

	Title	TECHNICAL SUBMISSION DOCUMENT FORM		
	Document Number	Revision	Date	Page
	DGP0051	2	15/10/2018	1 of 1

Sub-contractor	Dodd Group Cymru		
Project	Ysgol Y Graig – Rugby Pitch Lighting	Submission No.	TSE020 Rev 00
Description of Submission	Rugby Pitch Floodlights	Contract No.	106045

To Mark Poole cc. ☒ M&E Consultant ☐ Main Contractor
 Adele Lloyd ☐ Architect ☐ Other (define)
 Adam Rowbotham ☐ Structural Engineer

COMMENT OF THE FOLLOWING DOCUMENT IS REQUIRED

Equipment Specifying Schedule	N/A	Builder's Work Requirements	YES
Manufacturer's Data	Yes	Assembly / Installation Details	YES
Design Check Calculations	YES	O & M Manuals	N/A
Certified Performance Data	Yes	Reports	YES

Additional Submission Details

Please pay close attention to the BWIC details contained within.

Following Kier Instruction to proceed, all items contained within are ordered and dates of delivery included.

Signed (Originator) G Clement	Date Issued 18/06/2021	Date Comments Required Not Require
Checked and approved before submission by Originator		

STATUS OF THE ABOVE (TO BE COMPLETED BY RECIPIENTS)

☐ Status **A** = No comment, can be incorporated into the scheme
☐ Status **B** = Minor discrepancies found as listed below. Submission can be incorporated
☐ Status **C** = Submission unacceptable (as listed below), Resubmission required

Comments on submission

Signed	Position	Date
Name	Representing	

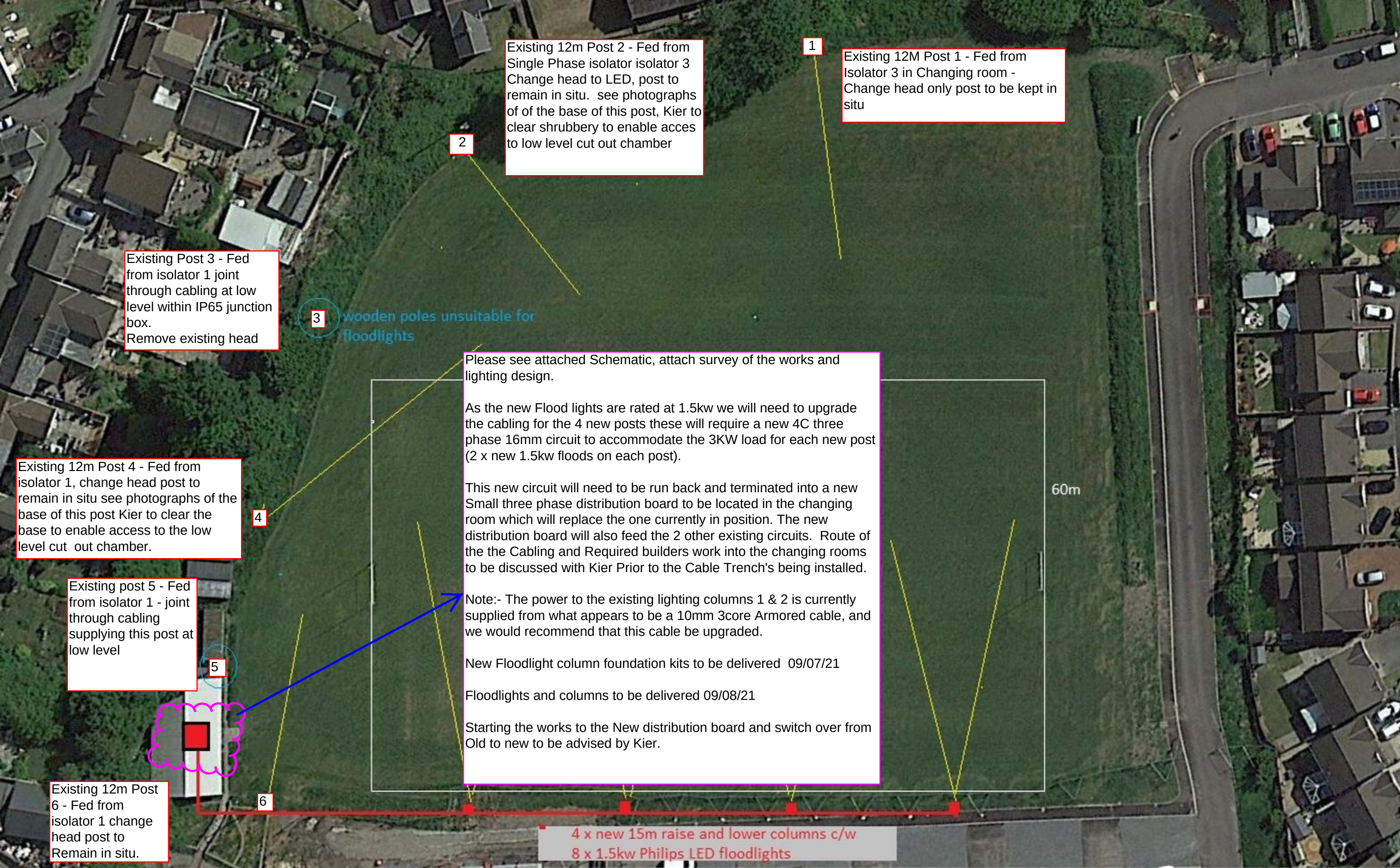
REVIEW

Comment

Signed	Date
Name	

CC ☐ Contract Manager ☐ M&E Design Co-ord / Manager ☐ Surveyor ☐ M&E S/C / Originator

This document does not constitute authority to proceed with a variation to the contract. Confirmation on issues to do with costs must be sought from the respective Dodd Group Surveyor



Existing 12m Post 2 - Fed from Single Phase isolator 3 Change head to LED, post to remain in situ. see photographs of of the base of this post, Kier to clear shrubbery to enable acces to low level cut out chamber

Existing 12M Post 1 - Fed from Isolator 3 in Changing room - Change head only post to be kept in situ

Existing Post 3 - Fed from isolator 1 joint through cabling at low level within IP65 junction box. Remove existing head

3 wooden poles unsuitable for floodlights

Existing 12m Post 4 - Fed from isolator 1, change head post to remain in situ see photographs of the base of this post Kier to clear the base to enable access to the low level cut out chamber.

Existing post 5 - Fed from isolator 1 - joint through cabling supplying this post at low level

Existing 12m Post 6 - Fed from isolator 1 change head post to Remain in situ.

Please see attached Schematic, attach survey of the works and lighting design.

As the new Flood lights are rated at 1.5kw we will need to upgrade the cabling for the 4 new posts these will require a new 4C three phase 16mm circuit to accommodate the 3KW load for each new post (2 x new 1.5kw floods on each post).

This new circuit will need to be run back and terminated into a new Small three phase distribution board to be located in the changing room which will replace the one currently in position. The new distribution board will also feed the 2 other existing circuits. Route of the the Cabling and Required builders work into the changing rooms to be discussed with Kier Prior to the Cable Trench's being installed.

Note:- The power to the existing lighting columns 1 & 2 is currently supplied from what appears to be a 10mm 3core Armored cable, and we would recommend that this cable be upgraded.

New Floodlight column foundation kits to be delivered 09/07/21

Floodlights and columns to be delivered 09/08/21

Starting the works to the New distribution board and switch over from Old to new to be advised by Kier.

4 x new 15m raise and lower columns c/w
8 x 1.5kw Philips LED floodlights

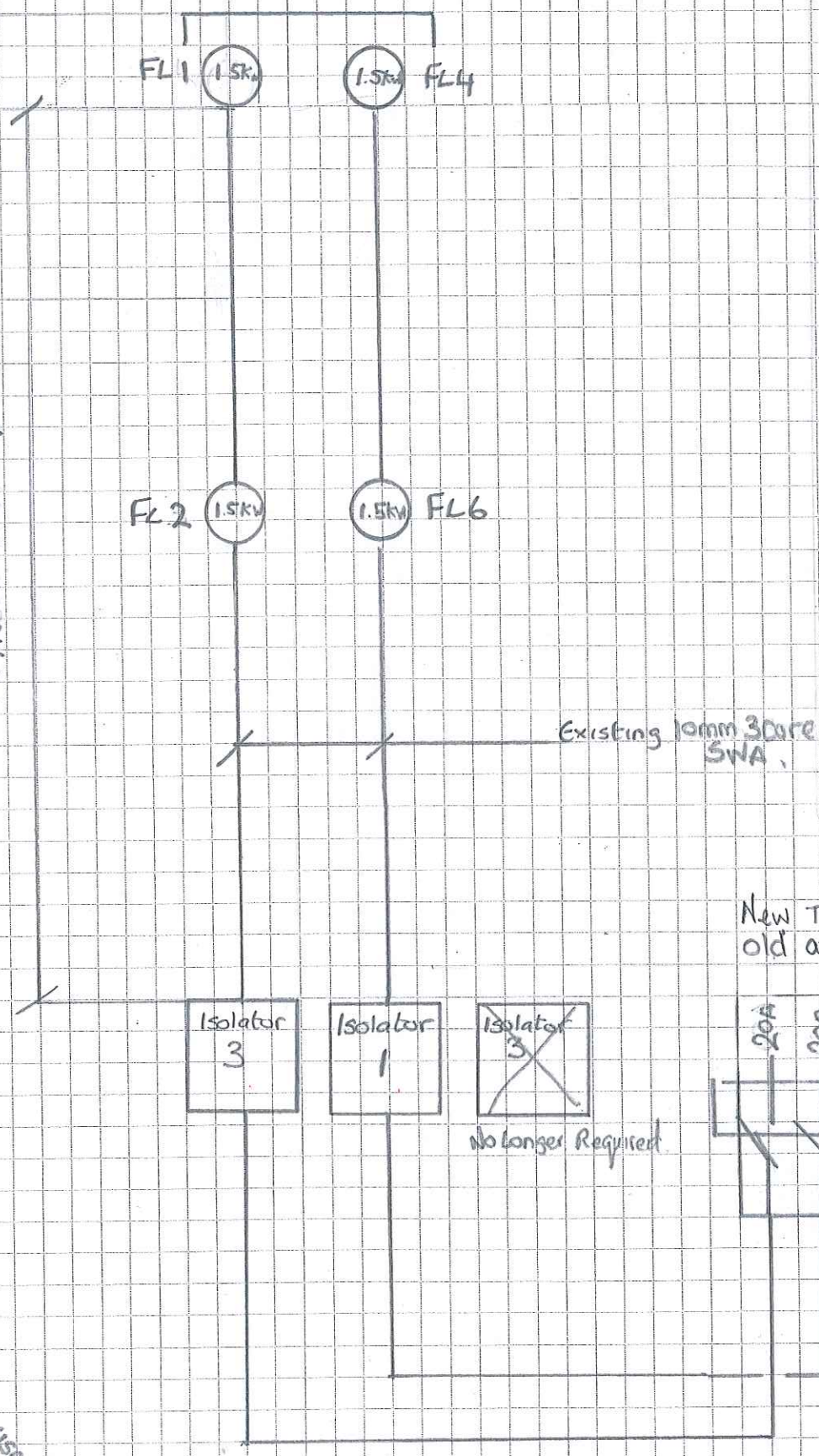
PRIMARY SCHOOL PROPOSED TRAINING LEVEL LIGHTING FOR MAIN AVERAGE) USING 4 X NEW 12M OR 15M COLUMNS (NEW CABLING) LIPS OPTIVISION FLOODLIGHTS

LIGHTING FROM 4 EXISTING 12M COLUMNS WITH 4 NEW PHILIPS FLOODLIGHTS

Please see attached photographs and comments.

Dodd Group - Mark up of issued plan.

Existing Posts.



Apex Distance 16m.

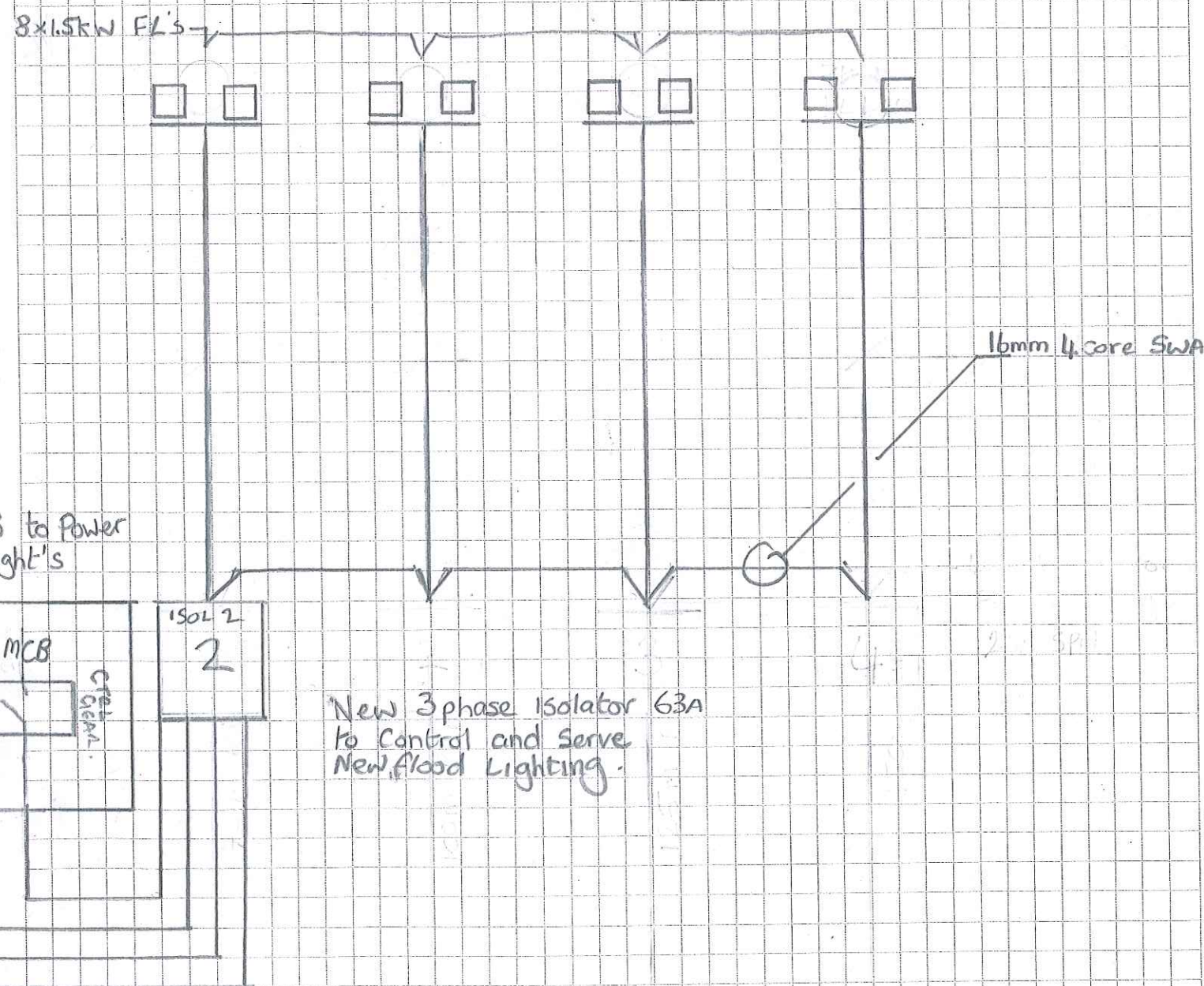
Note:-

Existing Cabling we Recommend that this is upgraded to a 16mm 3core SWA Due to the distance of Cable Run. Upgrade Not included in the cost provided.

Use Existing Supply

YXG FLOODLIGHTING Schematic.

New Flood Lights and posts.





Existing Post 1

Existing Post 2 - shrubbery
needs to be removed to enable
access to cut out chamber



Existing Post 3 -
shrubbery to be
removed to allow
cutting into the cabling
and installation of
Junction box



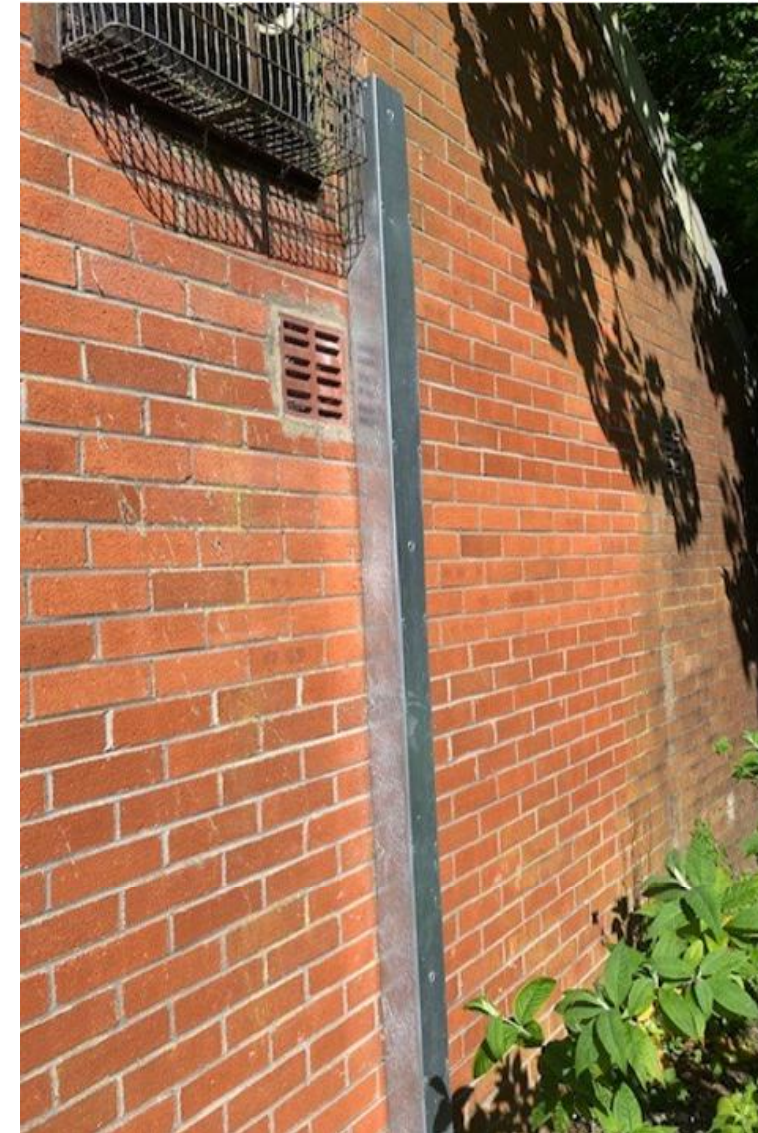


Existing Post 4 - base of post to be dug out to allow access into the cut out chamber



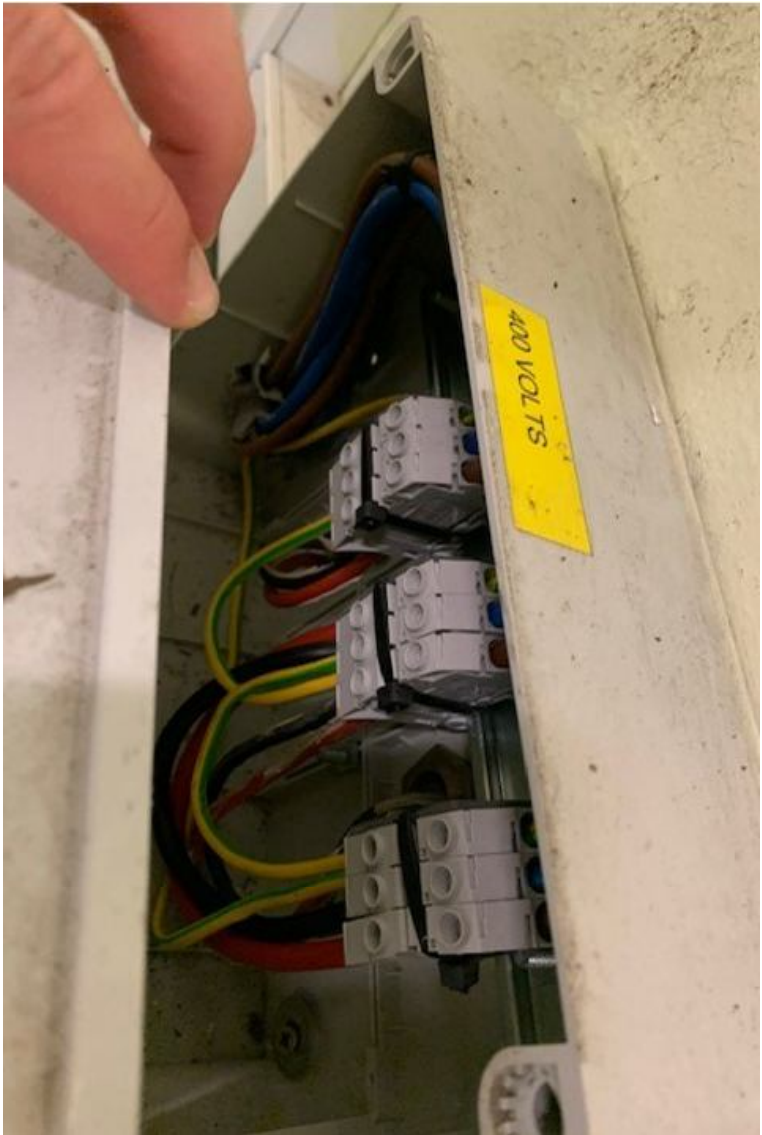
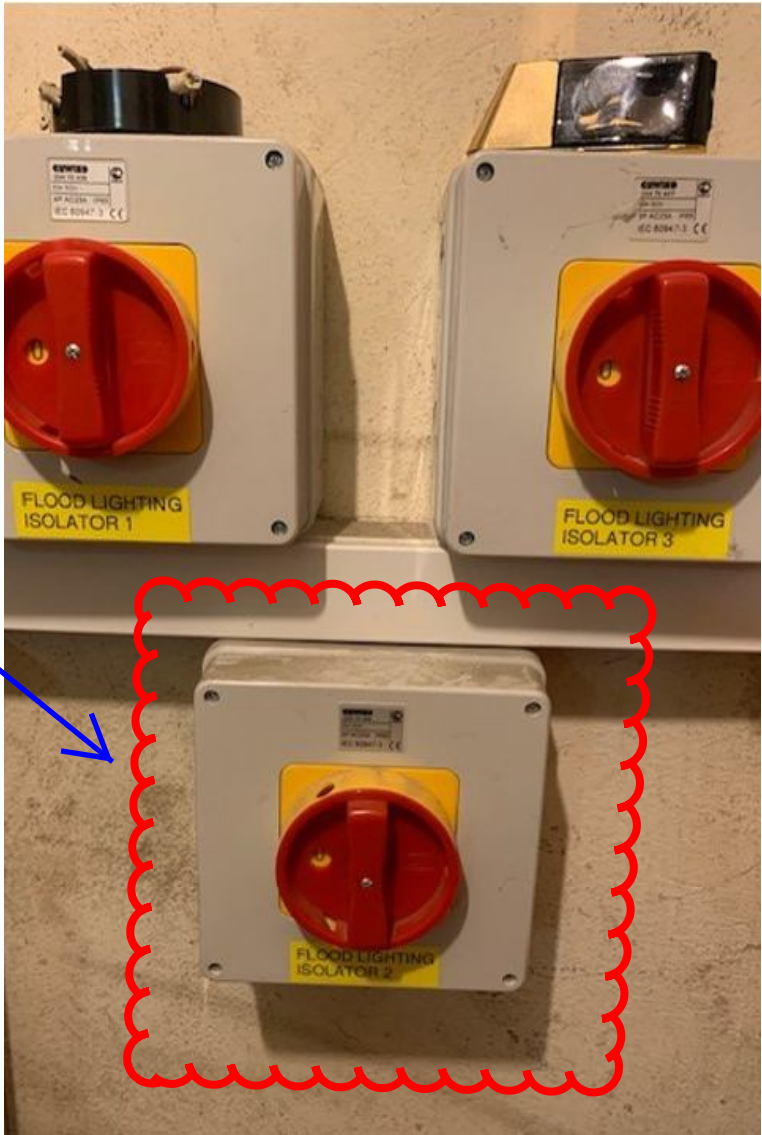
Existing Posts 5 & 6

Current Distribution board supplying the existing 3 x 40A circuits, to be changed to new TP&N distribution board



External cable entry at the side of changing rooms, the new cabling will need to take an alternative route into the changing rooms.

Omit 63A Isolator No.2 as the new circuit will need to be supplied from a New distribution board and higher rated Isolator.



Cable Connection box, where the external rated SWA cabling is changed to internal domestic cabling.

FLOODLIGHTING EQUIPMENT:

4 x NEW 15m MASTS Carrying the following AAA Lux
Luminaires
M1, M4.....A 1 x WS250 LS / 1550W / GEN 7.0.1
.....B 1 x WS290 LS / 1550W / GEN 7.0.1

M2, M3.....B 1 x WS290 LS / 1550W / GEN 7.0.1

4 x EXISTING 12m MASTS Carrying the following AAA
Lux Luminaires
M5.....A 1 x WS250 LS / 1550W / GEN 7.0.1

M6-M8.....B 1 x WS290 LS / 1550W / GEN 7.0.1

Maximum Elevation 68°

HORIZONTAL ILLUMINANCE LEVELS

Training Pitch (specified level)

Average Maintained Horizontal Illuminance (Eh.m): 100 lx
Uniformity Ratio (E.min / E.av): 0.5

Training Pitch (Calculated level)

Average Initial Horizontal Illuminance (Eh.m): 123 lx
Average Maintained Horizontal Illuminance (Eh.m): 110 lx
Uniformity Ratio (E.min / E.av): 0.11

Surrounding Area (Calculated level)

Average Initial Horizontal Illuminance (Eh.m): 81 lx
Average Maintained Horizontal Illuminance (Eh.m): 72 lx
Uniformity Ratio (E.min / E.av): 0.01

GRmax=52

Grid Intervals 5x5m

Maintenance Factor: 0.9

Based Upon:

- Luminaires depreciation due to dirt
- Medium Pollution
- Pre-season cleaning of floodlights

Initial Levels Shown

Figures taken with no over spill from adjacent Lighting

Mast location and pitch scale Provided by customer.
Please check prior to ordering

Obtrusive Light - Compliance Report

CIE 150:2017, E3-Medium District Brightness, Pre-Curlew
Filename: UKS18059 YYG Rugby Pitch
04/06/2021 09:40:49

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (8):

Calculation Label	Test Results	Max. Illum.
Gerdri Cyfarthfa 3_III_Seg1	FAIL	20
Pontycapel Road_III_Seg1	PASS	4
Pontycapel Road 1_III_Seg1	PASS	8
Pontycapel Road 2_III_Seg1	PASS	1
Gerdri Cyfarthfa_III_Seg1	FAIL	16
Gerdri Cyfarthfa 1_III_Seg1	PASS	2
Gerdri Cyfarthfa 2_III_Seg1	PASS	1
Heol-Y-Cae_III_Seg1	FAIL	11



WS SERIES LED

WS100-WS600

IP65

Benefits

- Wireless control simplifies operation for ease of use
- Centrally monitor and adjust power consumption
- Control system enables efficient planning of maintenance
- No re-lamping costs
- Instant startup allows the light to be switched on and off as and when required, thus saving energy costs by reducing power consumption from wasted light
- Flexible dimming down to 10% for low use and security giving substantial energy savings over conventional HID lamps
- Increased system efficiency by reducing wasted light

Technical Features

- Controllable via smart devices, touchscreen or wireless switch box
- Mounting height 12-45m
- 3 phase as standard
- Single phase 230V option available
- Marine grade as standard
- Die-cast aluminium polyester powder coated body with integrated heat sink and flexible bracket mount

- Lenses installed behind toughened flat glass for maximum integrity of the lenses
- High powered 1.55kW luminaire (WS100 - WS600)
- High powered 0.775kW luminaire (WS400)
- Dimmable in accordance with EN 12193
- Highly efficient optics

Lighting Distribution

The AAA-LUX WS Series of LED Luminaires offers a variety distribution options to suit individual requirements

Applications

- Sports

Colours

- Black

Lighting control & WS Series

Using a pitch side control box, smart device, sensors or a computer based in house, individual courts or areas can be switched on and others dimmed or switched off, with the ability to switch lighting to full power instantly to allow for unexpected use or for a maximum energy saving between uses of the sport pitches or courts with little downtime.





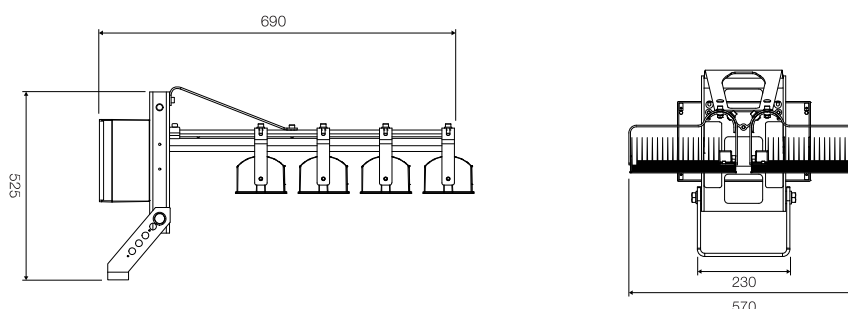
Technical Specifications

WS100 - WS600	Minimum	Typical	Maximum
Voltage input (VAC)	370	400	430
Power factor at 20%-100%	0.90	0.98	
Frequency (Hz)	45		60
Standby power (W)		5	
Colour temperature (K)		5200	
Colour rendering index	70	80	
Weight (kg)		28	
Ingress protection		IP65	
Electrical insulation class		I	
Frontal surface		$0.26 C_w = 1$	
Expected lifetime at Tamb = 25°C		35,000hrs	60,000hrs
Power consumption at 100%			
Standard - Heavy Duty (W)		1550	1600
Maximum Power (W)		1700	1750
High Temperature (W)		1375	1425
Current			
		(At 400VAC)	(At 375VAC)
Standard - Heavy Duty (A)		3.9	4.3
Maximum Power (A)		4.3	4.8
High Temperature (A)		2.5	3.9
Operating temperature			
Standard - Heavy Duty (°C)	-20		+40
Maximum Power (°C)	-20		+50
High Temperature (°C)	-20		+50
Luminous efficacy*			
Standard - Heavy Duty (lm / W)	103.3	113.1	140
Maximum Power (lm / W)	98.7	109.0	140
High Temperature (lm / W)	114.1	117.2	140

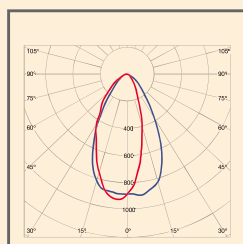
* Based on the WS2005

Dimensions

Dimensions in mm

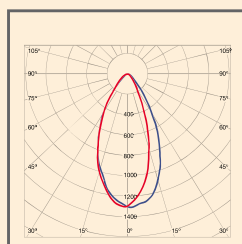


Key Features



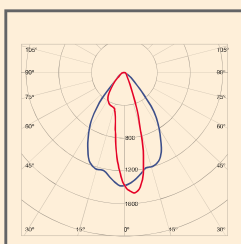
WS100

Lamp: 8 LED Modules



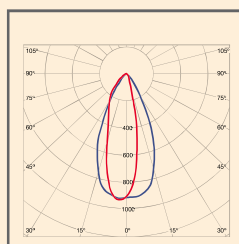
WS150

Lamp: 8 LED Modules



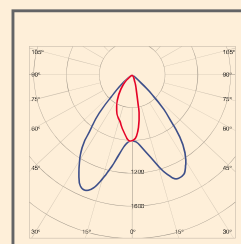
WS200

Lamp: 8 LED Modules



WS250

Lamp: 8 LED Modules



WS301

Lamp: 8 LED Modules

cd/klm C0 - C180 — C90 - 270 —

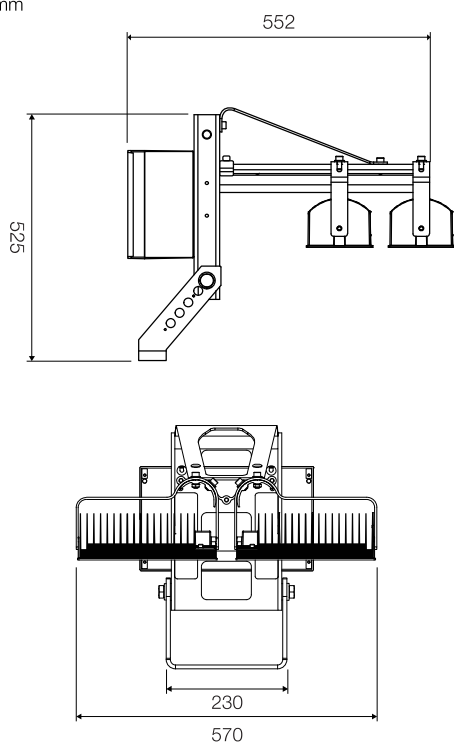
Technical Specifications

WS400	Minimum	Typical	Maximum
Voltage input (VAC)	370	400	430
Power factor	0.95	0.98	
Frequency (Hz)	45		60
Standby power (W)		7.6	8
Colour temperature (K)		5200	
Colour rendering index	70	80	
Weight (kg)		19	
Ingress protection		IP65	
Electrical insulation class		I	
Frontal surface		0.26 C _w = 1	
Expected lifetime at Tamb = 25°C		35,000hrs	60,000hrs
Power consumption at 100%			
Standard - Heavy Duty (W)		775	800
Maximum Power (W)		850	875
High Temperature (W)		700	735
Current			
Standard - Heavy Duty (A)		(At 400VAC) 2.0	(At 370VAC) 2.2
Maximum Power (A)		2.1	2.4
High Temperature (A)		1,8	2.0
Operating temperature**			
Standard - Heavy Duty (°C)	-20		40
Maximum Power (°C)	-20		30
High Temperature (°C)	-20		50
Luminous efficacy*			
Standard - Heavy Duty (lm / W)	103.3	113.1	140
Maximum Power (lm / W)	98.7	109.0	140
High Temperature (lm / W)	114.1	117.2	140

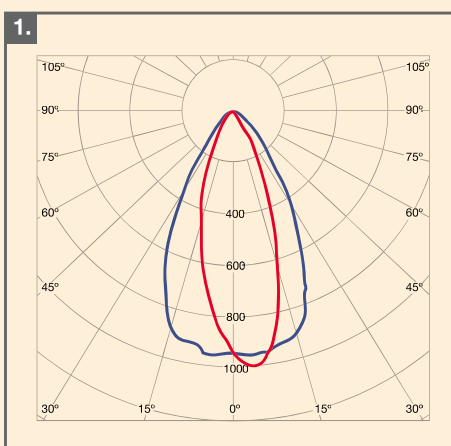
*Luminous efficacy WS400 **Absolute maximum temperature 60°C; auto dimming may occur at high temperatures

Dimensions

Dimensions in mm



Key Features



WS400

Lamp: 4 LED Modules

cd/klm C0 - C180 — C90 - 270 —