

Property lighting is necessary for safety, security and for the enjoyment of nighttime activities. The objective in promoting dark sky friendly lighting is to balance the ability to see safely at night, the desire to preserve the beauty of the night sky, and the need for energy efficient lighting. Poorly designed or poorly installed lighting causes glare that can hamper vision and create a hazard rather than increase safety.



Excessive nighttime lighting is a worldwide issue.
(photo from IDA website)

Types of Light Pollution

Light pollution is caused by the inefficient, annoying or unnecessary use of artificial light.

Specific categories of light pollution include:

- **Light trespass** - unwanted light entering your property;
- **Over-illumination** - the excessive use of light;
- **Glare** - excessive contrast between bright and dark areas in the field of view;
- **Clutter** - excessive groupings of lights; and
- **Sky glow** - the "glow" effect that can be seen over populated areas.

Sources of Light Pollution

Sources of light pollution include poorly designed, poorly directed or excessively bright streetlights; exterior and interior lighting on buildings; and lighting for paths, docks and driveways.

Even relatively small amounts of light can create problems. In Muskoka, water can reflect glare from waterfront lights over the water to trespass on neighboring and even distant properties.

Impact of Light Pollution

- **Energy waste** - Lighting consumes one fourth of all energy consumed worldwide.
- **Air and water pollution** - caused by energy generation and waste.
- **Potential harm to human health** - possible impacts include loss in visual acuity, hypertension, headaches and increased incidence of carcinoma.
- **Harm to nocturnal wildlife and ecosystems** - by confusing animal navigation, altering competitive interactions, changing predator-prey relations, and influencing animal physiology.
- **Higher operating costs** - to illuminate area.
- **Reduced safety and security** - with badly installed artificial lights that create a deeper contrast of shadows in which people can hide.
- **Reduced visibility at night** - due to glare.
- **Poor nighttime ambience**



An increasing number of people are subject to light pollution (far left) with the stars only being seen when there is a power outage (near left).

(photos from IDA website)



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You Can Reduce Light Pollution *AND* Maintain Good Nighttime Lighting

There are a number of ways to reduce your own contribution to light pollution, ranging from low-cost alternatives that pay for themselves very quickly to higher cost alternatives that recoup their cost over time. All save money by reducing energy consumption and can be implemented singly or together as part of an outdoor lighting program.

1. REDUCE CONSUMPTION (low cost)

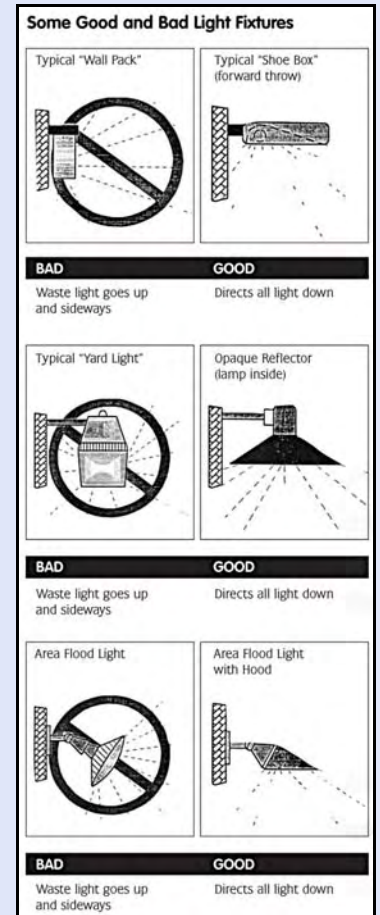
- Replace high wattage bulbs with lower wattage bulbs. These will reduce light emissions and should enhance safety by reducing glare for approaching boaters or motorists.
- Reduce light intensity, glare, and energy consumption with dimmer switches.
- Avoid all-night security lights by using a motion detector. It will provide safety lighting on an as-needed basis.

2. CONSIDER ALTERNATIVES (low cost)

- Solar lighting, solar reflectors or even reflective tapes are inexpensive, non-intrusive alternatives to dock or driveway lighting. Reflector tape is a great way to dock a boat, for it outlines the slip very effectively.
- Try ' silver half moon' light bulbs, which have a coating on the top half of the light bulb that reduces upglare and redirects light down. You can get VERY good illumination from a 15 watt bulb!

3. REPLACE FIXTURES (moderate cost)

- Dark sky lighting fixtures, with directed lighting and shields to avoid light spillage, provide safe and secure energy-efficient (and cost effective) lighting that does NOT generate light pollution.
- Use G19-size light bulbs (smaller and therefore better contained by light infrastructure) in lieu of the A19-size that come with many dark sky lights.



Dark Sky Lighting Options

Free standing (for driveways, property entrances, pathways):

These are post-mounted fixtures and are lantern like in appearance (Troy, SNOC).



Examples of Dark-Sky Friendly Post-Mounted Fixtures

On residential buildings (i.e. docks, decks, boathouses, garages, over doorways):

Options range from modern security lighting that look like spotlights with shields (SNOC, Kichler) to modern cylindrical fixtures (Kichler) to antique finished lanterns (Seagull, SNOC, Troy).



Examples of Dark-Sky Friendly Wall Lanterns

Landscaping:

SNOC dominates this market in south-central Ontario with a wide range of garden lighting – sizes, finishes, styles, prices – and can be found easily in lighting stores (Home Depot, Lighting Unlimited, Sescolite, Union Lighting). Other manufacturers supply as well.

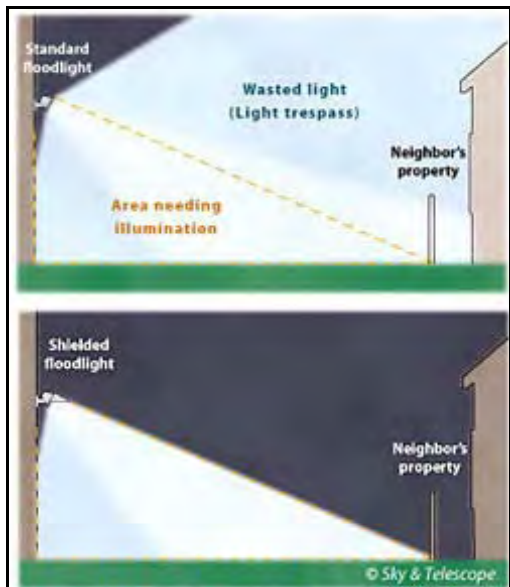


Examples of Dark-Sky Friendly Landscape Lighting

What to Look For

When reviewing websites and store inventory for dark sky lighting, keep a couple of basics in mind:

- Look for lights that are certified by the International Dark-Sky Association (IDA).
- Look for fixtures where the bulb is either shielded with a broad brim that cuts out upward light OR is buried within the lighting infrastructure.
- Turn on fixtures in the store to make sure there isn't ANY light shining above the fixture.
- When reviewing lighting from a product sheet, simply draw lines radiating out 180 degrees from various points of the bulb surface to see if these are contained by the 'hat brim' provided by the top infrastructure of the light. And if the bulb is completely recessed within the infrastructure, it qualifies!



A poorly directed, overly bright light (top) can spill light far from its intended target — onto your neighbor's house or up into the sky.

Shielded lights (bottom), especially those with "full-cutoff" designs, minimize glare and make your neighborhood safer and easier on the eyes at night.

International Dark-Sky Association

Selected Manufacturers

(Available in Canada)

Acculite (Juno Lighting Group)

Kitchener, Ontario
Phone: 519-893-1500
www.acculitelgt.com

Kichler Lighting

Cleveland, Ohio
www.kichler.com

Nightscaping

Redlands, California
Phone: 909-794-2121
www.nightscaping.com

Sea Gull Lighting

New Jersey, USA
Phone: 1-800-347-5483
Fax: 1-800-877-4855
www.seagulllighting.com

SNOC

St. Hyacinthe, Quebec
Phone: 1-800-461-7662
Fax: 450-774-3874
www.snoc.net

Thomas Lighting Canada

Markham, Ontario
Phone: 905-294-9570
Fax: 905-294-9811
www.thomaslightingcanada.com

Troy Lighting

California, USA
Phone: 626-336-4511
www.troy-lighting.com

For More Information

International Dark-Sky Association (IDA)

www.darksky.org

MHF - Ecology of the Night
www.ecologyofthenight.org

Muskoka Heritage Foundation
www.muskokaheritage.org

Dark Sky Society

www.darksksociety.org

Sky & Telescope

www.skytonight.com/resources/darksky

StarWatch

www.redshiftnow.ca/starwatch

Local Distributors of Dark Sky Lighting

| Distributor | Location | Products Available |
|---|--|--|
| Canadian Tire | Bracebridge (705-645-9478) | <ul style="list-style-type: none"> 1 dark sky lighting product with only a partial cutoff of uplight: Candarm (wall unit) \$9.99 |
| Home Depot | Bracebridge (800-516-9301) | <p>Carries two lines</p> <ul style="list-style-type: none"> Hampton Bay products (wall units) 4 different models - Price range: \$39.98- 69.98 SNOC (landscaping units) 6 models - Price range: \$52.20 –148.00 |
| Integra Custom Lighting Solutions www.integralighting.com | Port Sydney (705-385-3000) | <ul style="list-style-type: none"> Offers design, custom installation and service Carries Nightscaping products |
| Living Lighting | Bracebridge (705-646-8891) Gravenhurst (705-687-7956) | <ul style="list-style-type: none"> One full cut-off outdoor wall fixture by Lustrarte - \$195.49 Are a supplier for SNOC and will order any of these products as requested |
| Royal Lighting www.royallighting.com | Toronto (416-782-1129) (Avenue Rd & Lawrence) | <ul style="list-style-type: none"> A wide range of dark sky lighting including security lighting with good shielding, landscape lighting and residential building lighting with full and partial cut-offs Carries products by SNOC and Kichler and will order anything that those two manufacturers carry Price range: \$50.00 - \$300.00 |
| Sescolite www.sescolite.com | Burlington (905-632-8659) Richmond Hill (905-881-5288) Toronto (416-651-6570) (Castlefield) | <ul style="list-style-type: none"> Fairly limited inventory but carry Troy and SNOC products Troy - Light post: \$249.95 Wall unit: \$167.95 SNOC landscaping units: \$79.95 – \$146.95 Will order anything from either Troy or SNOC |
| TechLight Design www.techlightdesign.com | Collingwood (705-888-0802) | <ul style="list-style-type: none"> Offers design, custom installation and service specializes in custom designed lighting for residential exteriors using the latest in LED lighting technology Carries DelphiTech products |
| Union Lighting www.unionlightingand-furnishings.com | Toronto (416-652-2200) (Castlefield) | <ul style="list-style-type: none"> Wide array of in-stock inventory Kichler wall cylinders (very modern, 100% down): \$57.24 - \$92.53 Sea Gull building wall units, lantern style, variety of finishes: \$41.94 - \$280.36 SNOC landscaping units: \$12.95+ SNOC shielded spotlights: \$75.96 - \$90.33 |