

DARK SKY FRIENDLY HOME LIGHTING PROGRAM



INTERNATIONAL DARK-SKY ASSOCIATION

www.darksky.org

April 2020 V. 1

About IDA

The International Dark-Sky Association has worked to protect the night from light pollution since 1988. Our impact now reaches 51 countries, with members, advocates, and dark sky places in North America, East Asia, Europe, Latin America and the Caribbean, the Middle East, Africa, Oceania, and South Asia.

IDA works with lighting manufacturers and home retail stores so that you can easily source IDA approved Dark Sky Friendly lighting.

IDA's Dark Sky Friendly Home Lighting program is based on the newly announced International Dark-Sky Association (IDA) and Illumination Engineering Society (IES) joint "Five Principles to Protect the Night From Light Pollution." By applying these principles, properly designed electric lighting at night can be beautiful, healthy, and functional. Projects that incorporate these principles, whether a residential home, a development, community, or region, will save energy and money, reduce light pollution, and minimize wildlife disruption.

Visit www.darksky.org/homelighting to learn more.

LIGHT TO PROTECT THE NIGHT
Five Principles for Responsible Outdoor Lighting



USEFUL		ALL LIGHT SHOULD HAVE A CLEAR PURPOSE Before installing or replacing a light, determine if light is needed. Consider how the use of light will impact the area, including wildlife and the environment. Consider using reflective paints or self-luminous markers for signs, curbs, and steps to reduce the need for permanently installed outdoor lighting.
TARGETED		LIGHT SHOULD BE DIRECTED ONLY TO WHERE NEEDED Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.
LOW LIGHT LEVELS		LIGHT SHOULD BE NO BRIGHTER THAN NECESSARY Use the lowest light level required. Be mindful of surface conditions as some surfaces may reflect more light into the night sky than intended.
CONTROLLED		LIGHT SHOULD BE USED ONLY WHEN IT IS USEFUL Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.
COLOR		USE WARMER COLOR LIGHTS WHERE POSSIBLE Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.

Is your home nature, neighbor, and night sky friendly? Follow the steps below to find out. Most people will find that a few simple changes can lead to home lighting that is both beautiful and functional, without contributing excessive light pollution. After you've completed the steps below, download a free Dark Sky Friendly Home certificate!



FOUR STEPS TO DARK SKY FRIENDLY HOME CERTIFICATION

After you've completed the steps below, and taken any action needed to improve your outdoor lighting, download and display a free Dark Sky Friendly Home (DSFH) certificate!

- 1.** Using the five lighting principles below, evaluate each outdoor light on your property and complete the evaluation portion of the Home Lighting Inventory Form.
- 2.** Follow the recommendations given for each step and take action to improve any of your luminaires that do not check all five boxes on the Dark Sky Friendly Home Inventory form.
- 3.** Confirm that your luminaires are now dark sky friendly by recording the date that you took any necessary action.
- 4.** Go to darksky.org/DSFHL-certification to submit your results. Then download and display a free Dark Sky Friendly Home certificate!

Dark Sky Friendly Lighting - At Home



1 – DOES THE LIGHT SERVE A CLEAR AND NECESSARY PURPOSE?

Light is useful for safe wayfinding and to help perform specific tasks. In the example below, the light illuminates only the entryway and stairs, where it is needed.

If you find that lights on your property are not necessary or useful, remove or disable them so that they are not accidentally turned on.



2 – DOES THE LIGHT FALL ONLY WHERE IT IS NEEDED?

Direct the light down, not up into the sky, and target your fixtures so that light does not spill beyond where it is needed. The light source should not be visible from beyond your property.

If the light spills beyond where it is needed, install proper shielding and/or re-orient the light so that it does not extend beyond where it is needed. Be especially mindful of light that spills up into the sky, or onto other people's property.



3 – IS THE AMOUNT OF LIGHT APPROPRIATE FOR THE INTENDED TASK?

Use the lowest lighting level needed to perform the task. Light levels are measured in lumens, so check your light source and use the lowest lumens possible.

Excessive light can contribute to glare, actually making it harder to see things well. If you find that the lighting level around your home is too bright for the task it is intended for, consider changing the fixture's bulb or installing a new fixture with a lower lumens value.



4 – IS THE LIGHT CONNECTED TO ACTIVE CONTROLS?

All outdoor lighting should be connected to a light switch, timer, and/or motion sensor so that they are used only when they are needed.

Outdoor lights that cannot be easily controlled with an on/off switch should be connected to a timer or motion sensor. Motion sensors should be set to times of 5 minutes or less. Dusk-to-dawn sensors are strongly discouraged as they release light when it is not needed.

*Make sure sensor triggers are set appropriately so that they light the area only when people are present.



5 – IS THE LIGHT SOURCE WARM IN COLOR?

Most lightbulbs manufactured today have a Kelvin rating printed on the bulb. Low Kelvin ratings (3000 Kelvin or less) are considered warm and generally emit less harmful blue light than high Kelvin. For home lighting, there are good options at 2700 Kelvin or less.



DEFINITIONS



Fixture: An electrical device used to create artificial light through the use of an electric lamp. A fixture may house one or more lamps which can be either built-in or manually replaceable (i.e. bulbs).



Lamp: The bulb or other light-emitting portion of a fixture. This may include light-emitting elements built into a fixture (i.e. built-in LEDs) but is not inclusive of any reflective materials used to direct light.



Shielding: The portion of lighting fixture which covers the fixture's lamp(s). A fully-shielded fixture is a fixture constructed so that in its installed position, all of the light emitted is projected below the horizontal (90-degree) plane passing through the lowest light-emitting part of the fixture. Essentially, the shield is built so the fixture's lamp is not visible at all below the shield.



CCT: A measure of the color properties of light emitted by lamps, being equal to the temperature, expressed in kelvins (K), of a blackbody whose spectrum best approximates the spectrum of the light source in question. The higher the temperature in Kelvins, the “cooler” (bluer) the light is. CCT values are typically provided in lighting manufacturer data sheets or are printed onto LED light sources.



Lumens: The SI unit of luminous flux, equal to the amount of light emitted per second into a unit solid angle of one steradian from a uniform source of one candela. The higher the number of lumens emitted, the brighter a source will appear.



Active Controls: Any electronic or mechanical device that is attached to a fixture which is meant to dynamically control the duration, intensity, spectrum, or area illuminated by the lighting fixture. These can include timers, motion sensors, dimmers,

IF YOU'D LIKE TO DO MORE

After completing your inventory, are you wondering what further action you can take in your home or within your community to protect and preserve the natural nighttime environment? Please see the following suggestions:

- Download the free “Lux Light Meter Pro/Free” smartphone apps for iPhone or Android. Use these apps to determine the illuminance (foot-candles or lux) emitted by a light.
- Complete before and after inventories of your home and submit them to IDA in order to receive an award.
- Provide this guide to and speak with your neighbors, friends, and family about their outdoor lighting and how they can reduce their impact on the natural nighttime environment.
- Support IDA’s global mission by becoming a member. Please see information about IDA membership on this page.

**Dark Sky Friendly Home Lighting
Inventory Form**

Inventory Date:

Property Location:



INTERNATIONAL DARK-SKY ASSOCIATION

Fixture Description	Principle					Notes	Action Needed	Date Action Completed
	1	2	3	4	5			
example Front Porch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Spills into neighbors yard	Need to re-aim light to fall only on stairs	
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Use the back of this form for notes, or to draw a property map indicating location of lights

PRINCIPLES: 1. Does the light serve a clear purpose? 2. Does the light fall only where it is needed? 3. Is the amount of light appropriate for the intended task? 4. Is the light connected to active controls? 5. Is the light source warm in color?

Produced by The International Dark-Sky Association, April 2020. www.DarkSky.org