



# EL 010 series

## Low-Intensity Underwater Light

### Specification:

Construction of fixture and base shall be cast bronze with DEFO cylindrical 'mirro'-chromed stainless steel adjustable reflector; clear, tempered, heat resistant, cast glass globe; U-shaped moulded gasket of approved material; copper fitted porcelain socket with medium screw base; and brass or stainless steel fasteners. Cable shall be 9' (2.75 m), type 16/3 submersible.

### Options:

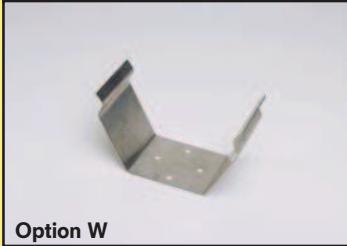
- (Add suffix)  
 O - thermal cut off  
 P - bronze lens guard  
 W - DEFO stainless steel wall bracket

### Note:

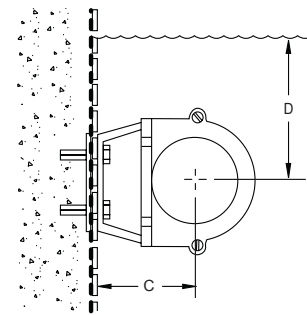
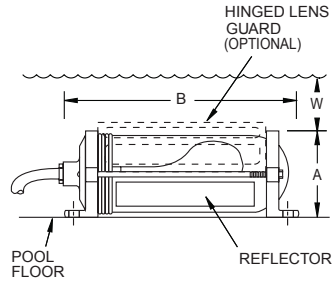
1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. CSA and UL listed.
3. Lamps sold separately (see lamp selection chart on page 58).



Option P



Option W



Option W

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	d dim.	w dim.
ELA-010	4"	9"	2 1/2"	4"	2"

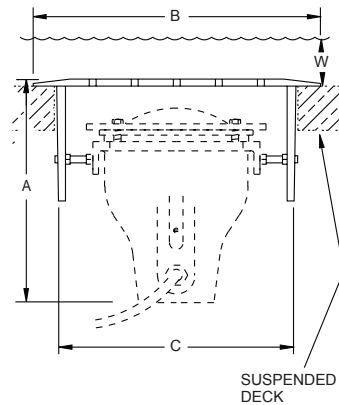
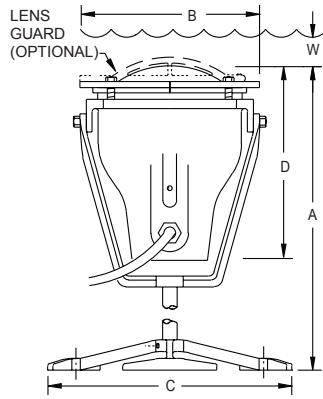
### Function

Low-intensity DEFO underwater light fixture for subdued illumination areas such as spillways, waterfalls and peripheral lighting. Ideal for shallow pools. May be floor or wall mounted. Fixture must be submerged while in operation.

# Low-Intensity Underwater Light

## Function

Low-intensity light for underwater narrow beam illumination. May be utilized with a variety of lamps from 100W to 250W. Fixture must be submerged while in operation.



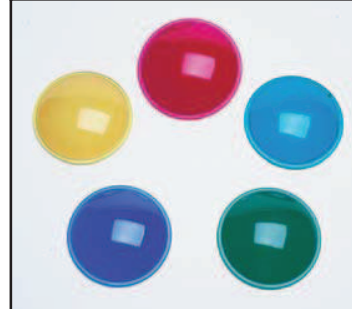
Option S

## Dimensions

DEFO no.	a dim.	b dim.	c dim.	d dim.	w dim.
ELC-015	11"	7 <sup>1</sup> / <sub>4</sub> "	10"	8"	2"
OPT-S	9"	10 <sup>1</sup> / <sub>4</sub> "	8 <sup>1</sup> / <sub>2</sub> "		



Option P



# EL 015 series

## Specification:

Construction of fixture, swivel yoke and crowfoot base shall be cast bronze with clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material; copper fitted porcelain socket with medium screw base suitable for PAR 38 quartz halogen or incandescent lamps; and stainless steel fasteners. Cable shall be 9' (2.75 m), type 16/3 submersible.

## Options:

- (Add suffix)  
 O - thermal cut off  
 P - hinged lens guard  
 Q - chromed top  
 S - DEFO slab hanger

## Lens colour:

- (Add suffix)  
 A - amber  
 B - blue  
 G - green  
 R - red  
 T - turquoise

## Note:

1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. CSA and UL listed.
3. Lamps sold separately (see lamp selection chart on page 58).
4. Specify 'A' on ELC-015 if greater than 11'. Contact factory for pricing.



# EL 020 series

## Low-Profile Underwater Light

### Specification:

Construction of fixture and base shall be cast bronze with DEFO round, concave, 'mirro'-chromed brass reflector; clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material; S4 type porcelain socket; and stainless steel fasteners. Cable shall be 9' (2.75 m), type 16/3 submersible.

### Options:

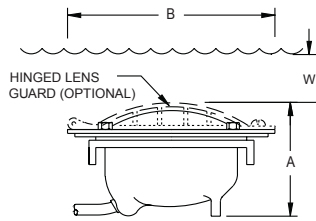
- (Add suffix)
- P - hinged lens guard
- O - thermal cut off
- Q - chromed top
- S - DEFO slab hanger

### Lens colour:

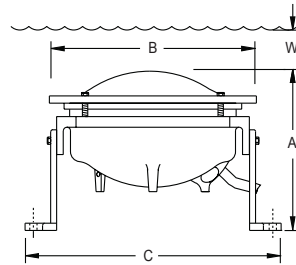
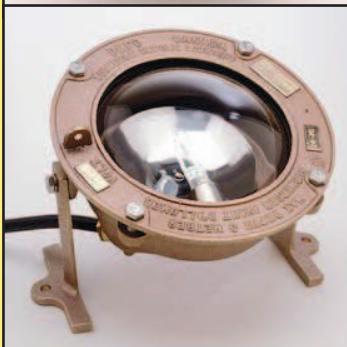
- (Add suffix)
- A - amber
- R - red
- B - blue
- G - green
- T - turquoise

### Note:

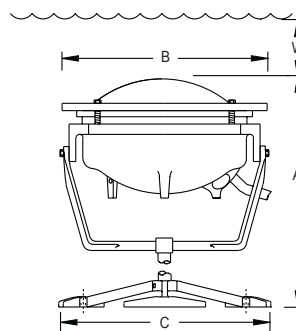
1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. 'T' foot base must always be fastened to pool floor.
3. CSA and UL listed.
4. Lamps sold separately (see lamp selection chart on page 58).
5. Specify 'A' on ELC-020 if greater than 9" Contact factory for pricing.



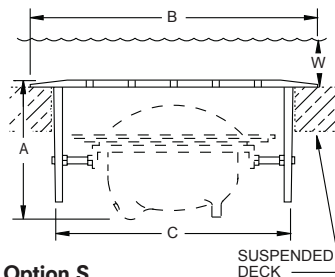
ELA-020



ELB-020



ELC-020



Option S



Option P

### Function

This versatile, low-profile and energy efficient DEFO underwater light fixture may be utilized in water depths from 4" (100 mm) to 18" (460 mm). The parabolic reflector provides a controlled beam projection. Fixture must be submerged while in operation.

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	w dim.
ELA-020	4"	7 <sup>1</sup> / <sub>4</sub> "		2"
ELB-020	6 <sup>1</sup> / <sub>4</sub> "	7 <sup>1</sup> / <sub>4</sub> "	8 <sup>1</sup> / <sub>2</sub> "	2"
ELC-020	9"	7 <sup>1</sup> / <sub>4</sub> "	8 <sup>5</sup> / <sub>4</sub> "	2"
OPT-S	4 <sup>1</sup> / <sub>2</sub> "	10 <sup>1</sup> / <sub>4</sub> "	8 <sup>1</sup> / <sub>2</sub> "	2"

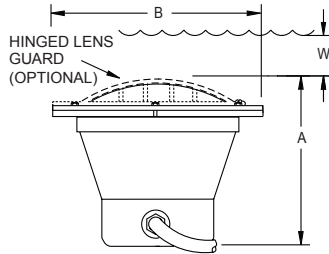




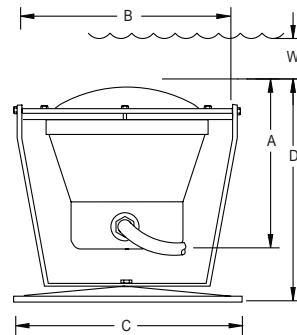
## Floating Fountain Light

### Function

Heavy-duty, general-purpose underwater light fixture with wide lens. Ideal for use on floating fountains where light weight fixtures are required. Can operate using 300 watt or 500 watt lamps. Fixture must be submerged while in operation.



ELA-028



ELC-028

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	d dim.	w dim.
ELA-028	6 <sup>1</sup> / <sub>2</sub> "	10"			2"
ELC-028	6 <sup>1</sup> / <sub>2</sub> "	10"	8 <sup>3</sup> / <sub>4</sub> "	11"	2"



Option P



## EL 028 series

### Specification:

Construction of fixture shall be copper with cast bronze rings. Base shall be cast bronze with clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material; porcelain mogul end prong PAR type socket; and stainless steel fasteners. Cable shall be 9' (2.75 m), type 16/3 submersible.

### Options:

- (Add suffix)
- P - hinged lens guard
- O - thermal cut off
- Q - chromed top

### Lens colour:

- (Add suffix)
- A - amber
- R - red
- B - blue
- G - green
- T - turquoise

### Note:

1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. Ring base must always be fastened.
3. UL listed.
4. Lamps sold separately (see lamp selection chart on page 58).
5. Specify 'D' on ELC-050 if greater than 10". Contact factory for pricing.



# EL 030 series

## Low Voltage Underwater Light

### Specification:

Construction of fixture shall be cast bronze with clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material; and stainless steel lamp holder and fasteners. Illumination shall be 12 volt, 225 watt quartz halogen. Cable shall be 9' (2.75 m), type 10/3 submersible.

### Options:

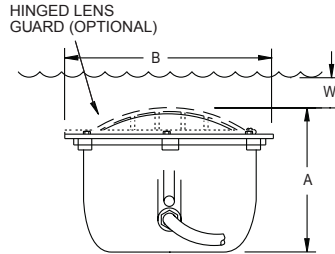
- (Add suffix)
- O - thermal cut off
- P - hinged lens guard
- Q - chromed top
- S - DEFO slab hanger

### Lens colour:

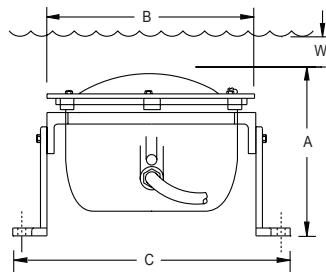
- (Add suffix)
- A - amber
- R - red
- B - blue
- G - green
- T - turquoise

### Note:

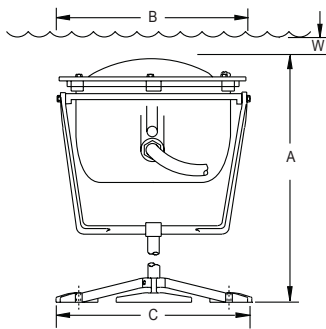
1. Fixture must be installed by a qualified electrician and comply with local electrical codes.
2. 'T' foot base must always be fastened to pool floor.
3. UL listed.
4. Lamps included in price.
5. Specify 'A' on ELC-030 if greater than 11" Contact factory for pricing.



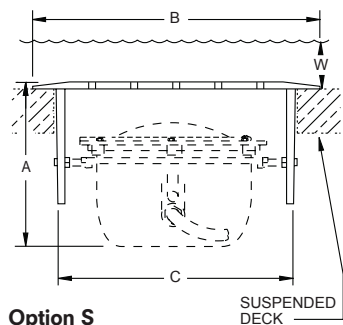
ELA-030



ELB-030



ELC-030



Option S



Option P

### Function

This versatile, low-profile and low voltage (12V) DEFO underwater light fixture may be utilized in water depths from 8" (200 mm) to 18" (460 mm). Ideal for lighting heavy water effects. May be installed in series format. Fixture must be submerged while in operation.

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	w dim.
ELA-030	5' / 4"	7' / 4"		2"
ELB-030	6' / 4"	7' / 4"	8' / 2"	2"
ELC-030	11"	7' / 4"	9' / 4"	2"
OPT-S	5' / 2"	10' / 4"	8' / 2"	2"



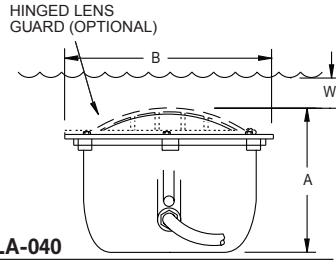


## Low Voltage Underwater Light

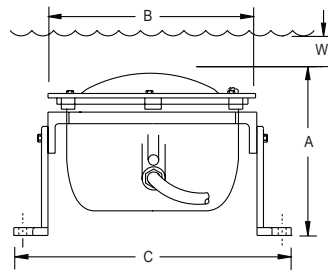
# EL 040 series

### Function

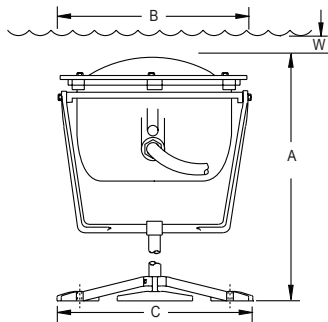
This versatile, low-profile and low voltage DEFO underwater light fixture may be utilized in water depths from 8" (200 mm) to 18" (460 mm). Ideal for lighting medium-sized water effects. May be installed in series format. Fixture must be submerged while in operation.



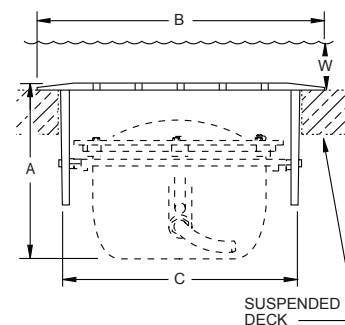
ELA-040



ELB-040



ELC-040



Option S

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	w dim.
ELA-040	5 1/4"	7 1/4"		2"
ELB-040	6 1/4"	7 1/4"	8 1/2"	2"
ELC-040	11"	7 1/4"	9 3/4"	2"
OPT-S	5 1/2"	10 1/4"	8 1/2"	2"



Option P

### Specification:

Construction of fixture shall be cast bronze with clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material; and stainless steel lamp holder and fasteners. Illumination shall be

**12 volt, 300 watt or 24 volt, 200 watt** quartz halogen. Cable shall be 9' (2.75 m), type 10/3 submersible.

### Options:

- (Add suffix)
- O - thermal cut off
- P - hinged lens guard
- Q - chromed top
- S - DEFO slab hanger

### Lens colour:

- (Add suffix)
- A - amber
- R - red
- B - blue
- G - green
- T - turquoise

### Note:

1. Fixture must be installed by a qualified electrician and comply with local electrical codes.
2. 'T' foot base must always be fastened to pool floor.
3. UL listed.
4. Lamps included in price.
5. Specify 12 or 24 volt when ordering
6. Specify 'A' on ELC-040 if greater than 11" Contact factory for pricing.





# EL 050 series

## Heavy-Duty Underwater Light

### Specification:

Construction of fixture and base shall be cast bronze with clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material;

porcelain mogul end prong PAR type socket; and stainless steel fasteners.

Cable shall be 9' (2.75 m), type 16/3 submersible.

### Options:

- (Add suffix)
- O - thermal cut off
- P - hinged lens guard (OPTIONAL)
- Q - chromed top

### Lens colour:

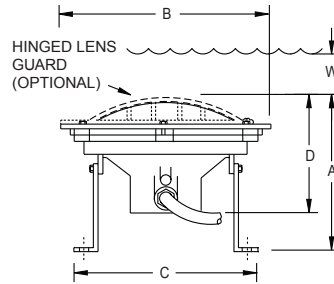
- (Add suffix)
- A - amber
- R - red
- B - blue
- G - green
- T - turquoise

### Note:

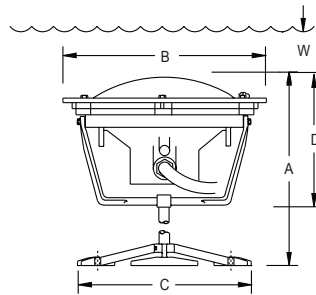
1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. 'T' foot base must always be fastened.
3. CSA and UL listed.
4. Lamps sold separately (see lamp selection chart on page 58).
5. Specify 'A' on ELC-050 if greater than 10". Contact factory for pricing.



Option P



ELB-050



ELC-050

DEFO no.	a dim.	b dim.	c dim.	d dim.	w dim.
ELB-050	8"	10 <sup>1</sup> / <sub>4</sub> "	8 <sup>1</sup> / <sub>2</sub> "	6"	2"
ELC-050	10"	10 <sup>1</sup> / <sub>4</sub> "	9 <sup>3</sup> / <sub>4</sub> "	7 <sup>1</sup> / <sub>2</sub> "	2"

### Function

Heavy-duty, general-purpose underwater light fixture with wide lens. Ideal for lighting heavy water effects. Can operate using 300 watt or 500 watt lamps. Fixture must be submerged while in operation.

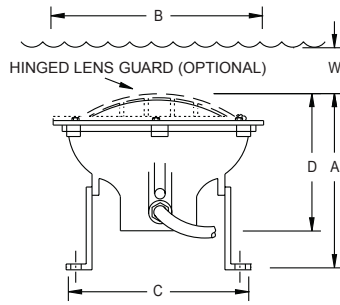


# Heavy-Duty Underwater Light

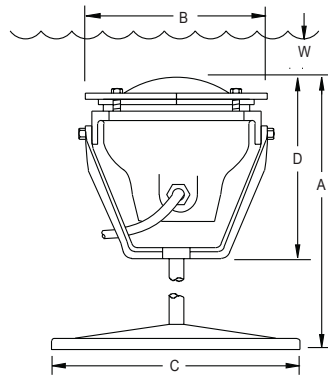
## EL 100 series

### Function

Heavy-duty underwater light using 1000 watt quartz halogen lamp for dramatic fountain effects. Fixture must be submerged while in operation.



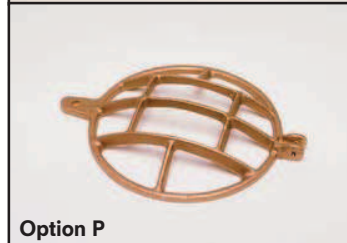
ELB-100



ELC-100

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	d dim.	w dim.
ELB-100	9' / 4"	10' / 2"	8 <sup>5</sup> / 4"	7' / 2"	2"
ELC-100	12"	10' / 4"	12"	8 <sup>5</sup> / 4"	2"



Option P

### Specification:

Construction of fixture and high-stability base shall be cast bronze with clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material; porcelain mogul end prong PAR type socket; and stainless steel fasteners. Cable shall be 9' (2.75 m), type 16/3 submersible.

### Options:

- (Add suffix)
- O - thermal cut off
- P - hinged lens guard
- Q - chromed top

### Lens colour:

- (Add suffix)
- A - amber
- R - red
- B - blue
- G - green
- T - turquoise

### Note:

1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. 'T' foot base must always be fastened.
3. CSA and UL listed.
4. Lamps sold separately (see lamp selection chart on page 58).
5. Specify 'A' on ELC-100 if greater than 12". Contact factory for pricing.







# ELD series

## Deep Niche Underwater Light

### Specification:

Construction of fixture, mounting clamp and lens guard shall be cast bronze. Deep niche shell shall be stainless steel, FRP or plastic moulded; and complete with stainless steel fasteners. Cable shall be 9' (2.75 m), type 16/3 submersible or 10/3 submersible for ELD-030 and ELD-040 series.

### Options:

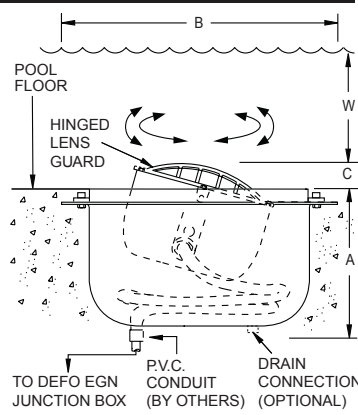
- (Add suffix)
- D - 1/2" (12mm) drain connection
- O - thermal cut off
- Q - chromed surface parts

### Lens colour:

- (Add suffix)
- A - amber
- R - red
- B - blue
- G - green
- T - turquoise

### Note:

1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. CSA and UL listed lights.
3. Lamps sold separately on ELD-020, ELD-050, ELD-100 (see lamp selection chart on page 58).



### Function

Deep wet-niched underwater light fixture suitable for floor or wall mounted applications. Niche accommodates DEFO EL-020, EL-030, EL-040, EL-050, EL-100 series of lights. No exposed cords. Light swivels and may be tilted up to 20°. Supplied standard with hinged lens guard. Fixture must be submerged while in operation.

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	w dim.
ELD-015	8"	11 1/2"	2"	2"
ELD-020	8"	11 1/2"	2"	2"
ELD-030	8"	11 1/2"	2"	2"
ELD-040	8"	11 1/2"	2"	2"
ELD-050	9"	13"	2 1/2"	2"
ELD-100	9"	13"	2 1/2"	2"

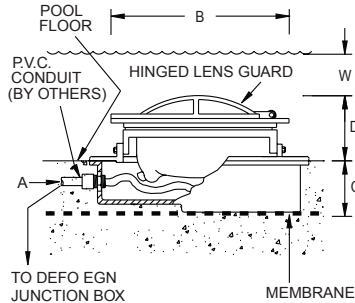




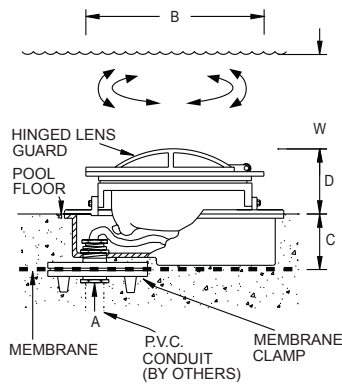
## Shallow Niched Underwater Light

### Function

This unique, low-profile DEFO underwater light fixture is supplied complete with fibreglass niche for recessed mounting in pool wall or floor. Niche is available with side or bottom connection. No exposed cords. Light swivels and may be tilted up to 20°. Supplied standard with hinged lens guard. Fixture must be submerged while in operation.



ELN-020



ELN-021

### Dimensions

DEFO no.	a dim.	b dim.	c dim.	d dim.	w dim.
ELN-020	1 1/2"	9 1/2"	2 1/4"	3 1/2"	2"
ELN-021	1 1/2"	9 1/2"	2 1/4"	3 1/2"	2"



## ELN 020-021

### Specification:

Construction of fixture, mounting clamp and lens guard shall be cast bronze with DEFO round, concave, 'mirro'-chromed brass reflector; clear, convex, tempered, heat resistant, cast glass lens; U-shaped moulded gasket of approved material; S4 type porcelain socket; FRP moulded DEFO niche shell; and stainless steel fasteners. Cable shall be 9' (2.75 m), type 16/3 submersible.

### ELN-021

When specifying model ELN-021 add: "Membrane clamps shall be cast bronze. Cord seal shall be brass DEFO 'EGN' compression type."

### Options:

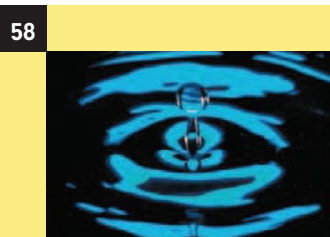
- (Add suffix)
- O - thermal cut off
- Q - chromed surface parts

### Lens colour:

- (Add suffix)
- A - amber
- B - blue
- G - green
- R - red
- T - turquoise

### Note:

1. Fixture must be installed by a qualified electrician and have ground fault protected circuitry.
2. CSA and UL listed.
3. Lamps sold separately (see lamp selection chart on page 58).



# General Considerations for Lighting

## General Considerations for Lighting

There are three important factors to be considered when selecting the number of fixtures and type of lamps to illuminate a fountain as follows:

### 1. Type of water effect to be illuminated:

- a) **Single Nozzles** – normally two fixtures per color with spot lamps
- b) **Spray Rings** – normally one fixture per color on 4' (1.2m) centres to 15' (5m) using wide flood lamps. For over 15' (3m) one fixture on 3' (1m) centres using medium flood lamps.

### 2. Colour Selection:

Various colours require different lighting intensities to achieve optimum levels, for instance:

- a) Amber and turquoise – requires 50% more light than clear.
- b) Red – requires 100% more light than clear.
- c) Blue and green – requires 250% more light than clear.

**Example:** A fountain jet requiring illumination to 9' (3m) using red lens will a lamp with light projection to 18' (6m) with clear lens. See chart below.

**Note:** High ambient light levels tend to wash out coloured lights. In such conditions it is suggested that clear, amber or turquoise colours be used.

### 3. Heights to be illuminated:

The following lamp selection chart outlines the recommended maximum heights and primary applications for available fixtures and lamps. Lamp life is shown and is an important factor in lamp selection.

**Example:** A 6000-hour lamp may initially cost twice as much as a 2000 lamp, but be more economical overall.

use with fixture no.	lamp order no.	primary applications type of effects	beam height	lamp life (hours)	watts	volts type	lamp type	beam
ELA-010	EQS-060 EQS-100	Reflecting surfaces and pool perimeters.		7500 8000	60 100	120 120	A-21 A-21	Flood Flood
ELA-015	EQS-150	Med. single jets	10' (3.0m)	6000	100	120	PAR-38Q	Spot
ELC-015	EQS-151	Low waterfalls, rings, bell jets	6' (1.8m)	6000	100	120	PAR-38Q	Flood
ELD-015	EQS-250 EQS-251	Med. single jets Med. waterfalls, rings, bell jets	15' (4.5m) 8' (2.4m)	6000 6000	250 250	120 120	PAR-38Q PAR-38Q	Spot Flood
ELA-020	EQS-155	Low waterfalls, rings, bell jets	5' (1.5m)	2000	150	120	MCQ	Flood
ELB-020	EQS-255	Med. waterfalls, rings, tulip jets	8' (2.4m)	2000	250	120	MCQ	Flood
ELC-020	EGS-505	Med. waterfalls, foam & cascade jets.	12' (3.6m)	2000	500	120	MCQ	Flood
ELN-020								
ELA-050	EQS-300Med. EQS-301	single jets & pods Med. rings, spheres, foam jets	25' (7.6m) 15' (4.5m)	2000 2000	300 300	120 120	PAR56Q PAR56	Spot Flood
ELB-050	EQS-302	Med. single jets & pods	25' (7.6m)	2000	300	12	PAR56Q	Flood
ELC-050	EQS-500	Large single jets	35' (11m)	4000	500	120	PAR56Q	Spot
ELD-050	EQS-501	Large rings, large foam & cascades	20' (6m)	4000	500	120	PAR56Q	Flood
ELB-100	EQS-600	Very large single jets	50' (15m)	4000	1000	120	PAR64Q	Spot
ELC-100								
ELD-100	EQS-601	Very large rings, jet pods	30' (9m)	4000	1000	120	PAR64Q	Flood

Contact Crystal Fountains regarding the availability of selected lamps in 24 or 220 volt. All lamps are subject to the availability from the manufacturer.

Note: Primary applications and beam heights (as shown) are based on the use of clear lens on fixtures located 2" (50mm) below the water surface.