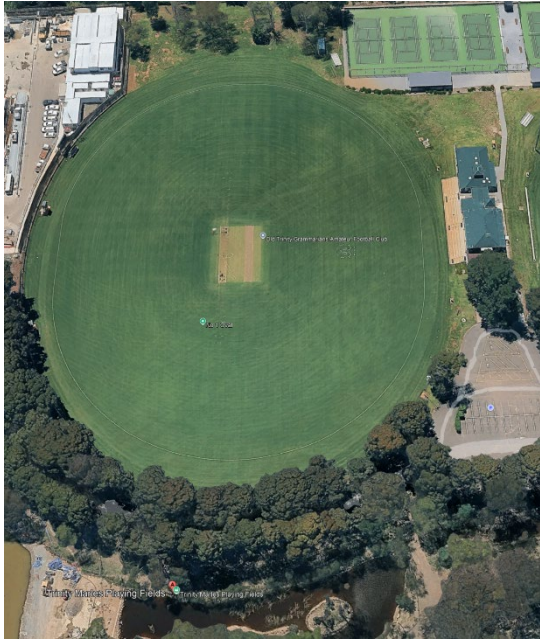




DALLEY OVAL & GERALD PATTERSON COURTS SPORTS LIGHTING

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

CLIENT NAME

Trinity Grammar, Bulleen

Prepared by

Justin Albin, Jasstech Pty Ltd

ADVERTISED
PLAN

Contents

1. Introduction.....	2
2. Project Background.....	3
3. Location & Existing Conditions	4
4. Standards and guidance.....	5
5. Lighting Scope	5
Daley Oval	5
Gerald Patterson Courts	5
6. Lighting design brief and performance targets	6
Daley Oval	6
Gerald Patterson Courts	6
7. Obtrusive light / light spill assessment	7
8. Lighting Operation and Curfews.....	8
9. Ecological & biodiversity considerations	8
10. Conclusion	8
Daley Oval	8
Gerald Patterson Courts	8
Annexure A – Daley Proposed Pole Installation Plan	0
Annexure B – Daley Lighting Lux Map.....	1
Annexure C – Daley Lumen Calculations	2
Annexure D – Proposed Daley Lighting Poles.....	0
Annexure E – Daley Proposed Light Fittings.....	1
Annexure F – Gerald Patterson Courts Proposed Pole Installation Plan	2
Annexure G – Gerald Patterson Courts Lighting Lux Map.....	3
Annexure H – Gerald Patterson Courts Lumen Calculations	4
Annexure i – Gerald Patterson Courts Light Poles	5
Annexure J – Gerald Patterson Courts Light Fittings	6

**ADVERTISED
PLAN**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

1. Introduction

Trinity Grammar School's Marles Playing Fields extends the School's main Kew campus by offering AFL, soccer, cricket, rugby, tennis and archery facilities to students and the wider community. To improve safety, performance and sustainability, Trinity proposes two key lighting upgrades:

Daley Oval Renewal

- Replace the 1983-era metal-halide system—which suffers from low pole heights, uneven lux levels, excessive glare, and light spill—with modern LED luminaires mounted on taller poles.
- The new lights will deliver higher, more uniform illumination with a superior Colour Rendering Index, precise spill control and reduced dark spots. Daley Oval is used all year for inter-school and club matches and is well set back from nearby residences.

Gerald Patterson Courts Activation

- Install energy-efficient LED court lights to transform under-used daytime courts into a safe, well-lit community hub to support use of courts over the full 12 months of the year
- Zoning fixtures and enforcing sensible curfews, will minimize impacts on neighbours while extending programming hours.

**ADVERTISED
PLAN**

2. Project Background

To improve the amenity and performance of the Daley Oval lighting and activate lighting for Gerald Patterson Courts, Trinity proposes to undertake the installation of new lighting poles and energy-efficient LED luminaires to both the Daley Oval and Gerald Patterson Courts.

Trinity Grammar School's Marles Playing Fields supports the School's main Kew campus by accommodating a range of sporting activities, including AFL, cricket, tennis, soccer, rugby, and archery for both Trinity students and the wider school community.

The Daley Oval is a high-quality natural turf playing surface, which is utilised year-round by the School community and hosts clubs for inter-school matches, AFL games in winter and cricket matches in summer. Gerald Patterson Courts comprise of eight doubles-dimensioned hard-surfaced courts which host tennis training, interschool matches and community social matches during daylight hours in spring, summer, and autumn.

The Daley Oval lighting was installed under Melbourne Metropolitan Board of Works approval on 28 February 1983. After almost 40 years of service, the low pole heights, inefficient fixture angles, and obsolete lamp technology no longer deliver safe, uniform illumination. As a result, users experience excessive glare, significant light spill, and dark spots—with attendant risks of impaired vision, eye strain, and fatigue. The school therefore proposes an essential upgrade to modernise the system and restore consistent, high-quality, energy efficient lighting across the entire field.

Due to the limitation with daylight hours operation, the Gerald Patterson Courts are currently underutilised. Installing energy-efficient LED, Quality court lighting is necessary to increase the capacity and use of courts over the full 12 months of the year and will transform currently underused courts into a community hub that supports healthier, safer, and more active lives.

The Daley Oval is well set back from residential properties and are co-located with other sporting facilities on the Marles Playing Fields' site. Light spill will reduce as a result of the proposed upgrade of existing light pole structures and nuisance glare will significantly decrease due to the mounting angles of fittings. The Gerald Patterson Courts are located on the Northernmost boundary of the site, with an approximate setback between 20 – 25m down a 4m steep embankment between the playing surfaces and the rear of the neighbouring properties. With modern fixtures and sensible curfews, neighbour impacts will be minimal, and environmental impacts will be effectively managed.

**ADVERTISED
PLAN**

3. Location & Existing Conditions



Figure 1 – Daley Oval & Gerald Patterson Courts Location

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

No lighting is currently installed to the Gerald Patterson Courts. The Daley oval currently has 4 No. 15m poles located as per the below plan.

The neighbouring residences are at least 4m above the field's finished ground level. This has been taken into consideration in calculations, to ensure neighbours are not adversely affected by spill light.

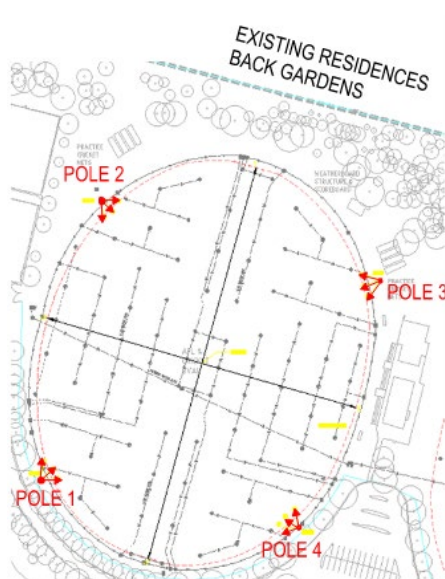


Figure 2: Existing Daley Oval light pole locations

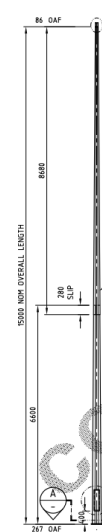


Figure 3: Existing 15 m pole elevations

4. Standards and guidance

When it comes to sports lighting in Australia, several standards must be taken into account. These requirements vary depending on the level of competition being played and include specific guidelines for lighting intensity and uniformity.

To demonstrate the appropriateness of the project, Trinity engaged an independent sports lighting design specialist, Jasstec to verify compliance to the following standards:

- **AS 2560.1:2018** – Sports Lighting Part 1: General Principles
- **AS 2560.2:2021** – Sports Lighting Part 2: Specific Applications
- **AS 4282:2019** – Control of the obtrusive effects of outdoor lighting

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

5. Lighting Scope

Daley Oval

The AFL Community Facility Guidelines encourages the provision of higher illumination where possible to support participation growth, cater for a range of competition levels and to optimise ground use and capacity. When planning a lighting scheme, it is advisable to design with account to the sport with the highest lighting levels and/or level of play as lighting extends oval and training area use later into the evening, allowing more efficient programming, flexibility and optimisation of facility use. The design brief for the Daley Oval was for the upgraded lighting to meet illumination requirements as detailed in Australian Standard AS2560.2 2021 for Cricket - Class IV, and Football All Codes—Professional.

The project will utilise 4 x 35m poles, with 16 luminaires per pole. The field size is 163m long and 130m wide. The illumination parameters are detailed in the table below.

AS2560.2: 2021 - CLASS IV FOR CRICKET:	Eh _{ave}	Ehave/Eh _{min}	Eh _{min} /Eh _{max}	UG
* Square - Ehave= 500Lux; Ehmin/Ehave= 0.7; Ehmin/Ehmax= 0.6; UG= 1.11	500	0.7	0.6	1.11
* Infield - Ehave= 350Lux; Ehmin/Ehave= 0.6; Ehmin/Ehmax= 0.5; UG= 1.25	400	0.6	0.5	1.25
* Outfield- Ehave= 300Lux; Ehmin/Ehave= 0.5; Ehmin/Ehmax= 0.4; UG= 1.54	300	0.5	0.4	1.44
AS2560.2:2021 - FOOTBALL ALL CODES:				
* Amateur Training - Ehave= 50Lux; Ehmin/Ehave= 0.3;	50	0.3	N/A	
* Amateur Match Play/Semi-Professional Training	100	0.5	0.3	2
* Semi-Professional Match Play/Professional Training	200	0.6	0.4	1.67
* Professional Match Play	500	0.7	0.5	1.33

Figure 4: AS2560.2 2021 Table

Gerald Patterson Courts

Illuminated outdoor courts provide additional available hours for play. The aim of tennis court lighting installation is to control the brightness of the ball and the background against which it is viewed, so that the ball is visible, regardless of its location and speed while at the same time minimising any potential adverse effects of obtrusive and spill lighting.

The vast majority of lighting installations fall within the Club Competition and Commercial level of play. Only venues that host regular Tennis Australia and ITF sanctioned events should consider permanent lighting to International or National level. The Gerald Patterson Courts

ADVERTISED
PLAN

design brief is for the new lighting to meet illumination requirements as detailed in Australian Standard AS 2560.2:2021 for tennis Club Competition and Commercial as to enable social, coaching and competition use in evenings and on extremely overcast days.

20 x 8m poles (10 per set of 4 courts) of low glare lighting in a hybrid installation is proposed. Where some luminaires are located between courts, two luminaries will be mounted on one pole, and where only one court is to be illuminated, one luminary will be mounted on the pole.

Lighting standards

Level of Play	Maintained horizontal illuminance* (LUX)		Minimum horizontal uniformities				Maximum Glare rating GR _{max}	Minimum Colour Rendering Index R _{a min}
	PPA	TPA	PPA		TPA			
			U _{1min}	U _{2min}	U _{1min}	U _{2min}		
Recreational and Residential	250	150	0.6	0.3	0.2	0.1	50	65
Club competition and commercial	350	250	0.6	0.4	0.3	0.2		
International and national**	1000	500	0.7	0.5	0.5	0.3	50	65

Figure 5: AS2560.2 2021 Table

6. Lighting design brief and performance targets

Daley Oval

During the consultation process, it was determined that the Daley Oval would require a lighting level of no less than 500 Lux to support safe play on the field in the evenings and in overcast conditions. The target uniformities for the lighting are U_1 (min/ave.) = 0.7 and U_2 (min/max) = 0.5. The Glare Rating is also considerably less than the allowable <50. The final design is provided in the attachments.

Gerald Patterson Courts

To support Club Competition and Commercial safe play in the evenings and in overcast conditions, Gerald Patterson Courts requires a Total Playing Area (TPA) lighting level of no less than 250 Lux with target uniformities U_1 (min/ave.) of 0.3 and U_2 (min/max) = 0.2 and a Principal Playing Area (PPA) of 350 lux with target uniformities = 0.6 and U_2 (min/max) = 0.4. The Glare Rating is also considerably less than the allowable <50. The final design is provided in the attachments.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

7. Obtrusive light / light spill assessment

Spill light has been calculated in accordance with AS4282:2023. The assessment was conducted on the northern boundary, where residences exist. The residences are elevated by no less than 4m above the finished field's ground level. The calculation grid utilised a horizontal spacing of two metres, and a vertical spacing of one metre. The height of the calculation grid was four metres to 15 metres above the field's finished ground level, to ensure the grid envelope considered houses up to 3-storeys high, despite all houses being no more than 2-storeys high. Given that the proposed project is substantially different from the existing installation, the more prescriptive Application Conditions of L1 (Pre-Curfew) were used. This means the new lighting installation must not exceed 25Lux (vertical) and not exceed 25,000 candelas. The maximum Upward Waste Light Ratio allowable is 2% of total illuminance.

The test was conducted using the automated Compliance test in the AGi32 (Version 22.2.0.50) lighting software program. This compliant design has been achieved with spill lighting (Obtrusive Light) that is well under the allowable thresholds. The results are provided below.

Obtrusive Light - Compliance Report AS/NZS 4282:2023, A4 - High District Brightness, Non-Curfew Filename: Trinity College F1 500Lux ULTRA 27/10/2025 6:07:54 AM Illuminance Maximum Allowable Value: 25 Lux Calculations Tested (1): <table border="1"> <thead> <tr> <th>Calculation Label</th> <th>Test Results</th> </tr> </thead> <tbody> <tr> <td>Spill Houses North_III_Seg1</td> <td>PASS</td> </tr> </tbody> </table> Luminous Intensity (Cd) At Vertical Planes Maximum Allowable Value: 25000 Cd Calculations Tested (1): <table border="1"> <thead> <tr> <th>Calculation Label</th> <th>Test Results</th> </tr> </thead> <tbody> <tr> <td>Spill Houses North_Cd_Seg1</td> <td>PASS</td> </tr> </tbody> </table> Upward Waste Light Ratio (UWLR) Maximum Allowable Value: 3.0 % Calculated UWLR: 0.1 % Test Results: PASS	Calculation Label	Test Results	Spill Houses North_III_Seg1	PASS	Calculation Label	Test Results	Spill Houses North_Cd_Seg1	PASS	Obtrusive Light - Compliance Report AS/NZS 4282:2023, A3 - Medium District Brightness, Non-Curfew Filename: Trinity Grammar Tennis 14/11/2025 5:26:50 AM Illuminance Maximum Allowable Value: 10 Lux Calculations Tested (1): <table border="1"> <thead> <tr> <th>Calculation Label</th> <th>Test Results</th> </tr> </thead> <tbody> <tr> <td>Spill Houses North_III_Seg1</td> <td>PASS</td> </tr> </tbody> </table> Luminous Intensity (Cd) At Vertical Planes Maximum Allowable Value: 12500 Cd Calculations Tested (1): <table border="1"> <thead> <tr> <th>Calculation Label</th> <th>Test Results</th> </tr> </thead> <tbody> <tr> <td>Spill Houses North_Cd_Seg1</td> <td>PASS</td> </tr> </tbody> </table> Upward Waste Light Ratio (UWLR) Maximum Allowable Value: 2.0 % Calculated UWLR: 0.1 % Test Results: PASS	Calculation Label	Test Results	Spill Houses North_III_Seg1	PASS	Calculation Label	Test Results	Spill Houses North_Cd_Seg1	PASS
Calculation Label	Test Results																
Spill Houses North_III_Seg1	PASS																
Calculation Label	Test Results																
Spill Houses North_Cd_Seg1	PASS																
Calculation Label	Test Results																
Spill Houses North_III_Seg1	PASS																
Calculation Label	Test Results																
Spill Houses North_Cd_Seg1	PASS																
Figure 6: Daley Oval Obtrusive Light Calculations	Figure 7: Gerald Patterson Courts Obtrusive Light Calculations																

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

8. Lighting Operation and Curfews

Lighting will be provided for seasonal allocations, training and matches and will only be operated while the allocated session is occurring. Floodlights must be turned off when the match or training session finishes, additionally, curfew timers, with permitted access to authorised will be installed to automatically switch lights off outside of the proposed curfew time of 10:00pm.

9. Ecological & biodiversity considerations

The proposed lighting installation does not include the requirement to remove any trees. Spill light has been considered, as to avoid impact on fauna.

10. Conclusion

Daley Oval

Utilising patented fold-fin thermal technology, and the latest high flux LEDs, Sports PRO delivers the highest luminous flux from a single, compact, lightweight luminaire. The custom engineered optics are also a major breakthrough in LED beam control, delivering incredible photometric outputs that meet and exceed the most challenging of lighting requirements.

The design for the Daley Oval consists of the following:

- 35 metre light poles
- 23 No. LED fittings per pole
- Very low windage area (EPA)
- Easy direct replacement using the existing mast, wiring, and mounting arms.
- Dark sky friendly with zero upward light
- Hood eliminates upward light leakage and provides excellent control of spill light.
- Industry leading optical performance for light spill control
- Consistent high performance in the most demanding environments
- Compatible with leading programmable lighting control systems, including wireless systems.

Gerald Patterson Courts

Court sports such as tennis require lighting that will deliver high uniformity on low masts whilst delivering low glare. Utilising our super-efficient high-flux light sources and thermal technology, the lighting will deliver reliable lumens per Watt; superior uniformity; outstanding light quality; and remarkable visual comfort and incredible performance that meet and exceed the most challenging of lighting requirements.

The design for the Gerald Patterson Courts consists of the following:

- 8 metre light poles
- 1 or 2 No. LED fittings per pole

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

- Extremely slimline design
- Very low windage area (EPA)
- Various lumen packages from 75W-1000W
- Easy direct replacement using the existing mast, wiring, and mounting arms.
- Dark sky friendly with zero upward light
- Virtually no tilt, delivering ultimate control, and reduced glare.
- Industry leading optical performance for light spill control
- Consistent high performance in the most demanding environments
- Compatible with leading programmable lighting control systems

The new lighting design utilises LED fittings as opposed to metal halide fittings, and this enables much greater directional control of the light output from the fitting. In addition to the use of shields, as required.

LED luminaires incorporate a louvre within the fitting during manufacturing, which focuses the output of the light. The fittings will also be tilted to a maximum of 10 degrees to further control spill light off the playing surfaces.

Light spill will decrease as a result of the proposed upgrade of existing light pole structures and nuisance glare will significantly decrease due to the mounting angles of fittings.

ADVERTISED PLAN

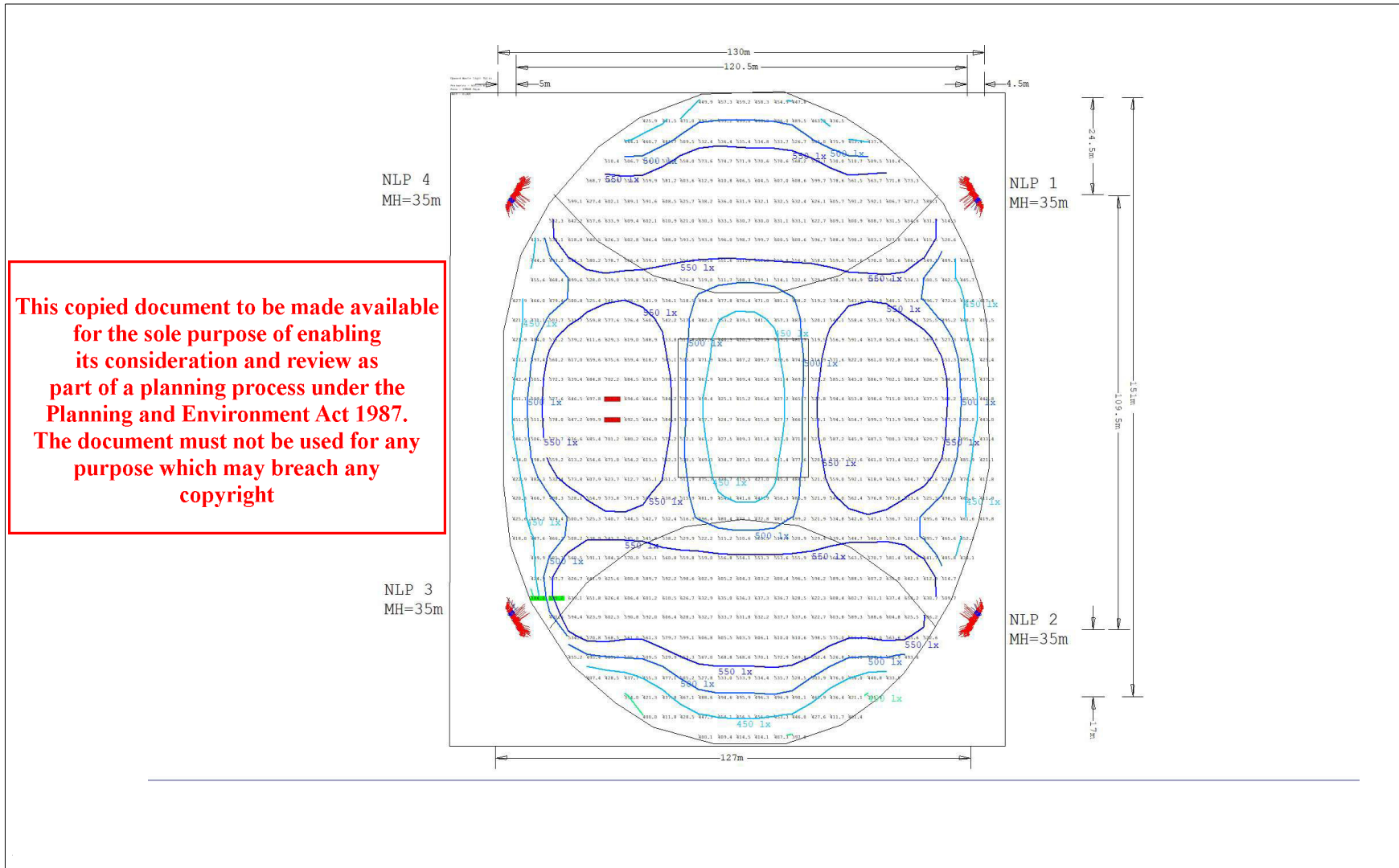
**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

[illegible]

ADVERTISED PLAN

Annexure B – Daley Lighting Lux Map



Annexure C – Daley Lumen Calculations

Calculation Summary									
Scenario: LIF 3.00									
Label	Category	Units	Avg	Max	Min	Min/Avg	Min/Max	TD	
APL Head 1	Discharge	CUU	144.63	145.3	0.71	0.54	1.30		
Spill House1 North Cd Spgl	Occupative - CD	N.A.	N.A.	17453	1266	N.A.	N.A.	N.A.	
Spill House1 North 211 Spgl	Occupative - 211	CUU	N.A.	17.6	0.3	N.A.	N.A.	N.A.	



AUSTRALIAN STANDARDS COMPLIANCE STATEMENTS

- [illegible]

LUMEN MAINTANENCE FACTOR METHODOLOGY

- * design calculations use a maintenance factor of 0.9 based on the below quantification.
- low - 0.925 (based on xw6", medium pollution and 36mch cleaning cycle per A21560)
- med - 0.975 (A90 M10 is based on initial startup of 97.5% at 20,000hrs) this means that initial illumination will be higher than required by the standard.
- * luminaires can be dimmed via internal wireless controls.
- see all aspects of play and gaming, and pc games, various scenes.

NOTES

- FOLE POSITIONS TO BE CONFIRMED PRIOR TO INSTALLATION
- CONSULT MASTERS FOR ACHING INFORMATION BEFORE INSTALLATION
- FIELD MARKING IS AN ESTIMATE - CLUE TO CONFIRM

Obtrusive Light - Compliance Report

AS/NZS 4282:2023, A4 - High District Brightness, Non-Curfew L1
 Filename: Trinity College F1 500Lux ULTRA
 27/10/2025 6:07:54 AM

Illuminance

Maximum Allowable Value: 25 Lux

Calculations Tested (1):

Calculation Label	Test Results	Max. Illum
Spill Houses North III Seq1	PASS	17.9

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 25000 Cd

Calculations Tested (1):

Calculation Label	Test Results
Spill Houses North Cd Seq1	PASS

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 3.0 %

Calculated UWLR: 0.1 %
Test Results: **PASS**

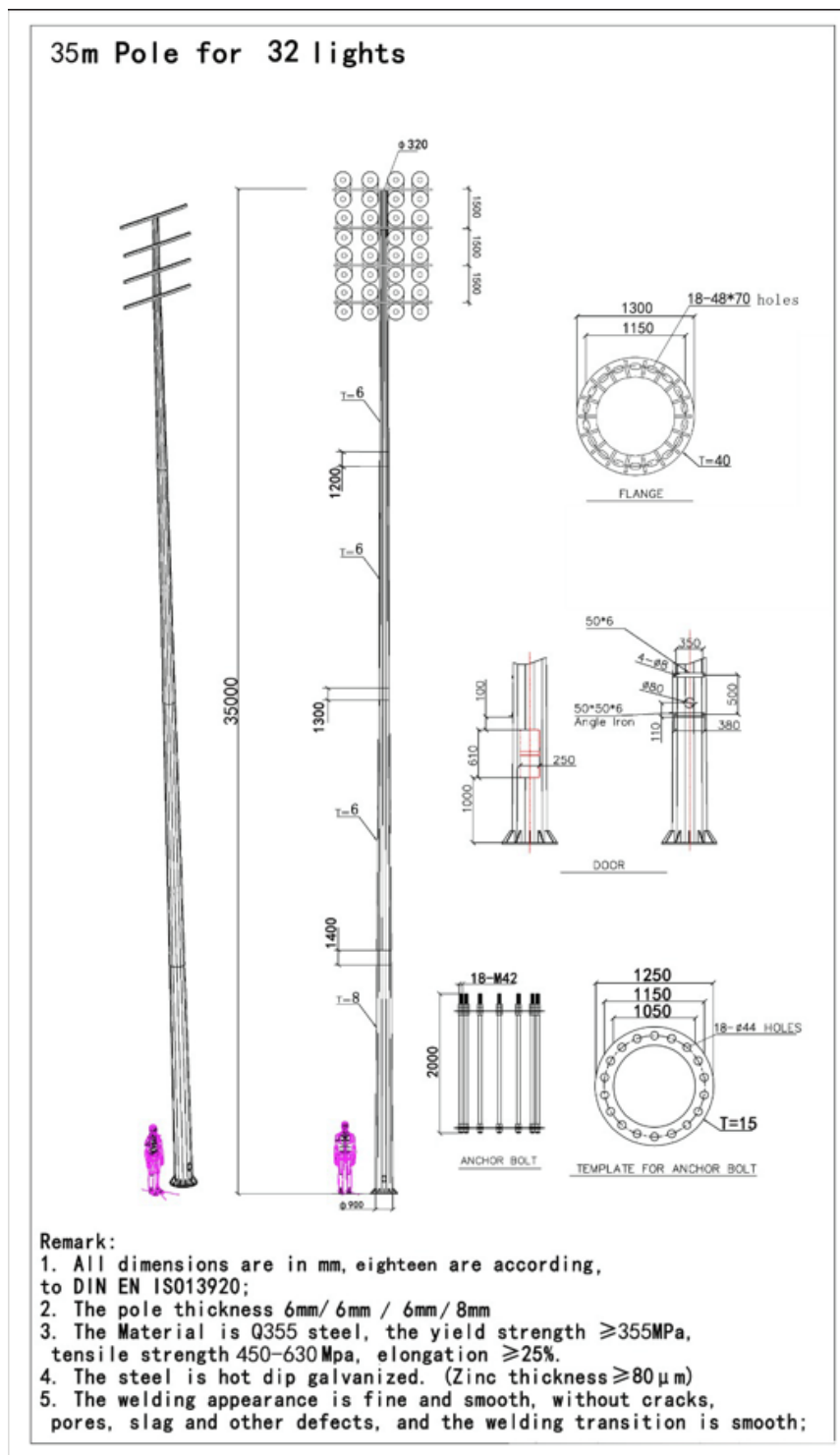
Model	Sports ULTRA-600	Sports ULTRA-1200
LED Max Power (W)	600	1200
Typical System Power (W)	640	1240
Typical Luminous Flux (lm)	86,800	162,000
Module Package Dimensions (mm)	661x403x185	765x815x145
Total Luminaire Mass (kg)	33.5	31
Windage Front/ Side (m ²) (at 0deg. tilt)	0.122/0.075	0.141/0.151
Correlated Colour Temperature (CCT)	4000K - 6500K	
Beam Profiles	AN60/ AW60/ AS45/ AS20	
Colour Rendering Index (CRI)	>Ra70 (Ra 80 available)	
System Efficacy (LER)	>135 lm/W	
LED Junction Temp. (@ Ta=30°C)	≤60°C	
Driver Position	Remote or On-board	
Input Voltage Range	90VAC-305VAC / 347VAC-480VAC	
Power Factor	>0.95	
Electrical Class	Class I	
Flicker Rate	<2%@ 100% power	
Protection	Over Voltage, Short Circuit, Thermal Sensing	
Nominal Frequency (Hz)	50-60 Hz	
Dimming Control Options	0-10V, DALI	
Ambient Operating Temperature	-30°C to +45°C	
Module Package Material	Aluminium (low copper content), SS fasteners	
Optical Cover	Tempered high transmission Glass over Polycarbonate	
Finish	Grey Akzo Nobel, powder coated (customised RAL colour available)	
Ingress Protection (IP)	Module Package and Junction Box=IP66/ Driver=IP67	
IK (Impact) Rating	IK10	
Certifications	CE, SAA, RoHS	
Warranty/ Service Life L80 B50	5-year/100,000-hour (extended warranty avail.)	

Luminaires Schedule				
Scenario: SLF 1.00				
Symbol	Qty	Label	File Name	
W	2	ceastrach sports ultra tx amf0-6-2	Amf-1000-Amf0-6-2.dwg	
W	34	ceastrach sports ultra tx amf0-6-2	Amf-1000-Amf0-6-2.dwg	

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

ADVERTISED PLAN

Annexure D – Proposed Daley Lighting Poles



**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Annexure E – Daley Proposed Light Fittings

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright



JASSTECH

Leaders in Lighting

Sports ULTRA

POWER.PRECISION.PERFORMANCE.

The Sports ULTRA is a next-generation sports lighting solution engineered for large outdoor sports facilities. Delivering uncompromising brightness, and advanced light control through precision optics, the ULTRA ensures maximum visibility, energy efficiency, and uniform illumination across the playing surface without impacting surrounding neighbourhoods.

140

lm / W



Tech Specs

Model	LUX-FLX-600	LUX-FLX-1200
Typical System Power	640	1200
System Efficacy	135lm/W	135lm/W
Typical Luminous Flux	86400	162000
LED Module	1x1	1x2
Net Weight	13.5	31

Performance

Beam Profile	AN60 / AN60 / AS45 and others
Color Temperature (CCT)	4000 - 6500K
Colour Rendering Index	>70 (>80 available upon request)
LED Junction Temp.	≤60°C (@ Ta=30°C)

Electrical

Input Voltage Range	90-305VAC / 347-480VAC
Nominal Freq. (Hz)	50 - 60 Hz
Mains Power Supply	Integrated / External
Power Factor	≥0.95
Electrical Class	Class I
Dimming Options	0-10V / DALI
Standby Power	≤ 0.5 W
Protection	Over Voltage, Short Circuit, Thermal Sensing

Environmental

Ambient Operating Temp. Range	-30°C to 45°C
Storage Temp. Range	-25°C to 65°C (Optimal 25°C)
IP class	IP66
K class	IK10

Physical

Mounting Options	Trunnion
Housing	Aluminum Alloy
Optical Cover	PC Lens
Finish	Powder Coating (optional upon request)

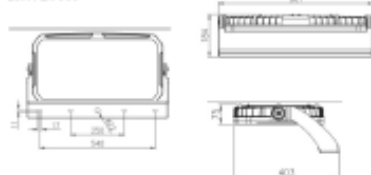
Approvals

Certifications	CE, SAA, RoHS (pending)
Service life L80 B50 (LED)	>100,000 h
Warranty	5 years

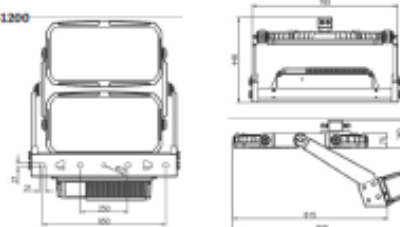
Specifications may vary depending on territory and are subject to change without notice.

Dimensions

LUX-FLX-600



LUX-FLX-1200



Jasstech Pty Ltd | 1300 665 135 | www.jasstech.com.au

enquiries@jasstech.com.au

ADVERTISED
PLAN

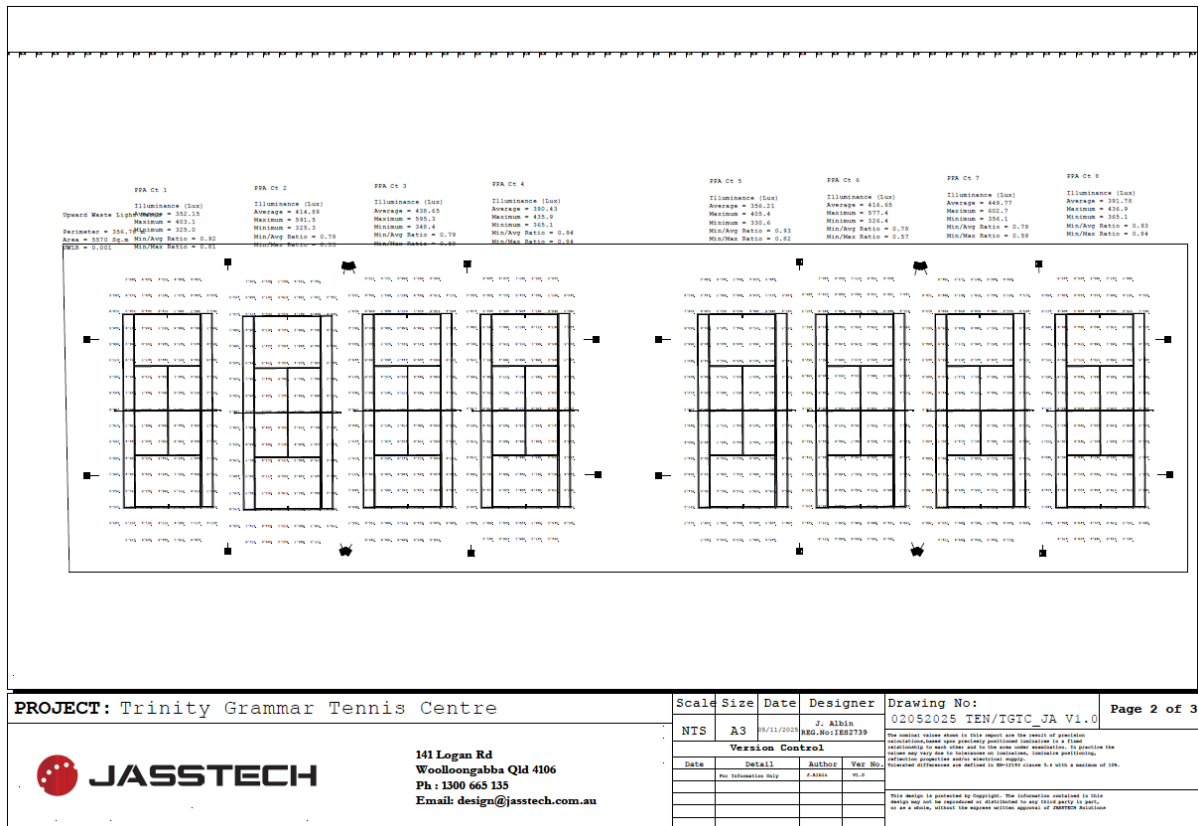
Annexure F – Gerald Patterson Courts Proposed Pole Installation Plan



This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Annexure G – Gerald Patterson Courts Lighting Lux Map



PROJECT: Trinity Grammar Tennis Centre



141 Logan Rd
Woolloongabba Qld 4106
Ph : 1300 665 135
Email: design@jasstech.com.au

Scale	Size	Date	Designer	Drawing No:	Page 2 of 3
NTS	A3	16/11/2020	J. Albin REG. No. 1882739	02052025 TEN/TGTC_JA V1.0	
Version Control					
Date	Detail	Author	Ver No.	The content values shown in this report are the result of prediction calculations based upon predicted positions, locations, & times. The values may vary due to tolerance on calculations, inclusive positioning, reflective properties and/or material applied. Calculated differences are defined in AS/NZS 1539 clause 5.4 with a maximum of 10%.	
	Per Submission Only	F. Albin	V1.0		
				This design is protected by copyright. The information contained in this design may not be reproduced or distributed to any third party in part or as a whole, without the written approval of JASSTECH Australia.	

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED
PLAN

Annexure H – Gerald Patterson Courts Lumen Calculations

Simulation Summary									
	Cell Type	Cell ID	Age	Sex	Height (cm)	Weight (kg)	Height (cm)	Weight (kg)	Age (days)
1	Male	10001	10	M	170	65	170	65	10000
2	Female	10002	10	F	160	55	160	55	10000
3	Male	10003	10	M	175	70	175	70	10000
4	Female	10004	10	F	165	60	165	60	10000
5	Male	10005	10	M	180	75	180	75	10000
6	Female	10006	10	F	170	65	170	65	10000
7	Male	10007	10	M	172	68	172	68	10000
8	Female	10008	10	F	168	58	168	58	10000
9	Male	10009	10	M	178	72	178	72	10000
10	Female	10010	10	F	172	62	172	62	10000
11	Male	10011	10	M	174	70	174	70	10000
12	Female	10012	10	F	166	56	166	56	10000
13	Male	10013	10	M	176	72	176	72	10000
14	Female	10014	10	F	169	59	169	59	10000
15	Male	10015	10	M	179	74	179	74	10000
16	Female	10016	10	F	171	61	171	61	10000
17	Male	10017	10	M	173	69	173	69	10000
18	Female	10018	10	F	167	57	167	57	10000
19	Male	10019	10	M	177	71	177	71	10000
20	Female	10020	10	F	170	63	170	63	10000
21	Male	10021	10	M	175	70	175	70	10000
22	Female	10022	10	F	168	58	168	58	10000
23	Male	10023	10	M	176	72	176	72	10000
24	Female	10024	10	F	169	59	169	59	10000
25	Male	10025	10	M	178	74	178	74	10000
26	Female	10026	10	F	171	61	171	61	10000
27	Male	10027	10	M	173	69	173	69	10000
28	Female	10028	10	F	167	57	167	57	10000
29	Male	10029	10	M	177	71	177	71	10000
30	Female	10030	10	F	170	63	170	63	10000
31	Male	10031	10	M	175	70	175	70	10000
32	Female	10032	10	F	168	58	168	58	10000
33	Male	10033	10	M	176	72	176	72	10000
34	Female	10034	10	F	169	59	169	59	10000
35	Male	10035	10	M	178	74	178	74	10000
36	Female	10036	10	F	171	61	171	61	10000
37	Male	10037	10	M	173	69	173	69	10000
38	Female	10038	10	F	167	57	167	57	10000
39	Male	10039	10	M	177	71	177	71	10000
40	Female	10040	10	F	170	63	170	63	10000
41	Male	10041	10	M	175	70	175	70	10000
42	Female	10042	10	F	168	58	168	58	10000
43	Male	10043	10	M	176	72	176	72	10000
44	Female	10044	10	F	169	59	169	59	10000
45	Male	10045	10	M	178	74	178	74	10000
46	Female	10046	10	F	171	61	171	61	10000
47	Male	10047	10	M	173	69	173	69	10000
48	Female	10048	10	F	167	57	167	57	10000
49	Male	10049	10	M	177	71	177	71	10000
50	Female	10050	10	F	170	63	170	63	10000
51	Male	10051	10	M	175	70	175	70	10000
52	Female	10052	10	F	168	58	168	58	10000
53	Male	10053	10	M	176	72	176	72	10000
54	Female	10054	10	F	169	59	169	59	10000
55	Male	10055	10	M	178	74	178	74	10000
56	Female	10056	10	F	171	61	171	61	10000
57	Male	10057	10	M	173	69	173	69	10000
58	Female	10058	10	F	167	57	167	57	10000
59	Male	10059	10	M	177	71	177	71	10000
60	Female	10060	10	F	170	63	170	63	10000
61	Male	10061	10	M	175	70	175	70	10000
62	Female	10062	10	F	168	58	168	58	10000
63	Male	10063	10	M	176	72	176	72	10000
64	Female	10064	10	F	169	59	169	59	10000
65	Male	10065	10	M	178	74	178	74	10000
66	Female	10066	10	F	171	61	171	61	10000
67	Male	10067	10	M	173	69	173	69	10000
68	Female	10068	10	F	167	57	167	57	10000
69	Male	10069	10	M	177	71	177	71	10000
70	Female	10070	10	F	170	63	170	63	10000
71	Male	10071	10	M	175	70	175	70	10000
72	Female	10072	10	F	168	58	168	58	10000
73	Male	10073	10	M	176	72	176	72	10000
74	Female	10074	10	F	169	59	169	59	10000
75	Male	10075	10	M	178	74	178	74	10000
76	Female	10076	10	F	171	61	171	61	10000
77	Male	10077	10	M	173	69	173	69	10000
78	Female	10078	10	F	167	57	167	57	10000
79	Male	10079	10	M	177	71	177	71	10000
80	Female	10080	10	F	170	63	170	63	10000
81	Male	10081	10	M	175	70	175	70	10000
82	Female	10082	10	F	168	58	168	58	10000
83	Male	10083	10	M	176	72	176	72	10000
84	Female	10084	10	F	169	59	169	59	10000
85	Male	10085	10	M	178	74	178	74	10000
86	Female	10086	10	F	171	61	171	61	10000
87	Male	10087	10	M	173	69	173	69	10000
88	Female	10088	10	F	167	57	167	57	10000
89	Male	10089	10	M	177	71	177	71	10000
90	Female	10090	10	F	170	63	170	63	10000
91	Male	10091	10	M	175	70	175	70	10000
92	Female	10092	10	F	168	58	168	58	10000
93	Male	10093	10	M	176	72	176	72	10000
94	Female	10094	10	F	169	59	169	59	10000
95	Male	10095	10	M	178	74	178	74	10000
96	Female	10096	10	F	171	61	171	61	10000
97	Male	10097	10	M	173	69	173	69	10000
98	Female	10098	10	F	167	57	167	57	10000
99	Male	10099	10	M	177	71	177	71	10000
100	Female	10100	10	F	170	63	170	63	10000

AUSTRALIAN STANDARDS COMPLIANCE STATEMENTS

THE LIGHTING DESIGN COMPLIES WITH: AS2160.2:2021
• Recreational and Residential

- * **Recreational and Residential**
 - * 150 LUX (TPA)/ 250 LUX (PPA)
 - TPA - U1 Min/Avg. - 0.2; U2 Min/Max - 0.1
 - PPA - U1 Min/Avg. - 0.6; U2 Min/Max - 0.3
 - Club Competition and Commercial
- * 250 LUX (TPA)/ 350 LUX (PPA)
 - TPA - U1 Min/Avg. - 0.3; U2 Min/Max - 0.2
 - PPA - U1 Min/Avg. - 0.6; U2 Min/Max - 0.4

68-50

THIS LIGHTING DESIGN COMPLIES WITH AS4292:2019

- A3 - Medium District Brightness; L2: Pre-Curfew
- * <25,000cd; < 10 lux
- * UGR <1.04

- * Design calculations use a Maintenance Factor of 0.9 (Actual 0.92) based on the below quantification.

L00 = 0.95 (Based on IP6+, medium pollution and 36mth cleaning cycle per AS2160.1-2010 table 4.1)

LID = 0.975 (L90 B10 is based on initial startup of 97.5% at 20,000hrs)
This means that initial illumination will be higher than required by the standard.

- * Luminaires can be further dimmed by a JaasTech authorised technician, or via an approved lighting control management system for all levels of play and training.

NOTES:

- Pole positions to be confirmed prior to commissioning

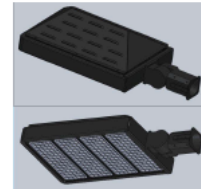
COURT TPA IS AN ESTIMATE - CLUB TO CONFIRM

PROJECT: Trinity Grammar Tennis Centre



JASSTECH

141 Logan Rd
Woolloongabba Qld 4106
Ph : 1300 665 135
Email: design@jasstech.com.au

[illegible]

Spigot type adaptor shown.
Trunnion Bracket and other mounting options available

[illegible]

Obtrusive Light - Compliance Report

AS/NZS 4282:2023, A3 - Medium District Brightness, Non-Curfew L1

Filename: Trinity Grammar Tennis
14/11/2025 5:26:50 AM

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (1):

Calculation Label	Test Results	Max Illum
Spill Houses North_H_Seg1	PASS	3.3

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (1):

Calculation Label	Test Results
Spill Houses North_Cd_Seg1	PASS

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.0 %

Calculated UWLR: 0.1 %

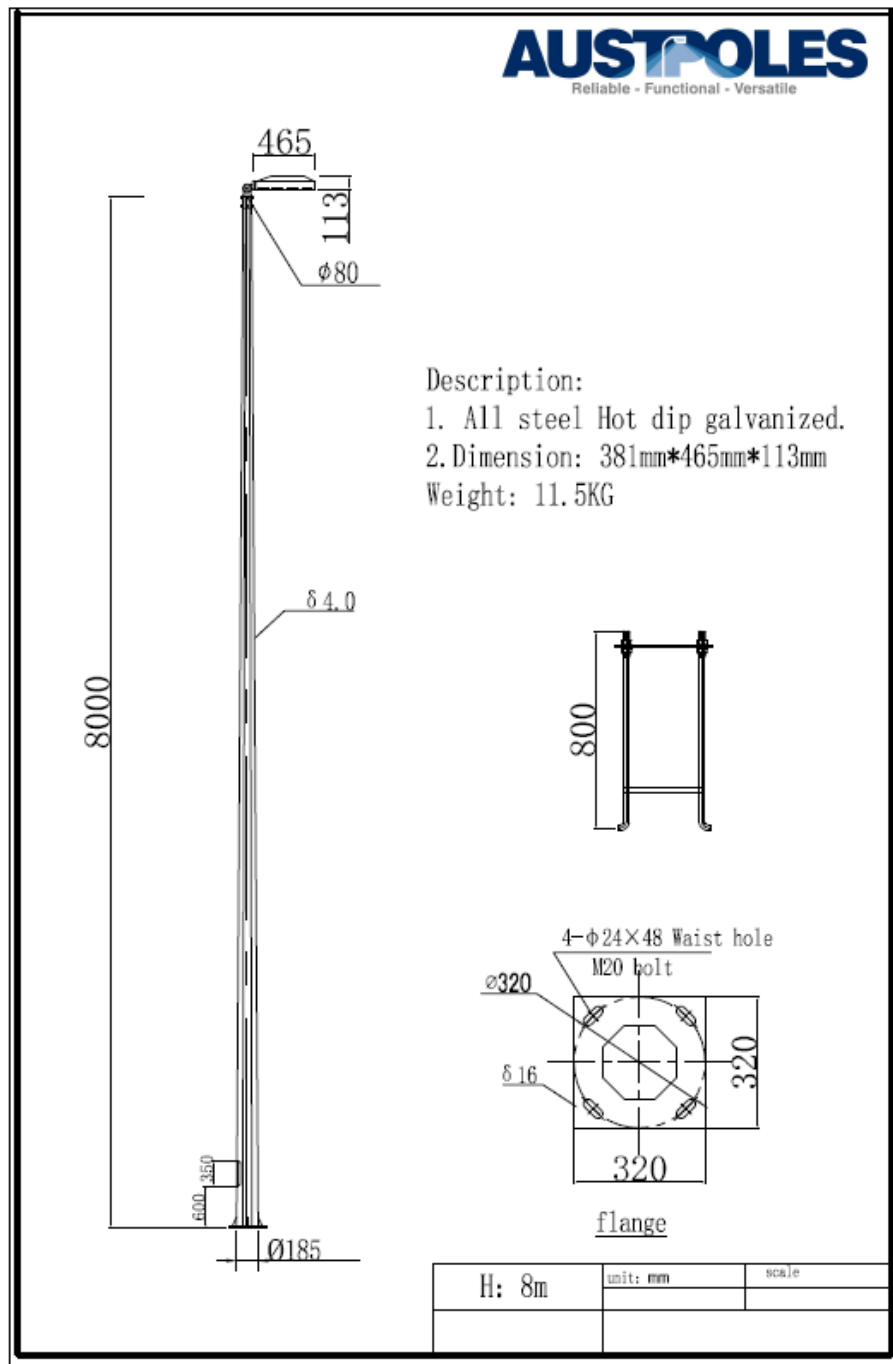
Test Results: **PASS**

Luminaire Schedule				
Symbol	Qty	Description	Lum. Watts	Total Watts
	3	JAASATON MAX 25W 4000K T2	25	50
	16	JAASATON 25W 4000K T2	25	400
	24	JAASATON SPORTS MAX 500 T4H	400	9600

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

ADVERTISED PLAN

Annexure i – Gerald Patterson Courts Light Poles



**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Annexure J – Gerald Patterson Courts Light Fittings



Driver System

CONTROL

The power control technology delivers constant light output, independent of input voltage variations and runs at an efficiency of >96% and a power factor of 0.99*.

FLEXIBILITY

The complete power gear system can be located up to 50m away from the luminaires, making it ideal for remote mounting. This simplifies installation, lowers initial cost and enables easy access for maintenance and future upgrades.

Technical Specifications

Model	FML-075	FML-100	FML-150	FML-200	FML-300	FML-400	FML-600	FML-800	FML-1000
LED Max Power (W)	75	100	150	200	300	400	600	800	1000
Typical System Power (W)	82	90	160	220	320	440	640	880	1100
Typical Luminous Flux (lm)	12,800	17,800	22,500	35,800	52,100	71,800	109,000	143,500	171,400
Module Package Dimensions (mm)	328x128x13		385x252x13		381x362x13	385x465x13	685x365x13	681x463x13	689x567x13
Total Luminaire Mass (kg)	6		8.5		9.8	11.5	14.8	16.2	17.6
Correlated Colour Temperature (CCT)	~5500K (other options available)								
Colour Rendering Index (CRI)	>Ra90								
System Efficacy (LER)	>160 lm/W								
LED Junction Temp. (at Ta=25°C)	<28°C								
Driver Position	Remote or on-board								
Input Voltage Range	240V and 415V options available								
Power Factor	>0.99								
Electrical Class	Class 1								
Flicker Rate	<2% @100% power								
Dimming Control Options	0-10V, PWM, DALI, Wireless								
Ambient Operating Temperature	-40°C to +45°C								
Module Package Material	Aluminium (low copper content), SS 316 fasteners								
Optical Cover	Polycarbonate								
Finish	Black or Grey powder coated (customized RAL colour available upon request) IP54								
Ingress Protection (IP)	Module Package=IP65/ Junction Box=IP65/ Driver=IP67								
IK (Impact) Rating	IK08								
Certifications	CE, CB, SAA, ETL, RCM								

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright