

## Global Efficiency Medal Competition for Lighting Products (AM Session)

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### Webinar Panelists

**Chad Gallinat**  
**Michael Scholand**  
**Debbie Karpay Weyl**

Chair, SEAD Awards Working Group, U.S. Department of Energy  
Operating Agent Support, 4E Solid-State Lighting Annex, IEA  
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### Sean Esterly

Hello everyone, I'm Sean Esterly with the Natural Renewable Energy Laboratory and welcome to today's webinar which is being hosted by the Clean Energy Solutions Center in partnership with the Super-efficient Equipment and Appliance Deployment Initiative often known as SEAD. In today's webinar, we'll provide an overview of the SEAD Global Efficiency Medal Competition for Lighting Products. One important note of mention before we begin our presentations is that the Clean Energy Solutions Center does not endorse or recommend specific products or services. Information provided in this webinar is featured in the Solutions Center's resource library as one of many best practices resources reviewed and selected by technical experts.

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Panelists, we just want to remind you to please mute your audio device while you are not presenting, and if anyone is having technical difficulties

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And, if you'd like to ask a question at any point during the webinar, please just use the question pane to type in your question and then those questions will be presented to the panelists following the presentations during the question and answer session. And if you're having difficulty viewing the materials through the webinar portal, we will be posting PDF copies of the presentations to [cleanenergysolutions.org/training](http://cleanenergysolutions.org/training) and you may follow along as our speakers present. In addition, we will also post an audio recording of the webinar to the Solutions Center training page within about a week of today's broadcast and we are – just a reminder, we are now posting webinars to the Solutions Center YouTube channel where you'll also find other informative webinars as well as video interviews with thought leaders on clean energy policy topics.

Now today's webinar agenda is centered around the presentations from our guest panelists, Dr. Chad Gallinat, Mike Scholand, and Debbie Karpay, and these – distinguished panelists will introduce the SEAD Global Efficiency Medal Competition to provide context for the efficient lighting competition within the SEAD Initiative and then they will discuss the SEAD lighting competition rules in detail and then finally describe the nomination process and provide details about the mechanisms of the competition. And before our speakers begin their presentations, I just want to provide a short informative overview of the Clean Energy Solutions Center Initiative and then following the presentations we'll have the question and answer session where panelists will address questions submitted by the audience followed by some closing remarks and a very brief survey.

And this slide provides a bit of background in terms of how the Solutions Center was formed, and the Solutions Center is one of 13 initiatives of the Clean Energy Ministerial that was launched in April of 2011 and is primarily led by Australia, the United States, and other CEM partners. Outcomes of this unique initiative includes support of developing countries and emerging economies through enhancement of resources on policies relating to energy access, no cost expert policy assistance and peer-to-peer learning and training tools such as the webinar you are attending today.

And there's four primary goals for the Solutions Center. The first goal is to serve as a clearinghouse of clean energy policy resources. Second is to share policy best practices data and analysis tools specific to clean energy policies and programs. Third is to deliver dynamic services that enable expert assistance, learning, and peer to peer sharing of experiences. And then lastly the center also fosters dialogue on emerging policy issues in innovation around the globe. And our primary audience is energy policy makers and analysts from governments and technical organizations in all

countries. We also strive to engage with the private sector, NGO's, and civil society.

One of the marquee features that the Solutions Center provides is the no-cost Expert Policy Assistance know as Ask an Expert, and the Ask an Expert program has established a broad team of over thirty experts from around the globe who are each available to provide remote policy advice and analysis to all countries at no cost. So for example in the area of lighting, we're very pleased to have Gustau Gomis, the en.lighten Project Manager for the United Nations Environment Program serving as one of our experts. So if you have a need for policy assistance in lighting or any other clean energy sector, we do encourage you to use this valuable service, and again, it is provided to you free of charge. So to request assistance, simply go to [cleanenergysolutions.org/expert](http://cleanenergysolutions.org/expert) and submit your request through the Ask an Expert form on that page. And we also invite you to spread the word about this service to those in your networks and organizations. So in summary, just encourage you to explore and take advantage of the Solutions Center resources and services including the Ask an Expert policy assistance, the database of Clean Energy Policy resources, subscribe to the newsletter and participate in webinars like this one.

And now I'd like to provide a brief introduction for today's panelist. The first presenter we'll be hearing from is Dr. Chad Gallinat, the chair of the SEAD Awards Working Group with the U.S. Department of Energy and then following Chad we will hear from Michael Scholand, the Operating Agent Support for the IEA 4E Solid-State Lighting Annex where he works to support governments and the private sector in the development and implementation of energy efficiency programs and policies. And then our final panelist today is Debbie Karpay, a Senior Associate at CLASP where she provides programmatic support to the SEAD Global Efficiency Medal Competition. And with that, I'd like to now welcome Chad to the webinar.

**Chad Gallinat**

Hello, thanks. Thanks for the introduction Sean. So today, we are hoping to basically kind of give a tutorial about what it takes to enter our Global Efficiency Medal Competition for Lighting Products. So, I'll begin by kind of providing an overview of a SEAD Initiative and our goals with these competitions. Mike Scholand will then – our lighting expert, he will go into the product categories that are eligible for our lighting competition of some of the criteria that will designate the winners and then finally Debbie will step in and talk about some of the mechanisms of the competition itself, the timing of the competition.

So I represent the SEAD Initiative, the Super-efficient Equipment and Appliance Deployment Initiative, which is one of 13 initiatives under the Clean Energy Ministerial, and as Sean has already pointed out, the Clean Energy Ministerial unites 23 participating governments to really push energy efficiency, expand clean energy supplies, and enhance clean energy access. The CEM, the Clean Energy Ministerial, is an annual

meeting with energy secretaries, energy ministers, so very high level to advance collaboration and to accelerate the adoption of these clean energy technologies. We really look to engage – we really look to push public/private engagement to really facilitate cooperation that's needed to scale up these clean energy solutions. So out of these annual ministerial meetings from the CEM come these 13 energy initiatives within these four different areas, these four pillars of energy efficiency, clean energy, energy integration and human capacity, and we are focused on appliances, Super-efficient Equipment and Appliance Deployment Initiative. It's made up of 18 member governments. The seven highlighted here make up the awards working group, so this is kind of important because these – the awards working group membership sort of makes up the regions of the competitions as you'll see later on when we get into the categories.

So yeah, this is the membership of SEAD in terms of governments. SEAD is an Initiative under the Clean Energy Ministerial. It's also an initiative under IP, International Partnership for Energy Efficiency Cooperation. CLASP acts as our operating agent. A lot of the day-to-day work gets done by CLASP and for those participating in this lighting competition, most of your interactions will actually be with Debbie through CLASP who handles all of the facilitation there. We work very closely with Lawrence Berkley National Lab on technical analysis and we also work very closely with the International Energy Agency Implementing Agreement 4E the Energy Efficiency – the Energy Efficient End-Use Equipment implementing agreement, and that's composed of a few different annexes, one of which is the Solid State Lighting Annex that Mike is with, Mike Scholand. So we work very closely with 4E and they really helped, well Mike really put together the rules for this competition with input from experts from all around the world. So this sort of gives you an idea of what SEAD is made up of, the governments, and all the different groups that really make the work happen.

The focus of SEAD is to accelerate the pace of market transformation for energy efficient products. Market transformation. We do this through a series of five different work streams. The awards of which is one, so showcasing leadership in energy efficiency. There's an incentives work piece, a procurement work piece. Standards and labeling makes up a big portion of what SEAD is up to, and that's sort of all founded by this technical analysis that informs all of the work streams and really leads to our policy successes. And finally, there's a technical assistance aspect to SEAD where we support the implementation of policies for governments that are interested in forming them.

So the SEAD awards, the SEAD Global Efficiency Medal Competitions have a series of goals here. First of all, we're showcasing leadership in energy efficiency. We want to – we really want to broadcast energy efficiency and highlight the importance of it. We hope to realize the greatest savings potential by identifying the most efficient products on the market. We hope to increase the market share of those most efficient

products in the market. We hope that these competitions will spur innovation. You know hopefully manufacturers will improve the efficiency of their products or their product lines to win the competitions. We also help support test method harmonization throughout the world, so we're comparing apples to apples. We build test lab capacity in countries that don't already have it, and finally we hope that through the competitions we're able to complement some of the standard and labeling policies that SEAD is also working on. So these are kind of the goals of the Global Efficiency Medal Competitions.

We're still a relatively young competition. We've run two competitions to completion, one for flat panel TVs and one for displays, computer monitors. We are currently running an electric motors competition where we're actually, now receiving motors and verify testing them and right now the lighting competition is currently open for nominations. The SEAD award is the only global market energy efficiency and we want to point out this is a recognition award. It's not financial. We don't have any money to give the winners but the winners are able to use this global efficiency medal on marketing and we work with them on helping them market the competition and the winning products. So we try to make a value proposition for why manufacturers should participate. We try to make the entry form as simple as possible so it shouldn't take very long to complete entry. It's absolutely free. There's no need to submit products.

So once we get all of the nomination forms, we'll actually go out into the market place, procure sample products and then we send them to lab for testing and we pay for the verification testing, but the SEAD member governments pay for that. Entry is absolutely confidential so only the winners are announced so if you've nominated a product that doesn't win you know only the SEAD awards organizers know about it. We really think it's important in the lighting competition in terms of bragging rights so we like to think that this Global Efficiency Medal will differentiate products in what is a very crowded and constantly changing market. And finally, there's an aspect of free marketing here, so SEAD will actually promote the winners and we work with the winners to support marketing strategies.

A little more specifics about the previous competitions. So in the TV and the computer monitors competition, Samsung and LG won in TVs, and Samsung, LG again, and then Acer for computer monitors received significant media coverage. We work with the marketing team. We actually – after the competition winners are announced. We hire an outreach team to promote the winners and the SEAD competition in trade journals, press releases, different advocacy groups and then we also have award ceremonies. So at this Clean Energy Ministerial meeting with these high-level energy ministers, energy secretaries, we have a big award ceremony where we invite the winners to come up and we hand out the Efficiency medals at the Clean Energy Ministerial, so you get a very high-

level exposure amongst these 23 participating governments at the Clean Energy Ministerial.

Like I said, we work with many manufacturers, retailers and try to promote to consumers and nongovernmental agencies. We have good relationships with some of these advocacy groups and online venues like TopTen, EPEAT to promote the winners, to promote the competition. Like I said, we have the Global award ceremony at the Clean Energy Ministerial and this picture on the right in the top you can see former secretary Chu handing out the awards and posing for pictures.

We also are working on doing more regional award ceremonies, so for the regional winners specifically the European – our European colleagues have been very good at that in the previous competitions and we hope to expand that for all the regions and then of course we also get out to different conferences, motors conferences for the most recent one to promote the competition to promote the winners.

One last highlight here. So this is the most recent Clean Energy Ministerial which happened in Seoul, South Korea and here are a couple of pictures of Samsung and an LG representative along with [inaudible] secretary Belchun [ph] from Sinair [ph] in Mexico so he actually announced the winners, brought them on stage and they are able to make a few remarks about winning, and again, this is in front of very high level ministers and it gives you an opportunity to really showcase energy efficiency and your products.

Okay, so that's sort of a background of all the previous competitions and now I just want to quickly introduce the Lighting awards, so these awards are going to identify the most efficient products in the subcategory. We have eight categories in four different regions, so there's up to 32 regional awards and then what we do is we compare all of the regional winners and identify a global winner. So there's eight global winners, 32 regional winners. We're going to recognize both established and new technology products, and Mike will talk a little bit more about that in the next section.

And one thing that's important to highlight is the winners are selected from self-nominations from manufacturers. So manufacturers have to fill out the entry form themselves and submit it and then what we do is we take a look at all of the nomination forms, we identify winners, and then we go out procure the samples and verify the claims that the manufacturers have made. So it's open to all manufacturers, resellers, labelers, lighting products. The nomination period is currently open until early October, and the winners we hope to be announced – we hope to announce the winners in April of 2015 to coincide with the next Clean Energy Ministerial which we'll be having in Mexico City in that timeframe, April or May of 2015.

So with that, I'm going to hand it over to Mike Scholand who will talk a little bit more about the product categories that are eligible and the competition criteria that will identify the winners. So go ahead Mike.

**Mike Scholand**

Great. Can you hear me okay?

**Chad Gallinat**

Yes.

**Mike Scholand**

Okay. Thanks Chad. Yeah, so Mike Scholand here and I'm the operating agent support person for the IEA 4E Solid-State Lighting Annex, and I just wanted to say that you know we've, as Chad mentioned, we've worked – we've collaborated with the SEAD Initiative on developing these criteria. And although I tended to be the point of contact, we actually drew on the expertise of the experts of all ten countries involved in the 4E Annex and specifically Australia, the U.S. and Denmark were very helpful and Sweden were very helpful in submitting comments and helping us along with the drafts.

And so what we – we had started with the Solid-State Lighting Annex quality criteria that are posted on our website. That evolved through the discussions with the SEAD country reps and the Solid-State Lighting Annex folks in [inaudible] criteria that we had on the SEAD website. There's a rulebook that's been published and so you don't need to take notes during this call, but you'll find all the tables and hopefully everything laid out quite clearly.

So on this slide as Chad said, the competition is built around four products. Two of them are lamps, they are replacement lamps and two of them are fixtures that you would have or luminaries that you would have installed in a building or a residential home. The lamps are an omnidirectional general service lamp. In Europe this is – they use the term non-directional and then the directional lamp is [inaudible], and then you have planar luminaries which are joined [ph] by replacing fluorescent – linear fluorescent luminaries in the ceiling and then “downlights” which often in North America we use halogen reflector R38 or something and in Europe well and CFL as well – quite a bit in the U.S. for these fixtures but you find both. So these products were selected because they represented high volume, high energy use, you know a lot of service provided by them across the same target areas and so that was why we picked them. And there are some others too I think that we may come back and add other products in the future, but for this competition, it's these four products that we're looking at here.

Next slide please. This table is a little more detailed it shows you that within these four product categories, there are eight as Chad referred to, product classes. So these for the general service, the omnidirectional lamps, we have a category that's looking at a warm white 800 or greater lumens between 2700 and 3000 kelvin CCT. They also have a cool white,

which is higher temperatures. They'll be a little more blue in the spectrum but at the same flux level so 800 lumens.

Then this category, which we're referring to as new technology, it's like an emerging light source. This is 1500 lumens, and this is around the light output you'd see from a 90- or 100-watt incandescent light bulb. It's a little harder for LEDs [ph] because they don't project heat to achieve the higher flux levels, so we're just starting to see some of these products have been to market which is very exciting. So we created this category called new technology which is for the higher flux and that's also at the cool light group of 4,000 to 5,500 kelvin.

On the directional lamps, these are both a low voltage and a mains voltage so as I'm sure many of you on the call are aware. These low reflector lamps, the MR16 type lamps, often have a transformer in the line which drops the line voltage to 12 volts for operating and then there are some that operate just directly on the mains. And really there is a difference in efficacy because of the electronics that you would have involved in the LED replacement for those applications, so we need to keep those as two separate categories.

On the planar luminaires, we're looking for basically a 600 mm x 600 mm square or in the U.S., it's a 2 foot x 2 foot fixture and this would need to have more than 2000 lumens of light in that category and arch diameter of 1 and the small diameter has around half the lumen requirement of a large diameter and also a warmer white, a 3000 kelvin on the small diameter that would tend to be replacing halogen whereas the large diameter would be more likely replacing the CFL, so we thought 4000 kelvin would be a better temperature for that now right there.

And as Chad mentioned, there are four regions going across these eight product categories. We have Australia, Europe, India, and North America. We specify the voltages for those regions just so it's clear and obviously you know North America having the lower mains voltage and then on the Global award, that has been one that is across the country and unfortunately the U.S. is or North America is not in contention for the Global award [inaudible] most of the world is on 230. So the Global award would be on the basis of a 230-volt product as opposed to the 120, so the North America award for those products that are 120 volts will just be a North America award. Okay. So in total 40 awards, 32 real [ph] and equal.

Next slide please. So this is just to—sorry Chad, have you gone to the next slide? It hasn't advanced on my screen. It should say Competition Criteria. There we are. Right, thank you. There will be claimed criteria which will be verified through testing and then there will be criteria that require supporting documentation to be submitted. So there is some validation testing that the SEAD program will be conducting. That will be on my first slide, and then the second slide will give you the other criteria which the manufacturer submitting the entry would need to submit which is



evidence that they've complied and met with these requirements but SEAD will not be conducting verification testing on those so [inaudible]. And then there's also a cost criteria which relates to minimum—I think its maximum priced thresholds—I'm sorry, it would be my mistake. That the price needs to be at or below those thresholds.

And I think – what I want to say overall is that first and foremost the competition is about efficacy. It's about the efficiency, converting watts of power into lumens of light and that's what we're about here. But these other criteria, which I'm going to emphasize or talk about, now are assured that the products are quality products that are delivered to consumers so that the SEAD program endorses a product, it is the most efficient but it also meets these other criteria so consumers aren't disappointed with their performance.

So this first slide is looking at products that will be verified in testing um, and so in the first group here, we have efficiency and light output criteria of the efficiency and lumens per watt and light output, the replacement lamp equivalent wattage claims. So that's if you say you know this is the equivalent to a 60 watt incandescent for example, you have to meet 800 lumens of lights for example. Luminous intensity distribution for the lamp. There's a requirement for zonal lumen density requirement for the directional, the planar, and the downlights. Sorry, I should say that it's a matrix and you can see in the table there are Xs that indicate which of these criteria are required for products in those four product categories. And then a center beam luminous intensity is something that only applies to directional lamps or downlights. That's not a criteria for omnidirectional lamps. So that's how to interpret the table. And so these claims that will be submitted by manufacturers SEAD will purchase lamps, test them, and verify that these claimed values have been met. Okay.

And then the second group is on color and light quality. We have two requirements on color rendering a CR and R9 and that goes across all four groups. There's a correlated color temperature that I described earlier which is linking to the group that it's in. There's chromaticity tolerance, minimum power factor, and flicker. We're using a flicker index in the rulebook for this competition.

Next slide. And, now this one, each criteria will be validated based on supporting documentation that's submitted by the manufacturer. So the lifetime issue and I have another slide, which I talk about the lifetime in a little more detail. We have minimum lumen maintenance time to L70. We do a color maintenance,  $\Delta u'v'$  at 6,000h. We do an endurance test which is a switching test, so that's the number of switching cycles based on the IEC [ph] test method and then a warranty duration the product and is there any flaws or issues in the manufacturing.

And then on the health and environment side, safety requirements, hazardous substances, blue light photo biological hazard class, and compatibility with controls are all again submitted with supporting documentation. The controls ability – sorry, it's only for the planar luminaires and the downlight luminaires. Okay.

Lighting cost thresholds. So these are the – essentially this slide shows the limits on the retail prices for nominated products by region and category, and the prices do vary by region, but they're meant to reflect price points for good quality LED products in each of those four markets. We are trying to target there. So your product needs to be at or below this price point at a retail level to be entered.

Okay, next slide. And this is a very complicated slide on minimum lumen maintenance. We're trying to get all the information onto one slide so you can see here, but as I said, this is also in the rulebook and so you can read it again there and hopefully it will all make sense. But, essentially applicants provide evidence from an accredited source. This – sorry, this test is structured around essentially having 6000 hours of test data and so the LM-80 test method. By the time [inaudible] announced in April, the technology is improving. Essentially we expected that manufacturers would want to enter at the end of the nomination period when they've got the best products available and then submit those, and so essentially in order to do that, you need to have 2000 hours of test data by the 3<sup>rd</sup> of October, which is the deadline Chad mentioned for submission. Then by the beginning of November, 3000 hours of test data that will be a supplemental report that manufacturers would submit and then by the end of I guess by the beginning of March, sorry, the 6<sup>th</sup> of March, you would have 6000 hours of test data on that, and so you can look at the lumen depreciation relative to the curves in the standard. That's basically how this is structured and it enables us to basically have some guarantee that light lumen maintenance will be maintained in over the service life of a product that consumers and commercial and industrial specifiers and users would expect. So we can go into more detail on this in questions if you like but let's go to the next slide. Oh, actually that was my last slide, so it's over to Debbie. Debbie can you speak about competition logistics?

**Sean Esterly**

Yeah, and just before we hand it off to Debbie, I just want to let the audience know there were a couple of audio gaps in there so if you do have any questions for Michael if you missed any details or anything like that please feel free to submit a question through the question pane and we can follow up with him after Debbie's presentation and during the question and answer session, and so Debbie, on to you now.

**Debbie Karpay**

Thank you Sean. So, as Chad and Sean mentioned earlier on, I'm with CLASP and we are the operating agent for SEAD so I'm going to talk about the competition logistics. Like Chad mentioned, if you do nominate products, I will be the point of contact and there's also an email address that you'll see in a lot of our materials [awards@superefficient.org](mailto:awards@superefficient.org) and that

comes to me. So, I'm going to talk a bit about the logistics of this competition.

Next slide. So this competition timeline you'll see again on all of the materials really for the lighting competition and so we wanted to walk through a little bit what happens in each period of the competition timeline. So the first one is the nomination period, which runs from May 12<sup>th</sup> to October 3<sup>rd</sup> and that is when all self-nominated products must be – sorry, all the nomination forms for self-nominated products have to be submitted to CLASP for the awards competition. So in order to nominate products, there are a few items to submit. The first is the declaration of performance form, which we'll go over a little bit at the end of my slides. The second is the at least 2000 hours of lumen maintenance testing. If you already have 6000 hours, that's fantastic but at least 2000 hours have to be in evidence. And then LM-79 and other required documentation. So again we'll go through the declaration of performance form at the end where this is all indicated. But, these are the items to be submitted. And those will all be submitted to [awards@superefficient.org](mailto:awards@superefficient.org) that email address. And, we'll go through them and sort of have a conversation if anything looks like it needs to be fixed or you know maybe there's typos or mistakes, so we will go through those and you know we won't just throw things out if something looks a little bit – looks like it just needs a second set of eyes.

After the nomination period closes, we move into the judging and validation stage. So during judging and validation, we start again by reviewing the nomination forms and corresponding with manufacturers who have submitted products for the awards and based on the nomination claims of luminous efficiency, we determine which products are the presumed winners for each category in each region. Once we've determined who the presumed winners are, which product, we will then procure samples of those products from the marketplace directly at no cost to the manufacturers. This is something that the – that SEAD is taking on for this awards' program, and once we have the samples in hand, we will test all the relevant criteria that Mike Scholand referred to you know verify their testing criteria. We'll test those at one or more accredited laboratories. For past competitions depending on a number of factors, we'll either – we have either chosen to do testing in each region or testing at a single lab, and we should know more about that in the next few months but it will certainly be at accredited labs that are that have demonstrated great capability in testing these kinds of products. Once we've tested all the products, we – at the end of the validation period in March of 2015, we will notify manufacturers that have winning products that have been validated by our testing.

Next slide. Great and once we have notified the manufacturers of winning products, we then enter the winner announcement phase, and this is always a really exciting time for the awards competition. There are a number of things we do in this month or two. First of all, we'll work with the manufacturers of winning products to support promotion of those

products. We organize regional award ceremonies and there will be a Global award ceremony at the Clean Energy Ministerial in Mexico City as Chad mentioned which will be in April or May. And, in conjunction with the announcements, we'll publicize the winners through press releases and we aim to do that both in sort of general media as well as trade press to make sure that both the public and the relevant stakeholders in the lighting market are aware of the great accomplishments of winning the SEAD Global Efficiency Medal for Lighting Products.

Next slide. So just to reiterate, all manufacturers and resellers are encouraged to nominate products that meet the eligibility criteria, and in order to participate you should download the declaration of performance form, so the last bullet on this slide. I think that page actually isn't quite up yet, but it will be up later today for lighting award entry. So you download this form, submit it to the email address [awards@superefficient.org](mailto:awards@superefficient.org), and if you want more information about the competition including the official rules that Mike was referring to with all the tables that he has shown as well as more detail about each of the technical criteria that confirm the quality of products as well as their efficiency, you can go to [superefficient.org/lightingawards](http://superefficient.org/lightingawards).

Next slide. Okay, so I'm going to talk a little bit about the declaration of performance form. This is a very simple form. It's – should not take a lot of time to complete, and this is the set of information that we are requesting. First is applicant contact information, just about the point of contact and the company. The next section is on product nomination details and that includes you know straightforward information just about the product itself and about which award category and regions the manufacturer is nominating the product for. Declared product characteristics and additional product characteristics. I'll go through it in a little bit more detail. And then we also ask for a product image and a packaging image and this is both to look at any claims that there may be as far as you know lifetime or equivalency and also just to see what the product looks like. So the declared product characteristics, the reason we call these declared is these are the ones that will also be tested in the verification testing process, so we can go through these. Again, this is all available on the nomination form, but this includes light output, power in on mode and standby, luminous intensity distribution just for the omnidirectional lamps, zonal lumen density for directional lamps, planar luminaries and downlight luminaries, and so on. You can look through all of these various declared product characteristics and these should be very straightforward coming out of the LM-79 mostly test results. And the last one you'll see on here as well is the manufacturer suggested retail price which goes back to that price ceiling criteria which as Mike mentioned, the goal of that price ceiling is to ensure that we can achieve market transformation through these products, right. So we don't want necessarily to have an 80.00 light bulb but they're not so restrictive according to – we've also had industry review of these rules and the indication was that

these are not so restrictive that they're by any means impossible or even the cheapest products on the market. They're just making sure that we're sort of towards the middle of that price range.

Next slide. Okay, these are the additional product characteristics, and these are the product characteristics for which we're asking for measurement data and evidence and those include the lumen maintenance and color maintenance at 6000 hours, endurance testing, warranty duration, safety requirement, compliance of hazardous substance policies, blue light photo biological hazard class and any compatibility with lighting control for the luminaire categories. And the reason we're asking for evidence of these additional product characteristics is because rather than do lifetime testing or lumen maintenance testing for another 6000 hours which would delay the competition by a lot in a very fast moving market, we made the decision to ask applicants to provide evidence of that testing being done at a third party lab which as we understand, and again, it was confirmed by industry review of the rules, we understand this is something that a lot of manufacturers are doing anyway for other labeling whether it's Energy Star in the U.S. or other programs and so it this is something that as we understand is happening in the industry, and so we're just asking for evidence of these characteristics to be submitted.

So again, I just wanted to touch back on the slide that Chad talked about earlier. Why should manufacturers participate? So to reiterate, the entry form is very simple, as you've just seen the most complicated parts of it, the product characteristics, and so it should it take a short time to complete. Entry is free. SEAD will both procure sample products and cover verification testing and so the only cost to manufacturers is the time it takes to complete that entry form. Entry is confidential and so if a product is not declared the winner, nobody knows except for the SEAD awards organizers and working group.

We've also had some questions in the past about whether we could provide information to manufacturers who nominate products about where their products lie compared to the others that we received, and we would be happy to do that again, by providing anonymous data to anyone who nominates a product. So we wouldn't tell you obviously which products all those other ones were, but we can tell you within a category you know where one – where your products fall compared to everything else that we received which can be valuable information just knowing where you sit within that group of efficient products that's been nominated. And, then as Chad mentioned again, bragging rights and free marketing both of which are very important in a crowded and changing market such as efficient lighting.

Next slide. Okay, so I think that is the end of my slides about logistics, and again, I've put up here the [awards@superefficient.org](mailto:awards@superefficient.org) email address which you can always email with any questions or comments after this webinar as well and we'll be happy to provide any clarification that we can, and

there's more information about the lighting awards at [superefficient.org/lightingawards](http://superefficient.org/lightingawards).

- Sean Esterly** Great. Thank you Debbie and Michael and also Chad for the presentations and just a reminder, before we move onto the question and answer session that if anyone from the audience does have any questions for the panelists, you can type those into the question pane in the GoToWebinar window, and so I have received a couple of questions. So we'll start with those and these are for any of the panelists. Feel free to just – remember to unmute your microphone and then go ahead and jump right in. And the first question asks, where do we send the sample fixtures?
- Chad Gallinat** Debbie, you want to answer that?
- Debbie Karpay** Sure. So, we're actually – once we receive the nomination forms that tell us what the declared efficacy is of the products, SEAD will be procuring samples independently and so there's no need for manufacturers to send samples at all. We'll just be procuring those samples from the marketplace.
- Sean Esterly** Great. Thank you Debbie. Next question is, does the 2000-hour testing refer only to the LED chips and not the complete luminaire?
- Mike Scholand** Yes, so the 2000-hour testing is linking to the LM-80 test results and so in the competition rules, I've just got them in front of me now. If you go down to page 20 sorry, I passed it, yeah, here it is. It's on page 21. Basically, there – it sets out a manufacturers claim of life for a number of hours of service, 15,000, 20,000, and so on, and after 6000 hours, the minimum lumen maintenance needs to be the levels that are set in that table. Okay and then for a lamp luminaire that exceeds 25,000 hours of life, then the lamp luminaire maintains a level greater than 91.5 percent of the initial life after completion of the manufacturers' required [ph] component testing or test duration corresponding to the lamp's life claim according to the table below, so you can see it there and hopefully that's enough guidance for you. If you've looked at page 21 and there's any aspect of it that is unclear, please get back to Debbie right away, so if more clarity needs to be issued on this then we should do that.
- Sean Esterly** Great. Thank you. And next question asks, if there is any entry fee for manufacturers to participate?
- Chad Gallinat** No, there is no entry fee at all. It's – the only cost is the time it takes to fill out that entry form and we take care of everything else from there. We – like Debbie said, we procure the samples, we pay for the verification testing, and it's basically completely free for manufacturers.
- Sean Esterly** Thank you Chad. Moving onto the next question. It asks, for luminaire lifetime testing, what is the test method being used? Are applicants

expected to submit test results for the lifetime of the whole luminaire system or just the LED chips?

**Mike Scholand** Yeah, so it's a good question. I'm thinking, Debbie, we may want to go back to Yoshiono [ph] and ask him about this aspect. Yosi [ph] helped me put together this table and the combination of test methods of LM-80 and TM-21-11 and so but I actually don't have complete clarity on luminaire testing for that, so do you mind if we – do we have everybody's email addresses who's on the call at the moment? Can we follow up with some clarification note after the call?

**Sean Esterly** Yes, we can do that.

**Mike Scholand** Okay. I think I'd like to take that question offline and respond to that and afterwards. Thank you.

**Sean Esterly** Great and we're able to send an email to anyone that was registered for today's webinar, so we can send out a little note following the webinar with that information.

**Mike Scholand** Yeah, thank you.

**Sean Esterly** Great. And, so that actually was the last question that I had received from the audience at this point and so I'd like to just at this time give maybe starting with Chad and then Michael and then Debbie, a chance for any closing remarks you might have or if one of you wants to speak for the group anything you might want to add or end with.

**Chad Gallinat** Thanks Sean. Yeah, I'll speak for the group. Yeah, thanks everyone for attending. Hopefully we got – yeah, we got this done in under an hour so it didn't take up too much of your day and thanks to the Clean Energy Solutions Center for hosting us today. We really hope that we got the word for – to manufacturers and you know feel free to ping [ph] Debbie at the email address that she shared earlier, and we're happy to answer any questions that anyone might have. Nomination deadline is October 3<sup>rd</sup> of this year so start thinking about the products that you want to submit and get those entry forms in, and finally, – sorry. I'd like to thank Mike and Debbie as well. This is a good webinar and thanks for everyone for attending.

**Sean Esterly** Great. Thanks again to each of the panelists. And so now at this point, we just have a very quick survey for the audience that we'd appreciate it if you take a minute to answer. It's just three short questions to help us evaluate how we're doing and improve for future webinars.

And that first question is, the webinar content provided me with useful information and insight?

Great and the second question, the webinar's presenters were effective?

And then the final question, overall the webinar met my expectations?

Great. Thank you for answering our survey and again on behalf of the Clean Energy Solutions Center, I'd just like to thank our panelists today and also the attendees for participating in today's webinar. We very much appreciate your time, and I do invite everyone to check the Solutions Center website if you'd like to view the slides. They have been posted, so they are now up there and we will be posting an audio recording of the webinar within about a week of today's broadcast. You can also find any previously held webinars up on the site. Additionally, you can find information on other upcoming webinars and training events, and just a reminder, we are now posting webinar recordings to the Clean Energy Solutions Center YouTube channel. Again, please allow about a week for those to go up, and we also invite you to inform your colleagues and those in your networks about the Solutions Center resources and services including the no-cost policy support known as Ask an Expert. And with that, I hope everyone has a great rest of your day and we hope to see you again at future Clean Energy Solutions Center events, and this concludes our webinar.