VANGUARD™ SERIES

INDIRECT REFLECTOR STADIUM LIGHTING SYSTEM

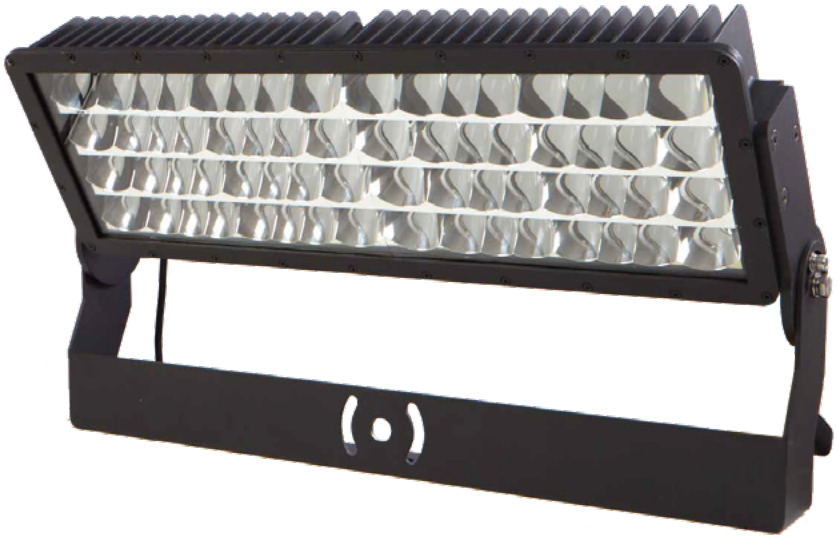
DESIGNED IN ACCORDANCE WITH ANSI/IES RP-6

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.

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

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

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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.

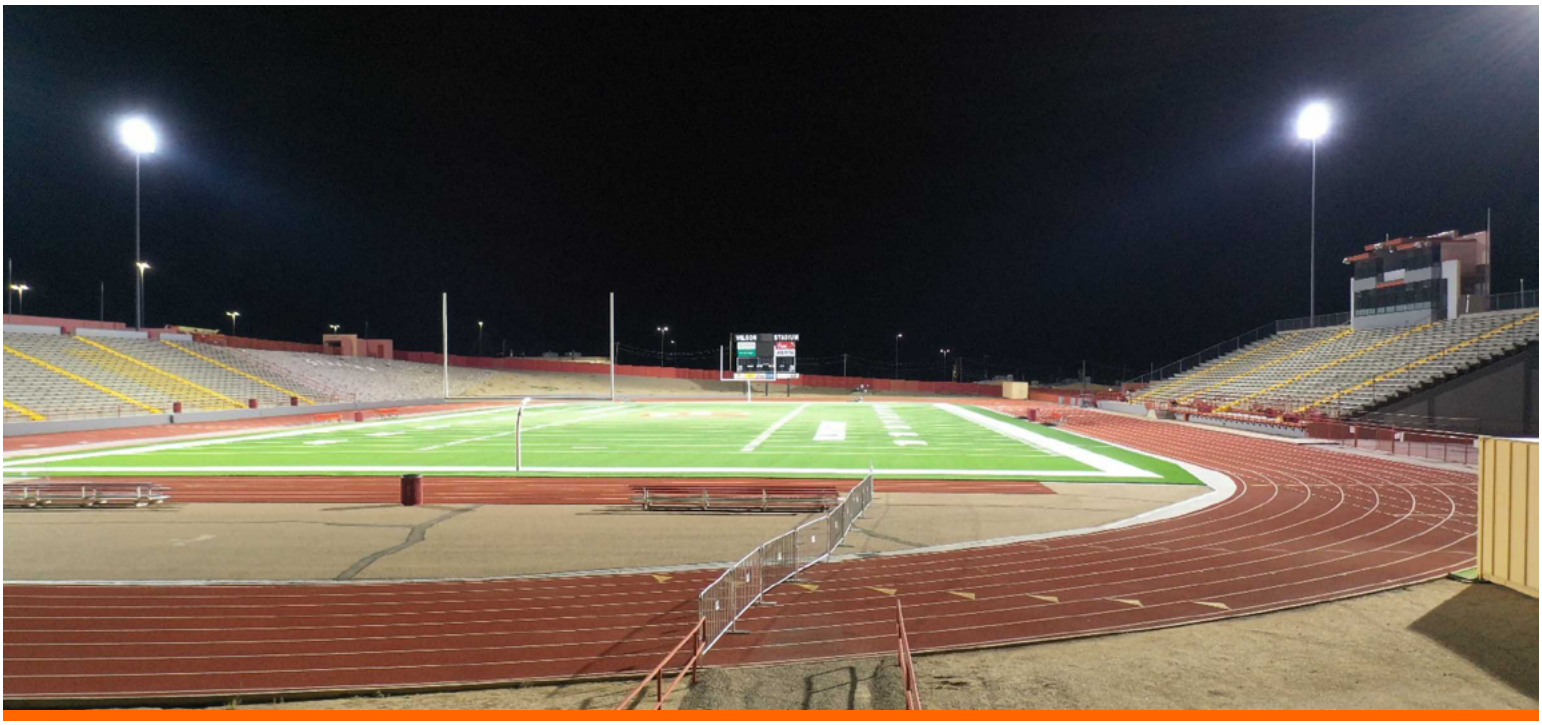
LIGHTING PERFORMANCE IS ACHIEVED THROUGH SYSTEM-LEVEL COORDINATION—NOT FIXTURE OUTPUT ALONE.

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

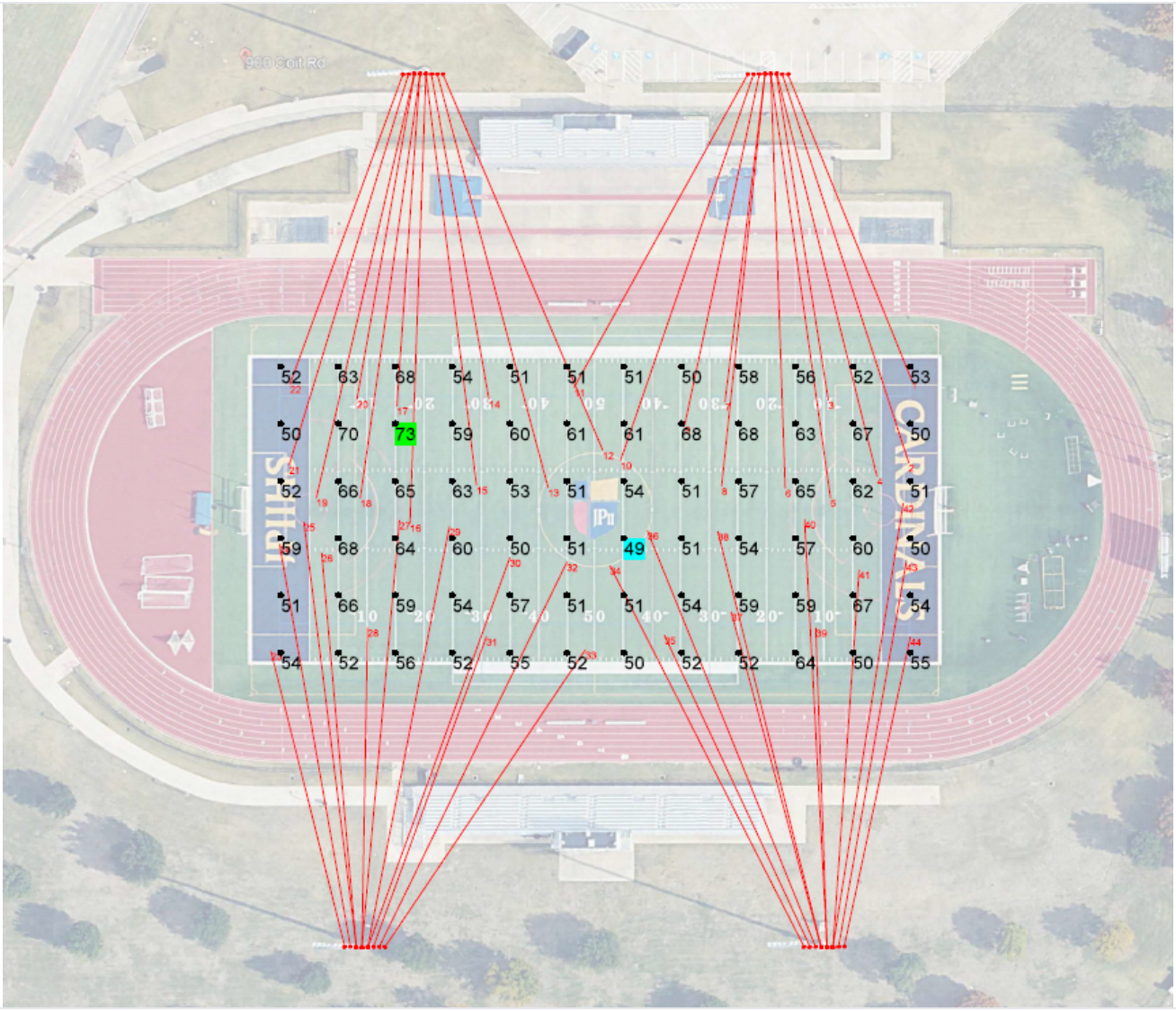
LIGHTING PERFORMANCE

REFERENCE STANDARD

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

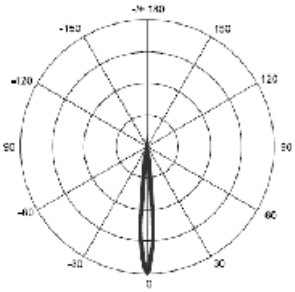
SPORT APPLICATION	AVG ILLUMINANCE	AVG:MIN	MAX:MIN	IES CLASS
Recreational Soccer / Football	20–30 fc	≤2.5:1	≤3.0:1	Class III
Competitive High School Soccer / Football	30–50 fc	≤2.0:1	≤2.5:1	Class II
Recreational Baseball / Softball	Infield 50 fc / Outfield 30 fc	≤2.5:1	≤3.0:1	Class III
Competitive Baseball / 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.

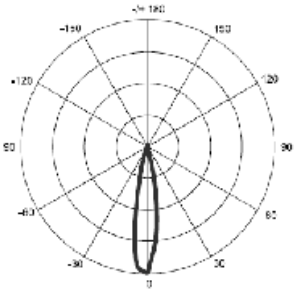


Sample photometric calculation — Football, 360x160ft, 4(100ft), Class II

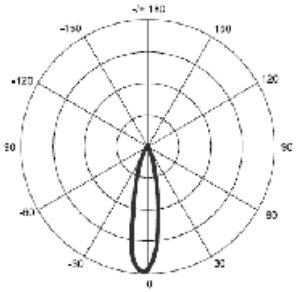
OPTICAL DISTRIBUTIONS



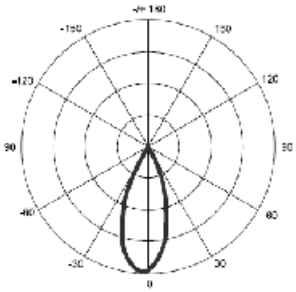
TYPE A (6°)



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

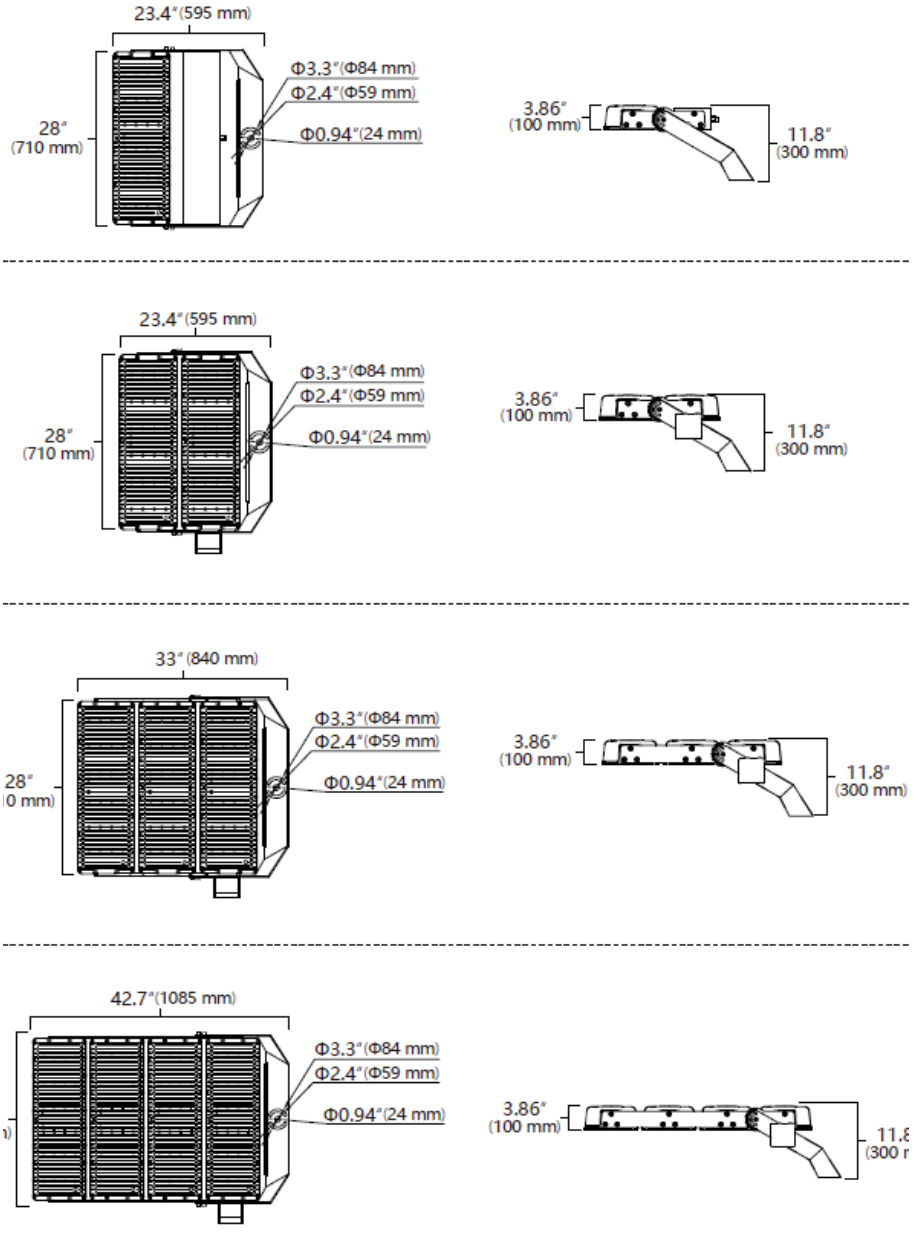
Supports lighting control platforms including:

- 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	400 600 800 1200 1400 1600	40K 50K **57K**	**70** 80	A B C D	**STD** HV	**YK**	DC SC

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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