

VANGUARD™ SERIES

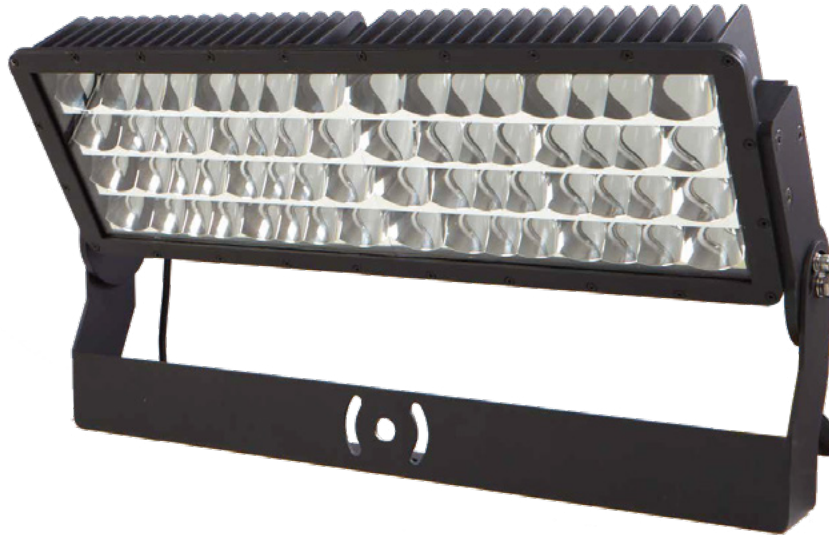
INDIRECT REFLECTOR STADIUM LIGHTING SYSTEM

DESIGNED IN ACCORDANCE WITH ANSI/IES RP-6

Intended for use as a Basis of Design lighting system for stadium, athletic field, and sports complex applications requiring reduced direct glare and controlled optical distribution.

400W | 600W | 800W | 1200W | 1400W | 1600W

SYSTEM CONFIGURATIONS



ETL LISTED • DLC PREMIUM • IP66 • BAA COMPLIANT

SYSTEM ENGINEERING

Lighting system performance is achieved through indirect asymmetric reflector optics that redirect LED output to reduce direct source visibility, with system-level coordination of mounting geometry and aiming to optimize visual comfort and glare control.

KEY SYSTEM ATTRIBUTES

- Indirect asymmetric reflector optics
- Reduced direct LED visibility
- Controlled stadium beam distribution
- Remote driver architecture for models ≥ 800 W
- Die-cast aluminum construction for outdoor use

PROJECT SUBMITTAL

PROJECT NAME

TYPE / DESIGNATION

CATALOG NUMBER

SUBMITTED BY

DATE

NOTES / REMARKS

SYSTEM OVERVIEW & PERFORMANCE SUMMARY

SYSTEM OVERVIEW

The Vanguard™ Series is a high-performance LED sports lighting system utilizing indirect asymmetric reflector optics to deliver stadium-grade illumination with reduced direct glare and improved visual comfort.

Unlike conventional direct-emission floodlights, Vanguard luminaires redirect LED output toward the playing surface through a precision reflector system, reducing direct source visibility to athletes and spectators.

Lighting systems utilizing Vanguard 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.

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 | 135 lm/W (system-level, dependent on configuration) |
| Rated Life | L70 ≥ 100,000 hours |
| Ingress Protection | IP66 |
| Surge Protection | 10 kV (std) / 20 kV (opt) |
| Operating Temperature | -40°F to +131°F |

APPLICATIONS & DESIGN SUPPORT



PRIMARY APPLICATIONS

PROFESSIONAL SPORTS FACILITIES

Football stadiums, soccer stadiums, baseball and softball complexes, professional sports venues, large sports complexes.

ATHLETIC & MUNICIPAL FACILITIES

Collegiate athletic stadiums, large municipal sports complexes, tournament venues.

TYPICAL MOUNTING CONDITIONS

Typical pole heights: 60–120 ft. Final mounting height, pole spacing, fixture quantity, optical distribution, and aiming angles shall be determined through project-specific photometric analysis.

ENGINEERING & DESIGN SUPPORT

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

Duvon engineering services include:

- AGi32 photometric simulations
- Pole placement recommendations
- Fixture aiming schedules
- Spill-light analysis
- Glare evaluation
- Structural loading review (EPA)
- IES photometric files

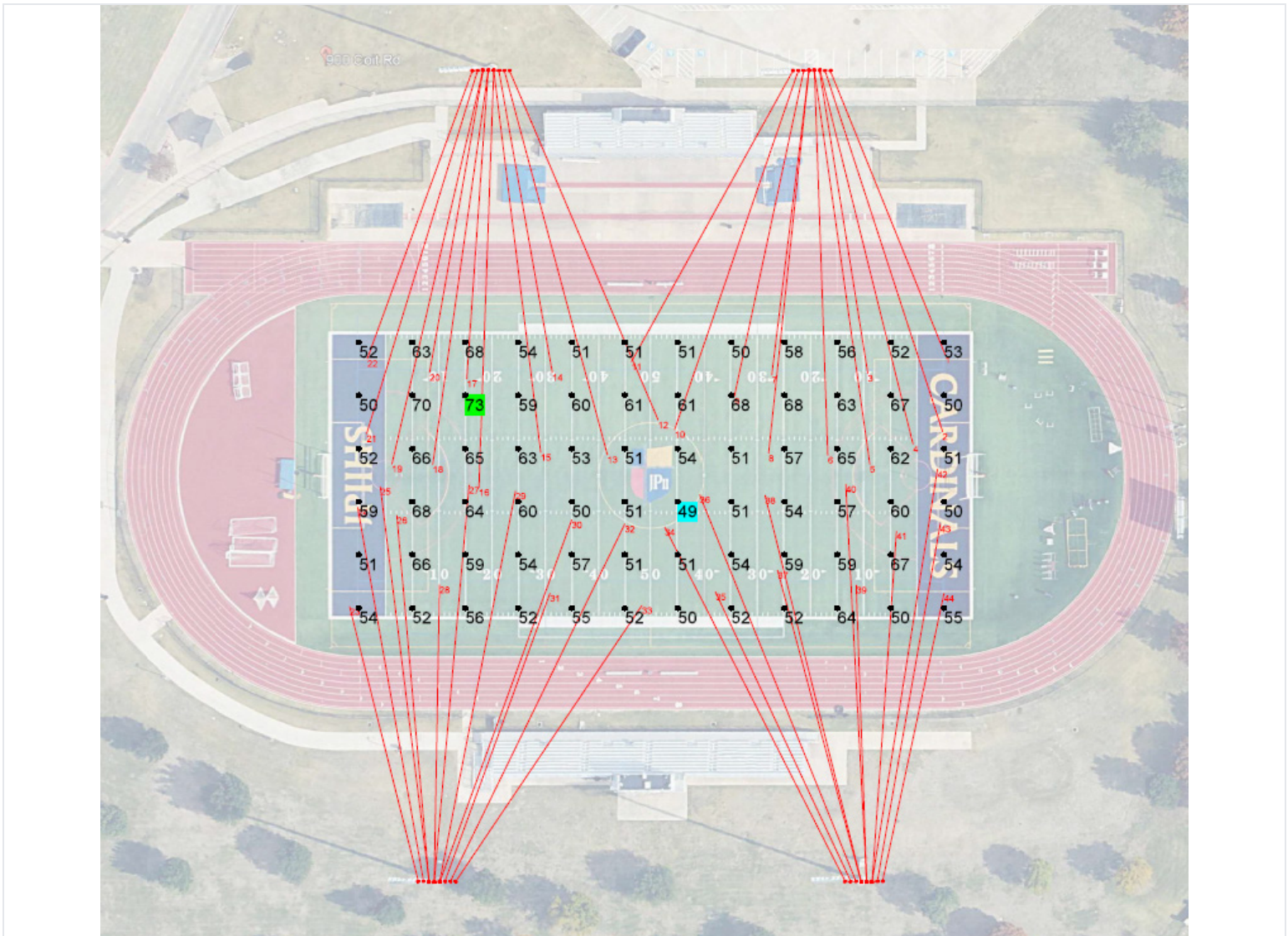
LIGHTING PERFORMANCE

REFERENCE STANDARD

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

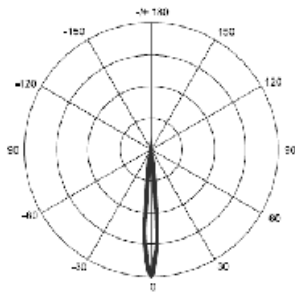
| SPORT APPLICATION | AVG ILLUMINANCE | AVG:MIN | MAX:MIN | IES CLASS |
|---|--------------------------------|---------|---------|-----------|
| Recreational Soccer / Football | 20–30 fc | ≤2.5:1 | ≤3.0:1 | Class III |
| Competitive High School Soccer / Football | 30–50 fc | ≤2.0:1 | ≤2.5:1 | Class II |
| Recreational Baseball / Softball | Infield 50 fc / Outfield 30 fc | ≤2.5:1 | ≤3.0:1 | Class III |
| Competitive Baseball / Softball | Infield 70 fc / Outfield 50 fc | ≤2.0:1 | ≤2.5:1 | Class II |
| Collegiate / Professional Stadium | 75–125 fc | ≤1.5:1 | ≤2.0:1 | Class I |

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

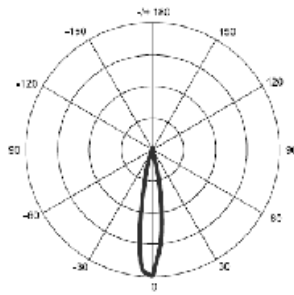


Sample photometric calculation – Football, 360x160ft, 4(100ft), Class II

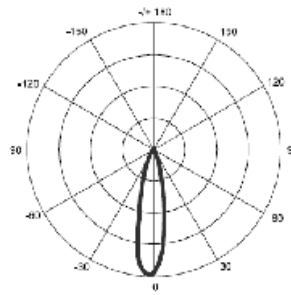
OPTICAL DISTRIBUTIONS



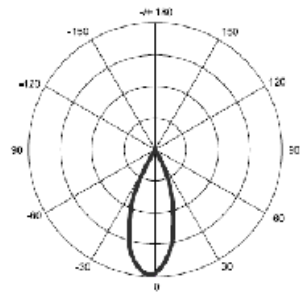
TYPE A (6°)



TYPE B (15°)



TYPE C (25°)



TYPE D (45°)

| DISTRIBUTION TYPE | BEAM ANGLE | TYPICAL APPLICATION |
|-------------------|-----------------|--|
| TYPE A | 6° Beam Spread | Ultra-narrow long-throw (upper stadium / top-of-pole applications) |
| TYPE B | 15° Beam Spread | Primary long-throw stadium coverage |
| TYPE C | 25° Beam Spread | Primary field coverage / mid-field distribution |
| TYPE D | 45° Beam Spread | Sideline and in-field fill lighting |

OPTICAL ARCHITECTURE

Vanguard luminaires utilize an indirect asymmetric reflector optical system rather than conventional direct-emission floodlight optics.

LED output is directed into a precision reflector surface that redistributes illumination toward the playing surface through asymmetric beam control.

Optical configurations are selected during photometric design to optimize field coverage based on pole location, mounting height, and aiming geometry.

System Benefits:

- Reduced direct source visibility
- Improved athlete visual comfort
- Reduced high-angle spill light
- Smooth, uniform field illumination

ELECTRICAL & MECHANICAL SPECIFICATIONS

LUMEN OUTPUT

| MODEL | WATTS | LUMEN OUTPUT |
|---------------|--------|--------------|
| VANGUARD-400 | 400 W | 54,000 lm |
| VANGUARD-600 | 600 W | 81,000 lm |
| VANGUARD-800 | 800 W | 108,000 lm |
| VANGUARD-1200 | 1200 W | 162,000 lm |
| VANGUARD-1400 | 1400 W | 189,000 lm |
| VANGUARD-1600 | 1600 W | 216,000 lm |

Delivered lumens represent complete luminaire output measured in accordance with IES LM-79 testing procedures.

TYPICAL SYSTEM EFFICACY

135 lm/W

Depending on wattage, CCT, and driver configuration.

INPUT CURRENT (AMPERAGE)

| VOLTAGE | 400W | 600W | 800W | 1200W | 1400W | 1600W |
|---------|--------|--------|--------|---------|---------|---------|
| 120V | 3.33 A | 5.00 A | 6.67 A | 10.00 A | 11.67 A | 13.33 A |
| 208V | 1.92 A | 2.88 A | 3.85 A | 5.77 A | 6.73 A | 7.69 A |
| 240V | 1.67 A | 2.50 A | 3.33 A | 5.00 A | 5.83 A | 6.67 A |
| 277V | 1.44 A | 2.17 A | 2.89 A | 4.33 A | 5.05 A | 5.78 A |
| 480V | 0.83 A | 1.25 A | 1.67 A | 2.50 A | 2.92 A | 3.33 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 / Moons |
| Surge Protection | 10 kV std. (20 kV opt.) |
| Dimming | 0-10 V compatible |

MECHANICAL CONSTRUCTION

| COMPONENT | SPECIFICATION |
|-----------|------------------------------------|
| Housing | Die-cast aluminum |
| Finish | Polyester powder coating |
| Hardware | Stainless steel external fasteners |
| Mounting | Adjustable yoke bracket |

THERMAL MANAGEMENT

The luminaire housing incorporates a large-area die-cast aluminum heat sink designed to maintain stable LED junction temperatures during high-power stadium operation.

FIXTURE WEIGHT

| MODEL | WEIGHT |
|---------------|-----------|
| VANGUARD-400 | 38.58 lbs |
| VANGUARD-600 | 45.19 lbs |
| VANGUARD-800 | 45.19 lbs |
| VANGUARD-1200 | 71.65 lbs |
| VANGUARD-1400 | 89.28 lbs |
| VANGUARD-1600 | 89.28 lbs |

WEIGHT & EPA

Fixture weight and EPA vary by wattage and driver configuration; final values shall be confirmed in project-specific submittals.



STRUCTURAL CONSIDERATIONS

Structural loading varies by luminaire configuration, mounting angle, and driver arrangement. Final pole and support structure design shall be verified by a licensed structural engineer in accordance with applicable wind load requirements.

SYSTEM CONTROLS

Vanguard luminaires utilize integrated drivers for lower-wattage models and remote driver architecture for luminaires ≥800 W. Remote driver cabinets are typically mounted at mid-pole or ground level. Maximum driver-to-fixture distance: 300 ft

Advantages include:

- Reduced pole-top weight
- Improved thermal performance
- Simplified maintenance access
- Extended driver service life

LIGHTING CONTROLS

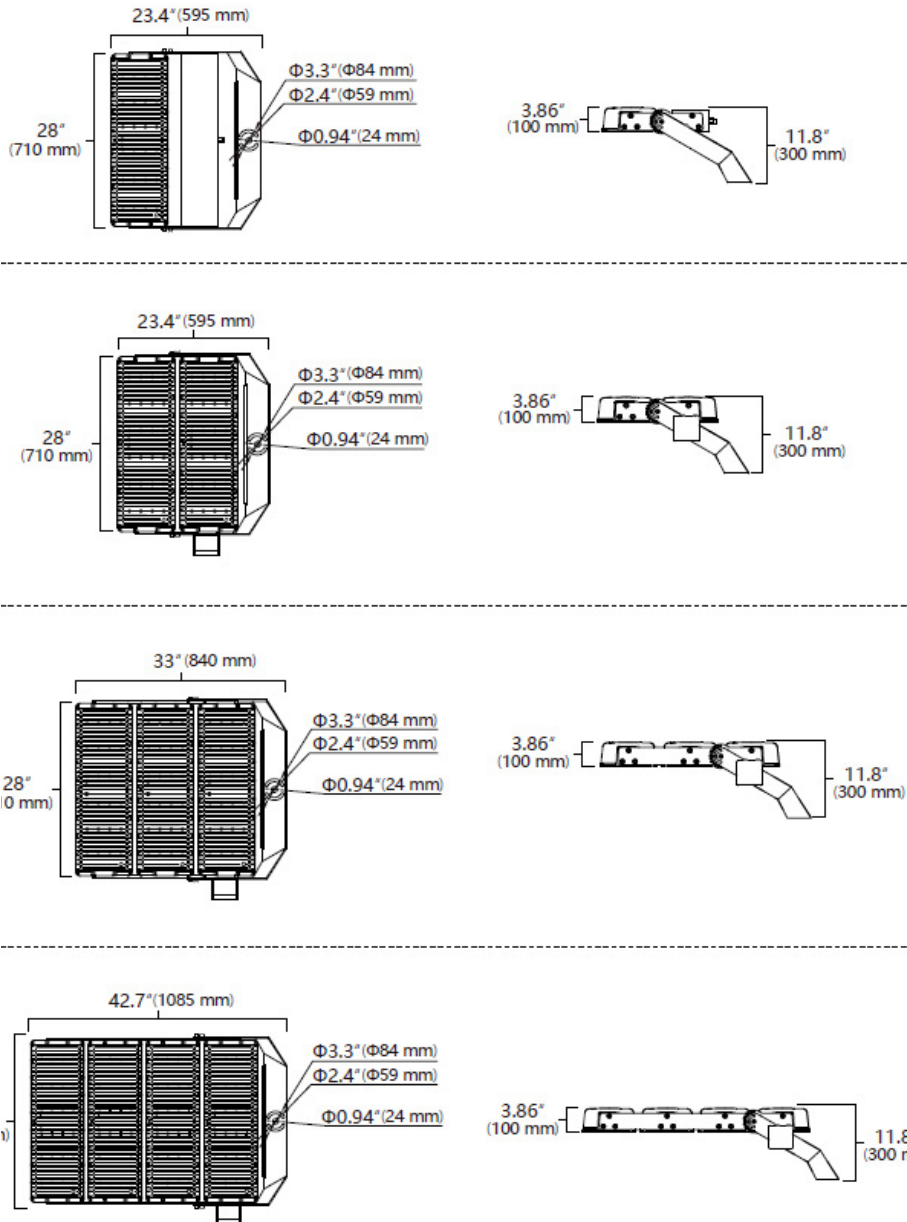
Supports lighting control platforms including:

- Zigbee wireless lighting control
- Wireless DMX stadium control

Control capabilities:

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

DIMENSIONAL DATA



REMOTE DRIVER CABINET CONFIGURATIONS

Final cabinet loading, wiring configuration, and thermal performance shall be verified based on driver configuration and environmental conditions.

SMALL DRIVER CABINET



DIMENSIONS

13.75" x 16.5" x 14"

LARGE DRIVER CABINET



DIMENSIONS

33.75" x 16.75" x 14"



GROUND-LEVEL SERVICE ACCESS

NEMA 4X stainless steel driver cabinets are available where specified. Final cabinet loading, wiring requirements, and thermal performance shall be verified based on driver configuration and ambient conditions.

ORDERING INFORMATION & SUBMITTAL SCHEDULE

MODEL SELECTION BUILDER

| MODEL | WATTS | CCT | CRI | OPTIC | VOLTAGE | MOUNT | OPTIONS | |
|----------|-------|-----|-----|-------|---------|-------|---------|----|
| VANGUARD | 400 | 40K | 70 | A | STD | YK | DC | |
| | 600 | | | B | | | | |
| | 800 | | | C | | | | |
| | 1200 | 50K | | 80 | HV | | | SC |
| | 1400 | 57K | | | | | | |
| | 1600 | | | | | | | |

Bold values indicate standard configuration.

CATALOG NUMBER EXAMPLE

VANGUARD-1200-57K-80-B-HV-YK-DC

CONFIGURATION CODES

CCT

40K = 4000K

50K = 5000K

57K = 5700K

OPTICS

A = 6°

B = 15°

C = 25°

D = 45°

VOLTAGE

STD = 120-208V

HV = 277-480V

MOUNT

YK = YOKE MOUNT

OPTIONS

DC = DRIVER CABINET

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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VANGUARD™ SERIES
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE