



*From Soccer to Socrates:
Educational Lighting that Supports Active Learning*



A brand of **legrand**

KENALL IN EDUCATIONAL SPACES

Table of Contents

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Guarantee®

Education Lighting Overview	3
Natatorium	4
Gymnasium	5
Multipurpose Rooms	6
Locker/Shower Rooms	7
Exit & Egress	8
Food Prep/Kitchen	9





Educational Lighting to Optimize Student Learning



Many areas of a campus are unsupervised, leaving plenty of opportunity for crime & abuse. However, campuses must also look good to appeal to prospective students. As academic institutions are increasingly challenged to manage maintenance costs, they must balance budgets against the need to provide tough, durable lighting that ensures student safety.

Designed and manufactured in the heartland of the U.S., Kenall provides best in class lighting solutions for educational facilities, including our Millenium™ and Rough-house™ series. Built tough for use in unsupervised public spaces and backed by Kenall's industry leading Peace of Mind Guarantee® against breakage, these fixtures can also comply with the Buy American and Build America Buy America Acts. Kenall's vertically integrated manufacturing facility also fully supports our ability to customize lighting solutions to fit your unique needs. From bending metal to finished fixture, our lighting products are certified to perform in even the most challenging environments. Rest assured; you can specify Kenall with complete confidence for your campus and educational lighting needs.

PEACE OF MIND
Guarantee®

Kenall will repair or replace any high abuse lighting fixture rendered inoperable due to intentional abuse by vandals or accidental impact for the normal service life of the fixture



Buy American and Build America
Buy America Acts

Lighting Basics: Natatorium

Recommended Illuminance:

75fc Water (Competition)

50fc Water (Daily)

20fc Deck & Spectator Areas



Natatorium Lighting Best Practices

Consider the effective reflectance of the ceiling.

1. Increase high angle, artificial illumination when daylight is provided from windows at low angles.
2. Do not install fixtures over the water. Use luminaires with aimable optics to avoid maintenance issues.
3. Use indirect illumination to reduce veiling reflections and glare.
 - Direct illumination is more efficient but often causes veiling reflections, reducing safety: best used when ceilings have a low reflectance.
4. Plan for heavy efficiency losses in coffered ceilings.

Foot-candles

- 50fc maintained across the water
- 30fc for the deck
- 75fc at start and finish of lanes for competitive events

Note: Most building codes require at least 20fc on the deck and some states require 50fc minimum across the water.

Addressing Corrosion Challenge

Pool chemicals and moisture magnify corrosion, and lower mounting heights increases their corrosive effect.

1. Choose corrosion resistant fixtures.
2. Consider stainless steel or aluminum construction.
3. Look for sealed electrical compartments to protect LEDs & circuit boards.
4. Consider galvanic corrosion in luminaires and mounting component selection. Key hardware must be of similar materials.

Mounting Considerations

1. Consider heat and sun-load in fixture selection and placement.
2. Use fixtures ready for 104°F/40°C due to elevated ambient temperatures in natatoriums.
3. Keep fixtures away from HVAC vents & skylights.

Recommended Luminaires



IN9 Series



EPLB Series



MLHA Series

Additional Products



FN6



TD17



METEC



METELHC

Lighting Basics: Gymnasium

Recommended Illuminance:

50fc Court @ floor

20fc Spectator Area



Gymnasium Lighting Best Practices

1. Use fixtures with larger apertures.
 - Improves visibility of fast-moving objects
 - Reduces shadows
2. Consider other uses for the space.
 - Plan dimming zones & focus areas to improve functionality.
3. Remember exit signs and receptacles are at risk for impact and therefore susceptible to breakage.

Fixture Construction

Choose fixtures based on durability. Fixture construction and mounting location should withstand frequent ball impact.

Mounting Considerations

1. Pendant mounting may be used carefully.
2. Well-lit ceilings are valued.



Recommended Luminaires



EPLB Series



MLHA Series



TD17 Series

Additional Products



HBK24



METEHC



WSP

Lighting Basics:

Multipurpose Rooms

Recommended Illuminance:

50fc @ floor for physical activity

20fc @ floor for hospitality



Multipurpose Room Lighting Best Practices

1. Well-lit ceilings are preferred.
2. Consider other uses for the space.
 - Plan dimming zones & focus areas to improve functionality.
3. Use more fixtures with larger apertures to:
 - Improve visibility of fast-moving objects
 - Reduce shadows
4. Avoid single pendant systems for fixtures that are not round.
5. Remember exit signs and receptacles are at risk for impact and therefore susceptible to breakage.

Fixture Construction

1. Choose fixtures that balance aesthetics and durability.
2. Select fixtures with unbreakable diffusers and robust lens tethers.

Mounting Considerations

1. Use fixtures with larger apertures;
 - Improve visibility of fast-moving objects
 - Reduce shadows
2. Careful use of pendant mount fixtures with >10% uplight.



Recommended Luminaires



ES3/ES5



EPLB Series



MLHA Series

Additional Products



SH548



SH848



METELHC



WSP

Lighting Basics:

Locker/Shower Rooms

Recommended Illuminance:

30fc @ 3' for Vanity / Fixtures

10fc @ floor of Lockers

20fc @ floor of Showers

10fc Vertical Illuminance at Each



Locker & Shower Room Lighting Best Practices

1. Consider wrap style fixtures that provide high vertical illuminance to light the space.
2. Make sure illuminance calcs/estimates include locker positions and colors.
3. Remember exit signs and receptacles are at risk for impact and therefore susceptible to breakage.

Fixture Construction

1. Choose high abuse rated fixtures for low-ceiling and unsupervised areas.
2. Use aluminum or stainless steel near showers and pools to prevent corrosion.

Mounting Considerations

Use pendant mounting carefully in high-ceiling areas.



Recommended Luminaires



MLHA Series



DFDL Series



HADL4/HADL6 Series

Additional Products



METELHC



WSP

Lighting Basics:

Exit & Egress

Recommended Illuminance:

1 fc minimum @ floor for normal power modes*

1 fc average for 90 minutes in emergency mode*

** Consult local code requirements in your specific area.*



Exit & Egress Lighting Best Practices

1. High abuse exit and egress fixtures are common in education due to lower mounting heights and the presence of unsupervised occupants.
2. Watch for areas needing low temperature operation: courtyards, athletic facilities, etc.

Fixture Construction

Utilize sealed polycarbonate faces to protect against damage.

Mounting Considerations

Consider high abuse lighting for external egress and discharge areas.



Recommended Luminaires



METEC Series



METES Series



METS Series

Additional Products



METESW



METELHC



FNL6

Lighting Basics:

Food Prep/ Kitchen

Recommended Illuminance:

- 50fc Meat Cooking
- 50fc Food Prep Surfaces
- 20fc Walk-in Coolers
- 50fc Dishwashing



Food Prep/Kitchen Lighting Best Practices

1. Luminaires and ceiling tiles should be sealed to prevent the entrance of moisture or insects, avoiding contamination and issues with local inspections.
2. Knife work should be well lit, without harsh shadows.
3. Consider NSF2 splash zone undercabinet lighting to increase safety in areas with stainless steel surfaces.
4. Look for fixtures that use the NSF mark to showcase sanitation, which is a priority to building inspectors and administrators.

Foot-candles

50fc for meat cooking and prep areas using 85 CRI or better sources.

Fixture Construction

Select polycarbonate lenses for unmatched fixture durability and temperature stability.



Recommended Luminaires



CSEDO Series



FES Series



CSESO Series



CSSGI Series

Additional Products



MAUCLED-ICT