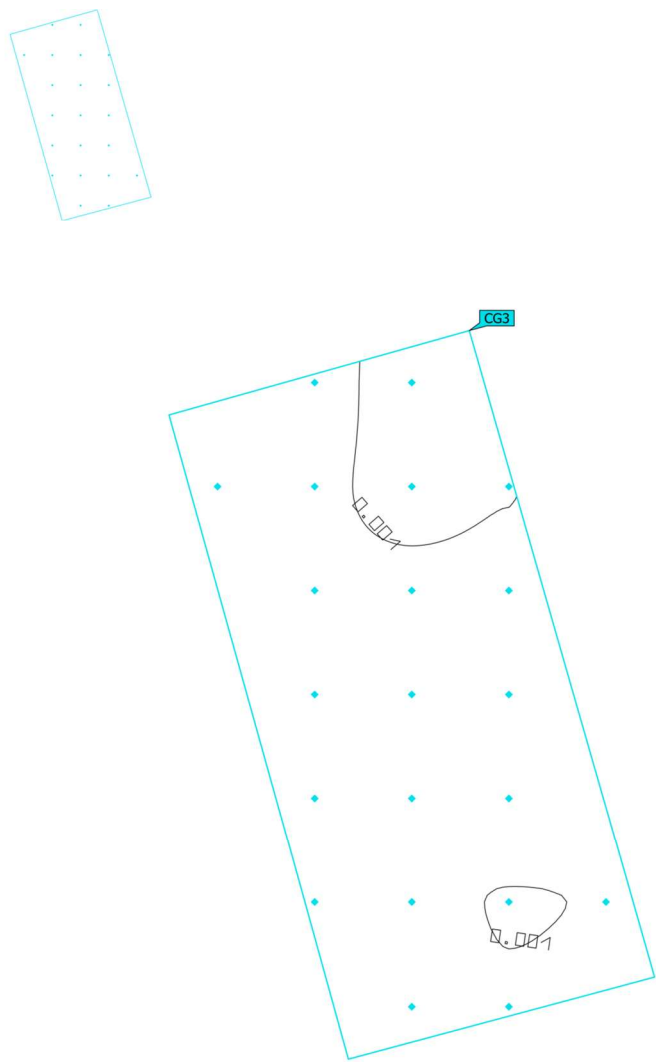
Merthyr Tydfil Premier Inn (Bat Friendly)
Pathway - West



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Pathway - West Perpendicular illuminance	0.005 lx	0.001 lx	0.028 lx	-	0.036	CG2

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

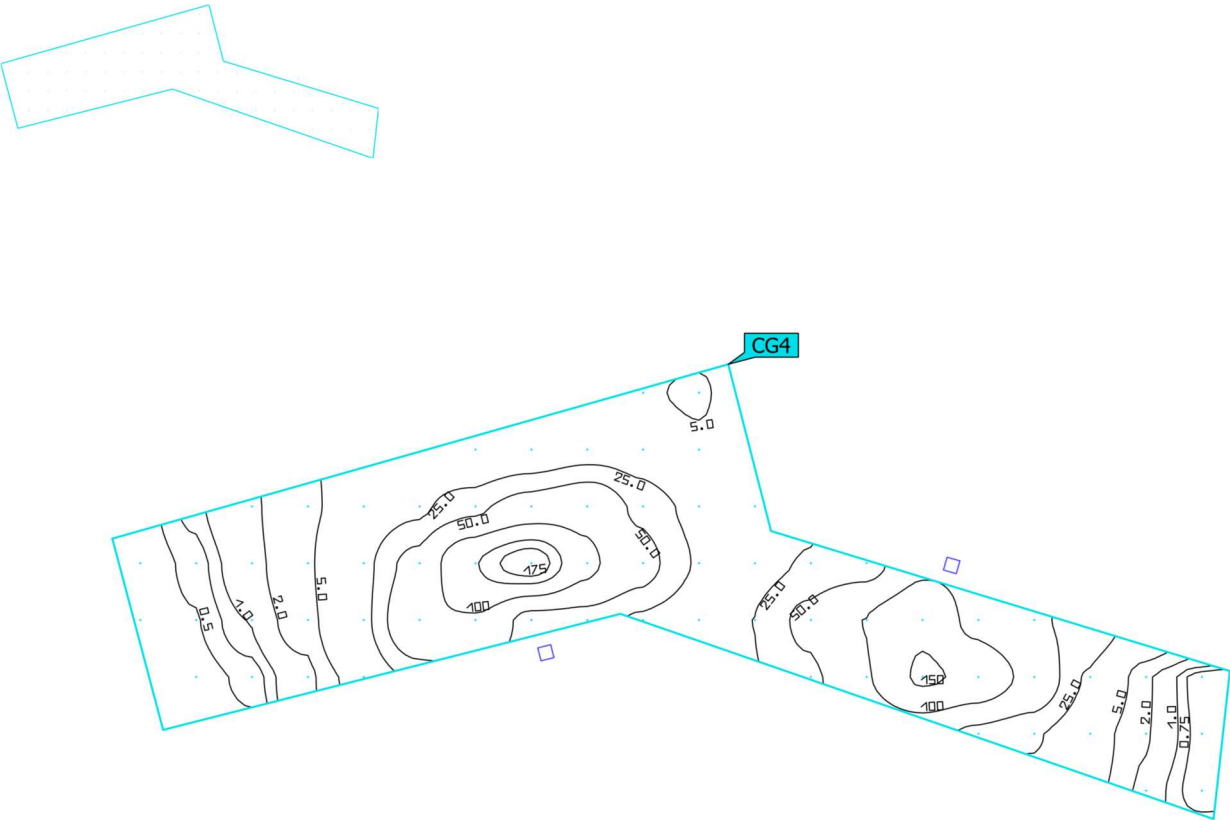
Merthyr Tydfil Premier Inn (Bat Friendly)
Staircase Platform



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Staircase Platform Perpendicular illuminance	0.001 lx	0.001 lx	0.001 lx	-	-	CG3

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

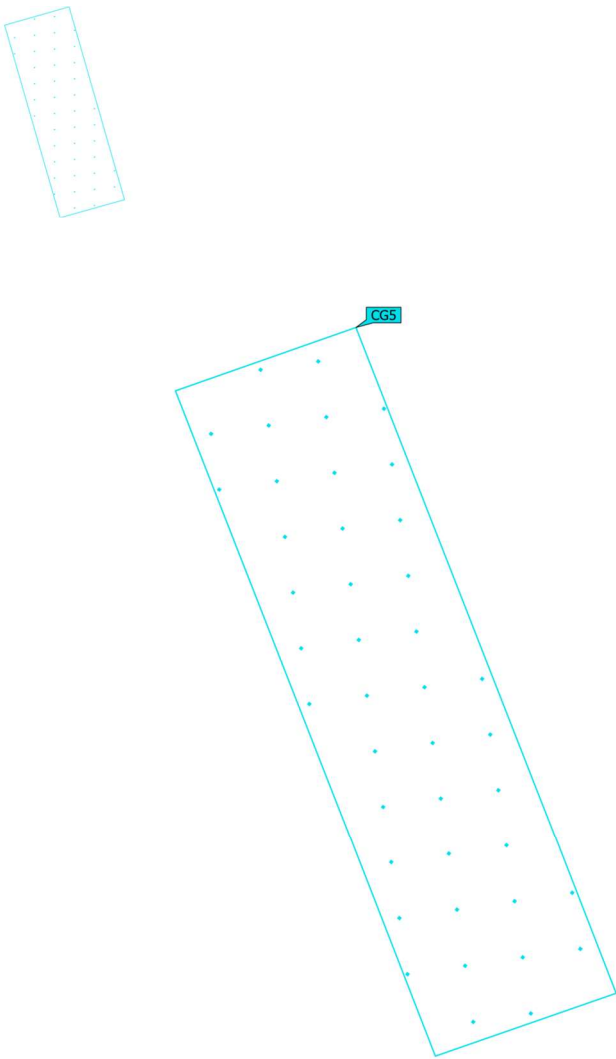
Merthyr Tydfil Premier Inn (Bat Friendly)
Pathway - East



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Pathway - East Perpendicular illuminance	37.0 lx	0.24 lx	196 lx	0.006	0.001	CG4

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

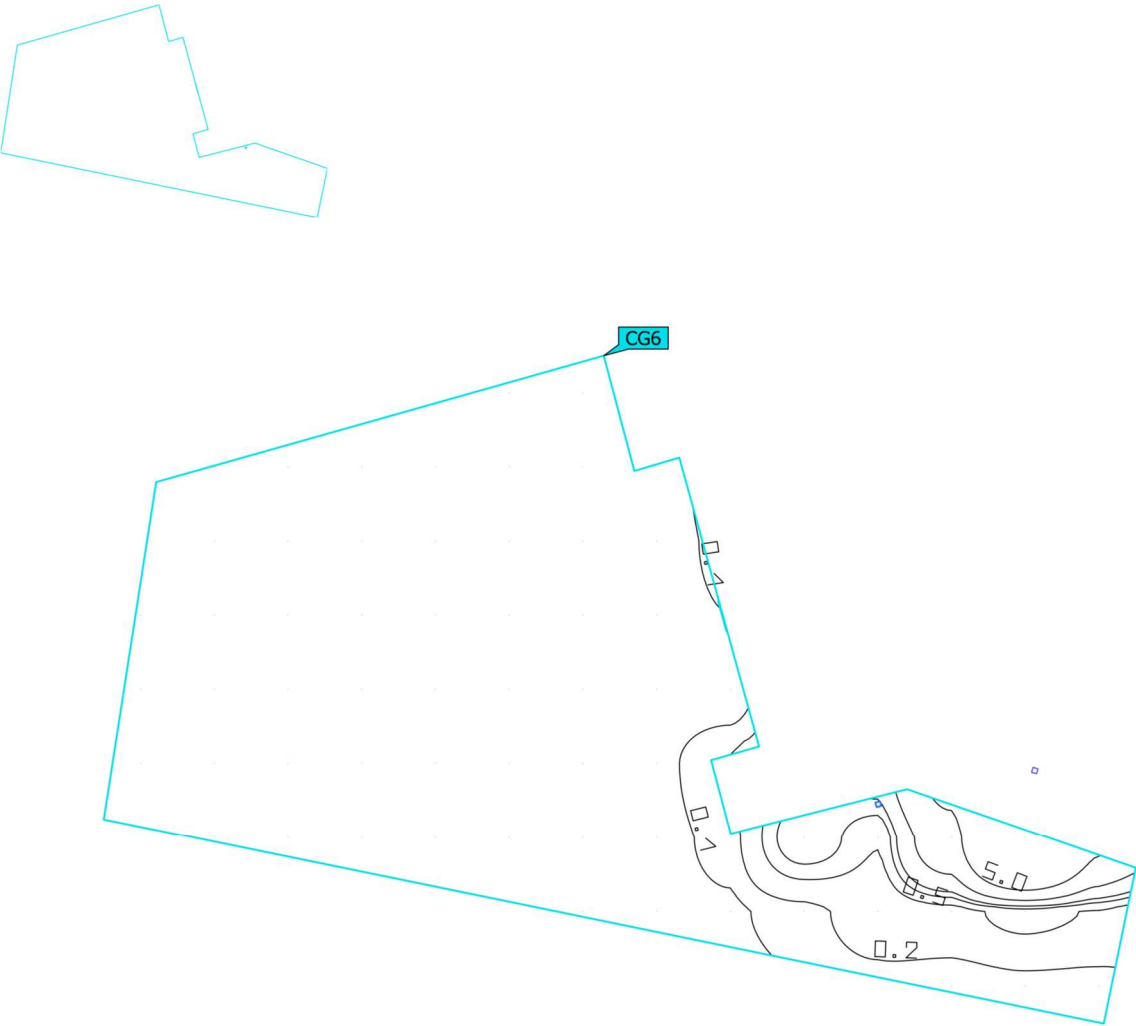
Merthyr Tydfil Premier Inn (Bat Friendly)
Stairs



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Stairs	0.001 lx	0.001 lx	0.001 lx	-	-	CG5
Perpendicular illuminance						

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

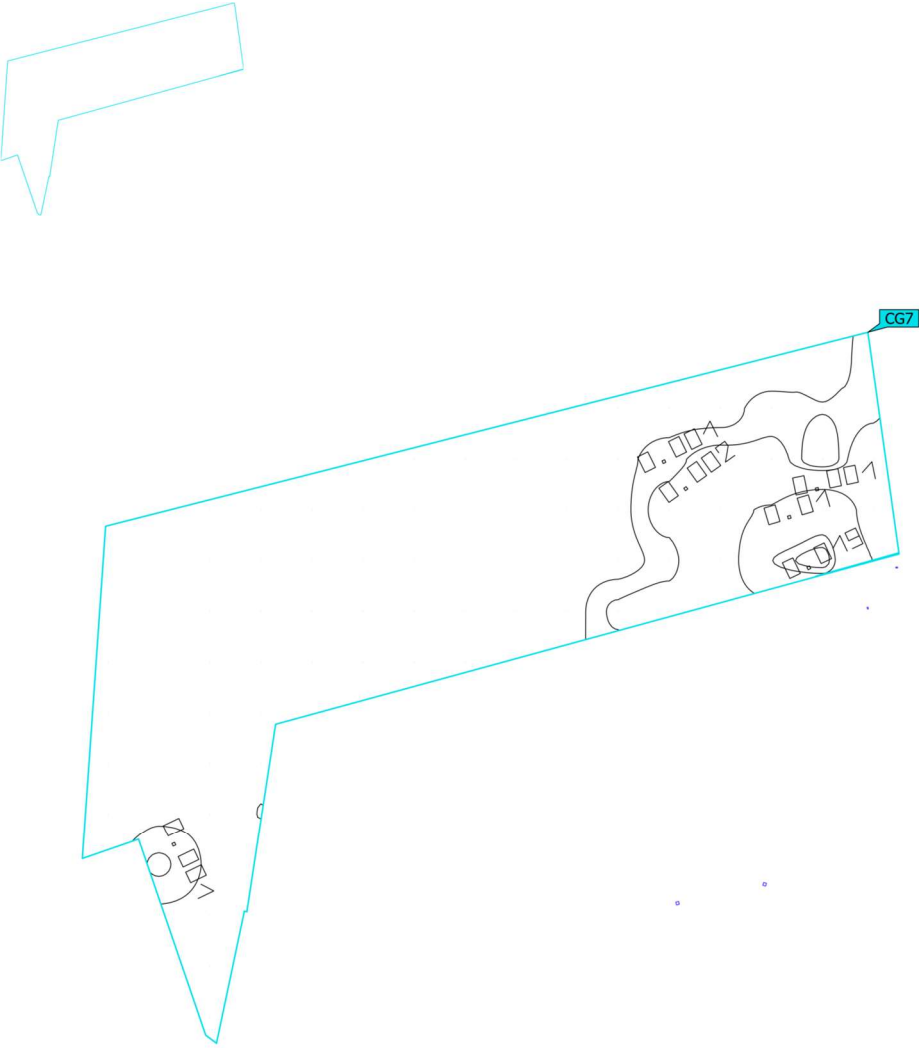
Merthyr Tydfil Premier Inn (Bat Friendly)
Carpark South



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Carpark South Perpendicular illuminance	0.47 lx	0.000 lx	22.2 lx	0.00	0.00	CG6

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

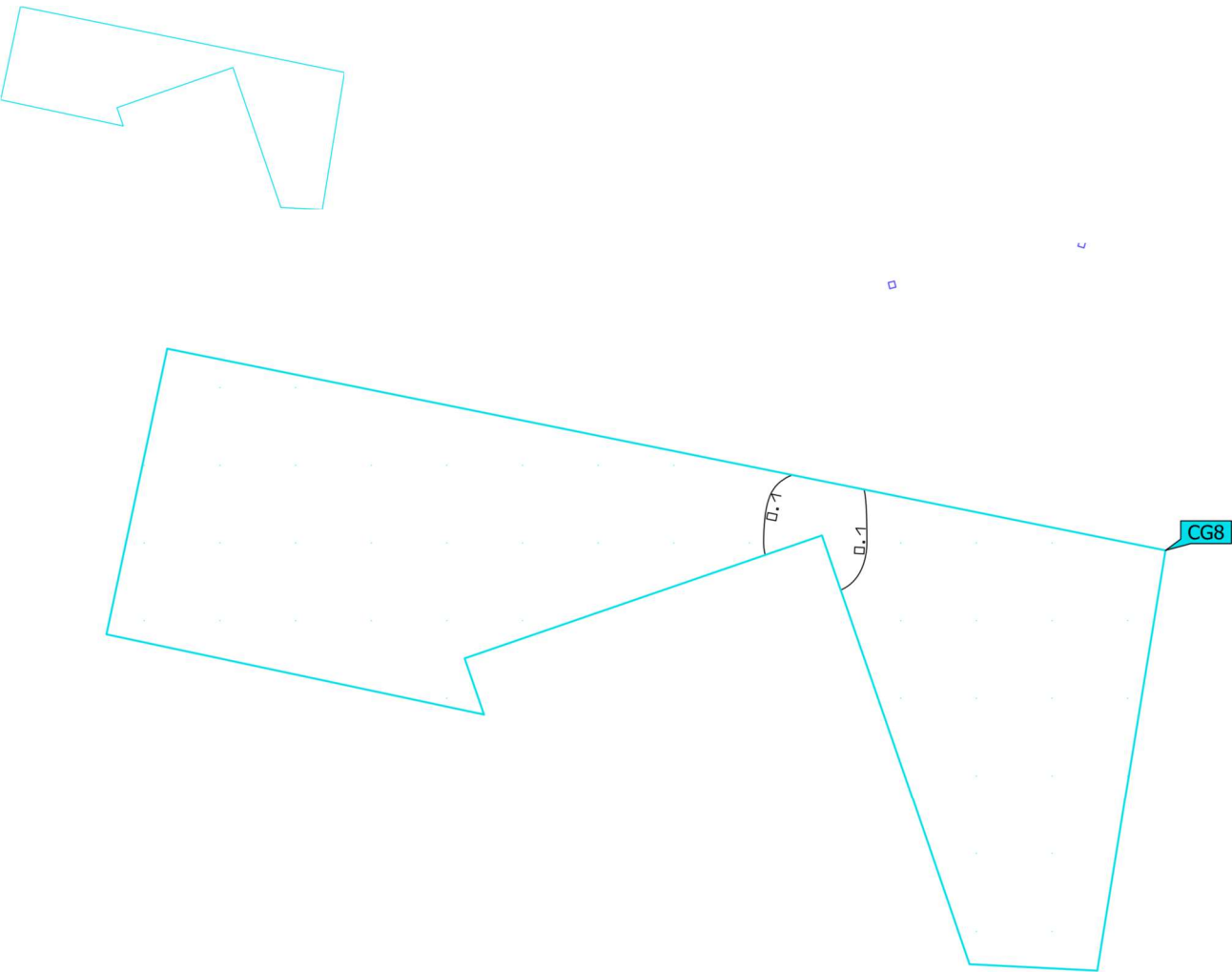
Merthyr Tydfil Premier Inn (Bat Friendly)
Woodland - West



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Woodland - West Perpendicular illuminance	0.002 lx	0.00 lx	0.019 lx	-	0.00	CG7

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

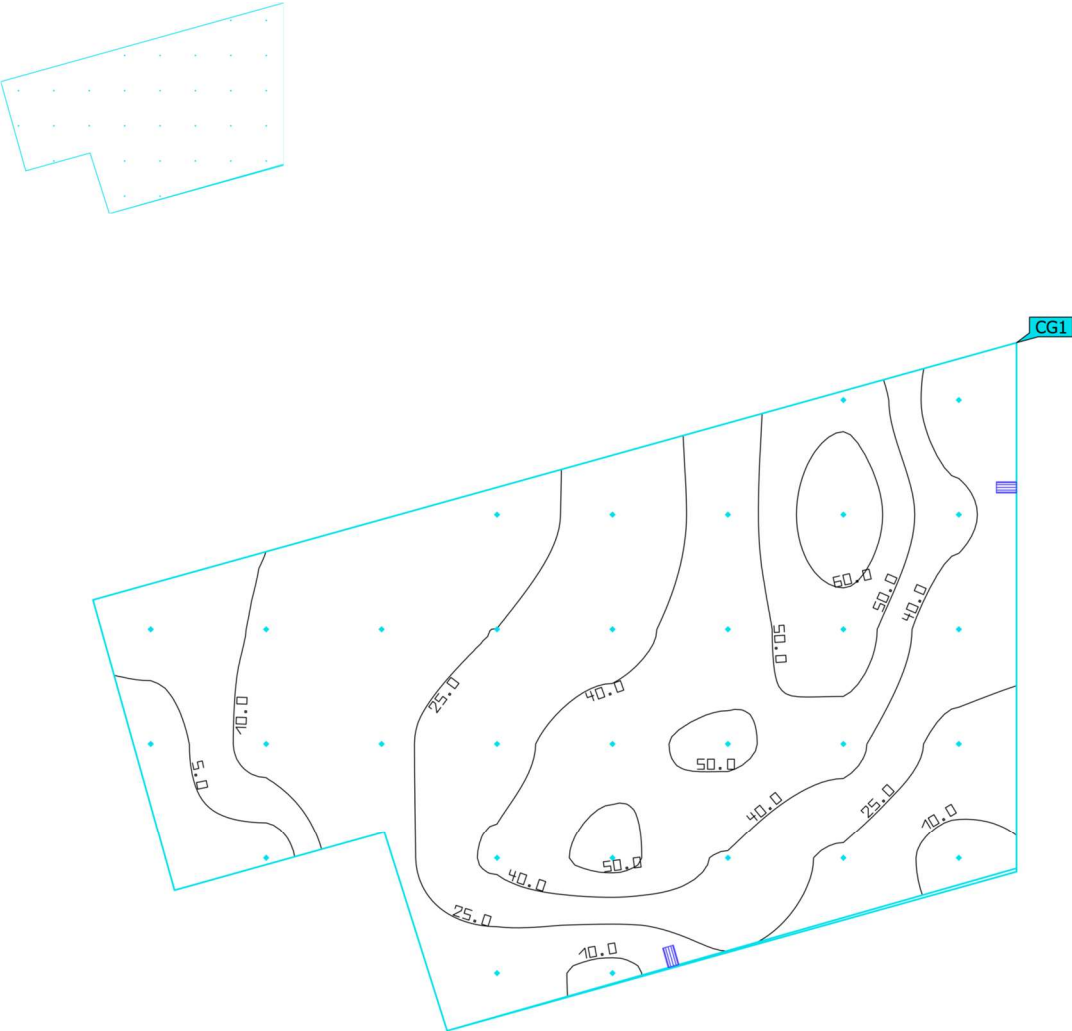
Merthyr Tydfil Premier Inn (Bat Friendly)
Adjacent properties East



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Adjacent properties East Perpendicular illuminance	0.026 lx	0.000 lx	0.18 lx	0.00	0.00	CG8

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

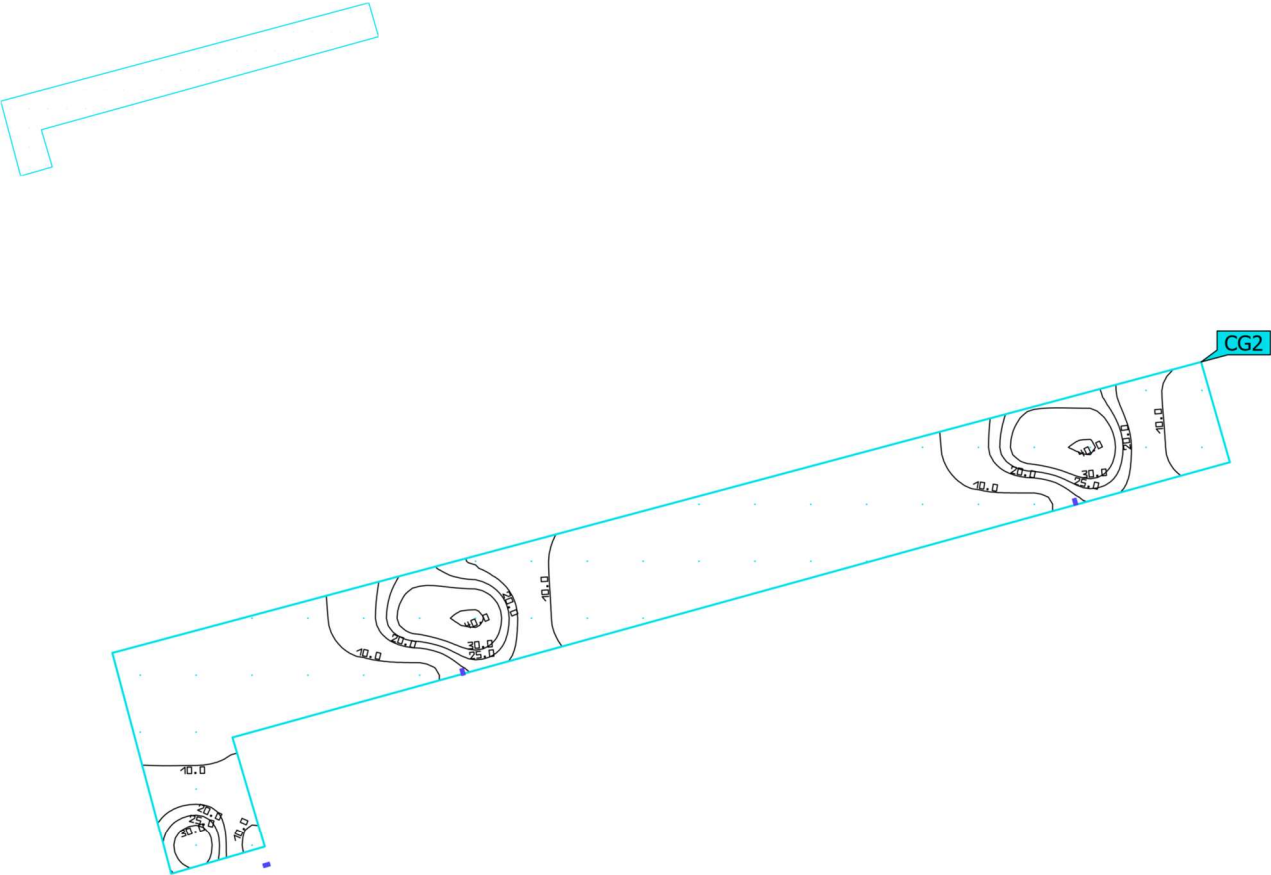
Merthyr Tydfil Premier Inn (PIR Activated light scene)
Exterior Plant Area



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Exterior Plant Area Perpendicular illuminance	30.2 lx	2.58 lx	66.7 lx	0.085	0.039	CG1

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

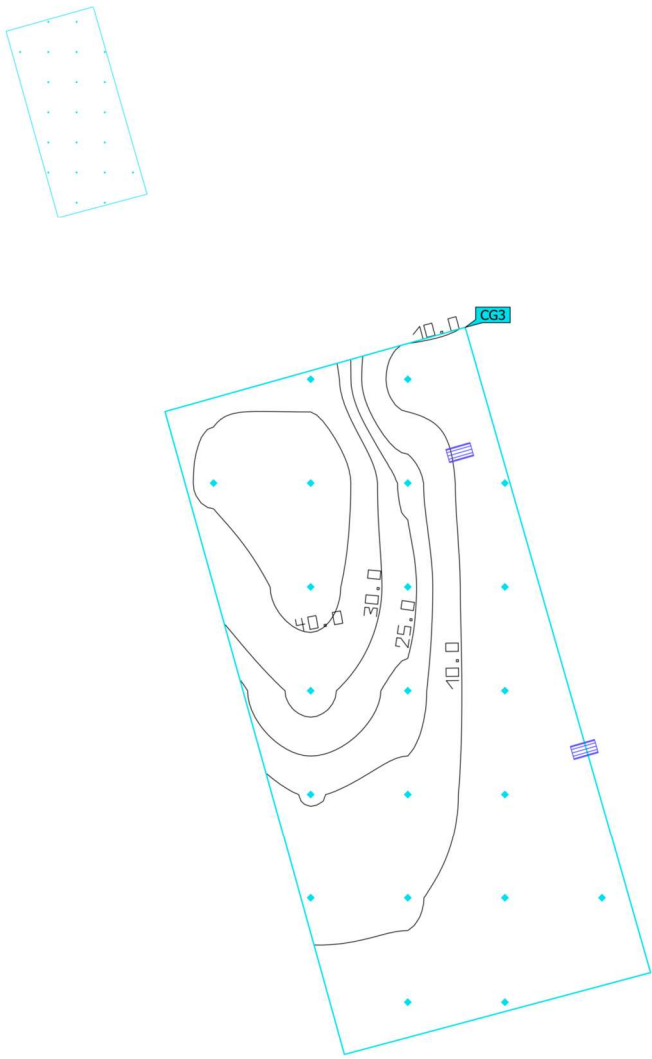
Merthyr Tydfil Premier Inn (PIR Activated light scene)
Pathway - West



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Pathway - West Perpendicular illuminance	10.00 lx	0.095 lx	41.4 lx	0.010	0.002	CG2

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

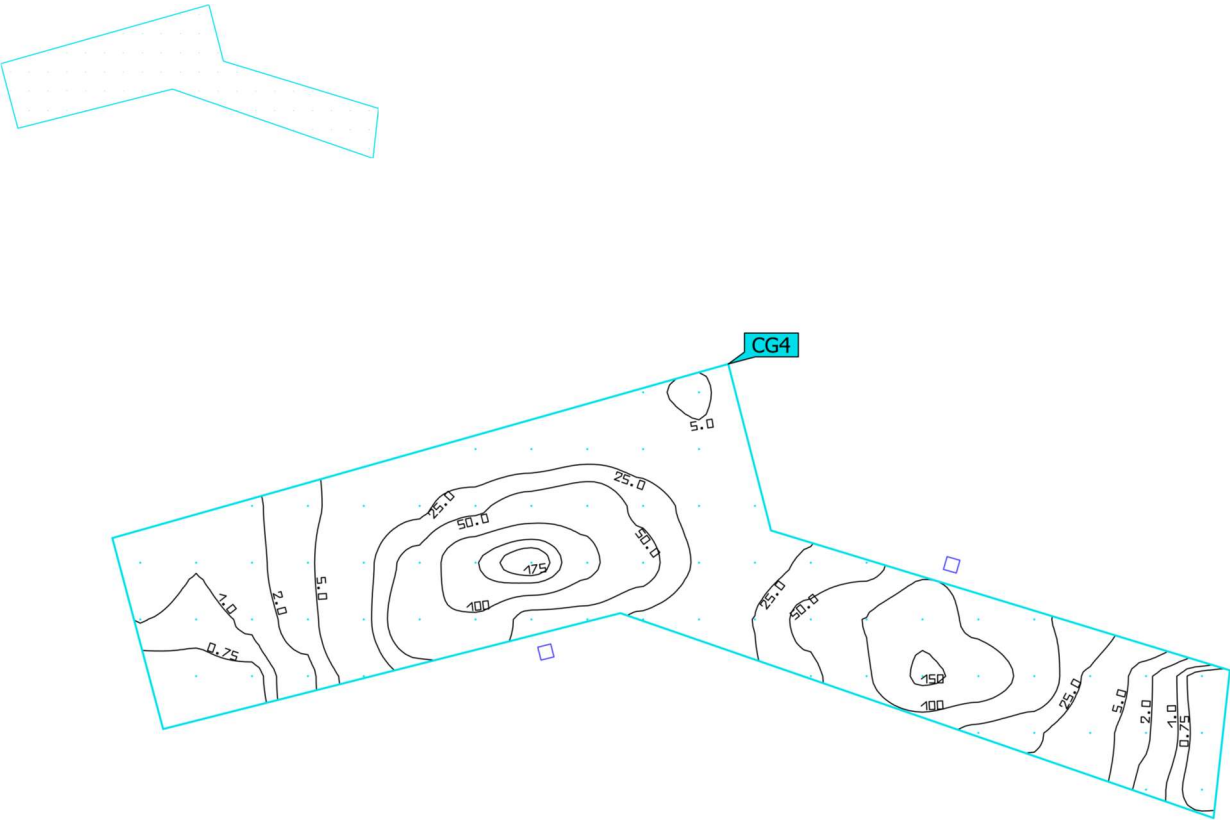
Merthyr Tydfil Premier Inn (PIR Activated light scene)
Staircase Platform



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Staircase Platform Perpendicular illuminance	17.5 lx	0.20 lx	49.4 lx	0.011	0.004	CG3

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

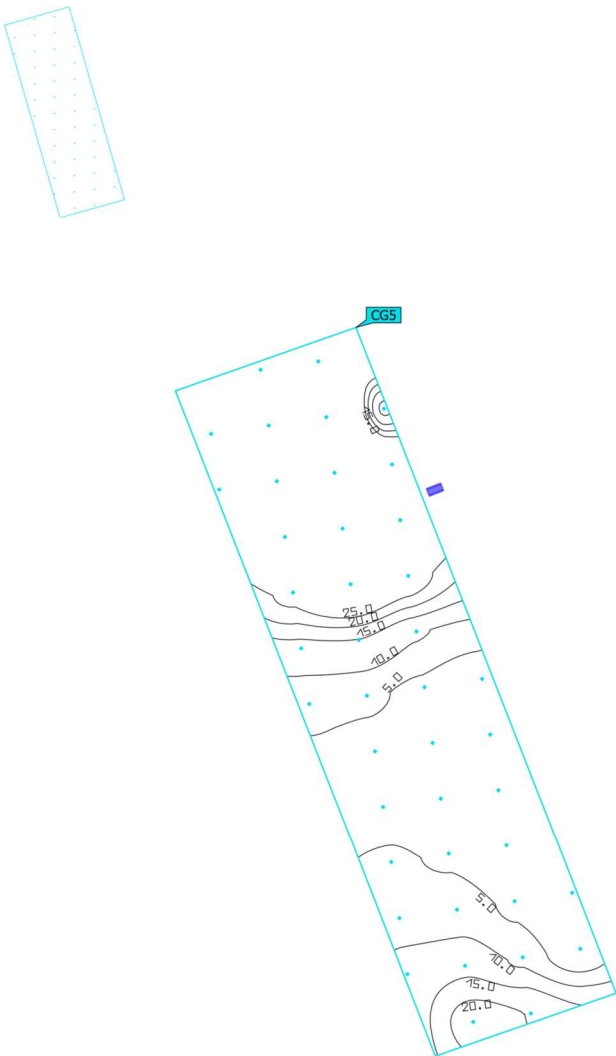
Merthyr Tydfil Premier Inn (PIR Activated light scene)
Pathway - East



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Pathway - East Perpendicular illuminance	37.1 lx	0.61 lx	196 lx	0.016	0.003	CG4

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

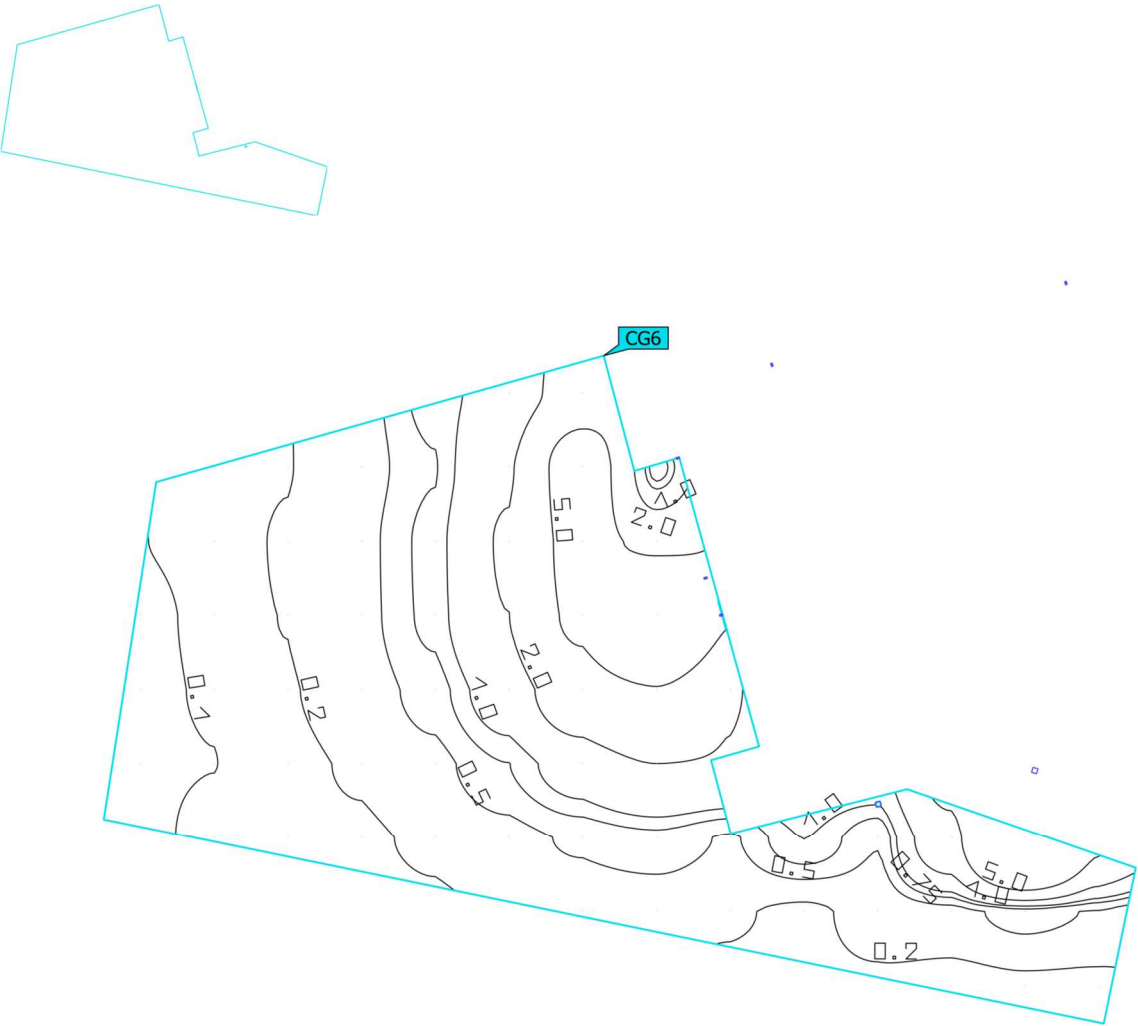
Merthyr Tydfil Premier Inn (PIR Activated light scene)
Stairs



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Stairs	21.5 lx	0.33 lx	90.5 lx	0.015	0.004	CG5
Perpendicular illuminance						

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

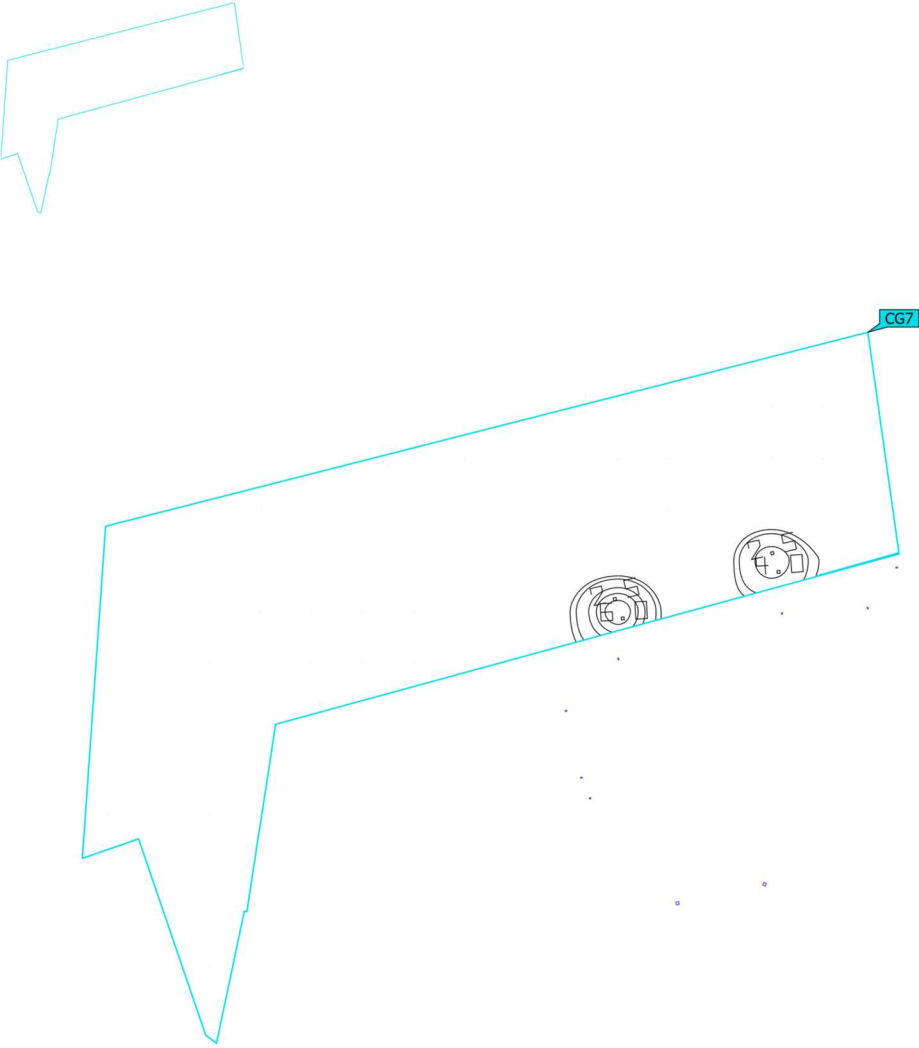
Merthyr Tydfil Premier Inn (PIR Activated light scene)
Carpark South



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Carpark South Perpendicular illuminance	1.60 lx	0.071 lx	22.2 lx	0.044	0.003	CG6

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

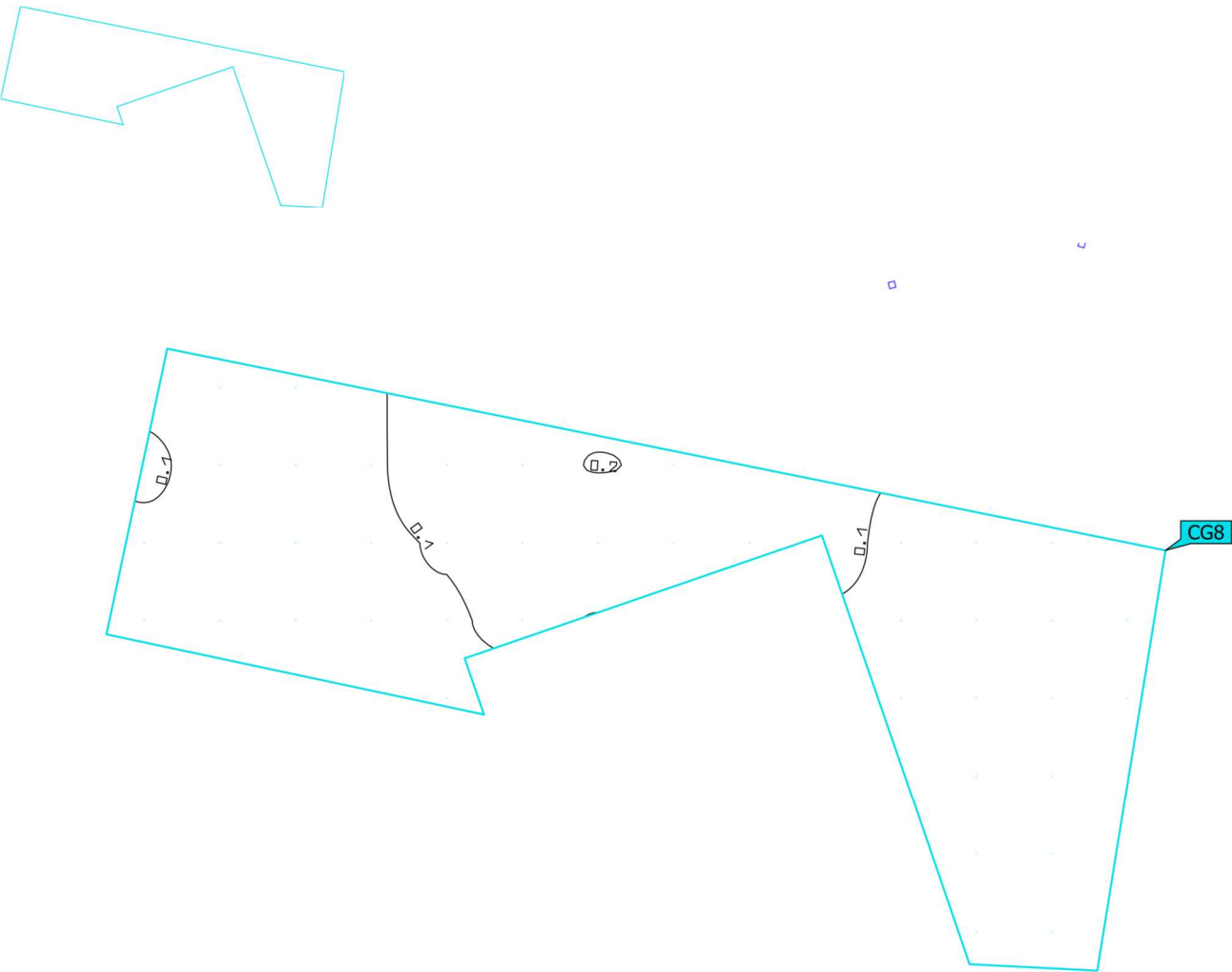
Merthyr Tydfil Premier Inn (PIR Activated light scene)
Woodland - West



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Woodland - West Perpendicular illuminance	0.30 lx	0.00 lx	6.73 lx	0.00	0.00	CG7

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Merthyr Tydfil Premier Inn (PIR Activated light scene)
Adjacent properties East

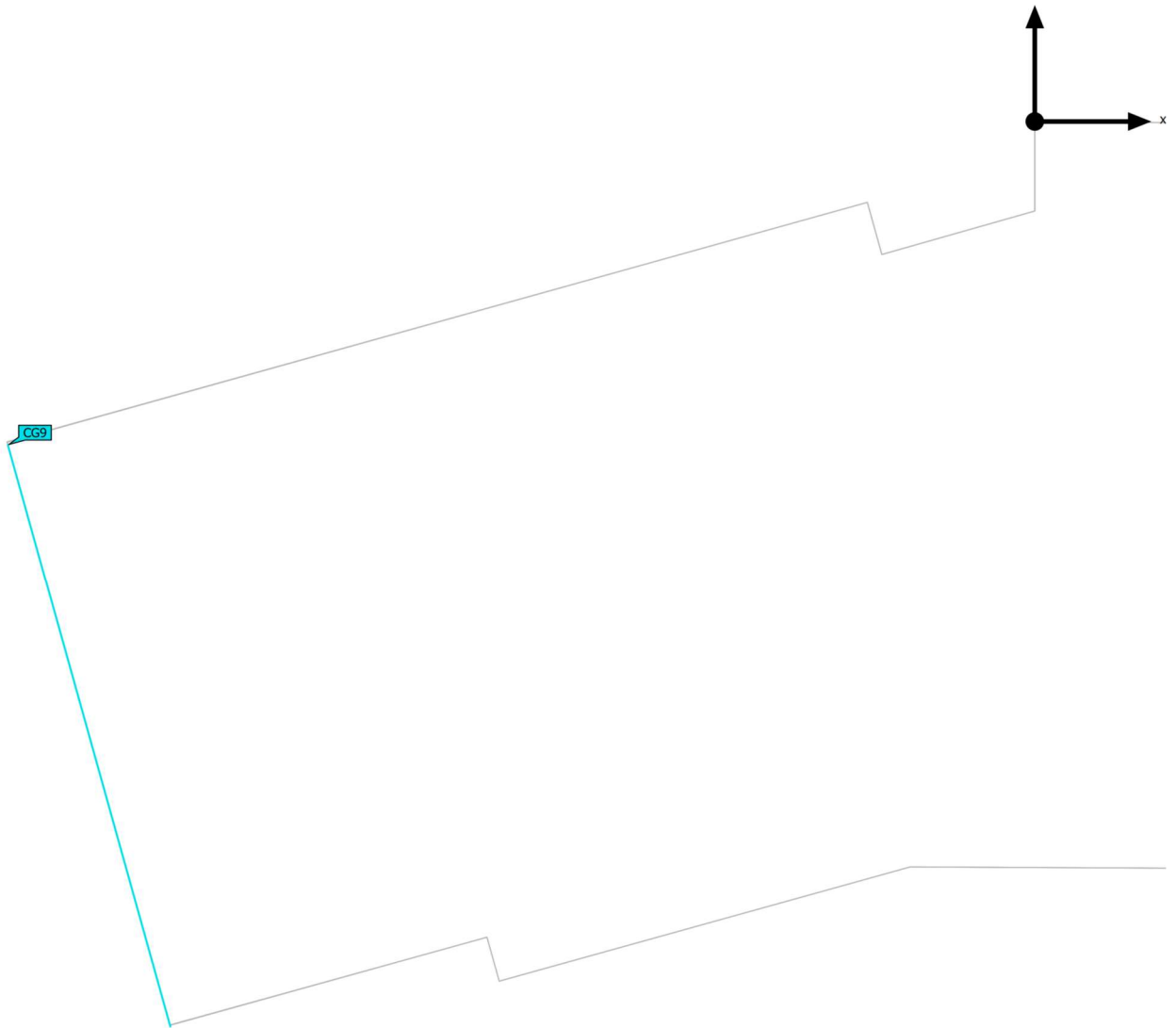


Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Adjacent properties East Perpendicular illuminance	0.073 lx	0.010 lx	0.20 lx	0.14	0.050	CG8

Utilisation profile: DIALux presetting (5.1.4 Standard (outdoor transportation area))

Premier Inn Hotel Extension (Bat Friendly)

Calculation objects



Premier Inn Hotel Extension (Bat Friendly)

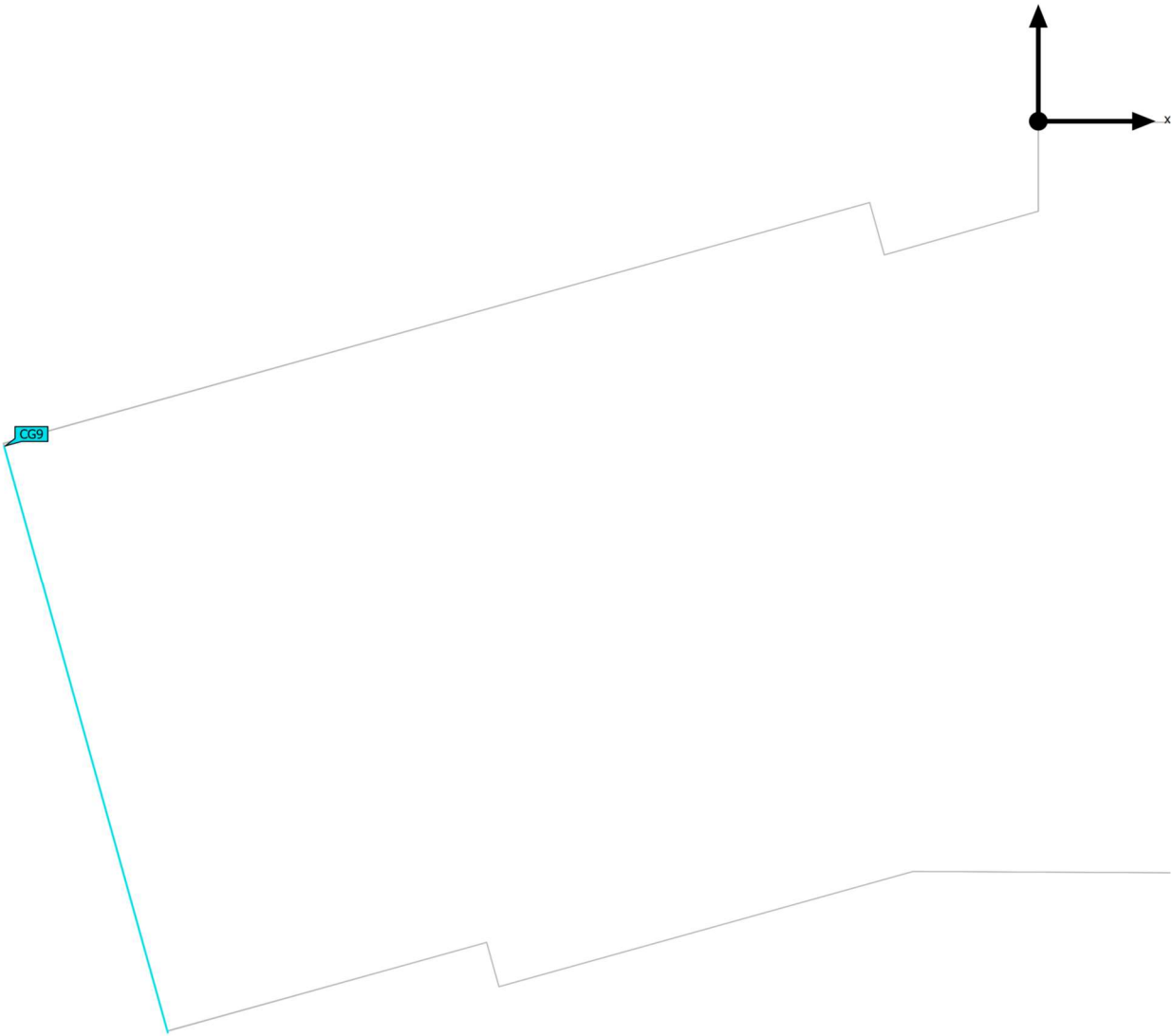
Calculation objects

Calculation surfaces

Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Bat Roost Wall Perpendicular illuminance	0.002 lx	0.00 lx	0.021 lx	-	0.00	CG9

Premier Inn Hotel Extension (PIR Activated light scene)

Calculation objects



Premier Inn Hotel Extension (PIR Activated light scene)

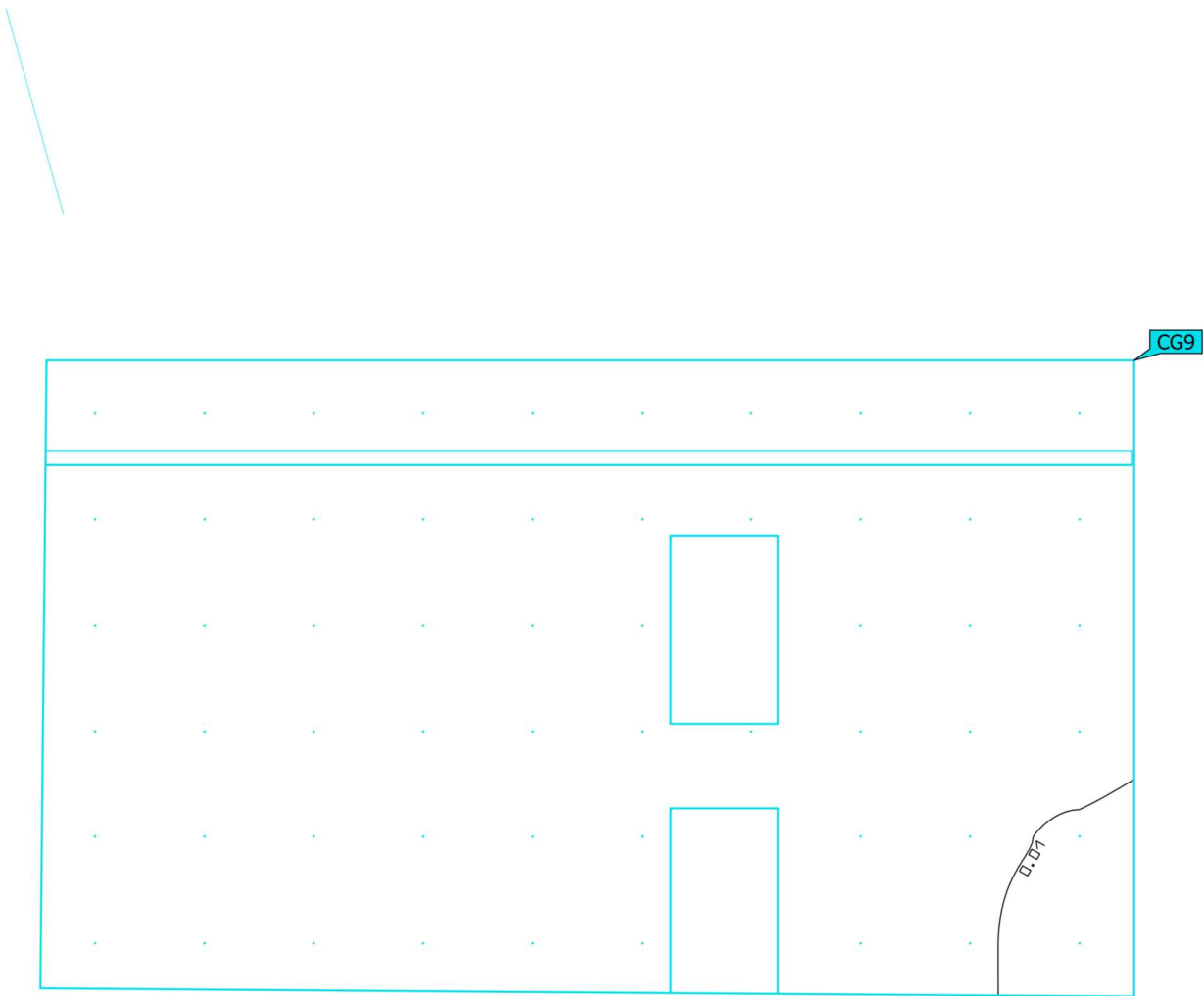
Calculation objects

Calculation surfaces

Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Bat Roost Wall Perpendicular illuminance	0.74 lx	0.00 lx	6.96 lx	0.00	0.00	CG9

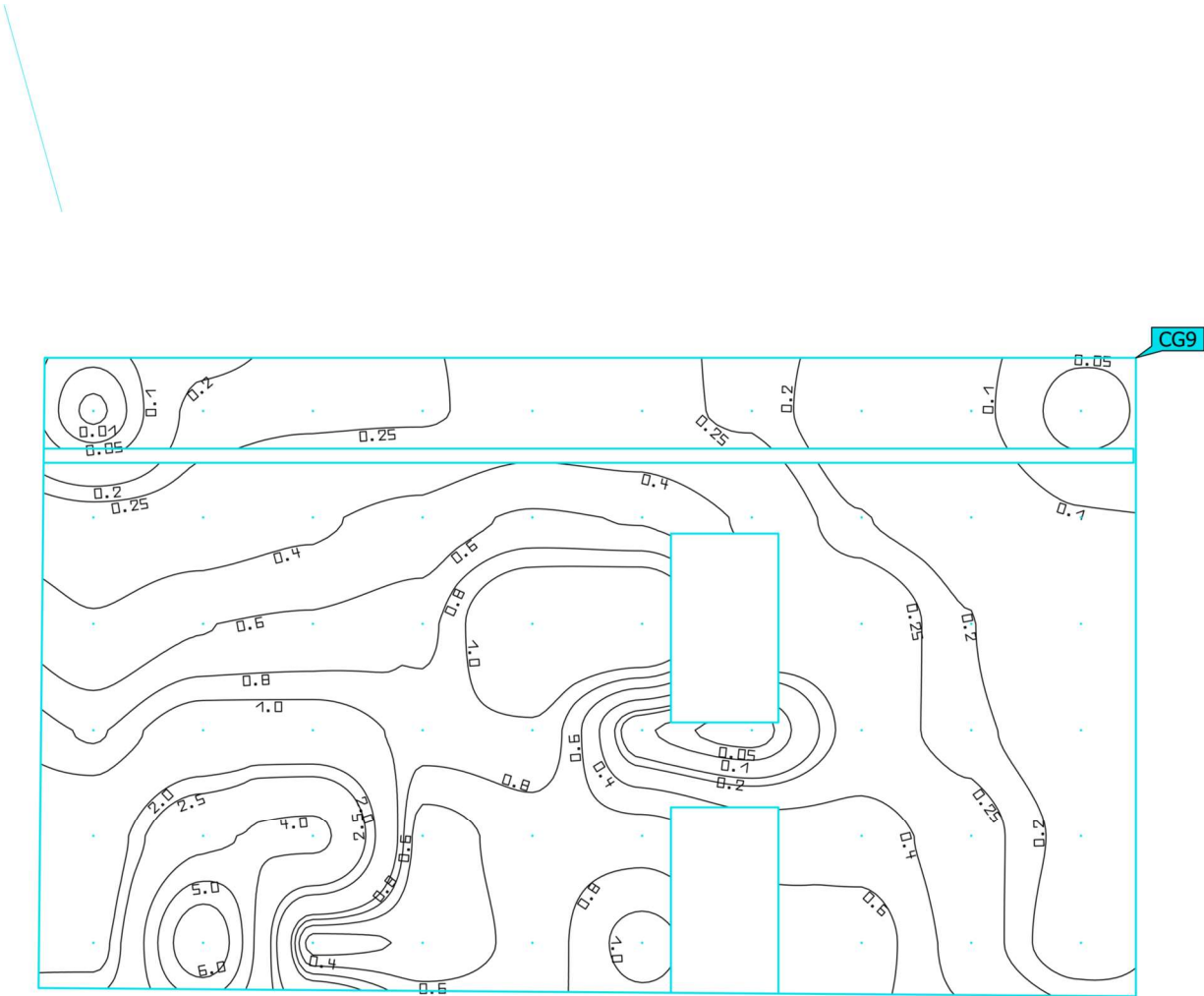
Premier Inn Hotel Extension (Bat Friendly)

Bat Roost Wall



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Bat Roost Wall	0.002 lx	0.00 lx	0.021 lx	-	0.00	CG9
Perpendicular illuminance						

Premier Inn Hotel Extension (PIR Activated light scene)
Bat Roost Wall



Properties	$\bar{E}$	E_{min}	E_{max}	U_o	g_2	Index
Bat Roost Wall Perpendicular illuminance	0.74 lx	0.00 lx	6.96 lx	0.00	0.00	CG9