

Understanding the LED Lighting Facts Requirements



LightFair International

June 3-5, 2014

Marci Sanders

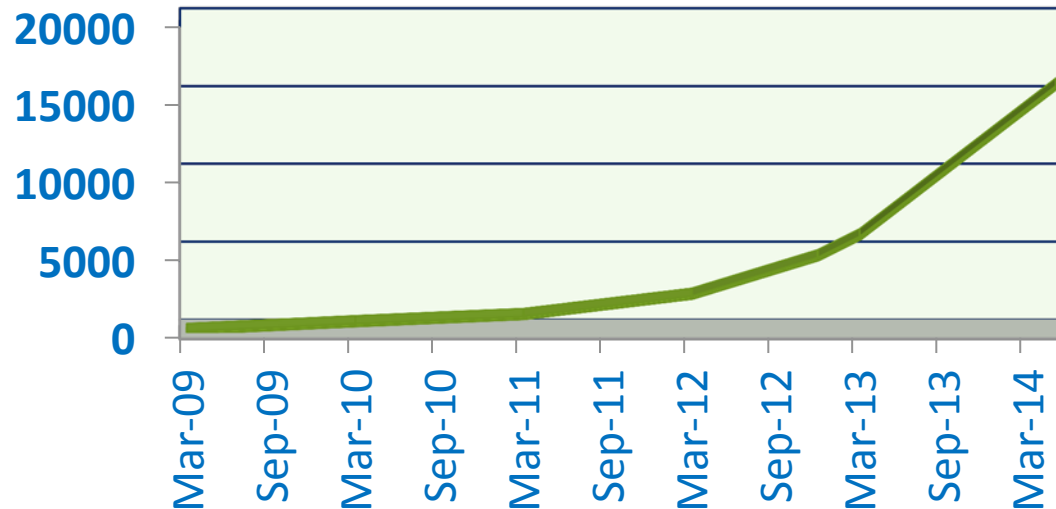
D&R International

Program Update—Just the Stats!

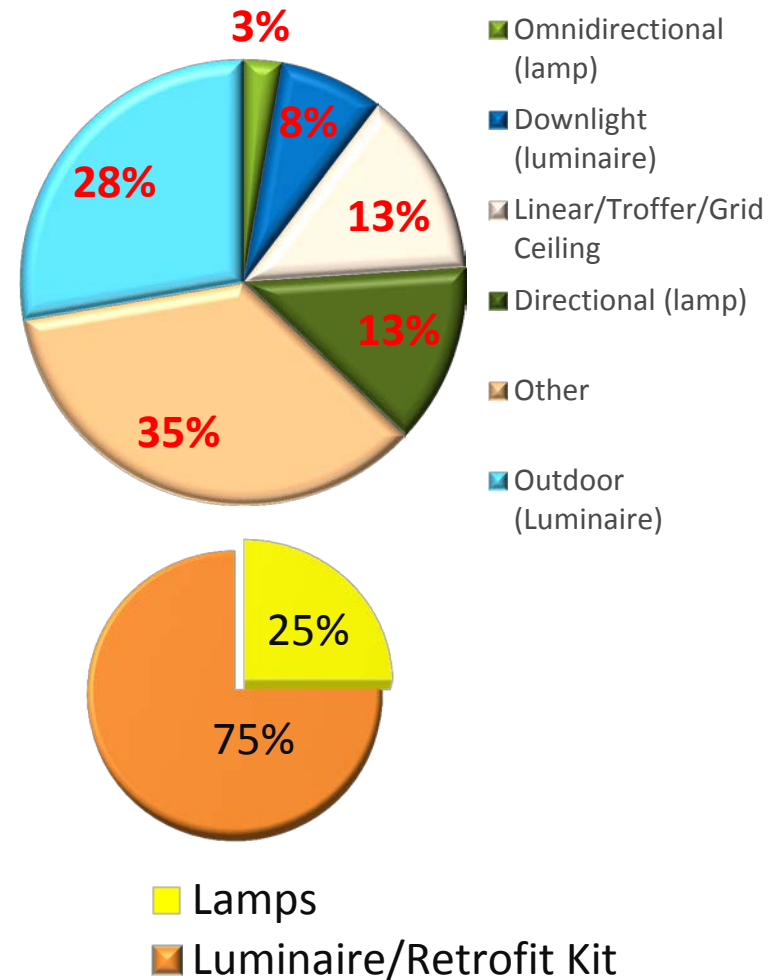
- Over 16,000 **products listed**, from all available product categories
 - Over 1,000 products submitted each month
 - 100% increase in the number of products listed in April 2013 compared to April 2014
 - Registry represents all general illumination types and applications; no thresholds—“just the facts”
- Over 1,600 **partners use** the program
 - 746 manufacturers, 350 retailers/distributors, 306 lighting professionals, 115 energy efficiency organizations, 84 testing labs
 - All have pledged to use the program to compare “apples to apples” on verified product performance.
- Continues to **change and grow** as the market grows and advances:
 - Latest round of changes designed to reduce testing costs and get products to market faster
 - New interfaces make listings, updates easy and simple

Five Years of Program Growth

**LED Lighting Facts Product Count
March 2009 – May 2014**



*Annual Product Status Update initiated in January 2013. Over 3400 products have been archived.



Keeping Up With the Changes

- Once listed with LED Lighting Facts, product may experience a number of phases and changes, including:
 - *New qualifications*
 - *New versions*
 - *New availability/distribution status*
- LED Lighting Facts policies are designed to make it easy to reflect product changes at each stage, including:
 - Initial Submission Requirements and Options
 - Product Status Updates / Archiving
 - Verification Testing
- These policies and requirements enhance search results without creating more hurdles and hassle
 - A delicate balance indeed!

Right from the Start...

- Initial submission requirements:
 - **LM-79 (LM-80/ISTMT):**
 - Related products may now be submitted as a family with only one test report
 - Calculation methodology explains how the products are similar
 - **Product Categorization:**
 - Products can now be further defined by use, function, size and application
 - **Spec Sheet Requirement:**
 - Manufacturer has the option of making it public or not
 - Provides ability to compare marketing claims to listing
 - **Tested and Listed Values:**
 - Requiring tested and listed data allows manufacturers to submit exact values and the values as they use to market their product (eg., listed)
 - Tested values must match the test report exactly; tolerances apply to listed values
 - Test and listed values available on product listing; listed value only on label

Designed for Ease of Use

- The online submission process has been designed to support the policies and requirements:
 - Submission form has **built-in** safeguards to encourage accurate listings
 - User guidance helps manufacturers accurately categorize products
 - Cannot publish without all of the required information

The screenshot shows the LM-79 submission form with several annotations. A yellow arrow points from the 'User guidance helps manufacturers accurately categorize products' bullet point to the 'Product Category' dropdown menu, which is open and showing 'Area/Roadway' as the selected option. Another yellow arrow points from the 'Cannot publish without all of the required information' bullet point to a red error message at the bottom: 'Product Subcategory is required.'.

LM-79 and additional documentation: [Click Here to Browse Files](#) [+ Drag files here](#)

Please attach LM-79 documentation.

Specification Sheet

A spec sheet is now required for each product. The product category selections below must reflect how the product is marketed in the attached spec sheet.

[Click Here to Browse Files](#)

☐ Check this box to make the Specification Sheet public

Please attach a valid spec sheet.

Model No. Model Number is required

Brand Brand is required

SKU

Description

Product Type Luminaire

Product Category Select...

☐ Outdoor

☒ Floor/Ground

☐ Other ☐ Clear Lens ☐ Frosted Lens

Subcategory

Area/Roadway

Bollard

Canopy

Cove

Decorative

Desk/Task

Standard Stocked Product

Yes No

Please check one of the two options.

Are you submitting this product to the Next Generation Luminaires competition?

If yes, please see www.ngldc.org for more information on competition requirements

Yes No

Do any of the following apply to this product? (select all that apply)

Product Subcategory is required.

Better Alignment With Other Program Requirements

- Programs, such as DLC, NGL and FEMP use LED Lighting Facts as their first point of entry:
 - Manufacturers can indicate if they are submitting for programs
 - The submission process allows the manufacturer to submit tested and listed values for 5 required metrics
 - » Important for other programs
 - » Automatically checks for accurate data
 - » Listed values used on label

The screenshot shows a web form for submitting LED lighting products. A red circle highlights the top two questions: 'Are you submitting this product for DLC qualification?' (with 'Yes' selected) and 'Are you submitting this product to the Next Generation Luminaires competition?' (with 'Yes' selected). A yellow arrow points from the text 'Manufacturers can indicate if they are submitting for programs' to the 'Yes' radio button for the NGL competition. Another yellow arrow points from the text 'Automatically checks for accurate data' to the 'Enter Listed Values' section, which shows error messages for Light Output, Watts, Color Accuracy, and Light Color.

Are you submitting this product for DLC qualification? ☒ Yes ☐ No
If so, visit www.designlights.org to see what optional metrics are required.

Are you submitting this product to the Next Generation Luminaires competition? ☒ Yes ☐ No
If yes, please see www.nglinc.org for more information on competition requirements

NGL Entry Number

Do any of the following apply to this product? (select all that apply)

☐ DLC Qualified
☐ A winner of the Next Generation Luminaires competition

Enter Tested Values ?

Light Output	100
Watts	10
Lumens Per Watt	10
Color Accuracy (CRI)	75
Light Color (K)	3000

Enter Listed Values ?

☐ Tested Values and Listed Values are the same

Light Output	500	Light Output must be less than or equal to the tested value
Watts	5	Watts must be greater than or equal to the tested value
Lumens Per Watt	100	
Color Accuracy (CRI)	90	Color Accuracy must be less than or equal to the Tested Color Accuracy
Light Color (K)	5000	Light Color must be within +/-8.1% of the Tested Light Color

Example: Compare NGL Winners to Other Products

lightingfacts.com



The banner features the Lighting Facts logo and a navigation menu with links: About, Products, EE Programs, Partners, Approved Labs, and Library. The main text reads: "Success with solid-state lighting". Below this, it states: "LED Lighting Facts® is a program of the U.S. Department of Energy that showcases LED products for general illumination from manufacturers who commit to testing products and reporting performance results according to industry standards." A sidebar on the right titled "Information For:" lists categories: Manufacturers, Retailers and Distributors, Energy Efficiency Sponsors, Approved Labs, Light, Cons, and Federal.

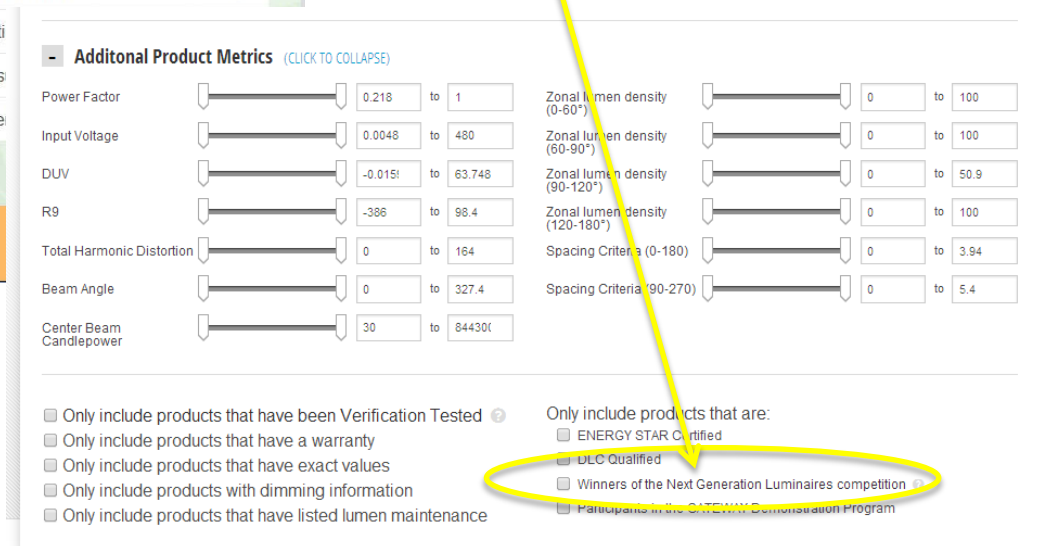
Success with solid-state lighting

LED Lighting Facts® is a program of the U.S. Department of Energy that showcases LED products for general illumination from manufacturers who commit to testing products and reporting performance results according to industry standards.

Information For:

- Manufacturers
- Retailers and Distributors
- Energy Efficiency Sponsors
- Approved Labs
- Light
- Cons
- Federal

Check to search for NGL products.



The form is titled "Additional Product Metrics (CLICK TO COLLAPSE)". It contains two columns of sliders and checkboxes. A yellow arrow points from the text "Check to search for NGL products." to the "Winners of the Next Generation Luminaires competition" checkbox.

Metric	Value 1	Value 2
Power Factor	0.218	1
Input Voltage	0.0048	480
DUV	-0.0151	63.748
R9	-386	98.4
Total Harmonic Distortion	0	164
Beam Angle	0	327.4
Center Beam Candlepower	30	84430
Zonal lumen density (0-60°)	0	100
Zonal lumen density (60-90°)	0	100
Zonal lumen density (90-120°)	0	50.9
Zonal lumen density (120-180°)	0	100
Spacing Criteria (0-180)	0	3.94
Spacing Criteria (90-270)	0	5.4

☐ Only include products that have been Verification Tested

☐ Only include products that have a warranty

☐ Only include products that have exact values

☐ Only include products with dimming information

☐ Only include products that have listed lumen maintenance

Only include products that are:

- ☐ ENERGY STAR Certified
- ☐ DLC Qualified
- ☒ Winners of the Next Generation Luminaires competition
- ☐ Participants in the ENERGY STAR Demonstration Program

Search Products By Keyword

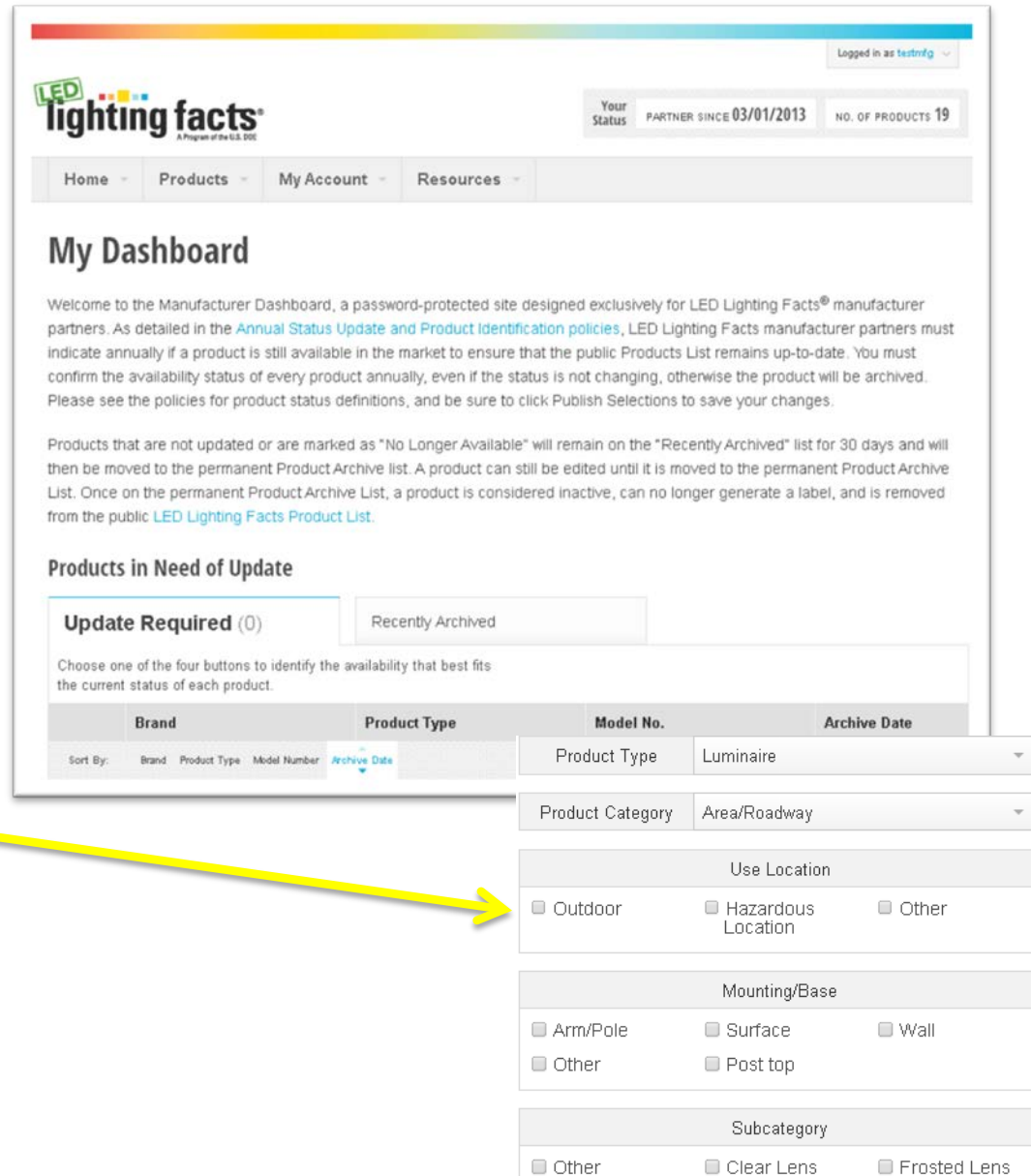
Manufacturer, Model Number, etc.

Search

Annual Product Status Update

A lot can change in a year!

- The Dashboard will prompt a manufacturer to review products every year and confirm:
- Availability status
 - In Stores
 - Special Order Only
 - Not Yet Available
 - No Longer Available (manufacturer chooses to archive)
- Product Categorization
 - Product searches are now generated using use location, mounting/base and size – not just type and category
 - If your product was submitted before August 2013, it may not be accurately defined
- New qualifications and certifications:
 - ENERGY STAR
 - DLC
 - Recognitions like NGL Awards



LED lighting facts[®]
A Program of the U.S. DOE

Logged in as testmfg

Your Status: PARTNER SINCE 03/01/2013 NO. OF PRODUCTS 19

Home Products My Account Resources

My Dashboard

Welcome to the Manufacturer Dashboard, a password-protected site designed exclusively for LED Lighting Facts[®] manufacturer partners. As detailed in the [Annual Status Update](#) and [Product Identification policies](#), LED Lighting Facts manufacturer partners must indicate annually if a product is still available in the market to ensure that the public Products List remains up-to-date. You must confirm the availability status of every product annually, even if the status is not changing, otherwise the product will be archived. Please see the policies for product status definitions, and be sure to click Publish Selections to save your changes.

Products that are not updated or are marked as "No Longer Available" will remain on the "Recently Archived" list for 30 days and will then be moved to the permanent Product Archive list. A product can still be edited until it is moved to the permanent Product Archive List. Once on the permanent Product Archive List, a product is considered inactive, can no longer generate a label, and is removed from the public [LED Lighting Facts Product List](#).

Products in Need of Update

Update Required (0) Recently Archived

Choose one of the four buttons to identify the availability that best fits the current status of each product.

Brand	Product Type	Model No.	Archive Date
Sort By: Brand Product Type Model Number Archive Date	Product Type	Luminaire	
	Product Category	Area/Roadway	
Use Location			
<input type="checkbox"/> Outdoor	<input type="checkbox"/> Hazardous Location	<input type="checkbox"/> Other	
Mounting/Base			
<input type="checkbox"/> Arm/Pole	<input type="checkbox"/> Surface	<input type="checkbox"/> Wall	
<input type="checkbox"/> Other	<input type="checkbox"/> Post top		
Subcategory			
<input type="checkbox"/> Other	<input type="checkbox"/> Clear Lens	<input type="checkbox"/> Frosted Lens	

Don't Wait For The Annual Update!

- LED Lighting Facts has made updating products even easier!
 - Revisions that don't require additional test data and fall within the allowable tolerances can be made without having to resubmit!
 - Click edit, save and PUBLISH!
- If a product update requires a new test report, then a new version can be created
 - This will require additional verification from LED Lighting Facts
- During the annual product status update or at any time, a product that is no longer in the market can be archived

Published on 7/28/2011 ☒ [Generate Labels](#) [Publish Changes](#)

[Edit Product](#) [Create New Version](#) [Archive](#) [Close](#)

trics ☐ Lumen Maintenance

ber, Brand, Product Type, and Availability Status are required fields.
ng submitted for other qualification programs, or whether it is currently
the [Product Submission and Testing Requirements](#) for more

_lumen Maintenance data, see: lumen maintenance tab)

Model No.	Case_OutdoorPath_728
Brand	Case

Instant Accurate Results

Once a product is listed or updated, all of these search interfaces are instantly updated with accurate results.

Complete Product Search

EE Programs List

The screenshot shows the 'LED Lighting Facts® EE Programs' page. It includes a navigation bar with links for 'About', 'Products', 'EE Programs', 'Partners', and 'Approved Labs'. The main heading is 'LED Lighting Facts® EE Programs'. Below this, there is a welcome message and a brief description of the program. A section titled 'PLEASE SELECT YOUR Product Type(s):' offers three options: 'Luminaire', 'Lamp', and 'Retrofit Kit'. Another section titled 'PLEASE SELECT YOUR State or States:' features a map of the United States with state boundaries. Below the map, there is a search bar labeled 'Search EE Programs By Keyword' and a button labeled 'See Programs'. At the bottom, a table displays search results for '21 MATCHING PROGRAMS FOUND'. The table has columns for 'PROGRAM', 'SPONSOR', and 'AVAILABLE TO'. One program is listed: '2.0 Screw- & Pin-Based REPLAC...', sponsored by 'Efficiency Vermont', and available from '1/1/2014 - 6/30/2014'.

The screenshot shows the 'Complete Product Search' interface. It features a 'Product Type' selector with options for 'Luminaire', 'Lamp', and 'Retrofit Kit'. Below this, there are five columns for filtering: 'Product Categories', 'Use Location', 'Mounting Base', 'Subcategory', and 'Product Size'. Each column has a dropdown menu. In the center, there are five sliders for 'Lumen Output', 'Input Wattage', 'Lumens Per Watt', 'Color Accuracy (CRI)', and 'Light Color (CCT)'. Below these sliders is a section for 'Additional Product Metrics' with various sliders and checkboxes. At the bottom, there are two sections for filtering results: 'Only include products that have been Verification Tested' and 'Only include products that are:'. The first section includes checkboxes for 'Only include products that have a warranty', 'Only include products that have exact values', 'Only include products with dimming information', and 'Only include products that have listed lumen maintenance'. The second section includes checkboxes for 'ENERGY STAR Certified', 'eLC Qualified', 'Winners of the Next Generation Luminaires competition', and 'Participants in the GATEWAY Demonstration Program'.

Federal User Search

The screenshot shows the 'Federal User Search' interface. It features a header with the 'ENERGY' logo and the text 'Energy Efficiency & Renewable Energy'. Below the header, there is a welcome message and a section titled 'Acquisition Guidance for Lighting Products'. A section titled 'Federal Energy Management Program (FEMP) Acquisition Guidance' provides information about the program. Below this, there is a table titled 'Products Details' with columns for 'FEMP-Designated Product Category', 'Luminaire Output', and 'Total Product Count'. The table lists several product categories and their corresponding counts. At the bottom, there is a section titled 'Product Count Timeline' with a line graph showing the growth of the product count over time. The graph shows a steady increase from 2012 to 2014, reaching a total of 3312 products. A button labeled 'View the Full List Now' is located below the graph.

FEMP-Designated Product Category	Luminaire Output	Total Product Count
Ballasts	32	51
Fuel Pump Canopy Luminaires	70	268
Parking Garage Luminaires	70	400
Outdoor Pole/Wall Mounted Area/Roadway Luminaires	65	1789
Outdoor Wall Mounted Luminaires	60	639
Outdoor Pole/Wall Mounted Decorative Luminaires	65	90

How is a Product Listing like a LinkedIn Profile?

- Like LinkedIn, LED Lighting Facts can be an essential source of accurate information *when utilized as designed*
- Consider LED Lighting Facts the “LinkedIn” of the SSL Industry:
 - Only the user can ensure that a “profile” is current
 - Search results are generated using information from each profile
 - Products must be “endorsed” after receiving new qualifications or updates
 - Connections with other programs, partners
- The LED Lighting Facts listing should reflect the current state of a product
 - A manufacturer cannot expect full results unless all of the information about a product is accurate and up-to-date
 - Don’t just list it and leave it!



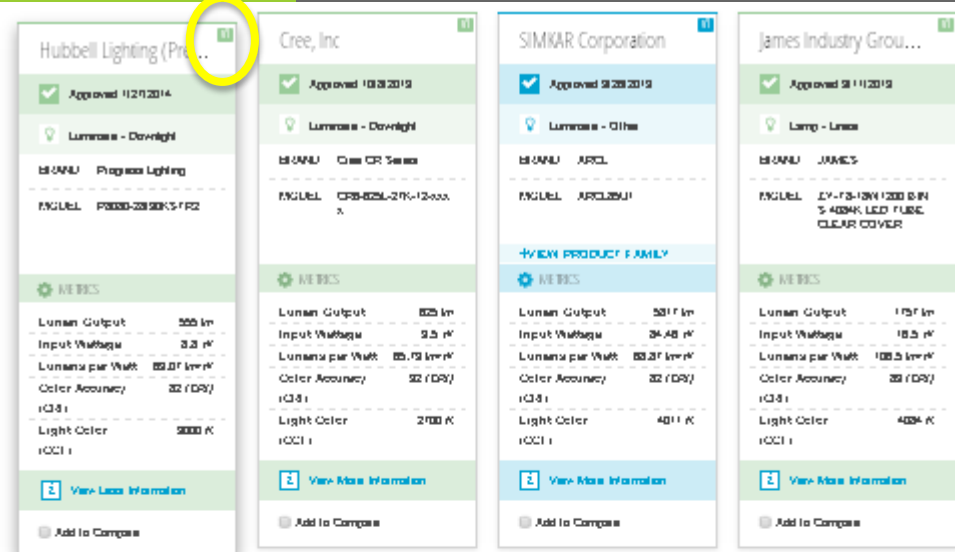
Verification Testing

- Verification Testing assures users that a product is performing as listed
- Results are based on sample average of 1, 3 or 6 samples (depending on the product type)
 - Results compared against initial listed values
- ENERGY STAR Verification test reports can be shared with LED Lighting Facts, *reducing testing and reporting costs*
- You can search for Verification Tested products from the LED Lighting Facts Product List!

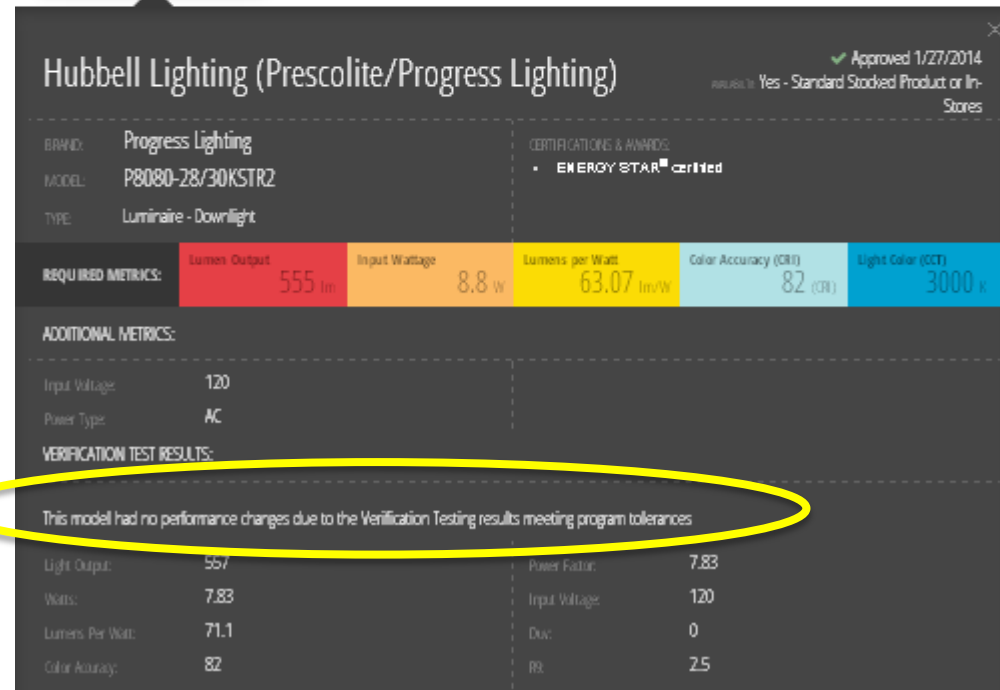
The screenshot shows the LED Lighting Facts search interface. At the top, there are five filter categories: Product Categories, Use Location, Mounting Base, Subcategory, and Product Size. Below these are five performance metrics with sliders: Lumen Output (3 to 11975), Input Wattage (0.5 to 12322), Lumens Per Watt (0 to 173), Color Accuracy (CRI) (-23 to 100), and Light Color (CCT) (54 to 42342). Under 'Additional Product Metrics', there are sliders for Power Factor (0.218 to 9), Input Voltage (0.004 to 42342), DUV (-0.015 to 63.74), and Zonal lumen density for four different beam angles (0-60°, 60-90°, 90-120°, 120-180°). There are also sliders for Spacing Criteria (0-180°) and Spacing Criteria (90-270°). A black text box with a yellow arrow pointing to it contains the following text: 'The Verification Testing results will be publically listed in association with each product. The product summary will not indicate a pass or fail, but will feature the average testing results in relation to the initially listed product metrics and indicate if a product listing has been changed as a result of Verification Testing. Click on the question mark for more details on the tolerances for Verification Testing.' Below this text box are two sets of checkboxes. The first set includes 'Only include products that have been Verification Tested' (checked), 'Only include products that have a warranty', 'Only include products that have exact values', and 'Only include products with dimming information'. The second set includes 'Only include products that are: ENERGY STAR Certified', 'DLC Qualified', 'Winners of the Next Generation Luminaires competition', and 'Participants in the GATEWAY Demonstration Program'.

Verification Testing Results

- The results from 76 products are available from the Product and Archive List
- 200 products will be Verification Tested by Fall 2014
 - Listed Values** will be compared to test results using program tolerances.
 - VT results are displayed on the Products List
 - Listing will indicate if the product metrics were changed to reflect tested values
 - Manufacturer can also archive a product that does not test within the Verification Testing tolerances
 - Opportunity for manufacturers to promote verified product performance!



Manufacturer	Product Name	Approved Date	Type	Brand	Model	Input Voltage	Lumen Output	Lumens per Watt	Color Accuracy (CRI)	Light Color (K)
Hubbell Lighting (Prescolite/Progress Lighting)	P8080-28/30KSTR2	1/27/2014	Luminaire - Downlight	Progress Lighting	P8080-28/30KSTR2	120V	555 lm	63.07 lm/W	82 (CRI)	3000 K
Cree, Inc.	CR8-825L-27K-12000K	1/28/2012	Luminaire - Downlight	Cree CR Series	CR8-825L-27K-12000K	120V	825 lm	85.75 lm/W	92 (CRI)	2700 K
SIMIKAR Corporation	ARC02501	2/28/2012	Luminaire - Other	ARC02	ARC02501	120V	501 lm	84.48 lm/W	92 (CRI)	4000 K
James Industry Group	JY-12-120V-1200-0-0-1	2/11/2012	Lamp - Linear	JAMES	JY-12-120V-1200-0-0-1	120V	1200 lm	100.5 lm/W	92 (CRI)	4000 K



Hubbell Lighting (Prescolite/Progress Lighting)		Approved 1/27/2014	
BRAND: Progress Lighting		Yes - Standard Stocked Product or In-Store	
MODEL: P8080-28/30KSTR2		CERTIFICATIONS & AWARDS: ENERGY STAR® certified	
TYPE: Luminaire - Downlight			
REQUIRED METRICS:	Lumen Output: 555 lm	Input Wattage: 8.8 W	Lumens per Watt: 63.07 lm/W
	Color Accuracy (CRI): 82 (CRI)	Light Color (K): 3000 K	
ADDITIONAL METRICS:			
Input Voltage: 120			
Power Type: AC			
VERIFICATION TEST RESULTS:			
This model had no performance changes due to the Verification Testing results meeting program tolerances			
Light Output: 557	Watts: 7.83	Lumens Per Watt: 71.1	Color Accuracy: 82
Power Factor: 7.83	Input Voltage: 120	Duv: 0	RA: 25

New! Verification Testing Dashboard

- *Verification Testing Tracking Interface!*
 - Online interface that tracks and monitors the status of the product from procurement through testing
 - It also collects all of the product and testing information
 - It even allows the manufacturer to archive products that did not test within the allowable tolerances!
- Each associated partner (manufacturers, procurement agents and labs) have access that is specific to their role in the process
- No more back and forth emails with attachments!

Manage Verification Testing

Done

Verification Testing ID: 172

Status: Analyzing Results

Deadline: 5/29/2014

Product Information

Model Number: egrbrnt5nhr5h

Availability: Yes - special order only

Product Type: Retrofit Kit - Downlight

Manufacturer: Test Manufacturers

Light Output

32 m

Watts

42 w

Lumens Per Watt

0.76 lum

Color Accuracy (CRI)

42

Light Color (CCT)

42 k

Power Factor

N/A

Input Voltage

423 v

Duv

N/A

R9

N/A

Total Harmonic Distortion

N/A %

+ Additional Product Information

Click to expand

Testing Information

Tests Required

LM-79 sphere

of Samples Required

1

Testing Lab*

Test Approved Lab

Procurement Information

Provide detail for where the model can be purchased so the Procurement Agent can locate the correct product.

NOTE: The approximate duration for procurement is 45 days

Procurement Agent

Test Procurement Agent

Purchase Locations*

location 1

Approximate Price*

Provide a reasonable cost range the Procurement Agent should expect to pay through the distributor(s). This is not a guarantee of the price that will be paid during procurement, but will be used as a guide for what pricing is reasonable before making the purchase:

2323

Accounting Information

Designate the primary accounting contact responsible for coordinating payment with the Procurement Agent and Approved Lab, as you will work directly with them for financial transactions.

Contact Name

test mfg

Phone #

2382917348

Email Address

wefuiegeg0@uig.com

Mailing Address

fheith ghtuehtuegfufu eufgeufg

Additional Accounting Info

Optional: Additional accounting information required for invoicing (i.e. Purchase Order #)

15

What's Next?

- We know partners want more ways to improve visibility for programs and products
- Here are some ideas that we are working on:
 - Improved process for submitting, updating, searching lab accreditations
 - Increasing opportunities for product and program alignment
 - Tools that make customized product lists more accessible and purposeful
 - Offering marketing tools for manufacturers
 - Manufacturer profiles and portals with direct hyperlinks
 - Procurement and purchasing information
 - Link to specific product information (not just the product list)

What else? Your Feedback Counts! We Want To Hear From You!

Need More Information?

- See the About and Library Tabs on www.lightingfacts.com
- Contact verification@lightingfacts.com for Verification Testing questions
- Attend our regularly scheduled webinars!
 - Invitations and updates are sent via email – contact info@lightingfacts.com for more information



Q&A Discussion: Ask the Experts

- ENERGY STAR®--Taylor Jantz-Sell
- DesignLights Consortium®—Irina Rasputnis
- LED Lighting Facts®—Marci Sanders