

# Oundle Tennis Club

## Outdoor LED Tennis Lighting Design

**Project code:** 5987  
**Date:** 12/03/2024

**Client:** Oundle Tennis Club  
**Client Representative:**

**Lighting Consultant:**  
**Project Consultant:**  
**Planning Consultant:**

**Lighting Design Company:** Luminance Pro Lighting Systems Ltd  
**Lighting Design Representative:** Matthew Haskins  
**Lighting Design Software:** CalcuLux Area 7.7.0.1

**Design Criteria:** To provide a lighting scheme suitable for Lawn Tennis Associations minimum standard, whilst minimising light spill and glare to neighbouring properties.  
PPA = 400 Lux maintained at 0.7 uniformity  
TPA = 300 Lux maintained at 0.6 uniformity

**Columns:** 6 No. Existing columns to be utilised

**Luminaires:** 8 No. (HiLux model: Ace LED)

**Notes:** This lighting design is solely based on the use of the equipment detailed. Any deviation from this equipment will produce differing results.

The superior optics of the HiLux Ace LED luminaire have been specifically selected to minimise the effects of nuisance overspill to adjacent dwellings.

The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties and electrical supply.

***luminance pro***  
**lighting systems**

PO Box 1345, Woking, Surrey, GU24 9WL

**Email:** [info@luminancepro.co.uk](mailto:info@luminancepro.co.uk)  
**Website:** [www.luminancepro.co.uk](http://www.luminancepro.co.uk)

**Tel:** 01276 855666

**Fax:** 01276 855999



**HiLux**



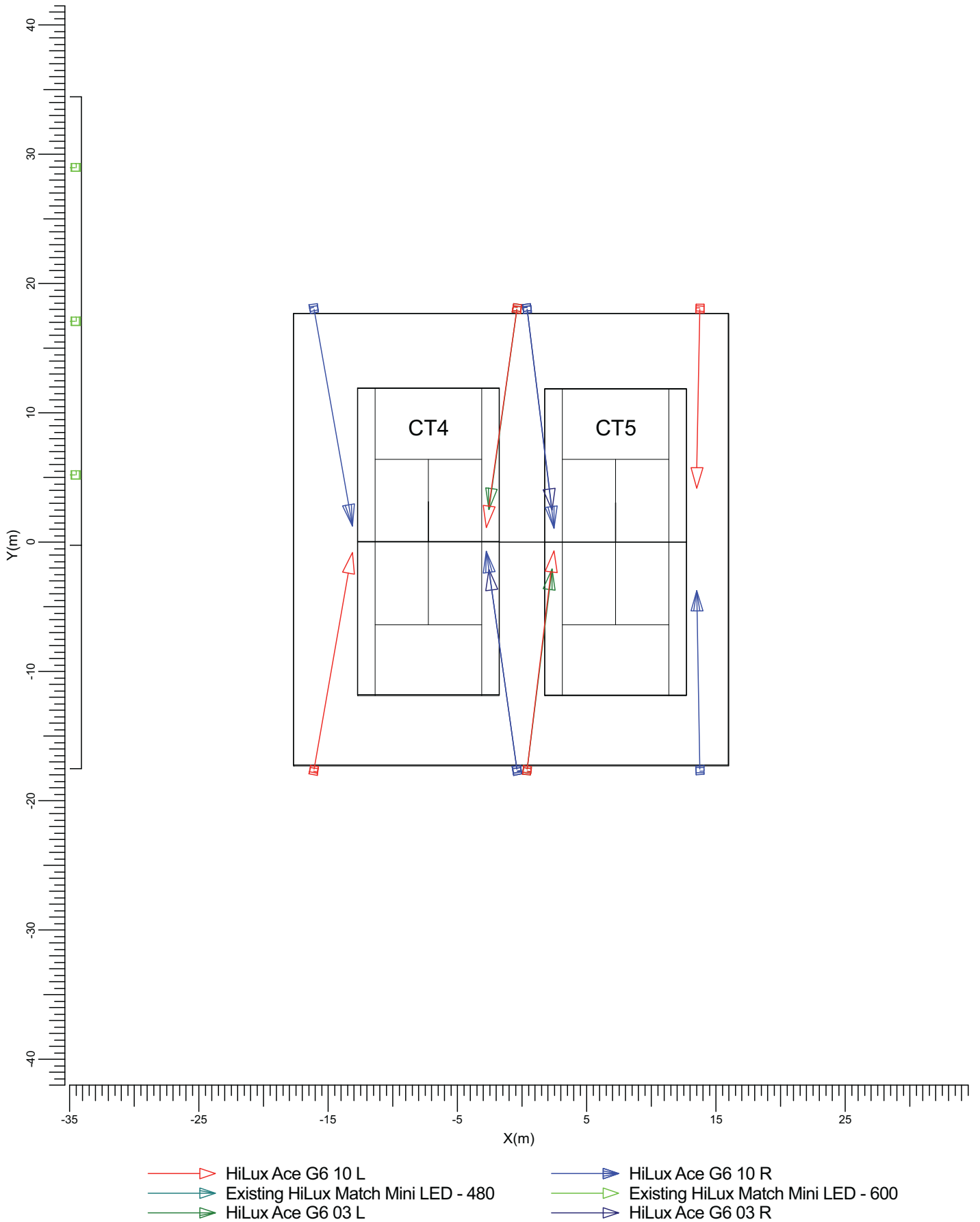
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# 1. Project Description

## 1.1 Top Project Overview



Scale  
1:400

## 2. Summary

### 2.1 General Information

The overall maintenance factor used for this project is 0.90.

### 2.2 Obstacle Information

Obstacle	Transparency (%)	Position		
		X (m)	Y (m)	Z (m)
Clubhouse	0	-82.36	9.80	0.00

### 2.3 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	4	HiLux Ace G6 10 L	1 * LED	650.0	1 * 97300
B	4	HiLux Ace G6 10 R	1 * LED	650.0	1 * 97300
F	2	Existing HiLux Match Mini LED - 480	1 * LED	480.0	1 * 54400
G	16	Existing HiLux Match Mini LED - 600	1 * LED	600.0	1 * 68000
J	2	HiLux Ace G6 03 L	1 * LED	200.0	1 * 30620
K	2	HiLux Ace G6 03 R	1 * LED	200.0	1 * 30620

The total installed power: 16.56 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code						Power (kWatt)
	A	B	F	G	J	K	
Court 1	0	0	0	6	0	0	3.60
Court 2	0	0	0	6	0	0	3.60
Court 3	0	0	2	4	0	0	3.36
Court 4	2	2	0	0	1	1	3.00
Court 5	2	2	0	0	1	1	3.00
Courts 4&5	4	4	0	0	0	0	5.20
All Lights	4	4	2	16	0	0	15.76

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code						Power (kWatt)
	A	B	F	G	J	K	
CT3 P1	0	0	0	2	0	0	1.20
CT3 P2	0	0	1	0	0	0	0.48
CT3 P3	0	0	0	2	0	0	1.20
CT3 P4	0	0	1	0	0	0	0.48
CT4 P1	0	1	0	0	0	0	0.65
CT4 P2	1	0	0	0	0	0	0.65
CT4 P3	1	0	0	0	1	0	0.85
CT4 P4	0	1	0	0	0	1	0.85
CT5 P1	0	1	0	0	0	1	0.85
CT5 P2	1	0	0	0	1	0	0.85
CT5 P3	1	0	0	0	0	0	0.65
CT5 P4	0	1	0	0	0	0	0.65
Court 1 Line	0	0	0	6	0	0	3.60
Court 2 Line	0	0	0	6	0	0	3.60

## 2.4 Calculation Results

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### Switching Modes:

Code	Switching Mode
1	Court 1
2	Court 2
3	Court 3
4	Court 4
5	Court 5
6	Courts 4&5
7	All Lights

### (II)luminance Calculations:

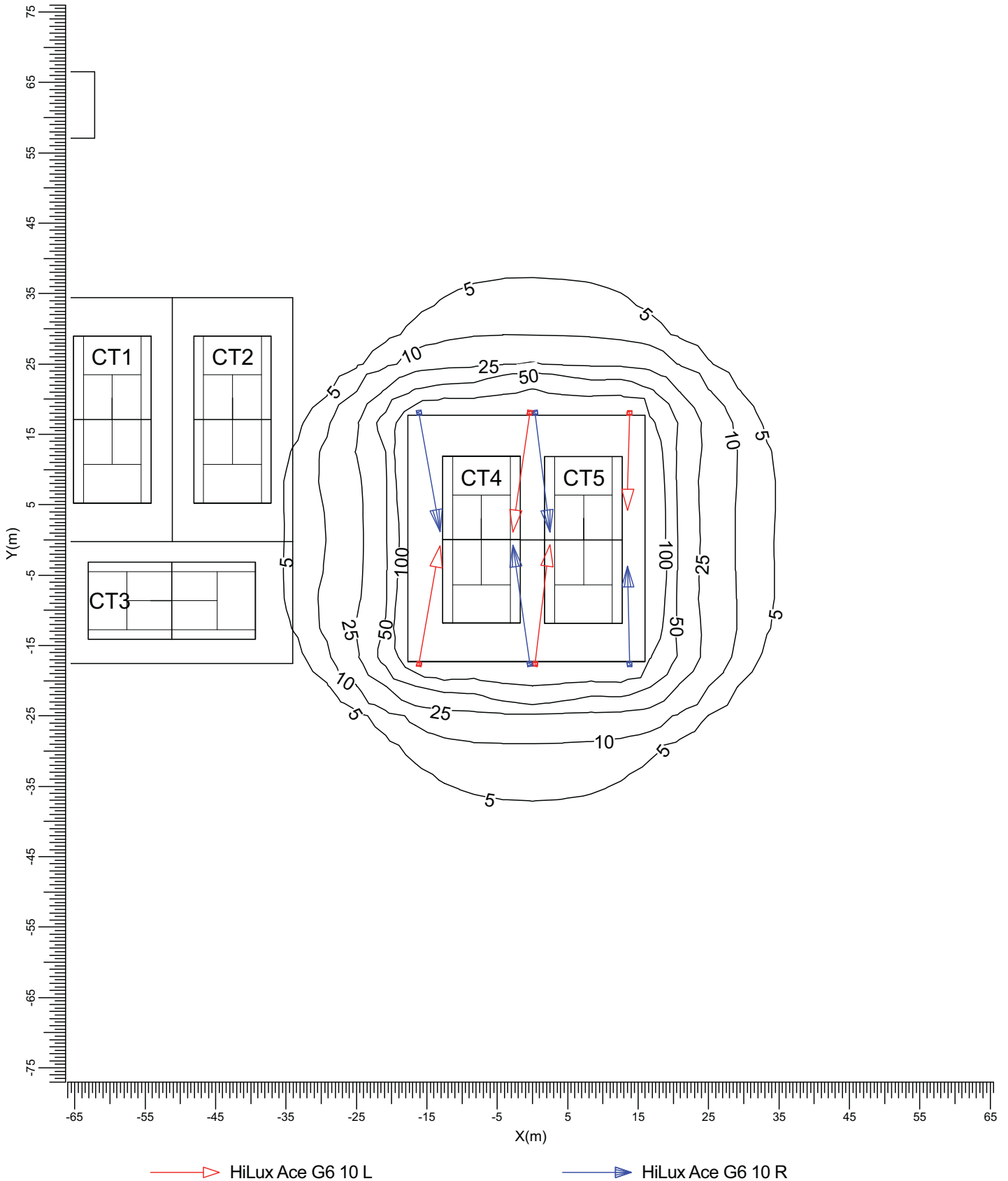
Calculation	Switching Mode	Type	Unit	Ave	Min/Ave
PPA4	4	Surface Illuminance	lux	489	0.84
PPA5	5	Surface Illuminance	lux	510	0.77
TPA4	4	Surface Illuminance	lux	471	0.65
TPA5	5	Surface Illuminance	lux	489	0.60
Overspill 4&5	6	Surface Illuminance	lux		
Overspill All Lights	7	Surface Illuminance	lux		

### 3. Calculation Results

#### 3.1 Overspill 4&5: Iso Contour

Courts 4&5

Grid : Overspill 4&5 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



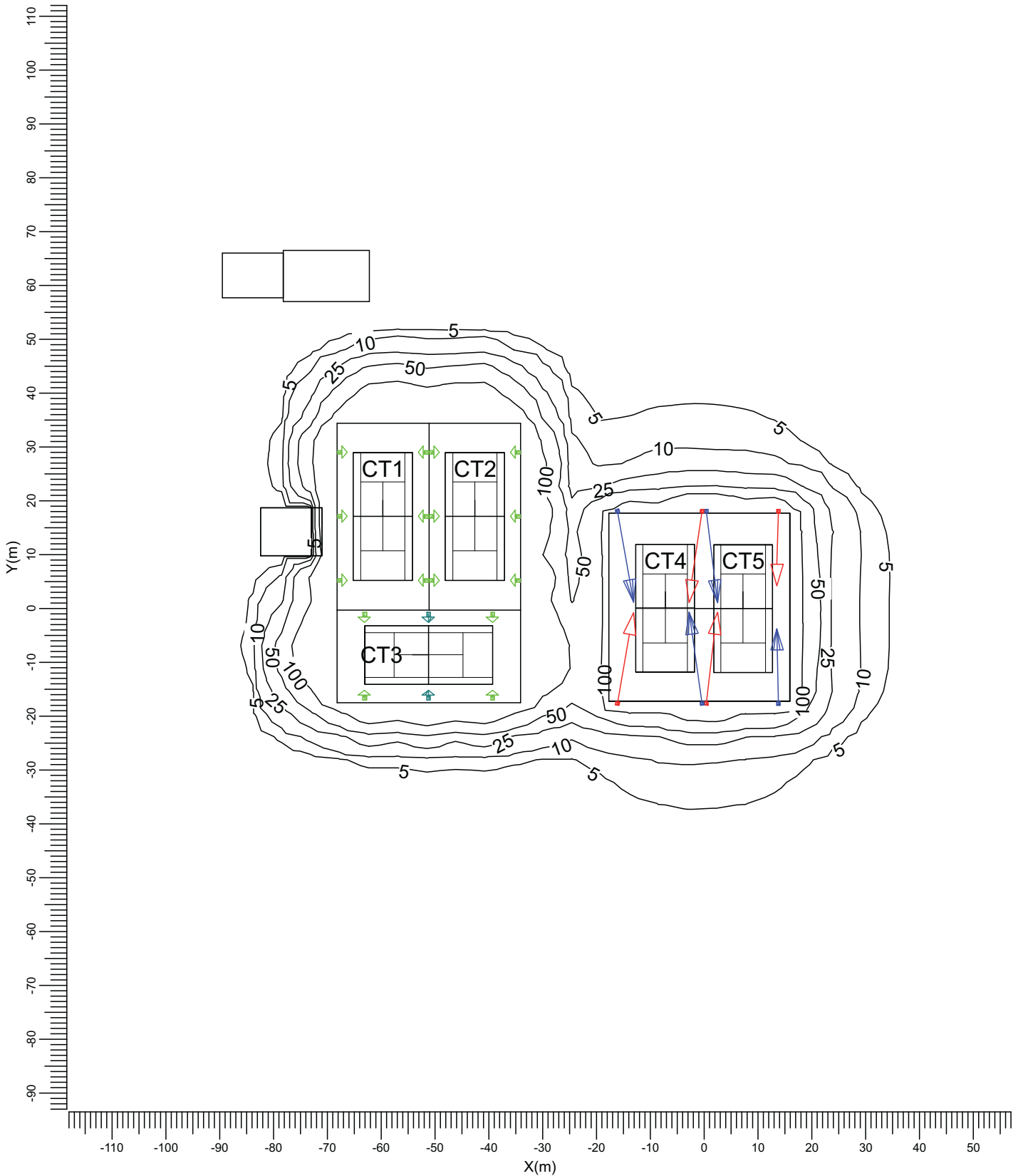
Project maintenance factor  
0.90

Scale  
1:750

### 3.2 Overspill All Lights: Iso Contour

All Lights

Grid : Overspill All Lights at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



- ▶ HiLux Ace G6 10 L
  - ▶ Existing HiLux Match Mini LED - 480
- ▶ HiLux Ace G6 10 R
  - ▶ Existing HiLux Match Mini LED - 600

Project maintenance factor  
0.90

Scale  
1:1000

## 4. Luminaire Details

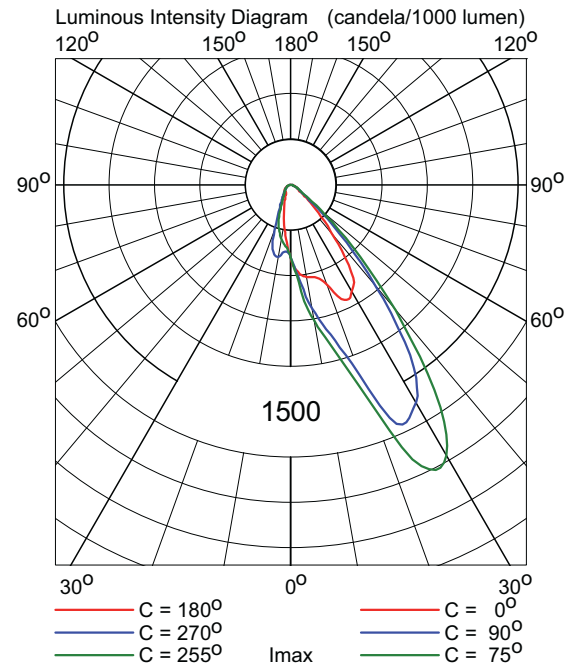
### 4.1 Project Luminaires

#### HiLux Ace G6 10 L

Light output ratios

DLOR : 1.00  
ULOR : 0.00  
TLOR : 1.00

Lamp flux : 97300 lm  
Luminaire wattage : 650.0 W  
Measurement code : 334.2v1.2

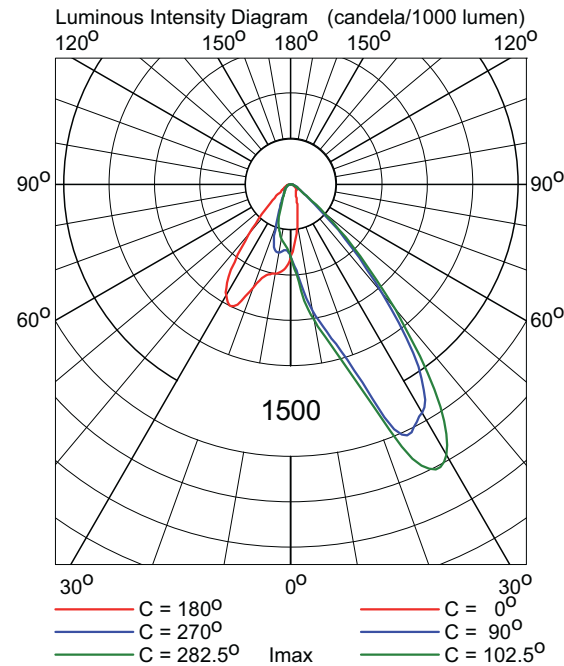


#### HiLux Ace G6 10 R

Light output ratios

DLOR : 1.00  
ULOR : 0.00  
TLOR : 1.00

Lamp flux : 97300 lm  
Luminaire wattage : 650.0 W  
Measurement code : 334.2v1.2



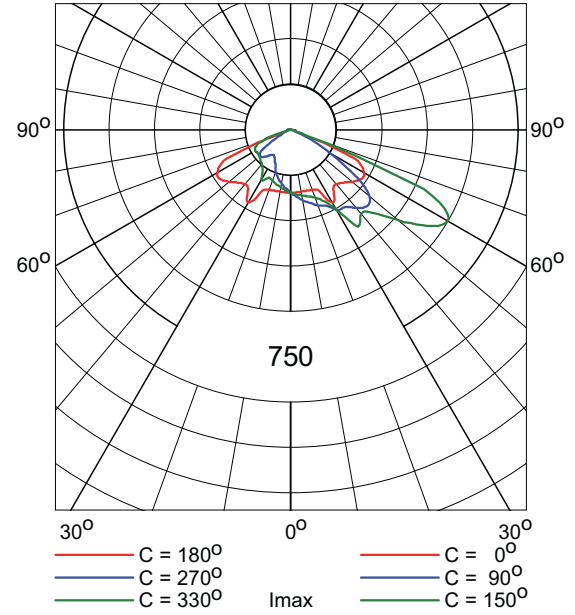


Existing HiLux Match Mini LED - 480

Light output ratios

DLOR : 0.95  
 ULOR : 0.00  
 TLOR : 0.95  
 Lamp flux : 54400 lm  
 Luminaire wattage : 480.0 W  
 Measurement code : 0480V1.4

Luminous Intensity Diagram (candela/1000 lumen)

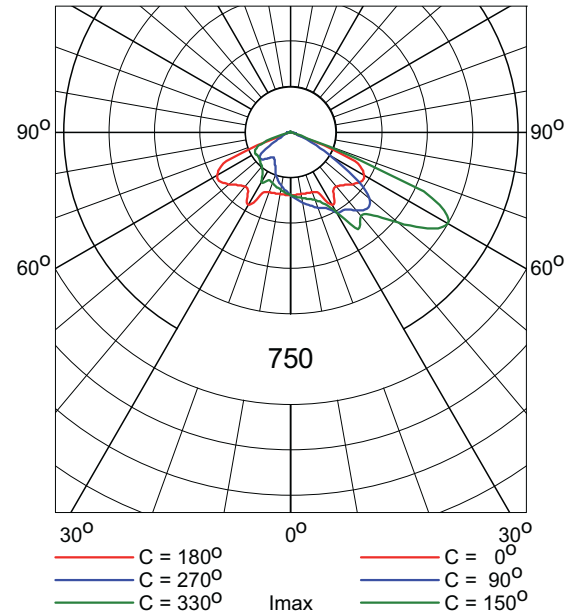


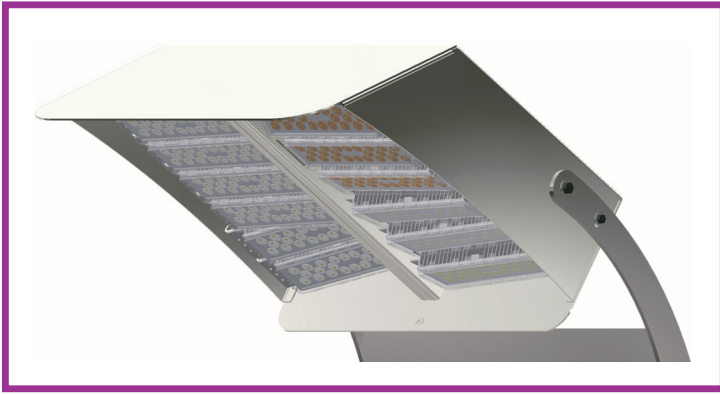
Existing HiLux Match Mini LED - 600

Light output ratios

DLOR : 0.95  
 ULOR : 0.00  
 TLOR : 0.95  
 Lamp flux : 68000 lm  
 Luminaire wattage : 600.0 W  
 Measurement code : 0600V1.4

Luminous Intensity Diagram (candela/1000 lumen)





# HiLux<sup>®</sup>

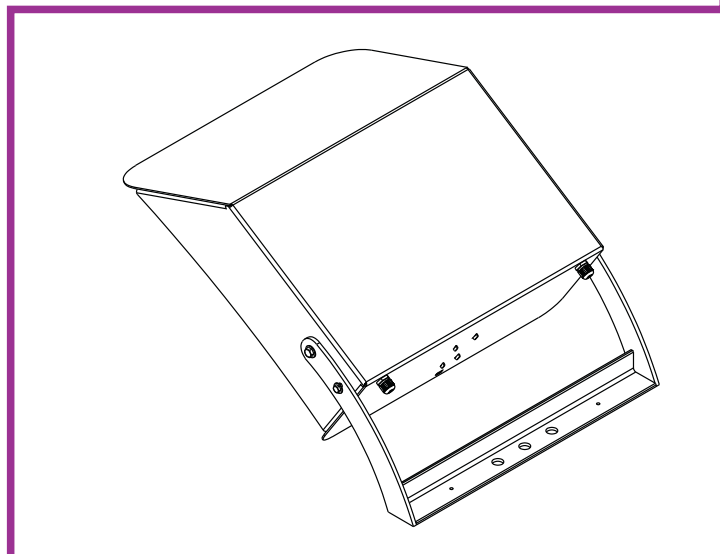
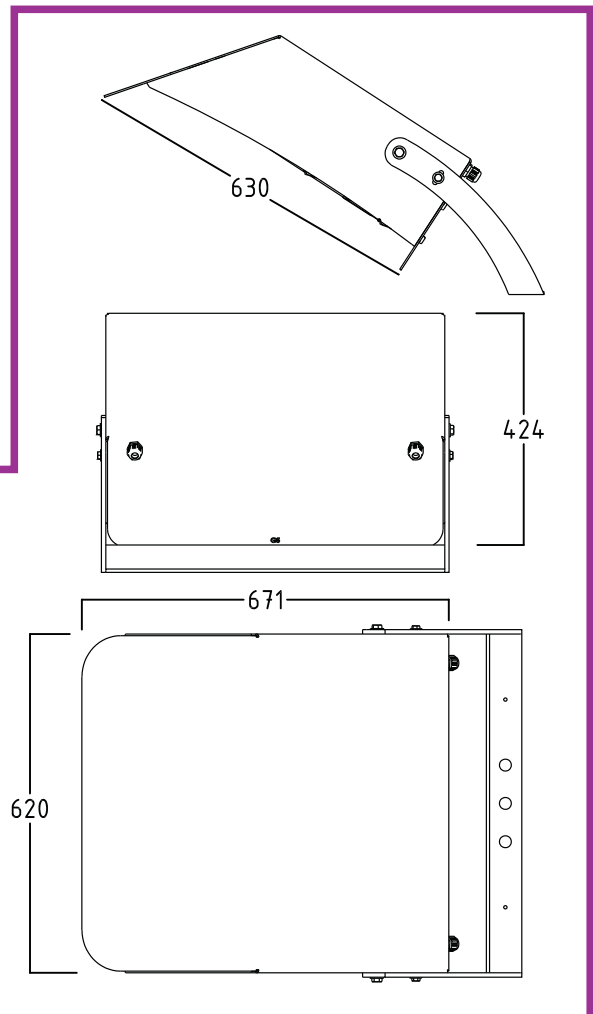
## Ace G6 **LED**

- ✓ LED low energy lighting
- ✓ Exceptional light control
- ✓ Designed for outdoor sports lighting
- ✓ Lightweight aluminum body
- ✓ Stainless steel components
- ✓ Computer designed optics
- ✓ Heavy duty stirrup
- ✓ IP68 ingress protection for main elements
- ✓ Powder coat finish (RAL 7040) grey
- ✓ Pre tested
- ✓ 5 year Limited warranty via direct install\*
- ✓ 5 & 10 year onsite extended warranty available\*

**The ACE LED G6 is a new generation of HiLux high performance luminaires designed for use in sports lighting.**

### Ace G6 **LED**

Box quantity	1
Net Weight	17.00 - 21.00kg
Body colour (standard)	RAL7040
Optic	Standard
IP rating	IP68
Mounting method	Stirrup: 3 x M20
Lamp type	LED
Lamp colour	5000 K
Supply voltage	230v
Power	480-720W



\* terms & conditions apply

***luminance pro***  
lighting systems

Tel: +44 (0)1276 855 666  
Fax: +44 (0)1276 855 999

info@luminancepro.co.uk  
www.luminancepro.co.uk

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