

Hazardous area LED lighting
Vaporgard™ LED Luminaires

CROUSE-HINDS
SERIES

Vaporgard™ LED

Low profile incandescent replacement



EATON

Powering Business Worldwide

Vaporgard Series LED Lighting

Safe. Reliable. Efficient.

Eaton's Crouse-Hinds offers the broadest portfolio of LED luminaires for any industrial or hazardous application.

We utilize more than 100 years of lighting expertise to maximize the benefits of LED technology and provide the safest, **most reliable LED luminaires on the market today.**



Application

Challenge:

You're faced with high energy and maintenance costs related to your current incandescent lighting fixtures. In addition, you're worried about upcoming legislation to ban incandescent lighting fixtures in your jurisdiction. You need a solution which will not only reduce operating expenses, but also replace your current incandescent fixtures prior to government regulations going into effect.

Old way:

Replace your current incandescent fixtures with a higher wattage luminaire that falls outside of the power range of the pending government regulations on incandescent lamps. Light output has increased, however, energy costs have gone up 30%, maintenance costs are still an issue, and future regulations may require another change.

New way:

Install Vaporgard LED Luminaires to realize an 85% reduction in energy consumption and slash maintenance costs associated with lamp replacement. The Vaporgard LED is designed to easily adapt to existing mounting modules for ease of installation. That, along with a 20 times longer life, makes Vaporgard LED an ideal replacement for incandescent light sources.

Benefit:

Realize \$50K per year in energy and maintenance savings by installing Vaporgard. Qualify for rebate incentives with local municipalities and federal programs. Take advantage of the robust, low profile design by installing in those "tough to get to" locations.

Why LED?

Useful Life

- Rated life is up to 60,000 hours of maintenance-free and safe operation

Energy efficiency

- LED average energy consumption is 85% less than incandescent

Start/restart time

- Instant illumination compared to 10 minute restrike time for HID

Light quality

- Higher color rendering and color temperature

Environmental benefits

- LED reduces carbon footprint
- Mercury-free

Why Crouse-Hinds?

Industry-best reliability

- Built to withstand extreme temperatures, vibration, water and dust

Thermal management

- Effective heat sinking ensures longer life

Retrofit compatibility

- LED fixtures are compatible with Crouse-Hinds' incandescent installed base

Why Vaporgard LED?



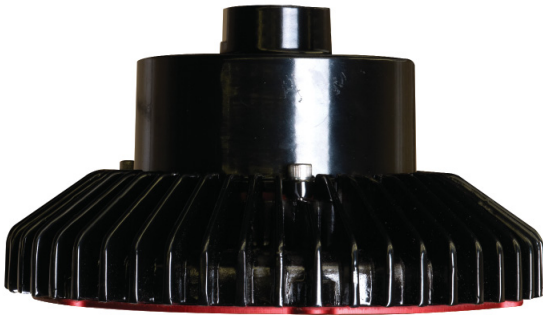
- 20X the life of incandescent lamps



- 50% lower profile than incandescent luminaires



Design features



EASY INSTALLATION AND REPLACEMENT

- Contractor-friendly design is ideal for both retrofit and new construction application
- Installed using the same wall and ceiling mounts as incandescent Vaporgard fixtures

LOW PROFILE DESIGN

- Unique domeless, low profile design for low mounting heights and confined spaces where incandescent and HID based luminaires are too large to fit in the mechanical envelope required

MULTIPLE LENS OPTIONS

- Tempered clear glass lens standard
- Diffused glass lens and teflon coated lens options available

MODULAR DESIGN

- Compact and modular design allows for easy component replacement and future upgrades



RUGGED HEAT SINK

- Heat sink designed to perform in high ambient temperatures up to +55°C and as low as -30°C
- Thick walled castings make for a tough, rugged housing that keeps the internal driver and LED temperature down



Features & benefits

Vaporgard LED Luminaires

V2LC - Cool white color temperature

The V2LC Luminaire provides uniform crisp, white light and is suitable for lower mounting heights, confined spaces, tunnels or utility rooms. Using four high power, high brightness LED arrays, this fixture can deliver similar light levels to 150 watt incandescent.

V2LW - Warm white color temperature

The V2LW Luminaire provides similar benefits as the cool white version, but with a color rendering more consistent with a warm incandescent or HPS lamp source.

Available with DC power supply

For applications with DC power requirements such as solar, battery or UPS. The DC power supply is suitable for 12VDC through 24VDC.



V2LC



V2LW

Vaporgard LED benefits:

Enhance safety and productivity

- Instant illumination and re-strike
- Cold temperature operation; no warm-up time
- Multi-die LED arrays improve reliability
- Lightweight, low profile and cool surface temperatures
- Driver with internal fusing for branch circuit protection

Reduce operation and maintenance costs

- 22 watt LED system can save up to 85% in energy costs
- 50K hours rated life can provide >10 years of maintenance-free lighting
- No mercury or hazardous chemicals - eliminates disposal concerns
- Mounts to existing Vaporgard mounting modules

Reliable performance in any environment

- Shock- and vibration-resistant
- Teflon coated lens (suffix S896) option for increased safety in food processing facilities
- Low starting temperature: -30°C
- Operating ambient: -30°C to 55°C (high temperature option)

Applications:

- Oil and gas refineries, drilling rigs, petrochemical facilities, food and beverage facilities, platforms, loading docks, tunnels, outdoor wall and stanchion mounted general area lighting, and where flammable vapors, gases, ignitable dusts, fibers or flyings are present
- Locations requiring continuous and consistent light levels in extreme ambient temperatures
- Where extremely corrosive, wet, dusty, hot and/or cold conditions exist
- Type 4X, marine, wet locations and hose-down environments
- Confined space or low ceiling areas, such as tunnels, utility rooms, over doorways, entries, landings, etc.
- Areas requiring frequent on/off of lights
- Areas where maintenance is difficult or challenging
- Areas requiring shatter-protected products, such as food processing facilities
- Outdoor wall or ceiling mounted area illumination
- Low mounting heights
- Classified and hazardous locations

Model number	Nominal lumens	Wattage	Equivalent incandescent luminaire	Typical energy savings/lifetime
V2LC/UNV1	1,633	22	150-200W incandescent	85% energy savings and over 50,000 hours of continuous operation!
V2LW/UNV1	1,400	22		
V2LC/DC1	1,633	22		
V2LW/DC1	1,400	22		



Specifications

Certifications and compliances:

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 1, Groups F, G
- UL844; UL1598; UL1598A
- CSA C22.2 No. 137
- NEMA 4X
- IP66
- RoHS Compliant
- ⓧ II 3 G Ex nA IIC T4 Gc (T4 at 55°C)
- ⓧ II 3 D Ex tc IIIB T69°C Dc IP66
- EN60079-0:2009, EN60079-15:2010, EN60079-31:2009
- DesignLights Consortium® approved for select models

Standard materials:

- Body and mounting modules – copper-free aluminum with Corro-free™ epoxy powder coat
- Lens bezel – aluminum with anodized finish
- Lens – heat- and impact-resistant glass
- Gaskets – silicone
- External hardware – stainless steel

Electrical ratings:

	V2LC/UNV1	V2LW/UNV1	V2LC/DC1	V2LW/DC1
Voltage	90-264VAC, 277VAC	90-264VAC, 277VAC	12-24VDC	12-24VDC
Input power (Watts)	22	22	22	22
Input current	0.23/0.10	0.23/0.10	2.1 / 1.0	2.1 / 1.0
Power factor	>0.9	>0.9	N/A	N/A
THD (I) (%)	<20%	<20%	N/A	N/A
Maintained lumens	1633	1400	1633	1400
Color temperature	5600K	3000K	5600K	3000K

5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Crouse-Hinds standard Terms and Conditions.

Temperature ratings:

	Max. temp °C	Temp. rating*
V2LC/UNV1	40°	T5
V2LC/UNV1 S902	55°	T4A
V2LC/DC1	40°	T5
NV2LC/UNV1	40°	T4
NV2LC/UNV1 S902	55°	T4

*Contact your local sales representative for warm white temperature ratings.

Weights:

Model number	Lbs.	kg.
Pendant mount	5.7	2.59
Ceiling mount	6.8	3.08
Wall mount	7.9	3.58
Stanchion mount	6.5	2.95



LED driver:

- Constant current regulated power supply
- 90VAC-264VAC, 277VAC, 50/60 Hz
- Internal fusing
- Active power factor correction, >0.9
- Low harmonic distortion, <20%
- Low in-rush current, <20 amps
- EMC compliant to 47CFR, Part 2, Part 15
- 12-24VDC option available

LED system:

- (4) High brightness LED arrays
- Cool white (5600K), CRI 65
- Warm white (3000K), CRI 82
- 70% lumen maintenance (L70) at 50K hours
- Array complies with requirements of LM80

Ordering information

NEC and CEC

Mounting style	Cool white		Warm white	
	AC drive	DC drive	AC drive	DC drive
½" Pendant*	V2LCA1/UNV1	V2LCA1/DC1	V2LWA1/UNV1	V2LWA1/DC1
¾" Pendant*	V2LCA2/UNV1	V2LCA2/DC1	V2LWA2/UNV1	V2LWA2/DC1
1" Pendant*	V2LCA3/UNV1	V2LCA3/DC1	V2LWA3/UNV1	V2LWA3/DC1
½" Wall with Junction Box	V2LCHBF1/UNV1	V2LCHBF1/DC1	V2LWHBF1/UNV1	V2LWHBF1/DC1
¾" Wall with Junction Box	V2LCHBF2/UNV1	V2LCHBF2/DC1	V2LWHBF2/UNV1	V2LWHBF2/DC1
½" Ceiling	V2LCHF1/UNV1	V2LCHF1/DC1	V2LWHF1/UNV1	V2LWHF1/DC1
¾" Ceiling	V2LCHF2/UNV1	V2LCHF2/DC1	V2LWHF2/UNV1	V2LWHF2/DC1
½" VXT Wall	V2LCHT1/UNV1	V2LCHT1/DC1	V2LWHT1/UNV1	V2LWHT1/DC1
¾" VXT Wall	V2LCHT2/UNV1	V2LCHT2/DC1	V2LWHT2/UNV1	V2LWHT2/DC1
½" VXW Wall*	V2LCHW1/UNV1	V2LCHW1/DC1	V2LWHW1/UNV1	V2LWHW1/DC1
¾" VXW Wall*	V2LCHW2/UNV1	V2LCHW2/DC1	V2LWHW2/UNV1	V2LWHW2/DC1
1-¼" Stanchion*	V2LCHJ4/UNV1	V2LCHJ4/DC1	V2LWHJ4/UNV1	V2LWHJ4/DC1
Adapter Only**	V2LCHR/UNV1	V2LCHR/DC1	V2LWHR/UNV1	V2LWHR/DC1

*For use in Class I, Division 2 or Class II, Division 1, Groups F, G. For Class II, you must order complete catalog number (not available for purchase in components).

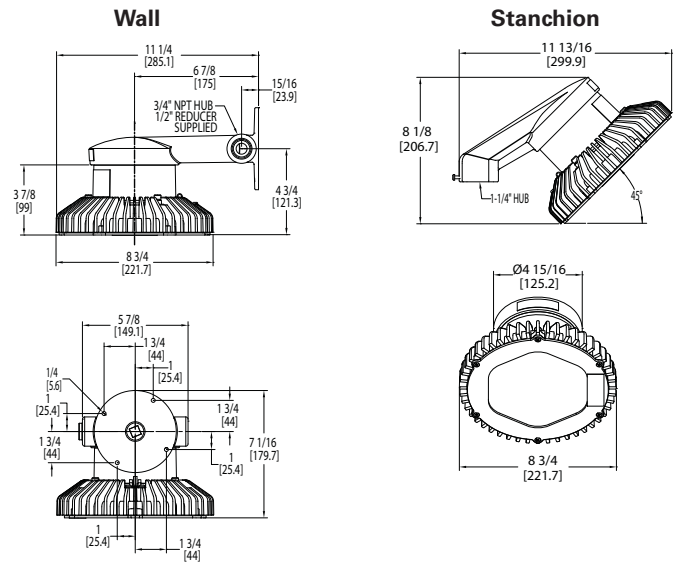
**For use when wall mount or ceiling mount box is already installed.

5 year limited warranty. Refer to page 2 of the D-0413 authorized distributor price book for Crouse-Hinds standard Terms and Conditions. DesignLights Consortium® approved models. Cool white only.

IECEX/ATEX

Mounting style	Cool white AC drive	Warm white AC drive
½" Pendant	NV2LCA1/UNV1	NV2LWA1/UNV1
¾" Pendant	NV2LCA2/UNV1	NV2LWA2/UNV1
1" Pendant	NV2LCA3/UNV1	NV2LWA3/UNV1
½" Wall with Junction Box	NV2LCHBF1/UNV1	NV2LWHBF1/UNV1
¾" Wall with Junction Box	NV2LCHBF2/UNV1	NV2LWHBF2/UNV1
½" Ceiling	NV2LCHF1/UNV1	NV2LWHF1/UNV1
¾" Ceiling	NV2LCHF2/UNV1	NV2LWHF2/UNV1
½" Wall	NV2LCHT1/UNV1	NV2LWHT1/UNV1
¾" Wall	NV2LCHT2/UNV1	NV2LWHT2/UNV1
1-¼" Stanchion	NV2LCHJ4/UNV1	NV2LWHJ4/UNV1

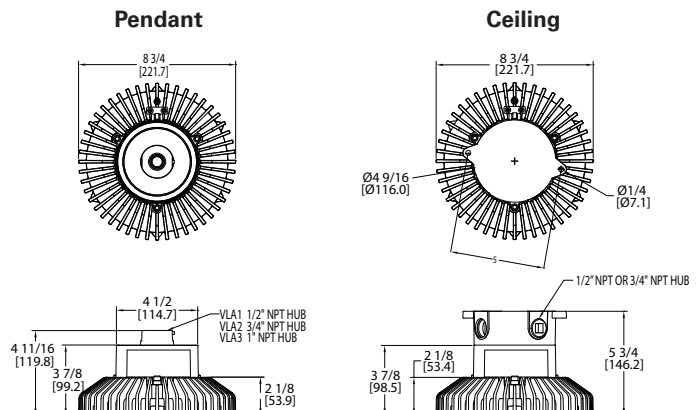
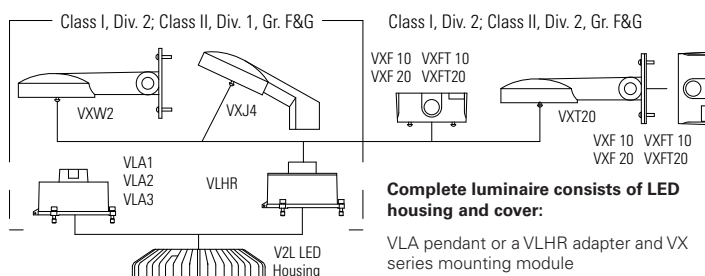
Dimensions



Options

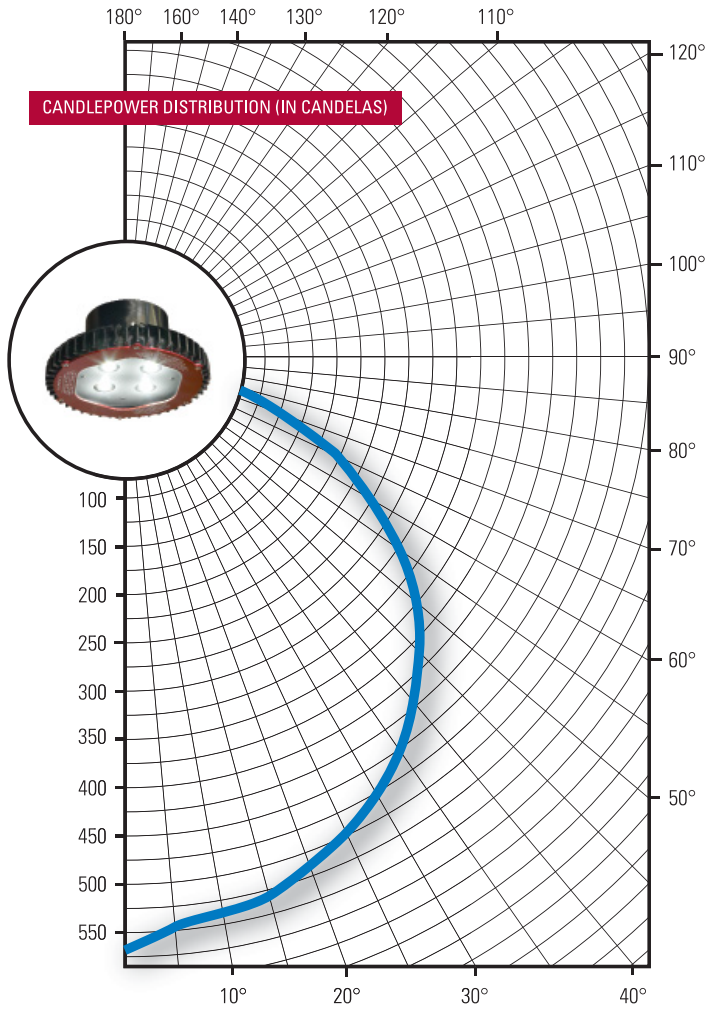
Suffix (added to part #)	Description
S891	Frosted lens (NEC version only)
S896	Teflon coated lens (NEC version only)
S902	High temperature option (up to 55°C ambient temperature)
BR	Brazil (CEPEL certification) (IEC version only)

Family tree



Photometric data

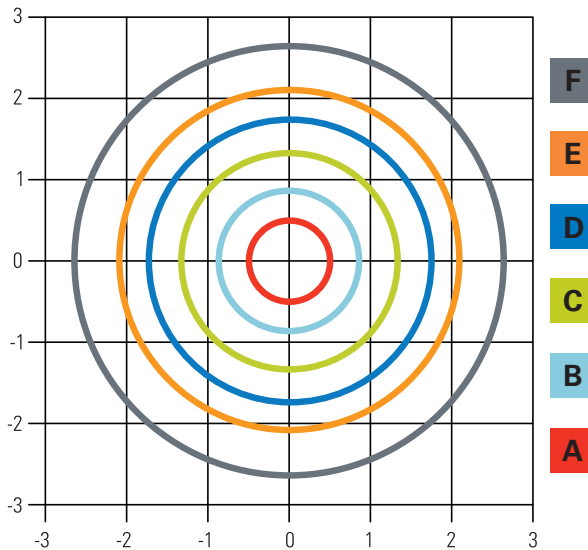
Zonal lumens



Vaporgard LED (22 Watt)

Zone	Lumens	% Lumen
0-30	468	28.65
0-40	772	47.30
0-60	1374	84.15
0-90	1633	100.00
40-90	860	52.70
60-90	259	15.85
90-180	0	0.00
0-180	1633	100.00

Isofootcandle



Distance to mounting height

Isofootcandle chart shows illuminance in footcandles at ground level

Mtg. height	A	B	C	D	E	F
6'	10.00	5.00	2.00	1.00	0.50	0.20
8'	5.62	2.81	1.13	0.56	0.28	0.11
10'	3.60	1.80	0.72	0.36	0.18	0.07
12'	2.50	1.25	0.50	0.25	0.13	0.05
14'	1.84	0.92	0.37	0.18	0.09	0.04

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