

UNION™ SERIES

MUNICIPAL & RECREATIONAL SPORTS FIELD LIGHTING SYSTEM

DESIGNED IN ACCORDANCE WITH ANSI/IES RP-6

Designed for sports field applications.

300W | 400W | 500W | 600W

SYSTEM CONFIGURATIONS



ETL LISTED • DLC PREMIUM • IP65 • BAA COMPLIANT

SYSTEM ENGINEERING

Lighting system performance is achieved through compact forward-throw reflector optics optimized for mid-height installations, with controlled beam distribution and aiming geometry tailored for consistent field coverage.

KEY SYSTEM ATTRIBUTES

- High-output sports lighting luminaire
- Forward-throw optical distribution
- SVS™ glare and spill-light control system
- Integrated driver configuration
- Die-cast aluminum housing for outdoor use

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

SYSTEM OVERVIEW & PERFORMANCE SUMMARY

SYSTEM OVERVIEW

The Union™ Series is an LED sports field lighting system engineered for municipal athletic fields, school sports facilities, and community recreation complexes.

Union™ represents a value-engineered platform derived from the Liberty™ stadium lighting system, optimized for recreational and school-level sports lighting projects requiring reliable illumination performance with simplified installation and economical system cost.

The luminaire combines efficient LED performance, forward-throw optical distributions, and durable outdoor construction to deliver consistent illumination across athletic playing surfaces while helping control glare and off-site light spill.

Lighting systems utilizing Union luminaires are developed in accordance with ANSI/IES RP-6 recommendations. Illumination levels, uniformity, and aiming geometry shall be verified through project-specific photometric calculations.

Project-specific photometric simulations verify illumination levels, fixture aiming angles, and illumination uniformity prior to installation.

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

Duvon sports lighting systems are designed as integrated lighting systems rather than individual luminaires.

SYSTEM PERFORMANCE SUMMARY

ATTRIBUTE	PERFORMANCE
Typical System Efficacy	140 lm/W (system-level, dependent on configuration)
Rated Life	L70 ≥ 100,000 hours
Ingress Protection	IP65
Surge Protection	10 kV (std) / 20 kV (opt)
Operating Temperature	-40°F to +131°F

APPLICATIONS & DESIGN SUPPORT



PRIMARY APPLICATIONS

SPORTS FACILITIES

Municipal football fields, school athletic fields, soccer complexes, baseball and softball facilities, multi-sport recreation fields.

COMMUNITY INFRASTRUCTURE

Public recreation complexes, park sports facilities, training fields.

TYPICAL MOUNTING CONDITIONS

Typical pole heights: 50–70 ft. Final mounting height, pole spacing, fixture quantity, and aiming angles shall be determined through project-specific photometric analysis.

ENGINEERING & DESIGN SUPPORT

Duvon provides lighting system design assistance including luminaire selection, optical configuration, and photometric verification.

Duvon engineering services include:

- AGi32 photometric simulations
- Pole placement recommendations
- Fixture aiming schedules
- Glare analysis
- Spill-light evaluation
- Structural loading review

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

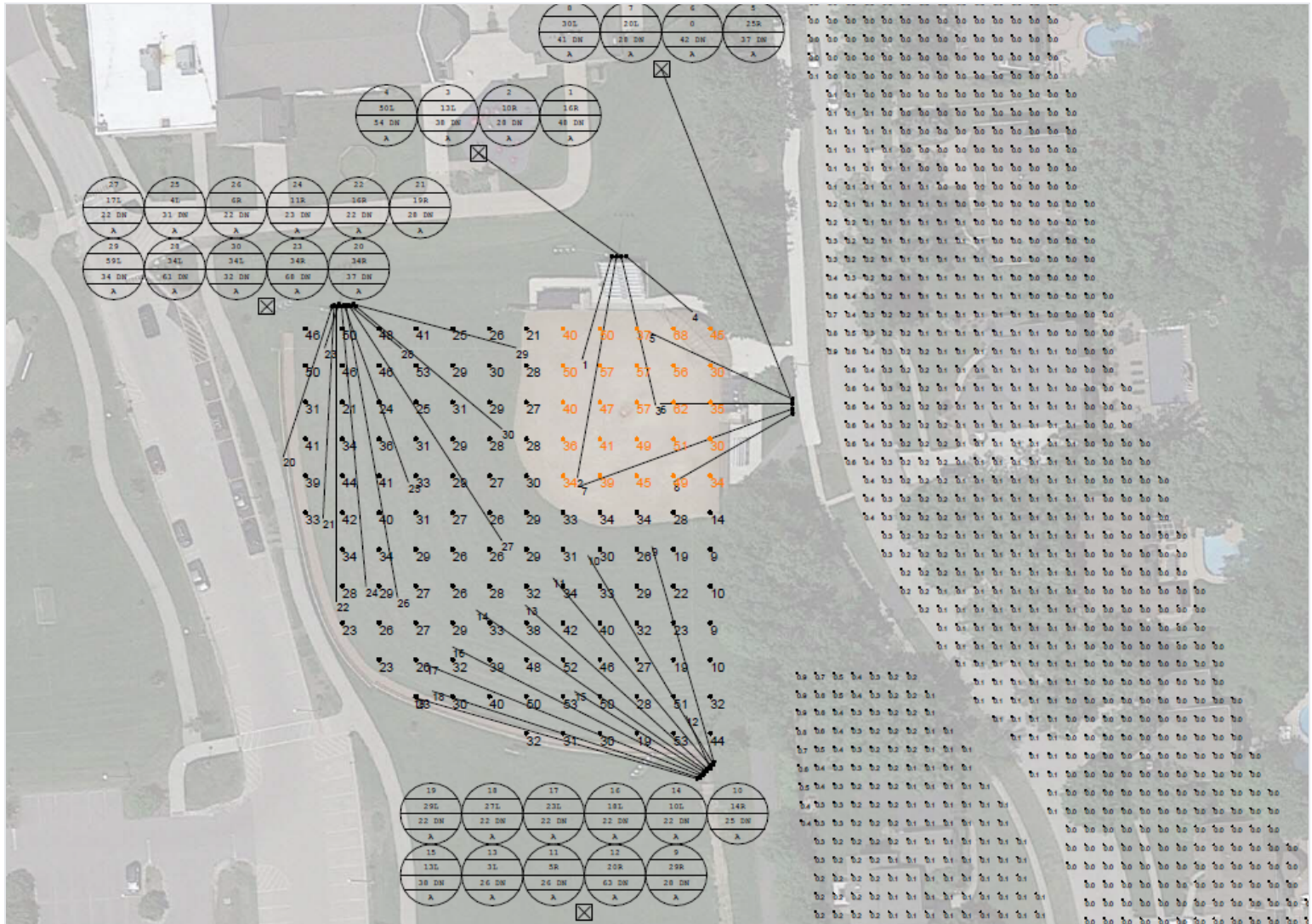
LIGHTING PERFORMANCE

REFERENCE STANDARD

Lighting designs utilizing Union luminaires are developed in accordance with ANSI/IES RP-6.

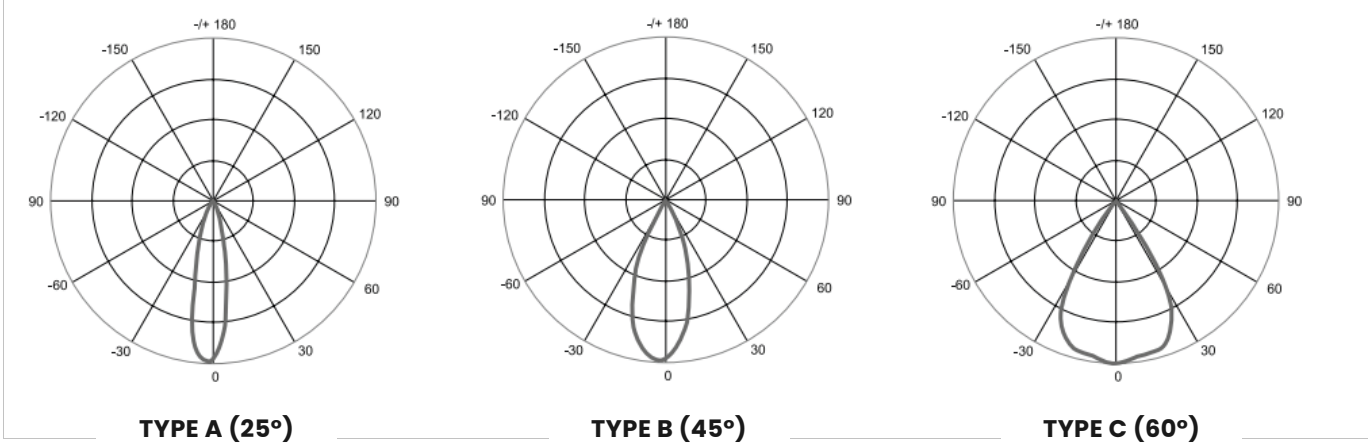
SPORT APPLICATION	AVG ILLUMINANCE	AVG:MIN	MAX:MIN	IES CLASS
Recreational Practice Fields	10–20 fc	≤3.0:1	≤4.0:1	Class IV
Recreational Soccer / Football	20–30 fc	≤2.5:1	≤3.0:1	Class III
School Football	30–40 fc	≤2.0:1	≤2.5:1	Class II
Baseball / Softball Practice	Infield 30 fc / Outfield 20 fc	≤3.0:1	≤4.0:1	Class IV
Baseball / Softball Recreational	Infield 50 fc / Outfield 30 fc	≤2.5:1	≤3.0:1	Class III
Baseball / Softball Competitive	Infield 70 fc / Outfield 50 fc	≤2.0:1	≤2.5:1	Class II

Actual lighting performance depends on field dimensions, pole height, fixture placement, and optical selection. Illumination and uniformity values represent design targets and shall be verified through project-specific photometric calculations.



Sample photometric calculation — Baseball, 240ft, 4(65ft), Class III

OPTICAL DISTRIBUTIONS

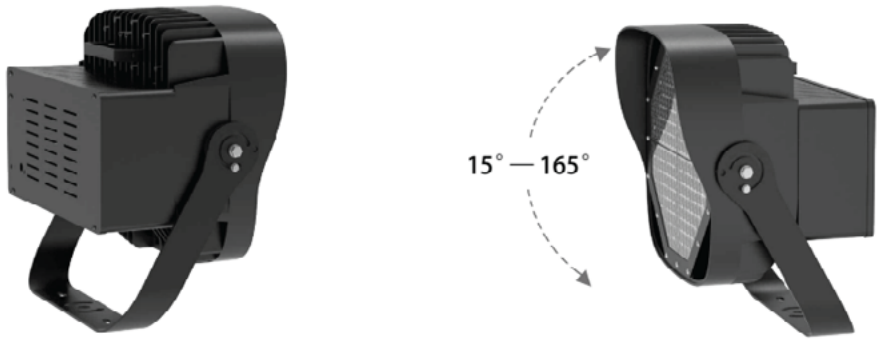


OPTICAL TYPE	BEAM ANGLE	TYPICAL APPLICATION
TYPE A	25°	Primary field coverage
TYPE B	45°	Mid-field illumination
TYPE C	60°	Sideline / perimeter fill lighting

OPTICAL DESIGN

Forward-throw reflector optics direct illumination onto the playing surface while limiting high-angle light and spill light beyond the facility boundary.

- SVS™ visor reduces glare and spill light toward surrounding areas
- Multiple optical distributions support project-specific field coverage and aiming



ELECTRICAL & MECHANICAL SPECIFICATIONS

LUMEN OUTPUT

MODEL	WATTS	LUMEN OUTPUT
UNION-300	300 W	42,000 lm
UNION-400	400 W	56,000 lm
UNION-500	500 W	70,000 lm
UNION-600	600 W	84,000 lm

TYPICAL SYSTEM EFFICACY

140 lm/W

Depending on wattage, CCT, and driver configuration.

INPUT CURRENT (AMPERAGE)

VOLTAGE	300W	400W	500W	600W
120V	2.50 A	3.33 A	4.17 A	5.00 A
208V	1.44 A	1.92 A	2.40 A	2.88 A
240V	1.25 A	1.67 A	2.08 A	2.50 A
277V	1.08 A	1.44 A	1.81 A	2.17 A
480V	0.63 A	0.83 A	1.04 A	1.25 A

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

ELECTRICAL CHARACTERISTICS

ATTRIBUTE	PERFORMANCE
Input Voltage	100–277 V std. (277–480 V opt.)
Driver Type	Constant Current LED Driver
Driver Manufacturer	Inventronics
Surge Protection	10 kV std. (20 kV opt.)
Dimming	0–10 V compatible
LED Lifetime	L70 ≥ 100,000 hours
Operating Temperature	–40°F to +131°F
Ingress Protection	IP65

MECHANICAL CONSTRUCTION

COMPONENT	SPECIFICATION
Housing	Die-cast aluminum
Finish	Polyester powder coating
Hardware	Stainless steel external fasteners
Mounting	Adjustable yoke bracket
Tilt Adjustment	15°–165°

THERMAL MANAGEMENT

Die-cast aluminum heat sink with passive convection cooling designed to maintain LED junction temperature and long-term system performance.

FIXTURE WEIGHT

MODEL	WEIGHT-INT
UNION-300	30.5 lbs
UNION-400	33.7 lbs
UNION-600	36.6 lbs

INT = integrated driver on back of fixture.

Fixture weight varies by wattage and configuration. Final values shall be confirmed in project-specific submittals.

EFFECTIVE PROJECTED AREA (EPA)

0.52–1.30 ft²



STRUCTURAL CONSIDERATIONS

EPA values assist engineers evaluating pole wind loading and structural requirements. Final pole design shall be verified by a licensed structural engineer in accordance with applicable codes.

SYSTEM CONTROLS

Union™ luminaires utilize integrated driver architecture.

LIGHTING CONTROLS

Supports lighting control platforms including:

- Zigbee wireless lighting control
- Wireless DMX stadium control

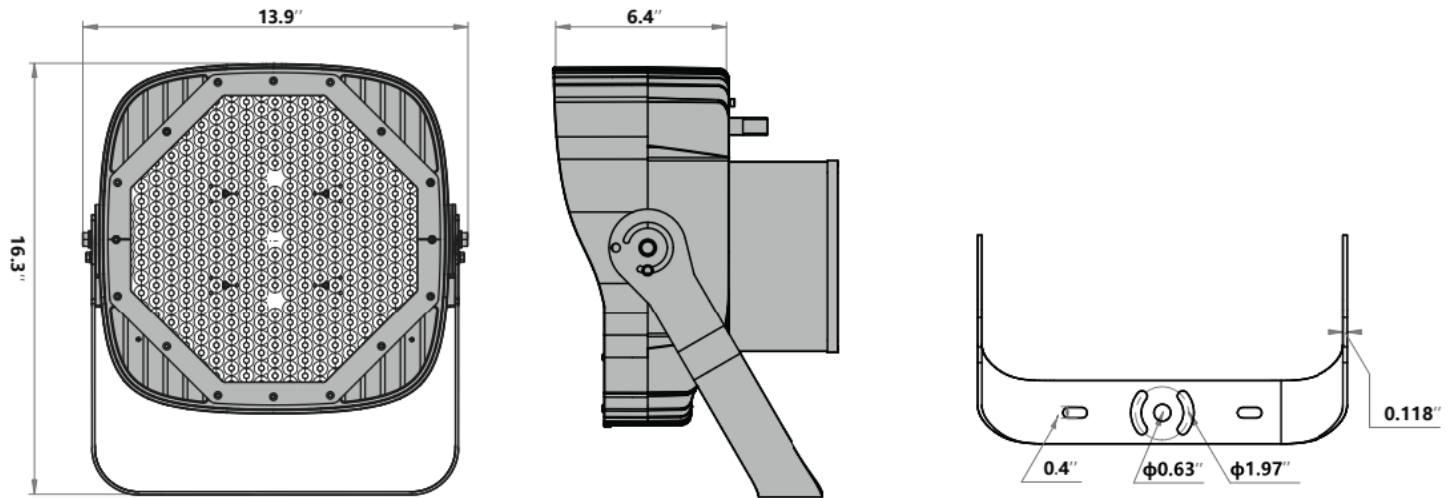
Control capabilities:

- Remote on/off
- Scheduled operation
- Scene-based dimming
- Energy monitoring
- Dynamic lighting effects

SYSTEM PERFORMANCE VERIFICATION

Lighting systems may include project documentation such as photometric reports, pole layouts, aiming diagrams, IES files, electrical load data, and structural calculations.

DIMENSIONAL DATA



ORDERING INFORMATION & SUBMITTAL SCHEDULE

MODEL SELECTION BUILDER

MODEL	WATTS	CCT	CRI	OPTIC	VOLTAGE	MOUNT	OPTIONS
UNION	300	40K 50K 57K	70 80	A	STD HV	YK	SC
	400			B			
	500			C			
	600						

Bold values indicate standard configuration.

CATALOG NUMBER EXAMPLE

UNION-300-50K-70-B-STD-YK-SC

CONFIGURATION CODES

CCT

40K = 4000K

50K = 5000K

57K = 5700K

VOLTAGE

STD = 120-208V

HV = 277-480V

OPTICS

A = 25°

B = 45°

C = 60°

MOUNT

YK = YOKE MOUNT

OPTIONS

SC = SMART CONTROL

FIXTURE SCHEDULE		
TYPE	CATALOG NUMBER	QTY

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

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