



Participating in a Lamp Sampling and Testing Project

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Topics

- Introduction
- Lamp Selection and Testing
- Sampling Procedure
- Reporting



INTRODUCTION



Introduction and Objective

- UNEP en.lighten initiative aims to support developing countries in Southeast Asia, South Asia and the Pacific in their capacity building efforts to strengthen their national and regional resources for efficient lighting monitoring, verification and enforcement (MVE).
- This exercise aims at providing in-country assistance to support sampling of efficient lamps, focusing on:
 - Cambodia
 - Lao PDR
 - Indonesia
 - Philippines
 - Thailand
 - Vietnam

How it works?

- UNEP's consultant (IIEC) will coordinate the selected country representatives to:
 - Present the scope and sampling guidelines (together with GELC), and;
 - Conclude the country-specific sampling plan and timeline.
- IIEC will work with each country on retailer surveys and lamp sampling.
- IIEC will be responsible for all costs related to lamp purchasing and shipping to GELC in Beijing, China.
- IIEC will prepare sampling reports with inputs sought from each participating country.



LAMP SELECTION & TESTING



Lamp Type and Model Selected

- Two types of omnidirectional lamp products: CFLs and LED
- 100 lamp models are included in the testing.

Lamps/Country	CFL	LED Lamp	Total
Cambodia	13	3	16
Indonesia	14	4	18
Lao PDR	13	3	16
Philippines	14	4	18
Thailand	13	3	16
Vietnam	13	3	16
Subtotal	80	20	100

Country allocations may be adjusted following the in-country retailer surveys.

Basic Requirements of CFL and LED lamps

Description	Basic Requirements
Type	<ul style="list-style-type: none">• Integral (self-ballasted CFLs or self-contained driver LED) for indoor lighting, general service applications;• Omnidirectional light distribution (no reflector-type or decorative lamps);• No cover (bare lamp)
Lamp base	“Normal” size for typical socket in the country (e.g. E27 or B22)
Voltage	Between 100V to 240V; mains voltage (per country requirements, no low voltage).
Frequency	50Hz or 60Hz
Other features	No other electrical or functional features such as dimming, color-changing or remote control.
Wattage	≤ 25W for CFLs, ≤ 15W for LED lamps
Sample Size	30 per CFL model and 20 for LED lamp model

Lamp Selection Requirements

- The models selected must meet safety, labeling and MEPS requirements.
 - At a minimum, the models selected must include a declared wattage on the lamp, label or packaging.
- The models selected should be the most popular ones in the local markets (commonly used wattages and correlated color temperature).
- The models selected in each country should be from:
 - at least five manufacturers/brands of CFLs
 - at least two manufacturers/brands of LED lamps
- Retailer surveys will be conducted in each country to confirm validity of the abovementioned selection requirements.

Testing Items and Reference Standards

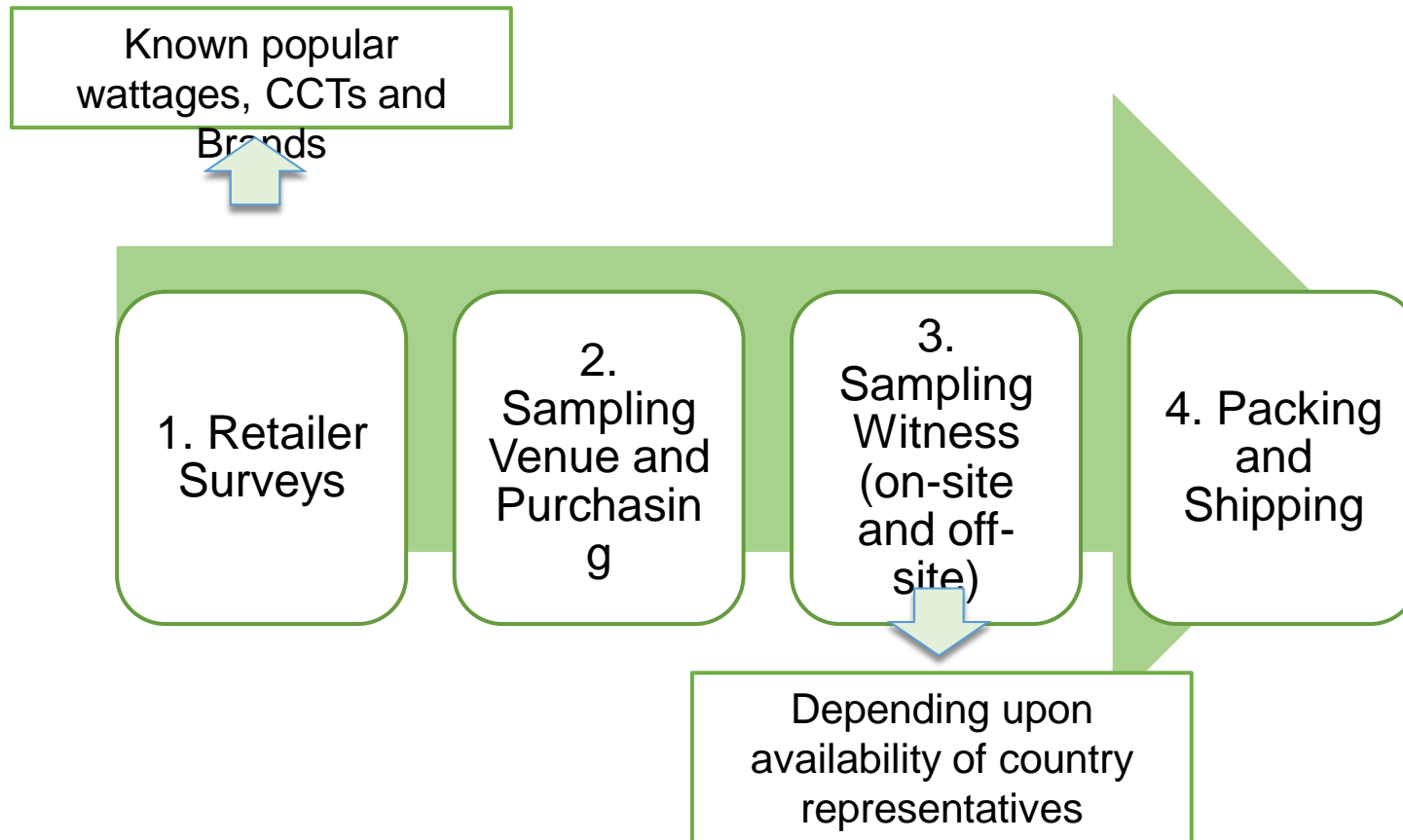
- CFLs - performance parameters and mercury content
- LED lamps - performance parameters
- Performance parameters include:
 - Power Consumption, Power Factor, Luminous Flux, Lamp Efficacy, CRI, CCT and Lumen Maintenance (100hrs & 2,000hrs)
- Reference Standards
 - IEC 60969 Self-ballasted lamps for general lighting services – Performance requirements
 - IEC 62612 Self-ballast LED-lamps for general lighting services – Performance requirements
 - IEC 62554 Sample preparation for measurement of mercury level in fluorescent lamps



SAMPLING PROCEDURE



General Sampling Approach



Development of Sampling Plan

- Presentation of overall sampling requirements for each country
 - Joint effort between IIEC and GELC
- IIEC will develop an overall sampling plan for each country.
 - Comments from country focal points and designees will be sought prior to conclusion of the plan
 - The designee in each country will witness the samples purchased and sign off the sampling sheets.
 - On-site and off-site inspections will be discussed during the sampling plan development.

In-Country Retailer Surveys

- The Country Lighting Assessment for each will be reviewed.
- Conduct retailer surveys to confirm popular models of CFLs and LED lamps.
 - Frequencies and POS interviews
- Country representatives will be informed to participate the survey exercises.

Country	No. of Retailers to be surveyed
Cambodia	15
Indonesia	20
Lao PDR	15
Philippines	20
Thailand	20
Vietnam	20

No. of retailers to be surveyed can be adjusted following discussion with the country focal points/designees.

Sampling Venues

- Large retailers: shopping malls, supermarkets, hypermarts
- Small retailers: general stores, hardware and lighting shops and other small commercial markets
- 40% of models should be from large retailers and 60% of models should be from small retailers.
- Stratified Random Sampling is proposed:
 - Use geographical stratum due to limited timeframe – focusing on capital cities
 - Selection of retailers will be spontaneous.

Lamp Purchasing and Witnessing

- The sampling team will explain the purpose of lamp sampling and verify if the selected retailer carries sufficient number of selected models.
- Conduct visual inspection to ensure good condition of packaging:
 - No tears, holes, crushing, or other signs of possible damages
 - The sampling team shall not open any sealed packages.
 - Photograph the samples (and the retailers)
- Request official sales receipts, fill out and sign off the sampling sheets
 - The sampling sheets should be signed by at least one sampler and the country designees at the sampling venues or at the office of the country designee.

Packing and Shipping

- Packing of all the samples will be managed by IIEC with the country designee present.
 - The samples will be properly packaged in sturdy packing boxes with vibration absorption materials to ensure safe transportation.
- Photographs the packing process
- Shipping will be managed and paid by IIEC via courier services (e.g. DHL, UPS).
 - Sampling sheets will be sent together with the samples.
- Note of sampling discipline:
 - Sampling models and venues are confidential.



Reporting



Sampling and Testing Reports

- IIEC will prepare a country sampling report following completion of the sampling process in each country.
- GELC will conduct the testing and deliver testing reports to UNEP.



THANK YOU

