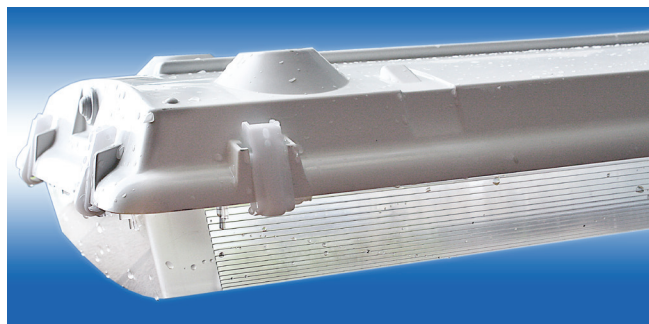


5/22/2014

# Vaporproof Highbay LED Mid-Power



VHL2 series vaporproof highbay is engineered for performance down to the smallest detail. It is fully gasketed to provide total protection from dust and moisture penetration. It withstands corrosion, splashing water, hose-directed water, damage from external ice formation, and temporary submersion.

## Applications

Entrance Lighting	Beverage Industry
Car Washes	Food Processing
Public Access	Construction Sites
Parking Structures	Industrial Lighting

## Features

- LED Life: 63,000 hours L70
- 4000K or 5000K colors
- 85 CRI
- Minimum Starting Temperature: -40°C

## Certifications



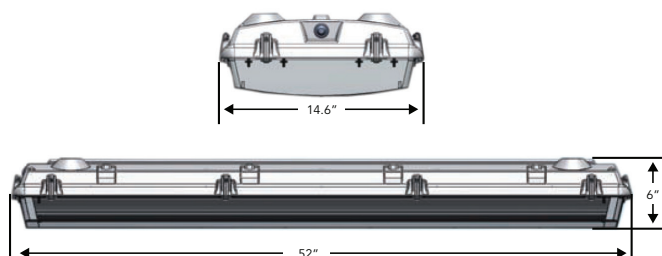
Visit [www.designlights.org](http://www.designlights.org)  
for the Qualified Products List



Visit [www.lightingfacts.com](http://www.lightingfacts.com)  
for a list of qualified products.



## Dimensional Drawings



Specifications subject to change without notice.

Project:	
Catalog#:	
Approved by:	

## Housing

- One-piece fiberglass upper body; no seams to crack, break, or leak; is rugged and corrosion resistant
- Innovative driver heat rail provides a stronger backbone for the housing, easier driver mounting, and allows the drivers to operate up to 13°C cooler
- 5VA Flammability Rating
- Acetal Copolymer White Plastic Latches (Standard) [See Note 1]
- 316 Stainless steel hardware for maximum durability (Optional) [See Note 1]
- Twelve newly designed 3-piece captive latches provide optimal lens retention and will not come off the fixture [See Note 1]
- White polyethylene molded end plugs for use as knockouts
- Pressure wash up to 1500 PSI [See Note 2]

## Gasket

- Closed cell polyester gasket
- Poured gasket seamlessly fills channel for maximum seal
- Gasket has dry skin that will not stick to the mating surface
- High gasket compression recovery ensures a solid seal over life of fixture

## Diffuser

- Injection molded for maximum strength and precise detail
- Frosted ends and lineal prisms on sides reduce glare
- Continuous formed perimeter provides for positive seal
- **Materials:**

**Option A:** 100% Virgin Impact Resistant Acrylic  
Long lasting clarity and resistance to weathering

**Option F:** Frosted Lens 100% Impact Resistant Acrylic [see Note 3]

**Option P:** UV Stabilized Polycarbonate  
Maximum impact resistance

## Installation

- Shipped fully wired with driver
- Easy access to wiring compartment and driver via removable gear tray
- NEC compliant luminaire power disconnect standard

### Mounting Straps:

Standard: Zinc Plated Mounting Straps

Optional: 316 Stainless Steel High Strength Mounting Straps introduce the most versatile and dependable mounting options available.

Suitable for cable mounts, ceiling mounts, and even dual pendant mounting (FIO: Option V)

### Mounting Hardware

Standard: Two versatile 316 Stainless Steel V-Hook mounting brackets OR

Optional: Zinc Plated or 316 Stainless Steel Rigid Mounting Beam

Optional: 316 Stainless Steel Flexible Ceiling Mount

Optional: Wire Hanging Kit

## Quality Assurance

- System Designed, Manufactured, Tested, and Approved by Howard Lighting Products in Mendenhall, Mississippi.

### Notes:

(1) If fixtures are to be used in a food processing application where chemicals, high temperature and high pressure is used to clean fixtures, we recommend the use of Stainless Steel Latches. Failure to use Stainless Steel Latches in a food processing application could cause failures with plastic latches. Howard Industries is not responsible for misapplication of latch selection for vapor proof fixtures.

(2) All installed fittings must be both of appropriate type and be installed to the manufacture's specifications.

(3) Frosted lens Option F slightly improves efficacy and diffuses LEDs for a clean and smooth appearance.

# Vaporproof Highbay LED Mid-Power

Project:	
Catalog#:	
Approved by:	

## Ordering Information

Model Family	Lens <sup>1</sup>	No. of LEDs	Output Watts	CCT/CRI	Input Volts	Factory Installed Options	Pack.	TBA
VHL2	F	576	193	40	U	00	I	000
VHL2	A: Impact resistant acrylic	672 LEDs <sup>2</sup>	195: 195 Watts (223 Input Watts)	40: 4000K; 85CRI 50: 5000K; 85CRI	U: 120-277v Electronic Driver	00: No FIOs A: Occ Sensor C: Lens Tether Safety Cable M: End Mount Bracket S: 316 Stainless Steel Latches <sup>3</sup> V: 316 Stainless Steel Mounting Strap <sup>3</sup>	I: Single	Reserved for factory use
		576 LEDs	247: 247 Watts (285 Input Watts)					
	F: Frosted Impact resistant acrylic	576 LEDs	193: 193 Watts (224 Input Watts)					
		576 LEDs	162: 162 Watts (190 Input Watts)					
	P: UV stabilized polycarb.	384 LEDs	130: 130 Watts (151 Input Watts)					
		288 LEDs	082: 82 Watts (95 Input Watts)					

(1) Frosted lens Option F slightly improves efficacy and diffuses LEDs for a clean and smooth appearance.

(2) Limited availability: 4000K only

(3) If all stainless steel exterior hardware is required, use FIO Order Options S & V.

### Sample Ordering Number:

VHL2 F 576 193 40 U 00 I 000

VHL2 : Vaporproof Highbay Led

F : Frosted Acrylic Lens

576 LEDs

193: Output Watts (224 Input Watts)

40: 4000K Color Temperature; 85 CRI

U: 120-277 V Electronic Driver

00: No FIOs

I: Individual packaging

000: Reserved for factory use

### Note:

VHL2 comes standard with 12 white plastic latches, 4 zinc-plated mounting straps, and 2 versatile V-hook mounting brackets

Optional: Wire Hanging Kit (sold separately)

Optional: 316 Stainless Steel Flexible Ceiling Mount (sold separately)

Optional: 316 Stainless Steel Rigid Mounting Beam (sold separately)

Optional: 316 Stainless Steel Exterior Hardware (Options S & V)

# LEDs	# Engines	Output Watts	Input Watts	Output Lumens	Efficacy	Equivalent
672	12	195	223	17059	76.5	6 x F54T5HO 400w Metal Halide
576	12	247	285	26318	92	6 x F54T5HO 400w Metal Halide
	12	193	224	22562	101	
	12	162	190	19604	103	
384	8	130	151	14840	98	4 x F54T5HO 6 x F32T8 250w Metal Halide
288	6	82	95	9915	104	4 x F32T8 175w Metal Halide 150w Metal Halide

Specifications subject to change without notice.

## Options/Features Available

## Latches\*


 White Secure Locking  
 Plastic Latch\*  
 12 per fixture  
 (Standard)

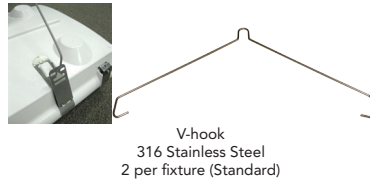
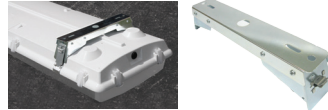
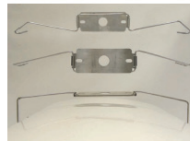
 316 Stainless Steel Latch\*  
 (FIO: Option S)

## Mounting Strap


 Zinc Plated (Standard)  
 VHA2-MS-ZP  
 4 per fixture

 Optional:  
 316 Stainless Steel  
 (FIO Option V)  
 VHA2-MS-SS

## Mounting Options


 V-hook  
 316 Stainless Steel  
 2 per fixture (Standard)

 Rigid Mounting Beam (Optional)  
 2 per fixture required  
 Zinc Plated VHA2-MB-ZP  
 316 Stainless Steel VHA2-MB-SS

 Flexible Ceiling Mount  
 VHA1-CM  
 316 Stainless Steel  
 2 per fixture  
 Fits both VHA1 & VHA2

 End Mount Bracket  
 (clip not included)

\*Note: If fixtures are to be used in a food processing application where chemicals, high temperature and high pressure is used to clean fixtures, we recommend the use of Stainless Steel Latches. Failure to use Stainless Steel Latches in a food processing application could cause failures with plastic latches. Howard Industries is not responsible for misapplication of latch selection for vapor proof fixtures.

## VHL2 when compared to VHA1 Linear Fluorescent Vaporproof Highbay

Fixture Mounting Height: 15'

Dimensions: 20'x20'x15'

Reflectances: 80%-50%-20%

Model	Description	Avg. Footcandles on Floor	Lumens/ Lamp	Output Watts	Input Watts	Energy Saved	Lighting Efficiency
VHL2 - 12 Engine	576 LED	31		193	224	136 Watts compared to 6x F54T5 VHA1 Fixture	Between 81% and 128% more light on target per watt.
VHA1A654APSMV00E	6 x F54T5 with reflector	23	5000		360		
VHA1A654APSMV	6 x F54T5	22	5000		360		
VHA1A454APSMV	4 x F54T5	17	5000		240		
VHA1A454APSMV00E	4 x F54T5 with reflector	16	5000		240		
VHL2 - 8 Engine	384 LED	21		130	151	89 Watts compared to 4x F54T5 VHA1 Fixture	
VHA1A632ASEMV00E	6 x F32T8 with reflector	12	2950		168		
VHA1A632ASEMV	6 x F32T8	2	2950		168		
VHA1A432ASEMV00E	4 x F32T8 with reflector	9	2950		120		
VHA1A432ASEMV	4 x F32T8	8	2950		120		
VHL2 - 6 Engine	288 LED	14		82	95	25 Watts compared to 4x F32T8 VHA1 Fixture	
VHA1A432ASEMV	4 x F32T8	8	2950		120		

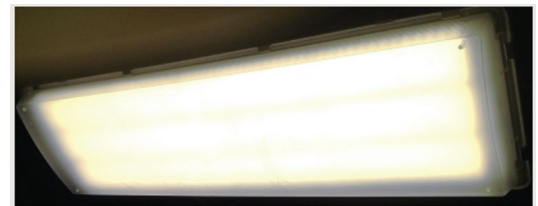
Specifications subject to change without notice.

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## Field Installed Options

Model	Description
VHA2-MB-ZP	Rigid Mounting Beam - Zinc Plated
VHA2-MB-SS	Rigid Mounting Beam - 316 Stainless Steel
VHA1-CM	Flexible Ceiling Mount - 316 Stainless Steel
HF-WCH	Wire Cable Hanging Kit 5ft.
HF-WCH-SS	Stainless Steel Wire Cable Hanging Kit 5ft.

Frosted lens Option F slightly improves efficacy and diffuses LEDs for a clean and smooth appearance.



Clear Lens



## LED Advantage

At normal temperatures of 25-35 °C, LEDs and fluorescent tubes have similar efficacy with LEDs having a slight advantage.

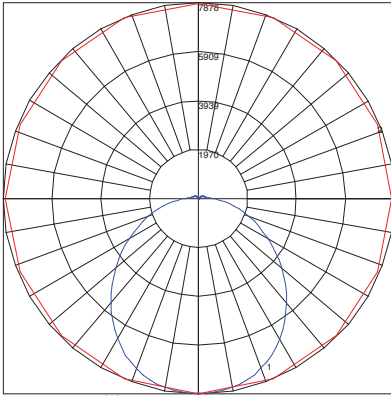
At high temperatures, like those in enclosed, gasketed vaporproof fixtures, the efficacy of both light sources is reduced. However, the LEDs efficacy is not affected as much as the fluorescent at the higher temperatures.

The reason that the LEDs are much more efficient is that in a vapor tight fixture the fluorescent lamps really suffer in terms of efficacy due to the temperature.

## Photometric Data -

## VHL2P57619340U

## Iso Footcandle Plot



Maximum Candela = 7878

Located At Horizontal Angle = 67.5, Vertical Angle = 2.5

# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

## Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	6067.22	27.00
0-40	9849.22	43.80
0-60	16926.57	75.20
0-90	21712.03	96.5
0-180	22499.75	100.00

## Luminance Data (cd/sq.m)

Angle in Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6494	5831	5759
55	5681	5015	5122
65	4743	4207	4466
75	3754	3401	3840
85	2328	2469	3040

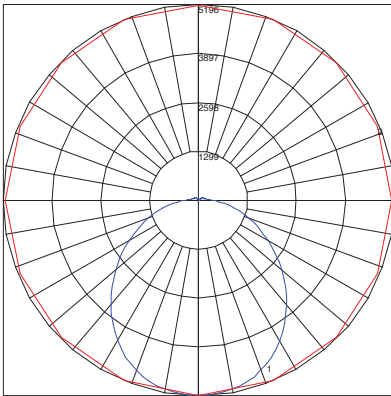
Project:

Catalog#:

Approved by:

## VHL2F38413040U

## Iso Footcandle Plot



Maximum Candela = 5196

Located At Horizontal Angle = 67.5, Vertical Angle = 2.5

# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

## Zonal Lumen Summary

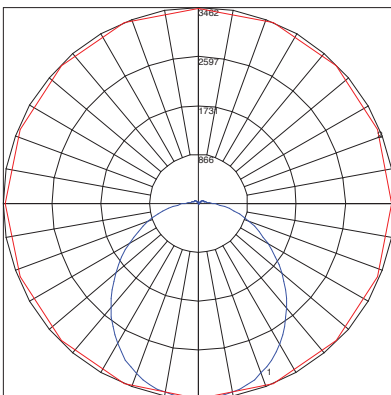
Zone	Lumens	% Luminaire
0-30	4001.68	27.00
0-40	6496.12	43.80
0-60	11164.04	75.20
0-90	14320.32	96.50
0-180	14839.87	100.00

## Luminance Data (cd/sq.m)

Angle in Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9746	8751	8643
55	8526	7527	7687
65	7118	6314	6702
75	5633	5104	5763
85	3493	3705	4563

## VHL2P28808240U

## Iso Footcandle Plot



Maximum Candela = 3462

Located At Horizontal Angle = 67.5, Vertical Angle = 2.5

# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)

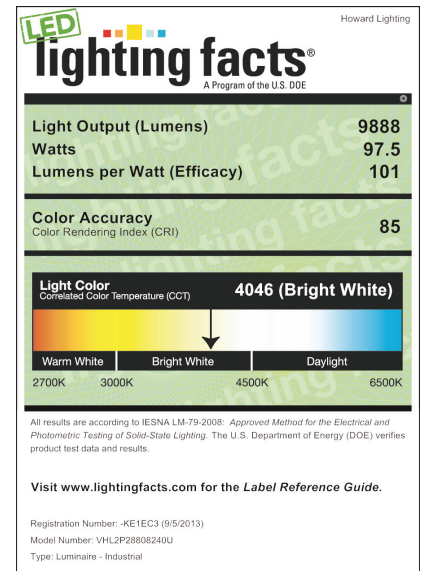
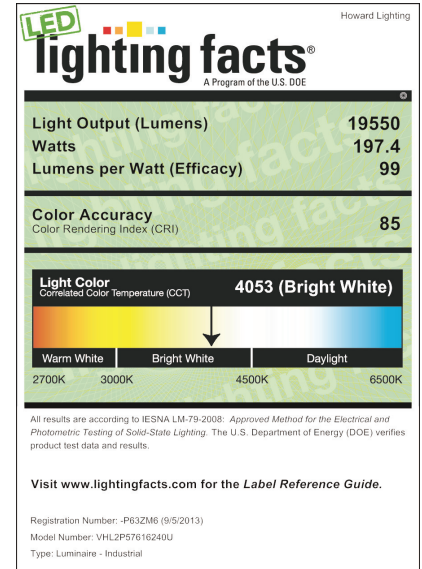
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

## Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	2666.35	27.00
0-40	4328.41	43.80
0-60	7438.67	75.20
0-90	9541.73	96.50
0-180	9887.91	100.00

## Luminance Data (cd/sq.m)

Angle in Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6494	5831	5759
55	5681	5015	5122
65	4743	4207	4466
75	3754	3401	3840
85	2328	2469	3040



Specifications subject to change without notice.