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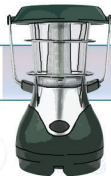
Common Light Fixtures

for rural facilities:



Vapor Tight

Protective guard prevents damage from impacts, insects, moisture, and dust



Supplementary Task Light

Provides additional light for difficult visual tasks; can be permanent or portable



Explosion Proof

Protects from hazardous gases, vapors, or dust



Low Bay

Appropriate for 25' or lower ceiling heights



High Bay

Appropriate for 25' or higher ceiling heights



Wall Pack

Useful for general illumination or security lighting



**WANT MORE INFORMATION?
PLEASE CONTACT YOUR LOCAL EXTENSION OFFICE:**



SOURCES:

American Society of Agricultural and Biological Engineers. (2005, January). *Lighting systems for agricultural facilities* (ASABE Standard ASAE EP344.3). Retrieved from <http://www.spar.msstate.edu/class/EPP-2008/Chapter%201/Reading%20material/Solar%20Radiation/Lighting%20Systems%20for%20Agricultural%20Facilities.pdf>

Clarke, S. & House, H. (2006, January). *Energy efficient dairy lighting* [Fact sheet]. Retrieved from <http://www.omafra.gov.on.ca/english/engineer/facts/06-007.htm>

DiLaura, D.L., Houser, K.W., Mistrick, R.G., & Steffy, G.R. (2011). *The lighting handbook: Reference and application* (10th ed.). New York: Illuminating Engineering Society of North America.

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Family and
Consumer Sciences

Basic Lighting For Rural Facilities

CHOOSING LIGHTING FOR
RURAL FACILITIES IS AN
IMPORTANT DECISION



you
can make

appropriate lighting choices
for rural facilities!

Lighting for Rural Facilities

Environmental Conditions

- Consider appropriate light fixtures in areas that might be subject to explosive vapors, hot materials, or impacts
- Consider temperature and climate
 - Some standard fluorescent lights do not operate well in extreme temperatures
 - For cold areas, consider lights that have 0° ballasts

Safety

- Increase light levels near task areas to ease worker stress, reduce errors, and increase safety
- Consider dangerous tasks including:
 - Grinding
 - Cutting or using sharps
 - Using chemicals
 - Using equipment with moving parts
 - Welding, soldering, or braising
 - Using heavy equipment
 - Working with animals and animal products

Maintenance

- Group relamping, which is the strategic replacement of bulbs on a regular schedule, may be used in high ceilings to reduce maintenance and outage costs
- Inspect light fixtures that might be subject to fumes, insects, dirt, moisture, and corrosion
- Clean light fixtures and bulbs on a regular schedule

Controls

- Avoid using a single wall switch or breaker circuit to control large areas of light; instead, use multiple controls
- Save energy and lighting equipment life by installing occupancy sensors, timers, dimmers and photocells
- Consider daylight harnessing, which turns electric lights off when photocells sense adequate daylight levels

Daylighting

- Use windows and skylights where possible
- Carefully locate skylights to create uniformity