

Carshalton Lawn Tennis Club

Outdoor LED Tennis Lighting Design

Project code: 5732a
Date: 28/04/2021

Client: Carshalton Lawn 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 Tennis Class II as defined in British Standard BS12193:2007, whilst minimising light spill and glare to neighbouring properties.

P.A. = 300 Lux maintained

Columns: 18 No. Existing 6.7 metre columns to be utilised

Luminaires: 20 No. (HiLux model: Match 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 Match 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.

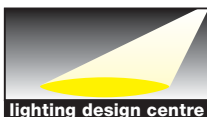
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HiLux

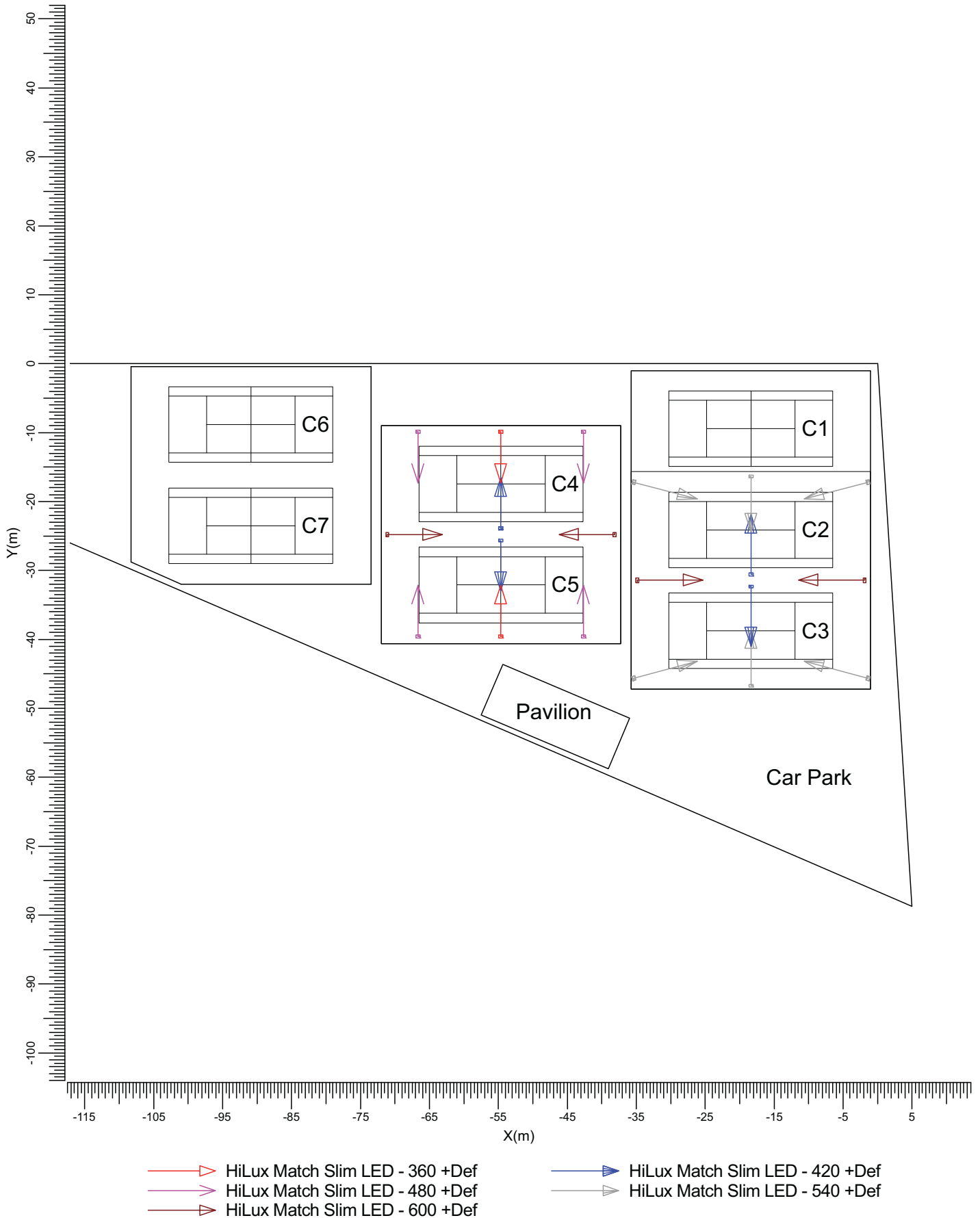


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1. Project Description

1.1 Top Project Overview



Scale
1:750

2. Summary

2.1 General Information

The overall maintenance factor used for this project is 0.80.

2.2 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	2	HiLux Match Slim LED - 360 +Def	1 * LED	354.0	1 * 47340
B	4	HiLux Match Slim LED - 420 +Def	1 * LED	413.0	1 * 55020
C	4	HiLux Match Slim LED - 480 +Def	1 * LED	472.0	1 * 62880
D	6	HiLux Match Slim LED - 540 +Def	1 * LED	531.0	1 * 69030
E	4	HiLux Match Slim LED - 600 +Def	1 * LED	590.0	1 * 76700

The total installed power: 9.79 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code					Power (kWatt)
	A	B	C	D	E	
Court 2	0	2	0	3	2	3.60
Court 3	0	2	0	3	2	3.60
Court 4	1	2	2	0	2	3.30
Court 5	1	2	2	0	2	3.30
Courts 2&3	0	2	0	6	2	5.19
Courts 4&5	2	2	4	0	2	4.60
All Lights	2	4	4	6	4	9.79

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code					Power (kWatt)
	A	B	C	D	E	
CT2 P1	0	0	0	2	0	1.06
CT2 P2	0	0	0	1	0	0.53
CT2 P3	0	1	0	0	0	0.41
CT2,3 P1	0	0	0	0	2	1.18
CT3 P1	0	1	0	0	0	0.41
CT3 P2	0	0	0	2	0	1.06
CT3 P3	0	0	0	1	0	0.53
CT4 P1	0	0	2	0	0	0.94
CT4 P2	1	0	0	0	0	0.35
CT4 P3	0	1	0	0	0	0.41
CT4,5 P1	0	0	0	0	2	1.18
CT5 P1	0	1	0	0	0	0.41
CT5 P2	0	0	2	0	0	0.94
CT5 P3	1	0	0	0	0	0.35

2.3 Calculation Results

Switching Modes:

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

(II)luminance Calculations:

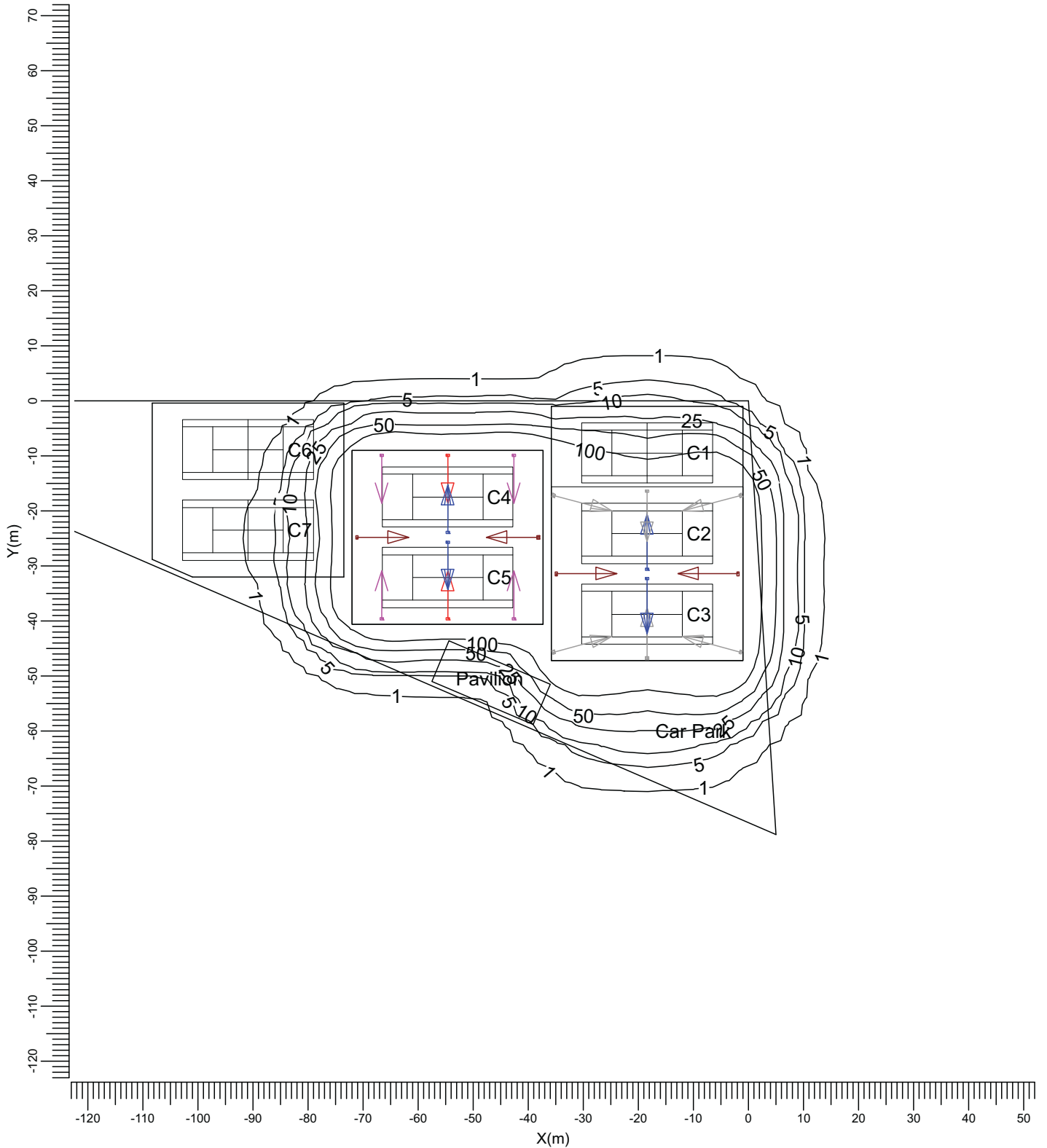
Calculation	Switching Mode	Type	Unit	Ave
PA2	1	Surface Illuminance	lux	328
PA3	2	Surface Illuminance	lux	328
PA4	3	Surface Illuminance	lux	320
PA5	4	Surface Illuminance	lux	321
Overspill	7	Horizontal Illuminance	lux	

3. Calculation Results

3.1 Overspill: Iso Contour

All Lights

Grid : Overspill at Z = -1.00 m
Calculation : Horizontal Illuminance (lux)



- ▶ HiLux Match Slim LED - 360 +Def
- ▶ HiLux Match Slim LED - 480 +Def
- ▶ HiLux Match Slim LED - 420 +Def
- ▶ HiLux Match Slim LED - 540 +Def

Project maintenance factor
0.80

Scale
1:1000

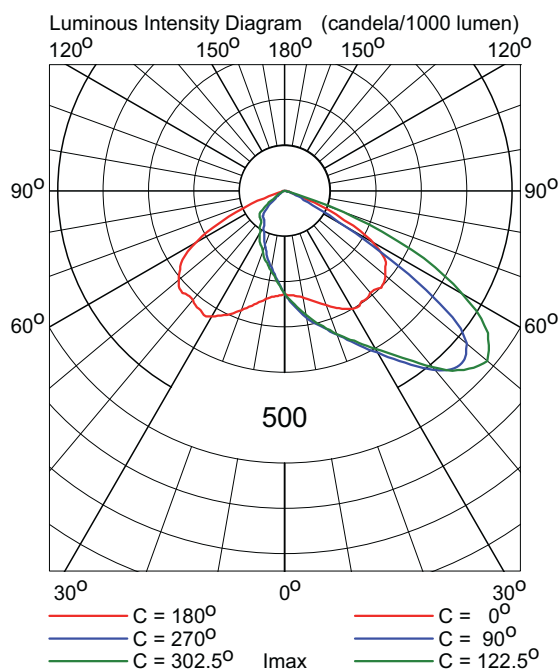
4. Luminaire Details

4.1 Project Luminaires

HiLux Match Slim LED - 360 +Def

Light output ratios

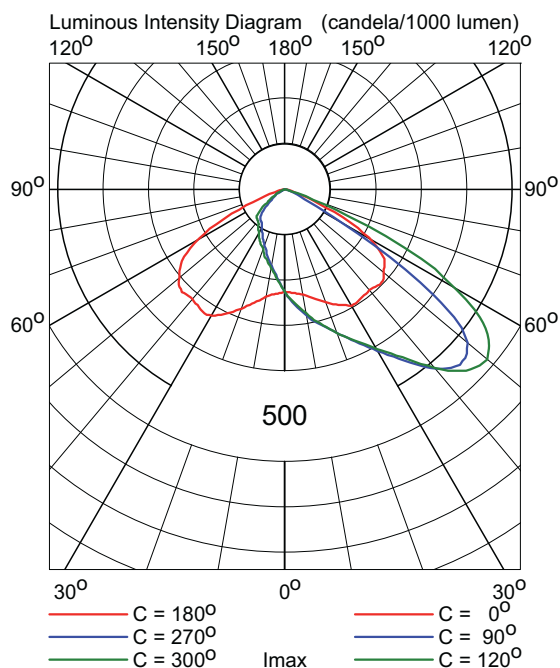
DLOR	: 1.00
ULOR	: 0.00
TLOR	: 1.00
Lamp flux	: 47340 lm
Luminaire wattage	: 354.0 W
Measurement code	: 214v1.0



HiLux Match Slim LED - 420 +Def

Light output ratios

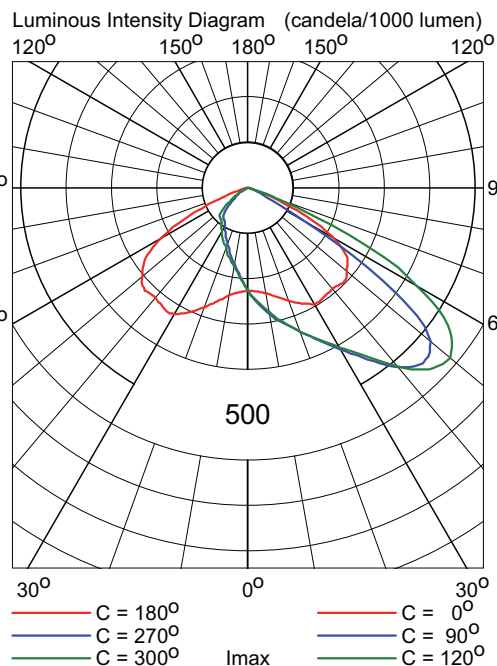
DLOR	: 1.00
ULOR	: 0.00
TLOR	: 1.00
Lamp flux	: 55020 lm
Luminaire wattage	: 413.0 W
Measurement code	: 213v1.0



HiLux Match Slim LED - 480 +Def

Light output ratios

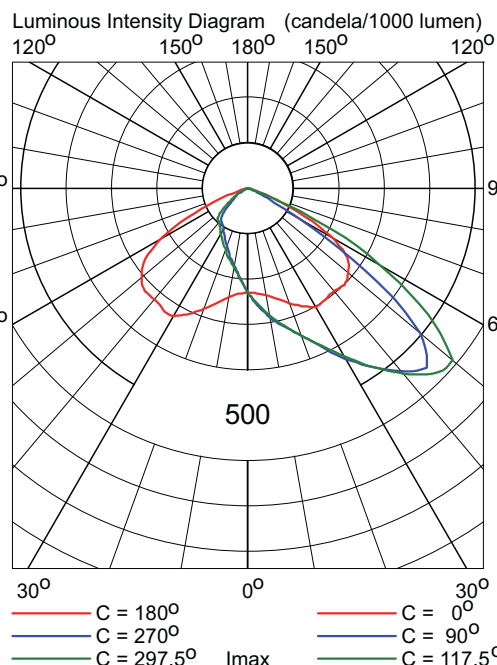
DLOR : 1.00
 ULOR : 0.00
 TLOR : 1.00
 Lamp flux : 62880 lm
 Luminaire wattage : 472.0 W
 Measurement code : 213v1.0



HiLux Match Slim LED - 540 +Def

Light output ratios

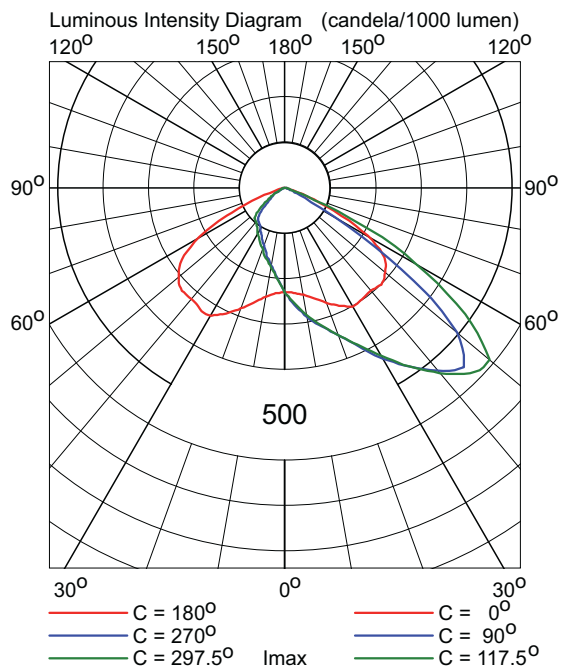
DLOR : 1.00
 ULOR : 0.00
 TLOR : 1.00
 Lamp flux : 69030 lm
 Luminaire wattage : 531.0 W
 Measurement code : 212v1.0



HiLux Match Slim LED - 600 +Def

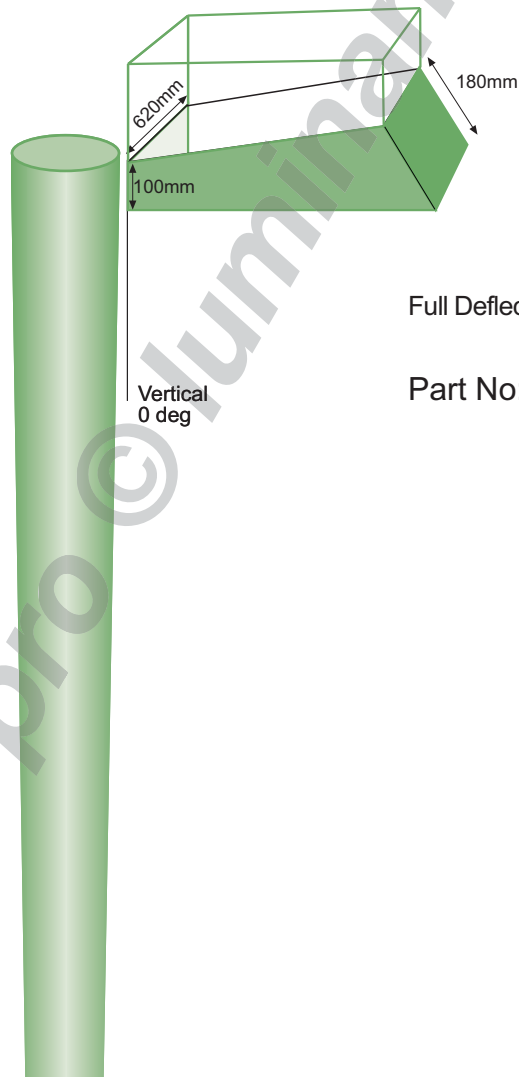
Light output ratios

DLOR : 1.00
ULOR : 0.00
TLOR : 1.00
Lamp flux : 76700 lm
Luminaire wattage : 590.0 W
Measurement code : 212v1.0



HiLux

Match LED Slim Gen3 Deflector

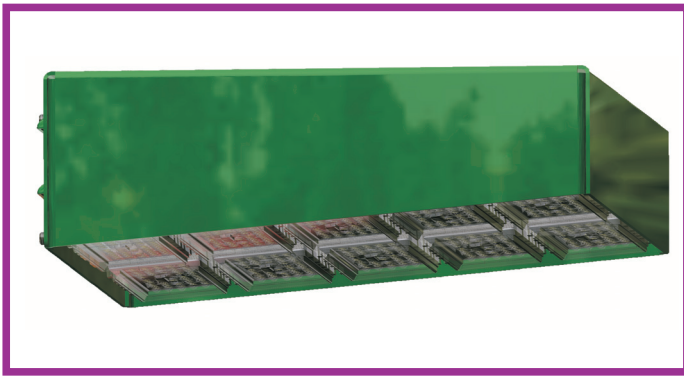


Full Deflector

Part No: HLDFULL

*This indicative drawing is for information only.

Manufactured & Distributed in the United Kingdom by:
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HiLux[®]

Match[®] Slim

LED

The Match Slim LED is a new generation of HiLux high performance luminaires designed for use in sports lighting.

Match Slim LED

Box quantity	1
Net Weight	10.5 - 16kg
Body colour (standard)	RAL6005
Optic	Standard**
IP rating	IP68
Windage	0.035m ²
Mounting method	4 x M10 factory fitted

Lamp type	LED
Luminaire power	300W - 600W
Lamp colour	5000 K
Supply voltage	230v

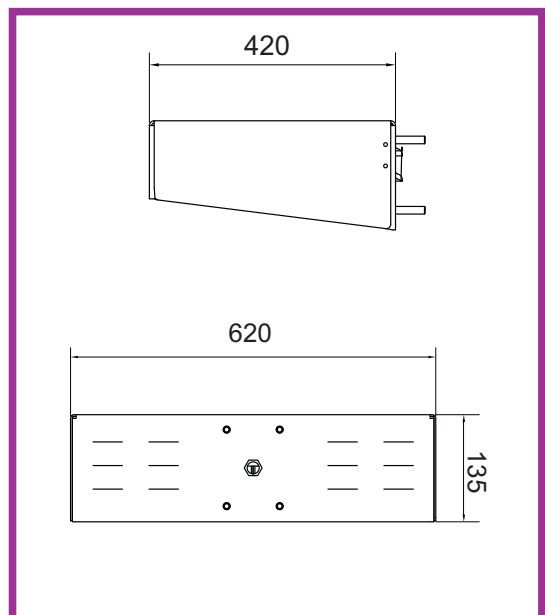
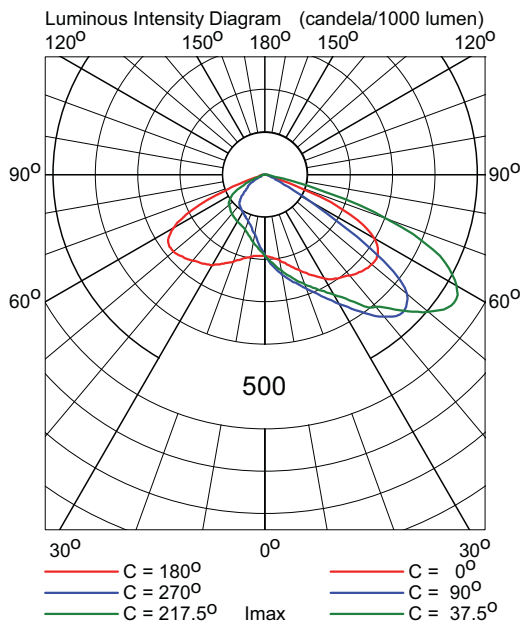
- ✓ LED low energy lighting
- ✓ Exceptional light control
- ✓ Designed for outdoor sports lighting
- ✓ Lightweight aluminium body
- ✓ Stainless steel components
- ✓ Computer designed optics
- ✓ Heavy duty mounting
- ✓ IP68 ingress protection for main elements
- ✓ Powder coat finish (RAL 6005) Green
- ✓ 5 year limited warranty via direct install*
- ✓ 5 & 10 year onsite extended warranty available*

Product code:

MATCH-SLIM/LED

Options

/C - Alternative colour finish



* Conditions apply
 ** Various optics available

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