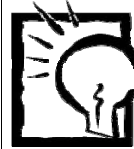


The Q&As of QPLs

Finding the right LED in a vast landscape.

Prepared by:
Eric Strandberg

Spring 2016



lighting design lab

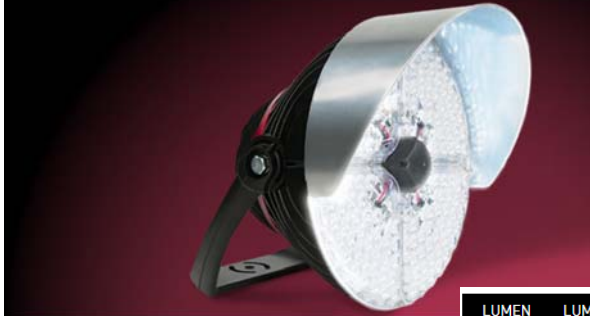


WOW



LED LIGHTING SOLUTIONS THAT OUTSHINE ALL OTHERS.

PRODUCT SOLUTIONS OUR TECHNOLOGY KNOWLEDGE BASE



STADIUM PRO

LUMEN OUTPUT	LUMENS/WATTS	POWER/WATTS	CCT	CRI
115,000	115	1000	5600K or Color Tuning	>70 (others available)



Steady improvements



ABCs of QPLs



What are they?
Specifications

Break

How do I use them?
Searching

National QPLs

LDL QPL

Lighting Design Lab Qualified LED List

This list is maintained by the LDL for Puget Sound Energy, Seattle City Light, Snohomish PUD, Tacoma Power, the Energy Trust of Oregon, Bonneville Power Administration, Utah Power, and Eugene Water and Electric Board.
NOTE: This is an interim qualifying list while products are being reviewed by ENERGY STAR or DLC.
 Products will be permanently removed 12 months after "Post Date". If you don't see a product on this list, check the ENERGY STAR or DLC lists.



Lighting Design Lab Qualified LED List -- Lamps and TB Tubes

This list is maintained by the LDL for Puget Sound Energy, Seattle City Light, Snohomish PUD, Tacoma Power, the Energy Trust of Oregon, Bonneville Power Administration, Utah Power, and Eugene Water and Electric Board.
NOTE: This is an interim qualifying list while products are being reviewed by ENERGY STAR or DLC.
 Products will be permanently removed 12 months after "Post Date". If you don't see a product on this list, check the ENERGY STAR or DLC lists.



Lamp Type	Manufacturer	Model Number	WATT	Rated Voltage	Rated Lumens	Rated CRI	Rated Life (hrs)	Dimmable	UL	Post Date
LED Lamp	CFL	150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15

Lighting Design Lab Qualified LED Fixtures List

This list is maintained by the LDL for Puget Sound Energy, Seattle City Light, Snohomish PUD, Tacoma Power, the Energy Trust of Oregon, Bonneville Power Administration, Utah Power, and Eugene Water and Electric Board.
NOTE: This is an interim qualifying list while products are being reviewed by ENERGY STAR or DLC.
 Products will be permanently removed 12 months after "Post Date". If you don't see a product on this list, check the ENERGY STAR or DLC lists.



Fixture Type	Manufacturer	Model Number	WATT	Rated Voltage	Rated Lumens	Rated CRI	Rated Life (hrs)	Dimmable	UL	Post Date
LED Fixture	CFL	150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15
		150-150-150-150	150	120V	1500	90	15000	Yes	UL	2015-10-15

The lighting design lab is not responsible for the accuracy of the data provided in this list. We are not making any claims about the products listed in this list. We are not making any claims about the products listed in this list. We are not making any claims about the products listed in this list.

~665 Lamps

~190 Luminaires

What about Lighting Facts?

The screenshot shows the LED Lighting Facts website. At the top, there is a navigation bar with links for 'About', 'Products', 'EE Programs', 'Partners', 'Approved Labs', and 'Library'. The main content area features a large banner titled 'Success with solid-state lighting' with a sub-headline '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.' To the right of the banner is a 'lighting facts' label graphic showing metrics like Light Output (Lumens), Watts, Lumens per Watt (lm/Watt), and Color Accuracy. Below the banner is a call to action: 'NOT A PARTNER? TAKE THE PLEDGE TODAY!'. The 'Products' section is highlighted, showing a 'TOTAL PRODUCTS' count of 39,285. A search bar is located at the bottom of the products section.



Just the facts,
no evaluation.

Why have the lists?

- Requirements in utility programs.
- Vetting products to a minimum baseline.
- Helping shift the market to a higher standard.
- Organizing an increasingly diverse landscape of products.



TACOMA PUBLIC UTILITIES

TACOMA POWER CLICK! CABLE TV TACOMA WATER TACOMA RAIL

CUSTOMER SERVICE PAY YOUR BILL

Home > For Your Business > Ways to Save at Work > Save With Lighting

SAVE WITH LIGHTING

Bright Rebates Program
 brightlights@cityoftacoma.org
 (253) 502-8619

Updating your lighting is one of the most cost-effective options for saving money and energy - it may also reduce maintenance and operation costs in your business.

With Bright Rebates, you can get a rebate check for up to 70% of the project cost. Our program incentive is 17 cents per kilowatt hour (kWh) saved in the first year. You will also enjoy monthly savings on your electric bill.

Rebate-Eligible Changes Include:


- Incandescent to CFL or LED fixtures and lamp replacements
- T12 to T8 or T5, Hi performance T-8, or LED fixtures or retrofits
- Magnetic HID to electronic ballasted HID, fluorescent or LED
- Incandescent to LED exit signs
- Occupancy sensors/lighting controls

There are several options for updating your lighting. Start exploring the best option for your space by reading our Lighting Guide.

Eligibility & Requirements

- You must be a Tacoma Power customer served by a business rate.
- You must submit an application with required documents and obtain project preapproval **before** installing any materials.
- CFL bulbs must be on the Energy Star light bulbs approved list.
- LED fixtures and lamps must be listed on one of the following approved lists:
 - Design Lights Consortium
 - Lighting Design Lab
 - Energy Star light bulbs

Update Your Lighting & Save



Utility Incentive requirements

SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT NO. 1 Customer Service (M-F 8a-5:30p): 425-783-1000 Search

PUD

RESIDENTIAL BUSINESS CONSERVATION EDUCATION POWER SUPPLY YOUR ACCOUNT PAY YOUR BILL

Mostly Cloudy, 46° WATER SAFETY CONSTRUCTION BIDS NEWSROOM VIDEOS CAREERS ABOUT US

Home > Business > Rebates & Custom Incentives > Lighting for Existing Buildings

Incentives for Lighting within Existing Buildings

NOTE: Our Lighting Workbook has been updated

The PUD pays lighting incentives which increase your ROI significantly. In the process, the PUD provides you and your contractor with technical advice to help ensure that the project delivers expected energy savings. To learn more, click on our Participation Process or Contact a Contractor.

Lighting Incentives for:

- Fluorescent (T8 or T5) to more energy-efficient fluorescent, or LEDs
- Incandescent, MR 16, halogen to CFL or LED lamps
- Exterior HID lighting to fluorescent, plasma, induction, or LED
- Highbay, Lowbay HID lighting to fluorescent, plasma, induction, or LED
- Lighting Controls
- Exit Signs

Eligibility:

T8 lamps and ballasts must be on the CEE Approved List.

LED lamps and/or fixtures must be on one of the approved lists. Lighting Design Lab (LDL), Energy Star & the Design Lights Consortium found here.

Contact Us:


Steve Forck
 425-783-1767
 sforck@snopud.com

OR

Trevor Welch
 425-783-1845
 twelch@snopud.com

Fillable Forms

Application



Utility Incentive requirements

Utility Incentive requirements



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Search...



Accounts & Services | Safety | Savings & Energy Center | In Your Community | About PSE | Other Languages

- Rebates & offers
- Tips, Tools & Ideas
- Business incentives
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- HVAC
- Kitchen
- Laundry
- Lighting
- New construction
- Retrofit grants
- Generators
- Tools & resources
- For Communities
- Multifamily retrofit
- For Schools
- Green Power
- Carbon Balance
- Renewables
- New construction
- For Trade Allies
- Alt Fuel Vehicles
- About Efficiency

Savings & Energy Center > Business Incentives > Lighting > Business Lighting Incentive Program

Business Lighting Incentive Program Earn incentives on energy-efficient lighting



Lighting can amount to over 40 percent of your business's energy usage, so switching to energy-efficient lighting can yield long-term savings. And no matter your business's size, PSE's Business Lighting Incentive Program has flexible options to help you affordably upgrade your lighting plan.

For smaller-scale lighting upgrades, see if PSE's [Lighting To Go instant discounts](#) can also help.

Business Lighting Incentive Program 2016/2017

- Express Program – Retired
- Enhanced Program – Retired
- Incentive cap – Increased
- Application – Simplified
- TLEDS – Simplified
- All LED screw-in lamps will be rebated through Lighting to Go

2016/17 program

The total value of your business lighting incentive depends on the size and scope of your project.

Program	Incentive applies to...	Incentive value	Incentive maximum
Business Lighting	Equipment and installation	\$0.20 per kilowatt-hour (kWh) of projected annual energy savings**	70 percent of total project cost

*Values for Standard and Enhanced program incentives are subject to PSE cost-effectiveness standards.

How to qualify

Equipment requirements

Before starting your business site's upgrade, be sure to verify that you're only using new, incentive-eligible lighting products.

Review these qualified LED product lists from the [Lighting Design Lab \(LDL\)](#), the [DesignLights Consortium® \(DLC\)](#) and [ENERGY STAR®](#) as all LED equipment is required on one of these three qualified product lists.

Ask an Energy Advisor

Phone
1-800-562-1482

Email
EnergyAdvisor@pse.com

Web
Contact form

Apply now

Find a contractor

Featured content

- Lighting To Go instant discounts
- Instant home lighting discounts
- Find a bulb recycling location
- Energy efficiency financing

Get energy solutions, tips, news and more!

Enter email...

Sign Up



Standard Specifications -- Lighting

4. Light Emitting Diode (LED) Lamps and Fixtures

4.1. General

All LED light engines (combination of diodes, driver, heat sink, housing and optics), whether screw-in or hardwired, shall meet all of the following criteria:

- The rated driver input wattage and total number of LEDs shall be published by the manufacturer for each funded Fixture Unit (driver and LED combination) and shall be the same wattage used in the Fixture Counts Page of this Lighting Workbook.
- All equipment funded by Seattle City Light must have model-identification that is specific and clear enough to accurately match installed equipment with equipment submittals and specific product entries in the qualification lists referred to below.
- Equipment submittals for retrofits of existing fixtures must cover all components.
- LED Retrofit Kits (including linear lamp and driver) must be on one of the approved lists mentioned below under Section 4.2, and must carry a safety certification by an approved testing laboratory (UL, CE, ETL, etc.).

4.2. Energy Star and Design Lights Consortium Lists

LED lamps and fixtures that fall under an [Energy Star](#) or [Design Lights Consortium \(DLC\)](#) lighting product category must meet **at least one of the following** Measurement / Approval criteria as described below under sections 4.2.1, 4.2.2, or 4.2.3 to qualify for Seattle City Light incentive funding. In general, integral lamps are more likely to fall under Energy Star, while fixtures are more likely to fall under Design Lights Consortium.

4.2.1 The product is approved and listed on the [Energy Star Qualified Commercial LED Lighting List](#)
For Lamps – (<http://www.energystar.gov/productfinder/product/certified-light-bulbs/results>)
For Fixtures – (<http://www.energystar.gov/productfinder/product/certified-light-fixtures/results>)

4.2.2 The product is approved and listed on the [Design Lights Consortium \(DLC\) List](#)
(<http://www.designlights.org/DPL>)

4.2.3 If the product is not both approved and listed under either Energy Star or Design Lights Consortium, but falls under a category covered by one or the other, it will still be eligible for funding if it is on the [Utility Qualified List](#) (<https://www.lightingdesignlab.com/led-qualified-products-list-and-submission>). In order to get onto the [Utility Qualified List](#), submit the following test reports via the above website:

Utility Incentive requirements



Utility Incentive requirements



B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

May 2013

Commercial & Industrial Lighting LED Retrofits for Troffers



Considerations for Purchase

Before purchasing, understand what the warranty covers and how it is exercised. Coverage may not include all components, shipping, and labor. How many individual LEDs must fail before a product is replaced under warranty? Must the whole unit be shipped back to the manufacturer, or can field repairs be made? Warranty terms from 5 years to 10 years are available from various manufacturers. Install a sample of the product you are considering, and use it awhile.

Engage a professional who will ensure that the project complies with energy code power allowances and control requirements plus utility incentive requirements, while providing light that meets your needs.

Note that to receive most utility incentives, LED lights should be on a qualified list:

For light bulbs, ENERGY STAR
http://www.energystar.gov/index.cfm?c=manuf_res_pt_lighting

For commercial light fixtures, Design Lights Consortium or Lighting Design Lab
http://www.designlights.org/solidstate.about.QualifiedProductsList_Publicv2.php
<http://www.lightingdesignlab.com/led-list>

Utility Incentive requirements



Commercial & Industrial Lighting Incentives

Existing Buildings, Production Efficiency and Multifamily Buildings | Program Information | 190



Incentives for Energy Efficient Lighting (Effective February 1, 2016)

Energy Trust offers cash incentives to help you implement qualifying energy efficient lighting measures in eligible existing buildings. If you are interested in applying for incentives listed, contact us using the information located at the bottom of the page.

To apply for lighting incentives, projects must (1) be submitted to Energy Trust for review and pre-qualification before any equipment purchase or installation activity begins; and (2) be pre-qualified for at least \$100 in incentive funding.

It is important that you contact us for a project review before making purchases or taking other steps that may cause your project to be ineligible for incentives. Additional eligibility requirements apply. Program details, including incentives, are subject to change and budget availability. To learn more about Energy Trust's available offers and incentives, visit our website at www.energystar.org.

Lighting Project Specifications & Requirements

The following lists provide technical specifications for certain lighting products. Not all products listed qualify for Energy Trust incentives. To qualify for incentives, products and measure installations must also pass Energy Trust cost-effectiveness criteria and meet other program requirements. Contact us for details.

- See <http://library.cee1.org/content/commercial-lighting-qualifying-products-lists> for CEE High-performance and Reduced Wattage 4' T8 Lamp Qualifying Lists
- See the following Qualified Product Lists (QPL) for each category of LED product:
 - QPL for LED fixtures (except recessed canister downlights) and some LED retrofit lamps - Design Lights Consortium (DLC): <http://www.designlights.org/QPL>
 - QPL for LED recessed canister downlights & other (Certified Light Fixtures) – ENERGY STAR®: <http://www.energystar.gov/productfinder/product/certified-light-fixtures/>
 - QPL for LED lamps (Certified Light Bulbs)– ENERGY STAR®: <http://www.energystar.gov/productfinder/product/certified-light-bulbs/>
 - Alternate QPL for LED lamps, fixtures, and downlights – Lighting Design Lab (LDL): <https://www.lightingdesignlab.com/led-qualified-products-list-and-submission>

Why not just have a list of Specifications?



Efficacy must be greater than X
Color rendering must be greater than Y
Power Factor no lower than ...?

... Trust but verify!

Trust but Verify

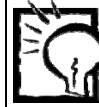


Bulb Shape:	T10
Color:	Halogen White
Color Temperature:	3000 Kelvin
Life Hours:	50,000
Wattage:	7 Watt
Incandescent Equal:	40 Watt/60 Watt
Lumens (Initial):	600
Lumens Per Watt:	86
Beam Angle:	360 Degree
Beam Angle:	Omni-directional
Warranty:	1 Year

Look at the test data...

Trust but Verify

12W OUTDOOR LED WALL PACK WITH SENSOR



12 WATT WALL PACK SECURITY LIGHT

Great light output (1000 Lumens) covers a large area. Very bright amount of light for 12 watt power consumption Great Value, Excellent Quality.



Bronze



White



FEATURES

- For side wall installation
- Damp-rated for use in exterior locations.
- Integrated photocell for Dusk to Dawn operation.
- Not to be used with Motion Detector.

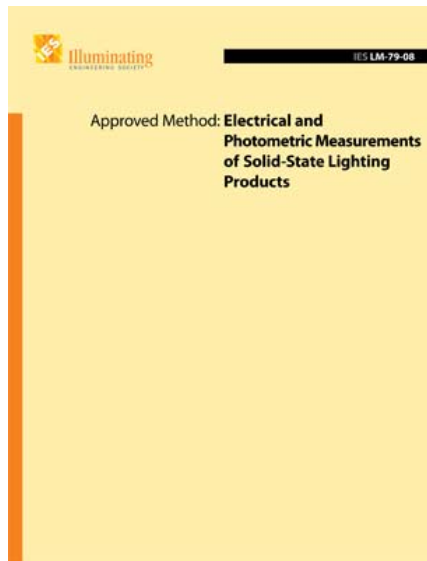
TECHNICAL SPECIFICATIONS

Voltage	120V, 60Hz AC operation
Lumens	1000 lumens CRI ≥ 80
Construction	Heavy-duty, plastic housing
Packaging	Corrugated box with model number and short description
Lamp specs	120V SMD5630 LED Cool white, 50,000 average life hours
Diffuser	White opal diffuser.
Accessories	Screw×2, P2 Connectors×3, Decorative Nut ×1
Listing	ETL/CETL, Suitable for Damp Locations

Look at the test data... where is it?

Consistent testing methodology

IES LM-79



Consistent accurate data on lighting products



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National Voluntary Laboratory Accreditation Program



With Over 60 Years in the Lighting Industry,
We are Light-Years Ahead of our Competition



HOME ABOUT ITL TESTING LAMP STANDARDS LIGHTING PROGRAMS FORMS TEST EQUIPMENT CONTACT

search

Photometric Distribution Testing

Required to produce IES files

Distribution photometry is performed on lamps and luminaires to produce IES files. IES files are electronic files which contain the data that represents both the distribution (intensity in candelas at combinations of lateral and vertical angles) and amount of light being emitted (lumens) from either lamps (light bulbs) or luminaires (light fixtures). Architects, engineers, lighting designers and others import these IES files into their lighting design software. With the lighting design software, they can produce lighting layouts that accurately predict and show (on architectural drawings or 3-D renderings) light levels for both indoor and outdoor applications.

Please select the type of distribution photometry that you desire below:

- Indoor Luminaire (lighting fixture) Distribution Photometry
- Roadway Luminaire (lighting fixture) Distribution Photometry
- Floodlight Luminaire (lighting fixture) Distribution Photometry
- Lamp (light bulb) Distribution Photometry

Goniophotometer

(Device used to perform distribution photometry that produces IES files)



LM-79 report example 2 pages



INDEPENDENT TESTING LABORATORIES, INC.
3080 LONGHORN ROAD, BOULDER, CO 80502 USA
PHONE: (303)442-1255 • FAX: (303)449-6274 • E-MAIL: ITL@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL-11-018
DATE: 03/15/08
REVISED: 09/16/11
PREPARED FOR: [REDACTED]
CATALOG NUMBER: [REDACTED]

LUMINAIRE: EXTENDED BLACK PAINTED METAL HOUSING WITH FABRICATED BLACK PAINTED METAL END CAPS. ONE NICHED TWENTY-TWO LEDS POINTED TO GRAY SPOT. EXTENDED CLEAR PLASTIC LENS WITH INTERIOR LENSAR PRISM.

LAMP: ONE NICHED TWENTY-TWO WHITE LIGHT EMITTING DIODES (LEDs), EACH WITH CLEAR SEMISPHERICAL PLASTIC OPTICAL LENS. EACH VERTICALLY ALIGNED ABOVE AT THE HORIZON AND CANTED APPROXIMATELY 42-DEGREE FROM AXIS TOWARD AXIS.

DRIVER: ADVANCE LED120A024V33P • 50W 34V 3.3AOC

NOTES: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LED DRIVER. FOR THE POSE SPECIFIC PROCEDURES FOR CONSTANT VOLTAGE LED PRODUCTS, THE LUMINAIRE WAS TESTED WITH THE LED DRIVER OPERATING UNDER A FULL LOAD CONDITION, SPECIFIED BY THE LUMINAIRE MANUFACTURER AT TWO CENTER LUMINAIRE AND TWO END LUMINAIRE. IN ADDITION TO THE TEST BEING PERFORMED, THE DRIVER WAS TESTED CARDED OFF WITH ONE LENS (L1) 2170/2171/2172/2173 AND TWO JUNCTION/2174/2175. OPERATING OUTSIDE OF THE INTEGRATING SPHERE.

INSTRUMENTS: Eppar CUS101 Voltage Regulator
Zoran Technologies Model 2530A Power Analyzer
Optometrics Laboratories OLT70 Spectroradiometer
ITS 1.0 Stereometer Integrating Sphere, 40 Geometry

OBJECT OF TEST: Measure the Absolute Flux in lumens*, Correlated Color Temperature (CCT), Color Rendering Index (CRI_a), Chromaticity Coordinates (x,y,z), and CIE CRI₂ Div. and Electrical Data including Power Factor (PF) and Total Harmonic Distortion (THD) at rated input voltage to the LED driver.

PROCEDURE: The luminaire was provided by the customer and had an unknown number of burn hours. The luminaire was prepared in the integrating sphere with all LEDs on and operated at full output. After stabilization occurred, measurements were taken with the luminaire operating in the integrating sphere. In order to measure mean performance multiple data sets were recorded and averaged. Readings were taken with the luminaire operating at 120 input in a 0.1-0.2 degree Celsius. Five air ambient and 10 responses with 120V 120 120 120. All data are provided to the National Institute of Standards and Technology. Off-state Power is reported with no voltage applied to the LED driver.

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL-11-018.

RESULTS: (continued subsequent pages)

Checked N. Gully
Approved R. Bergin



INDEPENDENT TESTING LABORATORIES, INC.
3080 LONGHORN ROAD, BOULDER, CO 80502 USA
PHONE: (303)442-1255 • FAX: (303)449-6274 • E-MAIL: ITL@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL-11-018
DATE: 03/15/08
REVISED: 09/16/11
PREPARED FOR: [REDACTED]
CATALOG NUMBER: [REDACTED]

RESULTS:	
PHOTOMETRIC	
Total Integrated Flux (lumens)	524.0*
SPECTRORADIOMETRIC	
Chromaticity Coordinate x	0.3758
Chromaticity Coordinate y	0.3659
Correlated Color Temp. CCT (K)	4000
Color Rendering Index (CRI _a)	76
Color Rendering Index (CRI ₂ Div)	9
ANSI C78.377.2008 Div	0.004
ELECTRICAL	
Driver Input Voltage (Volts AC)	120.0
Driver Input Current (mA AC)	675
Driver Input Power (Watts)	77.9
Driver Input Power Factor (PF)	99.2
Driver Input Current THD (%)	18.4
CRI State Power (Watts)	0.0
Luminaire Input Voltage (Volts DC)	24.9
Luminaire Input Current (Amperes DC)	4.62
Luminaire Input Power (Watts)	10.8
EFFICACY (Lumens/Watt)	39.9**

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL-11-018.

**NOTE 2: Efficacy shown on this report was obtained from photometric test ITL-11-018.

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.

LM-79 report example. Same company different format

ifl boulder NVLAP
INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80502 USA
PHONE: (303)442-1255 • FAX: (303)448-5274 • E-MAIL: it@iboulder.com • WEBSITE: www.iboulder.com
REPORT NUMBER: ITL-10111
DATE: 10/21/11
PREPARED FOR: [REDACTED] LLC
ADDRESS: [REDACTED]
CATALOG NUMBER: LD-79-19W
LAMPS: ONE 7-8 STYLE 4-FOOT LINEAR LED LAMP WITH B1-PIN CONTACTS AND INTEGRAL LED DRIVER. LAMP CONSISTS OF EXTENDED DIFFUSE METAL HOUSING WITH WELDED WHITE ELASTIC END CAPS, TWO WHITE CIRCUIT BOARDS EACH WITH 144 WHITE LIGHT EMITTING DIODES (LEDs), EXTENDED CLEAR PLASTIC LENS. LAMP HORIZONTAL WITH LENS IN THE VERTICAL PLANE OF POSITION.
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LAMP.
INSTRUMENTS: Kinematix PMS504L AC Power Source W/O Calibration Due: N/A
Yokogawa WT10 Digital Power Meter #4 01/04/12
Oriel Instruments C9775 Spectroradiometer 03/24/12
ITS 1.5 Meter Diameter Integrating Sphere, 48 Geometry 03/24/12
OBJECT OF TEST: Measure the Correlated Color Temperature (CCT), Color Rendering Index (CRI), Chromaticity Coordinates (x, y), Beam CRI, Div, and electrical data to the lamp including Power Factor (PF) and Total Harmonic Distortion (THD).
PROCEDURE: The lamp was provided by the customer and had an unknown number of Data Points. The lamp was mounted inside the integrating sphere in a horizontal position (LEDs facing down) and allowed to stabilize. After stabilization occurred, measurements were taken with the lamp operating in the integrating sphere. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the luminaire operating at 120VAC input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology.
RESULTS: (continued subsequent pages)
THIS IFL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.
Checked: T. BERGER
Approved: N. GULLY


ifl boulder NVLAP
INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80502 USA
PHONE: (303)442-1255 • FAX: (303)448-5274 • E-MAIL: it@iboulder.com • WEBSITE: www.iboulder.com
REPORT NUMBER: ITL-10111
DATE: 10/21/11
PREPARED FOR: [REDACTED] LLC
ADDRESS: [REDACTED]
CATALOG NUMBER: [REDACTED]
RESULTS:
SPECTRORADIOMETRIC
Observer: CIE 1931 2 degree
Chromaticity Coordinate x: 0.3728
Chromaticity Coordinate y: 0.3798
Correlated Color Temp. CCT (K): 4200
Color Rendering Index (CRI): 83
Color Rendering Index: 1 (slight greyish red): 81
Color Rendering Index: 2 (dark greyish yellow): 88
Color Rendering Index: 3 (strong yellowish green): 94
Color Rendering Index: 4 (moderate yellowish green): 81
Color Rendering Index: 5 (slight bluish green): 93
Color Rendering Index: 6 (slight blue): 89
Color Rendering Index: 7 (slight violet): 89
Color Rendering Index: 8 (slight reddish purple): 89
Color Rendering Index: 9 (strong red): 82
Color Rendering Index: 10 (strong yellow): 72
Color Rendering Index: 11 (strong green): 79
Color Rendering Index: 12 (strong blue): 60
Color Rendering Index: 13 (light yellowish pink (skin)): 82
Color Rendering Index: 14 (moderate blue green (leaf)): 77
ANSI C78.317-2008 Div.: 0.003
ELECTRICAL
Input Voltage (Volts AC): 120.0
Input Current (mA AC): 151
Input Power (Watts): 17.9
Input Power Factor (%): 96.6
Input Current THD (%): 9.0
Input Voltage THD (%): 0.1

LM-79 report example 8 pages

Model #, Test #, Power factor, lm/W, Lumens

CCT, CRI, Duv

The image displays eight pages of an LM-79 test report. The pages contain various data points and graphs. Page 1 shows the test report header and basic information. Page 2 shows the test results table. Page 3 shows the test results table. Page 4 shows the test results table. Page 5 shows the test results table. Page 6 shows the test results table. Page 7 shows the test results table. Page 8 shows the test results table.




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LED Lighting Facts Approved Labs List

123 MATCHING APPROVED LABS FOUND

Testing Laboratory Partner	LM-79: total flux and color (required lab's metrics, LM-79 sections 9 and 12)	LM-79: intensity distribution (optional metrics, LM-79 section 10)	In-situ Temperature Measurement Test (ISTMT)	LM-80
Acuity Brands Lighting Conyers Lab	10/1/2011 - 9/30/2016	10/1/2011 - 9/30/2016	9/9/2011 - 9/15/2016	No
Acuity Brands Lighting Granville Lab	4/30/2012 - 3/31/2014	4/30/2012 - 3/31/2014	11/29/2011 - 12/21/2013	No
American Testing & Assessment Laboratory, LLC	1/10/2014 - 12/31/2015	1/10/2014 - 12/31/2015	1/10/2014 - 12/31/2015	No
Aurora International Testing Laboratory (Shanghai)	12/9/2015 - 12/31/2016	12/9/2015 - 12/31/2016	12/9/2015 - 12/31/2016	No
Bay Area Compliance Laboratories (Sanmateo)	12/4/2012 - 9/30/2016	9/17/2015 - 9/30/2016	9/17/2015 - 9/30/2016	10/1/2011 - 9/30/2016
Bay Area Compliance Labs Corp (Shenzhen)	4/1/2012 - 3/31/2017	4/1/2012 - 3/31/2017	4/13/2012 - 3/31/2017	4/1/2012 - 3/31/2017
Bay Area Compliance Labs Corp (Dongguan)	12/12/2011 - 4/14/2016	12/12/2011 - 4/14/2016	12/12/2011 - 4/14/2016	3/22/2011 - 4/14/2016
Bell-southon Testing Laboratory	9/25/2012 - 4/15/2016	9/25/2012 - 4/15/2016	5/6/2013 - 4/15/2016	9/25/2012 - 4/15/2016
BEST Test Service Shenzhen Co., Ltd	1/1/2012 - 12/31/2016	1/1/2012 - 12/31/2016	12/15/2011 - 12/31/2016	1/1/2012 - 12/31/2016
Brighthouse, Inc	No	No	No	11/6/2012 - 11/25/2015
Building Acoustics & Lighting Laboratories, Inc	4/1/2012 - 3/31/2016	4/1/2012 - 3/31/2016	4/1/2012 - 3/31/2016	No
CALDWELL INDEPENDENT TESTING LABORATORIES	8/19/2015 - 6/30/2016	8/19/2015 - 6/30/2016	8/19/2015 - 6/30/2016	No
CCIC Southern electronic product testing (Shenzhen) Co., Ltd	10/9/2013 - 12/31/2015	10/9/2013 - 12/31/2015	2/28/2014 - 2/27/2015	10/9/2013 - 12/31/2015
Centre Testing International	10/1/2011 - 9/30/2015	10/1/2011 - 9/30/2015	10/1/2011 - 9/30/2015	10/1/2011 - 9/30/2015
CITIZEN ELECTRONICS CO., LTD	No	No	No	3/27/2011 - 3/26/2016
Cooper Lighting	7/1/2012 - 6/30/2016	7/1/2012 - 6/30/2016	2/2/2012 - 6/1/2016	No
Creo Durham Technology Center	4/12/2012 - 3/31/2016	4/12/2012 - 3/31/2016	4/4/2014 - 4/5/2016	No
Creo Engineering Services Testing Laboratory	6/5/2012 - 3/31/2016	6/5/2012 - 3/31/2016	6/5/2012 - 4/4/2016	No
Creo Racine Engineering Services Testing Laboratory	7/2/2013 - 3/31/2016	7/2/2013 - 3/31/2016	8/26/2013 - 3/17/2016	No
Creo SSL Laboratory	No	No	No	1/1/2012 - 3/31/2016



Approved labs listed on the LED Lighting Facts site




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LED 16 Watt Dock Light Specification

• 50,000 Hours average rated life, 16 Watts, 100V, 277V, 850 LUMENS

Item Number	Description
LEDL16L2701	Safety Yellow 16W Docklight with 4' cord and 60' K&E20 - 04 plug
LEDL16L2702	Safety Yellow 16W Docklight with 4' cord and Home 110v male plug
LEDL16L270803	Docklight and Docking Cord Kit



Applications

- Shipping and receiving loading docks
- LED lighting is a great choice for rough surface applications
- Machine rooms such as stamping presses
- Industrial machine lighting
- Repetitive indoor and outdoor spot lighting
- Plug into your type

Description

- Rotatably swivel (30°) within durable resistant aluminum housing and polycarbonate lens
- 30' cord for part numbers 001220
- Available with either NEMA 5-15 or C14 plug styles
- Color: Safety Yellow

Benefits

- They endure spot with an average of 5' (1' at back of 22 feet radius)
- Offer excellent 100% safety illumination for loading docks
- Only 16 watts! Over 82% less energy than 70 watt T8/EC halogen
- Long life: 50,000 hours
- Easy install to existing docklines
- Number profiles and only 4.5 lbs.

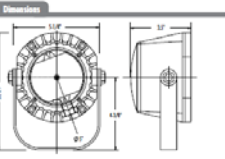
Options

- Available in ready-to-go kits with docklines for new construction or complete replacement - safety yellow only


Specifications


Input Line Voltage	100V, 277V, 0V
Input Line Frequency	60Hz
Output Power	16W
Rated Life (Mean Time To Failure)	50,000 hrs
Maximum Operating Temp	20°C
Minimum Operating Temp	40°C
UL Listed	Yes
Power Factor	0.9
Lead Harmonic Distortion	0.02


Dimensions



3 YEAR WARRANTY







ENERGY STAR AWARD 2010
PARTNER OF THE YEAR

Fixtures and Lamps

Find and Compare Products

1 Find product models that have earned the ENERGY STAR and compare features, savings and more to optimize your purchase.

2 Select a product category of interest to you.

3 Get details on specific qualifying models.

4 Make informed purchasing decisions.

ENERGY STAR Certified Light Fixtures

13834 Records Found

Filter Your Results

Fixtures Type

- Accent/Track Lighting (558)
- Ceiling/Vent Fan and Lights (43)
- Recessed Lighting (1228)
- Under-Cabinet and Cove Lighting (850)
- Portable Lighting (Table/Desk/Floor/Lamp) (87)
- Chandeliers (86)
- Bath Vanity Lights (85)
- Show more

Indoor/Outdoor

- Indoor (13455)
- Outdoor (2885)

Technology®

- Fluorescent (2839)
- Halogen (4)
- LED (11211)

Find and Compare Products

1 Find product models that have earned the ENERGY STAR and compare features, savings and more to optimize your purchase.

2 Select a product category of interest to you.

3 Get details on specific qualifying models.

4 Make informed purchasing decisions.

ENERGY STAR Certified Light Bulbs

9445 Records Found

Filter Your Results

Bulb Type®

- Decorative (886)
- General Purpose Replacement (5182)
- Incandescent (395)
- Krypton (176)
- Other (110)
- Reflector (Fluor/Seal) (378)

Technology®

- CFL (1695)
- LED (8397)

Energy Star is just residential...

Find and Compare Products

5150 Records Found

Sort by: Light Output (lumens)

Filter Your Results

Fixture Type

- Clear selections
- Accent/Track Lighting (558)
- Ceiling/Vent Fan and Lights (43)
- Recessed Lighting (6879)

... Right?

Energy Star Lamps Specs. v1.1 and v2



9. PHOTOMETRIC PERFORMANCE

9.1. Luminous Efficacy: All Lamps

Lamp Type	ENERGY STAR Requirements		Methods of Measurement and/or Reference Documents
	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.		Measurement (fluorescent not covered by DOE): IES LM-66-11
	Lamp Rated Wattage (watts)	Minimum Lamp Efficacy (initial lm/W)	
Omnidirectional	<15	55	Measurement (fluorescent covered by DOE): 10 CFR Part 430 Appendix W to Subpart B
	≥15	65	
Directional	<20	40	Measurement (solid-state): IES LM-79-08
	≥20	50	
Decorative	<15	45	Reference Documents for all lamps not covered by DOE: IES LM-54-12
	15≤ W <25	50	
	≥25	60	

v1.1

9. PHOTOMETRIC PERFORMANCE

9.1. Luminous Efficacy: All Lamps

Lamp Type	ENERGY STAR Requirements		Methods of Measurement and/or Reference Documents
	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.		Measurement (fluorescent): 10 CFR Part 430 Appendix W to Subpart B or U.S. Department of Energy Conservation Test Procedures for Compact Fluorescent Lamps (once final)
	Minimum Lamp Efficacy (initial lm/W)		
	CRI ≥ 90	CRI < 90	Measurement (solid-state): IES LM-79-08 or U.S. Department of Energy Conservation Test Procedure for Integrated Light-Emitting Diode Lamps (once final)
Omnidirectional	70	80	
Directional	61	70	Reference Documents for all lamps not covered by DOE: IES LM-54-12
Decorative	65		

v2.0

Energy Star Lamps Specs. v1.1 and v2



9.2. Light Output (Exemption: MR, MRX and PAR lamps)

Wattage equivalency claims on the lamp, its base or packaging, product literature or point-of-purchase materials, either printed or electronic may not exceed values certified according to the tables below.

Lamp Type	ENERGY STAR Requirements	
Omnidirectional	Reported initial light output (in lumens) value for each lamp model shall fall within the range of the referenced incandescent lamp per the table below. Additionally 8 or more units individually shall meet the requirement. ¹	
	Rated Wattage of the Referenced Incandescent Lamp (watts)	Light Output (Lumens)
	25	250-449
	40	450-799
	60	800-1,099
	75	1,100-1,599
	100	1,600-1,999
	125	2,000-2,549
	150	2,550-3,000
	200	3,001-3,999
	300	4,000-6,000

v1.1

Lamp Type	ENERGY STAR Requirements	
Omnidirectional	Reported initial light output (in lumens) value for each lamp model shall fall within the range of the referenced incandescent lamp per the table below. Additionally 8 or more units individually shall meet the requirement. ⁴	
	Rated Wattage of the Referenced Incandescent Lamp (watts)	Light Output (Lumens)
	25	250-449
	40	450-799
	60	800-1,099
	75	1,100-1,599
	100	1,600-1,999
	125	2,000-2,549
	150	2,550-3,000
	200	3,001-3,999
	300	4,000-6,000
	30-60-100	
	30-70-100	1,200-1,999
	40-60-100	
	50-100-150	2,150-3,000

³-way lamps shall be evaluated for equivalency claims based on tested results at the highest input (i.e., highest light output) setting.

v2.0

Energy Star Lamps Specs. v1.1 and v2



9.5. Luminous Intensity Distribution: ANSI Standard Omnidirectional and Decorative (Exemption: Compact Fluorescent Lamps)

Lamp Type	ENERGY STAR Requirements
ANSI Standard Omnidirectional Lamps A, BT, P, PS, S, and T	Lamp luminous intensity distribution shall emulate that of the referenced incandescent lamp as follows: 90% of the luminous intensity measured values (candelas) shall vary by no more than 25% from the average of all measured values. All measured values (candelas) shall vary by no more than 50% from the average of all measured values. No less than 5% of total flux (zonal lumens) shall be emitted in the 135° to 180° zone. See Appendix A-1 for illustration.

Lamp Type	ENERGY STAR Requirements
ANSI Standard Omnidirectional Lamps Refer to Section 1.1 for eligible ANSI standard lamp shapes	Lamp luminous intensity distribution shall emulate that of the referenced incandescent lamp as follows: 80% of the luminous intensity measured values (candelas) shall vary by no more than 35% from the average of all measured values in the 0° to 130° zone. All measured values (candelas) in the 0° to 130° zone shall vary by no more than 60% from the average of all measured values in that zone. No less than 5% of total flux (zonal lumens) shall be emitted in the 130° to 180° zone. See Appendix A-1 for illustration.

No CFL exemption

v1.1

v2.0

Energy Star Lamps Specs. v1.1 and v2



10.2. Rated Life: All Lamps

Lamp Type	ENERGY STAR Requirements
Compact Fluorescent	Lamp shall have a rated life \geq 10,000 hours. At 40% of rated life 90% of the tested units shall be operational. \geq 50% of the tested units shall be operational at rated life.
Solid-State	Decorative lamps shall have a rated life \geq 15,000 hours. All other lamps shall have a rated life of \geq 25,000 hours. All tested units shall be operational at 3,000 hours. \geq 90% of the tested units shall be operational at 6,000 hours.

10.2. Rated Life: All Lamps

Lamp Type	ENERGY STAR Requirements
Compact Fluorescent	Lamp shall have a rated life \geq 10,000 hours. At 40% of rated life 90% of the tested units shall be operational. \geq 50% of the tested units shall be operational at rated life.
Solid-State	Omnidirectional and decorative lamps shall have a rated life \geq 15,000 hours. Directional lamps shall have a rated life \geq 25,000 hours. All tested units shall be operational at all applicable lumen maintenance measurement points designated in Section 10.1.

v1.1

v2.0

Energy Star Lamps Specs. v1.1 and v2



11.2. Power Factor: All Lamps (Exemption: Lamps ≤ 5 Watts)

Lamp Type	ENERGY STAR Requirements
Compact Fluorescent	Reported value for each lamp model shall have a power factor ≥ 0.5 .
Solid-State	Reported value for each lamp model shall have a power factor ≥ 0.7 .

Lamp Type	ENERGY STAR Requirements
Compact Fluorescent	Reported value for each lamp model shall have a reported value ≥ 0.5 .
Solid-State	Omnidirectional lamps with rated/reported input power ≤ 10 watts shall have a reported value ≥ 0.6 . All other lamps shall have a reported value ≥ 0.7 .

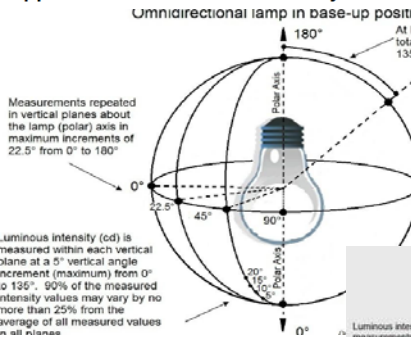
v1.1

v2.0

Energy Star Lamps Specs. v1.1 and v2

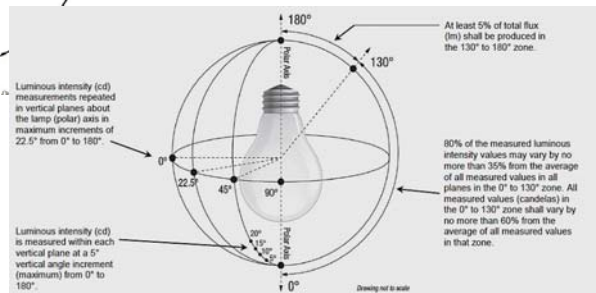


Appendix A-1: Luminous Intensity Distribution Diagram for Omnidirectional Lamp



v1.1

v2.0



Energy Star Lamps Specification



ENERGY STAR® Program Requirements Product Specification for Lamps (Light Bulbs)

Eligibility Criteria Version 2.0

2. EFFECTIVE DATE

The ENERGY STAR Lamps Version 2.0 specification shall take effect January 2, 2017. To qualify for ENERGY STAR, a product model shall meet the ENERGY STAR specification in effect on its date of manufacture. The date of manufacture is specific to each unit and is the exact date on which a unit is considered to be completely assembled.

DIRECTIONAL for purposes of this specification (requiring luminaire photometry)		Energy Star Specs Luminaire																																																						
<p>RESIDENTIAL grade luminaires, specifically</p> <ul style="list-style-type: none"> accent lights <ul style="list-style-type: none"> includes line-voltage directional track lights includes directional ceiling fan light kits cove mounts downlights: recessed, pendant, surface mount <ul style="list-style-type: none"> includes SSL downlight retrofits includes type IC, type Non-IC, AT and non-AT recessed downlights includes ventilation fans with downlights outdoor post, pendant, porch or wall mounted luminaires under cabinet luminaires portable desk task lights all <u>inseparable SSL luminaires</u> including "non-directional" inseparable SSL luminaires 	<p>COMMERCIAL grade luminaires, specifically</p> <ul style="list-style-type: none"> accent lights <ul style="list-style-type: none"> includes line-voltage directional track lights downlights: recessed, pendant, surface mount <ul style="list-style-type: none"> includes SSL downlight retrofits excludes troffers or linear forms under cabinet shelf mounted task lighting portable desk task lights includes separable or <u>adjustable SSL luminaires</u> described above 																																																							
<p>NON-DIRECTIONAL for purposes of this specification (requiring source photometry)</p> <p>RESIDENTIAL grade luminaires only, including but not limited to the following examples</p> <p>Indoor:</p> <ul style="list-style-type: none"> bath vanity <ul style="list-style-type: none"> ceiling and close-to-ceiling mount <ul style="list-style-type: none"> includes non-directional ceiling fan light kits chandeliers decorative pendants linear strips wall sconces wrapped fans ventilation fan lights <p>portable luminaires</p> <ul style="list-style-type: none"> includes portable desk task lights includes portable floor task lights includes "table lamps" and "floor lamps" includes torchieres <p>Outdoor:</p> <ul style="list-style-type: none"> ceiling and close-to-ceiling mount porch (wall mounted) pendant security 		<p>LUMINAIRE TYPES MEASURED WITH LUMINAIRE PHOTOMETRY</p> <table border="1"> <tr> <td>Inseparable SSL Luminaires</td> <td colspan="2">Luminaires not listed below as directional with solid state light sources that do not fit the definition of lamp or light engine</td> </tr> <tr> <td>DIRECTIONAL LUMINAIRES</td> <td colspan="2"></td> </tr> <tr> <td>Limited to the following types:</td> <td colspan="2">Includes:</td> </tr> <tr> <td>Accent Lights</td> <td>Line-voltage directional track lighting</td> <td>Directional ceiling fan light kits</td> </tr> <tr> <td>Cove Mount and Under cabinet Lights</td> <td>Track heads</td> <td></td> </tr> <tr> <td>Downlights</td> <td>SSL Downlight Retrofit Kits</td> <td>Surface Mount</td> </tr> <tr> <td></td> <td>Recessed</td> <td>Pendant Mount</td> </tr> <tr> <td>Outdoor Lighting</td> <td>Post mount</td> <td>Wall Mounted Luminaires</td> </tr> <tr> <td></td> <td>Pendant Mount</td> <td>Security Lighting</td> </tr> <tr> <td></td> <td>Porch Lights</td> <td></td> </tr> <tr> <td>Portable Desk Task Lights</td> <td colspan="2"></td> </tr> <tr> <td colspan="3">LUMINAIRE TYPES MEASURED WITH SOURCE PHOTOMETRY</td> </tr> <tr> <td colspan="3">NON-DIRECTIONAL LUMINAIRES (including but not limited to)</td> </tr> <tr> <td>Ventilation or Ceiling Fan Light Kits</td> <td colspan="2">Portable luminaires</td> </tr> <tr> <td>Wrapped Lems</td> <td colspan="2">Linear Strip</td> </tr> <tr> <td>Wall Sconces & retrofits</td> <td colspan="2">Outdoor Ceiling or Close-to-Ceiling Mount, Porch or Post mount</td> </tr> <tr> <td>Decorative Pendants</td> <td colspan="2">Bath Vanity</td> </tr> <tr> <td>Ceiling Mount & retrofits</td> <td colspan="2">Chandeliers</td> </tr> </table>	Inseparable SSL Luminaires	Luminaires not listed below as directional with solid state light sources that do not fit the definition of lamp or light engine		DIRECTIONAL LUMINAIRES			Limited to the following types:	Includes:		Accent Lights	Line-voltage directional track lighting	Directional ceiling fan light kits	Cove Mount and Under cabinet Lights	Track heads		Downlights	SSL Downlight Retrofit Kits	Surface Mount		Recessed	Pendant Mount	Outdoor Lighting	Post mount	Wall Mounted Luminaires		Pendant Mount	Security Lighting		Porch Lights		Portable Desk Task Lights			LUMINAIRE TYPES MEASURED WITH SOURCE PHOTOMETRY			NON-DIRECTIONAL LUMINAIRES (including but not limited to)			Ventilation or Ceiling Fan Light Kits	Portable luminaires		Wrapped Lems	Linear Strip		Wall Sconces & retrofits	Outdoor Ceiling or Close-to-Ceiling Mount, Porch or Post mount		Decorative Pendants	Bath Vanity		Ceiling Mount & retrofits	Chandeliers	
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Decorative Pendants	Bath Vanity																																																							
Ceiling Mount & retrofits	Chandeliers																																																							
V 1.2	V 2.0																																																							

Luminaire Energy Star Specs.

To certify a luminaire for ENERGY STAR, first determine which requirements in this document are applicable to the specific luminaire. ENERGY STAR requirements are specific to luminaires classified by the Program as directional or non-directional.

Luminaires which do not fall into the specific directional scope default to non-directional classification.

V 1.2

- Directional luminaires (evaluated with luminaire photometry):
 - **specific scope** itemized in the Specification Scope & Luminaire Classification section
 - evaluated with luminaire photometry (lumens delivered from luminaire per input watt), accounting for luminaire optical performance
 - shall also meet specified minimum light output and zonal lumen density requirements
 - solid state (LED) luminaire types featuring inseparable components (no user replaceable/upgradeable [LED light engine](#) or GU24 based integrated LED lamp) and not otherwise itemized in the directional scope shall be considered [inseparable SSL luminaires](#), and thus evaluated as directional luminaires requiring luminaire photometry.
 - outdoor post-mounted luminaires are classified as directional, requiring luminaire photometry to test for uplight
 - luminaire types not meeting the above default to non-directional, below
- Non-directional luminaires (evaluated by source photometry):
 - **examples** provided in the above Specification Scope & Luminaire Classification section
 - evaluated by source photometry (lumens delivered from the light source per input watt), including system performance of lamp and ballast, LED light engine or GU24 based integrated LED lamp
 - luminaires not classified above as directional are evaluated as non-directional

This specification is not organized by indoor or outdoor, or by light source technology. Performance requirements comprise each



1 SPECIFICATION SCOPE & LUMINAIRE CLASSIFICATION

The ENERGY STAR Luminaires specification ("this specification") covers luminaire types outlined in this section. This specification is limited to residential type lighting products, however to the extent that products that fall under the scope of this specification are sold into the commercial market, they may be included and listed appropriately for the applicable end user. Certification is limited to luminaires below a total input power of 250 watts intended to be connected directly to the electric power grid. Refer to the Definitions section in [Section 4](#) for definitions of each directional luminaire type detailed below. Questions about scope may be directed to an EPA recognized Certification Body or lighting@energystar.gov.

V 2.0

Excluded products

- Commercial outdoor lighting (e.g. street and area, wall packs, canopy)
- High or low bay luminaires
- Recessed troffers and other linear fluorescent fixtures
- Luminaire types typically employed for general office illumination such as linear pendants and panel lighting
- HID sources or their SSL replacements
- Socket adapters or converters
- LED lamps intended to replace linear fluorescent, pin-based compact fluorescent or high-intensity discharge lamps.

Luminaire Energy Star Specs-10 years All luminaires



Category	V1.0 '07	V1.2 '12	V2.0 6/'16	
CRI	75 (indoor)	Ra >80 (indoor)	Ra>80, R9>0	
CCT	27K – 65K* *27-35K only in res.	27K – 41K 5K (commercial)	27K – 5K	

Luminaire Energy Star Specs-10 years Non-Directional*



Category	V1.0 '07	V1.2 '12	V2.0 6/'16	
Efficacy	n/a*	>65 res.	>65 all	
Min. Lumens	n/a*	800 (Engine) 450 (fan/vanity/porch) 250 (decorative)	450 (Engine) 250 (decorative) 250 (wall retro.) 800 (ceiling retro.)	

*All v1.0 fixture categories were directional


Luminaire Energy Star Specs-10 years Directional*



Category	V1.0 '07	V1.2 '12	V2.0 6/'16	
Min. Efficacy				
Undercabinet	24 kitchen 29 task	29 res. 29 comm.	50	
Recessed	35	42 res. & comm.	55	
Porch	24	35	60	

Beware of sound alike names...





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LED High Bay Lights

Unlike ordinary residences, high-ceiling spaces have special lighting requirements. That's why clients in industrial applications are constantly on the lookout for the most efficient way to provide illumination for their facilities. Thanks to new generation LED high bay lights, low-performing HID fixtures can now be replaced for good.

Unlike their predecessors, LED high bays provide better efficiency while saving on costs. They also emit uniform light, reduce carbon footprint, and thus increase workers' productivity.


Here, we detail the features of LED high bay luminaries, including the following: light color, lumen output and efficiency, and materials.

As far as types are concerned, these high-ceiling lights are classified into two types based on size or number of LED pods: 2-pod and 4-pod. There is not much difference between these two versions, but since each pod contains high output LEDs, 4-pods provide better illumination.


As the LED lighting industry continues to progress, manufacturers constantly produce high-efficient LED high bays. Efficiency in these lights is measured in terms of lumens-per-watt (lpw), so the higher the digits one sees on the label, the more efficient a particular LED high bay is.

While LED prototypes can have as high as 200 lpw, commercially available high bay lights can only have an average efficiency of 82 lpw. Still, LEDs with 82 lpw are more than efficient enough to light a large warehouse.


LEDs for aesthetics purposes can have multi-color lights. For instance, submersible LED lights can glow a pink or baby pink glow when turned on. But with LED high bays, the light color is maintained to white. Some emit neutral white (4000 K) while others emit warm white (3000 K).




High Power LED Flood Lights




LED Area Lights



LED Explosion Proof Lights



LED Flood Lights



LED Canopy Lights

Beware of imitations





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Technical Requirements Table V3.1
2013, 2014 for a PDF version of the Technical Requirements Table V3.1
 To view the requirements for DLC Premium please visit Technical Requirements version 2013-2015.



Luminaires



Commercial

Retrofit Kits

In Situ

Lamps

T-LED & "HID"

Designlights Consortium™ Product Qualification Criteria, (FINAL 11/20/15)

DESIGNLIGHTS
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Technical Requirements Table, V3.1
Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements				Primary Use**	Distribution		
				DLC Standard		DLC Premium*					
			Minimum Efficiency (lm/W)	Minimum Warranty (years)	CCT / CRI / Lw	Minimum Efficiency (lm/W)	Minimum Warranty (years)	CCT / CRI / Lw			
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≥5700 / ≥65 / ≥250,000	100	5	≤\$700 / ≥36,000 / ≥250,000	<ul style="list-style-type: none"> • Outdoor Pole/Arm-mounted Area and Roadway Luminaires • Outdoor Pole/Arm-mounted Decorative Luminaires • Outdoor Full-Cutoff Wall-mounted Area Luminaires • Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires • Bollards • Parking Garage Luminaires • Fuel Pump Canopy Luminaires • Landscape/Accent Flood and Spot Luminaires • Architectural Flood and Spot Luminaires • Stairwell and Passageway Luminaires • Specialty: _____ • Wall-wash Luminaires • Track or Mono-point Luminaires • Specialty: _____ • Display Case Luminaires • Horizontal Refrigerated Case Luminaires • Vertical Refrigerated Case Luminaires • Specialty: _____ • 2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces • 1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces • 2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces • Specialty: _____ • Direct Linear Ambient Luminaires • Linear Ambient Luminaires w/ indirect component • Specialty: _____ • High-bay Luminaires for Commercial and Industrial Buildings • Low-bay Luminaires for Commercial and Industrial Buildings • High-bay Aisle Luminaires • Specialty: _____ 	See Primary Use Zonal Lumen Density Requirements in Table 4, below
2		Outdoor – Mid Output	5,000-10,000	70			105				
3		Outdoor – High Output	≥10,000	75			110				
4	Indoor	Interior Directional	250-4,500	45	5	≥5000 / ≥80 / ≥250,000	75	5	≤\$900 / ≥36,000 / ≥250,000		
5		Display Case	50-375 lm/ft	50			85				
6		Troffer	≥1,500	85			110				
7		Linear Ambient	≥375 lm/ft	85			110				
8		High-Bay	≥5,000	80		≥5700 / ≥270 / ≥250,000	110				

* Products seeking qualification in the DLC Premium classification will be required to pass an L₈₀ > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the L₉₀ requirements of the DLC Standard classification.

** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

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Technical Requirements Table, V3.1
 Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements								Primary Use**	Distribution
				DLC Standard			DLC Premium*			CCT / CRI / L ₈₀ / L ₇₀			
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₈₀ / L ₇₀	Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₈₀ / L ₇₀				
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / 250,000	100	5	≤5700 / 265 / >36,000 / 250,000	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty 			
2		Outdoor – Mid Output	5,000-10,000	70			105						
3		Outdoor – High Output	≥10,000	75			110						
4	Indoor	Interior Directional	250-4,500	45	5	≤5000 / 280 / 250,000	75	5	≤5000 / 280 / >36,000 / 250,000	<ul style="list-style-type: none"> Wall-wash Luminaires Track or Mono-point Luminaires Specialty Display Case Luminaires Horizontal Refrigerated Case Luminaires Vertical Refrigerated Case Luminaires Specialty 	See Primary Use Zonal Lumen Density Requirements in Table 4, below		
5		Display Case	50-975 lm/ft	50			85						
6		Troffer	≥1,500	85			110						
7	Indoor	Linear Ambient	≥375 lm/ft	85	5	≤5700 / 270 / 250,000	110	5	≤5700 / 270 / >36,000 / 250,000	<ul style="list-style-type: none"> Direct Linear Ambient Luminaires Linear Ambient Luminaires w/ Indirect component Specialty High-bay Luminaires for Commercial and Industrial Buildings Low-bay Luminaires for Commercial and Industrial Buildings High-bay Aisle Luminaires Specialty 			
8		High-bay	≥5,000	80			110						

* Products seeking qualification in the DLC Premium classification will be required to pass an L₈₀ > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the L₇₀ requirements of the DLC Standard classification.
 ** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

Technical Requirements Table, V3.1
 Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements								Primary Use**	Distribution
				DLC Standard			DLC Premium*			CCT / CRI / L ₈₀ / L ₇₀			
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₈₀ / L ₇₀	Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₈₀ / L ₇₀				
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / 250,000	100	5	≤5700 / 265 / >36,000 / 250,000	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty 			
2		Outdoor – Mid Output	5,000-10,000	70			105						
3		Outdoor – High Output	≥10,000	75			110						
4	Indoor	Interior Directional	250-4,500	45	5	≤5000 / 280 / 250,000	75	5	≤5000 / 280 / >36,000 / 250,000	<ul style="list-style-type: none"> Wall-wash Luminaires Track or Mono-point Luminaires Specialty Display Case Luminaires Horizontal Refrigerated Case Luminaires Vertical Refrigerated Case Luminaires Specialty 	See Primary Use Zonal Lumen Density Requirements in Table 4, below		
5		Display Case	50-975 lm/ft	50			85						
6		Troffer	≥1,500	85			110						
7	Indoor	Linear Ambient	≥375 lm/ft	85	5	≤5700 / 270 / 250,000	110	5	≤5700 / 270 / >36,000 / 250,000	<ul style="list-style-type: none"> Direct Linear Ambient Luminaires Linear Ambient Luminaires w/ Indirect component Specialty High-bay Luminaires for Commercial and Industrial Buildings Low-bay Luminaires for Commercial and Industrial Buildings High-bay Aisle Luminaires Specialty 			
8		High-bay	≥5,000	80			110						

* Products seeking qualification in the DLC Premium classification will be required to pass an L₈₀ > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the L₇₀ requirements of the DLC Standard classification.
 ** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

Technical Requirements Table, V3.1
 Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements					Primary Use**	Distribution	
				DLC Standard			DLC Premium*				
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / Lw	Minimum Efficacy (lm/W)	Minimum Warranty (years)			CCT / CRI / Lw / Lw
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / 250,000	100	5	≤5700 / 265 / >36,000 / 250,000	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty: _____ 	See Primary Use Zonal Lumen Density Requirements in Table 4, below
2		Outdoor – Mid Output	5,000-10,000	70			105				
3		Outdoor – High Output	≥10,000	75			110				
4	Indoor	Interior Directional	250-4,500	45	75	5	≤5000 / 280 / >36,000 / 250,000	<ul style="list-style-type: none"> Wall-wash Luminaires Track or Mono-point Luminaires Specialty: _____ Display Case Luminaires Horizontal Refrigerated Case Luminaires Vertical Refrigerated Case Luminaires Specialty: _____ 			
5	Display Case	50-975 lm/ft	50	85							
6	Troffer	21,500	85	110							
7	Linear Ambient	≥375 lm/ft	85	110	5	≤5700 / 270 / >36,000 / 250,000	<ul style="list-style-type: none"> Direct Linear Ambient Luminaires Linear Ambient Luminaires w/ Indirect component Specialty: _____ High-bay Luminaires for Commercial and Industrial Buildings Low-bay Luminaires for Commercial and Industrial Buildings High-bay Aisle Luminaires Specialty: _____ 				
8	High-bay	≥25,000	80	110							

* Products seeking qualification in the DLC Premium classification will be required to pass an Lw > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the Lw requirements of the DLC Standard classification.
 ** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

Technical Requirements Table, V3.1
 Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements					Primary Use**	Distribution	
				DLC Standard			DLC Premium*				
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / Lw	Minimum Efficacy (lm/W)	Minimum Warranty (years)			CCT / CRI / Lw / Lw
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / 250,000	100	5	≤5700 / 265 / >36,000 / 250,000	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty: _____ 	See Primary Use Zonal Lumen Density Requirements in Table 4, below
2		Outdoor – Mid Output	5,000-10,000	70			105				
3		Outdoor – High Output	≥10,000	75			110				
4	Indoor	Interior Directional	250-4,500	45	75	5	≤5000 / 280 / >36,000 / 250,000	<ul style="list-style-type: none"> Wall-wash Luminaires Track or Mono-point Luminaires Specialty: _____ Display Case Luminaires Horizontal Refrigerated Case Luminaires Vertical Refrigerated Case Luminaires Specialty: _____ 			
5	Display Case	50-975 lm/ft	50	85							
6	Troffer	21,500	85	110							
7	Linear Ambient	≥375 lm/ft	85	110	5	≤5700 / 270 / >36,000 / 250,000	<ul style="list-style-type: none"> Direct Linear Ambient Luminaires Linear Ambient Luminaires w/ Indirect component Specialty: _____ High-bay Luminaires for Commercial and Industrial Buildings Low-bay Luminaires for Commercial and Industrial Buildings High-bay Aisle Luminaires Specialty: _____ 				
8	High-bay	≥25,000	80	110							

* Products seeking qualification in the DLC Premium classification will be required to pass an Lw > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the Lw requirements of the DLC Standard classification.
 ** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

Technical Requirements Table, V3.1
 Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements				Primary Use**	Distribution		
				DLC Standard			DLC Premium*				
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / Lw	Minimum Efficacy (lm/W)			Minimum Warranty (years)	CCT / CRI / Lw / Ls
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / 250,000	100	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty: _____ 	See Primary Use Zonal Lumen Density Requirements in Table 4, below		
2		Outdoor – Mid Output	5,000-10,000	70			105			5	≤5700 / 265 / >36,000 / 250,000
3		Outdoor – High Output	≥10,000	75			110				
4	Indoor	Interior Directional	250-4,500	45	5	<ul style="list-style-type: none"> Wall-wash Luminaires Track or Mono-point Luminaires Specialty: _____ Display Case Luminaires Horizontal Refrigerated Case Luminaires Vertical Refrigerated Case Luminaires Specialty: _____ 	75	<ul style="list-style-type: none"> 2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces 1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces 2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces Specialty: _____ 			
5		Display Case	50-975 lm/ft	50			85				
6		Troffer	21,500	85			110			5	<ul style="list-style-type: none"> ≤5000 / 280 / >36,000 / 250,000
7	Indoor	Linear Ambient	≥375 lm/ft	85	5	<ul style="list-style-type: none"> ≤5700 / 270 / >36,000 / 250,000 	110	<ul style="list-style-type: none"> Direct Linear Ambient Luminaires Linear Ambient Luminaires w/ Indirect component Specialty: _____ High-bay Luminaires for Commercial and Industrial Buildings Low-bay Luminaires for Commercial and Industrial Buildings High-bay Aisle Luminaires Specialty: _____ 			
8		High-bay	≥5,000	80			110				

* Products seeking qualification in the DLC Premium classification will be required to pass an Lw > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the Lw requirements of the DLC Standard classification.
 ** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

Technical Requirements Table, V3.1
 Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements				Primary Use**	Distribution		
				DLC Standard			DLC Premium*				
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / Lw	Minimum Efficacy (lm/W)			Minimum Warranty (years)	CCT / CRI / Lw / Ls
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / 250,000	100	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty: _____ 	See Primary Use Zonal Lumen Density Requirements in Table 4, below		
2		Outdoor – Mid Output	5,000-10,000	70			105			5	≤5700 / 265 / >36,000 / 250,000
3		Outdoor – High Output	≥10,000	75			110				
4	Indoor	Interior Directional	250-4,500	45	5	<ul style="list-style-type: none"> Wall-wash Luminaires Track or Mono-point Luminaires Specialty: _____ Display Case Luminaires Horizontal Refrigerated Case Luminaires Vertical Refrigerated Case Luminaires Specialty: _____ 	75	<ul style="list-style-type: none"> 2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces 1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces 2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces Specialty: _____ 			
5		Display Case	50-975 lm/ft	50			85				
6		Troffer	21,500	85			110			5	<ul style="list-style-type: none"> ≤5000 / 280 / >36,000 / 250,000
7	Indoor	Linear Ambient	≥375 lm/ft	85	5	<ul style="list-style-type: none"> ≤5700 / 270 / >36,000 / 250,000 	110	<ul style="list-style-type: none"> Direct Linear Ambient Luminaires Linear Ambient Luminaires w/ Indirect component Specialty: _____ High-bay Luminaires for Commercial and Industrial Buildings Low-bay Luminaires for Commercial and Industrial Buildings High-bay Aisle Luminaires Specialty: _____ 			
8		High-bay	≥5,000	80			110				

* Products seeking qualification in the DLC Premium classification will be required to pass an Lw > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the Lw requirements of the DLC Standard classification.
 ** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

DESIGNLIGHTS
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DesignLights Consortium™ Product Qualification Criteria, (FINAL 11/20/15)

Technical Requirements Table, V3.1
Technical Requirements: Luminaires

#	Category	General Application	Minimum Light Output (lm)	Requirements					Primary Use**	Distribution	
				DLC Standard			DLC Premium*				
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₈₀	Minimum Efficacy (lm/W)	Minimum Warranty (years)			CCT / CRI / L ₈₀ / L ₉₀
1	Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / ≥50,000	100	5	≤5700 / 265 / ≥50,000	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty: _____ 	
2		Outdoor – Mid Output	5,000-10,000	70			105				
3		Outdoor – High Output	≥10,000	75			110				
4	Indoor	Interior Directional	250-4,500	45	5	≤5000 / 280 / ≥50,000	75	5	≤5000 / 280 / ≥50,000		
5		Display Case	50-375 lm/ft	50			85				
6		Troffer	≥1,500	85			110				
7		Linear Ambient	≥375 lm/ft	85			110				
8		High-Bay	≥5,000	80		≤5700 / 270 / ≥36,000	110		≥5700 / 270 / ≥36,000		

* Products seeking qualification in the DLC Premium classification will be required to pass an L₈₀ > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the L₈₀ requirements of the DLC Standard classification.

** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

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Outdoor categories

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Technical Requirements Table, V3.1
Technical Requirements: Luminaires

Category	General Application	Minimum Light Output (lm)	Requirements					Primary Use**	
			DLC Standard			DLC Premium*			
			Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₈₀	Minimum Efficacy (lm/W)	Minimum Warranty (years)		CCT / CRI / L ₈₀ / L ₉₀
Outdoor	Outdoor – Low Output	250-5,000	65	5	≤5700 / 265 / ≥50,000	100	5	≤5700 / 265 / ≥50,000	<ul style="list-style-type: none"> Outdoor Pole/Arm-mounted Area and Roadway Luminaires Outdoor Pole/Arm-mounted Decorative Luminaires Outdoor Full-Cutoff Wall-mounted Area Luminaires Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires Bollards Parking Garage Luminaires Fuel Pump Canopy Luminaires Landscape/Accent Flood and Spot Luminaires Architectural Flood and Spot Luminaires Stairwell and Passageway Luminaires Specialty: _____
	Outdoor – Mid Output	5,000-10,000	70			105			
	Outdoor – High Output	≥10,000	75			110			

* Products seeking qualification in the DLC Premium classification will be required to pass an L₈₀ > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the L₈₀ requirements of the DLC Standard classification.

** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

Indoor categories

DesignLights Consortium™ Product Qualification Criteria, (FINAL 11/20/15)



Technical Requirements Table, V3.1
Technical Requirements: Luminaires

Category	General Application	Minimum Light Output (lm)	DLC Standard			DLC Premium*			Requirements
			Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₉₀	Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₉₀ / L ₈₀	
Indoor	Interior Directional	250-4,500	45	5	≤5000 / ≥80 / ≥50,000	75	5	<ul style="list-style-type: none"> • Wall-wash Luminaires • Track or Mono-point Luminaires • Specialty: _____ • Display Case Luminaires • Horizontal Refrigerated Case Luminaires • Vertical Refrigerated Case Luminaires • Specialty: _____ • 2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces • 1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces • 2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces • Specialty: _____ • Direct Linear Ambient Luminaires • Linear Ambient Luminaires w/ Indirect component • Specialty: _____ • High-bay Luminaires for Commercial and Industrial Buildings • Low-bay Luminaires for Commercial and Industrial Buildings • High-bay Aisle Luminaires • Specialty: _____ 	
	Display Case	50-375 lm/ft	50			85			
	Troffer	≥1,500	85			110			
	Linear Ambient	≥375 lm/ft	85			110			
	High-Bay	≥5,000	80			110			

* Products seeking qualification in the DLC Premium classification will be required to pass an L₉₀ > 36,000 hours, as evaluated using TM-21. This requirement is in addition to the L₇₀ requirement of the DLC Standard classification.
** Luminaires may not qualify for DLC Premium using "Specialty: _____" as the Primary Use designation.

DesignLights Consortium™ Product Qualification Criteria, (FINAL 11/20/15)

Lamps



Technical Requirements: Lamps

#	Category	General Application	Minimum Light Output (lm)	DLC Standard			Requirements
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L ₇₀	
15	Linear Replacement Lamp	Four-Foot Linear Replacement Lamps	In Fixture: 2 lamps: 3,000 3 lamps: 4,500 4 lamps: 6,000 Bare Lamp: 1,600	In Fixture: 85 Bare Lamp: 100	5	≤5000 / ≥80 / ≥50,000	<ul style="list-style-type: none"> • Replacement Lamps ("Plug and Play") (UL Type A) • Internal Driver/Line Voltage Lamp-Style Retrofit Kits (UL Type B) • 2-lamp External Driver Lamp-Style Retrofit Kits (UL Type C) • 3-lamp External Driver Lamp-Style Retrofit Kits (UL Type C) • 4-lamp External Driver Lamp-Style Retrofit Kits (UL Type C) • Dual Mode Internal Driver (UL Type A or B)
16		Two-Foot Linear Replacement Lamps	In Fixture: 2 lamps: 1,350 3 lamps: 2,000 4 lamps: 2,700 Bare Lamp: 800	In Fixture: 85 lm/W Bare Lamp: 100 lm/W	5	≤5000 / ≥80 / ≥50,000	<ul style="list-style-type: none"> • Replacement Lamps ("Plug and Play") (UL Type A) • Internal Driver/Line Voltage Lamp-Style Retrofit Kits (UL Type B) • 2-lamp External Driver Lamp-Style Retrofit Kits (UL Type C) • 3-lamp External Driver Lamp-Style Retrofit Kits (UL Type C) • 4-lamp External Driver Lamp-Style Retrofit Kits (UL Type C) • Dual Mode Internal Driver (UL Type A or B)
17	Mogul Screw-Base (E39) Replacements for HID Lamps	Outdoor – Low Output	In Fixture: 250-5,000	In Fixture: 65	5	≤5700 / ≥65 / ≥50,000	<ul style="list-style-type: none"> • Replacement Lamps for Outdoor Pole/Arm-mounted Area and Roadway Luminaires (Type B) • Replacement Lamps for Outdoor Pole/Arm-mounted Decorative Luminaires (Type B) • Replacement Lamps for Outdoor Full-Cutoff Wall-mounted Area Luminaires (Type B) • Replacement Lamps for Parking Garage Luminaires (Type B) • Replacement Lamps for Fuel Pump Canopy Luminaires (Type B)
18		Outdoor – Mid Output	In Fixture: 5,000-10,000	In Fixture: 70			<ul style="list-style-type: none"> • Replacement Lamps for Outdoor Pole/Arm-mounted Area and Roadway Luminaires (Type C) • Replacement Lamps for Outdoor Pole/Arm-mounted Decorative Luminaires (Type C) • Replacement Lamps for Outdoor Full-Cutoff Wall-mounted Area Luminaires (Type C) • Replacement Lamps for Parking Garage Luminaires (Type C) • Replacement Lamps for Fuel Pump Canopy Luminaires (Type C)
19		Outdoor – High Output	In Fixture: ≥10,000	In Fixture: 75			<ul style="list-style-type: none"> • Replacement Lamps for High-Bay Luminaires (Type B) • Replacement Lamps for Low-Bay Luminaires (Type B)
20		High-Bay	In Fixture: ≥5,000	In Fixture: 80	5	≤5700 / ≥70 / ≥50,000	<ul style="list-style-type: none"> • Replacement Lamps for High-Bay Luminaires (Type C) • Replacement Lamps for Low-Bay Luminaires (Type C)

* Retrofit Kits and Replacement Lamps must be tested inside fixtures, per the policies for those products. See Retrofit Kit Policy and Linear Replacement Lamp Policy for details.
** Replacement Lamps are not eligible for the DLC Premium classification at this time.

Primary Use Technical Requirements **Light Output and Zonal Lumen Distribution**

Table 4: Primary Use Requirements

Primary Use Letter	Primary Use Designation	Minimum Light Output (lm)	Zone/Spacing Criteria	ZLD/SC Nominal Requirement	ZLD/SC Tolerance	ZLD/SC Requirement with Tolerance
a	Outdoor Pole/Arm-mounted Area and Roadway Luminaires	1,000	0-90°	100%	-1%	≥99%
			80-90°	≤10%	+3%	≤13%
b	Outdoor Pole/Arm-mounted Decorative Luminaires	1,000	0-90°	≥65%	-3%	≥62%
c	Outdoor Full-Cutoff Wall-mounted Area Luminaires	300	0-90°	100%	-3%	≥97%
			80-90°	≤10%	+3%	≤13%
d	Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires	300 (0-90° zone)***	80-90°***	≤10%***	+3%	≤13%
e	Bollards	500	90-110°	≤15%	+3%	≤18%
			>110°	0%	+3%	≤3%
f	Parking Garage Luminaires	2,000	60-80°	≥30%	-3%	≥27%
			70-80°	≤25%	+3%	≤28%
g	Fuel Pump Canopy Luminaires	2,000	0-40°	≥40%	-3%	≥37%
			40-70°	≥40%	-3%	≥37%
h	Landscape/Accent Flood and Spot Luminaires	250 (<1,000)	0-90°	≥85%	-3%	≥82%
i	Architectural Flood and Spot Luminaires	1,000	0-90°	≥85%	-3%	≥82%
j	Stairwell and Passageway Luminaires	750	0-90°	≥85%†	-3%	≥82%
k	Wall-wash Luminaires	575	0-90°	≥60%††	-3%	≥57%
l	Track or Mono-point Directional Luminaires	250	0-90°	≥85%	-3%	≥82%
m	Vertical Refrigerated Case Luminaires-center	100 lm/ft	10-90°†††	≥95%†††	-3%	≥92%
n	Vertical Refrigerated Case Luminaires-end	50 lm/ft	10-90°†††	≥95%†††	-5%	≥90%
o	Horizontal Refrigerated Case Luminaires	100 lm/ft	0-90°	≥95%	-3%	≥92%
p	Display Case Luminaires	50 lm/ft	0-80°	≥95%	-5%	≥90%
q	2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces	2,000	SC:0-180°	1.0-2.0	±0.1	0.9-2.1
			SC:90-270°	1.0-2.0	±0.1	0.9-2.1
			ZL:0-60°	≥75%	-3%	≥72%
r	1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces	1,500	SC:0-180°	1.0-2.0	±0.1	0.9-2.1
			SC:90-270°	1.0-2.0	±0.1	0.9-2.1
			ZL:0-60°	≥75%	-3%	≥72%

A recent e-mail



Eric:

I would like to know your perspective on the zonal lumen requirement, as an aspect of the LED QPL.

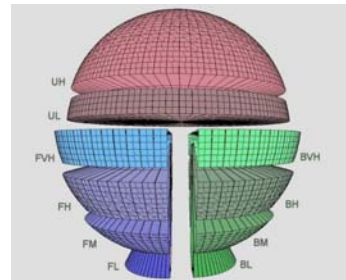
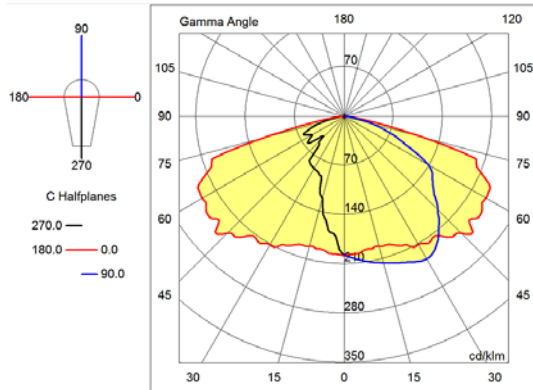
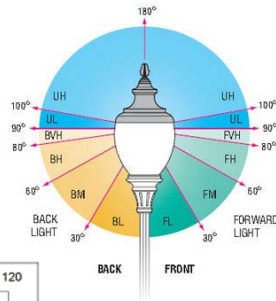
The DLC QPL has zonal lumen tolerance requirements. We have had a few projects where everything meets the QPL except for the zonal lumen requirement.

I spoke with one lighting specialist who said he ignores that aspect of the QPL (I don't recall his technical reasoning). I don't know what purpose a zonal lumen requirement serves, or what it is, so thought I would check with you folks at the LDL for some input/advice.

A reasonable question on a complicated subject.

Although I'm not sure about the "lighting specialist" mentioned above {:-/

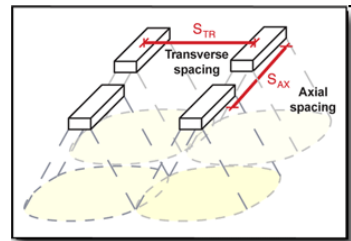
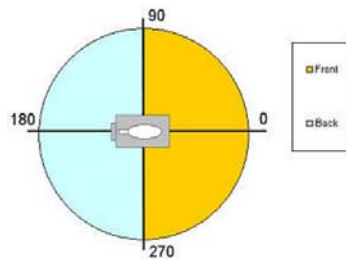
Zonal Lumens



Spacing Criteria



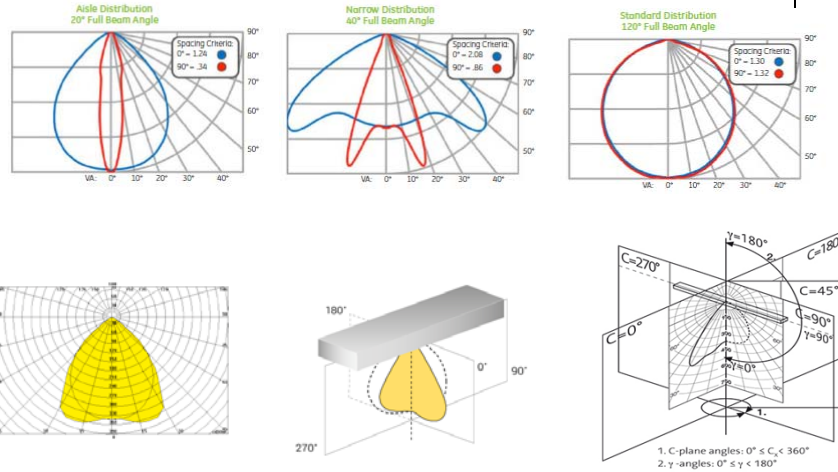
Plan View for front and back light solid angles



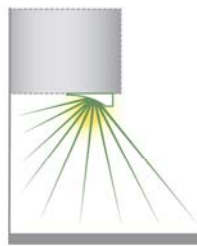
Photometric data- Its all how you slice it



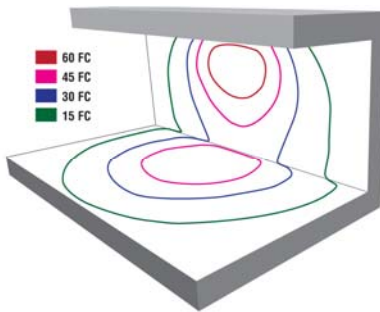
Photometrics Optics for Common Applications



Energy Star Cove or Undercabinet Luminaire Zonal Lumen Density requirement



FINELITE
Better Lighting



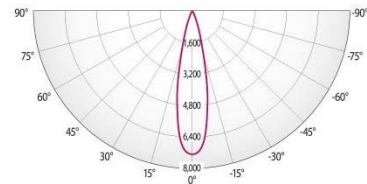
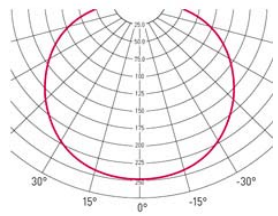
“Referring to the plane perpendicular to the length of the luminaire (it) shall deliver a minimum of 60% of total lumens within the 0-60deg. zone”



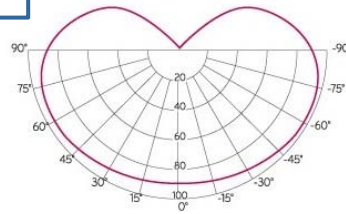
Why Zonal lumens and Spacing matter



Existing fixture
=5,000 lumens
=25 foot candles at 0 degrees (nadir)



Proposed A
=1,000 lumens
=25 foot candles at 0 degrees (nadir)



Proposed B
=5,000 lumens
=5 foot candles at 0 degrees (nadir)

Read the fine print



DesignLights Consortium™ Product Qualification Criteria, (FINAL 11/20/15)

Primary Use Technical Requirements: Light Output and Zonal Lumen Distribution

Table 4: Primary Use Requirements

Primary Use Letter	Primary Use Designation	Minimum Light Output (lm)	Zone/Spacing Criteria	ZLD/SC Nominal Requirement	ZLD/SC Tolerance	ZLD/SC Requirement with Tolerance
a	Outdoor Pole/Arm-mounted Area and Roadway Luminaires	1,000	0-90°	100%	-1%	±99%
b	Outdoor Pole/Arm-mounted Decorative Luminaires	1,000	0-90°	±10%	+3%	±13%
c	Outdoor Full-Cutoff Wall-mounted Area Luminaires	300	0-90°	100%	-3%	±97%
d	Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires	300	0-90° zone***	±10%	+3%	±13%
e	Bollards	500	>110°	0%	+3%	±3%
f	Parking Garage Luminaires	2,000	60-80°	±30%	-3%	±27%
g	Fuel Pump Canopy Luminaires	2,000	0-40°	±40%	-3%	±37%
h	Landscape/Accent Flood and Spot Luminaires	250	40-70°	±40%	-3%	±37%
i	Architectural Flood and Spot Luminaires	1,000	0-90°	±5%	-3%	±2%
j	Stairwell and Passageway Luminaires	750	0-90°	±5%	-3%	±2%
k	Wall-wash Luminaires	575	0-90°	±5%	-3%	±2%
l	Track or Mono-point Directional Luminaires	250	0-90°	±5%	-3%	±2%
m	Vertical Refrigerated Case Luminaires-center	100 lm/ft				
n	Vertical Refrigerated Case Luminaires-end	50 lm/ft				
o	Horizontal Refrigerated Case Luminaires	100 lm/ft				
p	Display Case Luminaires	50 lm/ft				
q	2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces	2,000				
r	1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces	1,500				

#	Category	General Application	Minimum Light Output (lm)	DLC Standard			DLC Premium*		
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L _a	Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L _a
1	Outdoor	Outdoor - Low Output	250-5,000	65		100			
2		Outdoor - Mid Output	5,000-10,000	70	5	105	5	15,000 / 145 / 150,000	
3		Outdoor - High Output	>10,000	75		110			

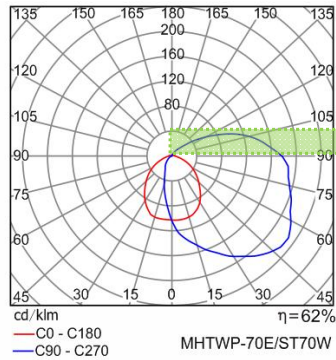
*** Lumen output and efficacy are evaluated considering the light output in the 0-90° zone only. See non-cutoff wall-mounted area luminaires details below.

Non cutoff efficacy calculation



Non-Cutoff and Semi-Cutoff Wall-Mounted Area Luminaires:

In Technical Requirements Table Version 3.1, non-cutoff and semi-cutoff wallpacks are eligible under this primary use designation, distinct from full-cutoff wallpacks. For non-cutoff and semi-cutoff wallpacks, light output, efficacy, and zonal lumen distribution requirements are evaluated based on the lumens in the 0-90° zone only, rather than total lumens produced by the luminaire. This means: the lumen output for these products must be



None of these lumens are counted in efficacy rating



Industry testing equipment



Integrating Sphere- Lumens



Goniophotometer - Distribution

Is my fixture on a List?



superbrightleds.com
LED Lighting for Everything

Sign In | \$0.00

LED Panel Light - 100-277V

Shop By Category | Shop By Project | Universal LED Bulb Finder | Vehicle LED Bulb Finder | Live Chat | Email | 866-590-3533 | New Extended Hours

Home > Commercial LED Lighting > LED Panel Lights > LED Panel Light - 100-277V

LED Panel Light - 100-277V

Refine Results

Color Temperature: Cool White (5) | Natural White (8) | Warm White (5)

Shape: Rectangular (2) | Round (5) | Square (5)

Size: 6in x 6in (2) | 1ft x 2ft (1) | 2ft x 2ft (4) | 2ft x 4ft (2)

Special Features: Constant Power Driver (3) | Edge Lit Glass Accent (1) | Flat Panel (2)

Currently Shopping By: Shape: Rectangular | Shape: Square | Remove All

Sort By: Most Popular | Products per Page: 10 | 9 Results

View: Grid | Compare

Page: 1 of 1 | Prev | Next

1. **50W LED Panel Light Fixture - 2ft x 2ft**

even-glow

Brightness: 6500 lm | Available LED Colors:

Comparable Wattage: 500 Watts | Dimmable: No

Volts: 100-277V AC | Total Power Consumption(Max): 50 Watts

Warranty: 5 Years | View all specifications

Various Options In Stock: **\$99.95** ea.

Qty	Price Ea.
50 - 99	\$89.95
100 - 499	\$79.95

More Discount Pricing | Buy Now

Is my fixture on the list?



About DLC | SSL QPL | Advanced Controls

DESIGNLIGHTS CONSORTIUM

2016 STAKEHOLDER MEETING August 2-3 Denver, CO

Qualified Products List

Define Your QPL Search Include De-Listed Products

The DLC QPL search allows you to find the results you really need. Just choose your criteria from the available categories below, then click 'search' to run your query.

For an overview of the DLC online QPL, as well as tips and tricks for searching, [click here](#).

Changes have been made recently to the QPL search. If you are receiving error messages when trying search, please click the refresh button on your internet browser window. If you continue to experience issues, please contact info@designlights.org.

152,780 RESULTS FOUND | Done defining your criteria? Click 'search' to see your results. | Search

Search by Keyword: I.e. Model Number, Brand Name, etc.

Manufacturer: even | Shenzhen Seven Rainbow Lighting Co.,LTD

QPL Summary Data

Total Products by Year

2016

Total Products by Category

Categories	Total
Outdoor Luminaires - Low Output	17794
Outdoor Luminaires - Mid Output	23202
Outdoor Luminaires - High Output	28571
Indoor Luminaires - Interior Directional	1183

No.
But they could be put on one...

How about using the search tool to find a fixture that does what you need that is already on a list?



Isn't that playing favorites?



There are tens of thousands of products already listed.

Search By

- Keyword
- Manufacturer Name
- Performance Criteria
- Standard or Premium Classification
- Category
- Dimming Information
- Controls Information

DESIGNLIGHTS
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Define Your QPL Search INCLUDE DE-LISTED PRODUCTS

The DLC QPL search allows you to find the results you really need. Just choose your criteria from the available categories below, then click 'search' to run your query.

161,605 RESULTS FOUND Done defining your criteria? Click 'search' to see your results. Search

Search by Keyword i.e. Model Number, Brand Name, etc.

Manufacturer

Measured Criteria

Classification

Categories

Rated Criteria

3

Search By Keyword



- Avoid dashes “-” or slashes “/”

0 RESULTS FOUND
RTLX4/40L

- Use spaces or narrow search term

16 RESULTS FOUND
RTLX4 40L

Define Your QPL Search

161,605 RESULTS FOUND

Search by Keyword

Manufacturer

Measured Criteria

Classification

Categories

Rated Criteria

5

Search By Manufacturer Name



- Select multiple manufacturers
- Remove individual selections with “x” next to name
- Remove all selections with Reset button

Define Your QPL Search

161,605 RESULTS FOUND

Manufacturer

Autronic Plastics Inc. x American Lighting Inc. x

3MLED LIGHTING USA, INC.

APM Communication, Inc.

Aurora Lighting Inc.

BDS Industrial Solutions Inc.

All Green Lighting, Inc.

ADVANTEK Lighting Incorporated

Amsterdam Lighting Fixture, Inc.

Aleddra Inc.

All Star Lighting Supplies Inc

Aalen Inc.

Search By Performance Criteria



- Click arrow to expand selection window
- Use slider bars or enter values
- Clear selection with Reset button

11

Search by Category



- Click arrow to expand selection window
- Keyword search narrows available options
- Click check-box to select

General Applications

Primary Use Designations

Search by Category

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- Selecting General Application selects all associated Primary Uses
- Click Reset to remove all selections

Qualified Products List

View Category Specifications

1. Restart search from beginning
2. Save search criteria
3. Results Counter (Shows results based on revised criteria)
4. Update search
5. Revise criteria selection

Qualified Products List

View Category Specifications

1. Download results
2. Share results
3. Results counter
4. Keyword search
5. Results per page
6. Page number
7. Sort order
8. Product Tile
9. Compare Products

Product Tiles: Parent Products



- Measured performance under Test Data tab
- Rated performance under Rated Data tab
- Associated products under View Family tab
- Additional performance under Expand Details

Model No.: 24-OVHP-LED-4000L-DIM 10-NVOLT-30K
Brand Name: Oracle
Manufacturer: Elite Lighting Co.

VIEW DETAILS | VIEW FAMILY (12)

Indoor Luminaires | Troffer
2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces
Classification: DLC Standard
DLC Product Code: PE199Q12
DLC Family Code: Q025FF

TEST DATA		RATED DATA	
Light Output	4,268 lm	Efficacy	95.14 lm/W
Wattage	43.05 W	CRI	83.4
CCT	3,111 K		

EXPAND DETAILS

Product Tiles: Child Products



- Only Rated Data available for child products
- Associated parent products detailed under View Parent tab
- Additional performance under Expand Details

Model No.: 24-OVHP-LED-4000L-DIM 10-NVOLT-35K
Brand Name: Oracle
Manufacturer: Elite Lighting Co.

VIEW DETAILS | VIEW PARENT (4)

Indoor Luminaires | Troffer
2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces
Classification: DLC Standard
DLC Product Code: PE199W7U
DLC Family Code: Q025FF

RATED DATA	
Light Output	4,546.75 lm
Wattage	43.22 W
CCT	3,200 K

EXPAND DETAILS

DLC List- Using the spreadsheet.



Navigation: About DLC | SSL QPL | Advanced Controls

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2016 STAKEHOLDER MEETING August 2-3 - Denver, CO

Qualified Products List

View Category Specifications

New Search | Download Results | Share Results | Voir en Français

REFINE YOUR SEARCH

148,475 RESULTS FOUND

Include De-Listed Products

Manufacturer
Type and Select one or more Organizations

Classification

Categories

Measured Criteria

Rated Criteria

Dimming Criteria

Tips For Downloading Your QPL Results

- It is strongly recommended that you download your search results in the Excel 2007 (.xlsx) format. Please note that Excel 97-2003 (.xls) format does not contain cell formatting for product rows.
- Narrow your search to reduce download time. To get results faster, try filtering your search by one or multiple categories or manufacturers.

File Format: Excel 2007 (.xlsx)

Language: English

Retrofit Kits for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires	Light Output	32,623 lm	Efficacy	107 lm/w
Classification: DLC Standard	Wattage	304.9 W	CRF	67.3
DLC Product Code: P2PUR02Q	CCT	4,126 K		
DLC Family Code: BB8CFH				

DLC Excel tool- 148,000+ rows, 60 columns.



The screenshot displays a complex Excel spreadsheet with a grid of approximately 148,000 rows and 60 columns. The data is organized into multiple columns, likely representing different product attributes such as manufacturer, model number, and technical specifications. The spreadsheet is viewed in a standard Excel window, showing the ribbon at the top and the grid of cells below.

ENERGY STAR Certified
Light Fixtures Visit the [Light Fixtures](#) page for usage tips and buying guidelines. CHANGE product category

Filter Your Results **3 Records Found** Sort by: **Light Output (lumens)**

filter by keyword

Fixture Type
 Clear selections
 Accent/Track Lighting (688)
 Ceiling/Vent Fan and Lights (49)
 Recessed Lighting (7236)
 Under-Cabinet and Cove Lighting (662)
 Portable Lighting (table/desk/floor lamps) (60)
 Chandeliers (69)
 Bath Vanity Lights (1001)
 Show more

Indoor/Outdoor
 Indoor (14013)
 Outdoor (2623)

Technology®
 Clear selections
 Fluorescent (3106)
 Halogen (3)
 LED (11345)

Greenheck - SP-A90LED Compare
 ENERGY STAR Partner: Greenheck Fan Corporation
 Fixture Type: Ceiling Fan Light Kit Technology: LED
 Total Input Power (Watts): Total Light Output (lumens): 800
 Energy Efficiency - Measured at the Source: 80.0 (lm/W)

Maximus - 18FML-827-BR-WFL-D Compare
 ENERGY STAR Partner: Jiawei Technology (USA), Ltd
 Fixture Type: Ceiling Fan Light Kit Technology: LED
 Total Input Power (Watts): 18.1 Total Light Output (lumens): 1000
 Energy Efficiency - Measured at the Source: 71.9 (lm/W)

Hampton Bay - AM215-XXX Compare
 ENERGY STAR Partner: The Home Depot
 Fixture Type: Ceiling Fan Light Kit Technology: LED
 Total Input Power (Watts): 18.0 Total Light Output (lumens): 1385
 Energy Efficiency - Measured at the Source: 76.2 (lm/W)

1

ENERGY STAR Certified
Light Fixtures Visit the [Light Fixtures](#) page for usage tips and buying guidelines. CHANGE product category

Filter Your Results **42 Records Found** Sort by: **Light Output (lumens)**

filter by keyword

Fixture Type
 Clear selections
 Accent/Track Lighting (688)
 Ceiling/Vent Fan and Lights (49)
 Recessed Lighting (7236)
 Under-Cabinet and Cove Lighting (662)
 Portable Lighting (table/desk/floor lamps) (60)
 Chandeliers (69)
 Bath Vanity Lights (1001)
 Show more

Indoor/Outdoor
 Indoor (14013)
 Outdoor (2623)

Technology®
 Clear selections
 Fluorescent (3106)
 Halogen (3)
 LED (11345)

Progress Lighting - P2091-xyyyK9 Compare
 ENERGY STAR Partner: Progress Lighting
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 9.0 Total Light Output (lumens): 489
 Energy Efficiency - Measured at the Source: 71.0 (lm/W)

Progress Lighting - P2142-xyyyK9 Compare
 ENERGY STAR Partner: Progress Lighting
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 9.0 Total Light Output (lumens): 489
 Energy Efficiency - Measured at the Source: 71.0 (lm/W)

Progress Lighting - P2142xyyyK9 Compare
 ENERGY STAR Partner: Progress Lighting
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 9.0 Total Light Output (lumens): 489
 Energy Efficiency - Measured at the Source: 71.0 (lm/W)

Progress Lighting - P2091-xyyyK9 Compare
 ENERGY STAR Partner: Progress Lighting
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 9.0 Total Light Output (lumens): 489
 Energy Efficiency - Measured at the Source: 71.0 (lm/W)

ENERGY STAR Certified
Light Fixtures Visit the [Light Fixtures](#) page for usage tips and buying guidelines. CHANGE product category

Filter Your Results 42 Records Found Sort by: Light Output (lumens)

filter by keyword

Fixture Type

- Clear selections
- Accent/Track Lighting (608)
- Ceiling/Vent Fan and Lights (49)
- Recessed Lighting (7236)
- Under-Cabinet and Cove Lighting (662)
- Portable Lighting (table/desk/floor lamps) (60)
- Chandeliers (69)
- Bath Vanity Lights (1001)

[Show more](#)

Indoor/Outdoor

- Indoor (14013)
- Outdoor (2623)

Technology

- Clear selections
- Fluorescent (3106)
- Halogen (3)
- LED (11345)

Progress Lighting - P2064-xxyyK9 Compare

ENERGY STAR Partner: Progress Lighting
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 68.0 Total Light Output (lumens): 4268
 Energy Efficiency - Measured at the Source: 67.0 (lm/W)

Progress Lighting - P2064-xxyyK9 Compare

ENERGY STAR Partner: Progress Lighting
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 68.0 Total Light Output (lumens): 4268
 Energy Efficiency - Measured at the Source: 67.0 (lm/W)

Brownlee Lighting - 5010-48-E37LED-XXX-ES Compare

ENERGY STAR Partner: Brownlee Lighting
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 36.0 Total Light Output (lumens): 4132
 Energy Efficiency - Measured at the Source: 113.1 (lm/W) **WOW**

Good Earth Lighting - VA1047-BR3-32LF0-G Compare

ENERGY STAR Partner: Good Earth Lighting, Inc.
 Fixture Type: Bath Vanity Technology: LED
 Total Input Power (Watts): 42.9 Total Light Output (lumens): 3406
 Energy Efficiency - Measured at the Source: 100.8 (lm/W)

ENERGY STAR Certified
Light Fixtures Visit the [Light Fixtures](#) page for usage tips and buying guidelines. CHANGE product category

	Brownlee Lighting - 5010-48-E37LED-XXX-ES 5010-48-E37LED-XXX-ES	Good Earth Lighting - VA1047-BR3-32LF0-G VA1047-BR3-32LF0-G	Progress Lighting - P2064-xxyyK9 P2064-xxyyK9
ENERGY STAR Partner:	Brownlee Lighting	Good Earth Lighting, Inc.	Progress Lighting
Indoor/Outdoor:	Indoor/Outdoor	Indoor	Indoor
Fixture Type:	Bath Vanity	Bath Vanity	Bath Vanity
Commercial Versus Residential:	Residential	Residential	Residential
Technology:	LED	LED	LED
Total Light Output (lumens):	4132	3406	4268
Appearance/Correlated Color Temperature (K):	3500K	3000K	2700K
Total Input Power (Watts):	36.0	42.9	68.0
Color Quality (CRI):	84	83	90
Energy Efficiency - Measured at the Source (lumens/Watt):	113.1	100.8	67.0
Light Source Life (hrs):	72000	36000	60000

No absolute photometry

The quotient of the total light source/lamp luminous flux (lumens) emitted over the total lamp power input (Watts). It is expressed in lm/W. For ENERGY STAR qualified fixtures this applies to light fixtures that are residential only, considered "non-directional" and have been measured at the light source level.

Measured at the Source (lumens/Watt):

BROWNLEE LIGHTING

PRODUCTS ▾ LED ▾ RESOURCES ▾ ABOUT US ▾ CONTACT US ▾ REP LOCATOR ▾

[←BACK](#)

5010 LED 

Bath and Vanity - Utility

[CLICK HERE FOR FLUORESCENT](#)

SPECIFICATIONS

HOUSING: Steel, white painted finish with chrome plated or white painted endcaps
DIFFUSER: White acrylic

LED PERFORMANCE - 3500K STANDARD
H16LED: 16W nominal - 2076 lm - 126 lm/W
H32LED: 63W nominal - 4119 lm - 130 lm/W



LINE DRAWING 



PROGRESS LIGHTING
A LIGHTING NEW YORK STORE

Progress Arch LED Bath Vanity in Brushed Nickel P2064-0930K9




Dimensions and Weight

- Width: 29.00 in.
- Height: 6.00 in.
- Extension/Depth: 3.00 in.
- Backplate/Canopy Width: 0.00 in.

Bulb Information


- Bulbs Included: Yes
- Bulb Category: LED
- Primary Bulb(s): 4 x 17 watts
- Color Temperature: 3000

E-Star fixtures in Excel format- 14460 rows



Page 3,182

Be sure to filter before you hit print



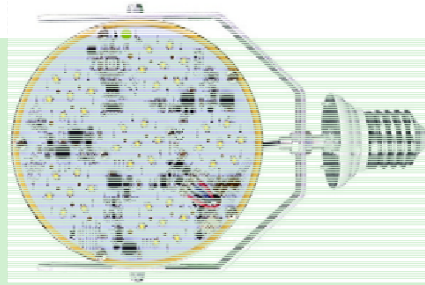
Lets check this fixture



Global Tech LED First DLC Listed Screw-in Retrofit!

Global Tech LED announces the First DLC Listed Screw-in Retrofit! A Low cost, USA made, Patented E39 (Mogul Base) Screw-in LED Retrofit for customers that have a participating Utility offering cash rebates, the upfront cost could be reduced by as much as 70%. Our on-board Patented Life Sync technology and Energy Savings program will increase energy savings and automatically adjust current for continuous maximum lumen output. Our screw-in retrofit can be located on the DLC QPL listing.

Jan 14, 2016, 14:27 ET from Global Tech LED



Our screw-in retrofit is located on the DLC QPL listing here: <https://www.designlights.org/qpl/en/saved/CFUCQU4>. The DLC is dedicated to accelerating the widespread adoption of high-performing, energy efficient commercial lighting solutions. You can find All of our DLC Certified products here: <http://www.designlights.org> The DesignLights Consortium™ program and trademarks are assets to the DLC, its members and stakeholders.

Follow the link in the press release



Download Results Share Results Voir en Français

302 RESULTS FOUND SHOW 10 25 50 100 SORT Date Qualified (newest first)

Search Within Results 1 2 3 4 5 6 7 8 ...

Date Qualified: 12/29/2015 Compare

Model No.: GTR-AR-5498-HI-HV-BR-360S-XXXX [PLAT, UVSB, UVBR]
Brand Name: GLOBAL TECH LED
Manufacturers: GLOBAL TECH LED

VIEW DETAILS VIEW PARENT (9)

	TEST DATA	RATED DATA
Light Output	5,341 lm	Efficacy 68.5 lm/w
Wattage	78.01 w	CRI 80.9
CCT	4,184 k	

Compare test data to the DLC Criteria

DesignLights Consortium™ Product Qualification Criteria, (FINAL 11/20/15)

Technical Requirements: Lamps

#	Category	General Application	Minimum Light Output (lm)	DLC Standard		
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L70
17		Outdoor – Low Output	In Fixture: 250-5,000	In Fixture: 65		
18	Mogul Screw Base (E39)	Outdoor – Mid Output	In Fixture: 5,000-10,000	In Fixture: 70	5	≤5700 / ≥65 / ≥50,000



Download Results Share Results

302 RESULTS FOUND

SHOW 10 25 50 100 SORT Date Qualified (newest first)

Search Within Results

Date Qualified: 12/29/2015

Model No.: GTR-AR-5498-HI-HV-BR-3605-XXXX [PLAT, UVSB, UVBR]
 Brand Name: GLOBAL TECH LED
 Manufacturer: GLOBAL TECH LED

VIEW DETAILS VIEW PARENT (9)

TEST DATA RATED DATA

Light Output	5,341 lm	Efficacy	68.5 lm/w
Wattage	78.01 w	CRI	80.9
CCT	4,184 k		

It doesn't seem to be a high enough efficacy?

It just makes it w/ the tolerance.

DesignLights Consortium™ Product Qualification Criteria, (FINAL 11/20/15)

Technical Requirements: Lamps

#	Category	General Application	Minimum Light Output (lm)	DLC Standard		
				Minimum Efficacy (lm/W)	Minimum Warranty (years)	CCT / CRI / L70
17		Outdoor – Low Output	In Fixture: 250-5,000	In Fixture: 65		
18	Mogul Screw Base (E39)	Outdoor – Mid Output	In Fixture: 5,000-10,000	In Fixture: 70	5	≤5700 / ≥65 / ≥50,000



Download Results Share Results

302 RESULTS FOUND

SHOW 10 25 50 100 50 SORT

Search Within Results

Date Qualified: 12/29/2015

Model No.: GTR-AR-5498-HI-HV-BR-3605-XXXX [PLAT, UVSB, UVBR]
 Brand Name: GLOBAL TECH LED
 Manufacturer: GLOBAL TECH LED

VIEW DETAILS VIEW PARENT (9)

TEST DATA RATED DATA

Light Output	5,341 lm	Efficacy	68.5 lm/w
Wattage	78.01 w	CRI	80.9
CCT	4,184 k		

Table 5: Tolerances

Performance Metric	Tolerance
Light Output	±10%
Luminaire Efficacy	-3%
Allowable CCT	Defined by ANSI C78.377†
CRI	-2 points
Power Factor	-3%
Total Harmonic Distortion	+5%

ANSI C78.377-2011 also referred to for D_{uv} and (x,y) chromaticity coordinates tolerances for indoor categories.

$$70 - 3\% = 67.9 \text{ l/w}$$




DLC mention, but no logo



HiCloud, the outperformer

HiCloud, the outperformer

- High performance SMD design
- Efficiency up to 130lm/W
- Electrical 100-277VAC, 47-63Hz, PF>0.95
- LED life projection -150,000 hours (TM21 L70)
- Energy savings up to 90%, (depending on installation and usage patterns)
- CCC 50000 cycles (or available to special order)
- CB-70 (CB-80 optional)
- Standard Beam angle 120° (60° and 90° Optional)
- Superior uniformity
- Superior temperature stability
- Temperature tested for the toughest conditions
- Quality Meanwell long life driver
- Compact size (383mm x 190mm)
- Light weight (6-7kg)
- Tempered safety glass diffuser
- Operating range -30 +50°C
- Body - Aluminium alloy
- Stainless steel screws
- IP65 Protection rating
- 0.3m flex (other lengths and plugs optional)
- Five years warranty

HiCloud optional extras

- Occupancy Control
- DAU driver
- ZigBee Wireless Control
- 1-10V dimmable driver
- Alternative mounting brackets

HiCloud Product Range

Part numbers	HC-400	HC-402	HC-408	HC-410	HC-415	HC-420	HC-424	HC-430
Output	4,200lm	5,100lm	10,200lm	13,650lm	15,600lm	18,500lm	24,300lm	27,000lm
Power	300W	360W	720W	1080W	1224W	1440W	1824W	2025W
Beam angle	47.25°/47°	47.25°/47°	47.25°/47°	47.25°/47°	47.25°/47°	47.25°/47°	47.25°/47°	47.25°/47°
CB*	80000							
CB	120°							
Beam angle	60° 90° 120°							
Mounting LED Chain	180°/270°/45°/60°/90°/180°							
Input Voltage	100-277VAC 47-63Hz PF > 0.95							
IP Rating	IP65							
Driver	Meanwell PFC							
Warranty	5 Years							

Control Options
Add to the product part numbers to indicate these control options

Occupancy Control	DAU Control	1-10V Dimming Control	ZigBee Wireless Control	On/Off Sensor Control
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Illuminance Charts




HiCloud Mounting




HiCloud


Innovation over adaption






Certification CE CB SAA **UL** DLC ErP **RoHS**



HiCloud, the outperformer



"Certifications"

HiCloud

Innovation over adaption

No DLC logo on their site, but they are listed!?!...



Qualified Products List View Category Specifications

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4 RESULTS FOUND SHOW 10 25 50 100 SORT Date Qualified (newest first)

Search Within Results

Date Qualified: 11/10/2014

Model No.: **HC-A10**
 Brand Name: HCloud
 Manufacturer: OK LED Lighting Limited

VIEW DETAILS

Indoor Luminaire: 1 High-Bay
High-Bay Luminaires for Commercial and Industrial Buildings

Classification: DLC Standard
 DLC Product Code: P51UCFB
 DLC Family Code: K999GP

TEST DATA

Light Output	11,205.28 lm	Efficacy	113.62 lm/w
Wattage	98.42 w	CRF	75.1
CCT	5,170 k		

AGC lighting OKLED.COM

Date Qualified: 11/10/2014

Model No.: **HC-A15**
 Brand Name: HCloud
 Manufacturer: OK LED Lighting Limited

VIEW DETAILS

ActiveLED Call for Information +1-888-288-9080 +44 (0)844 264 1570

HOME PRODUCTS SERVICES SUPPORT NEWS CONTACT

FL Series ActiveLED® Flood Lights - High Light Output for Retail, Manufacturing and Warehousing - choices range from 8" to 40" Long and 7 to 104 Watt fixtures

FL series ActiveLED® flood lighting solves the problems of energy wastage, over shine and maintenance. The design has optimized water management and cooling to be effective in the hottest of climates as well as performing without degradation down to -40°F (-40° C).

The ActiveLED® Flood Light consumes at least 50-85 percent less energy than conventional lighting and additional energy savings can be achieved with the optional lighting management.

With its patented design and superior LED elements, the ActiveLED Flood Light is a reliable light source with a 90,000-hour lumen life, making it a maintenance-free solution for applications where changing bulbs and ballasts can be hazardous and expensive.

ActiveLED Flood Lights are an opportunity to convert to environmentally safe LED Lighting.

The ActiveLED® Flood Lights illuminate and accentuate buildings, monuments, fountains, billboards, signage, trees and shrubbery evenly with a bright light that closely emulates the color of natural daylight. All the available light is directed onto the structure to be accentuated and the employed technology delivers very precise light cut-off, virtually eliminating any light pollution and overspill.

ActiveLED® FL Series Flood Light Product Overview

Ringdale provides a comprehensive selection of professional ActiveLED Flood Lighting fixtures configured for varying applications, a selection of which is listed below:

Product Code	Fixture Length	Fixture Wattage	Light Output	Light Pattern
FL08-T5006	8" Flood Light	7 Watt	Fixture Dependent	Traditional Flood
FL08-U5012	8" Flood Light	14 Watt	Fixture Dependent	Wall-Wash Pattern
FL11-J5018	11" Flood Light	20 Watt	Fixture Dependent	Stadium Vertical
FL13-N5024	13" Flood Light	26 watts	Fixture Dependent	Narrow Flood

Make Enquiry

DLC Certified and Listed versions of ActiveLED Flood Lights are available, please refer to relevant datasheet for specific model numbers.

FL Series ActiveLED® Flood Lights - Delivers High Light Output for Retail, Manufacturing and Warehousing - select from 8" to 40" Long and 7 to 104 Watt fixtures

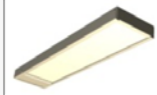
Fraction of conventional lighting costs and very low maintenance cost.

High light output and a CCT5000K color temperature provides crisp, bright and even accent lighting that closely emulates natural daylight

Lumen Lifetime of 90,000 hours (90% Luminous Flux)

RINGDALE





Make Enquiry

- LPSL Series ActiveLED® Low-profile Public Space Lights - At just 1.9" tall the LPSL is ideal for illuminating indoor and overhang public space areas in Apartment Complexes, Housing Projects, Condominiums, Educational and Medical Facilities to provide a safer, more secure environment
- Significant energy savings and very low maintenance costs compared to conventional high wattage lighting
- Improved light quality and illumination uniformity compared to legacy lighting technology.
- CCT Color Choices of 2700K, 3000K, 3500K, 4000K and 5000K
- Lumen Lifetime of 90,000 hours (90% Luminous Flux)
- Voltage-specific power supply / driver, specify at time of ordering from available options

LPSL Series ActiveLED® Low-profile Public Space Lights for indoor and overhang installations, 8 to 33 Watt power consumption, 12", 24", 36" or 48" long

Cost effective to install - Light output similar to 75-175 Watt legacy bulb fixture, available in 8 to 33 Watt fixtures - attaches directly to ceiling or wall structure

The Ringdale ActiveLED® LPSL Series Low-profile Public Space Light is just 1.9" tall and is an energy efficient, cost effective and high performance LED light for public space areas in facilities such as Apartment Complexes, Housing Projects, Condominiums, Educational Facilities, Hospitals and Nursing Homes.

It is ideally suited for illuminating "public space" areas such as corridors, walkways, entranceways and hallways - providing a safer, more secure environment.

The ActiveLED Low-profile Public Space Light consumes at least 50-85 percent less energy than conventional lighting and its optional motion sensor provides additional and significant energy savings. With its patented design and superior LED elements, the ActiveLED Low-profile Public Space Light is a reliable light source with a 90,000-hour lumen life, making it a maintenance-free solution for applications where changing lights can be hazardous and expensive.

LPSL Series Product Overview

Ringdale provides a comprehensive range of LPSL Series ActiveLED Low-profile Public Space Light fixtures and a choice of CCT color temperatures are available for different applications - 3000K for a warm color temperature that compliments earth tones and 5000K that closely emulates natural daylight, the following lists just a few of the PSL selections

Product Code	Application & Length	CCT Color	Wattage	Light Output	Suggested Mount Hght
LPSL24-2706	Public Space, 24.9"	2700K	8 watts	Lumens TBD	2.5 m / 8 ft
LPSL24-3006	Public Space, 24.9"	3000K	8 watts	Lumens TBD	2.5 m / 8 ft
LPSL24-3506	Public Space, 24.9"	3500K	8 watts	Lumens TBD	2.5 m / 8 ft



BENEFITS

APPLICATIONS

TECHNOLOGY

CASE STUDIES

GALLERY

WARRANTY

Latest News

21 January 2018
 Video Shows Ringdale Energy Solution in Action

ActiveLED® Products » Services » High Bay Lighting

High Bay Lights and High Bay Lighting Solutions

ActiveLED High Bay Lights for Commercial and Industrial applications come in form of round and linear high bay lighting fixtures. Round High Bay fixtures are used in open space scenarios like ballrooms and manufacturing environments. Linear High Bay lights are used as shop lights, in maintenance bays, military tent lighting, in warehouses or cold storage facilities with high shelves. See video on energy efficient [high bay warehouse lighting](#).

ActiveLED is among the most advanced LED High Bay Lighting in the industry with Underwriter Laboratories (UL) verified performance. ActiveLED High Bay Light Fixtures run the coolest with less than 85° C at an ambient temperature of 60° C. The fixture electronics has two temperature sensors guaranteeing that the fixture cannot overheat; this makes ActiveLED High Bay Fixtures fire safe. Our lights have actually been tested in Siberia and are known to perform at -55° C.

ActiveLED High Bay Lighting fixtures find a perfect application in Hazardous Environments where UL844 classified fixtures are required. ActiveLED High Bay fixtures perform and exceed:

- Class 1 - Division 2
- Class 2 - Division 1

High Bay Lights can be ordered with NEMA-3x or a NEMA-4 Junction box depending on your explosion proof requirements. Other option include 0-10V dimming, EDS&P digital dimming, motion activation, daylight harvesting and a 48V DC Battery Backup Pack or permanent feed from 48V DC system.

Image



Product Details

HR24 Series ActiveLED® 24 inch Round High Bay Lighting, 150 Watt power consumption

HR24 Series ActiveLED® Highly Efficient 24" Diameter Round High Bay Lighting for 20' to 45' spaced grid at 30' to 50' high bay - 150 Watt power consumption. Options: Motion Activated and IR Remote Programmable



HR24+ Series ActiveLED® 24 inch Round High Bay Lighting, 175 Watt power consumption

HR24+ Series ActiveLED® Highly Efficient 24" Diameter Round High Bay Lighting for 20' to 45' spaced grid at 30' to 50' high bay - 175 Watt power consumption. Options: Motion Activated and IR Remote Programmable



HS48 Series ActiveLED® High Bay Strip Lighting, 4 foot long and up to 104 Watt power consumption

HS48 Series ActiveLED® High Bay Strip Lighting provides crisp bright and consistent light for retail, manufacturing and warehouse lighting with optional IR Programmability - 82 to 104 Watt fixtures.



HS48 Series High Bay Strip

Job Name: _____ **Type:** _____ **Voltage:** _____

Description
The ActiveLED® High Bay Strip (HS) consumes 50-85 percent less energy than conventional HID lighting and its optional LightSpace® dimming controls can deliver overall energy savings of up to 96%. With its patented design and superior LED elements, the ActiveLED High Bay Strip is a reliable light source with a 90,000-hour lumen life (90% Luminous Flux), making it a maintenance free solution for applications where changing lamps and ballasts can be hazardous and expensive. The ActiveLED High Bay can easily be installed as new or retrofit lighting in industrial, gymnasiums, warehousing and retail structures to offer directional control and minimize light pollution outside the targeted light footprint for improved visibility and efficiency.

Specifications
Input Voltage: Auto-sensing, 100-277 Volts AC, 50/60 Hz; Auto-sensing, 300-480 Volts AC, 50/60 Hz
Input Power: 2.6 to 104 input watts, 24 to 96 LED watts
Power Factor: > 0.95 (at 100-277 Volts)
THD: Total Harmonic Distortion (THD) <20% (typical 9.9%)
Power Supply: Integral power supply with aluminum housing, integrated intelligent controls and integral heat sink
Operating Temperature: -40° C to 60° C (-40° F to 140° F)
Lumen Lifetime: 100,000 Hrs @ 40° C, 90,000 Hrs with 90% Luminous Flux
LED Optics: IP66 rated, precision extruded aluminum reflector/heat sink, thermally bonded LEDs, borosilicate glass lens w/silicone sealing. Patented thermal management mounting system
Housing: Extruded aluminum housing, extruded specular aluminum reflectors, 16 LEDs with clear patterned glass optics below each and Stainless Steel hardware
Finish: Powder coated
Dimensions: 48" Long x 4.8" High x 6" Wide (121.9 x 12.2 x 15.2 cm)
Weight: 25.4 pounds (12 kg)

Warranty
Ten (10) Year Warranty - LEDs will produce at least 90% of their initial light output with no color shift after 90,000 hours of operation. When using a Ringdale ActiveLED surge protection device, ordered and installed separately, the power supply warranty can be extended from five (5) years to ten (10) years.

Listings and Tests
cUL listed, CE, suitable for damp locations, RoHS compliant.
IP66 Rated optical assembly, UL79 and UL85 info available.
Conforms to FCC Part 15.19 Subpart B Class A
Made in USA - ARIA Compliant

Ordering Information

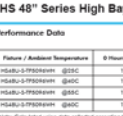


Energy Efficient Lighting and Controls - Made in USA



Lighting facts

Light Output (Lumens)	8046
Watts	107.2
Lumens per Watt (Efficacy)	75
Color Accuracy (Color Rendering Index)	73
Light Color (CCT)	5637 (Daylight)

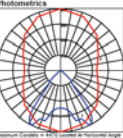


HS 48" Series High Bay Strip L

Performance Data

Feature of Ambient Temperature	0 Hours	10000 Hrs	20000 Hrs	30000 Hrs	40000 Hrs	50000 Hrs
HS48-0-PROPOSED @ 0°C	1.00	1.00	0.99	0.99	0.99	0.99
HS48-0-PROPOSED @ 40°C	1.00	0.99	0.99	0.98	0.97	0.96
HS48-0-PROPOSED @ 80°C	1.00	0.98	0.97	0.96	0.94	0.93
HS48-0-PROPOSED @ 120°C	1.00	0.95	0.94	0.93	0.93	0.92

Photometrics



Control Options

LightSpace® Dimming: The HS High Bay is provided with the LightSpace intelligent light space control capability. Additionally, the fixture can be controlled with optional EnergySense and Occupancy sensors, as well as an energy 0-10V dimmer. All fixtures will be programmed normally using the ActiveLED remote IR programming device.

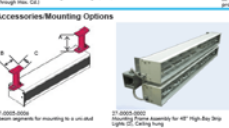
Remote Backup Enabled: Remote Backup Enabled provides 240°C protection for an up to 8-hour Backup Battery Backup (BB) for an Emergency LED light fixture.

Dimmable Managed Enabled: Dimmable Managed from 100% to 0% by the remote dimmer. Digital color dimmer or light space management system.

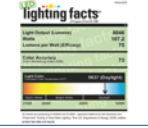
Energy Backup plus Dimmable Managed: Energy Backup plus Dimmable Managed plus Motion and IR.

Backup Plus Motion: Integral motion sensor with IR sensor for programmable control by IFC and support for 0-10V dimmer programming.

IR Receiver: Integral IR sensor only for 0-10V dimmer programming.



Accessories/Mounting Options



Lighting facts

Light Output (Lumens)	8046
Watts	107.2
Lumens per Watt (Efficacy)	75
Color Accuracy (Color Rendering Index)	73
Light Color (CCT)	5637 (Daylight)

Date qualified: 04/24/2015

Model No.: **HR24U-S-T50144-WH**
Brand Name: ActiveLED
Manufacturer: Ringdale ActiveLED

VIEW DETAILS

Indoor Luminaires | High-Bay
High-Bay Luminaires for Commercial and Industrial Buildings
Classification: DLC Standard
DLC Product Code: PA9Y457ZY
DLC Family Code: EEEEEP

TEST DATA	RATED DATA
Light Output: 12,852 lm	Efficacy: 86 lm/w
Wattage: 149.5 w	CRI: 68
CCT: 4,960 K	

Date qualified: 08/24/2015

Model No.: **FL40U-AT-J5096-SL**
Brand Name: ActiveLED
Manufacturer: Ringdale ActiveLED

VIEW DETAILS

Outdoor Luminaires | Mid Output
Architectural Flood and Spot Luminaires
Classification: DLC Standard
DLC Product Code: P07NDCHS
DLC Family Code: UUUUUS

TEST DATA	RATED DATA
Light Output: 8,651 lm	Efficacy: 87.6 lm/w
Wattage: 98.8 w	CRI: 68.1
CCT: 5,104 K	


Date qualified: 03/12/2015

Model No.: **WP1U-W-N5036-XX (All Colors)**
Brand Name: ActiveLED
Manufacturer: Ringdale ActiveLED

VIEW DETAILS

Outdoor Luminaires | Low Output
Outdoor Full-Cutoff Wall-Mounted Area Luminaires

TEST DATA	RATED DATA
Light Output: 3,010 lm	Efficacy: 76 lm/w
Wattage: 39.7 w	CRI: 68



DESIGNLIGHTS CONSORTIUM

Qualified Products List

New Search

REFINE YOUR SEARCH

4 RESULTS FOUND

Update Search

Include De-Listed Products

Manufacturer: **Ringdale ActiveLED X**

4 RESULTS FOUND

Search With

Date Qualified

Model No.:

Brand Name:

Manufacturer:

VIEW DETAILS

FL40 Wall Wash Flood

ActiveLED
Energy Efficient Lighting and Controls - Made in USA



Job Name: _____ Type: _____ Voltage: _____

Description

The ActiveLED® FL40, Flood Light consumes 50-85 percent less energy than conventional HID lighting. With its patented design and superior LED elements, the ActiveLED FL Series is a reliable light source with a 90,000-hour lumen life (90% Luminous Flux), making it a maintenance free solution for applications where changing lamps and ballasts can be hazardous and expensive. The ActiveLED FL Series may easily be installed as new or retrofit lighting for office, industrial and retail structures to offer directional control and minimize light pollution outside the targeted light footprint for improved visibility and efficiency.

Specifications

Input Voltage: Auto-sensing, 100-277 Volts AC, 50/60 Hz; Auto-sensing, 300-480 Volts AC, 50/60 Hz

Input Power: 28,40,52,75 or 104 watts

Power Factor: > 0.95 (at ~100-277 Volts)

THD: Total Harmonic Distortion (THD) <20% (typical 9.9%)

Power Supply: Integral power supply with, integrated intelligent controls and integral heat sink.

Operating Temperature: -40° C to 60° C (-40° F to 140° F)

Lumen Lifetime: 150/90K Hrs @ 60° C (90,000 Hrs with 90% Luminous Flux)

LED Optics: IP66 rated, thermally bonded LEDs, borosilicate glass lens w/silicone sealing, patented thermal management mounting system

CCT: 2700K, 3000K, 3500K, 4000K, or 5000K

Housing: Extruded aluminum for enclosure and heat sinking parts, stainless steel hardware

Finish: Powder coated after fabrication

Dimensions: 6.13" Wide x 40.32" Long x 4.69" High (15.57 cm x 102.41 cm x 11.91 cm)

Weight: 28 pounds (12.7kg)

Warranty

Ten (10) Year Warranty - LEDs will produce at least 90% of their initial light output with no color shift after 90,000 hours of operation. When using a Ringdale ActiveLED surge protection device, ordered and installed separately, the power supply warranty can be extended from five (5) years to ten (10) years.

Listings and Tests

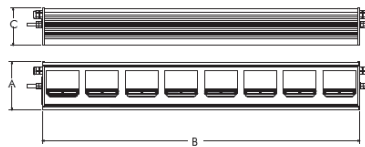
UL listed driver, CE, suitable for exterior locations, RoHS compliant, IP66 Rated optical assembly, LM-79 and LM-80 info available. Conforms to FCC Part 15.19 Subpart B Class A
Made in USA - ARRA Compliant



Made in the USA



Dimensions



A	B	C
6.13"	40.32"	4.69"
15.57cm	102.41cm	11.91cm



DESIGNLIGHTS
CONSORTIUM



Qualified Products List

View Category Specifications

New Search | Download Results | Share Results | Voir en Français

22,021 RESULTS FOUND | SHOW 10 | 25 | 50 | 100 | SORT: Date Qualified (newest first)

Search Within Results | 1 2 3 4 5 6 7 8 ...

REFINE YOUR SEARCH

22,021 RESULTS FOUND | Update Search

Include Or-Listed Products

Manufacturer: Type and Select one or more Organizations

Classification: All Classifications, DLC Premium, DLC Standard

Categories: Category Keywords | Outdoor Luminaires, Low Output, Mid Output, High Output, Indoor Luminaires, Interior Directional, Display Case, Troffer, Linear Ambient, High-Bay

Date Qualified: 01/04/2016 | Compare

Model No.: AEP100WLH85K
Brand Name: AEP
Manufacturer: Aals Energy Partners, LLC

VIEW DETAILS

Indoor Luminaires | High-Bay
High-Bay Luminaires for Commercial and Industrial Buildings
Classification: DLC Standard
DLC Product Code: PSE2H85E
DLC Family Code: WWWWEE

TEST DATA	RATED DATA
Light Output: 11,289.01 lm	Efficacy: 106.117 lm/w
Wattage: 105.34 w	CR: 83
CCT: 5,156 k	

Expand details

Date Qualified: 01/04/2016 | Compare

Model No.: AEP160WLH85K
Brand Name: AEP
Manufacturer: Aals Energy Partners, LLC

VIEW DETAILS

Indoor Luminaires | High-Bay
High-Bay Luminaires for Commercial and Industrial Buildings
Classification: DLC Standard
DLC Product Code: PSE1F16E
DLC Family Code: WWWWEE

TEST DATA	RATED DATA
Light Output: 18,003.99 lm	Efficacy: 109.854 lm/w
Wattage: 163.99 w	CR: 83.9
CCT: 5,110 k	

Expand details

Filtering by category only

DESIGNLIGHTS CONSORTIUM 2016 STAKEHOLDER MEETING August 2-4 • Denver, CO

Qualified Products List

2,782 RESULTS FOUND

REFINE YOUR SEARCH

2,782 RESULTS FOUND

Include De-Listed Products

Manufacturer: Type and Select one or more Organizations

Classification:

- All Classifications
- DLC Premium
- DLC Standard

Categories:

- Outdoor Luminaires
- Low Output
- Mid Output
- High Output
- Indoor Luminaires
 - Interior Directional
 - Display Case
 - Truffer
 - Linear Ambient
 - High-Bay

Product Card 1:

- Model No.: EL-TS-240
- Brand Name: E-Lite
- Manufacturer: E-Lite Semicondutor Inc.
- Indoor Luminaires | High-Bay
- High-Bay Luminaires for Commercial and Industrial Buildings
- Classification: DLC Premium
- DLC Product Code: PPEZJQET
- DLC Family Code: BRSPSL
- TEST DATA: Light Output: 26,013.6 lm, Efficacy: 111.92 lm/w, Wattage: 232.44 w, CRI: 87, CCT: 5,299 k

Product Card 2:

- Model No.: EL-TS-240T
- Brand Name: E-Lite
- Manufacturer: E-Lite Semicondutor Inc.
- Indoor Luminaires | High-Bay
- High-Bay Luminaires for Commercial and Industrial Buildings
- Classification: DLC Premium
- DLC Product Code: P2JURBY
- DLC Family Code: BRSPSL
- RATED DATA: Light Output: 26,400 lm, Efficacy: 110 lm/w, Wattage: 240 w, CRI: 80, CCT: 5,700 k

Filtering by category and classification



DESIGNLIGHTS CONSORTIUM 2016 STAKEHOLDER MEETING August 2-4 • Denver, CO

Qualified Products List

12 RESULTS FOUND

REFINE YOUR SEARCH

12 RESULTS FOUND

Include De-Listed Products

Manufacturer: Cree, Inc.

Classification:

- All Classifications
- DLC Premium
- DLC Standard

Categories:

- Outdoor Luminaires
- Low Output
- Mid Output
- High Output
- Indoor Luminaires
 - Interior Directional
 - Display Case
 - Truffer
 - Linear Ambient
 - High-Bay

Measured Criteria:

- Rated Criteria
- Dimming Criteria
- Integral Controls

Product Card 1:

- Model No.: CPY250-A-xxx-D-xxx-xxx-40K-xxxx
- Brand Name: Cree CPY Series
- Manufacturer: Cree, Inc.
- Indoor Luminaires | High-Bay
- High-Bay Luminaires for Commercial and Industrial Buildings
- Classification: DLC Premium
- DLC Product Code: P175HDEJQ
- DLC Family Code: 4000WV
- TEST DATA: Light Output: 17,482 lm, Efficacy: 116.97 lm/w, Wattage: 149.47 w, CRI: 71, CCT: 3,929 k

Product Card 2:

- Model No.: CPY250-A-xxx-F-D-xxx-xxx-PML
- Brand Name: Cree CPY Series
- Manufacturer: Cree, Inc.
- Indoor Luminaires | High-Bay
- High-Bay Luminaires for Commercial and Industrial Buildings
- Classification: DLC Premium
- DLC Product Code: P2Q188A
- DLC Family Code: 4000WV
- RATED DATA: Light Output: 17,470 lm, Efficacy: 124.8 lm/w, Wattage: 140 w, CRI: 70, CCT: 5,700 k

Filtering by category, classification and manufacturer



Using the QPL to verify a claim.



orion | ISON™ HIGH BAY

HBIF2

LPW

178



Physical and Performance Information²

Series	Lumen Code	Actual Lumens	277V wattage	277V LPW	Input Voltage	Input Current/ Amps	Power Factor	CCT	CRI
HBIF2	A1	12,890	72w	178	277v	0.26	>.90	5000K	>80
HBIF2	B1	16,530	94w	176	277v	0.34	>.90	5000K	>80
HBIF2	C1	19,080	106w	179	277v	0.38	>.90	5000K	>80
HBIF2	D1	25,330	143w	177	277v	0.52	>.90	5000K	>80

Finding a fixture



Required Ordering Information

1 Select **HBIF2**

Series	Series
HBIF2	ISON LED High Bay Gen 2

2 Select ___

Nominal Lumens ¹	
A1	12,000 lumens
B1	16,000 lumens
C1	19,000 lumens
D1	25,000 lumens

3 Select ___

Application	
OA	Open Area
AA	Aisle Area

orion | ISON™ HIGH BAY

HBIF2

Note: All fixtures can be doubled in light output with our tandem fixture option. See "Accessories" sold separately at bottom of second page for instructions.

So many choices

4 Select ___

Voltage	
UNV	120-277v
347	347v
480	480v

5 Select ___

Driver Type	
NDX	Non-Dimming
FDX	Full-Dimming

6 Select ___

CRI/Color Temperature	
835	80 CRI; 3500K
840	80 CRI; 4000K
850	80 CRI; 5000K

7 Select ___

Lens Options	
NL	No Lens
LF	Lens, Frosted Acrylic
LC	Lens, Clear Polycarbonate

8 Select ___

Power Connection	
PF	Platform
HW	Hardwired
ML	Mate-N-Lock

9 Select ___

Fixture Options	
WS08	With Integrated Sensor for 8' or less ceiling applications
WS20	With Integrated Sensor for 20' or less ceiling applications

REFINE YOUR SEARCH

336 RESULTS FOUND Update Search

Include De-Listed Products

Manufacturer

Orion Energy Systems, Inc. X

Classification

All Classifications
 DLC Premium
 DLC Standard

Categories

Category Keyword(s)

Outdoor Luminaires
 Low Output
 Mid Output
 High Output

Indoor Luminaires
 Interior Directional
 Display Case
 Troffer
 Linear Ambient
 High-Bay

336 RESULTS FOUND SHOW 10 25 50 100 SORT Date Qualified (newest first)

ison

Date Qualified: 10/07/2015 Compare

Model No.: HBIF2A10AUNVFDX830NLXX-XXXXXXXX
 Brand Name: ISON
 Manufacturer: Orion Energy Systems, Inc

VIEW DETAILS VIEW PARENT (2)

▶ HBIF2A1AAUNVFDX830LCXX-XXXXXXXX
 ▶ HBIF2D1AA000FDX830LCXX-XXXXXXXX

Date Qualified: 10/07/2015 Compare

Model No.: HBIF2A10AUNVFDX835NLXX-XXXXXXXX
 Brand Name: ISON
 Manufacturer: Orion Energy Systems, Inc

VIEW DETAILS VIEW PARENT (2)

Indoor Luminaires | High-Bay
High-Bay Luminaires for Commercial and Industrial Buildings

RATED DATA			
Light Output	11,435 lm	Efficacy	155.36 lm/W
Wattage	73.6 w	CRI	81.7
CCT	3,500 K		

Classification: DLC Premium
 DLC Product Code: PWWP2PHS
 DLC Family Code: QQRTR

Expand details

Date Qualified: 10/07/2015 Compare



REFINE YOUR SEARCH

336 RESULTS FOUND Update Search

Include De-Listed Products
 Include De-Listed Products

Manufacturer

Orion Energy Systems, Inc. X

Classification

All Classifications
 DLC Premium
 DLC Standard

Category Keyword(s)

Outdoor Luminaires
 Low Output
 Mid Output
 High Output

Indoor Luminaires
 Interior Directional
 Display Case
 Troffer
 Linear Ambient
 High-Bay

336 RESULTS FOUND SHOW 10 25 50 100 SORT Date Qualified (newest first)

ison

Date Qualified: 10/07/2015 Compare

Date Qualified: 10/07/2015 Compare

Model No.: HBIF2A10AUNVFDX830NLXX-XXXXXXXX
 Brand Name: ISON
 Manufacturer: Orion Energy Systems, Inc

VIEW DETAILS VIEW PARENT (2)

▶ HBIF2A1AAUNVFDX830LCXX-XXXXXXXX
 ▶ HBIF2D1AA000FDX830LCXX-XXXXXXXX

TEST DATA		RATED DATA	
Light Output	18,430 lm	Efficacy	119.83 lm/W
Wattage	153.8 w	CRI	85.5
CCT	3,063 K		

Model No.: HBIF2A10AUNVFDX835NLXX-XXXXXXXX
 Brand Name: ISON
 Manufacturer: Orion Energy Systems, Inc

VIEW DETAILS VIEW PARENT (2)

Indoor Luminaires | High-Bay
High-Bay Luminaires for Commercial and Industrial Buildings

RATED DATA			
Light Output	11,435 lm	Efficacy	155.36 lm/W
Wattage	73.6 w	CRI	81.7
CCT	3,500 K		

Classification: DLC Premium
 DLC Product Code: PWWP2PHS
 DLC Family Code: QQRTR

Expand details

Date Qualified: 10/07/2015 Compare




Is this really DLC listed?



1000Bulbs Search Welcome Sign In Cart

Tranding Searches: \$2.99 Standard Shape LED, LED TS, \$99 LED Troffer, \$99.99 LED Wall Packs



LED - 4 ft. - High Bay - 210W - 20,000 Lumens - 400W MH Equal - 4100 Kelvin

DLC **TCP**

Brand: TCP
Voltage: 120, 208, 240, 277

UL Listed: Damp Locations
Lumens (Initial): 20,000


Part No.: TCPB4UNI2441K
Reflector Type: 95% Specular Enhanced Aluminum
DLC Listed: Yes

\$272.36 ea

Quantity:

Add to Cart

LED-10033



LED - 4 ft. - High Bay with Occupancy Sensor - 130W - 12,000 Lumens - 250W MH Equal - 4100 Kelvin

DLC **TCP**

Brand: TCP

Voltage: 120, 277
Finish: White Enamel
Mounting: 20-40 ft.
DLC Listed: Yes

Part No.: TCPHB4UNI1241K10CTS1
CRI: 82
Life Hours: 50,000
UL Listed: Damp Locations

\$291.08 ea

Quantity:

Add to Cart

TCP-HB4U1241K10CTS1

Search by manufacturer and test data



1 RESULTS FOUND Done defining your criteria? Click 'search' to see your results. **QSearch**

Search by Keyword:

Manufacturer: Reset

LED - 4 ft. - High Bay - 210W - 20,000 Lumens - MH Equal - 4100 Kelvin

DLC **TCP**

Measured Criteria: Reset

Light Output: Between and lm

Efficacy: Between and lm/W

Wattage: Between and W

CRI: Between and

CCT: Between and K

It worked



REFINE YOUR SEARCH

1 RESULTS FOUND Update Search

Include De-Listed Products

Manufacturer ▼

Technical Consumer Products ✕

Classification ▼

Categories ▼

Measured Criteria ▲

Light Output 16125.67 22280.67

Efficacy 31 165.5

Wattage 168.9 240.9

1 RESULTS FOUND SHOW 10 25 50 100 Sort Date Qualified (newest first)

Search Within Results

Date Qualified: 01/14/2015 Compare

Model No.: **TCP5B43472041KYYYXXXWGPWL**

Brand Name: TCP

Manufacturer: Technical Consumer Products

VIEW DETAILS VIEW FAMILY (46)

	TEST DATA	RATED DATA
Indoor Luminaires High-Bay	Light Output 19,087 lm	Efficacy 82.94 lm/w
High-Bay Luminaires for Commercial and Industrial Buildings	Wattage 230.11 w	CRI 84
Classification: DLC Standard	CCT 4,082 k	

Brand: TCP **Part No.:** TCP5B4UNI2441K

Voltage: 120, 208, 240, 277 **Reflector Type:** 95% Specular Enhanced Aluminum

UL Listed: Damp Locations **DLC Listed:** Yes

Lumens (Initial): 20,000

LED Lighting Facts® Products



Product Type: ☑ Luminaire ☐ Lamp ☐ Retrofit Kit

Product Categories	Use Location	Mounting Base	Subcategory	Product Size
<input type="checkbox"/> Display Case <input type="checkbox"/> Downlight <input type="checkbox"/> Industrial <input type="checkbox"/> Linear <input type="checkbox"/> Parking Garage <input type="checkbox"/> Path/Step/Rail <input checked="" type="checkbox"/> Troffer/Grid Ceiling <input type="checkbox"/> Wallwash <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Hazardous Location <input type="checkbox"/> Other <input type="checkbox"/> Teleconference	<input checked="" type="checkbox"/> Recessed <input type="checkbox"/> Surface <input type="checkbox"/> Suspended <input type="checkbox"/> Other	<input type="checkbox"/> 1x4 <input type="checkbox"/> 2x2 <input type="checkbox"/> 2x4 <input type="checkbox"/> Other	Please select a Product Type and Product Category to narrow by Product Size.

Lumen Output: 0 128772

Input Wattage: 0.303 1238.4

Lumens Per Watt: 0.00 190.10lm/w

Color Accuracy (CRI): 23 (CA) 100 (CA)


Light Color (CCT): 1471 (K) 10228 (K)

Additional Product Metrics (CLICK TO COLLAPSE)

Power Factor	0.218 1	Zonal lumen density (0-60°)	0 100
Input Voltage	1 480.2	Zonal lumen density (60-90°)	0 99.9
DUV	0.009 0.000	Zonal lumen density (90-120°)	0 99.99
RG	188 99	Zonal lumen density (120-150°)	0 99.9
Total Harmonic Distortion	0 155	Spacing Criteria (0-150)	0 0.75
Beam Angle	7 300	Spacing Criteria (50-270)	0 12
Center Beam Candepower	2.95 10000		

Only include products that have been Verification Tested ☑ Only include products that are
 Only include products that have a warranty ☑ ENERGY STAR Certified
 Only include products that have exact values ☑ DLC Qualified
 Only include products with dimming information ☑ Submitted to the text Generation Luminaires competition

Advanced search goes from 1,400+ troffers to 153



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LED Lighting Facts® Products

153 TOTAL MATCHING PRODUCTS

[Download Results](#) | [Download Full List](#)

[Sort By:](#) Organization | Brand | Stock Number | [Data Columns](#)
CURRENTLY VIEWING 20 OF 153

Organization	Brand	Stock Number	Model	Light Color (CCT)
DAEDONG CO., LTD.	Philips Day-Brite	Philips Day-Brite	Philips Day-Brite	Philips Day-Brite

DAEDONG CO., LTD. Approved 7/8/2016

BRAND: DAEDONG
 MODEL: D1TF2245-5080N-E1
 TYPE: Luminaire - Troffer/Grid Ceiling
 SIZE: D1TF2245-5080N-E1

REQUIRED METRICS:
Lumen Output: 5091.33 lm
Input Wattage: 42.7 w
Lumens per Watt: 119.23 lm/w
Color Accuracy (CRI): 84.3 (CR)
Light Color (CCT): 5234.5 k



Pick a product and check DLC

Qualified Products List

[Download Results](#) | [Share Results](#) | [View en Français](#)

2 RESULTS FOUND

[Search Within Results](#)

REFINE YOUR SEARCH

2 RESULTS FOUND [Update Search](#)

Include Un-Listed Products

Manufacturer

Classification
Categories
Measured Criteria
Rated Criteria
Dimming Criteria
Integral Controls

Model No.	Brand Name	Manufacturer	Classification	Light Output (lm)	Wattage (W)	Efficiency (lm/w)	CRI	CCT (K)
D3HL120-5080P-E2	Daedong	DAEDONG CO., LTD.	Indoor Luminaires High-Bay High-Bay Luminaires for Commercial and Industrial Buildings	17,010.02	121.9	140	83	5,170
D1TF2245-5080N-E1	DAEDONG CO., LTD.	DAEDONG CO., LTD.	Indoor Luminaires Troffer 2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces	5,091.33	42.7	119.23	84.3	5,235



Its on the DLC List

LED lighting facts Products EF Programs Partners Approved Lists Library

LED Lighting Facts® Products

Product Type: Luminaire Lamp Retrofit

Product Categories: Area/Rackway Board Canopy Cove Downlight Flush/Task Directional Display Case

Use Location: Indoor Outdoor Hazardous Location Other

Mounting Base: Recessed Surface Suspended Wall Other

Subcategory: Please select a Product Type and Product Category to narrow by Subcategory.

Product: Please select a Product Category to narrow by Subcategory.

Size: Please select a Product Category to narrow by Subcategory.

Additional Product Metrics [CLICK TO COLLAPSE](#)

Power Factor: 0.95 0.99 1.00

Input Voltage: 120 277 480

DAV: 0.8000 0.8500 0.9000

IP: 0 20 30 40 50

Total Harmonic Distortion: 0 5 10 15

Beam Angle: 0 30 45 60

Center Beam Candela/Power: 0 10000 20000

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 UL Listed Wet Location Luminaires compatible Wet Location Luminaires compatible

Seesmart LED Approved 4/6/2015
Yes - Standard Stocked Product or In-Store

BRAND: Revolution Lighting Technologies

MODEL: 114402-102

TYPE: Luminaire - Parking Garage

SKU: 114402-102

DESCRIPTION: Exterior Luminaires, Vapor Tight, Tamper-Proof, 40W, 5000K, Milky, 120-277VAC

DEFINITIONS & MARKS: **DLC Qualified**

PRODUCT INFO URL: <http://www.seesmartled.com/spec-sheet/40w-vapor-tight-114402-102>

WARRANTY INFO: 7 years / [View Warranty Information](#)

REQUIRED METRICS: **Lumen Output: 3800 lm** **Input Wattage: 38.8 W** **Lumens per Watt: 94.45 lm/W** **Color Accuracy (CRI): 84** **Light Color (CCT): 5000 K**

ADDITIONAL METRICS:

Input Voltage	120	Center Beam Candela/Power	1177
Power Type	AC	Total Lumen Density (90-120°)	71.4
Power Factor	0.99	Beam Spread	3.8
DAV	0.8579	Spacing Criteria (5-10°)	1.22
IP	6.7	Spacing Criteria (10-15°)	1.26
Total Harmonic Distortion	5	Spacing Criteria (15-20°)	1.26

SEESMART EARTH FRIENDLY LED SOLUTIONS

Spec Sheet

SKU: 114402-102

Product Name: 40W 48 Tamper-Proof Vapor Tight 5000K

Description: Exterior Luminaires, Vapor Tight, Tamper-Proof, 40W, 5000K, Milky, 120-277VAC

Estimated Energy Cost (kWh/yr): \$4.62

Watts (W): 40

Light Output (Lumens): 3800

Efficacy (Lumens/Watt): 95

Color Accuracy (CRI): 84

Color Temperature (K): 5000

Lighting Angle/Type: 180

Power Factor: 0.99

Working Voltage: 100-277

LED Count/Type: 240

Lens Reflector Style: Milky

Operating Temperature (F): -4 to 113

Mount/Base Type: Surface Mount

Dimensions (inches): 48.00 L x 3.50 W x 3.00 H x 0.00 DIA

Weight (pounds): 5.29

Typically Replaces: Two 40W T8 Fluorescents

Typical Life Expectancy (L70 Hours): 50,000

Approvals / Certifications: UL, DLC IP65

Photometric Data Available? No

IES File Available? No

Features

Sturdy, tamper-proof troffers offer efficient LED lighting for wet or hazardous environments. Rigid, vapor-tight aluminum housing is IP65-rated, mounts on walls or ceilings, and has an impact-resistant polycarbonate lens. Conduit access is provided at both ends of the fixture. These vapor-tight troffers are ideally suited for interior or exterior applications such as food processing, warehouses, parking garages, refineries, wet or hazardous environments, hospitals, or recreation centers. Certified by UL for safety and IP65 compliant for wash-down.

NOTE: The preliminary performance information provided in this notice is pending verification by an independent testing laboratory. Contact your Seesmart representative for more information about photometric and other performance testing information for this product.

NOTE: The preliminary performance information provided in this notice is pending verification by an independent testing laboratory. Contact your Seesmart representative for more information about photometric and other performance testing information for this product.

Definitions are valid as of 02/15/2015 11:23:31:02, but are subject to change. www.seesmartled.com Tel: 877.576.2555
Confirm exact specifications prior to placing order. Copyright © 2014 Seesmart, Inc. All rights reserved.

SEESMART
 DESIGNLIGHTS CONSORTIUM

PRODUCTS SERVICES KNOWLEDGE BASE MEDIA SUPPORT ABOUT US

DLC APPROVED PRODUCTS

Designlights Consortium (DLC) is a collaboration of utility companies and regional energy efficiency organizations. Their goal is to ensure that high-quality, energy-efficient lighting design becomes customary in all lighting installations. These Seesmart products have been accepted by DLC and listed on the Qualified Products List as high-quality, energy-efficient design lighting.

DESIGNLIGHTS CONSORTIUM

APPLICATION GUIDE

Replacement Matrix

PRODUCT LISTING

DECORATIVE LIGHTING

Candelabras

EXTERIOR LUMINAIRE LIGHTING

Exterior Luminaires
 Street Lights
 Wall Washers

HIGH/LOW BAY LIGHTING

High Bays
 Low Bays

MULTI-PURPOSE LIGHTING

High Power Lamps
 Household Lamps

INTERIOR LUMINAIRE LIGHTING

Interior Luminaires
 Spotlights
 PAR Lights
 Downlights

LINEAR TUBE LIGHTING

Tube Lights

G2 SP 36W 4000K 2x2 Double Barrel LED Luminaire SKU: 150203-003

Watts: 36W Efficacy: 88.2222
 Lumens: 3176lm Voltage: 120-277VAC
 Color Temp: 3800-4300 Base: -
 CRI: 86 Replaces: 32-45W T8 Fluorescent

G2 SP 42W 4000K 2x4 Double Barrel LED Luminaire SKU: 150204-003

Watts: 42W Efficacy: 93.1667
 Lumens: 3915lm Voltage: 120-277VAC
 Color Temp: 3800-4300 Base: -
 CRI: 88 Replaces: 96-128W T8 Fluorescent

G2 SP 68W 4000K 2x4 Double Barrel LED Luminaire SKU: 150205-003

Watts: 68W Efficacy: 93.5882
 Lumens: 6364lm Voltage: 120-277VAC
 Color Temp: 3800-4300 Base: -
 CRI: 89 Replaces: 96-128W T8 Fluorescent

2x2 30W 4000K Dimmable LED Thin Panel SKU: 150310-003

Watts: 33W Efficacy: 85.9048
 Lumens: 2706lm Voltage: 120-277VAC
 Color Temp: 4000 Base: N/A
 CRI: 81 Replaces: Two 32-45W T8 Fluorescents

2x2 30W 5000K Dimmable LED Thin Panel SKU: 150310-002

Watts: 30W Efficacy: 100
 Lumens: 3000lm Voltage: 120-277VAC
 Color Temp: 5000 Base: N/A
 CRI: 83 Replaces: Two 32-45W T8 Fluorescents

DESIGNLIGHTS CONSORTIUM

2016 STAKEHOLDER MEETING August 2-3 • Denver, CO

Qualified Products List View Category Specifications

New Search Download Results Share Results Voir en Français

3 RESULTS FOUND SHOW 10 25 50 100 SORT Date Qualified (newest first)

seesmart

3 RESULTS FOUND Update Search

Include De-Listed Products

Manufacturer Type and Select one or more Organizations

Classification

Categories

Category Keyword(s)

Outdoor Luminaires
 Low Output
 Mid Output
 High Output
 Indoor Luminaires
 Interior Directional
 Display Case
 Troffer
 Linear Ambient

Date Qualified: 12/21/2015 Compare

Model No.: 110401-102
 Brand Names: Seesmart
 Manufacturer: Revolution Lighting Technologies

VIEW DETAILS VIEW PARENT (1)

Indoor Luminaires | Linear Ambient
Direct Linear Ambient Luminaires
 Classifications: DLC Standard
 DLC Product Code: P45WYQV
 DLC Family Code: 9090BC

RATED DATA
 Light Output: 6,500 lm Efficacy: 108 lm/w
 Wattage: 60 w CRI: 87
 CCT: 5,000 k

Expand details

Date Qualified: 07/30/2014 Compare


Model No.: 110401-101
 Brand Names: Seesmart
 Manufacturer: Revolution Lighting Technologies

VIEW DETAILS VIEW FAMILY (1)


Indoor Luminaires | Linear Ambient
Direct Linear Ambient Luminaires
 Classifications: DLC Standard

TEST DATA
 Light Output: 5,907.64 lm
 Wattage: 63.4 w CRI: 86


RATED DATA
 Efficacy: 95.48 lm/w



Spec Sheet




SKU#	110401-102
Product Name	60W DW 1X4 Vapor-Tight LED
Description	Vapor-Tight, 60W, 5000K, 120-277
Estimated Energy Cost (\$/yr)**	7.227
Watts (W)	60
Light Output (Lumens)	6500
Efficacy (Lumens/Watt)	108.333
Color Accuracy (CRI)	87
Color Temperature (K)	5000
Lighting Angle/Type	Flood
Power Factor	0.98
Working Voltage	120-277VAC
LED Count/Type	208
Lens Reflector Style	Milky
Operating Temperature (F)	-22 to 104
Mount/Base Type	Surface Mount
Dimensions (inches)	50.80 L x 6.70 W x 3.90 H x 0.00 DIA
Weight (pounds)	7
Typically Replaces	Two 32-45W T8 Fluorescents
Typical Life Expectancy (L70 Hours)	50000
Approvals / Certifications	UL RoHS IP65
Photometric Data Available?	Yes
IES File Available?	Yes




Features

Effective advanced LED integration in a stylish wall/ceiling fixture shape and style; polycarbonate base with specialized polycarbonate prismatic diffuser cover provides intensified light, long 50,000 hour life; wide voltage and constant current design with high power factor, high shock & vibration resistant, 50%+ savings in energy consumption; mercury-free, no noise, no flickering, and no UV emissions. This product is UL listed with wet location rating, RoHS compliant, assembled in the USA, and fully recyclable.

NOTE: The performance information provided in this notice is based on calculated or tested results. Contact your R/LT representative for more information about photometric and other performance testing information for



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DLC APPROVED PRODUCTS

DesignLights Consortium (DLC) is a collaboration of utility companies and regional energy efficiency organizations. Their goal is to ensure that high-quality, energy-efficient lighting design becomes customary in all lighting installations. These SeeSmart products have been accepted by DLC and listed on the Qualified Products List as high-quality, energy-efficient design lighting.

APPLICATION GUIDE

Replacement Matrix

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DECORATIVE LIGHTING

Candelabras

EXTERIOR LUMINAIRE LIGHTING

Exterior Luminaires
Street Lights
Wall Washers

HIGH/LOW BAY LIGHTING

High Bays
Low Bays

MULTI-PURPOSE LIGHTING






High Power Lamps
Household Lamps


INTERIOR LUMINAIRE LIGHTING

Interior Luminaires
Spotlights
PAR Lights
Downlights

LINEAR TUBE LIGHTING

Tube Lights

	G2 SP 36W 4000K 2x2 Double Barrel LED Luminaire Watts: 36W Efficacy: 88.2222 Lumens: 3176lm Voltage: 120-277VAC Color Temp: 3800-4300 Base: - CRI: 86 Replaces: 32-45W T8 Fluorescent	SKU: 150203-003 MORE INFO DOWNLOAD BOOKMARK
	G2 SP 42W 4000K 2x4 Double Barrel LED Luminaire Watts: 42W Efficacy: 93.1667 Lumens: 3913lm Voltage: 120-277VAC Color Temp: 3800-4300 Base: - CRI: 86 Replaces: 96-128W T8 Fluorescent	SKU: 150204-003 MORE INFO DOWNLOAD BOOKMARK
	G2 SP 68W 4000K 2x4 Double Barrel LED Luminaire Watts: 68W Efficacy: 93.5882 Lumens: 6364lm Voltage: 120-277VAC Color Temp: 3800-4300 Base: - CRI: 85 Replaces: 96-128W T8 Fluorescent	SKU: 150205-003 MORE INFO DOWNLOAD BOOKMARK
	2x2 30W 4000K Dimmable LED Thin Panel Watts: 32W Efficacy: 85.9048 Lumens: 2706lm Voltage: 120-277VAC Color Temp: 4000 Base: N/A CRI: 81 Replaces: Two 32-45W T8 Fluorescents	SKU: 150310-001 MORE INFO DOWNLOAD BOOKMARK
	2x2 30W 5000K Dimmable LED Thin Panel Watts: 30W Efficacy: 100 Lumens: 3000lm Voltage: 120-277VAC Color Temp: 5000 Base: N/A CRI: 83 Replaces: Two 32-45W T8 Fluorescents	SKU: 150310-002 MORE INFO DOWNLOAD BOOKMARK



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LINEAR TUBE LIGHTING

G2 SP 42W 4000K 2X4 DOUBLE BARRELLED LUMINAIRE

SKU: 150204-003-Interior Luminaires, 2x4, 42W, 4000K, 120-277VAC, Dir/Ind Dual Basket, [Download Information File \(PDF\)](#)
G2, SP



Wattage: 42W

Lumens: 3913lm

CRI: 86

Efficacy: 93.1667

Color Temperature: 3800-4300K

Lighting Angle: 120°

Working Voltage: 120-277VAC

Lens Reflector Style: Frosted


Length/Base: -

Dimensions: 48.00 L x 23.80 W x 3.30 H x 0.00 DIA

Replaces: 96-128W T8 Fluorescent

FEATURES:

Effective advanced LED integration in a traditional low-profile lightweight recessed troffer luminaire shape and style; specialized low profile dual drop basket diffuser covers provide smooth even light; long 50,000 hour life; wide voltage and constant current design with high power factor; dimmable with 0-10V signal; high shock & vibration resistant; 50%+ savings in energy consumption; mercury-free, no noise, no flickering, and no UV emissions. This product is UL listed, RoHS compliant, and fully recyclable.




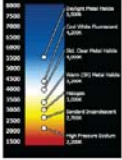
Spec Sheet


SKU#	150204-003
Product Name	G2 SP 42W 4000K 2x4 Double Barrel LED Luminaire
Description	Interior Luminaires, 2x4, 42W, 4000K, 120-277VAC, Dir/Ind Dual Basket, G2, SP
Estimated Energy Cost (\$/yr)**	5.0580
Watts (W)	42
Light Output (Lumens)	3913
Efficacy (Lumens/Watt)	93.1667
Color Accuracy (CRI)	86
Color Temperature (K)	3800-4300
Lighting Angle/Type	120
Power Factor	0.9
Working Voltage	120-277VAC
LED Count/Type	96
Lens Reflector Style	Frosted
Operating Temperature (F)	-40 to 113
Mount/Base Type	-
Dimensions (inches)	48.00 L x 23.80 W x 3.30 H x 0.00 DIA
Weight (pounds)	24.7
Typically Replaces	96-128W T8 Fluorescent
Typical Life Expectancy (L70 Hours)	50000
Approvals / Certifications	UL DLC
Photometric Data Available?	No
IES File Available?	No

Features

Effective advanced LED integration in a traditional low-profile lightweight recessed troffer luminaire shape and style; specialized low profile dual drop basket diffuser covers provide smooth even light; long 50,000 hour life; wide voltage and constant current design with high power factor; dimmable with 0-10V signal; high shock & vibration resistant; 50%+ savings in energy consumption; mercury-free, no noise, no flickering, and no UV emissions. This product is UL listed, RoHS compliant, and fully recyclable.

NOTE: The performance information provided in this notice is based on calculated or tested results. Contact your RVL representative for more information about photometric and other performance testing information for



DESIGNLIGHTS CONSORTIUM

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Qualified Products List

View Category Specifications

New Search Download Results Share Results Voir en Français

1 RESULTS FOUND

seesmart

Date Qualified: 04/22/2014

Model No.: 150204-003
 Brand Name: Seesmart
 Manufacturer: Revolution Lighting Technologies

Indoor Luminaires | Troffer
2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces

Classification: DLC Standard
 DLC Product Code: P00018PB
 DLC Family Code: R99LAV

Notes:

RATED DATA	
Light Output	3,858.1 lm
Wattage	42 w
CRI	80
CCT	4,000 k
Power Factor	0.996
Total Harmonic Distortion	20 %
Dimmable:	Not Yet Verified
Has Integral Controls	Not Yet Verified

REFINE YOUR SEARCH

1 RESULTS FOUND

Include De-Listed Products

Manufacturer

Type and Select one or more Organizations

Classification

Categories

Category Keyword(s)

- Outdoor Luminaires
 - Low Output
 - Mid Output
 - High Output
- Indoor Luminaires
 - Interior Directional
 - Display Case
 - Troffer

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40W 4FT TAMPER-PROOF VAPOR TIGHT 5000K

SKU: 114402-102-Exterior Luminaires, Vapor Tight, Tamper-Proof, 40W, 5000K, Milky, 120- Download Information File (PDF) 277VAC



Wattage: 40W
 Lumens: 3800lm
 CRI: 84
 Efficacy: 95
 Color Temperature: 5000K

Lighting Angle: **40° x 3.5 W x 3 H**

Working Voltage: Warm White: (WW) 2700-3200K
 Natural White: (NW) 4000-4500K
 Day White: (DW) 5500-6000K
 Cool White: (CW) 7000-7500K

Lens Reflector Style:

Length/Base:

Dimensions: 48" x 3.5 W x 3 H

Replaces: Two 40W T8 Fluorescents

FEATURES:

A tool to search all the QPLs at once that is powered by



Highlights of what the Podio hosted system allows you to do.

- Search all of the following source QPLs simultaneously:
 - ENERGY STAR Lamps
 - ENERGY STAR Fixtures
 - LDL Lamps, Fixtures, & Retrofit Kits
- Search with auto-completion (predictive prefix searching)
- Substitute spaces for any punctuation—punctuation has *secondary* significance
- Search the “words” (segments) of a model number entered in any order
- Search with approximate-string (fuzzy) matching
- Search across multiple fields
- Hyperlink directly to the source QPL—and the actual source *listing* for ENERGY STAR products
- Filter all source QPLs simultaneously—e.g., use location, form factor, base type, etc.
- Export filtered list to Excel—up to 20,000 records
- Attach reference documents to listings—such as the product cut sheet
- Attach product images—photos or illustrations
- Add other reference hyperlinks to listings—such as the manufacturer or product website or installation video

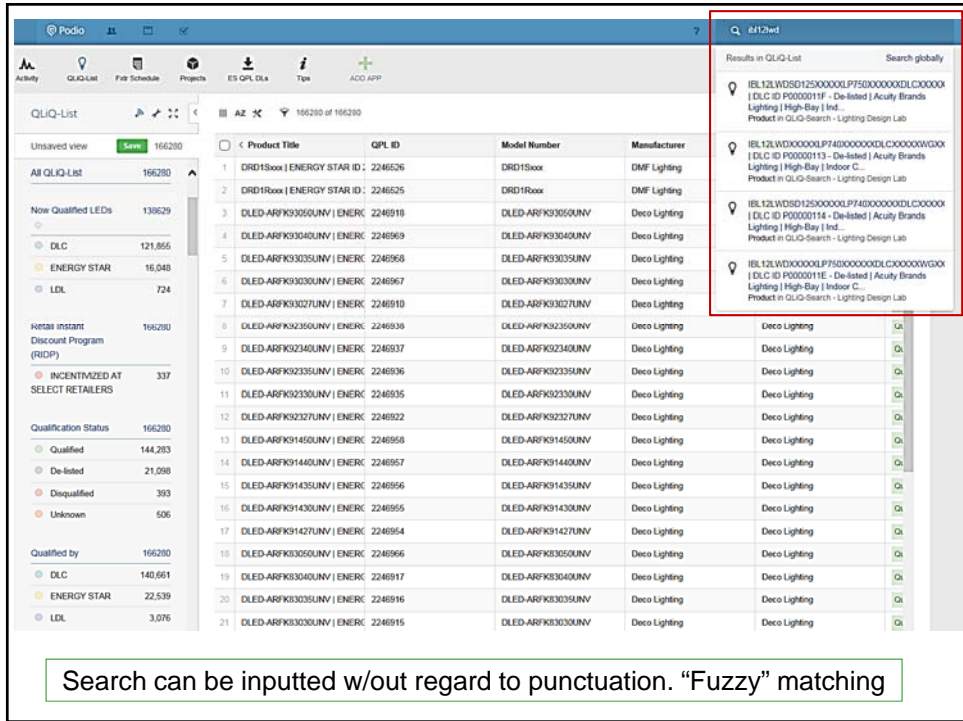
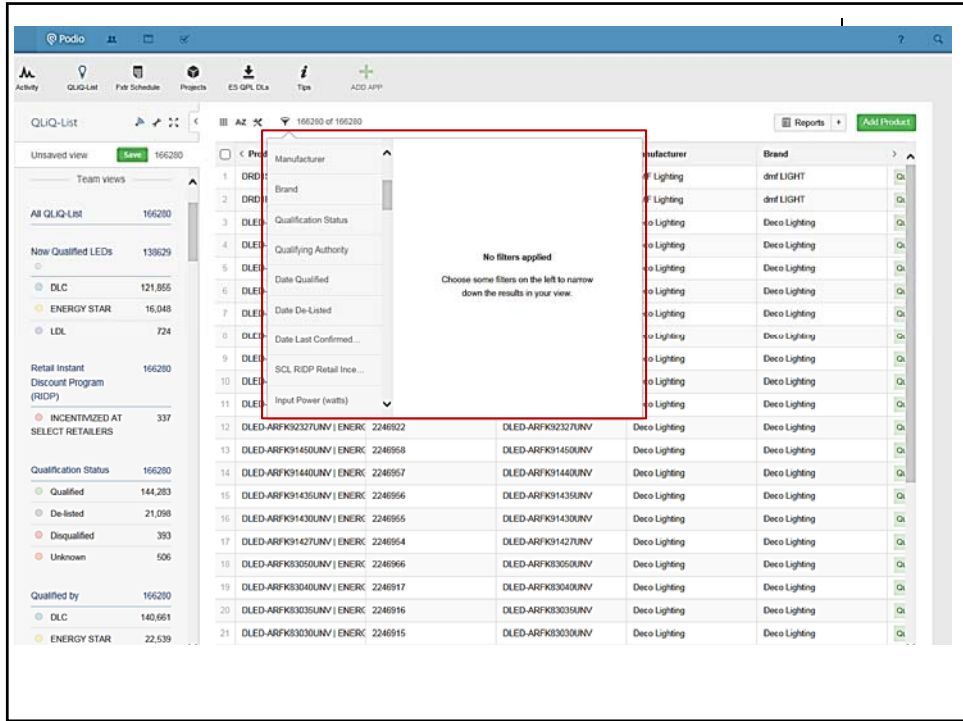
Podio platform



Filter tool

Search tool

Product Title	QPL ID	Model Number	Manufacturer	Brand
DRD1Soxx ENERGY STAR ID: 2246526		DRD1Soxx	DMF Lighting	dmf LIGHT
DRD1Roox ENERGY STAR ID: 2246525		DRD1Roox	DMF Lighting	dmf LIGHT
DLED-ARFK30300UNV ENERC 2246918		DLED-ARFK30300UNV	Deco Lighting	Deco Lighting
DLED-ARFK30304UNV ENERC 2246969		DLED-ARFK30304UNV	Deco Lighting	Deco Lighting
DLED-ARFK30305UNV ENERC 2246968		DLED-ARFK30305UNV	Deco Lighting	Deco Lighting
DLED-ARFK30300UNV ENERC 2246967		DLED-ARFK30300UNV	Deco Lighting	Deco Lighting
DLED-ARFK30307UNV ENERC 2246910		DLED-ARFK30307UNV	Deco Lighting	Deco Lighting
DLED-ARFK30305UNV ENERC 2246938		DLED-ARFK30305UNV	Deco Lighting	Deco Lighting
DLED-ARFK30340UNV ENERC 2246937		DLED-ARFK30340UNV	Deco Lighting	Deco Lighting
DLED-ARFK30303UNV ENERC 2246936		DLED-ARFK30303UNV	Deco Lighting	Deco Lighting
DLED-ARFK30300UNV ENERC 2246935		DLED-ARFK30300UNV	Deco Lighting	Deco Lighting
DLED-ARFK30327UNV ENERC 2246922		DLED-ARFK30327UNV	Deco Lighting	Deco Lighting
DLED-ARFK31450UNV ENERC 2246958		DLED-ARFK31450UNV	Deco Lighting	Deco Lighting
DLED-ARFK31440UNV ENERC 2246957		DLED-ARFK31440UNV	Deco Lighting	Deco Lighting
DLED-ARFK31435UNV ENERC 2246956		DLED-ARFK31435UNV	Deco Lighting	Deco Lighting
DLED-ARFK31430UNV ENERC 2246955		DLED-ARFK31430UNV	Deco Lighting	Deco Lighting
DLED-ARFK31427UNV ENERC 2246954		DLED-ARFK31427UNV	Deco Lighting	Deco Lighting
DLED-ARFK30300UNV ENERC 2246966		DLED-ARFK30300UNV	Deco Lighting	Deco Lighting
DLED-ARFK30304UNV ENERC 2246917		DLED-ARFK30304UNV	Deco Lighting	Deco Lighting
DLED-ARFK30305UNV ENERC 2246916		DLED-ARFK30305UNV	Deco Lighting	Deco Lighting
DLED-ARFK30300UNV ENERC 2246915		DLED-ARFK30300UNV	Deco Lighting	Deco Lighting



Podio uses fuzzy matching search



These lighting products exemplify the common challenge of model number formats differing significantly between the product spec sheet and the QPL listing. Here are several products as listed on their respective spec sheets:

Model Number from Spec Sheet	Podio Search Strategy
ICO 30/50 6AR 20D 120 EZB	<ul style="list-style-type: none"> Search "ICO 30/50" In the dropdown, see the suggested match, "ICO-zz/xx-6yy qq ww MVOLT ENERGY STAR ID 2203720..." That's it
WPT-LS1-A/50K/P	<ul style="list-style-type: none"> Search "WPT LS1 A/50K/P" *Note substituting spaces for the dashes In the dropdown, see the suggested match, "WPT,Q]-LS1-A/50K/P DLC ID P000019H1..." That's it (or hit Enter if you like to see a list of all matches that you can then drill into and then return to the list via the browser Back button)
SFP-T2-5-130LA-NW-120-NP-PCR5	<ul style="list-style-type: none"> Search "SFP T2 130LA NW 120" *Note substituting spaces for the dashes In the dropdown, see the suggested match, "[S][A, V, or P]-XXX-XXX-XXX-5-130LA-NW-[120-220V or 347V]-XXX DLC ID P0000144W..." That's it (or hit Enter if you like to see a list of all matches that you can then drill into and then return to the list via the browser Back button)
E-XPX24L40LHGUEB	<ul style="list-style-type: none"> Search "E-X" In the dropdown, see the suggested match, "E-[P,C]X24L40LHGUEB[All Options Except -9, -L35, -L41, -L50] DLC ID P00001EA8..." That's it
HEX-021-A-CW-MT-FLR	<ul style="list-style-type: none"> Based on the spec sheet, see that "021" and "FLR" are the most essential elements of the product model Search "021 FLR" In the dropdown, see the suggested matches: <ul style="list-style-type: none"> "021-FLR-[optional upgrades]-[mounting] DLC..." "FLR-021-[optional upgrades]-[mounting] LDL..." Hit Enter to then drill into these alternatives (returning to the list via the browser Back button) Both of these QPL listings are a match for this product, one on DLC and one on LDL

Who we are:

The Lighting Design Lab focuses on commercial & industrial lighting, providing beginner to advanced education and technical consultations. As an interactive facility funded by major NW electric utilities & conservation partners, our services are supplemented so they are accessible to all businesses seeking guidance. Our goal is energy conservation education.



Lighting Design Lab services

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Lighting Consultation	Website & Newsletter
Facility Tours	Facility Rental
LED Qualified Products List	Networking Opportunities



www.lightingdesignlab.com

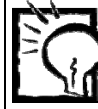
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