



# Lamps V2.0 Proposal Discussion (4 of 4)

**November 23, 2015**

**1-2:30pm EST**

Taylor Jantz-Sell LC, U.S. Environmental Protection Agency

Dan Rogers LC, IES, LEED AP, ICF International



## Welcome

- Questions/comments welcome
  - For everyone's benefit, please state name and organization before commenting
  - Can ask questions via the webinar chat at any time



## Today's Agenda

- Recap discussion from previous calls
- Open Discussion

This meeting is being recorded. EPA intends to post recordings of the four scheduled meetings to inform stakeholders unable to attend.

Recordings of previous calls are available on the [Lamps Specification Version 2.0 webpage](#).



## Top-Level Re-Cap of 11/12 Discussion

### Rated Life:

- Support was shared by multiple stakeholders for the proposed 15,000 hour life requirement for Omnidirectional lamps
- One manufacturer suggested EPA consider a 15,000 for directional lamps as well (for residential customers)
- Several efficiency advocates suggested EPA maintain 25,000 hour life requirement for directional lamps
- Testing would be the same as for decorative lamps, 86.7% lumen maintenance at 6,000 hours (93.1% at 3,000 hours for initial cert)

### Power Factor:

- No strong support or opposition
- Some cautionary comments were shared and one proposal to require 0.7 for directional products



## Top-Level Re-Cap of 11/12 Discussion

### Omnidirectional Proposal:

- One manufacturer expressed concern that the proposed change was not as generous as they had hoped but has since submitted written comments in support of this proposal.

### Efficacy Proposal

- One efficiency advocate expressed concern about 61 LPW requirement for directional lamps with CRI  $\geq 90$
- EPA explained that the level would allow for the specification to accommodate a wide range of performance for these products that would be necessary to accommodate a variety of markets and customers.



## Top-Level Re-Cap of 11/12 Discussion

### Misc. Topics – Effective Date/Transition Period:

- One efficiency advocate recommended a more gradual transition time (18 months rather than 12 month) to give CFLs more time in the market. A manufacturing partner voiced their support for this on 11/20.
- EPA reminded partners that the program provides an archive QPL for reference that utility programs can reference for ongoing rebates past the effective date.



# Top-Level Re-Cap of 11/13 Discussion

## Efficacy

- One program implementation stakeholder suggested that the efficacy levels in the proposal were too high and that preventing cost effective CFL programs will severely hinder the ability of some utilities to meet their goals.
- A manufacturer suggested that efficacy levels were appropriate and that LED bulb prices are dropping to a cost effective point and that they offer more value than CFLs so they don't have to be as cheap.

## Omnidirectionality

- One efficiency advocate supported the modest adjustment in omnidirectional requirements and expressed her concern that it should not be adjusted further.

## Rated Life

- A manufacturer was opposed to the decrease in omnidirectional rated lifetime from 25,000 to 15,000 hours.



## Top-Level Re-Cap of 11/20 Discussion

### Rated Life:

- Four utility and efficiency program stakeholders opposed the omnidirectional LED lifetime proposal of 15,000 hours.
- A manufacturer partner and a utility representative supported EPA's lifetime proposal

### Power Factor:

- Two utility representatives opposed the power factor proposal, and one representative suggested changing it to 0.6.
- A manufacturer partner supported the power factor adjustment to 0.5, commenting that the leading power factor of LEDs would tend to improve overall building power factor by balancing the lagging PF of other equipment.
- A manufacturer partner suggested EPA maintain a power factor of 0.7, citing California Title 20.





## Top-Level Re-Cap of 11/20 Discussion

### Omnidirectional Proposal:

- A manufacturing partner and an efficiency organization representative expressed support for the changes to the omnidirectionality requirements.

### Efficacy Proposal

- A manufacturing partner suggested lowering the efficacy requirement range from 65-80 to 65-75.
- A manufacturing partner and an efficiency organization representative supported the proposed efficacy levels.



## Top-Level Re-Cap of 11/20 Discussion

### Misc. Topics:

- A manufacturing partner indicated their market research showed that consumers are skeptical about LED life claims, they don't necessarily want a product that lasts 20 years, and they are most concerned about first cost and energy use.
- A utility stakeholder expressed concern about dimmable LED lamps and flicker adversely affecting consumer experiences.
- EPA clarified that the Lamps V2.0 specification is open for product certification as soon as it is final.



## Rated Life (proposed)

EPA is proposing a rated life requirement of 15,000 hours for all LED omnidirectional lamps

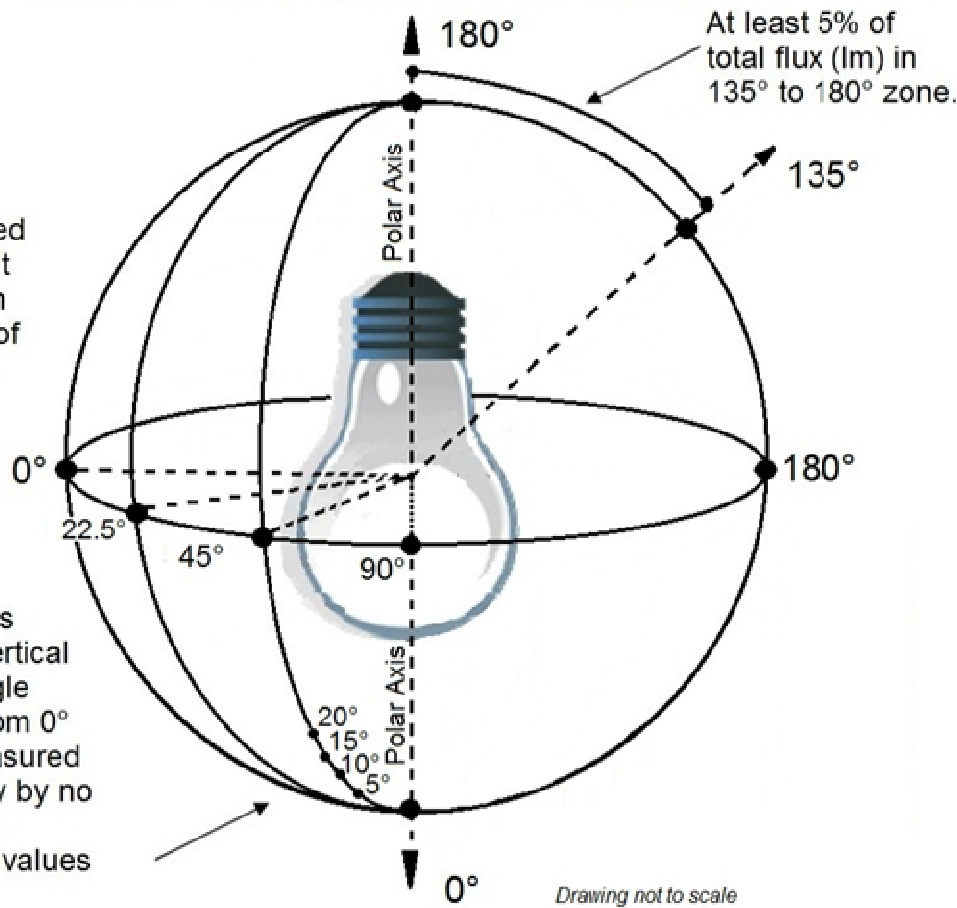
- This matches the current requirement for decorative LED lamps.
- Based on the FTC reporting requirements, this equates to 13.7 years based on 3-hour/day operation.
- At the same time EPA is proposing to tighten the requirements for passing the life and lumen maintenance test by requiring that all units (versus the current 9 of 10) be operational throughout the duration of life testing.

# Omnidirectionality (current)

Omnidirectional lamp in base-up position

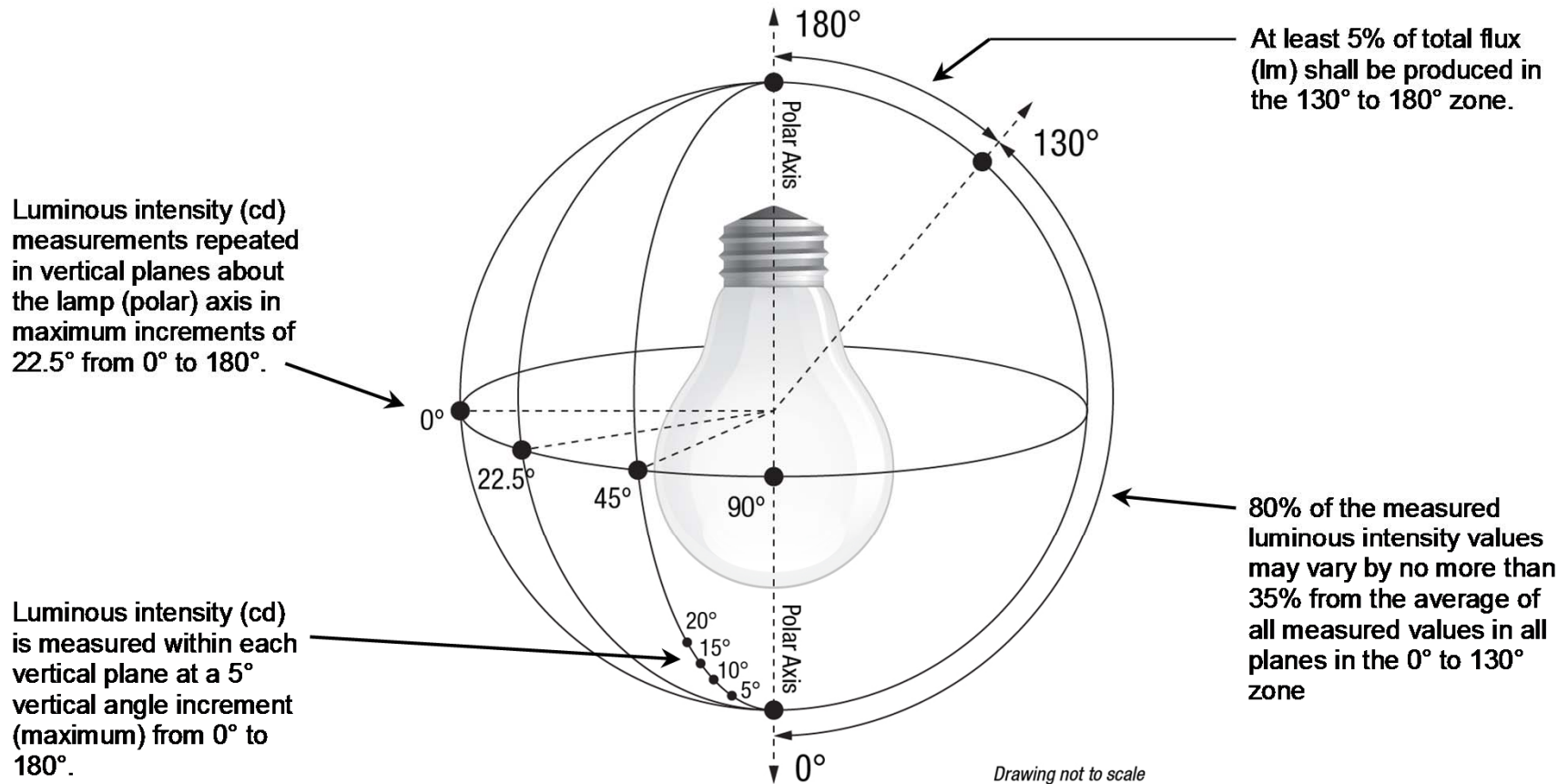
Measurements repeated in vertical planes about the lamp (polar) axis in maximum increments of 22.5° from 0° to 180°

Luminous intensity (cd) is measured within each vertical plane at a 5° vertical angle increment (maximum) from 0° to 135°. 90% of the measured intensity values may vary by no more than 25% from the average of all measured values in all planes.





# Omnidirectionality (proposed)





## Power Factor

EPA is proposing to lower the minimum power factor requirement for LED lamps to 0.5, consistent with the current requirement for CFLs.

EPA's research indicates there is a \$0.20-\$0.40 cost impact to the consumer for a power factor of 0.7 compared to 0.5.



## Efficacy (proposed for 2017)

Lamp Type	ENERGY STAR Requirements	
	Reported values for each lamp model shall meet the applicable requirement in the table below. Additionally eight or more units individually shall meet the requirement.	
	Minimum Lamp Efficacy (initial lm/W)	
	CRI ≥ 90	CRI < 90
Omnidirectional	70	80
Directional	61	70
Decorative	65	



## Efficacy (continued)

Lamp Type	Certified Products	Average ENERGY STAR ALL/LED/90+CRI Efficacy today	Pass Rate current products proposed levels (%)	Pass rate assuming modest (10%) efficacy improvements by 2017 (%)
Omni	1620	75/82/70	59	73
Dir	4576	69/70/69	54	74
Dec	698	69/73/66	63	92

**Question:** is there additional information EPA should consider on this issue?



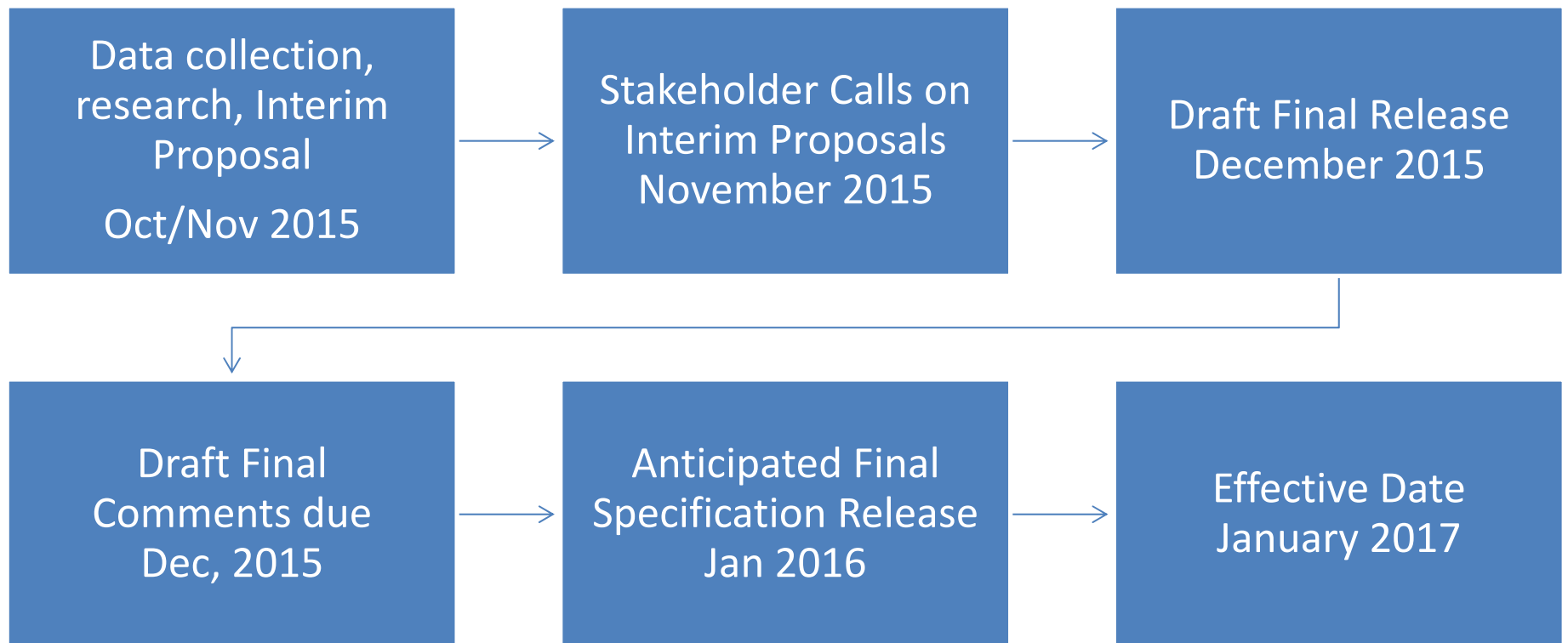
# Specification Development Process Overview

- Draft 1
  - Draft 1 released February 13, 2015
- Draft 2
  - Released April 10, 2015
- Draft 3
  - Released August 6, 2015
- Final Specification
  - Estimated completion January 2016
- Effective date
  - Estimated January 2017





# Next Steps: Specification Development Process Overview





## Discussion Time

- Questions?
- Send comments and questions after the meeting to:

[lighting@energystar.gov](mailto:lighting@energystar.gov)

