HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS

Hazardous Lighting

Product Portfolio

AcuityBrands.

Hazardous Applications

Hazardous facilities have many of the same light requirements as other applications. Lighting systems must provide high levels of visibility and uniformity without shadows and glare. They must create a functional environment that is safe and productive. Holophane luminaires meet the specific needs of many environments, from bulk storage facilities and production process areas to petroleum refining facilities, solvent extraction plants and textile mills. Precise optical control ensures flexible fixture replacement, with robust materials allowing fixtures to operate in a wide range of ambient temperatures.

Class I Locations:

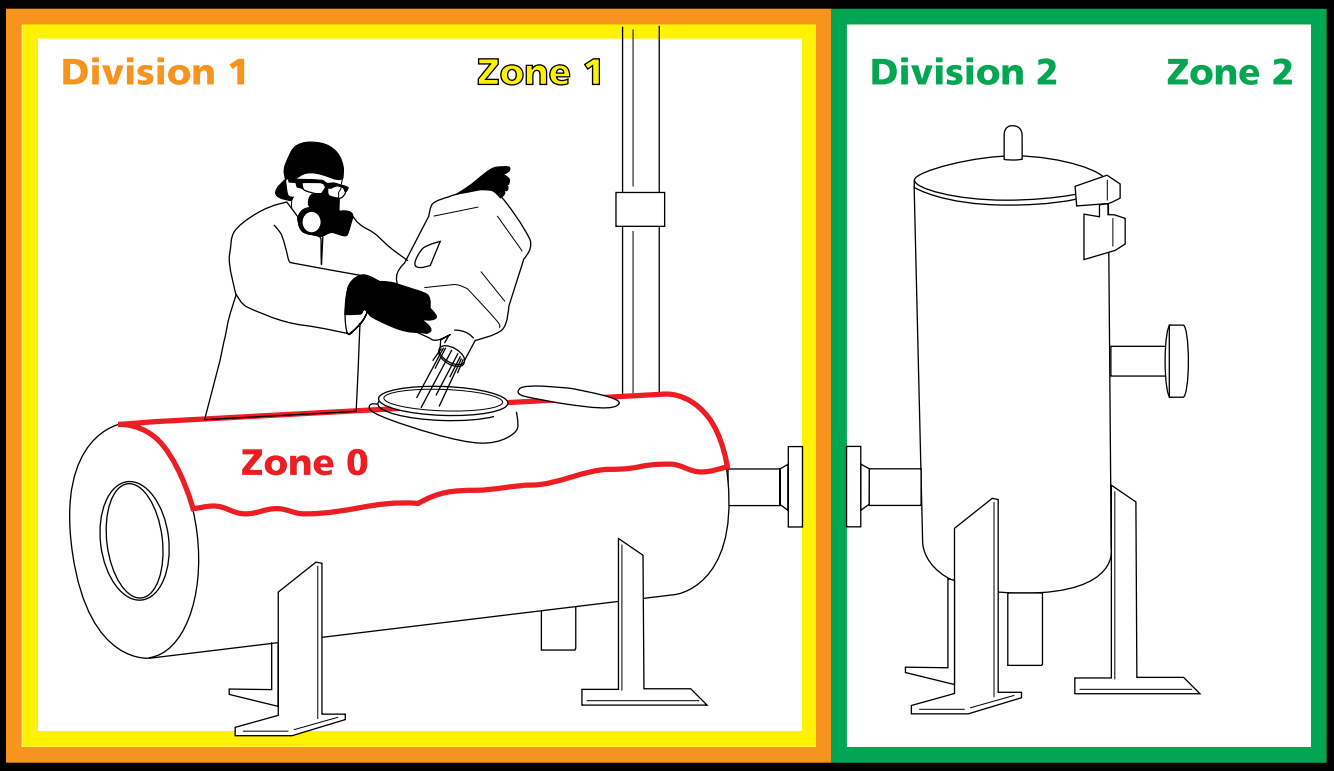
- Petroleum refining facilities
- Ethanol facilities
- Dip tanks containing flammable or combustible liquids
- Dry cleaning plants
- Petrochemical plants
- Plants manufacturing organic coatings
- Petroleum dispensing areas
- Solvent extraction plants
- Plants manufacturing or using pyroxyle (nitrocellulose) type and other plastics (Class II also)
- Locations where inhalation anesthetics are used
- Utility gas plants, operations involving storage and handling of liquefied petroleum and natural gas
- Aircraft hangers and fuel servicing areas

Class II Locations:

- Grain elevators and bulk handling facilities
- Manufacture and storage of magnesium
- Manufacture and storage of starch
- Fireworks manufacture and storage
- Flour and feed mills
- Areas for packaging and handling of pulverized sugar and cocoa
- Facilities for the manufacture of magnesium and aluminum powder
- Some coal preparation plants and coal handling facilities
- Spice grinding plants
- Confectionery manufacturing plants

Class III Locations:

- Wood working plants
- Textile mills
- Cotton gins and cotton seed mills
- Flax producing plants



Open Vessel *Sealed Vessel*

Division 1 Normally Present		**Division 2** Not Normally Present
Zone 0 Continuously Present	**Zone 1** Likely to be Present	**Zone 2** Not Likely to be Present

NEC/CEC: U.S./Canada Standard

NEC: National Electrical Code
CEC: Canadian Electrical Code

NEC/CEC employs Class, Division, and Group classification system in the identification of hazardous locations. Classes are divided into "Divisions" and are defined by the likelihood ignitable concentrations are present.

Class I - Gases, Vapors and Liquids
(Normal Operating Conditions)

Division 1	Ignitible, flammable, or combustible concentrations are present some of the time or all the time.
Division 2	Ignitible, flammable, or combustible concentrations are NOT likely to be present.

IEC/CENELEC: European Standard

IEC: International Electrotechnical Commission
CENELEC: European Committee for Electrotechnical Standardization

Classifications of hazardous locations under IEC/CENELEC standards are divided into "Zone 0", "Zone 1", and "Zone 2". Zones are identified by the likelihood and length of time in which sufficient quantities of flammable or combustible content are present in a specified area.

Class I - Gases, Vapors and Liquids
(Normal Operating Conditions)

Zone 0	Ignitible, flammable, or combustible concentrations exist continuously or for prolong periods.
Zone 1	Ignitible, flammable, or combustible concentrations are likely to exist, or only for short periods.
Zone 2	Ignitible, flammable, or combustible concentrations are NOT likely to exist.

T Codes & Ignition Temperature:

Each liquid, gas, vapor and dust will have a specific ignition temperature. In order to ensure proper use of luminaires and equipment both the NEC and IEC use temperature ratings called, "T Codes." NEC Article 500 and 505 indicate that T Code rating of luminaires shall not exceed ignition temperature of the specific gas and vapors encountered in the environment; or shall be less than the ignition temperature of dusts encountered in the environment.

The following definition is from Article 500 of the NEC Handbook:

The Ignition Temperature of a solid, liquid, or gaseous substance is the minimum temperature required to initiate or cause self-sustained combustion independent of heating or heated element. Flash Point is the temperature at which the material gives off vapors that ignite when the temperature reaches the ignition temperature, provided the air-fuel ratio is within the proper range.

T Codes & Temperature					
Division 1, Division 2			Zone 0, Zone 1, Zone 2		
T Code	Maximum Surface Temperature		T Code	Maximum Surface Temperature	
T1	450°C	842°F	T1	≤450°C	≤842°F
T2	300°C	572°F	T2	≤300°C	≤572°F
T2A	280°C	536°F			
T2B	260°C	500°F			
T2C	230°C	446°F			
T2D	215°C	419°F			
T3	200°C	392°F	T3	≤200°C	≤392°F
T3A	180°C	356°F			
T3B	165°C	329°F			
T3C	160°C	320°F			
T4	135°C	275°F	T4	≤135°C	
T4A	120°C	248°F			
T5	100°C	212°F	T5	≤100°C	≤212°F
T6	85°C	185°F	T6	≤85°C	≤185°F

Group	Atmosphere	Ignition Temperature (AIT)		Flash Point	
		C	F	C	F
A	Acetylene	305	581		
B	Acrolein	235	455		
	Butadeine	420	788	-76	-104.8
	Ethylene Oxide	429	804.2	-20	-4
	Hydrogen	520	968		
	Propylene Oxide	449	840.2	-37	-34.6
	Propyl Nitrate	175	347	20	68
C	Acetaldehyde	175	347	-38	-36.4
	Allyl Alcohol	378	712.4	22	71.6
	n-Butyraldehyde	218	424.4	-12	10.4
	Diethyl Ether	160	320	-45	-49
	Diethylamine	312	593.6	-28	-18.4
	Epicholorohydrin	411	771.8	33	91.4
	Ethylene	450	842		
	Ethylenimine	320	725	-11	12.2
	Ethyl Mercaptan	300	572	-18	-0.4
	Hydrogen Sulfide	260	500	0	32
D	Acetic Acid	464	867.2	43	109.4
	n-Butyl Acetate	421	789.8	22	71.6
	Ethane	472	881.6	-29	-20.2
	Ethanol	363	685.4	13	55.4
	Ethyl Acetate	427	800.6	-4	24.8
	Gasoline	280	536	-46	-50.8
	Methane	630	1166	-223	-369.4
	Methanol	385	725	12	53.6
	Propane	450	842	-104	-155.2
	Propylene	455	851	-108	-162.4

Environmental and Illumination Considerations

When choosing a new lighting system for long term success, it is critical to consider the following:

1. **Safety Requirements** – consider all the ways your lighting system needs to promote a safe environment
2. **Physical Limitations** – design around your space to light the correct areas well
3. **Maintenance Requirements** – minimize maintenance by choosing the right solution
4. **Light Levels** – design the right horizontal or vertical illumination to get the task done
5. **Uniformity** – uniform lighting enhances visibility and greater visual comfort
6. **Glare** – excessive glare can lead to visual discomfort and compromise both general visibility and visual contrast
7. **Color Rendering** – the ability of the light source to represent the true colors of an object
8. **Correlated Color Temperature (CCT)** – the right Kelvin temp can give you a cooler or warmer feeling space

PETROLUX® FAMILY

Since 1977, Petrolux has been your feature-packed solution for Demanding Environments

At a Glance

Energy & Maintenance:
Single LED replacement up to 400W HID, saves up to 70% energy and practically eliminates maintenance.

Best In Class Lumen Maintenance:
Reliable, long-lasting illumination throughout its 100,000 hour rated life.

Multiple Lumen Packages:
Nine lumen packages ranging from 3,000 to 28,000 lumens providing flexibility in layout planning, fixture placement, application and coverage.

Emergency Battery Option:
An integral emergency battery back-up meets Life Safety Codes and ensures fixtures stay illuminated through virtually any emergency event.

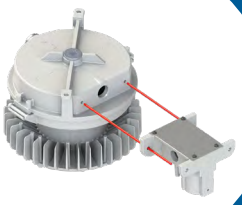
Control Options:
Detect both occupancy and daylight so fixture light levels respond immediately for energy savings and to support building energy codes. Standard with 0-10V dimming. Optional controls include motion sensor and XPoint™ wireless. Wireless network controls allow for creation of zones and scheduling. Control a single fixture or entire space.

Listing:
UL listed for wet locations. IP65, IP66 and IP67 rated. Optional NSF listing available. Rated for high ambient at 65°C. UL844 Hazardous Listings: Class 1, Division 2; Class 2, Division 1 & 2; Class 3. NEMA 4X, Marine, IK, and Vibration Rated.

Easy to maintain with hinged top cap allows easy access to internal components, making it simple for field replacement and upgrades. In addition, the hazardous rated, ultra-lightweight PXLH Top Cap Adapter is designed to retrofit the most common low bay HID fixtures

Multiple Mounting Options:

Robust cast aluminum construction with low copper content (0.6%)



Universal mount provides easy-to-install solution which accommodates most mounting needs: ceiling, wall, pendant or stanchion. Also, it simplifies fixture schedules and inventory management.

Durable 5,000-hour salt fog rated finish to extend life in corrosive environments

Pendant mount standard with low profile top cap but available with universal and yoke mount for maximum flexibility.

Yoke mount allows you to rotate the fixture 0 to 90 degrees directing the light where you need it most.

The patent-pending, flexible and non-rigid silicone lens option with multiple distributions is unlike anything seen before. Impact-resistant silicone is virtually indestructible and does not attract dirt or dust and will not brown or discolor. This industry first silicone option is ideal for many industrial applications.

EMXH: Heavy Duty Performance Meets Innovation

The EMXH LED linear low bay takes industrial lighting to new levels of durability and design with high-performance hazardous listings and impressive ratings.

Robust Performance for Demanding Environments

+ High efficiency LEDs and drivers capable for up to 159 LPWs
+ All aluminum housing for an up to 70°C ambient installation possibility
+ High output LEDs achieve up to 9,000 lumens per 2 ft section
+ Water-resistant seal design for IP69K rating
+ CSA Hazardous Location C1D2, C2D2, C3
+ NSF2 Splash Zone Listed
+ NEMA 4X Rated

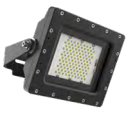
Other Features

+ L24: 3,000 – 9,000 lumens
+ L48: 6,000 – 18,000 lumens
+ CCT: 3000K, 3500K, 4000K, 5000K
+ CRI: 80 standard, 90 option available
+ Lens Options: clear, frosted, polycarbonate, glass
+ Distributions: medium, wide, DLC listed parking garage

Holophane® LED Hazardous C1D1 fixtures

Designed for hazardous environments, the C1D1 portfolio from Holophane is ideal for environments where explosive and flammable gas, liquids, or vapors are present in normal operating conditions. They are also known for their outstanding thermal shock and impact resistant construction.

With an extensive and versatile hazardous portfolio, the C1D1 product portfolio compliments Holophane's expansive product portfolio. The C1D1 portfolio provides a robust offering of lumen packages and distributions. With multiple mounting options per fixture, there is an option to fit every space. Options available for battery backup, visually comfortable frosted optic, and marine listing.





	HEXF	HEXF1	HEXS	HEXSEM	HETZ
Performance Packages	9000 – 18650 lumens	3000-8000 lumens	3500 – 10000 lumens	7500 – 10260 lumens	2400 – 16000 lumens
LPW	120 – 125	126 – 156	88 – 120	95 – 128	102 – 125
Ambient	-40C to 60C	-40C to 65C	-40C to 60C	-20C to 45C	-20C to 40C
Surge	10kV standard	10kV standard	10kV standard	10kV standard	10kV standard
Voltage	120-277v 347-480v	120-277v 347-480v	120-277v 347-480v	120-277v	120-277v 277-480v
T-Codes (C1D1)	T6	T6	T6	T6	T6
Mountings	5	4	5	5	4
Distributions	3	3	2	3	2
C1D1 Listing	Groups C, D	Groups B, C, D	Groups C, D	Groups C, D	Groups C, D
Weight	~34 lbs.	~12 lbs.	16 – 24 lbs.	~27 lbs.	28 – 80 lbs.

Predator Hazardous

The Holophane hazardous Predator LED floodlights are built to withstand the harshest environments without sacrificing performance. Versatile and efficient, hazardous Predator LED floodlights offer superior field-to-beam ratios in a rugged, corrosion-resistant housing. Available in two models; the hazardous Predator LED floodlight offers one-for-one replacements for 100W to 1000W HID while offering up to 77% energy savings.

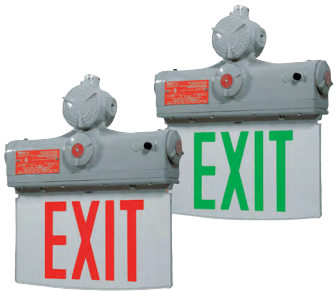
+ Listed UL/CUL1598 for wet location at 104°F (40°C) and rated IP66
+ Uniform illumination for any application, 4X4, 4X5, 5X5, 6X5, 6X6 NEMA patterns
+ Borosilicate prismatic glass lens that won't fade or discolor, optimizing light levels over time

Wallpack®

The HW4G LED wallpack from Holophane is an ideal solution for perimeter and security lighting in hazardous locations. Featuring Holophane's legendary prismatic borosilicate glass that won't fade or discolor over time; even after being exposed to heat or UV rays for years. This reliable light output means fewer units are required to achieve your desired light levels.

+ LED drivers save up to 70% in energy costs
+ Die-cast aluminum housing
+ Prismatic glass or polycarbonate optics
+ Listed -40°F (-40°C) to 104°F (40°C); UL844 Class 1, Division 2 Groups A, B, C, D
+ T4A at 104°F (40°C)
+ IP55 Rated
+ 4000K or 5000K CCT

More Hazardous Application Solutions from Holophane



Emergency Lights

HXPL

HRLL

HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS

Acuity Brands Lighting, Inc.

Holophane Headquarters,
One Lithonia Way, Conyers GA 30012

Contact your local Holophane factory sales representative for application assistance, and computer-aided design and cost studies.

Warranty Five-year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Visit our web site at www.holophane.com

Product specifications may change without notice. Please contact your local Holophane factory sales representative for the latest product information.

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