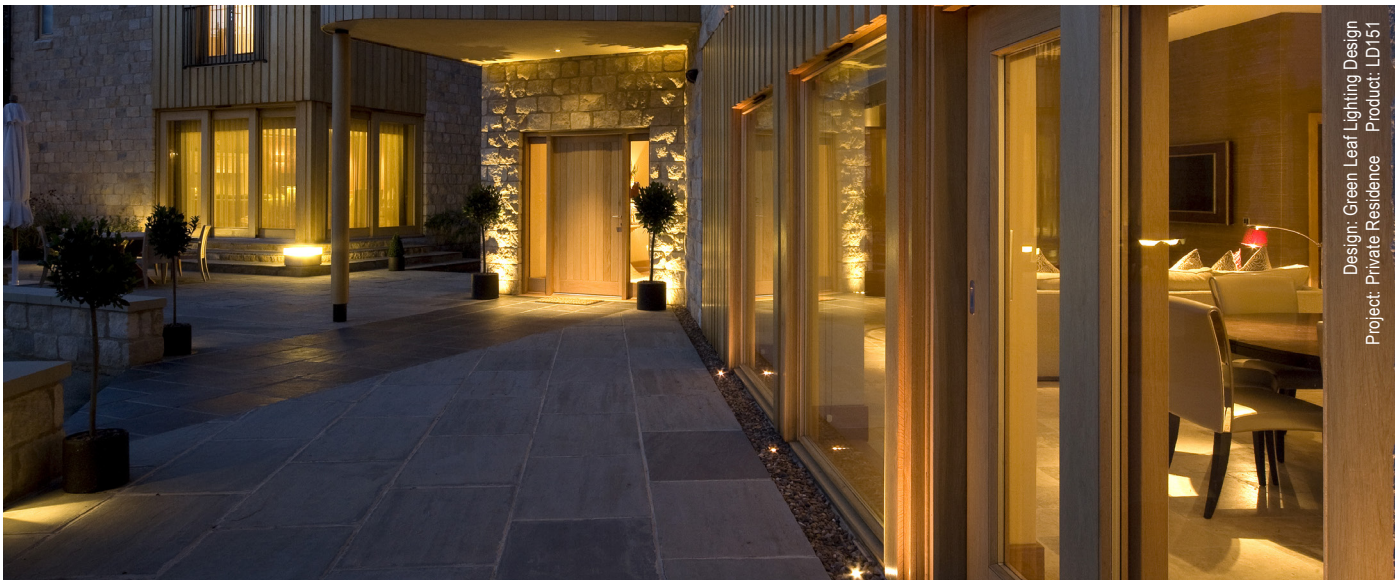
LD153 with new E1 LED Light Engine

High Power Interior/Exterior LED Uplighter



The new LD153 features the all new E1 LED engine, optional glare shields and a new range of optics. Tunable White and RGBW options are also available. A powerful uplighter for its size and depth, the LD153 has been designed specifically to produce low glare illumination to exterior walls and columns in public areas. The 4 screws in the front allow it to be locked into the mounting surface using a very clever O-ring compression system. This is a very tough, high quality fitting, machined from high grade materials ensuring excellent thermal and light output performance.

Key Features

- New E1 engine, featuring the CREE XHP35 LED with 2-step binning
- New optional 2nd channel LEDs for secondary lighting applications
- New 700mA option when specified with the /483 concrete can, delivering up to 555 lumens
- New optics, featuring an impressively narrow 10° spot is for lighting columns and arches, or a 15°x 49° spreader lens, which is ideal for wall washing applications
- Single optic produces a very consistent beam with no multiple shadows
- LED and lens recessed in a matt black anodised body for reduced glare
- Choice of glare shields, developed to minimise the view of the intense light source without affecting the wash of light on the wall/column
- 4 screws in the bezel are tightened to expand O-rings on the body and secure it into the first fix sleeve, or concrete housing, creating a water tight seal
- Range of bezel finish options
- Built-in reverse polarity protection
- LD153 is available with RGBW and Tunable White LED engines
- Available with Switch, 0-10V, DMX, Dali or Mains dimmable drivers

Specification

Applications						
Beam Angles	10°, 19°, 34°, 54°, 15°x 49°					
LED type	1 x E1 LED Engine with 2-step binning (LED data below)					
Colour temperature	2700K*** / 3000K / 4000K			5000K		
Current	350mA	500mA	700mA*	350mA	500mA	700mA*
LED power (Max)	5W (4.4W)**	7W (6.3W)**	10W (9W)**	5W (4.4W)**	7W (6.4W)**	10W (9W)**
CRI (Min)	85	85	85	80	80	80
Forward voltage $(V)_{100}$	14V	14V	14V	14V	14V	14V
Delivered lumens (L_{100})****	347	437	555	374	472	599
Lumens per circuit watt	69	62	55	75	67	59
LED lifetime (to 70% lumen maintenance)	50,000hrs at a max ambient temperature of 35°C (if higher ambient then run at 500mA up to 45°C)					
Glass	6mm thick low iron glass					
Materials	Black anodised aluminium body, Machine finish 316 stainless steel bezel (other options available)					
Wiring	Comes pre-wired with 250mm lead. Single colour equipped with 2 core cable, 2 Channel or TW engine with 4 core cable & RGBW with 8 core cable. Can be specified with up to 10m at extra cost.					
IP rating	IP67					

*can only be specified with /483N concrete housing
**indicates the nominal power for the LED run at that particular current and includes losses associated with using an 85% efficient driver
***2700K lumen output is 8% lower than the 3000K figure listed
****lumen output indicated is without the glare shield. Allow 30% less with the /GS glare shield.

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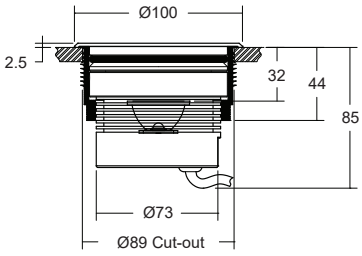
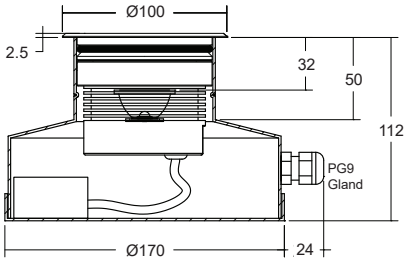
Dimensions & Fixing Options - The LD153 must be used with one of these fixing options

/483S First fix sleeve is polypropelene, with a finned top to fix into various surfaces.



/483N Concrete Housing
/ID Optional integral non-dimming driver (single colour only at 350mA or 500mA)



Concrete housing must be used when specifying the 700mA fitting. The aluminium can aids in keeping the LED fitting cool, as it helps with thermal transfer between the heat within the can to the surrounding concrete.

Fixing Mechanism

Fitting pushed into housing

Orientate fitting. Then tighten 4 screws

Ring is pulled up and expands the O ring, locking fitting into the housing

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Glare Shields

LD153 comes with a choice of glare control options.

/NGS
For maximum lumen output.
Deep recessed optic and matt black anodised optic holder aids in glare reduction.

/GS
Standard glare shield. Introduced in 2010, this glare shield provides an excellent balance between glare control and lumen output.
This accessory works well in most applications.

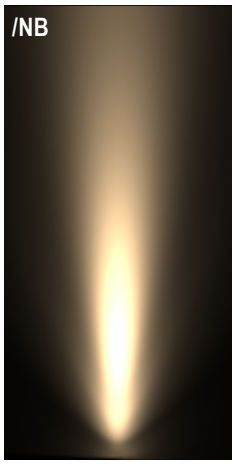
Please refer to our photometric files for lumen data.

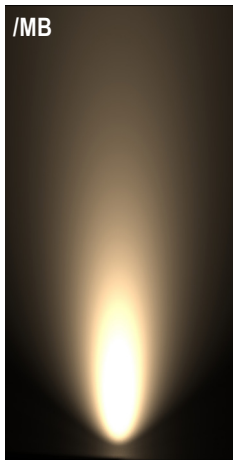
/GSHM
Half-moon glare shield.
For applications that require very low glare. Lumen output typically reduced by 60%.

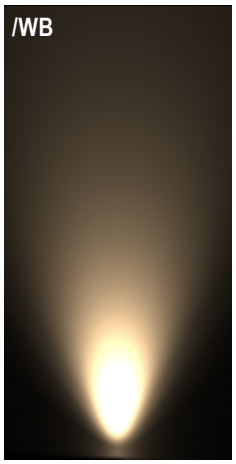
Please refer to our photometric files for lumen data.

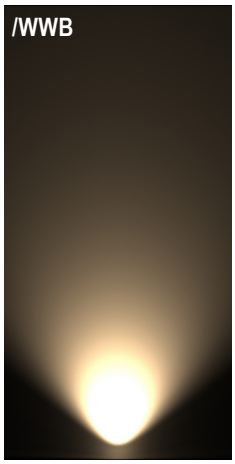
Cone Diagrams

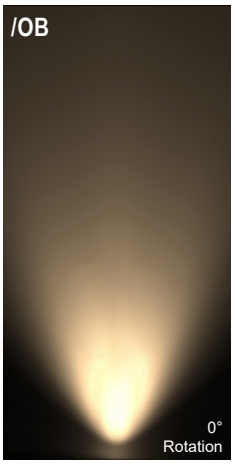
Cone diagrams below are based on a 3000K E1 LED engine run at maximum output 700mA, 10W. Images below represents beam outputs when wall washing a 3m wall, spaced 125mm away from the lit surface.

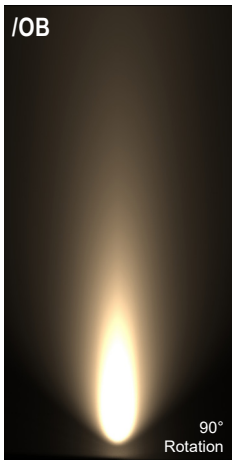












Narrow Beam
700mA using a 10° optic

Distance (m)		Luminance (lx)
3.0	0.62	750
2.5	0.52	1080
2.0	0.41	1688
1.5	0.31	3000
1.0	0.21	6751
0.5	0.10	27002

Cone Width (m)

Medium Beam
700mA using a 19° optic

Distance (m)		Luminance (lx)
3.0	1.06	346
2.5	0.88	498
2.0	0.71	779
1.5	0.53	1384
1.0	0.35	3114
0.5	0.18	12456

Cone Width (m)

Wide Beam
700mA using a 34° optic

Distance (m)		Luminance (lx)
3.0	1.97	114
2.5	1.64	164
2.0	1.32	256
1.5	0.99	455
1.0	0.66	1024
0.5	0.33	4095

Cone Width (m)

Extra Wide Beam
700mA using a 54° optic

Distance (m)		Luminance (lx)
3.0	3.06	55
2.5	2.55	79
2.0	2.04	124
1.5	1.53	220
1.0	1.02	496
0.5	0.51	1984

Cone Width (m)

Oval Beam
700mA using a 15° X 49° optic

Distance (m)		Luminance (lx)
3.0	2.70 / 0.74	190
2.5	2.25 / 0.61	274
2.0	1.80 / 0.49	428
1.5	1.35 / 0.37	761
1.0	0.90 / 0.25	1712
0.5	0.45 / 0.12	6846

Cone Width (m)

Photometric files (LDT) are included in the design pack which can be downloaded from the LD153 product page on the website.

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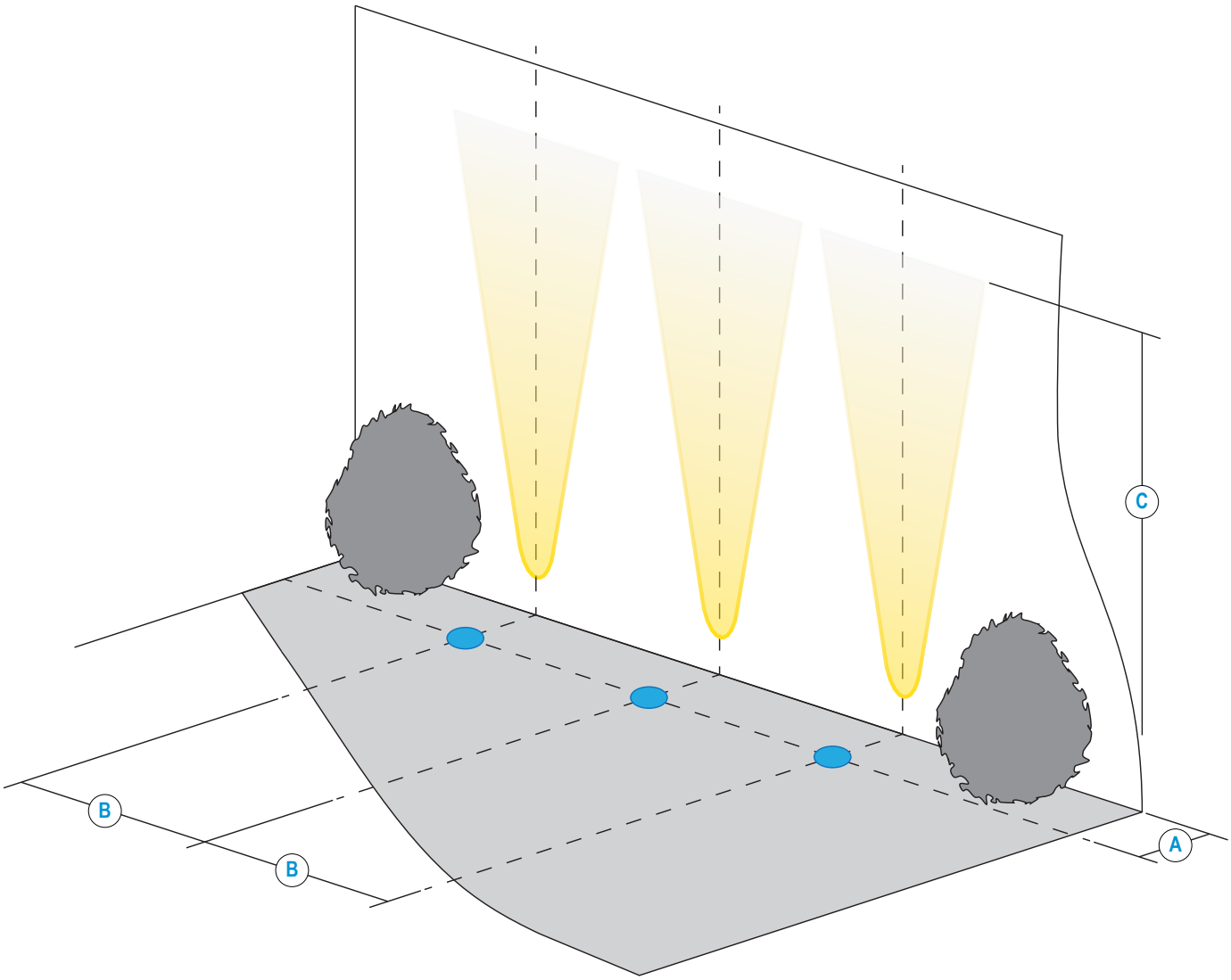
Installation Guide

Below is a luminaire positioning guide. Every project and lighting scenario will be different; the table below is to be used as a starting point for any wall wash design. Please use our photometric files to further test the desired effect for your application. Files are available on our LD153 product page on our website.



LD153-E1		/NB	/MB	/WB	/WWB	/OB
A	Distance from the centre of the fitting to the lit surface	125mm				
B	Spacing for an even wash	250mm*	350mm	400mm	500mm	500mm
C	500mA Lit distance	6m	4.5m	2m	2m	4m
C	700mA Lit distance	9m	5.5m	4m	3m	5m

*Wall washing using narrow beam optics should only be used if the designer requires a long distance lighting up the lit surface.

LD153 with new E1 LED Light Engine

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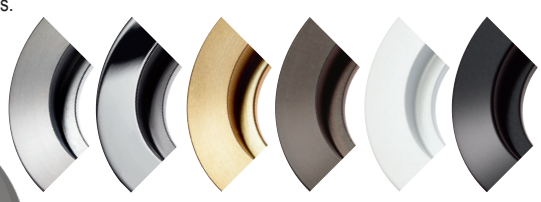
Product Features

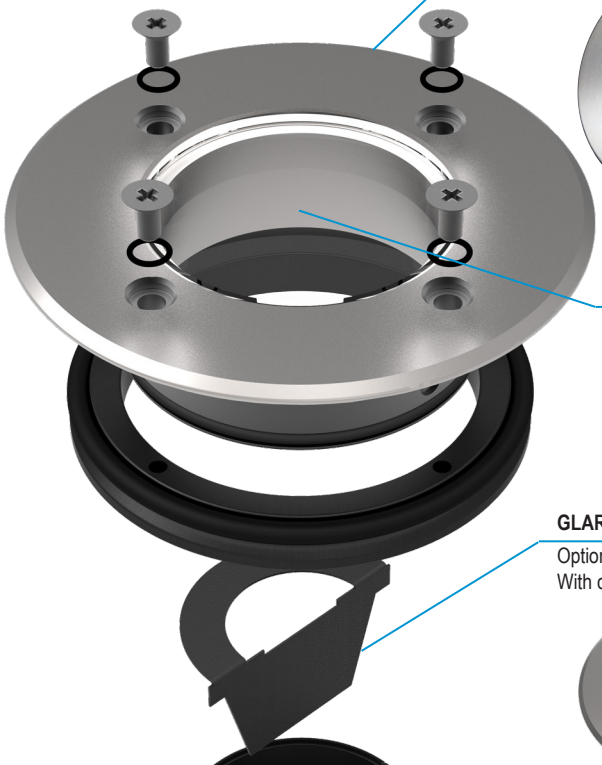
BEZEL

High quality machined bezel available in 316 stainless steel, solid & flamed bronze, paint finish white (RAL 9016) / black / RAL. Other paint finishes available, please talk to sales.



GLASS

6mm thick low iron glass, suitable for walkover applications.



GLARE SHIELD

Optional glare shield to reduce glare.
With choices between our standard glare shield or a half moon glare shield design.

OPTIC

Revised high efficiency optics with a new range of beam angles to create the ideal lit effect.

OPTIC HOLDER

Matt black anodised for reduced glare.

BODY

Machined and anodised body. 6000 series aluminium chosen for its thermal characteristics and resistance to corrosion.

LED

- E1 LED engine.
- E1 LED engine, with the optional 2nd channel.
- TW Tunable White LED engine.
- RGBW LED engine with colour mix lens.
- CLR Colour LED engine.

ACCESSORY

Choose between our fixing sleeve or concrete can.

LD153 with new E1 LED Light Engine

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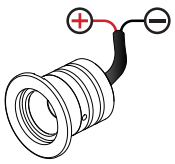
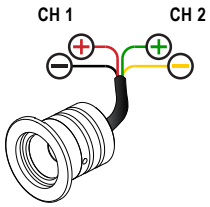
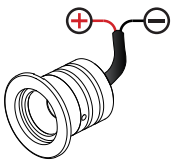
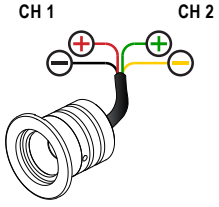
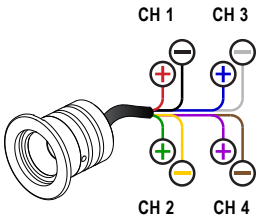
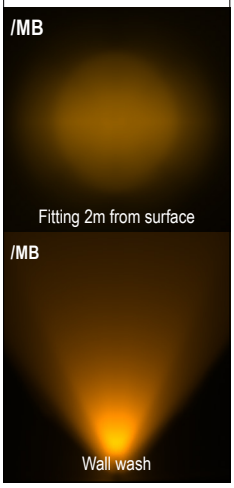
LED Options and Technology

New LED Options

LD153 is now available with a choice of light engines which feature a new all copper board for increased thermal transfer. The new E1 light engine for white light applications uses the new Cree XHP35 LED and features on board polarity protection.. This smaller LED chip has enabled a wider range of beam angles to be offered, coupled with increased efficiencies. This engine is also available with two extra LEDs on a second channel, for night lighting and marine navigation applications. The new tunable white engine offers a choice of dynamic colour options.

	E1 Light Engine (White light)	E1-2CH 2nd channel board	CLR - Colour	TW - Tunable White	RGBW
LED Board					
LED type	Cree XHP35	Cree XHP35 + XQE's	Cree XQE's	Cree XQE's	Cree XML
Key Features	- Available in 2700K, 3000K, 4000K and 5000K - Very small chip size - Tighter narrow beams - Wider range of beam angles - 2 step binning - Brighter more efficient LED - On board polarity protection - All copper LED board for increased thermal transfer	- Main white LED with optional 2nd channel for night lighting or marine navigation appli-cations - 2nd channel comprises of 2 XQE LEDs mounted next to the XHP35 - Beam shape from the XQE's is different from the main LED as they are mounted to the sides of the optic - 2 driver circuits required - All copper LED board	- 4 colour XQE LEDs mounted under a single optic - All copper LED board - Red, Blue, Green and Amber colour LED options - Single LED circuit	- 4 XQE LEDs mounted under a single optic - 2 LEDs per colour - Excellent dynamic white mixing from a range of optics - All copper LED board - 2 driver circuits required	- RGBW LEDs mounted under a single 26deg optic for superb colour mixing - White LED is 4000K - All copper LED board - 4 LED circuits required
Cables					
Lumen output	See front page	See front page		See table below	

2nd Channel Light Output



Tunable white lumen output data		
Colour temperature	Warm White 2700K or 3000K	Cool White 4000K or 5000K
Current	500mA	500mA
LED power (Max) All channels in use	7W (6.3W) 3.5W per channel	
CRI (Min)	85	
Delivered lumens (L_{100})	148lm	188lm
Lumens per circuit watt	42	54

Industry Leading LED Thermal Management

High quality, embedded copper PCB, with direct contact cooling for the LEDs providing industry leading thermal managment of the LED. Guaranteeing long life and minimal colour shift.

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Order Codes and Options

White LED Options - E1 Light Engine

Product code	LED colour	Beam angle	Glare shield	Finish	Accesso-ries
LD153-E1 - 350 - 500 - 700					

Example: LD153-E1-700 / LW30 / NB / NGS / Stainless Steel / 483N

Product codes with output options

5W LED at 350mA	**LD153-E1-350**
7W LED at 500mA	**LD153-E1-500**
10W LED at 700mA **(Must be specified with /483N)**	**LD153-E1-700**

LED colour options

	Suffix
Extra Warm White (2700K)	/LW27
Warm White (3000K)	/LW30
White (4000K) - on request	/LW40
Cool White (5000K)	/LW50
With 2nd channel (red for navigation or amber night lighting) LD153-E1-2CH	/LW**+L*

*Other LED colour temperatures are available. Please speak to a member of our sales team.

Beam / lens angle options

10° narrow spot	/NB
19° medium	/MB
34° wide	/WB
54° extra wide	/WWB
15° x 49° oval	/OB

Glare shield

No glare shield	/NGS
Standard glare shield	/GS
Half-moon glare shield	/GSHM

Bezel finish options

Stainless steel 316
Polished and passivated stainless steel (for marine environments)
Flamed solid bronze (antique finish)
Paint finish white / black / RAL (not suitable for high traffic areas)

*See our finishes guide for other options

Fixing accessories

First fix sleeve	/483S
Concrete housing **(specify when choosing LD153-E1-700)**	/483N
with integral non-dimming driver (350mA & 500mA outputs only)	/ID

Use with 350mA, 500mA & 700mA constant current LED drivers

We have a wide range of dimmable LED drivers, 0-10V, DMX, DALI and Mains dimmable.
Please see the downloads section on our website:
To run 1-4 LD153-E1-350 in series use a TXDEL350D (0-10V dimmable)
To run 1-4 LD153-E1-500 in series use a TXDEL500D (0-10V dimmable)
To run 1-3 LD153-E1-700 in series use a TXDEL700D (0-10V dimmable)

Colour LED Options - CLR Light Engine

Example: LD153-CLR-500 / LR / MB / NGS / Stainless Steel / 483N

LED colour options (max 500mA)	Suffix
Red	/LR
Green	/LB
Blue	/LG
Amber	/LA

Driver requirements identical to E1 engine, beam angles identical to TW engine

Tunable White Options - TW Light Engine

Product code	LED colour	Beam angle	Glare shield	Finish	Accesso-ries
LD153-TW - 350 - 500					

Example: LD153-TW-500 / LW27 + LW40 / NB / NGS / Stainless Steel / 483N

Product codes with output options

5W LED at 350mA - 2 channels of 2 x 1.2W	**LD153-TW-350**
7W LED at 500mA - 2 channels of 2 x 1.7W	**LD153-TW-500**

LED colour options

	Suffix
Tunable White 2700K & 4000K (standard option)	/LW27 + LW40
Tunable White 2700K & 5000K	/LW27 + LW50
Custom	/LW** + LW**

Fitting comprised of 2x LEDs in one colour temperature & 2x LEDs in another.
Other white colour options available on request, please discuss with our sales team.

Beam / lens angle options

Narrow spot not available due to poor colour mixing

24° medium	/MB
38° wide	/WB
54° extra wide	/WWB
20° x 46° oval	/OB

Beam, Bezel and Glare shield options

Same as White LED options using the E1 Light Engine

Finish and fixing options

Same as White LED options using the E1 Light Engine

Use with 350mA, 500mA & 700mA constant current LED drivers

We have a wide range of dimmable LED drivers, 0-10V, DMX, DALI and Mains dimmable.
Please see the downloads section on our website:
To run 1-7 LD153-TW-350 in series use 2x TXDEL350D (0-10V dimmable)
To run 1-7 LD153-TW-500 in series use 2x TXDEL500D (0-10V dimmable)

Colour Change RGBW Options - RGBW Light Engine

Product code	Glare shield	Finish	Accessories
LD153-RGBW - 350 - 500			

Example: LD153-RGBW-500 / NGS / Stainless Steel / 483N

Product codes with output options

5W LED at 350mA (4x 1.2W LEDs)	**LD153-RGBW-350**
7W LED at 500mA (4x 1.7W LEDs)	**LD153-RGBW-500**

RGBW features a 4000K white LED for creating hues

Beam / lens angle options

38° colour mix lens

Bezel and Glare shield options

Same as White LED options using the E1 Light Engine

Finish and fixing options

Same as White LED options using the E1 Light Engine

Use with 350mA & 500mA constant current LED drivers

We have a range of dimmable LED drivers DMX and DALI compatible. Please see the downloads section on our website:
To run 2-13 LD153-RGBW-350 in series use a TXDEL4A350DMX or TXDEL4A350DALI
To run 2-13 LD153-RGBW-500 in series use a TXDEL4A500DMX or TXDEL4A500DALI