



# Who Wants to be an ENERGY STAR?



Confident?

# Point Values:



- ▶ 1<sup>st</sup> Set of 5 Questions – 10 pts.
- ▶ 2<sup>nd</sup> Set of 5 Questions – 20 pts.
- ▶ 3<sup>rd</sup> Set of 5 Questions – 30 pts.
- ▶ 4<sup>th</sup> Set of 5 Questions - 40 pts.

# Lifelines

- ▶ “Ask a friend”
- ▶ Poll the audience
- ▶ Get a clue (50/50)



10 pts.



**For Luminaires verification testing, in what orientation should light sources be tested?**

**A** – All Lamps Base Down

**B** - How the light source is installed in the luminaire

**C** – All Lamps Base Up

**D** – All Lamps Horizontal

10 pts.



**In the Lamps V1.0/1.1 Specification, can you use the tolerance in sections 9.2 (Light Output) and also in 10.1 (Lumen Maintenance)?**

**A** - Yes, you can use as many tolerances as you want!

**B** - Yes, but it cannot be combined with any additional tolerances

**C** - No, must choose one or the other

**D** - Yes, using tolerances decreases the products' risk of failure in testing

10 pts.



**Which solid state lighting (SSL) retrofit kits are covered by the scope of the ENERGY STAR Luminaires Specification?**

**A** - Retrofit kits designed to replace externally ballasted CFL downlights

**B** - Integrally ballasted GU24 based lamps

**C** - Linear tubes with integrated drivers

**D** - Zhaga book XII

# 10 pts.



**To certify a 3-way lamp to the ENERGY STAR specification for Lamps V1.1, how should equivalency claims for the various light levels be handled?**

**A** – There are no requirements for 3-way equivalency claims

**B** – You can use the old table from the CFL specification

**C** – They just need to meet the light output equivalency at the highest setting

**D** – 3-ways aren't eligible under V1.1



10 pts.



**What decorative shapes and sizes are allowable in the Lamps V1.1 specification?**

**A** - Candle-light or Globe Shape Envelope

**B** - Shapes B, BA, C, CA, DC, G and F

**C** - Basic shapes specified in ANSI C79.1

**D** – A and B

20 pts.



**For Lamps V1.1, what data can be shared among product variations?**

**A** - Lumen Maintenance & Color Maintenance

**B** - A & C

**C** - Rapid Cycle Stress Test Data

**D** - Nothing – everything needs to have its own test

20 pts.



## What lamp bases are allowed under the Lamps specification?

**A** - E26, E26d, E17, E11, E12, GU24, GU10, GU5.3, and GX5.3

**B** - LED lamps do not have bases

**C** - All screw and pin bases

**D** - Bases must be approved on an individual basis through ENERGY STAR

20 pts.



**For the Center Beam Candle Power (CBCP) tool, should a certification body use the measured or reported value to evaluate the products?**

**A** - Reported Value

**B** - Either Reported or Measured

**C** - Both Values – you can never be too sure

**D** - Measured Value

20 pts.



**For standard lamp shapes, does EPA require compliance with Maximum Outline Dimensions detailed in ANSI lamp shape standards?**

**A** - No, but lamps must fit within the outlined MOL and MOD

**B** - Yes, must follow all the dimensions – no exceptions

**C** - No, that would lead to a lot of boring identical lamps

**D** - No, outlined dimensions are just a recommendation

20 pts.



**Do all certified ENERGY STAR luminaires have to ship with a lamp?**

**A** - Yes – unless product is exempt

**B** - Only linear fluorescent luminaires have to

**C** - No

**D** - Yes – no exceptions

30 pts.



# Can a recessed troffer fixture be certified as a downlight under the Luminaires specification?

**A** - Yes – it aims light downward, what's the problem?

**B** - No – Luminaires specification excludes any types of recessed troffer fixtures

**C** - High bay fixtures are the only type that certify!

**D** - Yes – with a special request approval from ENERGY STAR

30 pts.



**Is my decorative pendant luminaire categorized as a directional downlight or as a non-directional luminaire?**

**A** - Directional downlight

**B** - Non-directional luminaire

**C** - Whichever you want

**D** - Needs to be evaluated by CB case-by-case based on performance and construction



30 pts.



## Which of the following commercial luminaires are eligible?

**A** - Accent Lights & Downlights

**B** - Under cabinet shelf-mounted task lighting & Portable Desk Task Lights

**C** - Separable or Inseparable Directional SSL luminaires

**D** - All of the Above

# 30 pts.



**For decorative lamps to certify to the Lamps specification, what value should be referenced if no ANSI maximum lamp space drawing exists for that specific lamp shape?**

**A** - Ignore the maximum lamp space and comply with the minimum overall length

**B** - Diameter tolerance of +/- 15% of the nominal diameter is used

**C** - Apply a +5% tolerance to the maximum overall measured length

**D** - Consult Energy Star to receive a specific value to reference for your lamp

30 pts.



**For solid state downlights, does the color angular uniformity requirement need to be met using every available trim option?**

**A** - Yes, absolutely!

**B** - No – but must select a minimum of 3 trims to test

**C** - No – but only for to angular uniformity and photometric requirements

**D** - No – allowed to conduct test on downlight only without the trim

40 pts.



## Does a laboratory need to be accredited to all of the test methods in the Lighting Laboratory Guide?

- A** - No – minimum requirement is 75% of test methods
- B** - Yes – data will only be reviewed for certification when it comes from one laboratory
- C** - Yes – but *solely* for the purpose of uniformity in product certification
- D** - No – a subset of test data may be accepted from another EPA-recognized laboratory

40 pts.



**What is the sample size for verification testing of a luminaire that has multiple identical light sources, e.g. a 3-light fixture?**

**A** - 3 samples maximum, and only one is needed for some tests

**B** - The sample size will be a number of lamps combined  
(ex. For a 3-light fixture, sample size = 3 sets of 3 lamps; 9 lamps total)

**C** - The sample size is always just 1 individual light source from the fixture of identical lamps (ex. For a 3-light fixture, sample size = 1 lamp total)

**D** - One light source from each fixture sample regardless of total number of light sources

40 pts.



**What tests for lighting products do not have to be undertaken in an EPA-recognized laboratory?**

**A** – Dimming Tests

**B** – In-Situ Temperature Measurements

**C** – Color Angular Uniformity

**D** – A and B

40 pts.



## Which are NOT allowable variations for luminaires?

**A** – Fixture power consumption

**B** – Ballast or Driver

**C** – Correlated Color Temperature

**D** – Finish

40 pts.



**Which LED CCT of IES LM-80 report can support certification for end products of 5000K CCT?**

**A – 6500K**

**B – 3500K**

**C – 2700K**

**D – All of the Above**





# Winner!

**We are ALL winners  
when we save energy!**