

RIG-A-LITE

HAZARDOUS LOCATION & LIGHTING FUNDAMENTALS

For Complete Information, refer to the National Electric Code (NEC)

CLASSES	DIVISIONS	GROUPS
Class I, Gases Areas where inflammable gases or vapors may be present in sufficient quantities to produce explosive or flammable mixture.	Division 1, Always Present Areas where the hazardous condition normally present either continuously or periodically.	Class I Group A - Acetylene Group B - Hydrogen Group C - Ether Group D - Gasoline
Class II, Dust Areas where combustible dust are present.	Division 2, Not Normally Present Areas where the hazardous condition is present due to accidental rupture, breakage or unusual faulty operation of a closed container or system.	Class II Group E - Metal Dust Group F - Coal Dust Group G - Grain Dust
Class III, Fibers Areas where ignitable fibers or flyings are present in sufficient quantities to produce ignitable mixtures.		

CLASSIFICATION OF HAZARDOUS AREAS	CLASSIFICATION COMPARISON			TEMPERATURE MARKINGS		
<p>IEC publication 60079-10 defines the guidelines for classifying hazardous areas. Instead of using Classes and Divisions, the term Zones is used as defined below.</p> <p>Zone 0 - Zone 0 is an area in which an explosive gas-air mixture is continuously present or present for long periods. (This is comparable to Class I, Division 1 areas as defined by the National Electric Code). Generally, most industrial users try to keep all electrical equipment out of Zone 0 areas. The only equipment approved for use in Zone 0 applications is intrinsically safe equipment.</p> <p>Zone 1 - Zone 1 is defined as an area in which an explosive gas-air moisture is likely to occur in normal operations. Zone 1 is also comparable to Class I, Division 1 applications.</p> <p>Zone 2 - Defined as an area in which an explosive gas-air mixture is not likely to occur and if it does, it is only for a short period of time. (This is comparable to Class I, Division 2 location area as defined by the NEC.)</p> <p>Zone 20 - A place in which an explosive dust atmosphere is continually present.</p> <p>Zone 21 - A place in which an explosive dust atmosphere is likely to occur in normal operation occasionally.</p> <p>Zone 22 - A place in which an explosive dust atmosphere is not likely to occur in normal operation, but if it does only occurs for short periods.</p> <p>Note: Class III locations (fibers and flyings) are covered in Zone 20, 21+22 areas.</p>	Hazardous Material	NEC U.S. Standards	IEC Standards	Maximum Operating Temperatures		Temperature (T) Code or Identification Number*
	Gas or Vapor	Class I, Division 1	Zone 0 & Zone 1	°C	°F	
		Class I, Division 2	Zone 2	450	840	T1
	Dust	Class II, Division 1	Zone 20	300	572	T2
				280	536	T2A
		Class II, Division 2	Zone 21, 22	260	500	T2B
				230	446	T2C
	Fibers or Flyings	Class III, Division 1	Zone 20, 21	215	419	T2D
				200	392	T3
		Class III, Division 2	Zone 22	180	356	T3A
				165	329	T3B
				160	320	T3C
				135	275	T4
				120	248	T4A
				100	212	T5
	85	185	T6			
	* Based on 40° (104°F) ambient					

LED LIGHTING PRODUCTS - FOR INFORMATION, CALL (713) 943-0340

Linear



Flood



High-/Mid-bay



Area



Globe and Guard



Exit and Emergency



AZZ

RIG-A-LITE PRODUCTS

ENCLOSURE TYPES			UL STANDARDS	
Enclosure Type	Intended Use	Equivalent IP Code Rating	Number	Title
1	Indoor use, limited amounts of falling dirt	10	781	Portable electrical lighting units for use in hazardous (classified) locations
3	Indoor or outdoor use, rain, sleet, wind blown dust, external formation of ice	54		
3R	Indoor or outdoor use, rain, sleet, external formation of ice	14		
3S	Indoor or outdoor use, rain, sleet, wind blown dust, external mechanisms operable when ice laded	54	844	Electrical lighting fixtures for use in hazardous (classified) locations
4	Indoor or outdoor use, wind blown dust and rain, splashing water, hose directed water, external formation of ice	56		
4X	Indoor or outdoor use, wind blown dust and rain, splashing water, hose directed water, corrosion, external formation of ice	56		
5	Indoor use, settling airborne dust, falling dirt, noncorrosive liquids	52	924	Emergency lighting and power equipment
6	Indoor or outdoor use, hose directed water, temporary submersion, external formation of ice	67		
6P	Indoor or outdoor use, hose directed water, prolonged submersion, external formation of ice	67		
7	Indoor use, Class I, Division 1, Groups A, B, C and D hazardous locations, air break equipment		1598*	Luminaires
8	Indoor use, Class I, Division 1, Groups A, B, C and D hazardous locations, oil-immersed equipment			
9	Indoor use, Class II, Division 1, Groups E, F and G hazardous locations, air-break equipment			
10	Mining applications		1598A**	Marine Supplement
12	Indoor use, circulating dust, falling dirt, dripping noncorrosive liquids	52		
12K	Indoor use, circulating dust, falling dirt, dripping noncorrosive liquids, provided with knockouts	52		
13	Indoor use, lint, dust, spraying of water, oil and noncorrosive coolant	54		
INGRESS PROTECTION (IP) CODES				
	First Number (Solid Objects)		Second Number (Water)	
0	No Protection	0	No Protection	8750 Safety of LED Equipment
1	Objects Greater than 50mm	1	Vertically Dripping Water	
2	Objects Greater than 12.5mm	2	75° to 90° Dripping Water	
3	Objects Greater than 2.5mm	3	Sprayed Water	
4	Objects Greater than 1mm	4	Splashed Water	
5	Dust Protected	5	Water Jets	
6	Dust Tight	6	Powerful Water Jets Effects of Immersion Indefinite Immersion	* Replaces 1570, 1571 & 1572 ** Replaces 595

FOR TECHNICAL INFORMATION AND ASSISTANCE CALL (713) 943-0340

NEMA & ANSI/IES FLOODLIGHT BEAM DESCRIPTIONS

ANSI/IES LATERAL LIGHT DISTRIBUTIONS

Asymmetrical beam floodlights may be designated by a combination of horizontal and vertical beam spreads in that order; a floodlight with a horizontal beam spread of 75 degrees (Type 5) and a vertical beam of 35 degrees (Type 3) would be designated as Type 5x3 floodlight.

Beam Spread Degrees

10 up to 18

18 up to 29

29 up to 46

46 up to 70

70 up to 100

100 up to 130

130 and up

NEMA Type

1

2

3

4

5

6

7



Type I



Type II



Type III



Type V



Type IV

AZZ LIGHTING SYSTEMS

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RIG-A-LITE PRODUCTS