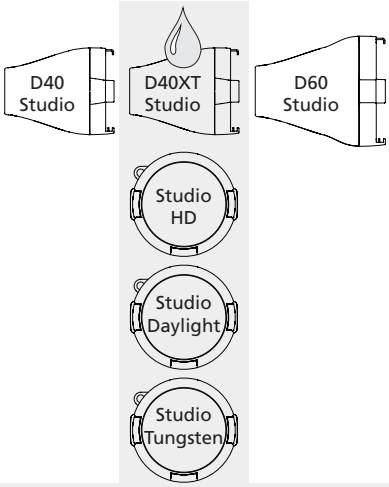
ETC®

D40XT Studio

Selador Desire Series

100/240V



This datasheet covers D40XT Studio fixtures as shown.
See other datasheets for other versions.

GENERAL INFORMATION

ETC's Desire Series D40XT Studio luminaire puts the newest technology in high-output white-light LEDs into a sealed IP65 enclosure to create an ideal luminaire for outdoor event, video, film and other 'white light only' applications. Its watertight construction makes it ideal for location lighting. Three different LED options give the user a choice for just the right white light output for the job. The D40XT Studio offers a rugged die-cast enclosure, convection cooled, multiple lens options and advanced user interface. The user interface enables easy configuration and specific features for video and film professionals. The fixture can be configured to operate in stand-alone 'no console required' settings.

D40XT LED ARRAY OPTIONS

D40XT Studio fixtures offer three different LED array choices based on warm white and cool white Rebel LEDs. Choose a D40XT Studio fixture with any one of the following LED arrays to best suit the application.

- D40XT Studio HD – Studio HD uses forty high-efficiency LED emitters. It combines an equal number of warm white and cool white LEDs for variable colour temperature mixing. Added to this are five additional carefully-chosen LED colours from the Selador x7 Color System™ to fill in the white LED spectral gaps. D40XT Studio HD provides the richest variable white light possible in an LED fixture

- D40XT Studio Daylight – Studio Daylight contains forty 5600K LEDs for high-intensity, non-variable cool white output.

- D40XT Studio Tungsten – Studio Tungsten contains forty 3000K LEDs for high-intensity, non-variable warm white output

ORDERING INFORMATION

Desire D40XT Studio

PART NO.	DESCRIPTION
7410A1002-0X	D40XT Studio HD outdoor wash luminaire, Black
7410A1002-1X	D40XT Studio HD outdoor wash luminaire, White
7410A1002-5X	D40XT Studio HD outdoor wash luminaire, Silver Grey
7410A1007-0X	D40XT Studio D outdoor wash luminaire, Black
7410A1007-1X	D40XT Studio D outdoor wash luminaire, White
7410A1007-5X	D40XT Studio D outdoor wash luminaire, Silver Grey
7410A1006-0X	D40XT Studio T outdoor wash luminaire, Black
7410A1006-1X	D40XT Studio T outdoor wash luminaire, White
7410A1006-5X	D40XT Studio T outdoor wash luminaire, Silver Grey
	DESCRIPTION
7410A100_-0X**2**	- luminaire with 25° internal lens installed
7410A100_-0X**3**	- luminaire with 35° internal lens installed
7410A100_-0X**4**	- luminaire with 45° internal lens installed
7410A100_-0X**5**	- luminaire with 75° internal lens installed

Note: Unit ships with basic yoke and attached power/control leads equipped with water-tight Molex/XLR connectors. Adaptors from Molex connectors to other in and thru power connectors must be purchased separately. Order c-clamp separately.

SPECIFICATIONS

GENERAL

- 40 X 2.5W LED white light wash fixture
- CE compliant, UL and cUL listed
- Rated for IP65 exterior wet location use
- Power and DMX in/thru waterproof power leads for easy setup
- User-friendly control interface with multiple modes and fixture settings

PHYSICAL

- Rugged die cast all-metal housing
- Easy access slots for secondary lenses and standard 190mm PAR accessories
- Available in black, white, silver grey or custom colours
- Hanging yoke standard. Optional yoke/floor stand available

ELECTRICAL

- 100VAC to 240VAC 50/60 Hz universal power input Max. consumption 105W 0.46A at 230V
- Waterproof, 1.0m power in and thru outdoor rated leads
- Up to 10 fixtures may be linked via power in/thru connections per 230V/15A circuit
- Requires power from a non-dim source

LED*

- 50,000 hr. LED life
- 40 Luxeon® Rebel 2.5W LED emitters
- Studio Daylight and Studio Tungsten use Rebel ES white light emitters for higher output

* See additional LED notes on page three

COLOUR

- Studio HD array uses warm and cool white light emitters with additional deep colour emitters
- Produces variable white light with broad spectrum richnesss
- Beautifully illuminates skin tones and other objects for natural appearance and high colour rendering
- Exclusive optional red-shift option emulates tungsten dimming performance characteristics.

OPTICAL

- Primary field angle of 17°
- Secondary lenses available for multiple beam spread options
- Sealed, factory-installed lenses available for permanent installations.
- Lenses must be ordered separately
- Refer to *Accessories* for optional secondary lenses available

CONTROL

- DMX512 in and thru via watertight five-pin XLR connectors on 1.0m leads
- Multiple control options including RGB, strobe, and console-free Master/Slave mode
- See DMX Control Table for additional information
- Separate intensity control channel increases dimming smoothness and minimizes color shift during dimming
- 15-bit virtual dimming engine provides smooth, high quality theatrical fades
- RDM functionality for address and setting changes.

SPECIFICATIONS

THERMAL

- Ambient operating temperature of -20° to +40°C
- Active electronic thermal management for droop-free operation
- Convection cooled for use in acoustically sensitive installations
- Fixture is designed for continuous operation at +40°C ambient temperature and requires free airflow around fixture housing

ADDITIONAL ORDERING INFORMATION

Accessories

MODEL	DESCRIPTION:
7410A3013	Yoke Upgrade Kit with floor stand attachment
PSF1095	Barn door, Short, Black*
PSF1019	Barn door w. colour extender, Black*
PSf1019-1	Barn door w. colour extender, White*
7061A3007	Colour Frame, Black (Spare)**
7061A3007-1	Colour Frame, White (Spare)**
PSF1028	Egg Crate Louvre
PSF1022	Top Hat 76mm Tube, Black
PSF1022-1	Top Hat 76mm Tube, White
PSF1023	Top Hat 153mm Tube, Black
PSF1023-1	Top Hat 153mm Tube, White
PSF1027	Half Hat 153mm Tube, Black
PSF1027-1	Half Hat 153mm Tube, White

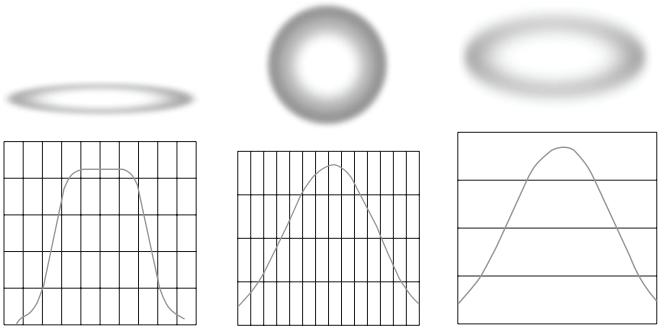
* Use as a flexible top hat to diminish aperture glare. Not suitable for beam shaping
** For use with optional diffusion media

ADDITIONAL ORDERING INFORMATION

Secondary Lens Options

The following lenses are cut for D40 fixtures and create round, linear or oblong field patterns as described below. These lenses are not for use in Selador Classic (Vivid, Lustr, Paletta, etc.) fixtures. All lenses are supplied including frame.	
PART NO.	**DESCRIPTION**
Narrow Linear Field	
Linear lenses (same material as used with Selador Classic) may be combined to create desired field size, i.e. 40° X 60°	
7410K1017	Ø190mm 20° lens (narrow linear field)
7410K1018	Ø190mm 30° lens (narrow linear field)
7410K1019	Ø190mm 40° lens (narrow linear field)
7410K1020	Ø190mm 60° lens (narrow linear field)
7410K1021	Ø190mm 80° lens (narrow linear field)
Round Field	
7410K1010	190mm x 190mm 25° lens (round field)
7410K1011	190mm x 190mm 35° lens (round field)
7410K1012	190mm x 190mm 45° lens (round field)
7410K1013	190mm x 190mm 75° lens (round field)
Oval Field	
7410K1014	Ø190mm 20° x 40° lens (oval field)
7410K1015	Ø190mm 30° x 70° lens (oval field)
7410K1016	Ø190mm 35° x 80° lens (oval field)

Typical Lens Field Profiles



Narrow Linear | Round | Oblong

Power Consumption at Full Intensity

MODEL	VOLTAGE (V)	CURRENT (A)	WATTS
SELD40 or SELD40X	230	0.46	105W

NOTES ABOUT LED LUMINAIRES

Colour Rendering Index (CRI)
The previous colour rendition method developed at the time when fluorescent light sources was introduced. generally not applicable for measuring LED lightsources.

Colour Quality Scale (CQS)
A new colour rendition method developed by NIST (The National Institute of Standards and Technology) in the US. Developed to better account for LED specifics.

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+ 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

All D40 luminaire versions provide excellent color rendering, particularly at the higher colour temperature 5600K. In every case the Duv was 0.000. A Duv rating of 0.000 indicates that the colour mix used was exactly on the black body line, with no green or magenta tint.

Typical LED source characteristics
All LED sources experience some lessening of light output and some color shift over time. LED output will vary with thermal conditions. With typical usage, a Selador luminaire will still achieve 70% of its initial output after 50,000 hours. In individual situations, LEDs will be used for different durations and at different levels. This can eventually lead to minor alterations in color performance, necessitating slight adjustment to presets, cues or programs.

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 options. Some of the setting options are:

- Multiple DMX choices 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 colors and effects for stand-alone (no console required) operation
- White point selection – white light and colour behavior based on a specific colour temperature white light, i.e. 3200K, 5600K, etc.
- Loss of data behavior options – instant off, hold last look for two minutes, etc.
- Output modes – three output options that offer user control of maximum output versus maximum colour consistency

See the user manual for a complete explanation of all of the control settings and options for the D40XT.

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 colour consistency • 3200K white point setting
Stage	HSI Plus 7 Enabled	Theatrical lighting: Duplicates the color and dimming behavior of tungsten stage lighting fixtures.	• Incandescent dimming curve • Regulated output for colour consistency • Red shift enabled • 3250K white point setting
XT Arch	HSI	Exterior Architectural lighting: Provides a high degree of colour consistency in high ambient temperature environments.	• Standard dimming curve • Protected output • 3200 white point setting
Impacts	RGB	Event lighting: Enables quickest response, simple RGB control and strobe channel for maximum effect usage	• Quick dimming curve • Boost mode for maximum intensity • Red shift disabled • 5600K white point setting
Studio	Studio	Video/film lighting: Enables three parameter control of white light via DMX from console or from fixture display – no console required	• Linear dimming curve • Regulated output mode for colour consistency

*See user manual for complete list of features for each quick setup

CONTROL OPTIONS

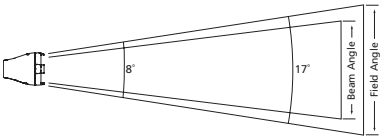
DMX Input Channel Profiles

DMX Profile	DMX Channels	Channel Assignments	Notes
RGB	5 (Ch. 4 not used)	1 – Red 2 – Green 3 – Blue 4 – n/a 5 - Strobe	Effectively addresses all seven colors via three channels of control. RGB profile will produce medium quality colour cross-fades
Direct Ctrl	9	1 – Red 2 – Orange (white if Lustr+) 3 – Amber 4 – Green 5 – 3000K white 6 – 5700K white 7 – Indigo 8 – Intensity 9 – Strobe	Direct control of each individual color with a separate master intensity channel. Color calibration of LEDs is not active in this mode. The nine-channel profile will produce the highest quality colour cross-fades.
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 arbitrary color cross-fades 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 color temperature of the fixture in both white light and colour. Colour cross-fade performance is the same as EHSI.
Studio	3	1 – Intensity 2 – Colour Point (CCT) 3 – Tint	Controls fixture as a white light unit. If no DMX, i.e. console input, is present, fixture can be adjusted for these three parameters on the U/I at the back of the unit.
Additional profile options			
Plus 7		Seven additional color control channels are available in RGB, HSI, HSIC and Studio input profile settings. For example HSI with 'Plus 7' enabled becomes a 14-channel profile:	
		1 – Hue (coarse) 2 – Hue (fine) 3 – Saturation 4 – Intensity 5 – Strobe 6 – n/a 7 – Plus Seven 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 fine tune the colour output.
Strobe		Variable strobe control: 0% is no strobe. The fixture output will strobe more rapidly as the strobe channel value approaches 100%.	

PHOTOMETRICS

D40XT Studio HD

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

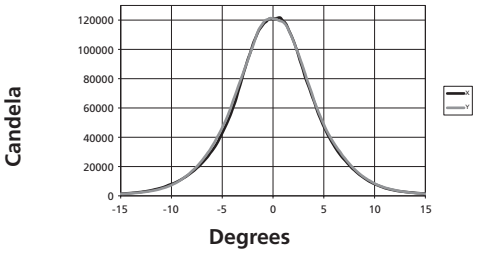


Throw Distance (d)	3.0m	4.6m	6.1m	7.6m
Field Diameter	1.0m	1.4m	1.9m	2.4m
Illuminance (fc)	1,219	542	305	195
Illuminance (lux)	13,121	5,832	3,280	2,099

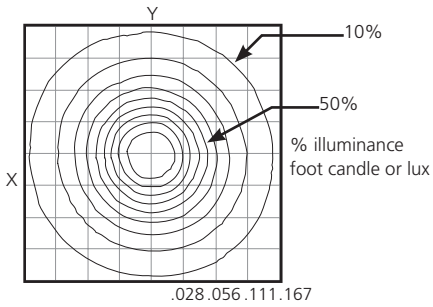
Conversions: For Feet, multiply meters by 3.2808
For Footcandles divide lux by 10.76
For Field diameter at any distance, multiply distance by 0.310
For Beam diameter at any distance, multiply distance by .0143

Colour Temperature	CQS	CRI
3200K	90	89
5600K	94	92

Cosine Candela Plot



Iso-Illuminance Diagram
(Flat Surface Distribution)



D40XT Studio Tungsten

PHOTOMETRY TBD

PHOTOMETRICS

D40XT Studio Tungsten

PHOTOMETRY TBD

*** 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.

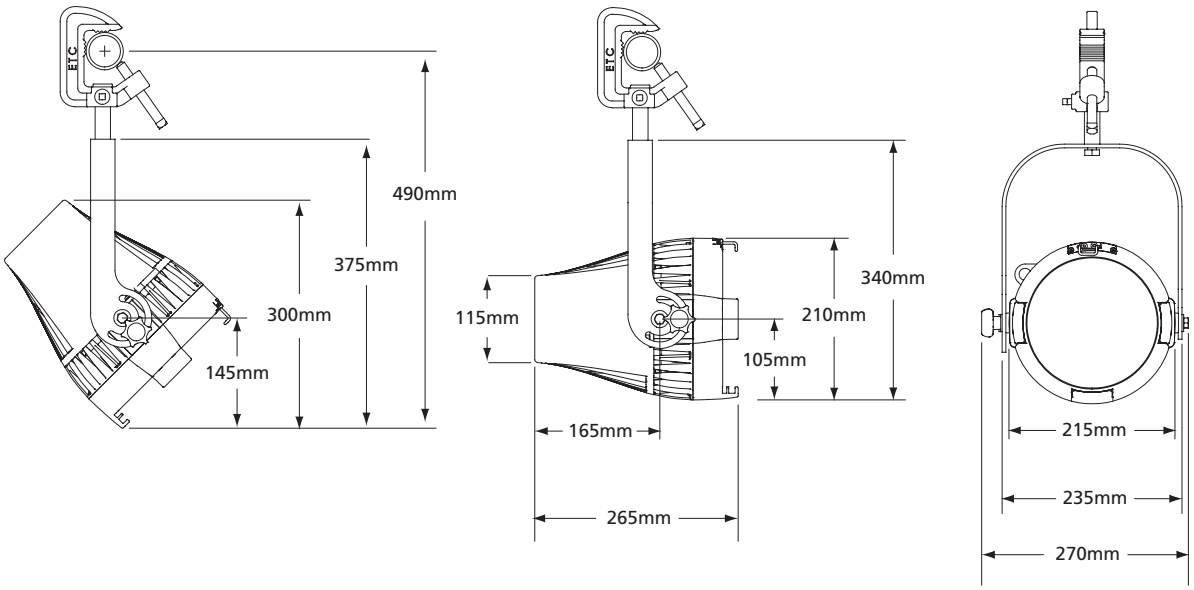
To determine illumination in footcandles or lux at any throw distance, divide candlepower by distance squared.

PHYSICAL

Selador D40XT Studio Weights and Dimensions

WEIGHT*	SHIPPING WEIGHT
Kg 6.4	Kg 7.8

* Does not include mounting hardware



Note: D40XT Studio fixtures are equipped with attached 39" power and data leads

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