



# **Large Volume Generator Guidelines:**

**Pick-Up Services for Whole Lamps Used in  
Institutional, Commercial and Industrial  
Applications in British Columbia**



**Version 1 - Oct 1, 2012**

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## Guidelines Overview

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These guidelines are written for large volume generators (contractors, businesses, relampers, schools, hospitals, building managers etc.) that generate enough whole lamps for recycling in British Columbia to qualify for a free pick-up by the LightRecycle program. It is intended to ensure that accepted lamps are handled and packaged in a manner that adequately safeguards the environment, the safety of the generator and the safety of the program's service providers. It provides direction on:

- Sorting and packaging lamps
- How to request drop-off of required supplies and pick-up of full containers
- Health and safety issues related to lamps management

**To qualify for a pick-up under the LightRecycle program, large volume generators must follow the instructions outlined in these guidelines.**

The practices described in this guideline are not intended to replace any standards, acts or regulations required under Local, Provincial or Federal law; nor is the guideline intended to relieve any large volume generator of requirements under the law.

Product Care accepts no responsibility and assumes no liability resulting from the incorrect use of information contained in this guideline or from the use of this information in any circumstances other than those described.

### **Additional Information**

For more information regarding this program or if you have any questions after reading this manual please contact:



#### **More Information:**

1-888-811-6234

Email: [pickup@lightrecycle.ca](mailto:pickup@lightrecycle.ca)

Website: [www.lightrecycle.ca](http://www.lightrecycle.ca)

# LightRecycle Program Overview

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## About LightRecycle

LightRecycle is a non-profit program to recycle lighting products in British Columbia. Since 2010, LightRecycle has accepted residential-use fluorescent lights at collection sites across the province. As of October 1, 2012 the program accepts all lighting products for recycling without charge, including all types of lights (bulbs and tubes), ballasts and lighting fixtures used in residential, institutional, commercial and industrial applications. Collection options differ based on the product and quantity to be recycled.

LightRecycle was developed in response to the requirements of the B.C. Recycling Regulation and is managed by Product Care Association, a non-profit industry association.

## Large Volume Generators – Lamp Collection Options

Large volume generators, including businesses, contractors, relampers, schools, building managers, can recycle their lamps (i.e. lights, bulbs or tubes) through the LightRecycle program without charge. Lamps can be recycled in one of three ways. Please ensure you are using the collection option that is appropriate to the quantity of lamps you have to be recycled.

### Option 1: Pick-Up Service for Whole Lamps – minimum of one pallet

Large volume generators are encouraged to consolidate a minimum of one pallet or more of whole lamps (i.e. lamps that have not been intentionally crushed) to qualify for a free pick-up service. A consolidated pallet of lamps should contain approximately:

- 500 4 foot fluorescent tubes, or;
- 1,200 CFLs, or;
- 600 HID lamps or;
- A combination of lamp types that would equate to the same volume.

*Note: lamps vary in size. The above estimates are guidelines only.*

If you are able to generate a minimum of one pallet of lamps within a reasonable period of time, direct pick-up is a convenient option. LightRecycle requires the lamps to be safely packaged before picking up, and will supply approved collection containers at no cost if required. Collection containers can be requested in advance.

**Note:** *The following guidelines provide all required instructions for large volume generators receiving pick-up services of whole lamps through the LightRecycle program, as described above.*

### Option 2: Pick-Up Service for Pre-Crushed Lamps – minimum of two drums

Some large volume generators use equipment such as a drum-top crusher to crush lamps in order to reduce required storage space. Large volume generators that have consolidated a minimum of two full UN-approved drums of crushed lamps will qualify for a free pick-up service. Replacement drums are supplied, at no charge, upon request when drums are picked up.

Intentionally crushed lamps are NOT accepted at any LightRecycle collection site. Collection sites will only accept whole lamps (i.e. lamps that have NOT been crushed) or very small volumes of accidentally broken lamps.

To arrange a pick-up of pre-crushed lamps, please call **604-592-2972 ext. 202** or email **lori@productcare.org**

***Note:** A separate set of guidelines is available for large volume generators that require pick-up services for drums of intentionally crushed lamps. Please see [www.lightrecycle.ca](http://www.lightrecycle.ca) for more information.*

### **Option 3: Collection Sites for Drop-Off of Whole Lamps – maximum of less than a pallet**

Large volume generators with LESS than a pallet of whole lamps (i.e. lamps that have not been intentionally crushed) can drop their lamps off at the LightRecycle collection sites designated to accept lamps from large volume generators. Collection sites do NOT accept intentionally crushed lamps.

Collection sites will NOT accept volumes of lamps that exceed one pallet. Those with more than a pallet of whole lamps, or those that are able to consolidate a pallet of whole lamps in a reasonable period of time, are encouraged to contact the program directly. We will arrange to pick-up your lamps once you have consolidated enough lamps to qualify for a pick-up. See above for more details.

To locate the large volume generator collection site for lamps nearest you, please visit [www.lightrecycle.ca](http://www.lightrecycle.ca)

### **Large Volume Generators – Fixtures and Ballasts**

The LightRecycle program also includes a collection system for lighting fixtures and lighting ballasts. Please visit [www.lightrecycle.ca](http://www.lightrecycle.ca) for more information.

### **Consumers – Collection System**

LightRecycle includes over 200 collection sites for consumers with household quantities of residential-use lamps (maximum of 16) and over 80 collection sites for consumers with household quantities of lighting fixtures. Please visit [www.lightrecycle.ca](http://www.lightrecycle.ca) for more information.

## Section 1: Accepted Lamps

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The LightRecycle program accepts all types of lamps for recycling without charge from large volume generators. Lamps are often referred to as “lights” or “bulbs” by the public. The program includes the following types of lamps:

### Fluorescent Tubes:

- Fluorescent tubes – linear/straight
- Fluorescent tubes – curved/circular

### Bulb Types:

- UV and Germicidal lamps
- Compact Fluorescent Lights (CFLs)
- Halogen and Incandescent bulbs
- Light Emitting Diodes (LEDs)
- Ultra High Performance (UHP) lamps
- High Intensity Discharge (HID) lamps

**For further details to assist in identifying accepted lamps, including definitions and pictures, please refer to Appendix B.**



## Broken Lamps

These guidelines are written for large volume generators that generate enough whole lamps (i.e. lamps that have not been intentionally crushed) for recycling in British Columbia to qualify for a free pick-up by the LightRecycle program. A separate set of guidelines is available for large volume generators that require pick-up services for drums of crushed lamps. Please see [www.lightrecycle.ca](http://www.lightrecycle.ca) for more information.

A large volume generator may include any accidentally broken bulbs and the materials they used to clean it up (such as paper towel or cardboard) in the collection containers provided by the program. Ensure it is in a sealed plastic bag or sealed glass container. See below for more information.

The program **does not** accept liquid mercury in any type of container.

## Section 2: Minimum Volume Required for Pick-Up

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Large volume generators must consolidate a minimum of one pallet or more of whole lamps to qualify for a free pick-up service. A consolidated pallet of lamps should contain approximately:

- 500 4 foot fluorescent tubes, or;
- 1,200 CFLs, or;
- 600 HID lamps or;
- A combination of lamp types that would equate to the same volume.

*Note: lamps vary in size. The above estimates are guidelines only.*

Large volume generators are encouraged to consolidate multiple pallets of lamps prior to requesting a pick-up if storage space is available to reduce the program's transportation costs.

Lamps must be consolidated and packaged according to the instructions below.

## Section 3: Handling, Packing & Arranging Transport

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### 3.1 Collection Container Options

#### **Original Packaging:**

LightRecycle will pick-up lamps directly from large volume generators that are carefully packaged in their original packaging (cardboard boxes that new lamps were supplied in etc.). Original packaging should be structurally sound and in good condition. Original packaging should be dry, free of rips or holes and sealed using packaging tape. LightRecycle will NOT pick-up loose lamps or lamps that are not properly packaged (lamps sticking out of boxes etc.).

See below for instructions on how to package and consolidate lamps.

#### **Durable Containers:**

Large volume generators that currently utilize reusable wooden boxes and other containers provided by Product Care approved service providers for the consolidation/packaging of lamps can continue utilizing these supplies.

Alternative supplies may include:

1. Fibre drums, durable plastic containers or small plywood boxes for CFLs, Halogen, Incandescent, HID and shaped tubes.
2. Plywood boxes for 4 foot fluorescent tubes

See below for instructions on how to utilize these containers, including instructions on the use of plastic liners.

#### **LightRecycle Cardboard Boxes:**

LightRecycle will provide cardboard boxes for the consolidation/packaging of lamps to large volume generators that do not have access to original packaging that is in adequate condition or who are **NOT** currently utilizing durable collection containers provided by contracted service providers.

The following materials can be provided, without charge, as required:

- Cardboard “bulb boxes” for all bulbs and shaped tubes (24”x20”x 24”)
- Gaylord boxes for fluorescent tubes 4 feet or less (48”x40”x48”)
- Cardboard boxes for fluorescent tubes over 4 feet and up to 8 feet (96”x10”x10”)
- Pallets

See below for instructions on how to utilize these containers.



**Note:** The cardboard boxes listed above and further described throughout these guidelines may be received by large volume generators currently using other durable collection containers (wooden boxes etc.) at any time if alternatives are not available.

### 3.2 Storage Location

The storage location for empty and full containers should be:

- Secure from theft and tampering
- Protected from weather
- On impervious surfaces
- Well-ventilated



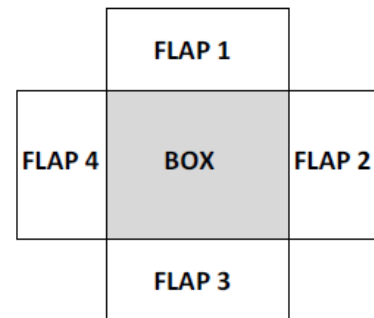
Lamps and collection containers **MUST** be kept dry; the program will not pick up wet lamps

### 3.3 Assembling Empty Cardboard Boxes

Cardboard boxes, if received/used by the generator, must be assembled prior to use. Please follow these instructions to assemble the cardboard boxes provided by LightRecycle (if applicable).

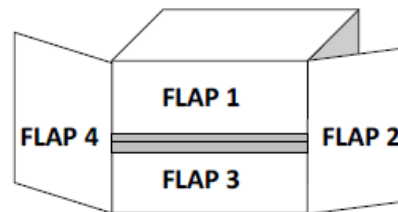
## Collection Box Assembly: Cardboard Bulb Boxes (24"x20"x24")

1. Start by unfolding the flattened box into a square shape.



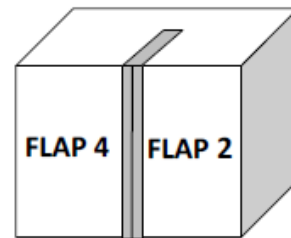
2. Fold Flap 1 and Flap 3 over the box opening until they meet in the middle.

3. Affix two (2) strips of packing tape down the middle of the flaps.

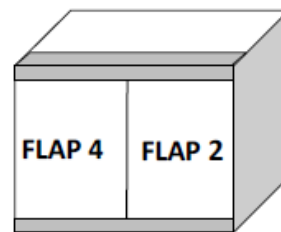


4. Fold Flap 2 and Flap 4 until they meet in the middle.

5. Affix two (2) strips of packing tape down the middle of the flaps. Make sure that the strips of tape reach down the side of the box at least six (6) inches (15 cm).



6. Affix two (2) strips of packing tape along each side of the box where the flaps were closed.



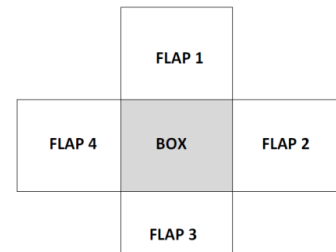
7. Ensure that all open edges of the bottom of the box are securely taped up.
8. Open the plastic liner bag provided inside the box and fold the liner over the top end of the box.

Upon completion of steps 1-8, the box is now ready for use.

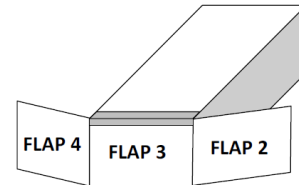
## Collection Box Assembly: 8ft Tube Boxes (96"x10"x10")

1. Start by unfolding the flattened box into a rectangular shape.

**Note:** All four flaps are full flaps.

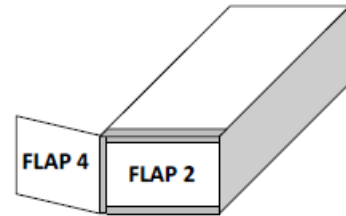


2. Fold Flap 1 and Flap 3 over the box opening.



3. Affix two (2) strips of packing tape along the edge of the box where the flap is closed.

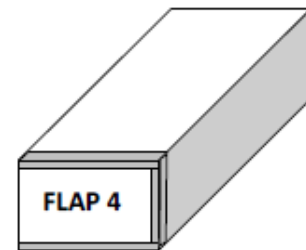
4. Fold Flap 2 over.



5. Affix two (2) strips of packing tape along each of three (3) edges of the box where the flap was closed.

6. Fold Flap 4 over.

7. Affix two (2) strips of packing tape along each of the three (3) edges of the box where the flap was closed.



8. Make sure all the open edges of the bottom of the box are securely taped up.
9. Open the plastic liner bag provided inside the box and fold the liner over the top end of the box.

*Upon completion of steps 1-9, the box is now ready for use.*

## Gaylord Collection Box Assembly: 4ft Tube Boxes (48"x40"x48")

1. Start by unfolding the flattened Gaylord box into a rectangular shape.
2. Fold two of the bottom flaps over the box opening until they meet in the middle.
3. Fold the other two flaps until they meet in the middle.
4. Affix two (2) strips of packing tape down the middle of the flaps.
5. Once the bottom of the box is sealed it can be centred on the pallet (48x40) provided by PCA so it does not sit outside the pallet, as it may create loading problems if shifts in transportation.
6. Open the plastic liner provided and place it inside the box so the edges overlap the box walls with enough overlap to be later taped together in the middle.
7. Remove one of six insert boxes that will be placed inside the lined Gaylord.
8. Like the large box, fold two of the bottom flaps over the box opening until they meet in the middle.
9. Fold the other two flaps until they meet in the middle.
10. Affix two (2) strips of packing tape down the middle of the flaps.
11. Repeat steps 7-9 with the five other insert boxes and place the completed inserts into the lined Gaylord box.
12. Assemble the lid by affixing two (2) strips of packing tape along each of the four (4) edges so it fits over the open end of the Gaylord.



*Upon completion of steps 1-12, the Gaylord box is ready for use*

### 3.3 Handling and Sorting Lamps into Boxes

Lamps must be sorted into four categories and packaged separately based on the lamp type/size. Regardless of the type of collection used, please sort lamps into the collection boxes in the following manner (4 categories):



- **All regular sized bulbs** (CFL's, incandescent, halogen, LED, UHP and small HID etc.) and tubes with unusual shapes (U shape, curved, circular shape etc.) can be mixed in the "bulb boxes" (24"x20"x24" cardboard boxes or other containers/boxes used). Refer to Appendix B for pictures of these bulb types to assist with identification. As discussed in Section 3.1 above, original packaging can be utilized if in adequate condition.
- **Large HID bulbs** should be separated from all other bulb types and placed separately in their own "bulb box" (24"x20"x24" cardboard boxes or other containers/box used). These bulbs can be much bigger and heavier than a regular sized bulb. Refer to Appendix B for pictures of these bulb types to assist with identification. As discussed in Section 3.1 above, original packaging can be utilized if in adequate condition. Generators should clearly mark these boxes on the outside as "HID" using a dark pen, marker or label to ensure they are counted separately from the other bulb boxes.
- **4 foot fluorescent tubes** and shorter straight fluorescent tubes should be placed in the Gaylord boxes (48"x40"x48") or wooden boxes provided. As discussed in Section 3.1 above, original packaging can be utilized if in adequate condition.
- **8 foot fluorescent tubes** (and those under 8 feet but longer than 4 feet) should be placed in the 8ft cardboard boxes provided (96"x10"x10" or other containers/boxes used). As discussed in Section 3.1 above, original packaging can be utilized if in adequate condition.

Correctly filling boxes protects against shifting and breakage during transport. The lamps should be stored and packaged in a way that avoids breakage.

The following methods will ensure safe handling of all lamp types and minimization of risk, regardless of the type of container/box used:

- The containers and packages must remain structurally sound and lack evidence of leakage, spillage or damage.
- Containers and lamps must be kept dry.
- Containers should be set up on pallets so they don't tip over easily.
- Containers should be stored in such a way that they won't easily tip over or get damaged.
- The lamps should be handled by their bases, not the glass portion.
- Lamps should be carefully placed into boxes and not dropped or thrown in to prevent breakage.

- Lamps should be placed inside the plastic liners provided for each box type (if received). When the boxes are full the liners ends should be tied or taped together to create a seal with all lamps inside the liner.
- Ensure boxes are filled to capacity (to prevent breakage during transport and to qualify for payment) but do not overfill boxes.
- Seal boxes with packing tape in preparation for ship-out. Ensure all seams are taped. Refer to the Taping Method instructions below.
- If boxes other than cardboard boxes are used for the collection of bulbs (i.e. fibre drums, small plywood boxes etc.) ensure any lid provided is securely placed on top and will not shift during transportation. Use tape or shrink wrap if required.
- Any lamp that is broken must be cleaned up immediately using the spill procedure under the Clean-up Procedures.



**NOTE:** Large HID bulbs are to be separated from other bulb types and placed in their own boxes. HID boxes must be clearly marked as HID boxes on the outside. See above for more detail and Appendix C for pictures to distinguish these bulb types.

- Do **NOT** tape bulbs or tubes together or use rubber bands.
- Do **NOT** over fill the lamps collection containers as they will be difficult to close during shipping preparations.
- Do **NOT** stack other material on top of the collection containers.

## **Gaylord Box Instructions**

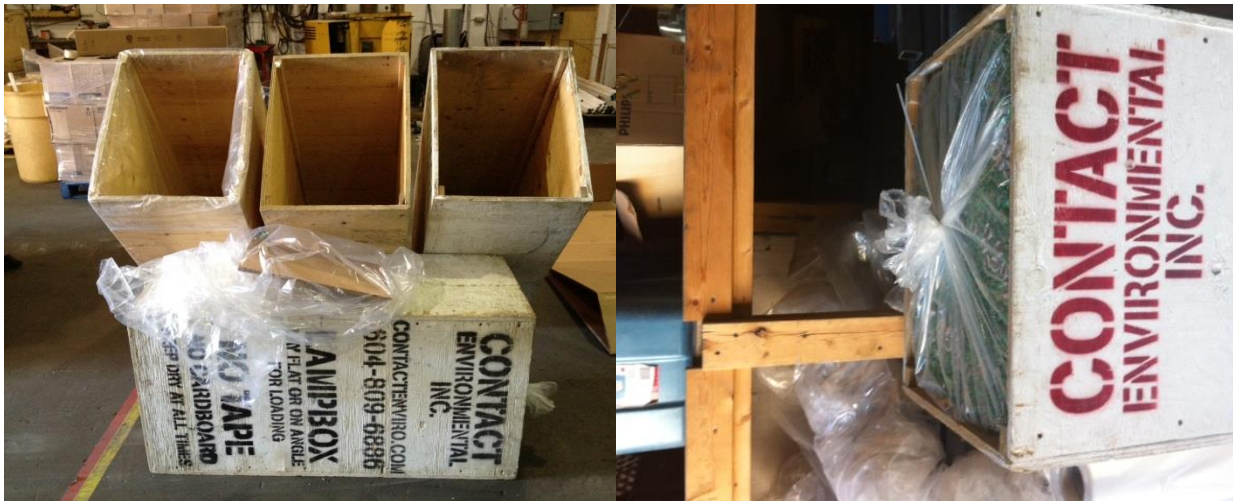
Gaylord boxes should be placed on pallets prior to being filled as they will be shipped on a pallet.

1. Gaylord boxes should be centred in the middle of the pallet.
3. Make sure that the box is placed securely on the pallet (should not extend or fall beyond the edges of the pallet).
4. Begin filling Gaylord boxes from the middle of the box going outward to prevent tubes from tipping over.
5. When the Gaylord box is full, pull the plastic liner over the top and tie or tape it shut to prevent the items from falling out of the box or to contain any breakage.
6. Do **NOT** overfill the Gaylord boxes.
7. Place the lid on top of the box opening and shrink wrap it to prevent it from shifting during transportation.
8. Write the name of your company on the shrink-wrap.

## Plywood Box Instructions

The following procedures should be used to handle straight fluorescent tubes up to 4 feet in length in the wooden boxes if they are received/used by a generator.

- Plywood boxes can be placed on their side (as pictured below) or at an angle to be filled.
- Plastic liners (if provided) should be placed inside the boxes prior to placing lamps inside, as well as any cardboard pads provided.
- Tubes should be placed inside the boxes carefully and not thrown or dropped in to prevent breakage.
- Tubes should not protrude past the top of the box
- When the plywood box is full, pull the plastic liner over the top and tie ,tape or zap strap it shut to prevent the items from falling out of the box or to contain any breakage.
- Do NOT overfill the plywood boxes.
- Once the boxes are filled they should be placed vertically (tubes pointing upwards) for shipment. Four vertical boxes will fit on a pallet. They should then be shrink-wrapped together for shipment.
- Test the pallet's stability by pushing on the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side.
- If the pallet is unstable, restack or wrap with additional shrink wrap.
- Write the name of your company on the top of the liner.







### 3.4 Broken Lamps

These guidelines are written for large volume generators that generate enough whole lamps (i.e. lamps that have not been intentionally crushed) for recycling in British Columbia to qualify for a free pick-up by the LightRecycle program. A separate set of guidelines is available for large volume generators that require pick-up services for drums of crushed lamps. Please see [www.lightrecycle.ca](http://www.lightrecycle.ca) for more information.

A large volume generator may include any accidentally broken bulbs and the materials they used to clean it up (such as paper towel or cardboard) in the collection containers provided by the program. Ensure it is in a sealed plastic bag or sealed glass container. See below for more information.

### 3.5 Preparing Boxes for Shipment

Once boxes have been completely filled and the box liners have been tied or taped shut they must be prepared for shipment.

Mark/label each box with your company name. If the box is a bulb box containing Large HID bulbs that have been separated from the other bulb types in accordance with the instructions above, ensure you have marked/labelled the box with “HID” on the outside.

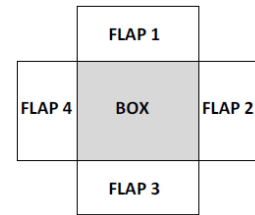
Follow the instructions above for how to prepare Gaylord boxes and wooden boxes for shipment.

Instructions on how to tape and consolidate cardboard boxes (original packaging or boxes provided by the program) on pallets are included below.

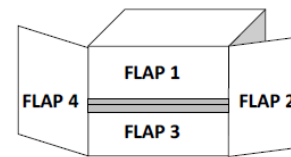


## Taping Method for Full Cardboard Bulb Boxes (24"x20"x24")

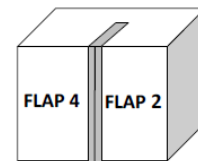
1. Once the box is full, open the flaps as shown (top view).



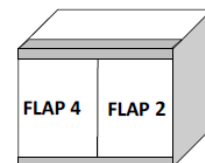
2. Fold Flap 1 and Flap 3 over the box opening until they meet in the middle.
3. Affix two (2) strips of packing tape down the middle of the flaps.



4. Fold Flap 2 and Flap 4 until they meet in the middle.
5. Affix two (2) strips of packing tape down the middle of the flaps. Make sure that the strips of tape reach down the side of the box at least six (6) inches (15 cm).



6. Affix two (2) strips of packing tape along each of the box where the flaps were closed.
7. Ensure all seams are taped.

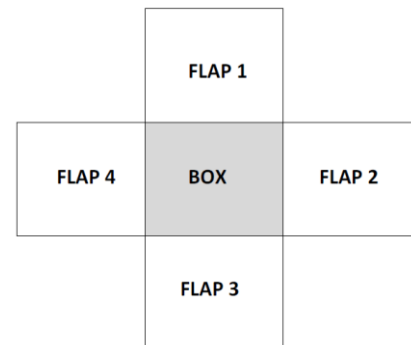


8. Mark/label the outside of the box with your company's name.

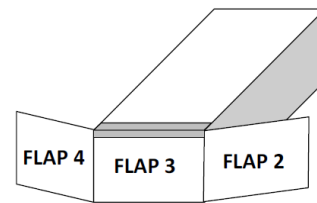
## Taping Method for Full Fluorescent 8ft Tube Boxes (96"x10"x10")

1. Once the box is full, open the flaps as shown (top view).

**Note:** All flaps are full flaps.



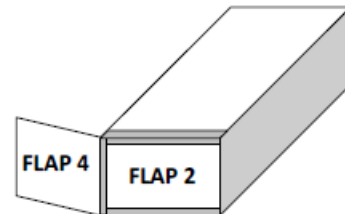
2. Fold Flap 1 and Flap 3 over the box opening.



3. Affix two (2) strips of packing tape along the edge of the box where the flap is closed.

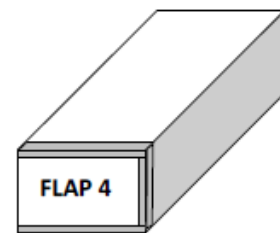
4. Fold Flap 2 (full flap) over.

5. Affix two (2) strips of packing tape along each of the three (3) edges of the box where the flap was closed.



6. Fold Flap 4 (full flap) over.

7. Affix two (2) strips of packing tape along each of the three (3) edges of the box where the flap was closed.



8. Ensure all seams are taped.

9. Mark/label the outside of the box with your company's name

## Consolidating Full Boxes on Pallets

### Bulb Boxes:

Cardboard bulb boxes (24"x20"x24"), if used, must be stacked on pallets for transport and shrink wrapped. These boxes should be stacked 4 boxes to a level, 2 levels high (8 boxes total per pallet). Test the pallet's stability by pushing on the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side. If the pallet is unstable, restack or wrap with additional shrink wrap.

If alternative bulb containers are used (fibre drums, small plywood boxes, original packaging), ensure these boxes are consolidated on a pallet in a similar manner. Stack the boxes until they reach about 4 feet in high and take up the entire pallet space, then shrink wrap the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side. If the pallet is unstable, restack or wrap with additional shrink wrap.



### 4ft Tube Boxes:

If 4ft fluorescent tubes are being shipped in their original boxes instead of in Gaylord boxes or wooden boxes, they should be consolidated on a pallet. Stack the boxes until they reach about 4 feet in high and take up the entire pallet space, then shrink wrap the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side. If the pallet is unstable, restack or wrap with additional shrink wrap.

### 8ft Tube Boxes:

The 8ft tube boxes (96"x10"x10"), once full, can be staked on a pallet to reduce the space required to store the full boxes. These boxes can be stacked 4 boxes to a level, 3 levels high (12 boxes total per pallet). If 8ft fluorescent tubes are being shipped in their original boxes instead of in the 8ft tube boxes LightRecycle provides, they should be consolidated on a pallet. Stack the boxes until they reach about 4 feet in high and take up the entire pallet space.

8 ft tube boxes should not initially be shrink-wrapped together as the transporter will likely require each box to be loaded into the truck individually, given their size. However, if the transporter is able to load these boxes by the pallet, ensure the entire pallet is shrink wrapped and test the pallet's stability by pushing on the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side. If the pallet is unstable, restack or wrap with additional shrink wrap.



**LightRecycle will NOT pick up loose lamps or individual boxes that are not consolidated onto a pallet in the manner described above.**

### **3.6 Arranging Transport of Full Boxes and New Supplies**

Full containers will be picked up by approved LightRecycle transporters. Requested supplies may also be dropped off at this time or they may be shipped separately at a later date.

#### **Shipment of Full Boxes**

Large volume generators must consolidate a minimum of one pallet or more of whole lamps to qualify for a free pick-up service. A consolidated pallet of lamps should contain approximately:

- 500 4 foot fluorescent tubes, or;
- 1,200 CFLs, or;
- 600 HID lamps or;
- A combination of lamp types that would equate to the same volume.

*Note: lamps vary in size. The above estimates are guidelines only.*

Large volume generators are encouraged to consolidate multiple pallets of lamps prior to requesting a pick-up if storage space is available to reduce the program's transportation costs.

Lamps must be consolidated and packaged according to the instructions above.

Before advising how many full collection containers you have available for pickup:

- Check the collection containers to ensure they are packed correctly.
- Pallets of Bulb Boxes or Tube boxes:
  - Stable
  - Shrink-wrapped correctly
  - Boxes are structurally sound and in good condition (dry, no rips or holes).
  - Boxes packed 4 feet high and cover entire pallet space
  - Each box is labelled with your company name
  - Boxes that contain large HID bulbs separated from the other bulb types, in accordance with the instructions above, are clearly marked/labeled as “HID”
- Gaylords
  - Square on the pallet
  - Lamps are tightly placed inside
  - The plastic liner is sealed and the top is secured in place
  - No items are protruding from the top
  - Each box is labelled with your company name
- Plywood Boxes
  - Square on the pallet, facing up
  - Lamps are tightly placed inside
  - The plastic liner is sealed
  - No items are protruding from the top
  - Boxes are shrink-wrapped together correctly
  - Each box is labelled with your company name on the top of the liner



When you have consolidated at least one pallet of lamps and would like them picked up you can call, email or fax your information to LightRecycle directly (see below for instructions).

## **Requesting New Supplies**

LightRecycle can provide collection containers and pallets, as required. Do NOT wait until you are down to your last box to request additional boxes or supplies. Empty boxes should be ordered in advance to ensure you have all of the boxes required. As a general rule of thumb, you should order additional boxes once half of any of your boxes have been filled. Additional supplies can be ordered by following the instructions below. You do not need to request new supplies if you plan to package your next load of lamps in original packaging. See the sections above for details.

## Arranging Shipment (Full Containers/New Supplies)

Whether you choose to phone, email or fax in your order, we will send the carrier to pick up the full boxes and/or deliver empty replacement ones to you.

### BY PHONE:

Please call LightRecycle at 1-888-811-6234 to place your order (toll-free) OR

### BY EMAIL:

Please complete the ‘Container Request Form’ as shown in Appendix A, scan the form and then email the completed form to [pickup@lightrecycle.ca](mailto:pickup@lightrecycle.ca) OR

### BY FAX:

Please complete the ‘Container Request Form’ as shown in Appendix A then fax the completed form to LightRecycle at 1-604-592-2982



**NOTE:** Please keep this form blank and photocopy as needed and request any supplies needed at the same time.

Before the truck arrives, make sure the loading area is clear and that all collection containers are easily accessible.

## Bill of Lading (shipping document) – Full Boxes

The transporter dispatched by the program will arrive at your location to pick-up your full containers. The transporter will supply the bill of lading, but you must complete it.

The number of pallets and/or boxes being picked up must be recorded. The bill of lading should include the following information and be organized in the following manner:

Type of Pallet/Box	Number of Full Pallet/Boxes for Transport
Pallet of 4 ft tubes (Gaylord box)	
Pallet of consolidated 4 ft tube boxes (original packaging) and/or “bulb boxes” (CFLs, HID etc.)	
Pallet of 4ft tube plywood boxes	
8 foot tube boxes (96” x10” x10” or original packaging)	
Other (give details)	
Other (give details)	

If the transporter has provided a bill of lading, it is the generator's responsibility to ensure that the information on the bill of lading is correct.

**NOTE:** If you have more than the number of pallets/boxes recorded on their bill of lading or if the total is correct but the types of boxes have changed you will need to ensure the bill of lading is changed appropriately and reflects your actual piece counts and type of pallets/boxes. It is your responsibility to make sure that the shipping information including the quantity and contents are correct.

### **Bill of Lading – New Supplies**

The number of empty boxes and pallets delivered must also be checked and recorded on a bill of lading. The transporter dropping of these materials will generally have a copy of this bill of lading listing the supplies the generator is receiving. It is the generator's responsibility to confirm that the information listed on the bill of lading is correct before signing off on it.

**NOTE:** Even if the transporter completes the paperwork, you are still responsible for making sure it is completed correctly before you sign.

### **Truck Loading**

When the truck arrives at your site, it is the generator's responsibility to assist the carrier in unloading and re-loading of the boxes. Forklift loading/unloading will occur only if the driver agrees. In some case you will need to help load the 8ft tubes manually.

Forklift loading approval is dependent on many factors including, but not limited to:

- Stability of collection containers
- The driver's routing (they may have other deliveries to make)
- The type of trailer he/she is using (some floors may not support the weight of a forklift)
- Weather conditions
- Loading conditions
- Other site factors

It is the generator's responsibility to:

- Make sure loading area is clear
- Collection containers are easily accessible
- Verify all paperwork has been completed (quantity of pieces, types of containers, pick up date, etc.)
- Verify all full containers are properly labelled or marked with your company name
- Verify any boxes that contain large HID bulbs separated from the other bulb types, in accordance with the instructions above, are clearly marked/labeled as "HID"
- Verify quantity of empty and full containers that are being delivered and/or picked up
- Sign all shipment paperwork once details have been confirmed
- Ensure the driver has given you a copy of the shipment paperwork

It is the truck driver's responsibility to:

- Dictate how the empty collection containers are to be unloaded
- Dictate how the full collection containers are to be loaded and/or stacked
- Secure load to prevent movement during transport using straps, load bars or some other type of bracing
- Verify completed paperwork & leave the generator with one copy of the bill of lading (shipment paperwork)



**NOTE:** Drivers will **NOT** accept loose lamps, improperly packaged boxes or boxes that are not consolidated on pallets as described above.



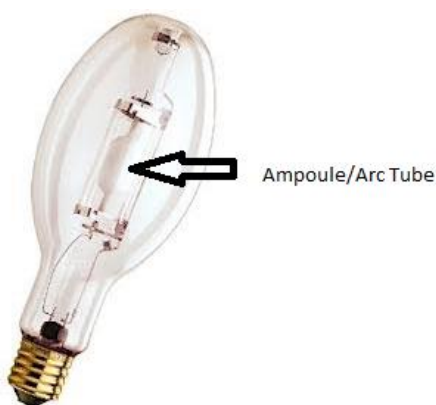
## Section 4: Clean-Up Procedure for Broken Lamps

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### Risks

Intact (unbroken) fluorescent lamps (CFLs and fluorescent tubes) and HID lamps pose no health risk. Mercury in fluorescent lamps is in vapour form and also with the phosphor powder which coats the inside of the lamp. Broken lamps release the mercury, which can enter the body by absorption through the skin or by inhalation of the vapour.

HID lamps contain more mercury than fluorescent lamps (30 mg on average). The mercury is sealed in a sealed glass or quartz capsule (referred to as an “ampoule” or “arc tube”) within the lamp. If the capsule remains intact the mercury is contained. However if the capsule is broken mercury will be released to the ground.



In both cases a careful and prompt cleanup of the spill by the designated worker will minimize exposure to the staff and to the environment.

A mercury spill must be treated as a serious safety concern. Staff should be trained in the management of broken lamps.



**NOTE:** no health risks are posed from broken incandescent, halogen or LED lamps other than risk of cutting by broken glass.

### Clean-up Directions for Hard Surfaces

If you break a fluorescent lamp (CFL or fluorescent tubes) or HID lamp, follow these directions for clean-up:

#### Leave the room:

- Leave the room and keep people out from the room during the clean-up process.
- Avoid stepping on broken glass

### Ventilation:

Ventilate the room for at least 15 minutes prior to starting clean-up by opening windows and doors to the outdoors. This will ensure that the mercury vapour levels are reduced before you start cleaning.

If you break a fluorescent lamp or the ampule contained within an HID lamp is visibly broken follow these directions for clean-up:

- Do **NOT** use a vacuum or broom to clean up the initial breakage, as it will spread the mercury vapour and dust throughout the area. Additionally, contamination may occur within the vacuum and/or on the broom.
- Wear disposable gloves to avoid direct contact with mercury and to reduce the risk of cuts.
- Scoop or sweep up the broken pieces and debris with the two pieces of cardboard provided in the clean up kit and place into the sealable plastic bag. Make sure to work from the outside of the spill to the centre. Use the cardboard to gather the beads of mercury. Tip- a flashlight held at a low angle in a darkened room can be used to find beads of mercury which can travel quite far on a hardened surface.
- Use eyedropper to collect mercury and then squeeze carefully into a damp paper towel. Repeat this step as often as necessary to cover the affected area thoroughly. Place the paper towel into the same sealable plastic bag (note this is only required for HID lamps with a visibly broken ampoule).
- Use packing tape to pick up smaller beads and place in plastic bag (note this is only required for HID lamps with a visibly broken ampoule).
- Residual mercury can be removed by wiping with vinegar followed by peroxide (note this is only required for HID lamps with a visibly broken ampoule).
- Keep the area well ventilated for 24 hours.
- Place the broken glass and all clean-up materials in the plastic bag and seal it to further minimize the release of mercury vapour.
- All contaminated items and mercury should be double or triple bagged.
- Once the clean-up effort is completed, place the sealed bags in a sturdy container (plastic container, glass jar etc.) and then place the container in a bulb box.

### Washing:

Wash your hands after storing and disposing of waste.

## **Resources**

US EPA:

- <http://www.epa.gov/mercury/spills/index.htm>

Environment Canada:

- <http://www.ec.gc.ca/mercure-mercury/default.asp?lang=En&n=D2B2AD47-1>

Health Canada:

- <http://hc-sc.gc.ca/hl-vs/iyh-vsv/prod/cfl-afc-eng.php>

## **Appendix A – Container Request Form**

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**The Container Request Form is listed on the following page. Please keep this form blank and photocopy as need.**



12337 - 82A Avenue, Surrey, B.C. V3W 0L5  
Phone: 604 592-2972 ext. 216 Fax: 604 592-2982  
Web: [www.lightrecycle.ca](http://www.lightrecycle.ca)

## LightRecycle Container Request Form

Please fax this form to 1-604-592-2982 or email to [pickup@lightrecycle.ca](mailto:pickup@lightrecycle.ca)

**AUTHORIZATION #:** \_\_\_\_\_

**TODAY'S DATE:** \_\_\_\_\_

**SITE NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**PHONE:** \_\_\_\_\_ **FAX:** \_\_\_\_\_

**SHIPPING HOURS:** \_\_\_\_\_

### TO BE PICKED UP:

Pallet of 4 ft tubes (Gaylord box)	
Pallet of consolidated 4 ft tube boxes (original packaging) and/or "bulb boxes" (CFLs, HID etc.)	
Pallet of 4ft tube plywood boxes	
8 foot tube boxes (96" x 10" x 10" or original packaging)	
Other (give details)	
Other (give details)	

### SUPPLIES NEEDED:

GAYLORD box (48" x 40" x 48")	PALLETS
8ft Boxes (96" x 10" x 10")	Other
Bulb boxes (24" x 20" x 24")	Other
Fibre Drums	Other
Plywood boxes (give size)	

### SPECIAL SHIPPING INSTRUCTIONS:

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## Appendix B-Accepted Lamps

### Accepted Products

The program includes all lamp technologies including:

#### ACCEPTED LAMPS

##### Fluorescent Tubes - Straight/Linear

Includes all diameters and light outputs in a straight/linear configuration. Can range in size from under 2 feet in length to 8 feet in length.



##### Fluorescent Tubes - Curved/Circular

Includes all diameters and light outputs in a curved/circular configuration (curved, square, U, etc.).



##### UV and Germicidal Lamps

UV or germicidal lamps of all shapes and sizes. All base types including pin-type, screw-in, etc.



## ACCEPTED LAMPS

### Compact Fluorescent Lamps (CFLs)

Fluorescent bulbs that are typically similar in size and intended to replace an incandescent (traditional) light bulb.



### Halogen and Incandescent- Bulbs

Filament lamps of all shapes, sizes and wattages. All base types including pin-type, screw-in, etc.



### Light Emitting Diodes (LED)

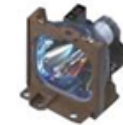
Solid-state lamps used for specialty purposes and conventional lighting applications. All base types including pin-type, screw-in, etc.



## ACCEPTED LAMPS

### Ultra High Performance (UHP) / Mercury Arc Lamps

Replacement lamps designed for commercial projection systems, home theatre projectors, MD-PTVs and video walls. Often housed within a metal casing.



### High Intensity Discharge (HID) and Other

Includes all HID technologies, such as high pressure sodium, low pressure sodium, mercury vapour and metal halide. These lamps vary in size but are much larger than a typical bulb. In some cases, they can be as big, or bigger, than a football.

