

LED LIGHTING TECHNOLOGY

Introduction

From LED's earliest years, Crystal Fountains has been at the forefront of exploring LED lighting technology for water features. LED lighting is an exciting new way of thinking about and installing a lighting system. At the heart of each LED (Light Emitting Diode) is a microprocessor that emits light when an electric current passes through it. Can be programmed individually, digital light shows can switch with incredible speed, variation and accuracy. With RGB color (Red, Green, Blue) you have a virtually unlimited palette of color to work with!

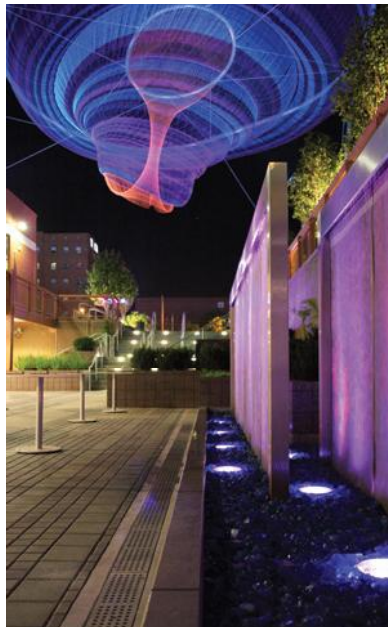
Other advantages of LED lighting:

- Lower power requirements
- High Efficiency/Produces Less Heat
- Long life/Saves Maintenance Time and Costs
- Limitless Design Flexibility with Color Intensity/Variety
- Can individually control each LED lamp for limitless color sequencing potential

LED lighting technology requires a systems approach. Crystal Fountains can supply all the components you require and assist you with product selection, sequenced show programming or technical support. LED Lighting works as an integrated total networked lighting system and includes 3 elements:

- LED Light Fixture and/or Nozzle
- Animation Panel with Power/Data supply keypad
- Power/Data cable

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Types of LED Lights

C rystal Fountains manufactures a range of leading LED lighting products that can stand alone as lighting fixtures or have a combination of LED light and nozzle effect all in one unit. In this section we will show you our family of LED lights only.

Not all LED lights are created equally! Crystal Fountains manufactures a range of the brightest LED lighting products manufactured with perfect optical performance. We offer LED lighting:

- Safe 12VAC/DC and 24VDC
- Longer cable lengths between light and controller for easier installation
- Super compact to heavy duty with multiple mounting
- White to RGB color-changing - fully addressable
- For fountains or playdecks



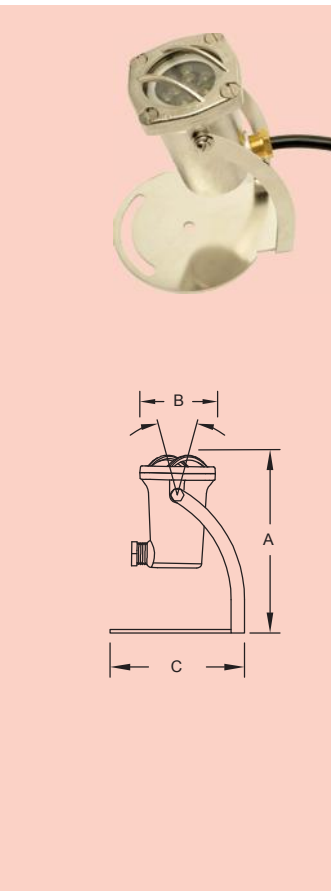
Basic LED System (LED Light, Choreoswitch, Power & Data Supply, Control Panel)

LED002 Series – Compact LED Light - Wet and Dry

This attractive, compact LED light is available with either a warm or cool white LED or full RGB color LED. Its compact size allows close placement to any jet for maximum light usage or in tight surroundings. RGB provides limitless color sequencing potential. Light allows for gentle lighting of low effects and waterwalls as well as very good projection for high vertical nozzle effects. RGB (LEDEQMRf AND LEDEQMRS) lamps are fully programmable to suit your design needs and work in a systems approach with the LEDPS70 power supply and LEDQUE1 – I-player/DMX controller. Pre-programmed RGB lamps (EQS021A100) are also available that come standard with 24 programs and can work with optional handheld remote controller (EL RGBC 5W). Remote control can work with an unlimited number of lights to dim and change colors of individual lights. Available in different cable lengths and with many mounting configurations to suit your lighting needs from freestanding to niche mounted. Submersible IP68, CE Marking, cULus listed. Made of 316 stainless steel.

Not all LEDs are created equally! Crystal Fountains LED products produce a high intensity light and deliver perfect optical performance. Also, see Crystal Fountains power/data and controller products to create a complete LED system.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LED002002	166	70	127

CHOOSE LAMP

Color	Type	Lamp	Part No.
RGB	5W24VDC	Flood	LEDQMRF
	5W24VDC	Spot	LEDQMRS
	5W12VDC	Spot	EQS021A100*
Warm White	3W12V (AC/DC)	Flood	EL002A102
	3W12V (AC/DC)	Spot	EL002A101
Cool White	3W12V (AC/DC)	Flood	EL002A104
	3W12V (AC/DC)	Spot	EL002A103

*EQS021A100 lamp is not UL listed

How to Order

CHOOSE LIGHT

Mounting	Part No.
Stand	LED002002

CHOOSE CABLE

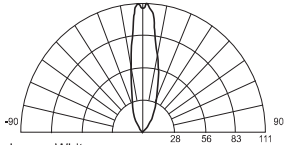
Cable Length	Part No.
3 m.	ELCORD005M03
6 m.	ELCORD005M06

CHOOSE ADDITIONAL OPTIONS

Options	Part. No.
Remote Control	EL RGBC 5W

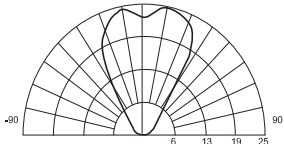
LED002 Series – Compact LED Light - Wet and Dry

CANDLE POWER DISTRIBUTION FOR LEDEQMRS



Measured on: White
 Beam Center: 106cd
 Multipliers: 0,34 Red, 0,47 Green, 0,21 Blue

CANDLE POWER DISTRIBUTION FOR LEDEQMRF



Measured on: White
 Beam Center: 25cd
 Multipliers: 0,4 Red, 0,18 Green, 0,42 Blue

ILLUMINANCE DISTRIBUTION 5W/24WATT LEDEQMRS LAMP

0.3	1.3	1.4	2.3	1.3	0.3	1.5'/0.5m
3.2	14.0	15.1	24.8	14.0	3.2	
1.3	3.2	5.2	5.2	3.2	1.3	
14.0	34.4	56.0	56.0	34.4	14.0	
2.3	5.2	9.1	8.1	5.3	2.3	
24.8	56.0	98.0	87.2	57.0	24.8	
1.4	5.3	8.2	9.1	5.3	1.4	
15.1	57.0	88.3	98.0	57.0	15.1	
1.3	3.3	5.4	5.4	3.3	1.3	
14.0	35.5	58.1	58.1	35.5	14.0	
0.3	1.3	1.4	2.4	1.3	0.3	
3.2	14.0	15.1	25.8	14.0	3.2	
1.5'/0.5m	0'/0m	1.5'/0.5m				

ILLUMINANCE DISTRIBUTION 5W/24WATT LEDEQMRF LAMP

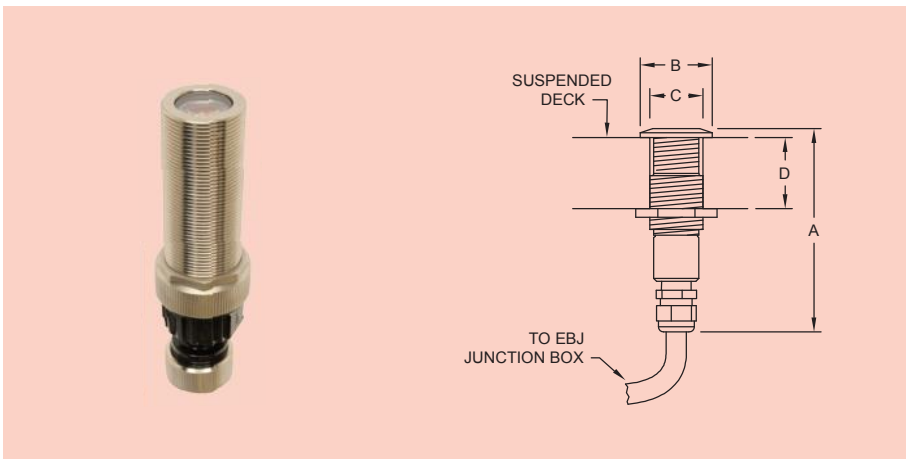
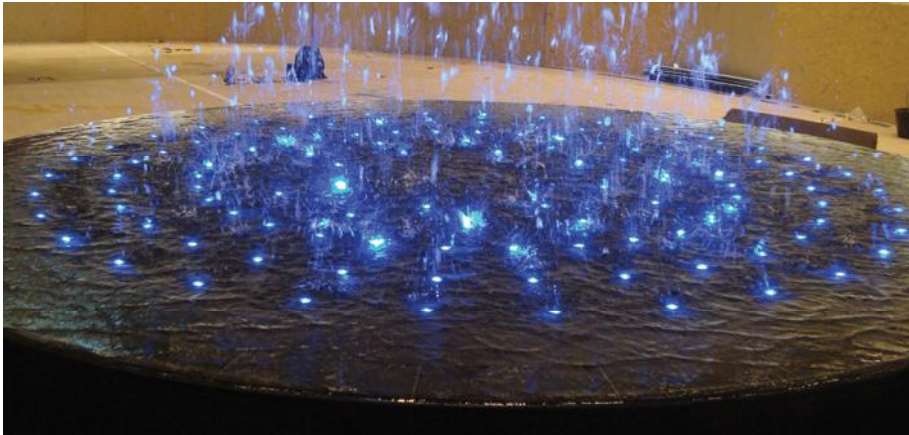
0.4	0.5	0.7	0.9	0.6	0.4	1.0'/0.3m
4.3	5.4	7.5	9.7	6.5	4.3	
0.6	1.0	1.2	1.1	0.9	0.6	
6.5	10.8	12.9	11.8	9.7	6.5	
0.9	1.2	1.7	1.6	1.1	0.9	
9.7	12.9	18.3	17.2	11.8	9.7	
0.7	1.1	1.6	1.7	1.2	0.7	
7.5	11.8	17.2	18.3	12.9	7.5	
0.5	0.9	1.1	1.2	1.0	0.5	
5.4	9.7	11.8	12.9	10.8	5.4	
0.4	0.5	0.7	0.9	0.6	0.4	
4.3	5.4	7.5	9.7	6.5	4.3	
1.0'/0.3m	0'/0m	1.0'/0.3m				

Units: Footcandles/Lux
 Measured on: All, reflectance 0
 Distance from surface: 1'/0.3m (from bottom of grid with light at perpendicular to surface)



LED007 – Ultra Compact 5 watt LED Light - 12V

The LED007 is designed for situations where visibility of the light fixture needs to be de-emphasized and space near the nozzle is tight. The most compact 5 watt light on the market. Currently designed for suspended decks but can be used in multiple applications. Comes with spot light. Made of stainless steel and plastic.



DIMENSIONS

Part No.	a dim.	b dim.	c dim.	d dim.
LED007	127	51	39	51
LED008	127	51	39	51

How to Order

CHOOSE LIGHT

Lighting	Mounting	Lamp	Part No.
RGB	Light with Slab Hanger	Spot	LED007
White	Light with Slab Hanger	Spot	LED008

CHOOSE CABLE

Cable for...	Cable Length	Part No.
RGB or White (Dimmable) Light	3 m.	EL CORD007M03
	6 m.	EL CORD007M06
White (Non-Dimmable) Light	3 m.	EL CORD007MW03
	6 m.	EL CORD007MW06

LED020 Series – 120VAC/60W Low Profile White Underwater LED


Light

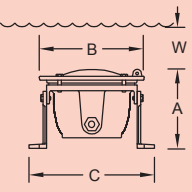
The LED020 is a versatile LED underwater light ideal for lighting heavy water in fountains. Best operated at a minimum 51mm underwater, this white 120V LED light provides a low profile and substantial uplighting. Available in different cable lengths, lenses and with many mounting configurations to suit your lighting needs from free-standing to deep niche mounted. Also available with optional lens guard. cETLus and IP68 listed. Made of cast bronze.

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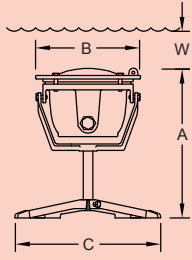







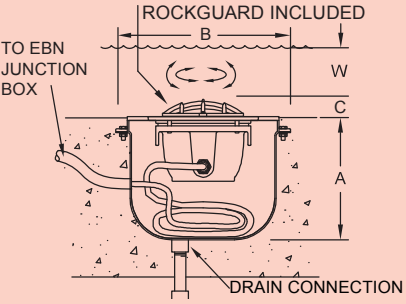
LEDB020 -
Light with T-Foot






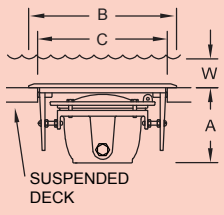
LEDC020 -
Freestanding Light





LEDD020 -
Light with Niche





LEDS020 -
Light with Slab Hanger

LED020 Series – 120VAC/60W Low Profile White Underwater LED Light



DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	w dim. (mm)
LEDB020	159	185	223	51
LEDC020	185 or 407	185	254	51
LEDD020	204	293	51	51
LEDS020	140	261	223	51

How to Order

CHOOSE LIGHT

Light Fixture	Part No.
Series	Options
LEDB	n/a
	rockguard
LEDC	195 mm. high
	400 mm. high
	195 mm. w/. rockguard
	400 mm. w/. rockguard
LEDD	n/a
	drain conn.
LEDS	n/a

CHOOSE CABLE

Cable Length	Thermal Cut-Off	Part No.
3 m.	No	EL CORD 020A109
	Yes	EL CORD 020T109
6 m.	No	EL CORD 020A120
	Yes	EL CORD 020T120
9 m.	No	EL CORD 020A130
	Yes	EL CORD 020T130
12 m.	No	EL CORD 020A140
	Yes	EL CORD 020T140
Over 12 m.	Yes/No	Contact Factory

EXAMPLE OF HOW TO ORDER

Quantity	Product	Part No.
1	407 mm. Freestanding light with rockguard	LEDC020LP
1	3 m. Cable	ELCORD 020A109

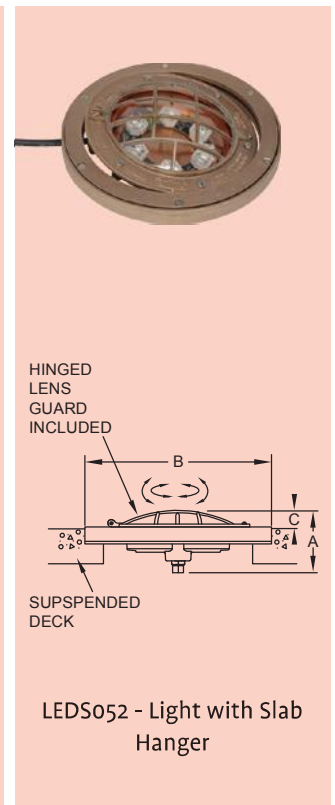
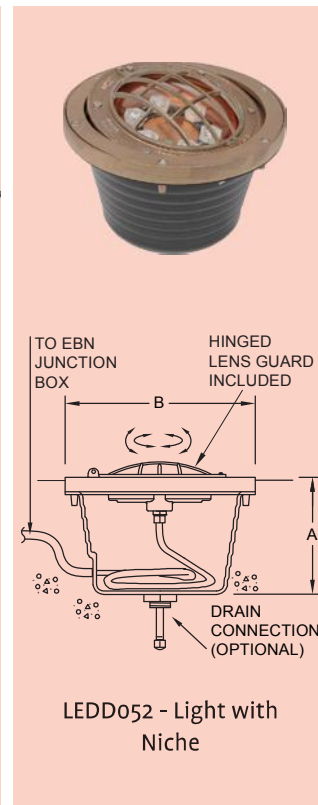
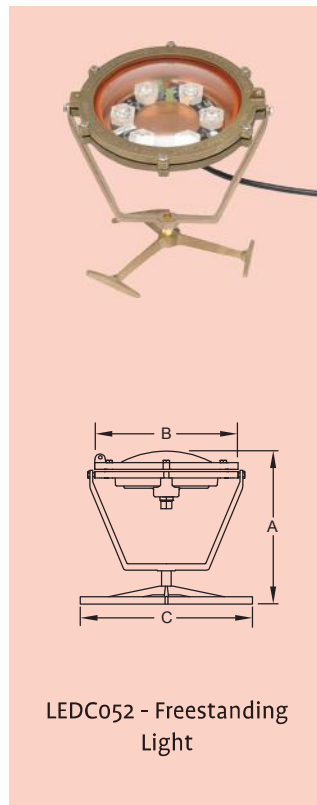
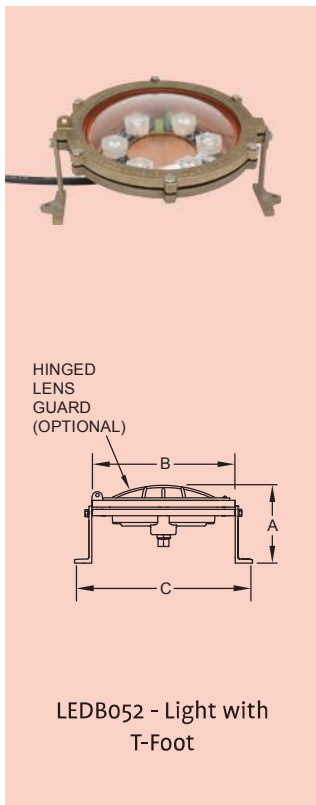
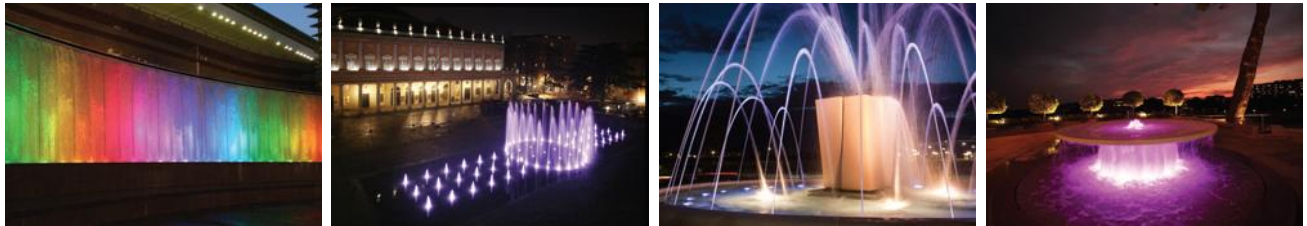
Note: Photometric Chart is available upon request.

LED052 Series – 12V/30W LED Color Changing Light - Wet and Dry

General purpose 12VDC underwater, wet and dry location light fixture with RGB color-changing technology. Lots of flexibility to suit your application - available in 4 different mounting styles from freestanding to niche mounted. Also available in 2 different cable lengths and spot or flood lamp. Best used to light no higher than 6m. Works in a systems approach with many generic power supplies and DMX controllers*. (See LED Accessories on pg 161). CE Marking and cULus listed to safety standards for use in traditional basin style fountains. (Not for swimming pool and spas). Cable to be ordered separately and pre-installed. Made of cast bronze, copper with stainless steel fasteners.

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DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LEDB052	127	261	
LEDC052	280 to 407	280	248
LEDD052	229	331	
LEDS052	115	331	26

LED052 Series – 12V/30W LED Color Changing Light - Wet and Dry

How to Order

CHOOSE CABLE

Cable Length	Part No.
3 m.	ELCORD050M03
6 m.	ELCORD050M06

CHOOSE ADDITIONAL OPTIONS

OPTIONS	PART NUMBER
Flood Optics	contact Crystal for details
Remote Control	EL RGBC 5W

CHOOSE LIGHT

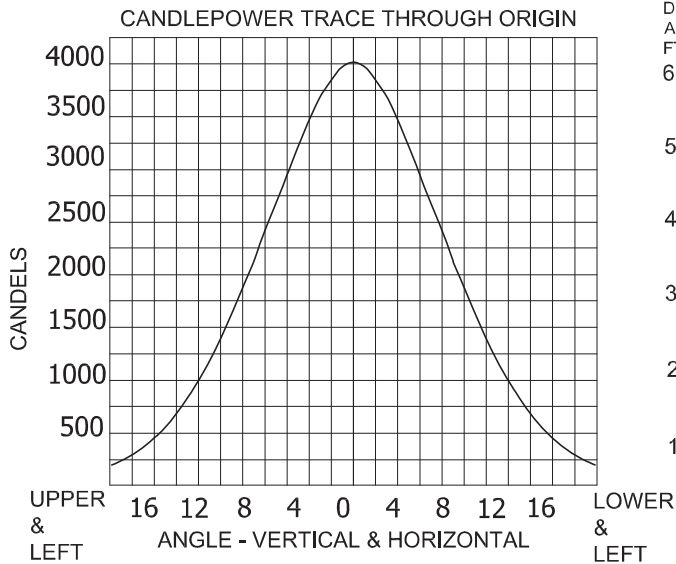
Light Fixture		Part No.
Series	Options	
LEDB	n/a	LEDB052
	rockguard	LEDB052P
LEDC	280 mm. high	LEDC052
	407 mm. high	LEDC052L
	280 mm. w/. rockguard	LEDC052P
	407 mm. w/. rockguard	LEDC052LP
LEDD	n/a	LEDD052
LEDS	n/a	LEDS052

EXAMPLE OF HOW TO ORDER

Quantity	Product	Part No.
1	Light with T-Foot	LEDB052
1	6 m. Cable	ELCORD050M06
6	Flood Optics	LED160C006F

RGB LED Light

Photometry Test is done in accordance with IES no. LM-35-1989



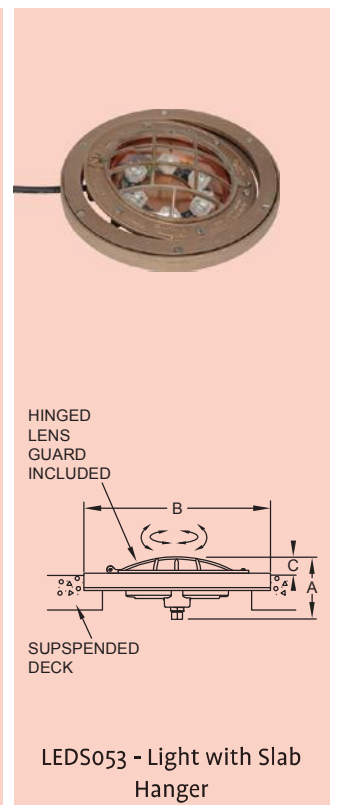
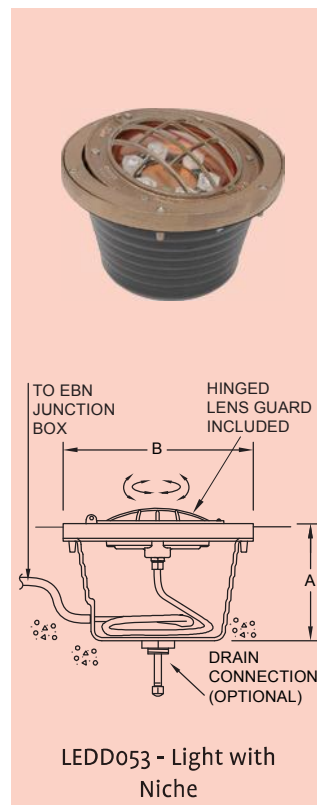
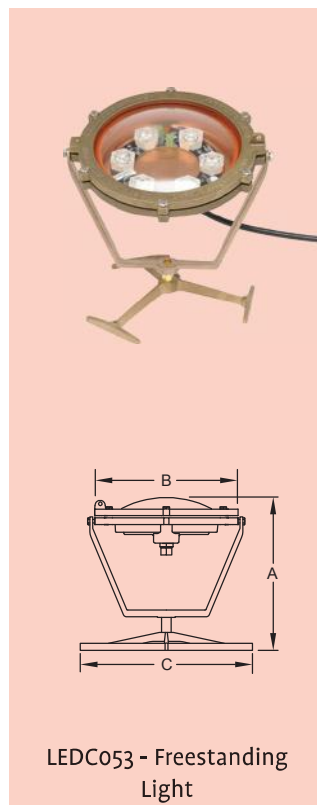
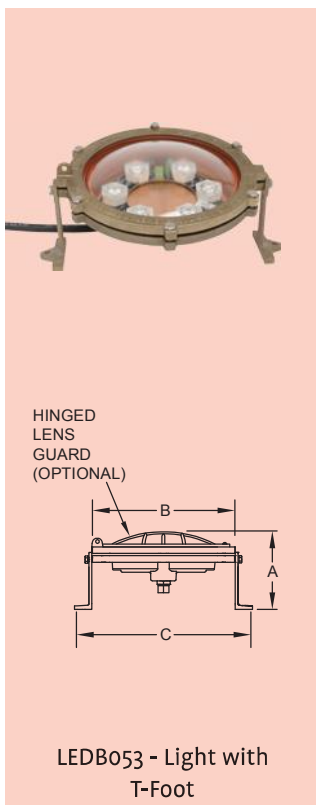
DISTANCE ABOVE FT/M	ILLUMINANCE DISTRIBUTION (FC/LUX)			
6' / 2.00m	112 43.8 5.0 1.2	1012 392 45.3 10.5	162 43.7 3.2 1.3	253 36.0 2.6 1.2
5' / 1.67m	2293 320 23.7 10.4	1453 392 28.9 12.0	451 20.1 3.1 2.3.6	4061 179 27.5 5.3
4' / 1.33m	1020 10.6 1.3 0.3	9072 94.5 11.9 2.7	4122 5.2 0.4 0.1	37711 46.1 3.3 0.8
3' / 1.00m				
2' / 0.67m				
1' / 0.33m				
0' / 0m				

DISTANCE FROM CENTER (FT/M)

LED053 Series – 24VDC / 30 W LED Color Changing Light - Wet and Dry

A general purpose 24VDC underwater, wet and dry location light fixture with RGB color changing technology. Lots of flexibility to meet your application – available in 4 different mounting styles from free standing to niche mounted. Also available in 2 different cable lengths and spot or flood lamp. Best used to light no higher than 6 m. Works in a systems approach with many generic power supplies and DMX controllers*. (See LED Accessories on pg 161). CE Marking and cULus listed to safety standards for use in traditional basin style fountains. (Not for swimming pool and spas). Made of cast bronze, copper with stainless steel.

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DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LED B053	127	261	
LED C053	280 to 407	280	248
LED D053	229	331	
LED S053	115	331	26

LED053 Series – 24VDC / 30 W LED Color Changing Light – Wet and Dry

How to Order

CHOOSE CABLE

Cable Length	Part No.
3 m.	EL CORD160M03
6 m.	EL CORD160M06

CHOOSE ADDITIONAL OPTIONS

OPTIONS	PART NUMBER
Flood Optics	contact Crystal for details

CHOOSE LIGHT

Light Fixture	Part No.
Series Options	
LEDB n/a	LEDB053
rockguard	LEDB053P
LEDC 280 mm. high	LEDC053
407 mm. high	LEDC053L
280 mm. w/. rockguard	LEDC053P
407 mm. w/. rockguard	LEDC053LP
LEDD n/a	LEDD053
drain	LEDD053D
LEDS n/a	LEDS053

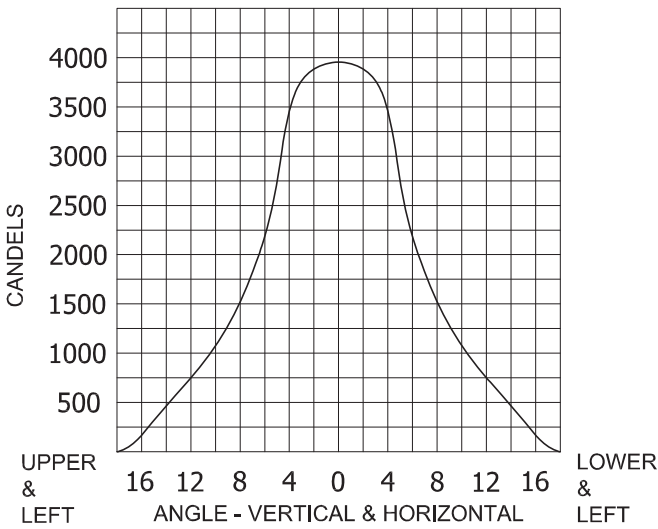
EXAMPLE OF HOW TO ORDER

Quantity	Product	Part Number
1	Niched Light with Drain	LEDD053D
1	3 m. Cable	EL CORD160M03

RGB LED Light

Photometry Test is done in accordance with IES no. LM-35-1989 & LM-79-08

CANDLEPOWER TRACE THROUGH ORIGIN



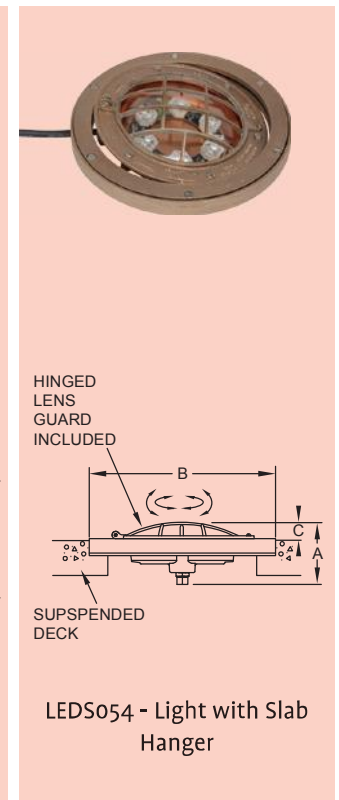
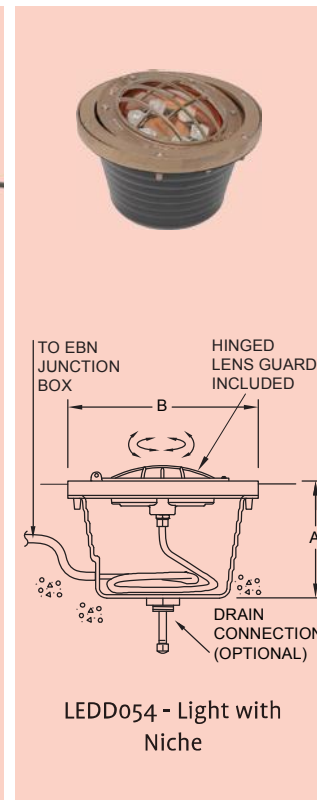
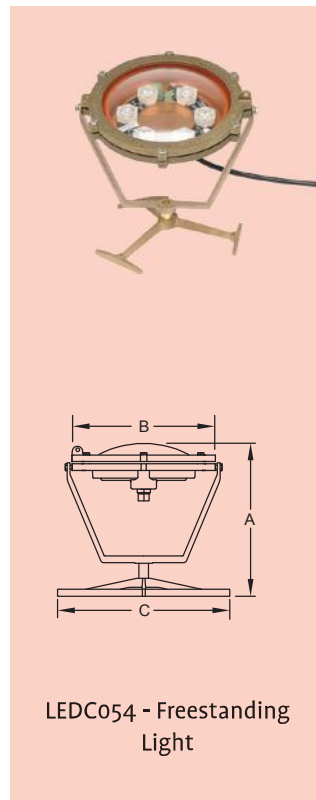
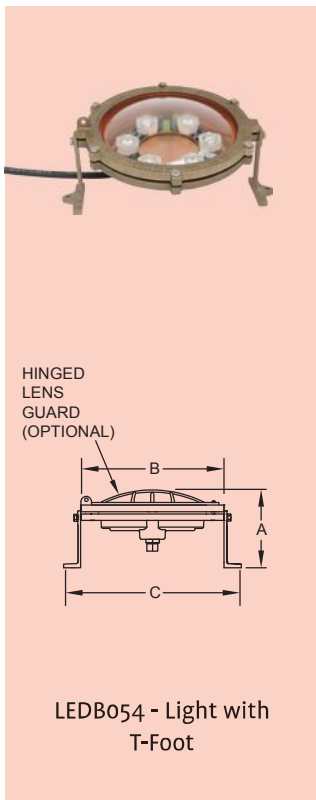
DISTANCE ABOVE FT/M	ILLUMINANCE DISTRIBUTION (FC/LUX)			
6'/2.00m	111 / 1000	45.8 / 410	4.1 / 36.7	1.1 / 9.9
5'/1.67m	160 / 1435	44.8 / 401	2.6 / 23.9	1.3 / 11.6
4'/1.33m	250 / 2265	32.5 / 289	2.5 / 22.4	1 / 9.3
3'/1.00m	446 / 4013	16.3 / 145	2.8 / 24.8	0.5 / 4.6
2'/0.67m	1008 / 8962	10 / 89	1.1 / 10.3	0.3 / 2.3
1'/0.33m	4073 / 37245	4.5 / 39.7	0.4 / 3.2	0.1 / 0.6
			0'/0m 1'/0.33m 2'/0.67m 3'/1.0m	

LED054 Series – 24VDC/30W LED White Light - Wet and Dry

General purpose 24VDC White LED light is perfect for underwater use including wall washing, wall washing, and wet/dry locations. 18 LED's mounted in a smart PCB board creates Available in 5 different mounting styles from free-standing to niche mounted. Also available in 4 different cable lengths and spot or flood lamp. A dimmable white light version is also available. Works in a systems approach with the power supply and I-player/DMX controller*. CE Marking and c-UL-us listed to safety standards for use in traditional basin style fountains. (Not for swimming pool and spas). Cable, lamp and rock guard to be ordered separately and pre-installed. Made of cast bronze, copper with stainless steel fasteners.

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LED054 Series – 24VDC/30W LED White Light - Wet and Dry

DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LEDB054	127	261	305
LEDC054	280 to 407	280	248
LEDD054	229	331	
LEDS054	115	331	26

How to Order

CHOOSE LIGHT

Light Fixture	Part No.
Series Options	
LEDB n/a	LEDB054
rockguard	LEDB054P
LEDC 280 mm. high	LEDC054
407 mm. high	LEDC054L
280 mm. w/. rockguard	LEDC054P
407 mm. w/. rockguard	LEDC054LP
LEDD n/a	LEDD054
drain conn.	LEDD054D
LEDS n/a	LEDS054

CHOOSE CABLE

Cable For...	Cable Length	Part No.
White LED	3 m.	ELCORD005M03
	6 m.	ELCORD005M06
White LED Dimmable	3 m.	ELCORD160M03
	6 m.	ELCORD160M06

CHOOSE ADDITIONAL OPTIONS

OPTIONS	PART NUMBER
Flood Optics	Contact Crystal for details

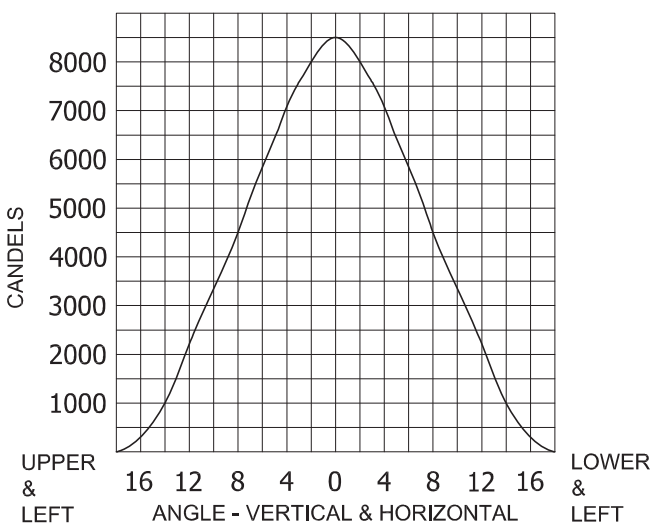
EXAMPLE OF HOW TO ORDER

Quantity	Product	Part No.
1	Light with Niche	LEDD054
1	6 m. DMX Dimmable Cable	ELCORD160M06

WHITE LED Light

Photometry Test is done in accordance with IES no. LM-35-1989 & LM-79-08

CANDLEPOWER TRACE THROUGH ORIGIN



ILLUMINANCE DISTRIBUTION (FC/LUX)

DISTANCE ABOVE FT/M	0'/0m	1'/0.33m	2'/0.67m	3'/1.0m
6'/2.00m	233 / 98.2	7 / 880	2 / 68.5	17.9
5'/1.67m	336 / 2097	4.6 / 832	2.5 / 41.5	22.5
4'/1.33m	525 / 4750	4.5 / 534	2.1 / 40.5	18.5
3'/1.00m	936 / 8414	27.8 / 247	5.5 / 49.4	8.4
2'/0.67m	2113 / 18795	18 / 160	2.1 / 19.1	0.5 / 4.1
1'/0.33m	8537 / 78142	8.3 / 72.9	0.6 / 4.9	0.1 / 0.8

LED055 Series – 12VDC/30W LED White Light - Wet and Dry

General purpose 12VDC underwater, wet and dry location light fixture with white LED technology. Lots of flexibility to suit your application - available in 4 different mounting styles from freestanding to niche mounted. Also available in 2 different cable lengths and spot or flood lamp. Best used to light no higher than 6m. Powered using standard 12V power supply. CE Marking and cULus listed to safety standards for use in traditional basin style fountains. (Not for swimming pool and spas). Cable to be ordered separately and pre-installed. With the use of an external DMX controller and proper cable option, lights can be dimmed or turned on/off individually to create animated light sequences. Made of cast bronze, copper with stainless steel fasteners.

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LED B055 - Light with T-Foot

LED C055 - Freestanding Light

LED D055 - Light with Niche

LED S055 - Light with Slab Hanger

DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LED B055	127	261	
LED C055	280 to 407	280	248
LED D055	229	331	
LED S055	115	331	26

LED055 Series – 12VDC/30W LED White Light - Wet and Dry

How to Order

CHOOSE LIGHT

Light Fixture	Part No.
Series Options	
LEDB n/a	LEDB055
rockguard	LEDB055P
LEDC 280 mm. high	LEDC055
407 mm. high	LEDC055L
280 mm. w/. rockguard	LEDC055P
407 mm. w/. rockguard	LEDC055LP
LEDD n/a	LEDD055
drain conn.	LEDD055D
LEDS n/a	LEDS055

CHOOSE CABLE

Cable For...	Cable Length	Part No.
White LED	3 m.	ELCORD005M03
	6 m.	ELCORD005M06
White LED Dimmable	3 m.	ELCORD160M03
	6 m.	ELCORD160M06

EXAMPLE OF HOW TO ORDER

Quantity	Product	Part No.
1	Light with Niche	LEDD055
1	6 m. DMX Dimmable Cable	ELCORD160M06
6	Flood Optics	LED160C006F

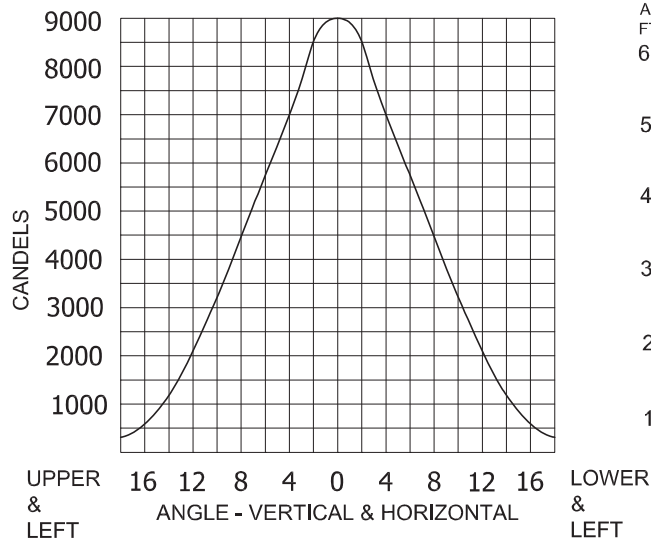
CHOOSE ADDITIONAL OPTIONS

OPTIONS	PART NUMBER
Flood Optics	contact Crystal for details

WHITE LED Light

Photometry Test is done in accordance with IES no. LM-35-1989

CANDLEPOWER TRACE THROUGH ORIGIN



ILLUMINANCE DISTRIBUTION (FC/LUX)

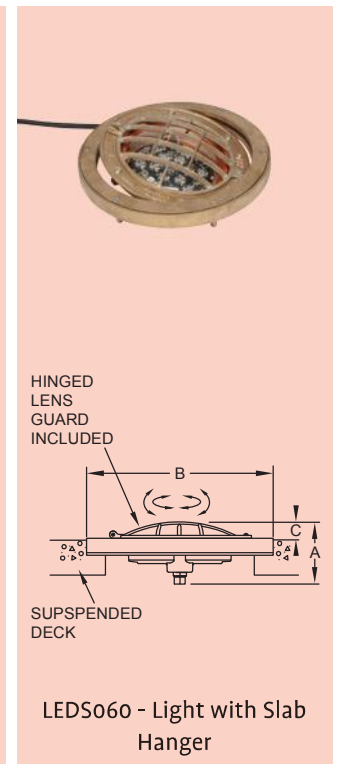
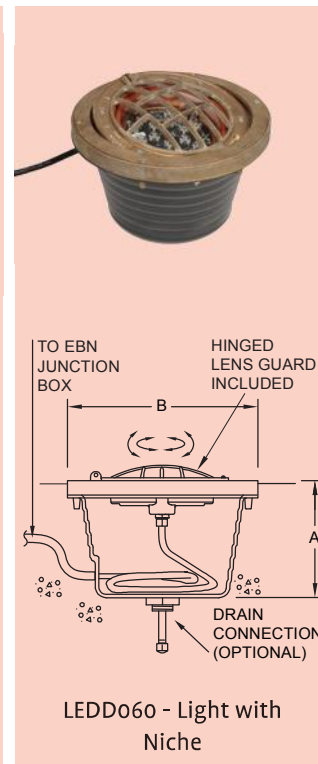
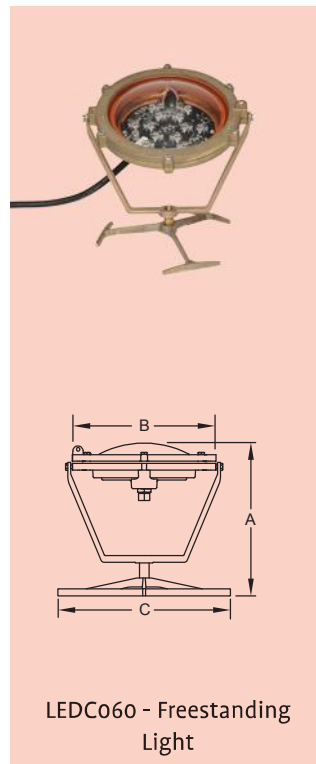
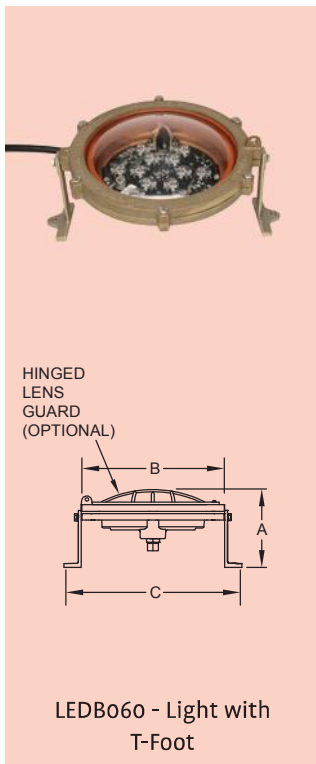
DISTANCE ABOVE FT/M	0'0m	1'0.33m	2'0.67m	3'1.0m
6'2.00m	253	107	9.1	3.2
5'1.67m	2282	961	81.6	19.9
4'1.33m	365	102	5.7	2.6
3'1.00m	3275	922	51.9	23
2'0.67m	571	72.2	5	1.9
1'0.33m	5167	642	44.9	17.4
	1018	36.2	5.4	0.6
	9153	322	48.9	5.2
	2299	20	1.3	0
	20442	178	11.9	0
	9289	5	0	0
	84956	42.2	0	0

LEDo60 Series – 24VDC/60W LED Color Changing and White Light - Wet and Dry

The LEDo60 Series 24V LED light is a general purpose combination pure white and RGB color-changing LED light. A total of 60 watts of power is available by combining the 30 watts of white and 30 watts of RGB to produce powerful illumination capabilities. This general-purpose underwater light is suitable for wet locations and provides good wall washing or up-lighting. The light works in a systems approach with many generic power supplies and I-player/DMX controllers*. The LEDo60 Series light output is clear and bright at 6500 Kelvin. Available in 4 different mounting options from free standing to slab hanger. Also available with lens guards and 2 cable lengths. cETLus and IP68 listed. Made of cast bronze.

Not all LEDs are created equally! Crystal Fountains LED products produce a high intensity light and deliver perfect optical performance. Also, see Crystal Fountains power/data and controller products to create a complete LED system.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



LED160 Series – 12V/30W RGB or White LED Ring Light - Wet and Dry

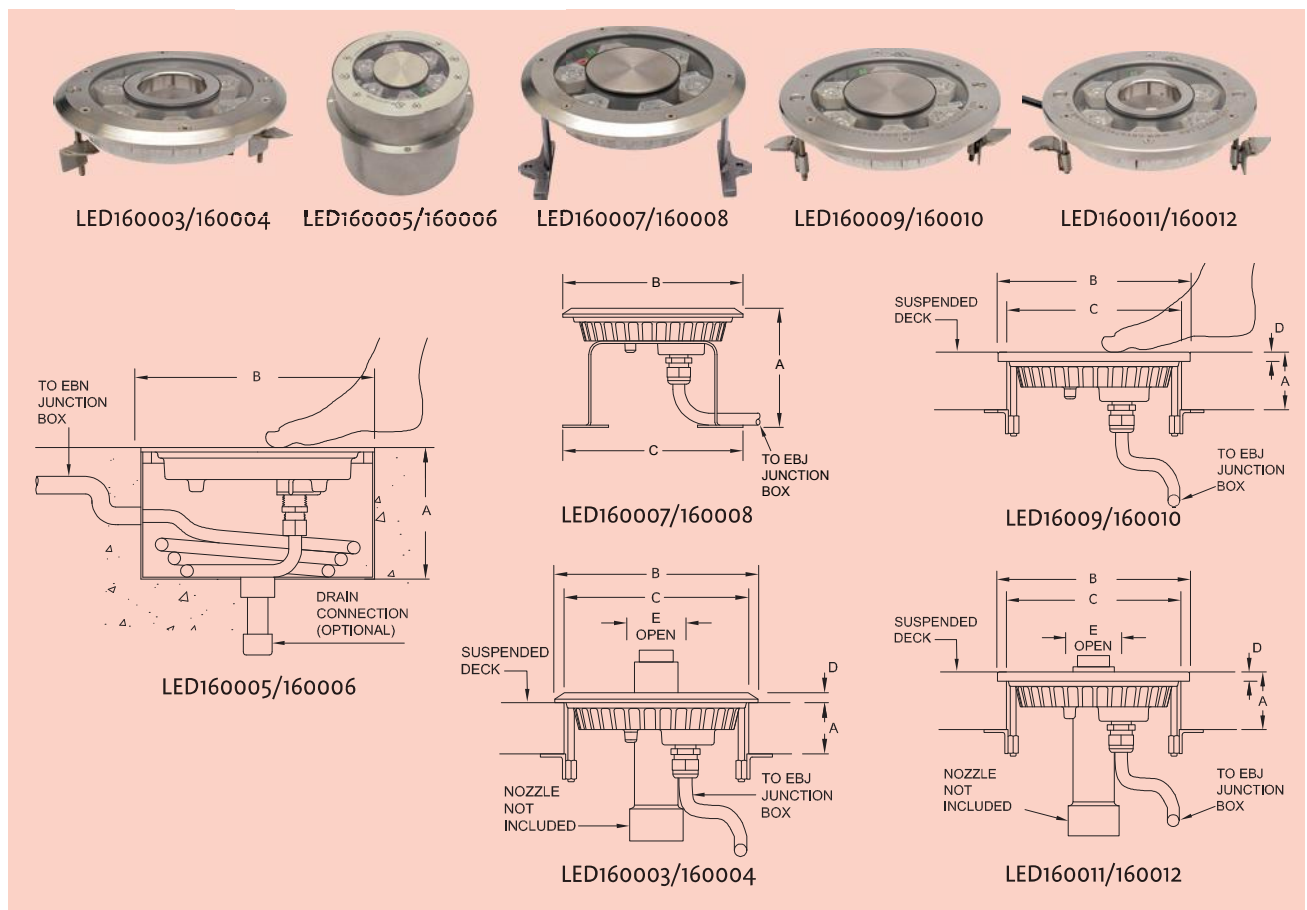
The LED160 series 12V LED light is one of our series of circular LED lights. With a center hole of 58mm diameter you can accommodate many Crystal Fountains nozzles and light the water 360°! This general-purpose underwater light is suitable for wet or dry locations and provides good wall washing or up-lighting. RGB works in a systems approach with many generic power supplies and I-player/DMX controllers*. (See LED Accessories on pg 161). White light powered using standard 12V power supply. The LED 160 Series light output is clear and bright. Available with multiple mounting options: T-Foot stand, foot-friendly (flush-mounted), niched to slab hanger. Also available in spot or flood lamps and a variety of cable lengths. With the use of an external DMX controller and proper cable option, lights can be dimmed or turned on/off individually to create animated light sequences. Made of 316 stainless steel.

Not all LEDs are created equally! Crystal Fountains LED products produce a high intensity light and deliver perfect optical performance. Also, see Crystal Fountains power/data and controller products to create a complete LED system.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*

Which Ring Light Do I Need?

1.Choose Your Application	Slab Hanger Light with Hole for Jet		Foot Friendly Light Niche		Light with Stand		Foot Friendly Slab Hanger Light Only		Flush Mounted Slab Hanger Light with Hole for Jet	
	White LED	RGB LED	White LED	RGB LED	White LED	RGB LED	White LED	RGB LED	White LED	RGB LED
3.Get Part Number	LED 160003	LED 160004	LED 160005	LED 160006	LED 160007	LED 160008	LED 160009	LED 160010	LED 160011	LED 160012



LED160 Series – 12V/30W RGB or White LED Ring Light - Wet and Dry

LED LIGHTING TECHNOLOGY



DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	d dim. (mm)
LED160003	77	204	185	10
LED160004	77	204	185	10
LED160005	180	235		
LED160006	180	235		
LED160007	153	204	153	10
LED160008	153	204	153	10
LED160009	77	204	185	10
LED160010	77	204	185	10
LED160011	77	204	185	10
LED160012	77	204	185	10

How to Order

CHOOSE LIGHT

Lighting	Mounting	Lamp	Part No.
White	Slab Hanger Light with Hole	Spot	LED160003
	Foot Friendly Niche Light	Spot	LED160005
	Light with Stand	Spot	LED160007
	Foot Friendly Slab Hanger Light Only	Spot	LED160009
	Flush Mounted Slab hanger Light With Hole	Spot	LED160011
RGB	Light with Slab Hanger	Spot	LED160004
	Foot Friendly Niche Light	Spot	LED160006
	Light with Stand	Spot	LED160008
	Foot Friendly Slab Hanger	Spot	LED160010
	Flush Mounted Slab Hanger Light With Hole	Spot	LED160012

LED160 Series – 12V/30W RGB or White LED Ring Light - Wet and Dry

CHOOSE CABLE

Cable For...	Cable Length	Part No.
White LED	3 m.	ELCORD005M03
	6 m.	ELCORD005M06
White LED DMX Dimmable	3 m.	ELCORD160M03
	6 m.	ELCORD160M06
RGB LED	3 m.	ELCORD160M03
	6 m.	ELCORD160M06

EXAMPLE OF HOW TO ORDER

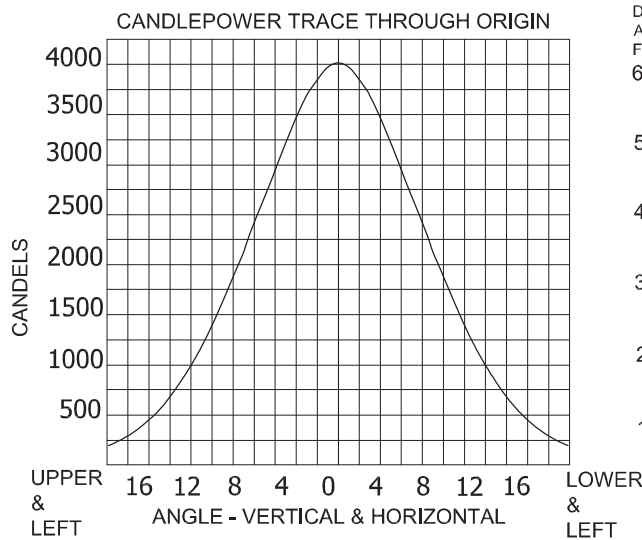
Quantity	Product	Part No.
1	RGB LED Slab Hanger Light	LED160004
1	3 m. RGB Cable	ELCORD160M03
6	Flood Optics	LED160C006F

CHOOSE ADDITIONAL OPTIONS

Options	Part No.
Flood Optics	LED160C006F

RGB LED Light

Photometry Test is done in accordance with IES no. LM-35-1989



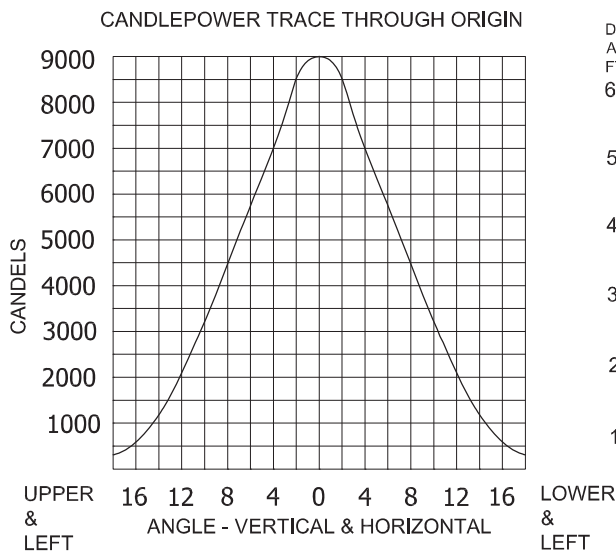
ILLUMINANCE DISTRIBUTION (FC/LUX)

DISTANCE ABOVE FT/M	0'/0m	1'/0.33m	2'/0.67m	3'/1.0m
6'/2.00m	112	43.8	5.0	1.2
5'/1.67m	162	43.7	3.2	1.3
4'/1.33m	253	36.0	2.6	1.2
3'/1.00m	451	20.1	3.1	2.3.6
2'/0.67m	1020	10.6	1.3	0.3
1'/0.33m	4122	5.2	0.4	0.1
	37711	46.1	3.3	0.8

DISTANCE FROM CENTER (FT/M)

WHITE LED Light

Photometry Test is done in accordance with IES no. LM-35-1989



ILLUMINANCE DISTRIBUTION (FC/LUX)

DISTANCE ABOVE FT/M	0'/0m	1'/0.33m	2'/0.67m	3'/1.0m
6'/2.00m	253	107	9.1	3.2
5'/1.67m	365	102	5.7	2.6
4'/1.33m	571	72.2	5	1.9
3'/1.00m	1018	36.2	5.4	0.6
2'/0.67m	2299	20	1.3	0
1'/0.33m	9289	5	0	0
	84956	42.2	0	0

DISTANCE FROM CENTER (FT/M)

LED190 Series – 12V/30W Niched RGB or White LED Playdeck Light

The LED190 Series 12V LED light is perfect for any playdeck water feature. Its pedestrian-friendly clear acrylic faceplate provides a dramatic up-light to many water features and is a perfect companion to Crystal Fountains Dynamite Blast™ nozzle. RGB works in a systems approach with many generic power supplies and I-player/DMX controllers*. (See LED Accessories on pg 161). White light powered using standard 12V power supply. Good for wet or dry locations and internally adjustable by up to 20° for different applications. The LED 190 Series light output is clear and bright. Made of stainless steel, copper, bronze and acrylic.

Not all LEDs are created equally! Crystal Fountains LED products produce a high intensity light and deliver perfect optical performance. Also, see Crystal Fountains power/data and controller products to create a complete LED system.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



Which Foot-Friendly Dry Deck Light Niche Do I Need?

1. Choose Your Lighting Effect	White LED	RGB LED
2. Get Part Number	LED190001	LED190002

DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LED190001	458	401	350
LED190002	458	401	350

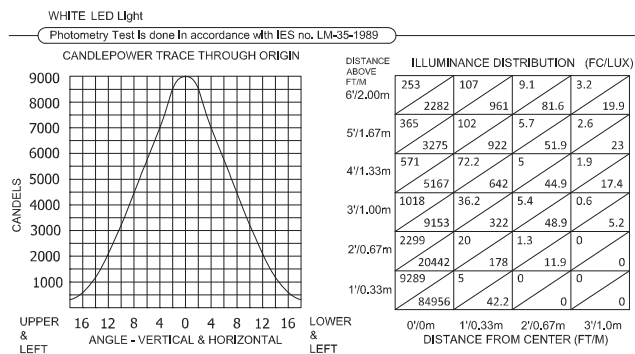
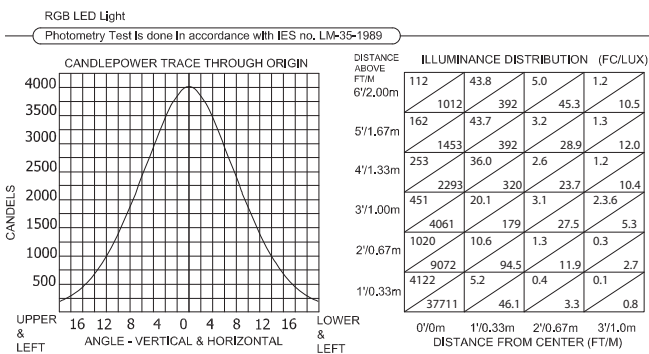
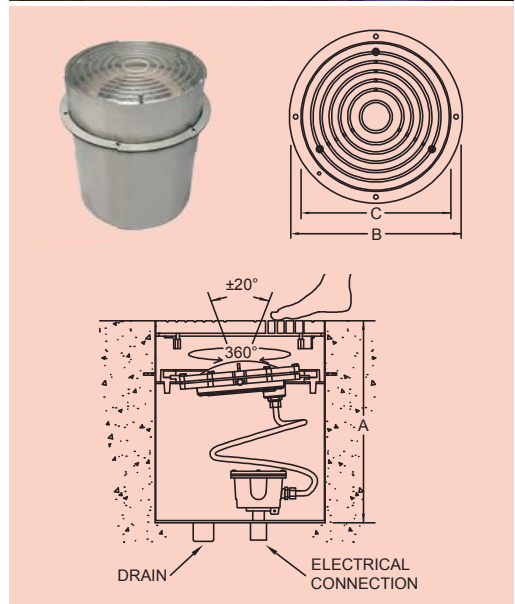
How to Order

Choose Additional Options

Options	Part No.
Flood Optics	LED160Co06F

CHOOSE LIGHT

Lighting	Lamp	Part No.
White LED	Spot	LED190001
RGB LED	Spot	LED190002



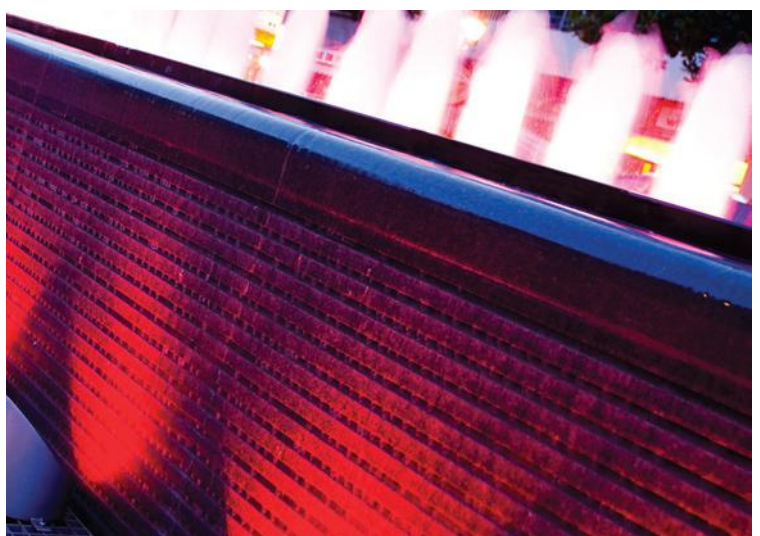
LED ACCESSORIES – LED POWER/DATA, DMX SUPPLIES

All LED's operate as part of an overall system and require a power, data and DMX controller. Crystal Fountains manufactures a range of LED accessories that operate:

- LED002
- LED051 lights
- LED Electric Leaper Series (with built-in LED lights)
- LED Laminar Series (with built-in LED lights)

The LEDQUE1 DMX controller operates all Crystal Fountains LED products.

161	LED ACCESSORIES
162	LEDPS501 – 24V/500W Power and Data Supply
163	LEDDATA101 – Extended Data Supply for LED Lights
164	LEDQUE1 – DMX Storage and Playback Unit for Fountain Light Shows
165	LEDPS250/251 – 12 & 24 VDC Power and Data Supply
166	LEDPS503/504 – 12 & 24 VDC Power and Data Supply
167	LEDP108/116 Series – Mini Fountain Controller
168	LEDDMXS8 – DMX Power and Distribution Board



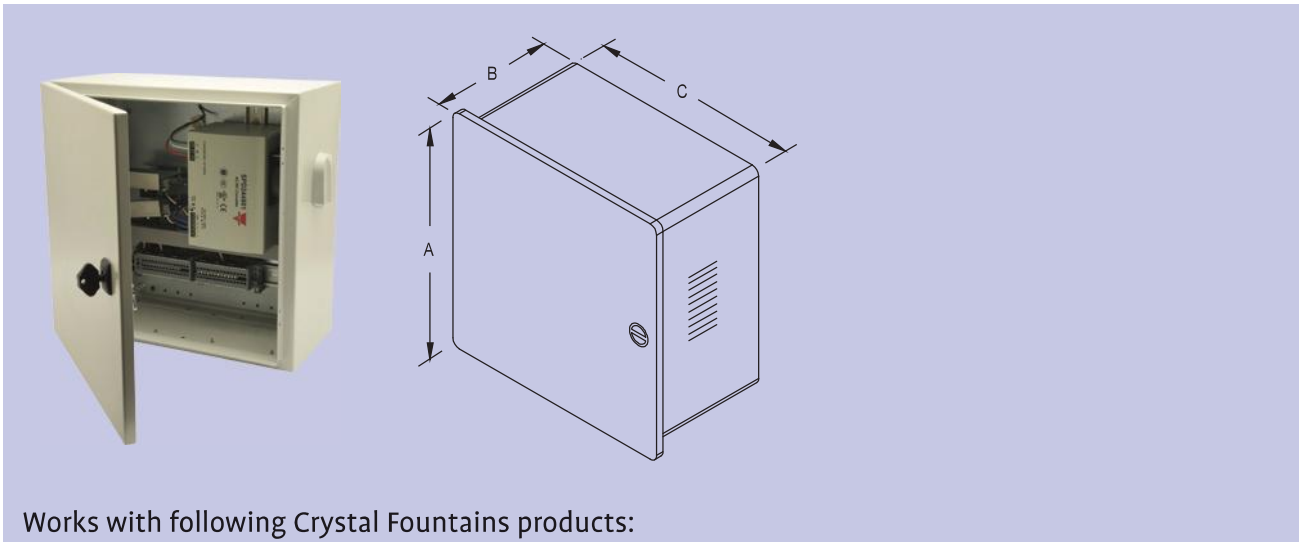
LEDPS501 – 24V/480W Power & Data Supply

Crystal Fountains LEDPS501 is one part of an overall LED system (Power supply I-player/DMX controller LED lamp) and provides 480W of power/data supply. It works with the following Crystal Fountains RGB LED products:

- LED051 lights
- LED Electric Leaper Series (with built-in LED lights)
- LED Laminar Series (with built-in LED lights)

The Nema 4-rated unit powers up to 16 RGB LED light fixtures and provides simplified wiring. IP66 and UL approved. The LEDPS501 Interface is designed for use with most DMX controllers, including Crystal Fountains LEDQUE1 I-Player. Operates using 120 or 240VAC. Comes with optional pre-programmed effects.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



Works with following Crystal Fountains products:



LED051 - LED Color Changing Light



LED140/141 - LED Electric Leaper



WMV117/123 - LED Laminar

DIMENSIONS

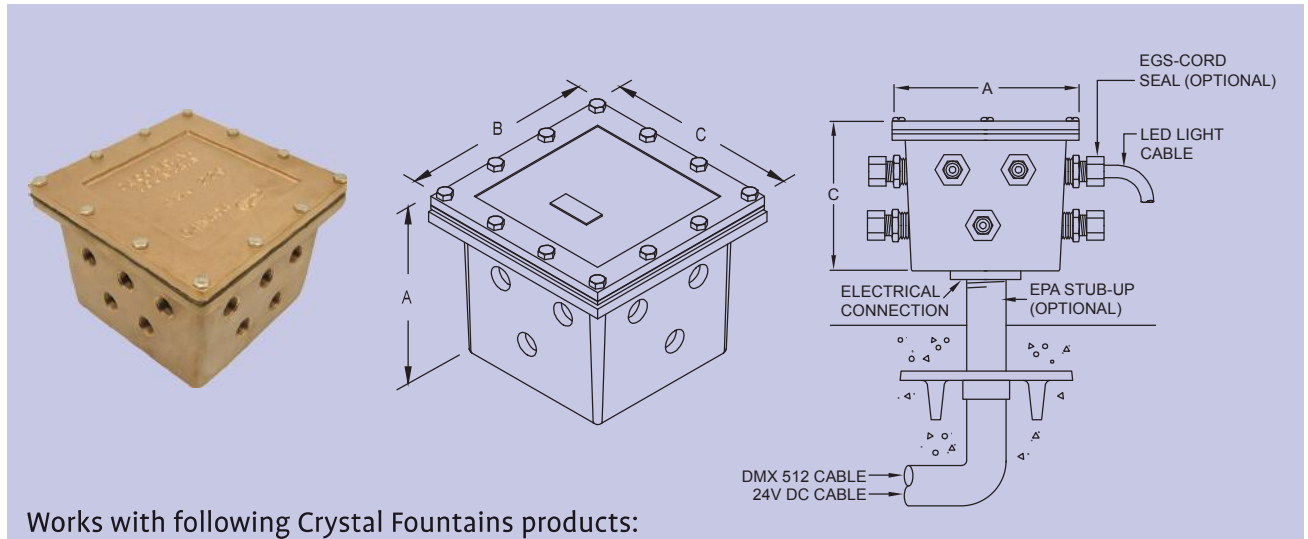
Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LEDPS501	401	216	401

LEDDATA101 – Extended Data Supply for LED lights

Submersible conduit-mounted data supply box that can be located in the fountain pool. This provides a solution where the application demands longer distances between LED light and LED power/data supply than can be provided by the standard LEDPS501.

Providing a 24 VDC power supply cable and DMX data supply cable to the LEDDATA101 completes the systems design. Comes with optional cord seals, stub ups and junction box potting compound. Junction box of cast bronze, equipped with neoprene gasket, fitted with stainless steel fasteners and internal ground connections.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



Works with following Crystal Fountains products:



LED051 - LED Color Changing Light



LED140/141 - LED Electric Leaper



WMV117/123 - LED Laminar

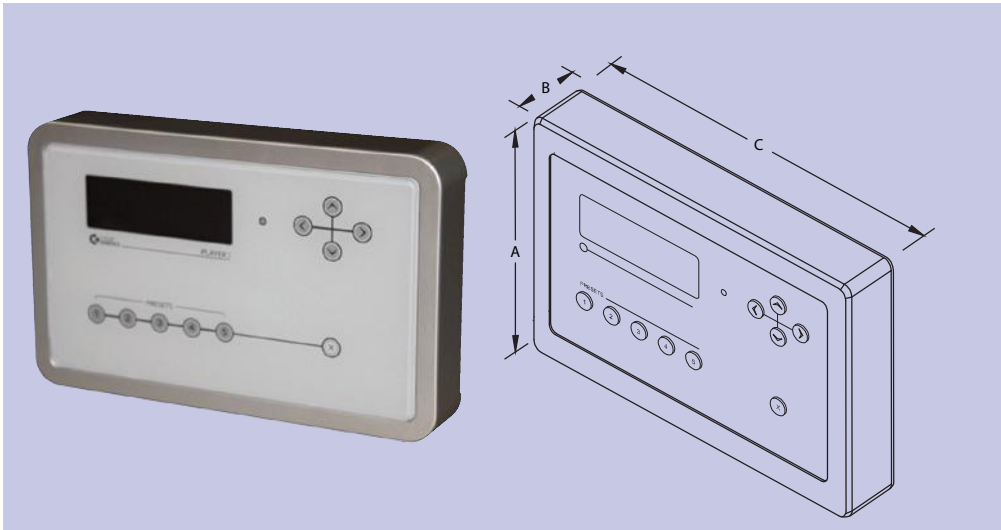
DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LEDDATA101	140	178	178

LEDQUE1 – DMX Storage and Playback Unit for Fountain Light Shows

LEDQUE1 controller is a compact yet powerful show storage and playback device capable of delivering light shows to installations with up to 340 unique light addresses. Controller operates all Crystal Fountains LED products. Packaged with light show software, LEDQUE1 is designed to add new levels of sophistication to your installations while eliminating the need for expensive lighting boards and technical programming expertise. The new LEDQUE1 includes a removable SD card and 5 programmable buttons for easy show, and date/time selections. Also available with a LEDQUER1 relay interface box to run other sequencing devices. Has both cULus and CE listing. Housing and mounting bracket of polycarbonate for indoor use in a dry environment and comes complete with LEDSOFT (software), wall-mount bracket with screws; USB cable; DMX data cable (1).

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LEDQUE	140	39	216

*The LEQUE1 operates all Crystal Fountains LED products.

LEDPS250/251 – 12 & 24VDC - Power & Data Supply – 6 Lights

Crystal Fountains LEDPS250(12VDC) and LEDPS251(24VDC) power/data supply is one part of an overall LED system: (LED product LEDPS Power/data supply LEDQUE1 DMX Storage/Playback Unit) and provides up to 20 Amps of power/data. They work with the following Crystal Fountains LED products:

- LED007 Light Series
- LED160 Light Series
- LED170 Light Series
- LED180 Light Series
- LED052 Light Series
- LED053 Light Series
- LED FyreFly Series

The Nema 4-rated unit powers up to 8 LED light fixtures and provides simplified wiring.

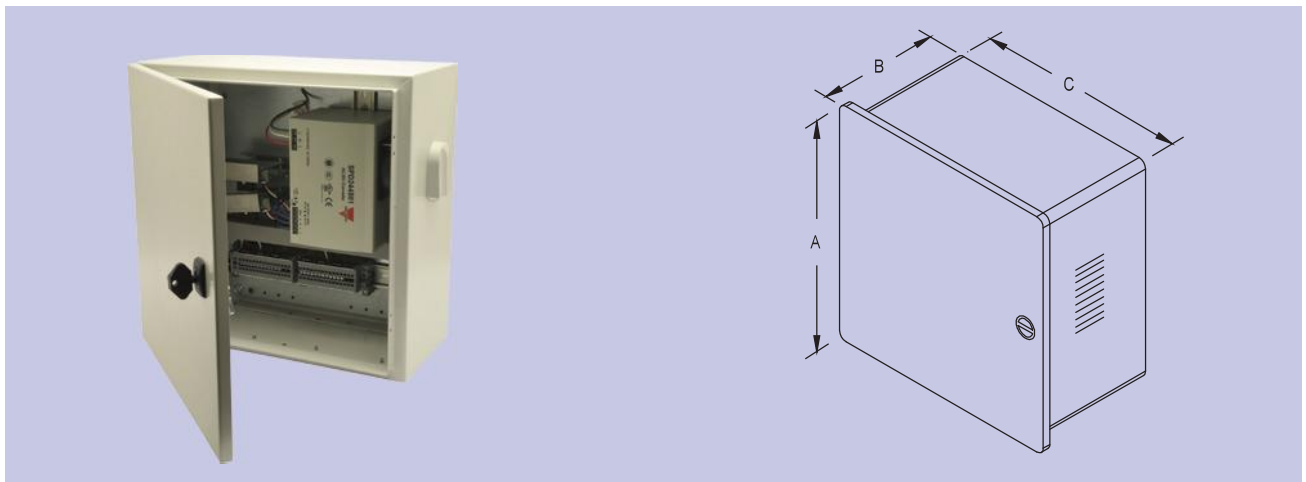
The LEDPS250/251 Interface is designed for use with most DMX controllers, including Crystal Fountain LEDQUE1 I-Player. Crystal Fountains Product Support Department would be happy to review your lighting and junction box layouts before purchase or installation. IP66 and UL approved.

**Contact Crystal Fountains for detailed specifications, installation and operation details or inquiries about custom programming.*

DIMENSIONS

PERFORMANCE

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	Output Voltage	No. of LED Lights Powered	LED Series
LEDPS250	401	216	401	12 VDC	8	LED160, LED170, LED180, LED052, LED Fyrefly
LEDPS251	401	216	401	24 VDC	8	LED053



LEDPS503/504 – 12 & 24VDC - Power & Data Supply – 12 lights

Crystal Fountains LEDPS503(12VDC) and LEDPS504(24VDC) power/data supply is one part of an overall LED system: (LED product LEDPS Power/data supply LEDQUE1 DMX Storage/Playback Unit) and provides 40 Amps of power/data. They work with the following Crystal Fountains LED products:

- LED007 Light Series
- LED160 Light Series
- LED170 Light Series
- LED180 Light Series
- LED052 Light Series
- LED053 Light Series
- LED FyreFly Series

The Nema 4-rated unit powers up to 16 LED light fixtures and provides simplified wiring.

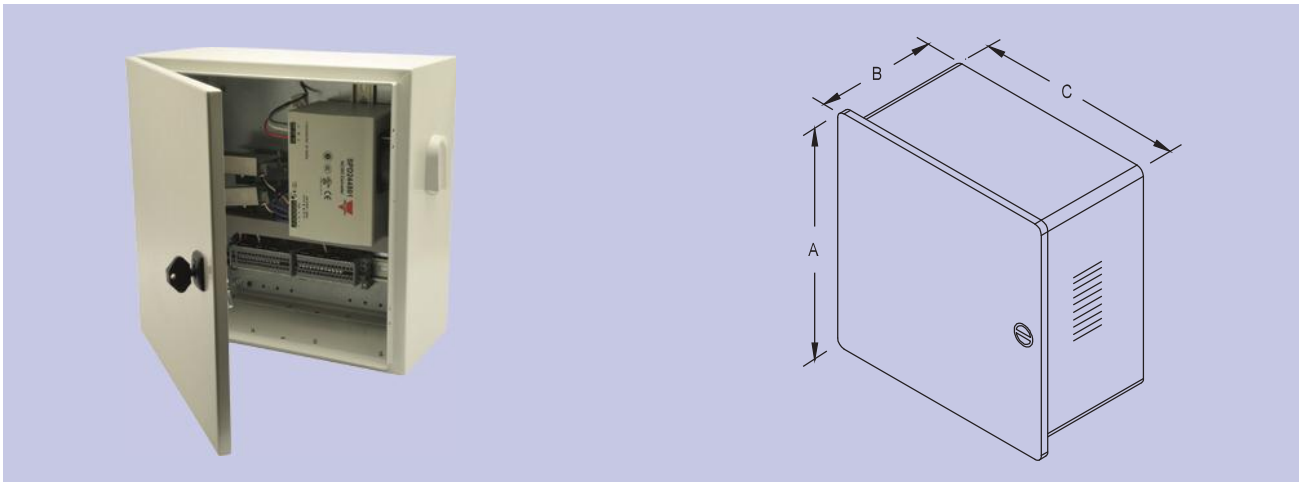
The LEDPS503/504 Interface is designed for use with most DMX controllers, including Crystal Fountain LEDQUE1 I-Player. Crystal Fountains Product Support Department would be happy to review your lighting and junction box layouts before purchase or installation. IP66 and UL approved.

**Contact Crystal Fountains for detailed specifications, installation and operation details or inquiries about custom programming.*

DIMENSIONS

PERFORMANCE

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	Output Voltage	No. of LED Lights Powered	LED Series
LEDPS503	401	216	401	12 VDC	16	LED160, LED170, LED180, LED052, LED Fyrefly
LEDPS504	401	216	401	24 VDC	16	LED053



LEDP108/116 Series – Mini Fountain Controller

This affordable control panel is designed specifically for smaller residential or commercial water features. Requires a closer proximity to the equipment. Available in two configurations able to run 8 or up to 16 different sequencing devices (Nozzles, Lights or combinations of both.) NEMA4 rated for outdoor installations. Crystal Fountains can provide up to 4 pre-programmed or custom programmed shows. UL listed.

Features:

- 24/7 clock for programming
- LCD touch-screen display
- Can control water level sensors
- Can control wind sensors
- Can control up to 4 relays for pumps
- Can control 1 VFD output
- Can operate with the most popular pool automation systems
- Can connect to optional hand-held remote control

Works with the following Crystal Fountains products:

- All 12VDC Choreoswitch models
- All 12VDC LED lights (LED 052, 055, LED 160 Series, LED 170 Series, LED 180 Series)
- NNC Series Dynamite Blast
- Electric Leaper Series
- LED Lamina Series



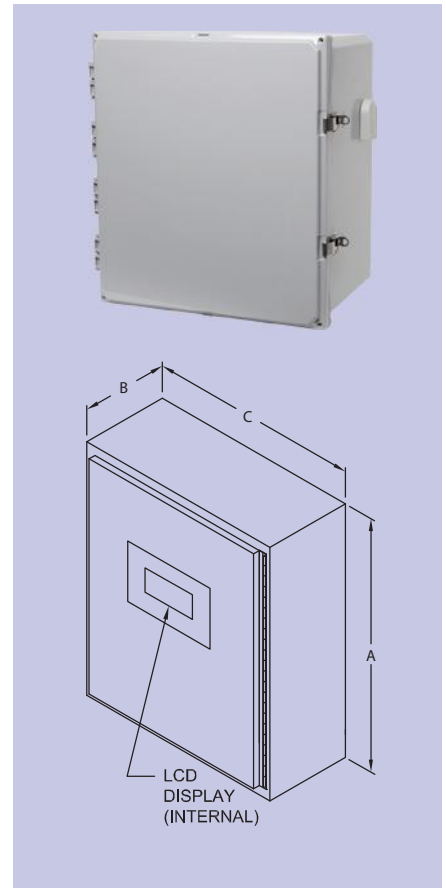
12VDC LED Lights



12VDC
ChoreoSwitches



Electric Leapers or Laminars



**Contact Crystal Fountains for detailed specifications, installation and operation details.*

DIMENSIONS

Part no.	a dim. (mm)	b dim. (mm)	c dim. (mm)
LEDP108/116	483	305	432

How to Order

SELECT THE CONTROLLER

Part No.	Description	Qty.
LEDP108	Fountain Controller for 8 units	1
LEDP116	Fountain Controller for 16 units	1

REQUIRED POWER SUPPLY

Part No.	Description	Qty.
LEDPS501	24VDC Power Supply required for LED140 Series	1
LEDPS70	24VDC Power Supply required for LED120 Series	1

OPTIONS

Options	Part No.
8 port output DMX/12VDC SOLENOID module	LEDP108
16 port output DMX/12VDC SOLENOID module	LEDP116

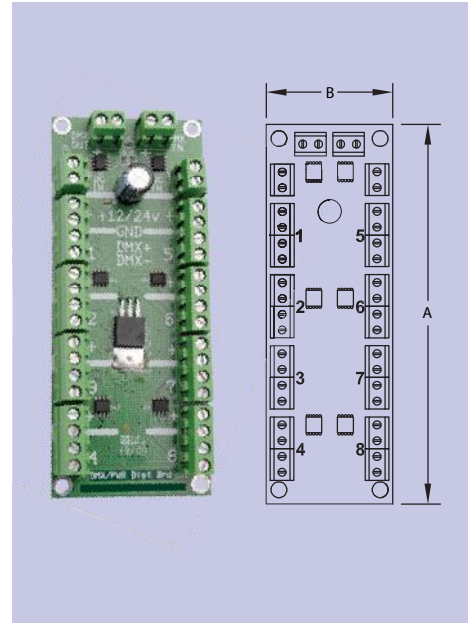
LEDDMXS8 – DMX Power and Distribution Board

Crystal Fountains DMX Power Board is a DMX power and data distribution board for LED lights only. Can be used as a DMX distribution board only, depending on your application and can run up to 8 lights. Uses universal DMX512. cURus and UL508A Compliant.

The LEDDMXS8 works with the following Crystal Fountains products:

- LED 052 Light Series
- LED 053 Light Series
- LED 160 Light Series
- LED 170 Light Series
- LED 180 Light Series
- NNC Series Dynamite Blast

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



DIMENSIONS

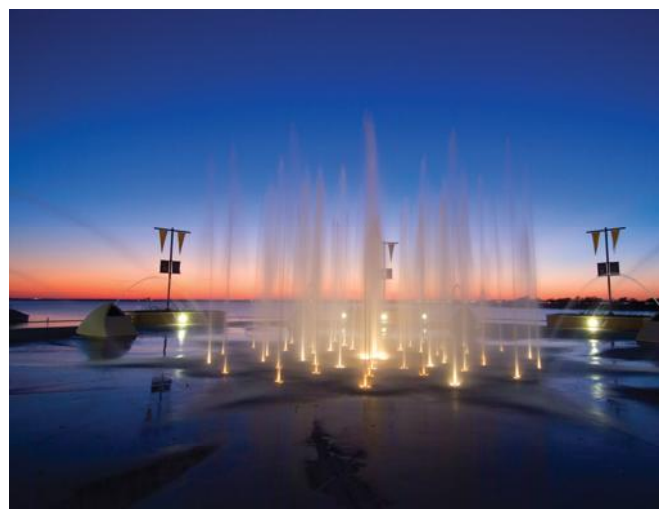
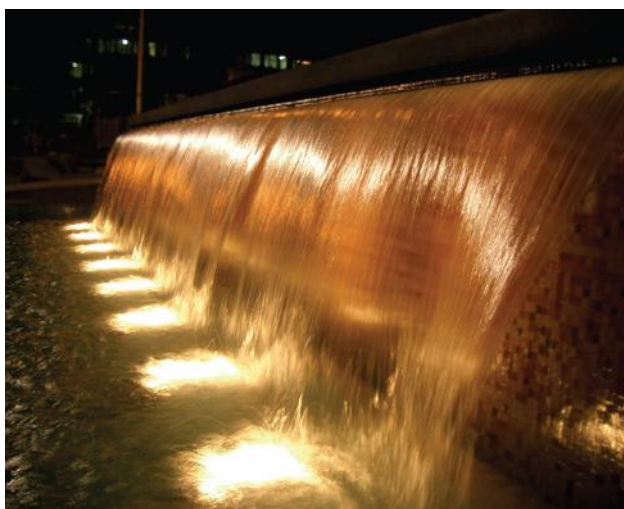
Part No.	a dim. (mm)	b dim. (mm)
ELDMXS8	127	51

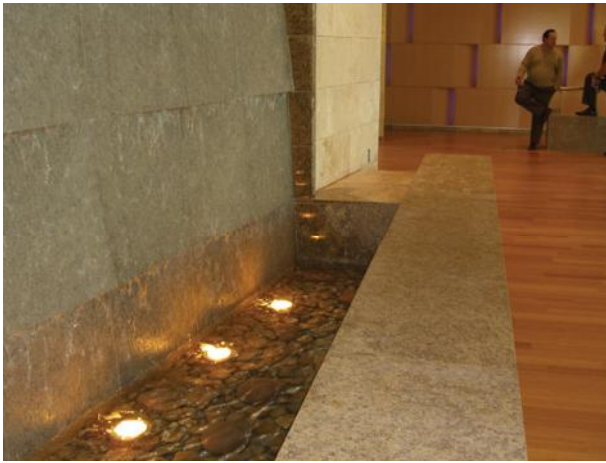
TRADITIONAL LIGHTING

Introduction

While many fountain projects are turning to LED lighting, there are still those who prefer traditional halogen lighting products. Crystal Fountains manufactures a range of traditional lighting types from compact to heavy duty and many come with various mounting options to suit your application. Whatever your lighting needs, there are some practical guidelines when lighting water features:

169	TRADITIONAL LIGHTING
170	General considerations for Lighting
171	EL002 Series – Compact Fountain Light
172	EL030 Series – 12VAC Underwater Light
174	EL040 Series – 12 or 24VAC Underwater Light





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:

Type of water effect:

- Single Nozzle – normally two fixtures per color with spot lamps
- Spray Rings – normally one fixture per color on 1.3m centers to 4.6m using wide flood lamps. For over 4.5m one fixture on 1m centers using medium flood lamps.

Color Selection:

Various colors require different lighting intensities to achieve optimum levels i.e:

- Amber and Turquoise – requires 50% more light than clear.
- Red – requires 100% more light than clear.
- Blue and Green – require 250% more light than clear.

Example: A fountain requiring illumination to 3m using red lens will require a lamp with light projection to 5.5m with clear lens.

Note: High ambient light levels tend to wash out colored lights. In these conditions, we suggest you use clear, amber or turquoise.

EL002 Series – Compact Fountain Light

This attractive, compact light is available in a variety of wattage and voltage configurations. Its compact size allows close placement to any jet for maximum light usage or in tight surroundings. Halogen lamps are available in spot and flood to allow gentle lighting of low effects and waterwalls as well as very good projection for high vertical nozzle effects. Available freestanding with integral rockguard, thermal cutoff, different cable lengths to suit your application. Submersible IP68, CE Marking, UL and ULC listed. Made of 316L stainless steel. Fixture must be submerged while in operation.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*

DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	w dim. (mm)
EL002002	166	77	127	51

How to Order

CHOOSE LIGHT

Mounting	Part No.
Stand	EL002002

CHOOSE CABLE

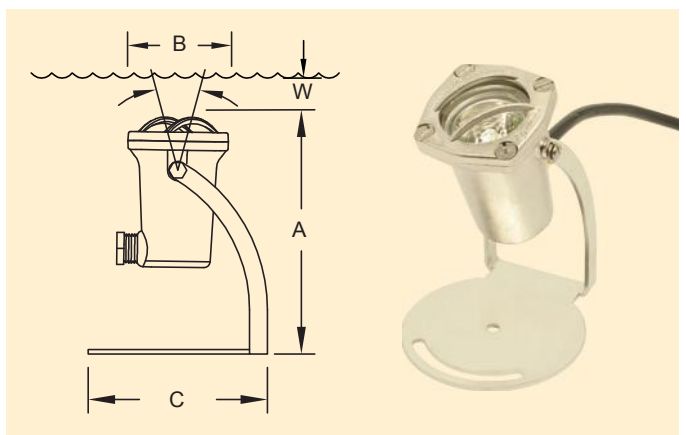
Cable Length	Part No.
3 m.	EL CORD005M03
6 m.	EL CORD005M06
10 m.	EL CORD005M10
15 m.	EL CORD005M15

CHOOSE LAMP

Lamp			Part No.
Volts	Watts	Beam	
12	20	Spot	EQS010
		Flood	EQS011
35		Spot	EQS012
		Flood	EQS013
50		Spot	EQS015
		Flood	EQS014
75		Spot	EQS016
		Flood	EQS017



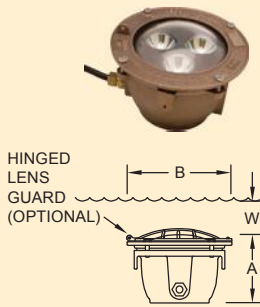
This product (with 12V light fixture, 75W lamp and 6m cable only) is available under our Quick Ship program! See page 15 for more details.



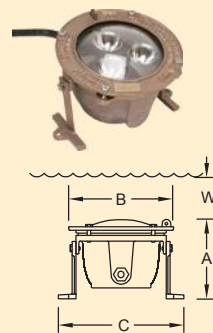
EL030 Series – 12VAC Underwater Light

This versatile, low-profile 12VAC underwater light fixture can be used in water depths from 204mm to 458mm. Ideal for lighting heavy water effects in traditional fountains (not swimming pools or spas) and can be installed in a daisy-chain format. Available in a variety of mounting options from freestanding to niche mounted and with cable lengths to suit your application. Also available with a range of 105W to 225W lamps. Optional rockguard or lens colors available. CE Marking, UL and ULC listed. Made of cast bronze with cast glass lens. Fixture must be submerged while in operation.

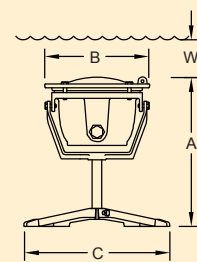
**Contact Crystal Fountains for detailed specifications, installation and operation details.*



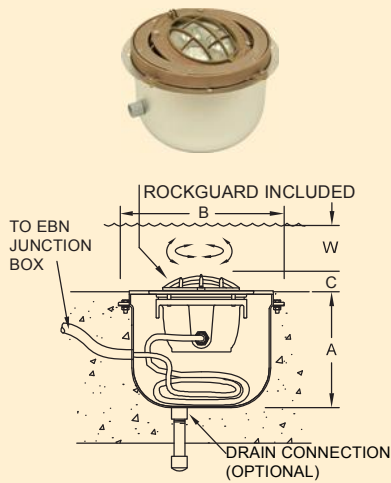
ELA030 - Basic Light



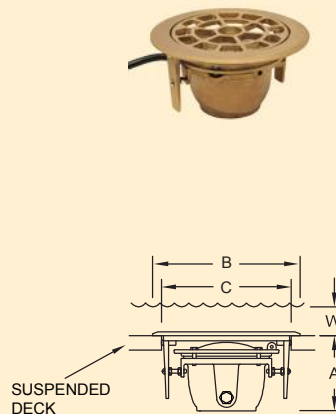
ELB030 - Light with T-Foot



ELC030 - Freestanding Light



ELD030 - Light with Niche



ELS030 - Light with Slab hanger

EL030 Series – 12VAC Underwater Light

DIMENSIONS

Part No.	a dim. (mm)	b dim. (mm)	c dim. (mm)	w dim. (mm)
ELA030	134	185		51
ELB030	159	185	223	51
ELC030	197 or 407	185	254	51
ELD030	204	293	51	51
ELS030	140	261	223	51

How to Order

CHOOSE LIGHT

Light Fixture		Part No.
Series	Options	
ELA	n/a	ELA030
	rockguard	ELA030P
ELB	n/a	ELB030
	rockguard	ELB030P
ELC	197 mm. high	ELC030
	407 mm. high	ELC030L
	197 mm. w/. rockguard	ELC030P
	407 mm. rockguard	ELC030LP
ELD	n/a	ELD030
	drain conn.	ELD030D
ELS	n/a	ELS030

CHOOSE CABLE

Cable Length	Part No.
3 m.	EL CORD030M03
6 m.	EL CORD030M06
9 m.	EL CORD030M09
12 m.	EL CORD030M12
Over 12 m.	Contact Factory

CHOOSE LENS

Lens Color	Part No.
clear	EL LENS 2C
amber	EL LENS 2A
blue	EL LENS 2B
green	EL LENS 2G
red	EL LENS 2R
turquoise	EL LENS 2T

CHOOSE LAMP

Lamp		Part No.
Volts	Watts	
12	35	EQS012
	50	EQS015
	75	EQS016

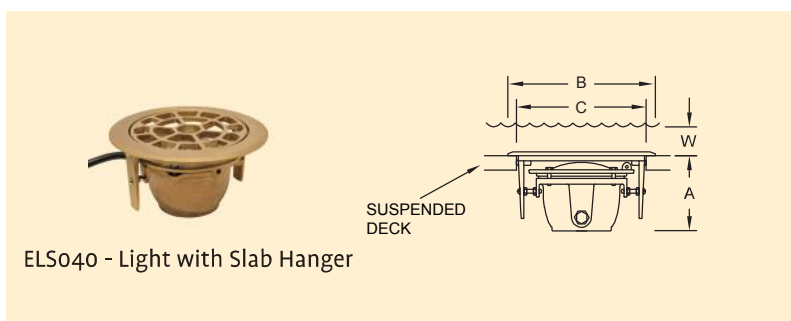
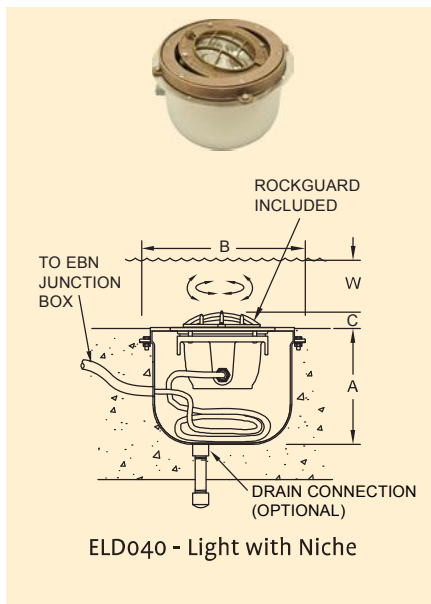
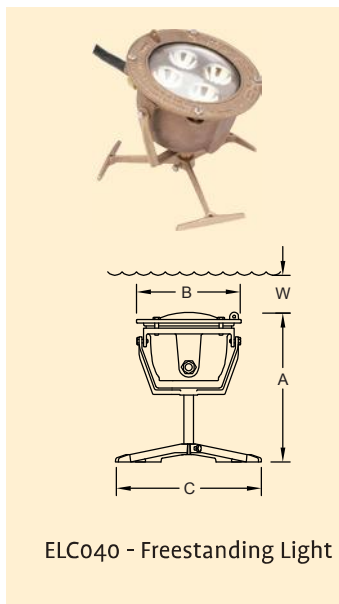
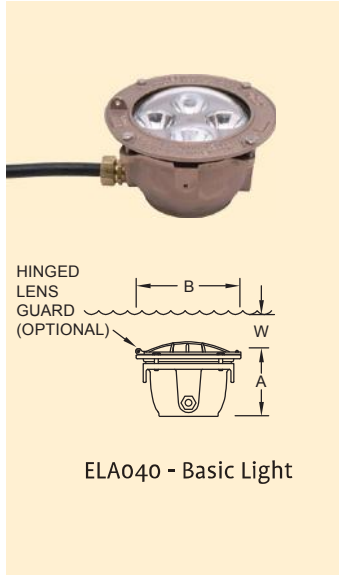
EXAMPLE OF HOW TO ORDER

Quantity	Product	Part No.
1	Light with Slab Hanger	ELS030
1	3 m. Cable	EL CORD030M03
1	Clear Lens	EL LENS 2C
3	35 Watt Lamp	EQS012

ELO40 Series – 12 or 24VAC Underwater Light

This versatile 12VAC, low-profile underwater light fixture can be used in water depths from 204mm to 458mm. Ideal for lighting medium-sized water effects. May be installed in daisy-chain format. Available in a variety of mounting options from freestanding to niche mounted and with various cable lengths. Also available in 24V. Optional lens colors or rockguard available. CE marking, UL and ULC listed for traditional basin fountains. Made of cast bronze with cast glass lens. Fixture must be submerged while in operation.

**Contact Crystal Fountains for detailed specifications, installation and operation details.*



ELO40 Series – 12 or 24VAC Underwater Light

DIMENSIONS

Part No.	a dim.	b dim.	c dim.	w dim. (min.)
ELA040	134	185		51
ELB040	159	185	223	51
ELCo40	197 or 407	185	254	51
ELDo40	204	293	51	51
ELSo40	140	261	223	51

How to Order

CHOOSE LIGHT

Light Fixture			Part No.
Series	Options	VAC	
ELA	n/a	12	ELA040
		24	ELA04024
	rockguard	12	ELA040P
		24	ELA04024P
ELB	n/a	12	ELB040
		24	ELB04024
	rockguard	12	ELB040P
		24	ELB04024P
ELC	197 mm. high	12	ELCo40
		24	ELCo4024
	407 mm. high	12	ELCo40L
		24	ELCo4024L
	197 mm. w/. rockguard	12	ELCo40P
		24	ELCo4024P
	407 mm. w/. rockguard	12	ELCo40LP
		24	ELCo4024LP
ELD	n/a	12	ELDo40
		24	ELDo4024
	drain conn.	12	ELDo40D
		24	ELDo4024D
ELS	n/a	12	ELSo40
		24	ELSo4024

CHOOSE CABLE

Cable Length	Part No.
3 m.	EL CORD030M03
6 m.	EL CORD030M06
9 m.	EL CORD030M09
12 m.	EL CORD030M12
Over 12 m.	Contact Factory

CHOOSE LENS

Lens Color	Part No.
clear	EL LENS 2C
amber	EL LENS 2A
blue	EL LENS 2B
green	EL LENS 2G
red	EL LENS 2R
turquoise	EL LENS 2T

CHOOSE LAMP

Lamp	Part No.	
Volts	Watts	
12	35	EQS012
	50	EQS015
	75	EQS016

EXAMPLE OF HOW TO ORDER

Quantity	Product	Part No.
1	24 VAC 407 mm. Freestanding Light with Rockguard	ELCo4024LP
1	12 m. Cable	EL CORD030M12
1	Clear Lens	EL LENS 2C
4	50 Watt Lamp	EQS015

ELECTRICAL

Crystal Fountains provides a full range of all the peripheral electrical equipment required to operate your water feature:

- Wind Controls
- Water Level Controls
- Junction Boxes
- Cord Seals
- Stub Ups

Most water features run on automated systems allowing the fountain to self-monitor operations - wind, water and lighting. Using these devices in an overall system design creates a more efficient water feature.

General Information for Electrical

Standard Threading:

Standard threading on components are National Pipe Thread (NPT) unless requested otherwise at the time of order. All thread sizes less than 26mm will be NPT.

176	ELECTRICAL
177	EBJ Series – Underwater Junction Box
178	EBN Series – Underwater Junction Box
179	ECL Series – Water Level Control Panel
180	ECW Series – Wind Control Panel
181	EGN Series – Junction Box Cord Seal - Flush Mounted
182	EGS Series – Junction Box Cord Seal - Standard
183	EP Series – Stub Up
184	ESD Series – Deck Mounted Level Sensor
185	ESF Series – Conduit Mounted Level Sensor
186	ESG Series – Conduit Mounted Level Sensor
186	ESL Series – Adaptable Level Sensor
187	ESN Series – Cast-In Level Sensor
188	ESO Series – Electronic Level Control and Overflow
189	ESP Series – Wall Mounted Level Sensor
190	ESS Series – Moveable Level Sensor
191	ESW Series – Wall Mounted Level Sensor

