# **C E** (100V 115/120V 230/240V

D40XTI<sup>™</sup>

## **Desire<sup>™</sup> Series**



## GENERAL INFORMATION

ETC's Desire D40XTI brings the amazing control of the seven-colour x7 Color System<sup>™</sup> to your permanent application. With its IP66 rating, this fixture is ready for installation inside or outside - wherever you need it. The Selador<sup>®</sup> x7 Color System produces the widest range of spectrally-balanced saturated and tinted colour choices available. The D40XTI offers a rugged die-cast enclosure; noiseless fan-free operation; and multiple lens options that can be changed on site.

#### D40XTI LED ARRAY OPTIONS

D40XTI fixtures are based on the x7 Color System, which uses seven different LED colours to achieve true, usable broad-spectrum colour. The D40XTI luminaire is available with any one of the following colour arrays to best suit the intended application.

- D40XTI Vivid<sup>™</sup> Best all-around use as a colour-changing wash fixture
- D40XTI Lustr+<sup>™</sup> Optimized with six colours plus highintensity white LEDs to create an ideal frontlight wash fixture; full range colour, with an emphasis on lighter colours and white
- D40XTI Ice<sup>™</sup> Uses cool x7 colours to provide extra-high brightness colour in the blue end of the spectrum
- D40XTI Fire<sup>™</sup> Uses warm x7 colours to provide extra-high brightness colour in the red end of the spectrum
- D40XTI Studio HD Combines warm-white and cool-white LEDs with five carefully-chosen x7 LED colours, to fill in white LED spectral apps with variable colour-temperature mixing. for the richest variable white light possible in an LED fixture

Also available in the following static-white arrays:

- D40XTI Studio Daylight Contains forty 5600K LEDs for high-intensity, non-variable cool-white output
- D40XTI Studio Tungsten Contains forty 3000K LEDs for high-intensity, non-variable warm-white output

## ORDERING INFORMATION

#### Selador D40XTI

PART NO.	DESCRIPTION
7410A1105-0X	D40XTI Lustr+ wash fixture, Black
7410A1101-0X	D40XTI Vivid wash fixture, Black
7410A1103-0X	D40 Fire special wash fixture, Black
7410A1104-0X	D40 Ice special wash fixture, Black
7410A1102-0X	D40 Studio HD wash fixture, Black
7410A1107-0X	D40 Studio Daylight wash fixture, Black
7410A1106-0X	D40 Studio Tungsten wash fixture, Black

Note: D40XTI luminaires ship with a hanging yoke, attached 1.5m power input cable, DMX in&out cable and a data termination board. Lenses or other accessories are not included.

Note: For white colour use -1X and for silver grey and custom colours use -5X as extension to above part numbers.



## SPECIFIC ATIONS

#### GENERAL

- Easy setup via any RDM device, such as ETC Gateways and Gadget
- Color-mixing arrays have 40 LEDs for variable colour washes
- Static-colour arrays have 40 LEDs for white-light washes
- CE compliant, ETL Listed to UL1598
- IP66-rated for exterior, wet-location use
- Data-termination board for easy installation (included)

#### PHYSICAL

- Rugged die-cast, all-metal housing
- Accessory ring for installation of secondary lenses
- Available in black, white, silver grey or custom colours
- Hanging yoke standard.
- Cable diameter: Power Ø 9mm Data Ø 8.6mm
- Effective Projected Area (EPA): 0.74

#### ELECTRICAL

- 100VAC to 240VAC 50/60 Hz universal power input
- Waterproof, 72" outdoor-rated power-lead
- Up to 5 fixtures (15A max) may be fed on the same circuit
- Requires power from a non-dim source
- Inrush (for about a half-cycle) at 230V: 40A

#### LED\*

- 50,000 hour-LED life (50,000 hours to 70% intensity)
- 40 Luxeon<sup>®</sup> Rebel LED emitters
- Studio Daylight and Studio Tungsten use Rebel ES white-light emitters for higher output

#### \*See additional LED notes on page three

#### COLOUR

- Exclusive x7 Color System<sup>™</sup> seven-colour LED array
- Broad-spectrum colour interacts seamlessly with conventional sources
- Beautifully illuminates skin tones and objects for natural appearance and high color-rendering
- Exclusive red-shift option emulates tungsten dimming performance (not available on static-white fixtures)
- Studio HD array uses warm and cool white light emitters with additional deep-colour emitters
- Studio Tungsten and Studio Daylight provide good colour rendering at very high brightness

#### OPTICAL

- Primary field angle of 17° and beam angle of 8°
- Secondary lenses available for multiple beam-spread options
- Lenses must be ordered separately
- Refer to accessories chart for available lenses

#### CONTROL

- DMX512 In and Thru via termination board (included)
- See DMX Control Table for operation modes
- 15-bit virtual dimming engine provides smooth, high-quality theatrical fades and minimises colour-shift during dimming
- RDM functionality for address and setting changes

## SPECIFIC ATIONS

#### THERMAL

- Ambient operating temperature of 20° to 40°C
- Active electronic thermal management for droop-free operation
- Noiseless, fan-free convection-cooling for acoustically sensitive installations
- Fixture is designed for continuous operation up to 40°C ambient temperature and requires free flow of air around fixture housing

## ADDITIONAL ORDERING INFORMATION

#### **Fixture Accessories**

PART NO.	DESCRIPTION
7410K1050	Wall-Mount Kit (Black)
7410K1051	Single Pole-Mount Kit (Black)
7410K1052	Double Pole-Mount Kit (Black)
7410K1066	Egg Crate Louvre Klt (Black)
7410K1067	Half Shield Kit (Black)

Note: For white colour add-1 and for silver grey and custom colours add -5 as extension to above part numbers

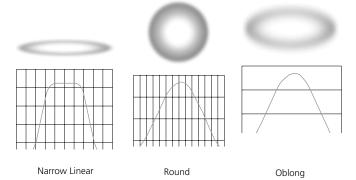
### ADDITIONAL ORDERING INFORMATION

#### **Secondary Lens Options**

PART NO.	<b>DESCRIPTION:</b> The following lenses are cut for D40XTI <sup>™</sup> fixtures and create round, linear or oblong field patterns as described below. These lenses are not for use in Selador <sup>®</sup> Classic (Vivid-R <sup>™</sup> , Lustr <sup>®</sup> , Paletta <sup>™</sup> , etc.) fixtures.					
Narrow Linear Field	Note: This is the same material as S Classic lenses	Selador				
7410K1061	Very Narrow lens	Linear lenses				
7410K1062	Narrow lens	may be combined				
7410K1063	Medium lens	to create				
7410K1064	Wide lens desired field size					
7410K1065	Extra Wide lens					
Round Field	Any one of the following round lenses may be installed permanently in the fixture at the factory as a special order					
7410K1053	Very Narrow lens (round field)					
7410K1054	Narrow lens (round field)	Narrow lens (round field)				
7410K1055	Medium lens (round field)					
7410K1056	Wide lens (round field)					
7410K1057	Extra Wide lens (round field)					
Oblong Field						
7410K1058	Narrow lens (oblong field)					
7410K1059	Medium lens (oblong field)					
7410K1060	Wide lens (oblong field)					

## http://www.etcconnect.com/docs/docs\_downloads/ miscdocs/Desire\_vs\_PAR\_EA\_revB.pdf

#### **Typical Lens-Field Profiles**



### **Power Consumption at Full Intensity**

MODEL	VOLTAGE (V)	CURRENT (A)	WATTS
D40XTI	230	0.5	110

## NOTES ABOUT LED LUMINAIRES

All LED sources experience some reduction of light output and some color shift over time. LED output will vary with thermal conditions. Thermal conditions can be affected by ambient temperatures and orientation. See the D40 Ambient Temperature and Power Budgeting Guide for more details. Based on the LED manufacturer's B50 L70 specification, a Selador luminaire will achieve ~70% of its initial output after 50,000 hours of typical usage. In individual situations, LEDs will be used for different durations and at different levels. This can eventually lead to minor alterations in colour performance, necessitating slight adjustments to presets, cues or programs.

### CRI AND CQS RATINGS

Desire fixtures were evaluated for CRI and CQS performance using measured output spectrum and optimized mix solutions for a best spectral match to black body sources at 3200K and 5600K.

Fixture	CRI	CQS	Colour Fidelity	Duv
D40 Vivid™ at 3200K	87	89	89	0.000
D40 Vivid at 5600K	90	92	92	0.000
D40 Lustr+ <sup>™</sup> at 3200K	86	88	88	0.000
D40 Lustr+ at 5600K	93	92	90	0.000
D40 Studio HD at 3200K	89	90	91	0.000
D40 Studio HD at 5600K	92	94	94	0.000
D40 Studio Daylight at 5600K	71	70	69	0.001
D40 Studio Tungsten at 3000K	86	86	86	0.001

All D40XTI Studio luminaire versions provide excellent colour rendering to the eye, particularly at higher colour-temperature settings, such as 5600K. In most cases, the Duv is 0.000. A Duv rating of 0.000 indicates that the colour mix used is exactly on the black body line, with no green or magenta tint.

Notes to Videographers:

- All Desire fixtures use Luxeon Rebel ES emitters specified by the strictest binning standards. However, on-camera LED response varies with different cameras and settings. Daylight LEDs can appear slightly greener than other 5600K sources on camera.
- Fixtures with non-variable, single-color daylight arrays, such as Studio Daylight, may use standard colour-corrrection filters (Rosco 3314, Rosco 3316 or similar) to achieve the desired on-camera result.
- Camera tests using your specific setup are recommended to determine the best configuration.

## CONTROL OPTIONS

User settings on D40XT fixtures allow multiple operational modes and settings for either console operation via DMX protocol or stand-alone operation. The expanded LCD display provides easy navigation to all possible settings and choices. Some of the setting options are:

- Multiple DMX options, ranging from a simple RGB profile – which effectively controls all seven LED colours via three channels – to nine-channel 'direct' colour and intensity control
- Multiple dimming curve options
- Preset colours and sequences for stand-alone (no console required) operation
- White-point selection: white light and color behavior based on a specific color-temperature white light, such as 3200K or 5600K
- Loss of data behavior options: instant off, hold last look for two minutes, etc.
- Output modes: Three output options that offer the user a

choice between maximum output and maximum consistency See the user manual for a complete explanation of all of the control settings and options for the D40XTI

## **Quick Setups**

To assist in managing the numerous control and fixture behavior choices, five combinations of operational settings are available to quickly get started. These settings are specifically created for different applications and are easily accessible at the fixture display. Each setting can then be modified as required to take advantage of all of the possible control features.

Setting Title	Profile	Description	Typical Features*
General	Direct	Factory default: For general-purpose use ,including interior architectural applications.	Standard dimming curve     Regulated output for     color consistency
Stage	HSI Plus 7 Enabled	Theatrical lighting: Duplicates the colour and dimming behavior of tungsten stage lighting fixtures.	<ul> <li>Incandescent dimming curve</li> <li>Regulated output for colour consistency</li> <li>3250K white-point setting</li> </ul>
XT Arch	HSI	Exterior architectural lighting: Provides a high degree of color consistency in high ambient-temperature environments.	<ul> <li>Standard dimming curve</li> <li>Protected output</li> <li>3200K white-point setting</li> </ul>
High Impact	RGB	Event lighting: Enables quickest response, simple RGB control and strobe channel for maximum effect usage.	<ul> <li>Quick dimming curve</li> <li>Boost mode for maximum intensity</li> <li>5600K white-point setting</li> </ul>
Studio	Studio	Video/film lighting: Enables three-parameter control of white light (intensity, white point and tint) via DMX from console or from fixture display – no console required.	Linear dimming curve     Regulated output mode     for color consistency

## CONTROL OPTIONS

## **DMX Input Channel Profiles**

DMX Profile	DMX Channels	Channel Assignments	Notes
Direct	9	1 - Red 2 - Orange (white if Lustr+) 3 - Amber 4 - Green 5 - Cyan 6 - Blue 7 - Indigo 8 - Intensity 9 - Strobe	Direct control of each individual color with a separate master- intensity channel. Colour calibration of LEDs is not active in this mode. The nine-channel profile will produce the highest quality colour crossfades.
HSI	5	1 – Hue (coarse) 2 – Hue (fine) 3 – Saturation 4 – Intensity 5 – Strobe	High resolution hue (two- channels), saturation, and intensity control. HSI mode will produce colour crossfades around the colour space.
HSIC	6	1 – Hue (coarse) 2 – Hue (fine) 3 – Saturation 4 – Intensity 5 – Strobe 6 – Colour Point (CCT)	High-resolution hue, saturation and intensity control as above, with the addition of a colour point channel to adjust the colour temperature of the fixturi in both white light and colour. Colour cross-fade performance i the same as EHSI.
RGB	5 (Ch. 4 not used)	1 – Red 2 – Green 3 – Blue 4 – n/a 5 - Strobe	Effectively addresses all seven colours via three channels of control. RGB profile will produce medium-quality colour crossfades.
Studio	3	1 – Intensity 2 – Colour Point (CCT) 3 – Tint	Controls fixture as a white light unit. If no DMX, for example console input- is present, the fixture can be adjusted for these three parameters on the U/I at the back of the unit.
Additional	profile option:	S	
Plus 7		available in RGB, I	colour control channels are HSI, HSIC, and Studio profile aple, HSI with 'Plus 7' enabled annel profile:
		1 – Hue (coarse) 2 – Hue (fine) 3 – Saturation 4 – Intensity 5 – Strobe 6 – n/a 7 – Plus 7 Control on/off 8 – Red 9 – Orange (white if Lustr+) 10 – Amber 11 – Green 12 – Cyan 13 – Blue 14 – Indigo	The desired colour and intensity is achieved by using the HSI or RGB channels. Placing channel seven at a value over 51% gives the fixture a 14-channel profile. Channels 8-14 represent the native colours of the fixture and allow the operator to adjust individual colour channels to find tune the colour output.
Strobe			ntrol: 0% is no strobe. The strobe more rapidly as the strobe proaches 100%.

\*See user manual for complete list of features for each Quick Setup.

## CONTROL OPTIONS

Studio Daylight and Studio Tungsten (only)

## **Quick Setups**

Setting Title	Profile	Description	Typical Features*
Studio	Studio	Simple mode for linear intensity control	<ul> <li>Linear dimming curve</li> <li>Regulated output for intensity stability</li> </ul>
Single Channel	Direct	For general purpose architectural use	<ul> <li>Standard dimming curve</li> <li>Regulated output for consistency</li> </ul>
Stage	Direct	Matches conventional luminaire performance	<ul> <li>Incandescent dimming curve</li> <li>Regulated output</li> </ul>

## CONTROL OPTIONS

## **DMX Input Channel Profiles**

DMX Profile	DMX Channels	Channel Assignments	Notes
Studio	3	1 – Intensity 2 – Strobe 3 – N/A - only used in D60	Control of parameters is also enabled from the luminaire's user interface. No console required.
Direct	3	1 – Intensity 2 – Strobe 3 – N/A - only used in D60	

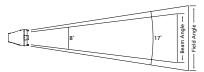
## **Desire<sup>™</sup> Series**

## PHOTOMETRICS

#### D40XTI Vivid™

Mode	Degree	Candela	Field Lumens	Beam Lumens	Lumens Per Watt
Boost - Cold	17°	101,900	2,540	1,200	26.7
Regulated	17°	87,200	2,150	1,020	26.5

Metric Conversions: For Meters, multiply feet by 0.3048 For Lux, multiply foot-candles by 10.76



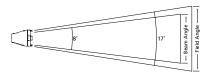
Throw Distance (d)	3.0m	4.6m	6.1m	7.6m
Field Diameter	0.9m	1.4m	1.9m	2.3m
Illuminance (fc)	1,1019	453	255	163
Illuminance (lux)	10,968	4,875	2,742	1,755

For field diameter at any distance, multiply distance by 0.308 For beam diameter at any distance, multiply by 0.145

### D40XTI Lustr+<sup>™</sup>

Mode	Degree	Candela	Field Lumens	Beam Lumens	Lumens Per Watt
Boost - Cold	17°	121,500	2,980	1,450	30.3
Regulated	17°	109,100	2,680	1,300	29.8

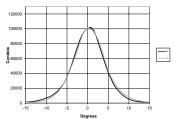
Metric Conversions: For Meters, multiply feet by 0.3048 For Lux multiply foot-candles by 10.76



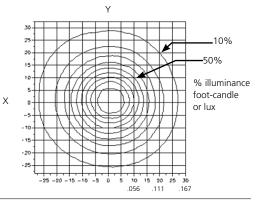
Throw Distance (d)	3.0m	4.6m	6.1m	7.6m
Field Diameter	0.9m	1.4m	1.8m	2.3m
Illuminance (fc)	1,215	540	304	194
Illuminance (lux)	13,078	5,813	3,270	2,093

For field diameter at any distance, multiply distance by 0.301 For beam diameter at any distance, multiply by 0.145

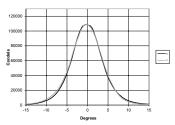
**Cosine Candela Plot** 



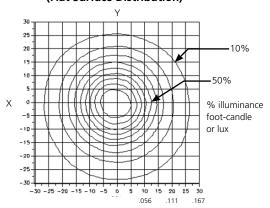
Iso-Illuminance Diagram (Flat Surface Distribution)



#### **Cosine Candela Plot**



#### Iso-Illuminance Diagram (Flat Surface Distribution)



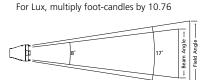
# **Desire<sup>™</sup> Series**

#### PHOTOMETRICS

## D40XTI Fire<sup>™</sup>

Mode	Degree	Candela	Field Lumens	Beam Lumens	Lumens Per Watt
Boost - Cold	17°	94,900	2,540	1,200	28.7
Regulated	17°	82,500	2,220	1,040	26.5

Metric Conversions: For Meters, multiply feet by 0.3048



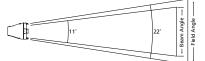
Throw Distance (d)	3.0m	4.6m	6.1m	7.6m
Field Diameter	1.0m	1.5m	1.9m	2.4m
Illuminance (fc)	949	422	237	152
lluminance (lux)	10,215	4,540	2,554	1,634

For field diameter at any distance, multiply distance by 0.318 For beam diameter at any distance, multiply by 0.148

#### D40XTI Ice<sup>™</sup>

Mode	Degree	Candela	Field Lumens	Beam Lumens	Lumens Per Watt
Boost - Cold	17°	70,900	1,830	890	18.1
Regulated	17°	63,200	1,630	790	18.0
Metric Conversions: For Meters, multiply feet by 0.3048					

For Lux, multiply foot-candles by 10.76



Throw Distance (d)	3.0m	4.6m	6.1m	9.1m
Field Diameter	0.9m	1.4m	1.9m	2.8m
Illuminance (fc)	709	315	177	79.78
Illuminance (lux)	7,632	3,392	1,908	848

For field diameter at any distance, multiply distance by 0.310 For beam diameter at any distance, multiply by 0.147

Throw Distance Multiplier (TDM)

To determine the distance from the center of the beam (Origin) to a certain illuminance level at a particular distance, multiply the desired throw distance by the TDM desired on the Iso-Illuminance diagram.

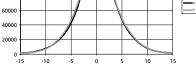
Throw Distance (TD) x Throw Distance Multiplier (TDM) = Distance from the Origin (DfO) (distance from the center of the beam)

Example: 25 feet (TD) x 0.047 (TDM) = 1.175 feet from center of beam (DfO)

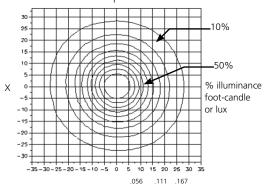
For illumination with any lamp, multiply the candlepower of a beam spread by the multiplying factor (mf) shown for that lamp.

To determine illumination in foot-candles or lux at any throw distance, divide candlepower by distance squared.

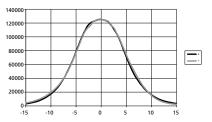
Cosine Candela Plot



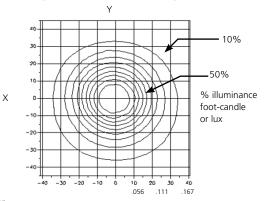
Iso-Illuminance Diagram (Flat Surface Distribution) Y



#### **Cosine Candela Plot**



#### Iso-Illuminance Diagram (Flat Surface Distribution)



# **Desire<sup>™</sup> Series**

### PHOTOMETRICS

## **D40XTI Studio HD**

Mode	Degree	Candela	Field Lumens	Beam Lumens	Lumens Per Watt
Boost - Cold	17°	121,900	3,120	1,410	30.9
Regulated	17°	109,500	2,780	1,260	30.9

Metric Conversions: For Meters, multiply feet by 0.3048 For Lux, multiply foot-candles by 10.76



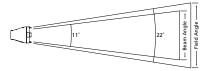
Throw Distance (d)	3.0m	4.6m	6.1m	7.6m
Field Diameter	1.0m	1.4m	1.9m	2.4m
Illuminance (fc)	1,219	542	305	195
lluminance (lux)	13,121	5,832	3,280	2,099

For field diameter at any distance, multiply distance by 0.313 For beam diameter at any distance, multiply by 0.143

#### **D40XTI Studio Daylight**

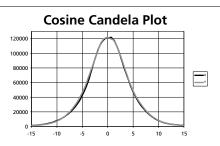
Mode	Degree	Candela	Field Lumens	Beam Lumens	Lumens Per Watt
Boost - Cold	22°	125,700	5,380	2,850	52.5
Regulated         22°         125,350         3,440         1,820         56.3					
Metric Conversions: For Meters, multiply feet by 0.3048					

For Lux, multiply foot-candles by 10.76

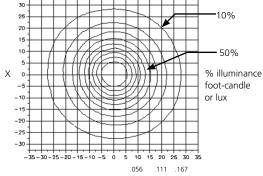


Throw Distance (d)	3.0m	4.6m	6.1m	7.6m
Field Diameter	1.2m	1.8m	2.4m	3.0m
Illuminance (fc)	1,257	559	314	201
Illuminance (lux)	13,530	6,013	3,383	2,165

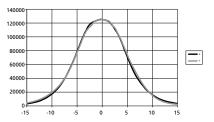
For field diameter at any distance, multiply distance by 0.390 For beam diameter at any distance, multiply by 0.198



Iso-Illuminance Diagram (Flat Surface Distribution) Y

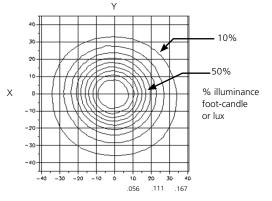


#### **Cosine Candela Plot**



# Iso-Illuminance Diagram

(Flat Surface Distribution)



## **Desire<sup>™</sup> Series**

## PHOTOMETRICS

#### **D40XTI Studio Tungsten**

Mode	Degree	Candela	Field Lumens	Beam Lumens	Lumens Per Watt
Boost - Cold	24°	9,030	4,105	1,900	40.0
Regulated	24°	79,720	3,514	1,620	36.9

Metric Conversions: For Meters, multiply feet by 0.3048 For Lux, multiply foot-candles by 10.76



Throw Distance (d)	3.0m	4.6m	6.1m	7.6m
Field Diameter	1.3m	1.9m	2.5m	3.2m
Illuminance (fc)	930	413	233	149
Illuminance (lux)	10,014	4,451	2,503	1,602

For field diameter at any distance, multiply distance by 0.414 For beam diameter at any distance, multiply by 0.189

Throw Distance Multiplier (TDM)

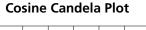
To determine the distance from the center of the beam (Origin) to a certain illuminance level at a particular distance, multiply the desired throw distance by the TDM desired on the Iso-Illuminance diagram.

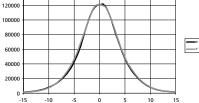
Throw Distance (TD) x Throw Distance Multiplier (TDM) = Distance from the Origin (DfO) (distance from the center of the beam)

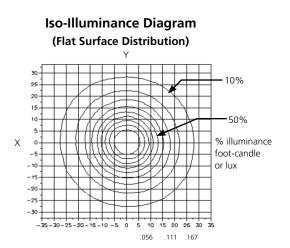
Example: 25 feet (TD) x 0.047 (TDM) = 1.175 feet from center of beam (DfO)

For illumination with any lamp, multiply the candlepower of a beam spread by the multiplying factor (mf) shown for that lamp.

To determine illumination in foot-candles or lux at any throw distance, divide candlepower by distance squared.







## **Desire<sup>™</sup> Series**

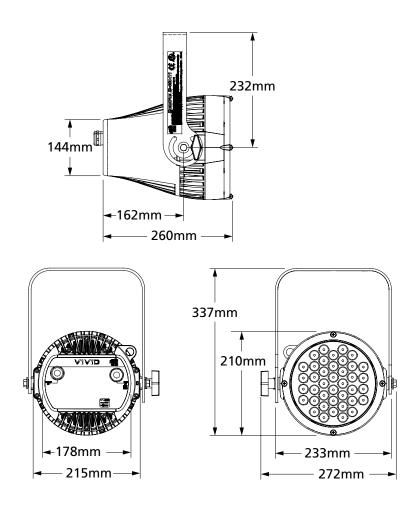
## PHYSICAL

#### Selador D40XTI Weights and Dimensions

Total weight depends on how the individual fixture is configured.

WEIGHT*	SHIPPING WEIGHT
kgs	kgs
6.8	8.2

\* Does not include mounting hardware





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