PATRIOT™ SERIES

RECREATIONAL COURT LIGHTING SYSTEM

ENGINEERED TO SUPPORT ANSI/IES RP-6 LIGHTING REQUIREMENTS

Designed for tennis and pickleball courts (IES Class III–IV)

PROJECT SUBMITTAL	
PROJECT NAME	
TYPE / DESIGNATION	
CATALOG NUMBER	
SUBMITTED BY	DATE
NOTES / REMARKS	

100W | 150W | 200W

SYSTEM CONFIGURATIONS



ETL LISTED • DLC PREMIUM • IP65 • BAA COMPLIANT

SYSTEM ENGINEERING

Lighting system performance is achieved through forward-throw asymmetric optics configured for perimeter pole installations, concentrating illumination onto the court while limiting high-angle glare and spill light.

KEY SYSTEM ATTRIBUTES

- Forward-throw asymmetric optics for reduced glare
- Uniform court illumination with controlled uniformity
- Optimized for 18–30 ft mounting heights
- Lightweight design for retrofit installations

500 TOWER PKWY, LINCOLNSHIRE, IL 60069
(224) 567-8312 • SALES@DUVONLIGHTING.COM • DUVONLIGHTING.COM

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SYSTEM OVERVIEW & PERFORMANCE SUMMARY

SYSTEM OVERVIEW

The Patriot™ Series is an LED sports lighting luminaire designed for recreational tennis courts, pickleball courts, and community sports facilities requiring reliable illumination, controlled glare, and durable outdoor performance.

The luminaire features a heavy-duty die-cast aluminum housing and a precision forward-throw asymmetric optical system engineered for perimeter pole installations.

The optical distribution concentrates light on the playing surface while minimizing high-angle glare and reducing spill light beyond the court boundary.

Lighting layouts should be validated through project-specific photometric simulations to confirm illumination levels, pole placement, aiming geometry, and uniformity.

LIGHTING PERFORMANCE IS ACHIEVED THROUGH SYSTEM LEVEL COORDINATION—NOT FIXTURE OUTPUT ALONE.

DESIGNED FOR FULL COMPLIANCE WITH ANSI / IES RP-6 RECOMMENDATIONS.

System design support, photometric layouts, and compliance documentation provided for each project application.

TESTING & COMPLIANCE

Designed to support compliance with:

- IES LM-79
- IES LM-80
- TM-21
- ANSI/IES RP-6
- UL 1598

SYSTEM PERFORMANCE SUMMARY

ATTRIBUTE	PERFORMANCE
Rated Life	L70 ≥ 100,000 hours
Photometric Testing	IES LM-79
LED Lumen Maintenance	IES LM-80 with TM-21 projection
Typical System Efficacy	125–140 lm/W
Color Rendering Index	70 CRI std. (80 CRI opt.)
Power Factor	≥ 0.96 typical
Input Voltage	100–277 V std. (277–480 V opt.)
Operating Temperature	-40°F to 131°F
Ingress Protection	IP65
Impact Rating	IK08
Surge Protection	10 kV std. (20 kV opt.)
Surge Protection Type	Parallel surge protection
Driver Dimming	0–10 V dimming compatible
Quick-Connect Wiring	IP66 quick-connect harness available
Warranty	10 years

APPLICATIONS & DESIGN SERVICES



PRIMARY APPLICATIONS

SPORTS FACILITIES
Community tennis courts, recreational pickleball courts, school practice courts, municipal recreation facilities, and neighborhood sports parks.

Additional applications may include outdoor training areas, golf practice ranges, and recreation complexes.

TYPICAL MOUNTING CONDITIONS

Typical mounting heights: 18–30 ft. Pole spacing, fixture quantity, and aiming angles must be verified through project-specific photometric simulations.

ENGINEERING & DESIGN SUPPORT

Duvon provides lighting design support including luminaire selection, mounting configuration, and photometric verification.

Services include:

- AGi32 photometric layouts
- Pole height recommendations
- Mounting option recommendations
- Fixture aiming diagrams

These services assist architects, engineers, and municipalities in lighting design verification.

LIGHTING PERFORMANCE STANDARDS

REFERENCE STANDARD

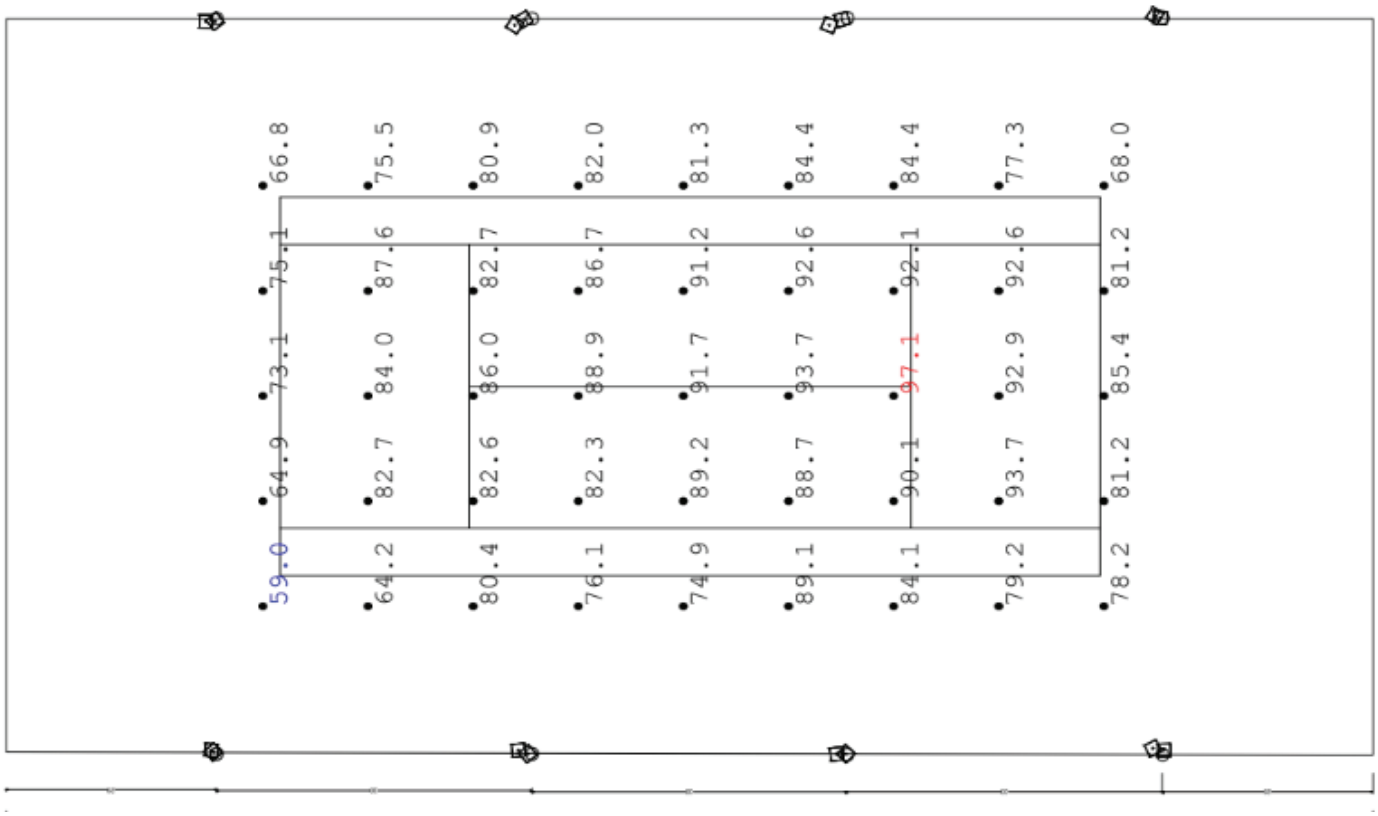
Patriot™ luminaires support lighting designs aligned with ANSI/IES RP-6 recommendations.

LIGHTING CLASS	APPLICATION	IES RECOMMENDED AVG	UNIFORMITY (AVG:MIN)
Class IV	Recreational Play	20–30 fc	≤ 3.0:1
Class III	Recreational Competition	30–50 fc	≤ 2.5:1

Final illumination levels and uniformity should be verified through project-specific photometric simulation.

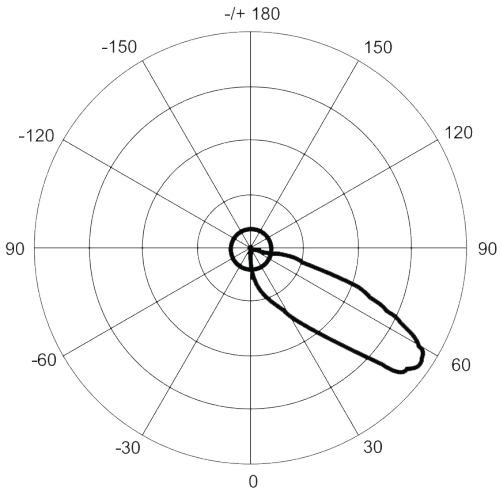
VERTICAL ILLUMINANCE CONSIDERATIONS

Vertical illuminance should be considered to support player visibility and ball tracking, particularly in tennis and pickleball applications.



Sample photometric calculation — Typical class IV tennis configuration

OPTICAL DISTRIBUTIONS



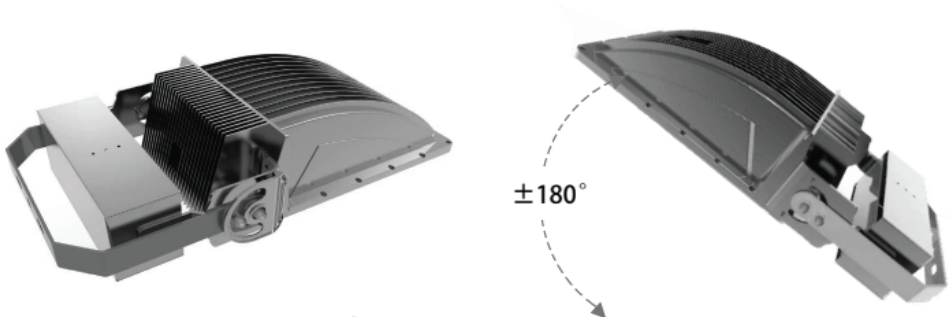
OPTICAL TYPE	DISTRIBUTION	APPLICATION
CA	Court Asymmetric	Tennis and pickleball courts

OPTICAL ORIENTATION

The forward-throw optical distribution is designed to align with the court surface when luminaires are mounted on perimeter poles outside the playing area.

OPTICAL MATERIAL

Precision-formed aluminum reflector system for accurate light distribution and long-term outdoor durability.



GLARE CONTROL & LIGHT TRESPASS

GLARE CONTROL

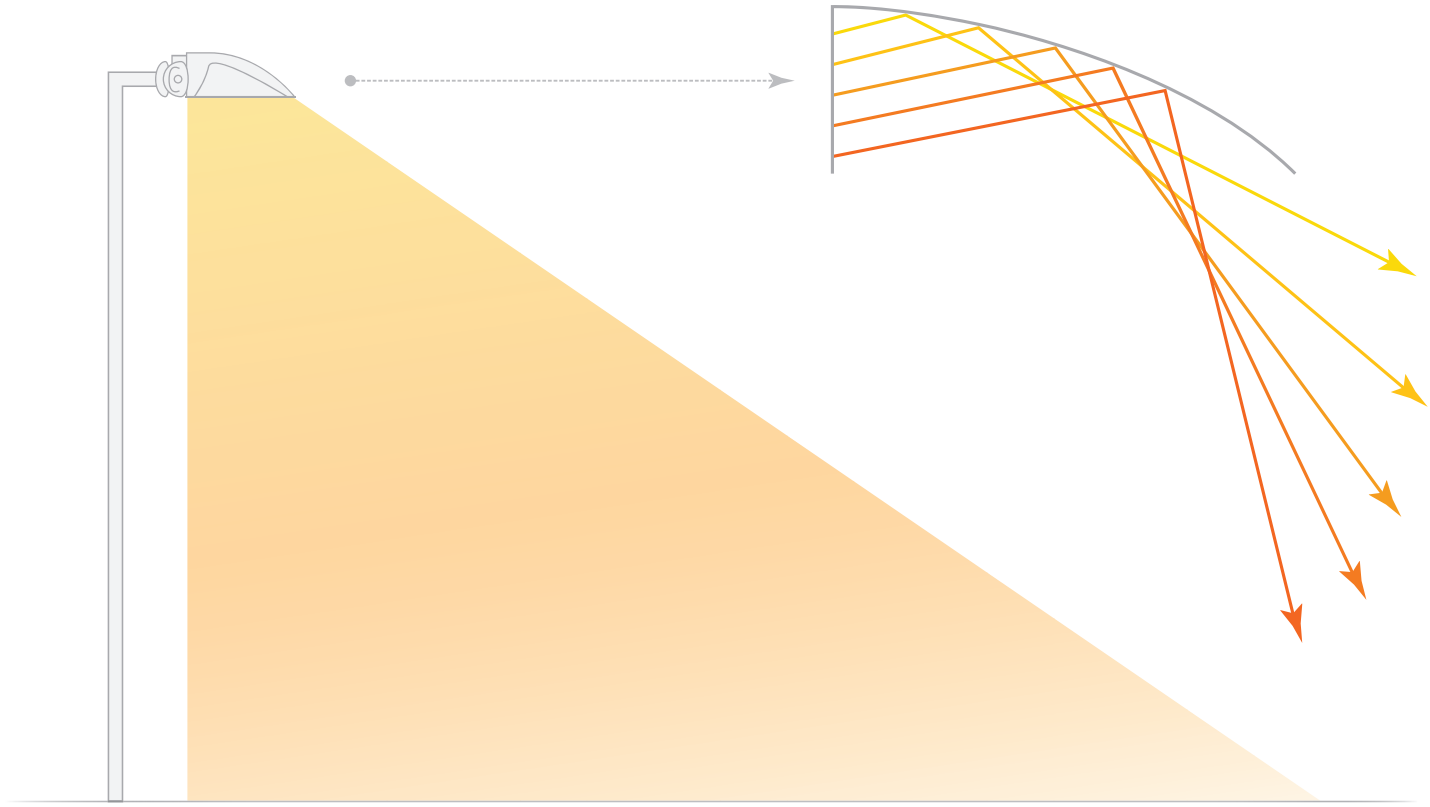
Patriot™ luminaires utilize forward-throw asymmetric optics to reduce high-angle glare while maintaining uniform illumination across the playing surface.

LIGHT TRESPASS

Optical control and optional shielding can be used to reduce spill light and improve visual comfort. Property-line illumination should be verified through project-specific photometric analysis.

SKY GLOW & UPLIGHT CONTROL

Optical system designed to limit high-angle light and reduce uplight through controlled beam distribution and proper aiming.



PROPERTY-LINE CONTROL STATEMENT

Property-line illumination levels and spill-light control should be verified through project-specific photometric simulation based on actual site geometry and aiming conditions.

ELECTRICAL & MECHANICAL SPECIFICATIONS

LUMEN OUTPUT

MODEL	WATTS	LUMEN OUTPUT
PATRIOT-100	100 W	13,265 lm
PATRIOT-150	150 W	20,556 lm
PATRIOT-200	200 W	25,174 lm

TYPICAL SYSTEM EFFICACY

125–140 lm/W

Depending on wattage, CCT, and driver configuration.

AVAILABLE CCT OPTIONS

4000K | 5000K

INPUT CURRENT (AMPERAGE)

VOLTAGE	100W	150W	200W
120V	0.83 A	1.25 A	1.67 A
208V	0.48 A	0.72 A	0.96 A
240V	0.42 A	0.63 A	0.83 A
277V	0.36 A	0.54 A	0.72 A
480V	0.21 A	0.31 A	0.42 A

Input current values are nominal. Final branch circuit sizing shall be verified in accordance with NEC and project requirements.

ELECTRICAL CHARACTERISTICS

ATTRIBUTE	PERFORMANCE
Driver Type	Constant Current LED Driver
Surge Protector	10 kV std. (20 kV opt.)
Power Factor	≥ 0.96
THD	< 20%
Input Frequency	50/60 Hz
Dimming	0–10 V

MAINTENANCE CONSIDERATIONS

LED luminaires require minimal routine maintenance compared with traditional HID sports lighting systems. Typical maintenance consists of periodic inspection of mounting hardware and cleaning of optical surfaces where required.

MECHANICAL CONSTRUCTION

COMPONENT	SPECIFICATION
Housing	Die-cast aluminum
Optical System	Precision asymmetric sports reflector
Hardware	Stainless steel external fasteners
Mounting	Adjustable yoke bracket
Tilt Adjustment	±90°
Finish	Powder coating, 1,000-hour salt-spray tested

FINISH COLORS

- Black (std.)
- Bronze
- Gray
- Green

OPTIONAL MOUNTING ACCESSORIES

- 2-3/8 in round slip-fitter adapter
- Rectangular pole slip-fitter adapter

FIXTURE WEIGHT (LUMINAIRE ONLY)

MODEL	WEIGHT
PATRIOT-100	23.5 lbs
PATRIOT-150	23.5 lbs
PATRIOT-200	26.8 lbs

EFFECTIVE PROJECTED AREA (EPA)

0.78 ft²

STRUCTURAL CONSIDERATIONS

Pole structures shall be designed in accordance with ASCE 7 wind load requirements for the project location.

SMART CONTROL SYSTEM

Duvon sports lighting systems support wireless lighting control platforms.

Wireless lighting control systems may include:
- Remote on/off operation
- Scheduling
- Energy monitoring
- Remote diagnostics

TYPICAL LIGHTING SCENES

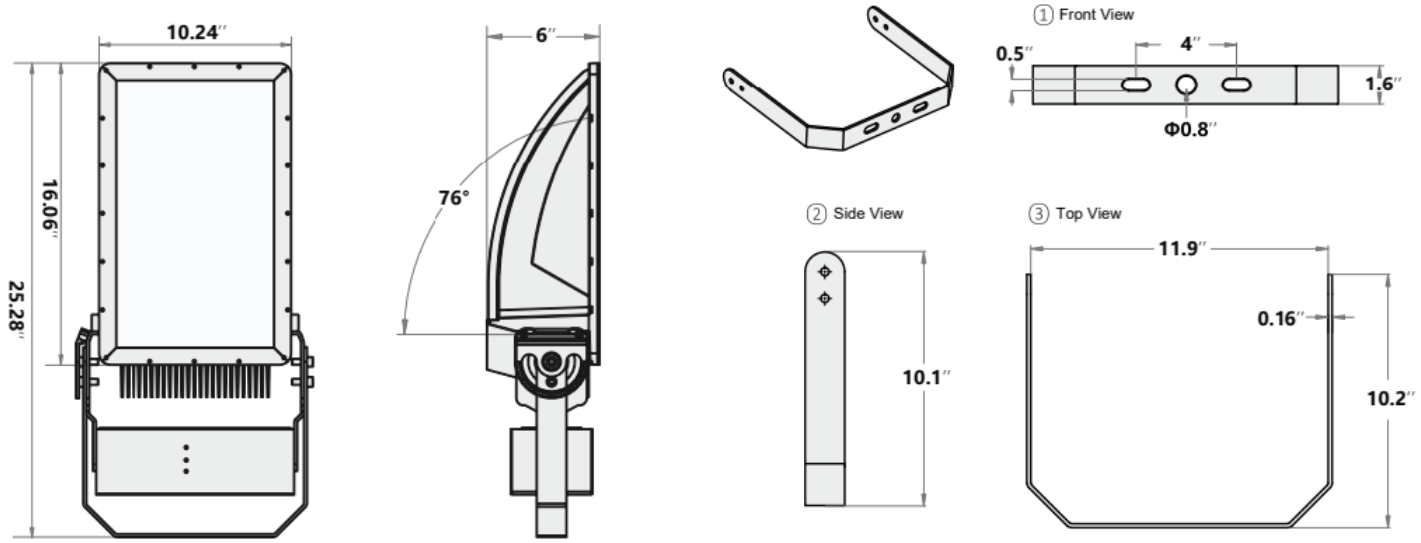
Practice Mode
Recreational Play
Maintenance Mode

Control architecture:
- Wireless control nodes integrated with luminaires
- Central gateway controller
- Mobile or web-based management interface

SYSTEM PERFORMANCE VERIFICATION

Lighting systems utilizing Duvon sports luminaires may include project documentation such as:
- Photometric reports verifying illumination levels & uniformity
- Pole layout drawings
- Fixture aiming diagrams
- IES photometric files
- Electrical load information
- Structural data including fixture weight and EPA values

DIMENSIONAL DATA



ORDERING INFORMATION & SUBMITTAL SCHEDULE

MODEL SELECTION BUILDER

MODEL	WATTS	CCT	CRI	VOLTAGE	MOUNT	OPTIC	FINISH	CONTROL	OPTIONS
PATRIOT	100 150 200	40K **50K**	**70** 80 90	**STD** HV	**YK**	CA SA	**BLK** BRZ GRY GRN	WL	SPD20

Bold values indicate standard configuration.

CATALOG NUMBER EXAMPLE PATRIOT-150-50K-70-STD-YK-CA-BLK-WL-SPD20

CONFIGURATION CODES

CCT

40K = 4000K
50K = 5000K

VOLTAGE

STD = 100-277V
HV = 277-480V

MOUNT

YK = YOKE BRACKET

OPTICS

CA = COURT ASYMMETRIC
SA = SPILL CONTROL ASYMMETRIC

FINISH

BLK = BLACK
BRZ = BRONZE
GRY = GRAY
GRN = GREEN

CONTROL

WL = WIRELESS MESH

OPTIONS

SPD20 = 20 KV SURGE PROTECTION

FIXTURE SCHEDULE

TYPE	CATALOG NUMBER	QTY

Final configuration shall be verified against project-specific electrical and photometric requirements.

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