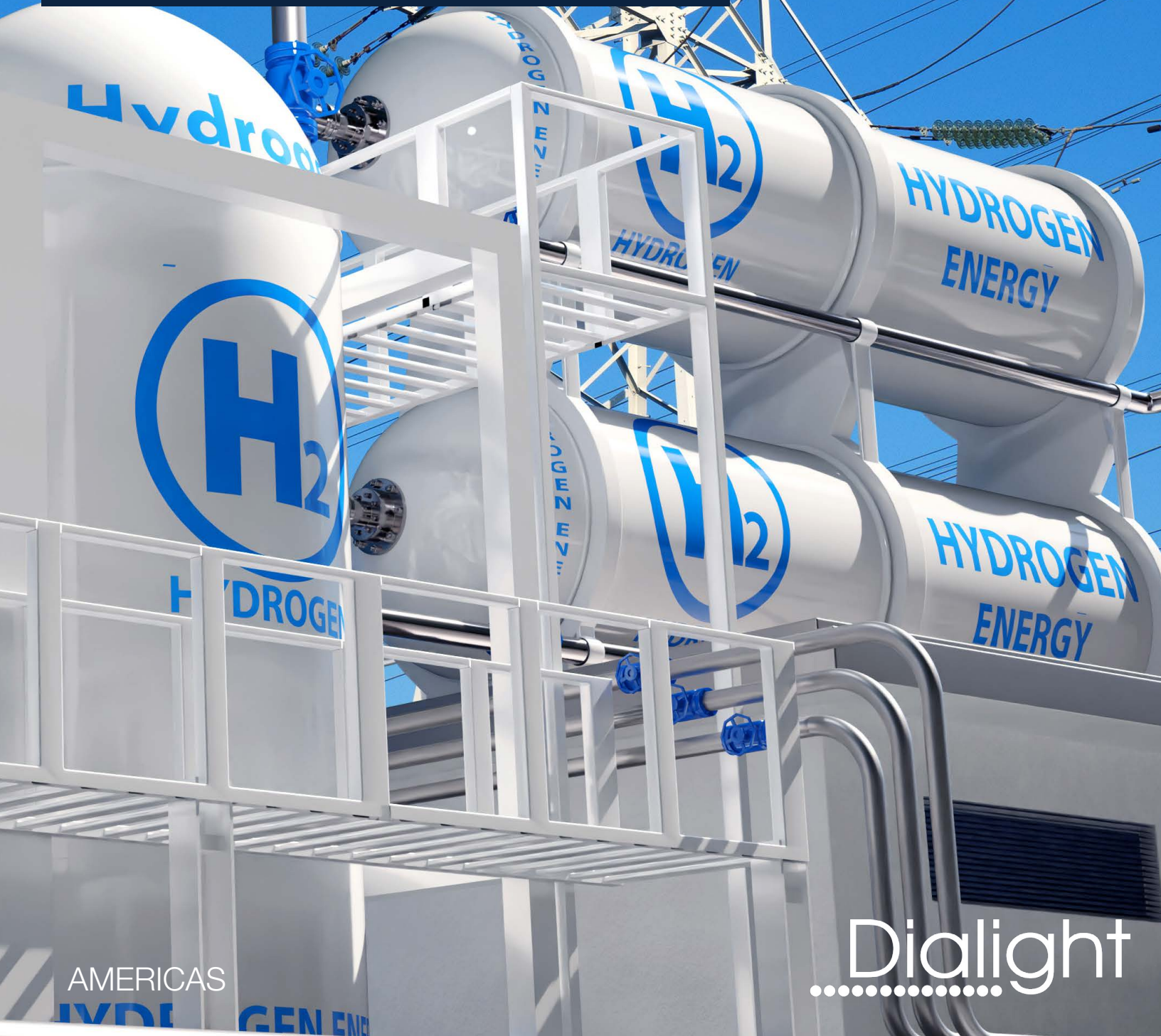


DIALIGHT INDUSTRIAL LED LIGHTING

For Hydrogen
Applications



AMERICAS

Dialight

WHY LIGHTING MATTERS in Hydrogen Applications

Hydrogen is gaining momentum as a clean energy solution, driving rapid investment in new production and storage facilities worldwide. But with this growth comes a critical need for safety, especially in environments where even the smallest ignition source can have serious consequences.

SAFE LIGHTING FOR A CLEANER, GREENER TOMORROW.



Hydrogen has the lowest minimum ignition energy of any fuel, just 0.02 millijoules. The U.S. Department of Energy notes that:

“Even an invisible spark or static electricity discharge from a human body (in dry conditions) may have enough energy to cause ignition.”¹

Because of this, every component in a hydrogen facility must be designed to prevent ignition, including lighting. Lighting systems must not only deliver reliable, high-quality illumination, but also meet the most stringent safety standards for hazardous locations.

The DOE forecasts U.S. hydrogen demand could grow fivefold by 2050 as clean energy targets expand.² With global hydrogen adoption accelerating, the role of dependable, safety-rated lighting is more critical than ever.



Noisy, Complex Heavy Machinery



Physical Hazards, Such as Slips, Falls, and Moving Objects



Chemical Vapors, Dust, and Debris



Flammable and Explosive Environments



High Heat and High Vibration



Arc Flash

DIALIGHT LED SOLUTIONS for Hydrogen Applications

When choosing an LED Lighting partner, consider how their products are engineered, constructed and tested prior to making your decision. Dialight is the world leader in industrial LED lighting technology with millions of fixtures installed worldwide. Most Dialight products are backed by a 10-year warranty and specifically designed for harsh environments, including Hydrogen applications.

CUSTOM POWER SUPPLIES

Long-life potted drivers with optimized thermal dissipation for protection against environmental contaminants and vibration related failures.

LOW MAINTENANCE MECHANICAL DESIGN

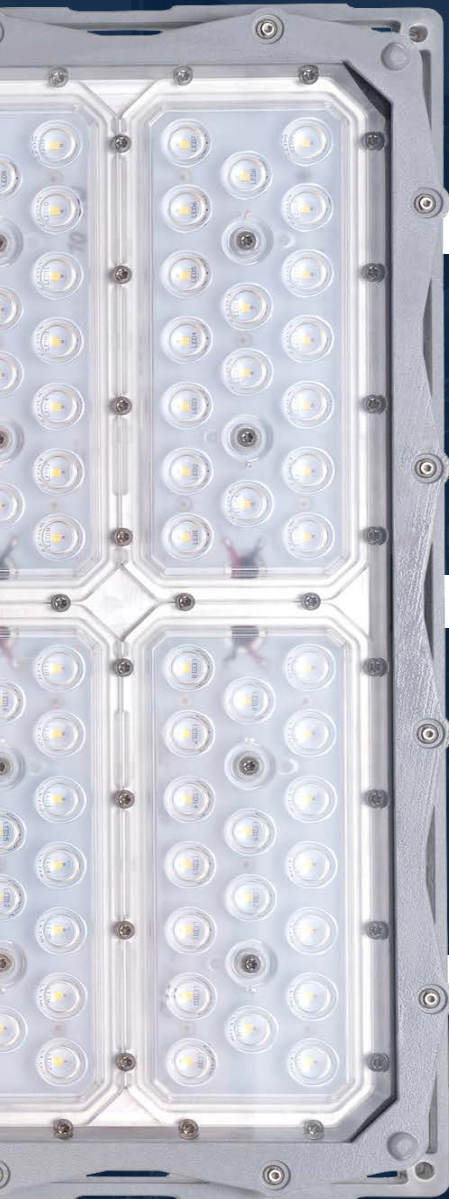
Sealed and optimized to reduce or eliminate the need for maintenance over the life of the fixture. Easy to install and retrofit to existing infrastructure.

LATEST LEDS AND ADVANCED OPTICS

Highly efficient, crisp, low-glare illumination. Lighting where you need it, not where you don't.

BUILT FOR DEMANDING ENVIRONMENTS

Hazardous location certified. Backed by a 10-year warranty. Designed for total confidence in tough conditions.



PRODUCT PORTFOLIO for Hydrogen Applications



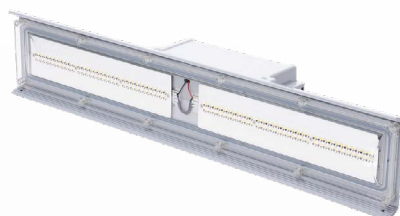
LED HIGH BAY
CID1



LED HIGH BAY
CID2



LED LOW BAY
CID2



LED LINEAR
CID2

Models: HEP Series

Certification: UL844 CID1, Groups B, C, D

Voltages: 100-277 VAC, 347-480 VAC

Fixture Lumens: 11,000 - 26,000

CCT: 2700K, 4000K, 5000K

Lens: Glass

Beam Distribution: Medium, Narrow, Wide

Models: HED and VED Series

Certification: UL844 CID2, Groups A, B, C, D

Voltages: 100-277 VAC, 347-480 VAC

Fixture Lumens: 11,000-41,000

CCT: 2700K, 4000K, 5000K

Lens: Glass, Polycarbonate, Acrylic

Beam Distribution: Medium, Narrow, Wide, Oval, Round

Models: LED and VED Series

Certification: UL844 CID2, Groups A, B, C, D

Voltages: 100-277 VAC, 347-480 VAC

Fixture Lumens: 4,000 - 17,000

CCT: 2700K, 4000K, 5000K

Lens: Polycarbonate

Beam Distribution: Ultra Wide

Models: LKD and LJD Series

Certification: UL844 CID2, Groups B, C, D

Voltages: 100-277 VAC

Fixture Lumens: 5,000 - 9,000

CCT: 4000K, 5000K

Lens: Polycarbonate

Beam Distribution: Medium, Wide

WARNING - INSTALLATION & SECONDARY RETENTION. Use of any Dialight products without proper installation (including secondary retention / netting) and periodic inspections could cause severe injury or death. Dialight recommends that all installations should use secondary retention / netting (appropriate to the installation environment) where applicable. It is the exclusive responsibility of the contractor, installer and/or end-user to: (a) determine the suitability of the product for its intended application; and, (b) ensure that the product is safely installed (with secondary retention / netting where appropriate) and in compliance with all applicable laws and regulations. To the extent permissible under applicable laws, Dialight disclaims all liability for personal injury and/or other damage resulting from any dislodgment or other dislocation of its products.

PRODUCT PORTFOLIO for Hydrogen Applications



LED AREA LIGHT
CID1



LED AREA LIGHT
CID2



LED FLOODLIGHT
CID2



LED STREETLIGHT
CID2

Models: ALC Series

Certification: UL844 CID1, Groups B, C, D

Voltages: 100-277 VAC, 347-480 VAC

Fixture Lumens: 3,000 - 9,000

CCT: 2700K, 4000K, 5000K

Lens: Glass

Beam Distribution: 180°, 360°, Wide

Models: ALD Series

Certification: UL844 CID2, Groups A, B, C, D

Voltages: 100-277 VAC, 347-480 VAC

Fixture Lumens: 3,000 - 9,000

CCT: 2700K, 4000K, 5000K

Lens: Glass, Polycarbonate

Beam Distribution: 180°, 360°, Wide

Models: F1D and F2D Series

Certification: UL844 CID2, Groups A, B, C, D

Voltages: 100-277 VAC, 347-480 VAC

Fixture Lumens: 12,000 - 60,000

CCT: 2200K, 2700K, 4000K, 5000K

Lens: Glass, Polycarbonate

Beam Distribution: NEMA 4, NEMA 6, NEMA 7x6, Asymmetric

Models: S1D Series

Certification: UL844 CID2, Groups A, B, C, D

Voltages: 100-277 VAC, 347-480 VAC

Fixture Lumens: 12,000 - 30,000

CCT: 2200K, 2700K, 4000K, 5000K

Lens: Glass, Polycarbonate

Beam Distribution: Type II Medium, Type III Medium, Type V

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HAZARDOUS LOCATIONS RATINGS

Fixed and portable fixtures for installation and use in hazardous (classified) locations Class I, Divisions 1 and 2, Groups A, B, C, and D; Class II, Division 1, Groups E, F, and G; Class II, Division 2, Groups F and G; and Class III, Divisions 1 and 2, in accordance with the National Electrical Code, NFPA 70

Classes

The classes define the general nature of hazardous material in the surrounding atmosphere.

Class	Hazardous Material in Surrounding Atmosphere
Class I	Hazardous due to the presence of flammable gases or vapors in the air in quantities to produce explosive or ignitable mixtures
Class II	Hazardous due to the presence of combustible and/or conductive dusts
Class III	Hazardous due to the presence of easily ignitable fibers and flyings, such as wood chips, cotton, flax and nylon. Group classifications are not applied to this class

Divisions

The division defines the likelihood of hazardous substances being present in ignitable concentrations in the surrounding atmosphere.

Division	Presence of Hazardous Material
Division 1	The hazard exists during normal operating conditions
Division 2	The hazard is present only due to accidental system breakdowns or abnormal operations

Groups

The group(s) are determined by the specific hazardous materials which may be present.

Group	Hazardous Material in Surrounding Atmosphere
Class I Groups	
Group A	Acetylene
Group B	Hydrogen, fuel and combustible process gases containing more than 30% hydrogen by volume or gases of equivalent hazard such as butadiene, ethylene oxide, propylene oxide and acrolein
Group C	Carbon monoxide, methyl ether, hydrogen sulfide, methylacetylene, cyclopropane, ethyl and ethylene or gases of equivalent hazard
Group D	Gasoline, acetone, ammonia, benzene, butane, cyclopropane, ethanol, hexane, methanol, methane, vinyl chloride, natural gas, naphtha, propane or gases of equivalent hazard
Class II Groups	
Group E	Combustible metal dusts, including aluminum, magnesium and their commercial alloys or other combustible dusts whose particle size, abrasiveness and conductivity present similar hazards in connection with electrical equipment
Group F	Carbonaceous dusts that have more than 8 percent total entrapped volatiles or that have been sensitized by other materials so that they present an explosion hazard. Coal, carbon black, charcoal, and coke dusts are examples of carbonaceous dusts
Group G	Flour dust, grain dust, flour, starch, sugar, wood, plastic and chemicals

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Reference
2020 NEC Code

WARNING / DISCLAIMERS:

Installation & secondary retention. The use of this product without proper installation (including secondary retention / netting) and periodic inspections, could cause severe injury or death. Dialight recommends that all installations should use secondary retention / netting (appropriate to the installation environment) as applicable. Dialight products are intended for ultimate purchase, installation and operation by knowledgeable persons trained in the functional assessment, installation, use and maintenance of such products and all customers (including but not limited to end customers) are responsible for assessing the suitability of Dialight products for any given installation requirement. It is the exclusive responsibility of the contractor, installer and/or end-user to: (a) determine the suitability of the product for its intended application; and, (b) ensure that the product is safely installed (with secondary retention / netting as appropriate) and in compliance with all applicable laws and regulations.

Product specifications & warranties. All product information provided is, to the best of Dialight's knowledge, accurate as of the date of publication. All values and performance data herein are design or typical values when measured under laboratory conditions. The information herein is subject to change without notice. The products / software detailed herein are subject to applicable warranties and terms and conditions of use/purchase. Unless agreed otherwise in writing by an authorized representative of Dialight, Dialight does not represent that its products are fit for any particular purpose and accepts no liability for the installation and/or unauthorised use of its products. When ordering, refer to www.dialight.com for current versions of: (a) relevant product documentation (including relevant product data sheets); (b) Dialight terms and conditions of sale; and, (c) the relevant product warranties. To the extent that any contract is deemed formed between Dialight and the purchaser of Dialight products and/or an end-user, versions of documents available at www.dialight.com as at the date of sale shall be the versions incorporated therein. In the event of any discrepancy between this document and information provided at www.dialight.com, the latter shall prevail.

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