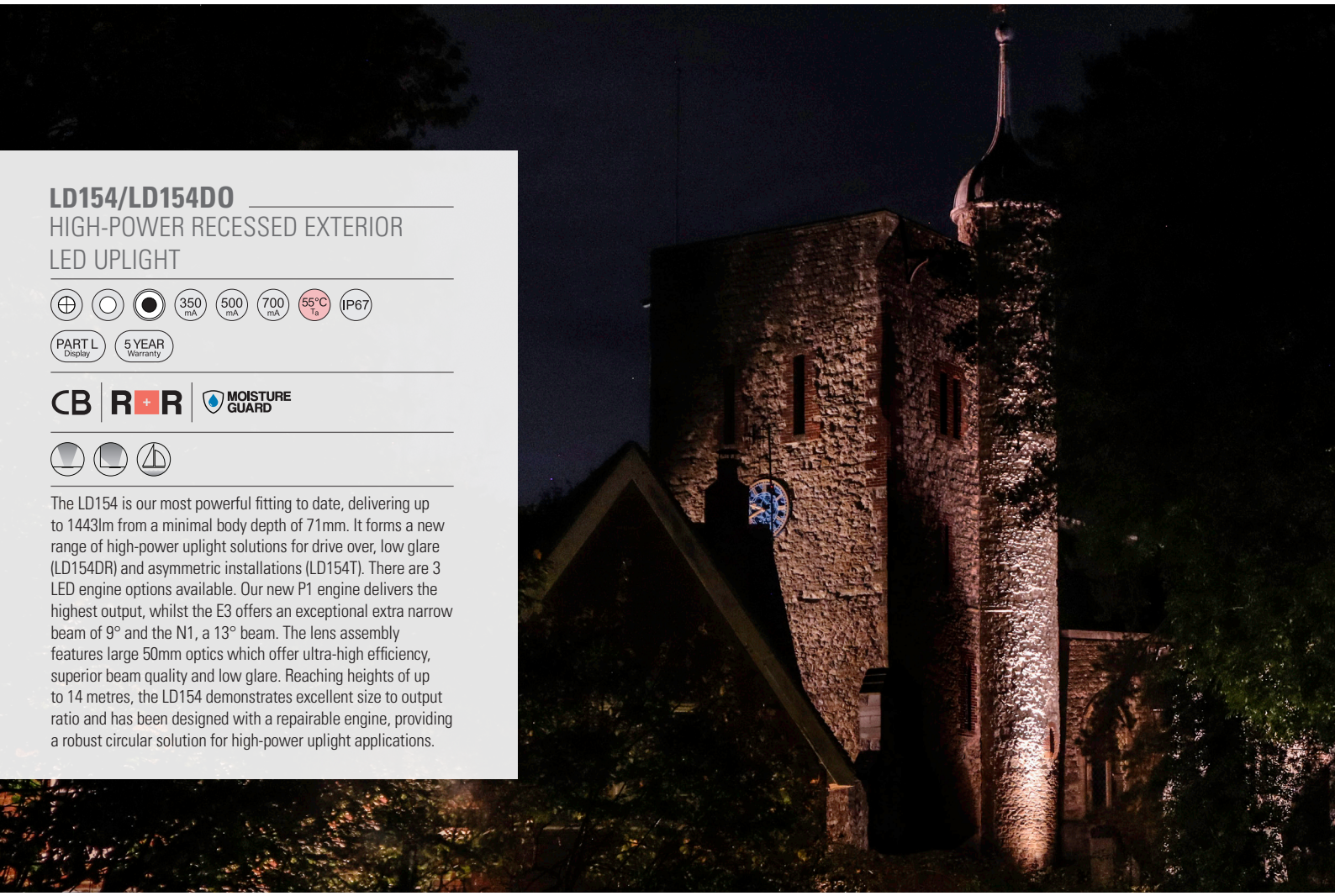
LD154/LD154DO



LD154/LD154DO

HIGH-POWER RECESSED EXTERIOR LED UPLIGHT

The LD154 is our most powerful fitting to date, delivering up to 1443lm from a minimal body depth of 71mm. It forms a new range of high-power uplight solutions for drive over, low glare (LD154DR) and asymmetric installations (LD154T). There are 3 LED engine options available. Our new P1 engine delivers the highest output, whilst the E3 offers an exceptional extra narrow beam of 9° and the N1, a 13° beam. The lens assembly features large 50mm optics which offer ultra-high efficiency, superior beam quality and low glare. Reaching heights of up to 14 metres, the LD154 demonstrates excellent size to output ratio and has been designed with a repairable engine, providing a robust circular solution for high-power uplight applications.

KEY FEATURES

- New high-power P1 engine with CREE COB delivering upto 1443lm at 500mA in 3000K
- E3 engine with NICHIA LED delivering up to 699lm at 700mA in 3000K, offering an exceptional 9° extra narrow beam with peak intensity reaching 15,922 cd
- N1 engine with CREE COB delivering up to 1028lm at 700mA in 3000K offering a 13° narrow beam
- Utilises large 50mm low glare optics, chosen for efficiency, quality of beam and ability to produce narrow beams at high outputs
- Low glare product with a choice of accessories to minimise the view of the light source at various angles
- Contains our integral moisture guard (anti-wicking barrier), stopping water ingress from going up the cable into the product from incorrect IP-rated connections
- Chamfered bezel available in 316 Stainless Steel, Polished & Passivated Stainless Steel, a wide range of powder coat paint finishes or any RAL colour
- LD154DO has been designed for drive over applications with a thickened bezel and dedicated concrete housing to prevent rotation of the fitting
- For applications requiring super low glare or an asymmetric beam, please view the LD154DR and LD154T data sheets
- Switched, 0-10V, Casambi, DMX, DALI, or Mains dimmable drivers available

DIMENSIONS

For full dimensions please go to page 4.

WHITE LED ENGINE SPECIFICATION

Engine	E3			N1			P1	
Beam angles	9°, 11°, 22°, 29°, 42°, 53°, 10° x 56°			13°, 24°, 31°, 45°, 54°, 13° x 58°			20°, 27°, 33°, 47°, 58°, 19° x 60°	
LED manufacturer	NICHIA			CREE			CREE	
Colour temperature	2200K, 2700K, 3000K, 4000K, 5000K			2200K, 2700K, 3000K, 4000K, 5000K			2200K, 2700K, 3000K, 4000K, 5000K	
Current [Rated Output]	350mA [5W]	500mA [7W]	700mA [10W]	350mA [7W]	500mA [10W]	700mA [14W]	350mA [14W]	500mA [20W]
Typical LED Circuit wattage	4.4W	6.4W	9.2W	6.4W	9.3W	13.3W	13.3W	19.6W
Delivered lumens (L_{100})*	418	557	699	577	776	1028	1050	1443
Delivered lm/Circuit W**	94	87	76	90	83	77	79	74
Typical LED Source wattage	4W	5.8W	8.3W	5.8W	8.4W	12.0W	12.0W	17.6W
Source LED lm	574	740	949	694	937	1264	1449	1983
Source lm/W	144	128	114	120	112	105	121	113
Forward voltage (V_{100})	11.3V	11.6V	11.8V	16.6V	16.8V	17.1V	34.3V	35.2V
CRI	85			93			90	
Colour consistency	2 SDCM			2 SDCM			3 SDCM	
Peak intensity	15,922 cd			13,809 cd			10,624 cd	
LOR	0.74			0.81			0.73	
TM30	RF86 | RG98			RF91 | RF99			RF90 | RG97	
UGR rating ('downlight' mounted)	6.4	7.4	8.2	5.8	6.8	7.8	8.6	9.7
BUG rating ('uplight' mounted)	B0-U3-G0		B0-U4-G0	B0-U4-G0		B0-U5-G0	B0-U5-G0	
LED lifetime	L90B5 at 90,000hrs							
Applications								

These values are based on LD154-E3-700-LW30-ENB, LD154-N1-700-LW30-NB and LD154-P1-700-LW30-NB
*See lumen variance table to the right for N1 engine. E3 lumens apply across all colour temperatures
**LED wattage includes losses assocaited with using a 90% efficient driver

Lumen variance by CCT	
2200K	-7%
2700K	+/- 0%
4000K	+7%
5000K	+16%

MECHANICAL

			350mA	500mA	700mA
Ambient temperature ○ 55°C	E3	Soil/Sleeve	-20°C to 55°C	-20°C to 55°C	-20°C to 40°C
		Concrete	-20°C to 55°C	-20°C to 55°C	-20°C to 50°C
	N1	Soil/Sleeve	-20°C to 55°C	-20°C to 50°C	-20°C to 35°C
		Concrete	-20°C to 55°C	-20°C to 55°C	-20°C to 50°C
	P1	Soil/Sleeve	-20°C to 50°C	N/A	-
		Concrete	-20°C to 50°C	-20°C to 25°C	-
Glass	8mm thick, low iron glass				
Materials	Black hard anodised aluminium body, 316 Stainless Steel bezel				
Weight of product	0.68kg				
IP rating	IP67				
IK rating	IK08				
Wiring	In-series constant current wiring (pre-wired with 2 core cable at a length of 250mm)				

ENVIRONMENTAL

TM65	Available on request
TM66	2.5
Repair + Refurbish	R+R This product is included in our Repair and Refurbish scheme. This offers customers the ability to send back products to us for repair or refurbishment to extend their life without having to buy new fittings.

AVAILABLE FINISHES

Please refer to our finishes guide for full details

316 STAINLESS STEEL

- Marine grade 316 Stainless Steel
- Standard machined finish
- Extremely durable
- Passivation recommended for marine environments to prevent corrosion and build up of brown stains caused by oxidation
- Interior & exterior use

POLISHED & PASSIVATED 316 STAINLESS STEEL

- Marine Grade 316 Stainless Steel
- Pristine mirror like finish
- Recommended for pools and marine applications
- Extremely durable with very high corrosion resistance
- Passivated to extensively prolong resistance to corrosion and brown stains caused by oxidation in marine environments
- Interior & exterior use

PAINT FINISH - POWDER COAT

- The powder-coated finish has a very matte appearance.
- Not recommended for high traffic in-ground applications, unless placed to one side where the bezel will not be walked on
- Powder coat paint is generally used on stainless steel or anodised aluminium components

WHITE
(RAL 9016)

BLACK
(RAL 9005)

CLASSIC BRONZE
(YM262E)

TEXTURED MARS BRONZE

TEXTURED FIR GREEN
(RAL 6009)

GUNMETAL GREY
(RAL 7021)

RAL COLOURS

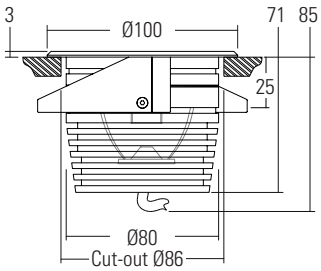
DIMENSIONS AND FIXING OPTIONS

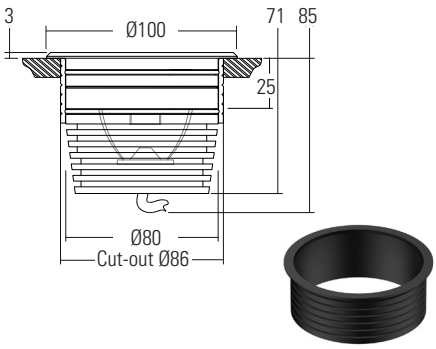
Dimensions in mm

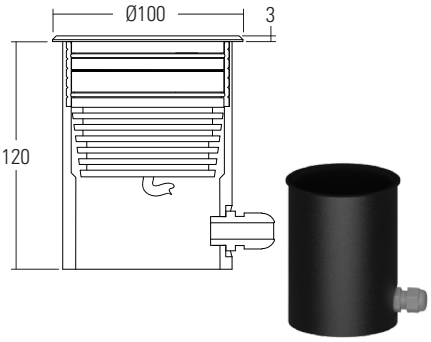
/SC Spring clips
Suitable for use in surfaces with a thickness of 1mm – 25mm. Spring clips provide a simple, single fix mounting method. We recommend that spring clips are only used in interior applications.

/485S Fixing sleeve and O-rings
Acetal sleeve is bonded into the mounting surface first and the fitting is held in with O-rings. We recommend this method for mounting in exterior in-ground applications.

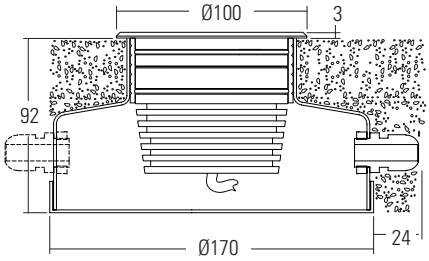
/485GT Ground tube
Designed for soil or gravel surfaces. It is supplied with the fixing sleeve bonded into the tube and can be cut down on site. The tube can be buried with the necessary wiring via the PG9 IP67 gland and then the fitting installed after the landscaping work has been completed.







/485N Concrete Housing
The aluminium housing is used as a heat sink which keeps the LED fitting cool through the thermal transfer of the heat within the housing to the surrounding concrete. The housings are big enough for IP rated connections to be made inside and a second gland is available for cabling onto the next luminaire.



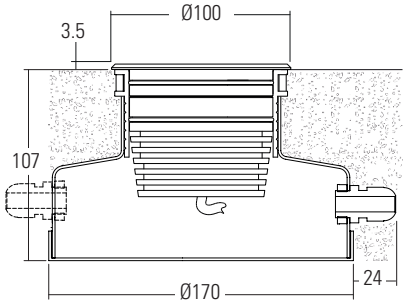
/485N
Concrete housing with 1x PG9 IP67 gland

/485N-2
Concrete housing with 2x PG9 IP67 gland

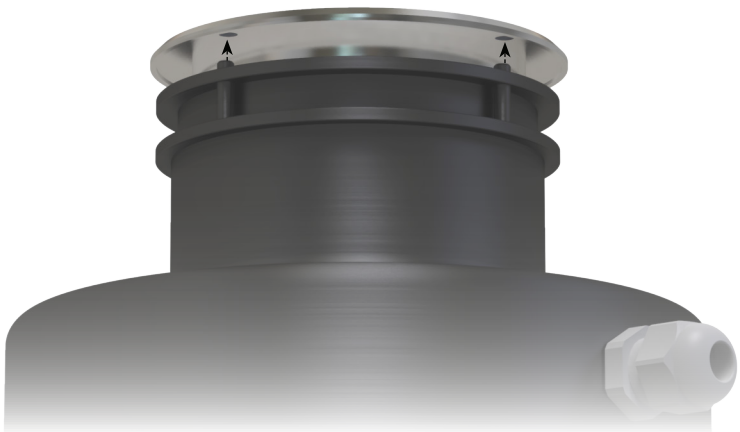
LD154DO (DRIVE OVER APPLICATION)

For drive over applications please specify the LD154DO, which is supplied with a drive over bezel and has an increased thickness of 3.5mm. The bezel features pins that secured into the concrete housing, preventing the luminaire from rotating when driven over. When specifying LD154DO, please use the dedicated configurator on page 9.

/485N-DO Drive over concrete housing with 1x PG9 IP67 gland.



/485N-DO-2
Drive over concrete housing with 2x PG9 IP67 gland.



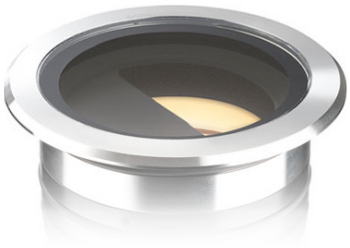
GLARE CONTROL OPTIONS

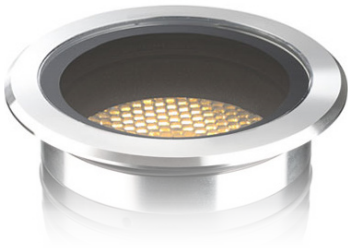
/NGS No glare shield
No glare shield. Low glare optic and matt black anodised optic holder aids in glare reduction.

/GSHM154 Half-moon glare shield
For applications that require low glare. Lumen output is typically reduced by 60% with no light lost on the lit surface.

/GSOB154 Oval beam glare shield
Reduces the angles at which glare is visible without compromising the oval output of the beam. Useful when used in applications where glare can be seen from two sides, for example archways.

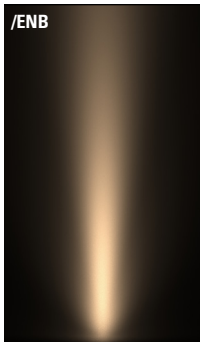
/HL Honeycomb louvre
Helps reduce glare from all angles and can be used with glare shields.



CONE DIAGRAMS

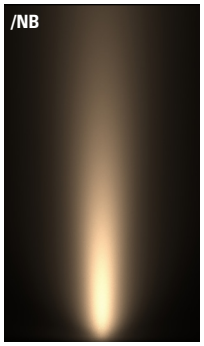
E3 LED Engine
Cone diagrams below are based on a 3000K E3 LED engine run at maximum output 700mA, 10W. Images below represents beam outputs when wall washing a 3m wall, spaced 125mm away from the lit surface. Photometric files (LDT) are included in the design pack which can be downloaded from the LD154 product page on the website.



Extra Narrow Beam
700mA using a 9° optic

Distance (m)	Illuminance (lx)
3.0	1762
2.5	2537
2.0	3964
1.5	7048
1.0	15858
0.5	63430

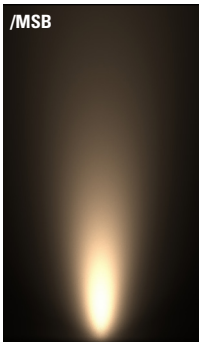
Cone Width (m)



Narrow Beam
700mA using a 11° optic

Distance (m)	Illuminance (lx)
3.0	1052
2.5	1515
2.0	2367
1.5	4208
1.0	9468
0.5	37870

Cone Width (m)



Medium Spot Beam
700mA using a 22° optic

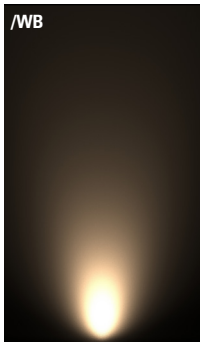
Distance (m)	Illuminance (lx)
3.0	367
2.5	529
2.0	826
1.5	1468
1.0	3304
0.5	13214

Cone Width (m)

Medium Beam
700mA using a 29° optic

Distance (m)	Illuminance (lx)
3.0	233
2.5	335
2.0	523
1.5	930
1.0	2093
0.5	8370

Cone Width (m)



Wide Beam
700mA using a 42° optic

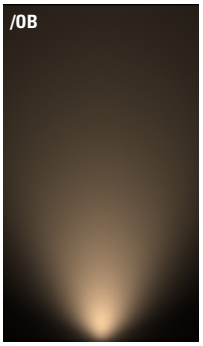
Distance (m)	Illuminance (lx)
3.0	122
2.5	176
2.0	275
1.5	490
1.0	1101
0.5	4406

Cone Width (m)

Extra Wide Beam
700mA using a 53° optic

Distance (m)	Illuminance (lx)
3.0	78
2.5	112
2.0	175
1.5	311
1.0	699
0.5	2797

Cone Width (m)



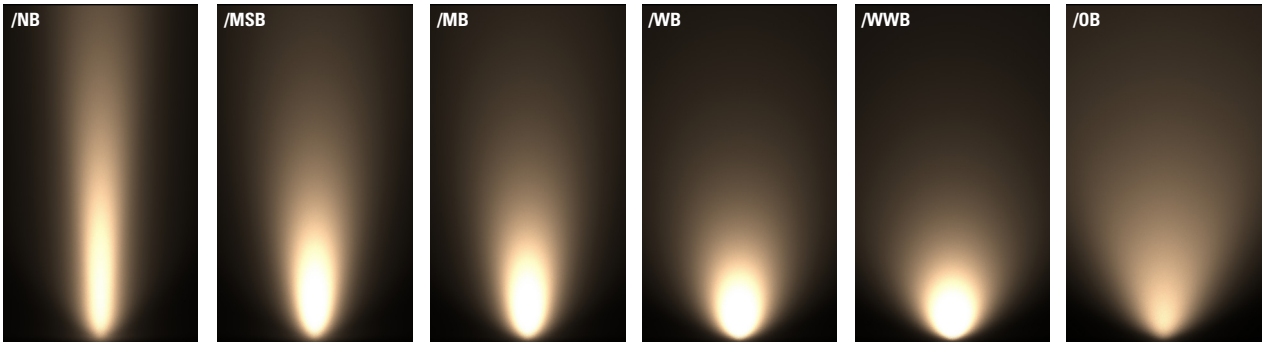
Oval Beam
700mA using a 10° x 56° optic

Distance (m)	Illuminance (lx)
3.0	332
2.5	477
2.0	746
1.5	1326
1.0	2984
0.5	11936

Cone Width (m)

N1 LED Engine

Cone diagrams below are based on a 3000K N1 LED engine run at maximum output 700mA, 14W. Images below represents beam outputs when wall washing a 3m wall, spaced 125mm away from the lit surface. Photometric files (LDT) are included in the design pack which can be downloaded from the LD154 product page on the website.



Narrow Beam
700mA using a 13° optic

Distance (m)	Illuminance (lx)
3.0	0.68	1533
2.5	0.57	2207
2.0	0.46	3448
1.5	0.34	6131
1.0	0.23	13794
0.5	0.11	55176

Cone Width (m)

Medium Spot Beam
700mA using a 24° optic

Distance (m)	Illuminance (lx)
3.0	1.28	497
2.5	1.06	715
2.0	0.85	1118
1.5	0.64	1987
1.0	0.43	4470
0.5	0.21	17882

Cone Width (m)

Medium Beam
700mA using a 31° optic

Distance (m)	Illuminance (lx)
3.0	1.62	307
2.5	1.35	442
2.0	1.08	690
1.5	0.81	1227
1.0	0.54	2760
0.5	0.27	11041

Cone Width (m)

Wide Beam
700mA using a 45° optic

Distance (m)	Illuminance (lx)
3.0	2.53	145
2.5	2.11	209
2.0	1.69	327
1.5	1.27	581
1.0	0.84	1308
0.5	0.42	5232

Cone Width (m)

Extra Wide Beam
700mA using a 54° optic

Distance (m)	Illuminance (lx)
3.0	3.16	108
2.5	2.64	156
2.0	2.11	243
1.5	1.58	432
1.0	1.05	972
0.5	0.53	3890

Cone Width (m)

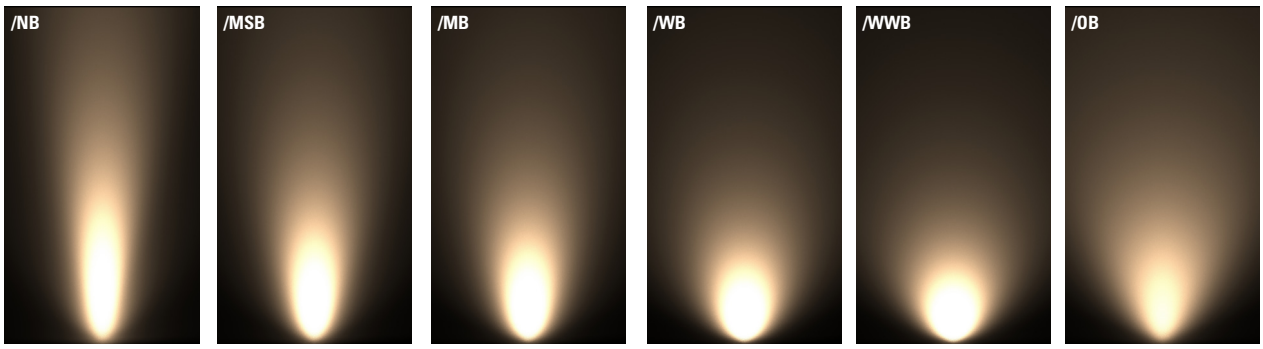
Oval Beam
700mA using a 13° x 58° optic

Distance (m)	Illuminance (lx)
3.0	0.69 / 3.38	358
2.5	0.58 / 2.82	515
2.0	0.46 / 2.25	805
1.5	0.35 / 1.69	1432
1.0	0.23 / 1.13	3222
0.5	0.12 / 0.56	12887

Cone Width (m)

P1 LED Engine

Cone diagrams below are based on a 3000K P1 LED engine run at maximum output 500mA, 20W. Images below represents beam outputs when wall washing a 3m wall, spaced 125mm away from the lit surface. Photometric files (LDT) are included in the design pack which can be downloaded from the LD154 product page on the website.



Narrow Beam
500mA using a 20° optic

Distance (m)	Illuminance (lx)
3.0	1.05	1065
2.5	0.87	1533
2.0	0.70	2395
1.5	0.52	4258
1.0	0.35	9582
0.5	0.17	38326

Cone Width (m)

Medium Spot Beam
500mA using a 27° optic

Distance (m)	Illuminance (lx)
3.0	1.47	513
2.5	1.23	738
2.0	0.98	1153
1.5	0.74	2050
1.0	0.49	4614
0.5	0.25	18454

Cone Width (m)

Medium Beam
500mA using a 33° optic

Distance (m)	Illuminance (lx)
3.0	1.80	356
2.5	1.50	513
2.0	1.20	802
1.5	0.90	1425
1.0	0.60	3207
0.5	0.30	12829

Cone Width (m)

Wide Beam
500mA using a 47° optic

Distance (m)	Illuminance (lx)
3.0	2.65	183
2.5	2.21	264
2.0	1.76	412
1.5	1.32	733
1.0	0.88	1650
0.5	0.44	6599

Cone Width (m)

Extra Wide Beam
500mA using a 58° optic

Distance (m)	Illuminance (lx)
3.0	3.33	136
2.5	2.77	195
2.0	2.22	305
1.5	1.66	542
1.0	1.11	1220
0.5	0.55	4879

Cone Width (m)

Oval Beam
500mA using a 19 x 60° optic

Distance (m)	Illuminance (lx)
3.0	1.03 / 3.44	350
2.5	0.85 / 2.86	504
2.0	0.68 / 2.29	787
1.5	0.51 / 1.72	1399
1.0	0.34 / 1.15	3147
0.5	0.17 / 0.57	12590

Cone Width (m)

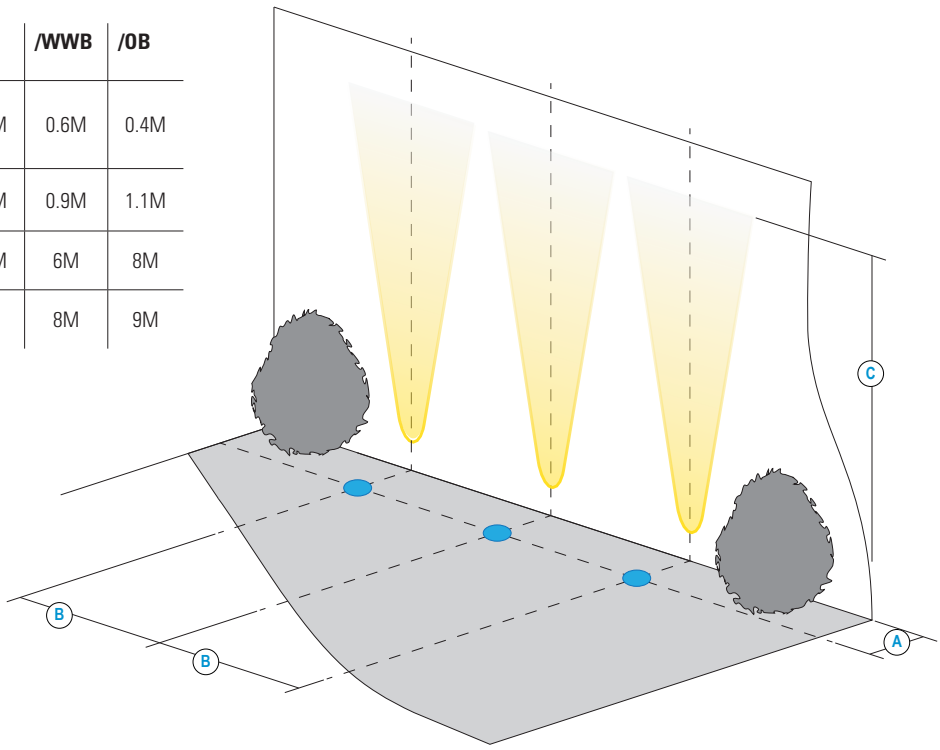
INSTALLATION GUIDE

Below is an uplighting application guide with suggested luminaire mounting positions for an even wall wash. Every project and lighting scenario will be different and the table below is to be used as a starting point. Please use our photometric files to further test the desired effect for your application. Files are available on the LD154 product page on our website.

LD154-E3		/ENB*	/NB*	/MSB	/MB	/WB	/WWB	/OB
A	Distance from the centre of the fitting to the lit surface	0.25M	0.3M	0.35M	0.4M	0.5M	0.6M	0.3M
B	Spacing for an even wash	0.4M	0.45M	0.5M	0.7M	0.8M	0.9M	1.1M
C	500mA lit distance**	10M	7M	6.5M	5.5M	4.5M	4M	6M
C	700mA lit distance**	11M	8M	7M	6M	5M	4.5M	7M

LD154-N1		/NB*	/MSB	/MB	/WB	/WWB	/OB
A	Distance from the centre of the fitting to the lit surface	0.3M	0.35M	0.4M	0.5M	0.6M	0.3M
B	Spacing for an even wash	0.45M	0.5M	0.7M	0.8M	0.9M	1.1M
C	500mA lit distance**	10M	8M	6.5M	5.5M	5M	7M
C	700mA lit distance**	11.5M	9M	7.5M	6.5M	6M	7.5M

LD154-P1		/NB*	/MSB	/MB	/WB	/WWB	/OB
A	Distance from the centre of the fitting to the lit surface	0.35M	0.4M	0.45M	0.5M	0.6M	0.4M
B	Spacing for an even wash	0.5M	0.7M	0.75M	0.8M	0.9M	1.1M
C	350mA lit distance**	11M	9M	9M	7.5M	6M	8M
C	500mA lit distance**	14M	11M	10.5M	9M	8M	9M



*Wall washing using narrow beam optics should only be used if the designer requires long distance lighting up the lit surface.
**Illuminated distance is calculated based on achieving 10% of the initial lux calculated at the start of the beam.

ORDER CODES & OPTIONS - LD154

Example: LD154-E3-700/LW30/OB/GSOB154/316 STAINLESS STEEL/SC

Light engine & drive current		LED Colour		Beam Angle		Accessory		Finish		Fixing
LD154-	/		/		/		/		/	

Ambient temperature key: 55°C

E3

Light engine	Code	Ta
5W LED at 350mA	LD154-E3-350	55°C Ta
7W LED at 500mA	LD154-E3-500	55°C Ta
10W LED at 700mA	LD154-E3-700	

LED Colour	Code
Super Warm White (2200K)	/LW22
Extra Warm White (2700K)	/LW27
Warm White (3000K)	/LW30
White (4000K) on request	/LW40
Cool White (5000K)	/LW50

Beam Angle	Code
9° Extra Narrow	/ENB
11° Narrow	/NB
22° Medium Spot	/MSB
29° Medium	/MB
42° Wide	/WB
53° Extra Wide	/WWB
10° x 56° Oval	/OB

N1

Light engine	Code	Ta
7W LED at 350mA	LD154-N1-350	55°C Ta
10W LED at 500mA*	LD154-N1-500	55°C Ta
14W LED at 700mA	LD154-N1-700	

*55°C ambient when placed in a 485N / 485N-2 concrete can in concrete.

LED Colour	Code
Super Warm White (2200K)	/LW22
Extra Warm White (2700K)	/LW27
Warm White (3000K)	/LW30
White (4000K) on request	/LW40
Cool White (5000K)	/LW50

Beam Angle	Code
13° Narrow	/NB
24° Medium Spot	/MSB
31° Medium	/MB
45° Wide	/WB
54° Extra Wide	/WWB
13° x 58° Oval	/OB

P1

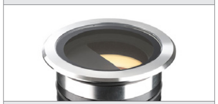
Light engine	Code
14W LED at 350mA	LD154-P1-350
20W LED at 500mA	LD154-P1-500

LED Colour	Code
Super Warm White (2200K)	/LW22
Extra Warm White (2700K)	/LW27
Warm White (3000K)	/LW30
White (4000K) on request	/LW40
Cool White (5000K)	/LW50

Beam Angle	Code
20° Narrow	/NB
27° Medium Spot	/MSB
33° Medium	/MB
47° Wide	/WB
58° Extra Wide	/WWB
19° x 60° Oval	/OB

Accessory

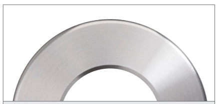

/NGS

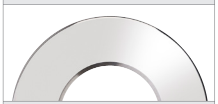

/GSHM154

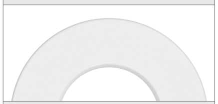

/GSOB154


/HL

Finish


316 Stainless Steel


Polished & Passivated 316 Stainless Steel (for marine environments)

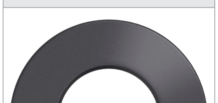

Paint Finish White (RAL 9016)


Paint Finish Black (RAL 9005)


Paint Finish Classic Bronze (YM262E)

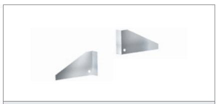

Paint Finish Textured Mars Bronze


Paint Finish Textured Fir Green (RAL 6009)


Paint Finish Gunmetal Grey (RAL 7021)


Paint Finish - RAL

Fixing


/SC


/485S


/485N


/485N-2

Drivers

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

We have a range of dimmable LED drivers DMX and DALI compatible. Please see the downloads section on our website.

ORDER CODES & OPTIONS - LD154DO

Example: LD154DO-E3-700/LW30/OB/GSOB154/316 STAINLESS STEEL/485N-DO

Light engine & drive current		LED Colour		Beam Angle		Accessory		Finish		Fixing
LD154DO-	/		/		/		/		/	

Ambient temperature key: 55°C

E3

55°C Ta	5W LED at 350mA	LD154DO-E3-350	Super Warm White (2200K)	/LW22	9° Extra Narrow	/ENB	/NGS	316 Stainless Steel	/SC
55°C Ta	7W LED at 500mA	LD154DO-E3-500	Extra Warm White (2700K)	/LW27	11° Narrow	/NB	/GSHM154	Polished & Passivated 316 Stainless Steel (for marine environments)	/485S
	10W LED at 700mA	LD154DO-E3-700	Warm White (3000K)	/LW30	22° Medium Spot	/MSB	/GSOB154	Paint Finish White (RAL 9016)	/485N
			White (4000K) on request	/LW40	29° Medium	/MB	/HL	Paint Finish Black (RAL 9005)	/485N-2
			Cool White (5000K)	/LW50	42° Wide	/WB		Paint Finish Classic Bronze (YM262E)	
					53° Extra Wide	/WWB		Paint Finish Textured Mars Bronze	
					10° x 56° Oval	/OB		Paint Finish Textured Fir Green (RAL 6009)	
								Paint Finish Gunmetal Grey (RAL 7021)	
								Paint Finish - RAL	

N1

55°C Ta	7W LED at 350mA	LD154DO-N1-350	Super Warm White (2200K)	/LW22	13° Narrow	/NB	/NGS	316 Stainless Steel	/SC
55°C Ta	10W LED at 500mA*	LD154DO-N1-500	Extra Warm White (2700K)	/LW27	24° Medium Spot	/MSB	/GSHM154	Polished & Passivated 316 Stainless Steel (for marine environments)	/485S
	14W LED at 700mA	LD154DO-N1-700	Warm White (3000K)	/LW30	31° Medium	/MB	/GSOB154	Paint Finish White (RAL 9016)	/485N
			White (4000K) on request	/LW40	45° Wide	/WB	/HL	Paint Finish Black (RAL 9005)	/485N-2
			Cool White (5000K)	/LW50	54° Extra Wide	/WWB		Paint Finish Classic Bronze (YM262E)	
					13° x 58° Oval	/OB		Paint Finish Textured Mars Bronze	
								Paint Finish Textured Fir Green (RAL 6009)	
								Paint Finish Gunmetal Grey (RAL 7021)	
								Paint Finish - RAL	

*55°C ambient when placed in a 485N / 485N-2 concrete can in concrete.

P1

	14W LED at 350mA	LD154DO-P1-350	Super Warm White (2200K)	/LW22	20° Narrow	/NB	/NGS	316 Stainless Steel	/SC
	20W LED at 500mA	LD154DO-P1-500	Extra Warm White (2700K)	/LW27	27° Medium Spot	/MSB	/GSHM154	Polished & Passivated 316 Stainless Steel (for marine environments)	/485S
			Warm White (3000K)	/LW30	33° Medium	/MB	/GSOB154	Paint Finish White (RAL 9016)	/485N
			White (4000K) on request	/LW40	47° Wide	/WB	/HL	Paint Finish Black (RAL 9005)	/485N-2
			Cool White (5000K)	/LW50	58° Extra Wide	/WWB		Paint Finish Classic Bronze (YM262E)	
					19° x 60° Oval	/OB		Paint Finish Textured Mars Bronze	
								Paint Finish Textured Fir Green (RAL 6009)	
								Paint Finish Gunmetal Grey (RAL 7021)	
								Paint Finish - RAL	

Drivers
Use with 350mA, 500mA & 700mA constant current LED drivers We have a range of dimmable LED drivers DMX and DALI compatible. Please see the downloads section on our website.