

## HIGH-POWER SURFACE MOUNTED ADJUSTABLE INTERIOR/EXTERIOR LED SPOTLIGHT




Lighter Cathedral, Kent, UK  
 Lighting Designed, Photography, CES Lighting & Electrical Specialists  
 Product: LD10238

Project: Rochester Cathedral, Kent, U.K  
Lighting Designer & Photography: CES Lighting & Electrical Specialists  
Product: LD10238

## DIMENSIONS






*Dimensions in mm*

- > Compact but powerful fitting, delivering up to 891 lumens at 700mA in 3000K
- > E3 engine featuring NICHIA LED, with 2-step binning and built-in reverse polarity protection
- > Multiple engine options include N1 & F1 COB LEDs with 90+ CRI and 2200K colour option - Tunable White, CLR and RGBW engine also available
- > Machined aluminium fitting, paint finishes include: White (RAL 9016), Silver, Anthracite Grey (RAL 7016), Black (RAL 9005), Antique Bronze, Satin Antique Brass, Satin Brass or any RAL finish
- > 90° head tilt adjustment
- > Beam angles include, narrow 12° spot for lighting columns and arches, or a 15°x49° spreader lens, ideal for wall washing applications
- > Single light source and optic produces a consistent beam removing multiple shadows and includes black trim glass with peak intensity up to 7851
- > 47mm recessed LED lens assembly within the body for reduced glare
- > Anti-glare cowl included and optional honeycomb louvre for low-glare
- > Fixing options include adjustable and non adjustable surface mount, surface mounting base and ground spike
- >  Contains our integral moisture guard (anti-wicking barrier), stopping water ingress from going up the cable into the product from incorrect IP-rated connections
- > Switched, 0-10V, Casambi, DMX, DALI, or Mains dimmable drivers available

For fitting and accessory dimensions please go to page 5.



## WHITE LED ENGINE SPECIFICATION

Engine	E3			N1			F1		
Beam angles	12°, 19°, 34°, 54°, 15°x 49°			25°, 35°, 46°, 65°, 22°x 43°			25°, 46°, 65°, 18°x 45°		
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 [3.5W]	500mA [5W]	700mA [7W]
Typical LED Circuit wattage	4.4W	6.4W	9.2W	6.4W	9.3W	13.3W	3.3W	5W	7.2W
Delivered lumens (L <sub>100</sub> )*	379	493	653	494	677	891	247	323	413
Delivered lm/Circuit W**	85	77	71	77	73	67	74	65	57
Typical LED Source wattage	4W	5.8W	8.3W	5.8W	8.4W	12.0W	3W	4.5W	6.5W
Source LED lm	574	740	949	694	937	1264	377	497	654
Source lm/W	144	128	114	120	112	105	126	110	101
Forward voltage (V <sub>100</sub> )	11.3V	11.6V	11.8V	16.6V	16.8V	17.1V	8.7V	9V	9.3V
CRI	85			93			90		
Colour consistency	2 SDCM			2 SDCM			3 SDCM		
Peak intensity	6,104 cd			2,922 cd			1,641 cd		
LOR	0.69			0.70			0.63		
TM30	RF85   RG99			RF91   RF91			RF90   RG103		
UGR rating	UGR unavailable for asymmetric light distribution								
BUG rating ('downlight' mounted)	B1-U0-G0								
LED lifetime	L90B5 at 90,000hrs								
Applications	    								

These values are based on LD10238-E3-700-LW30-NB, LD10238-N1-700-LW30-MSB & LD10238-F1-700-LW22-MSB

\*See lumen variance table to the right for N1 engine. E3 lumens apply across all colour temperatures


\*\*LED wattage includes losses associated with using a 90% efficient driver

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

## MECHANICAL

		350mA	500mA	700mA
Ambient temperature ○ 55°C	⊕ E3	-20°C to 55°C	-20°C to 55°C	-20°C to 50°C
	○ N1	-20°C to 55°C	-20°C to 55°C	-20°C to 35°C
	⊙ F1	-20°C to 55°C	-20°C to 55°C	-20°C to 50°C
Glass	Low iron glass 3mm thick			
Materials	Anodised aluminium body, with stainless steel fixing brackets			
Weight of product	0.72kg			
IP rating	IP67			
Wiring	In-series constant current wiring (pre-wired with 2 core cable at a length of 1m)			

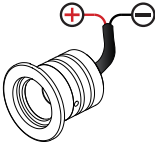
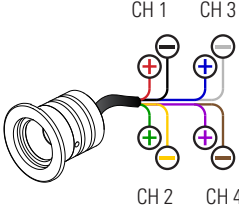
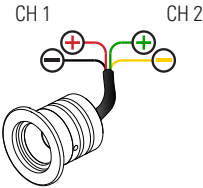
## ENVIRONMENTAL

TM65	Available on request	
TM66	2.6	
Repair + Refurbish		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.

## COLOUR & DYNAMIC LED ENGINE SPECIFICATION

Engine	 CLR - Colour	 RGBW	 TW - Tunable White
Beam angles	24°, 38°, 54°, 20°x 46°	38° colour mix lens	24°, 38°, 54°, 20°x 46°
LED manufacturer	CREE	CREE	CREE
Colour temperature	Red, Green, Blue, Amber	Red, Green, Blue, 4000K White	Warm White 2700K or 3000K      Cool White 4000K or 5000K
Current	500mA	350mA      500mA	500mA
LED power (Max)	7W	5W      7W	7W 3.5W per channel
Applications	    		

## MECHANICAL

Glass	Low iron glass 3mm thick		
Materials	Anodised aluminium body, with stainless steel fixing brackets		
Weight of product	0.72kg		
IP rating	IP67		
Wiring	<b>CLR</b> - 2 core cables at 1m in length 	<b>RGBW</b> - 8 core cables at 1m in length 	<b>TW</b> - 4 core cables at 1m in length 



## AVAILABLE FINISHES

*Please refer to our finishes guide for full details*

The LD10238 body is machined from aluminium and painted in-house at LightGraphix. Paint finishes are suitable for interior and exterior use on surface mounted products. Our standard colours are below but we can accommodate any RAL request.

### POWDER COAT

Powder coat paint is offered in special textured finishes, which are suitable for interior, exterior and high-saline environments.



**BLACK**  
(RAL 9005)



**WHITE**  
(RAL 9016)



**Classic Bronze**  
(YM262E)



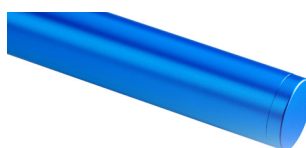
**Textured Fir Green**  
(RAL 6009)



**Textured Mars Bronze**



**Gunmetal Grey**  
(RAL 7021)

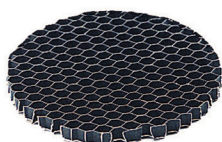


**RAL COLOURS**

## GLARE SHIELD & ACCESSORY OPTIONS

### /HL Honeycomb louvre

the honeycomb louvre can be used for further reducing glare. Please note this is not suitable for use with the 15° x 49° oval beam or RGBW optic due to the quality of the beam.



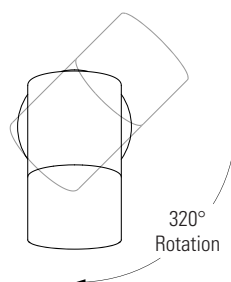
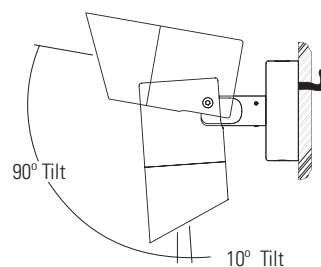
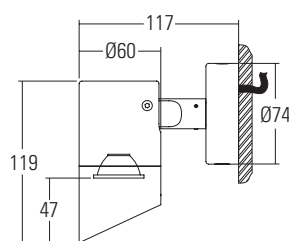
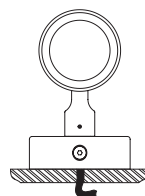
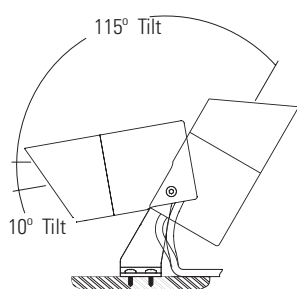
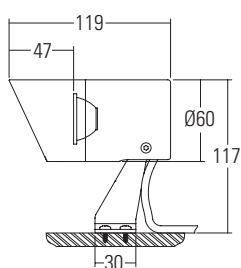
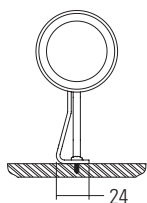
Project: Rochester Cathedral, Kent, UK  
Lighting Design& Photography: CES Lighting & Electrical Specialists  
Product: LD10238 - Custom RAL finish

## MOUNTING OPTIONS AND DIMENSIONS

Dimensions in mm

### /SAM Surface adjustable mount

Surface adjustable mounting is screwed to the surface via a strong mounting stand which allows for minor rotational adjustment. The fitting tilt adjustment is not lockable, but is factory set to a robust friction to allow focussing. Weight: 0.05kg



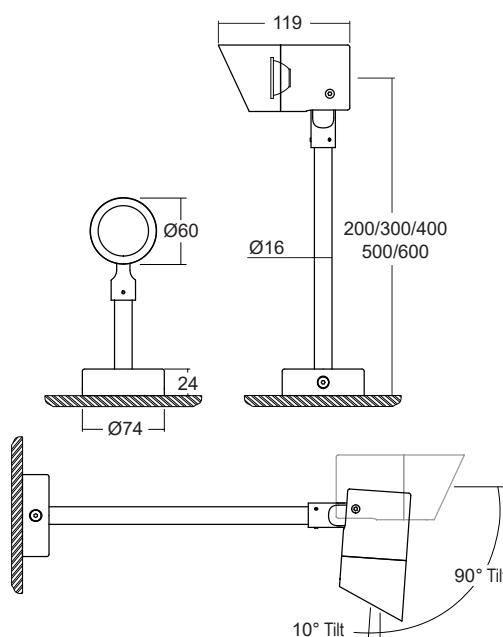
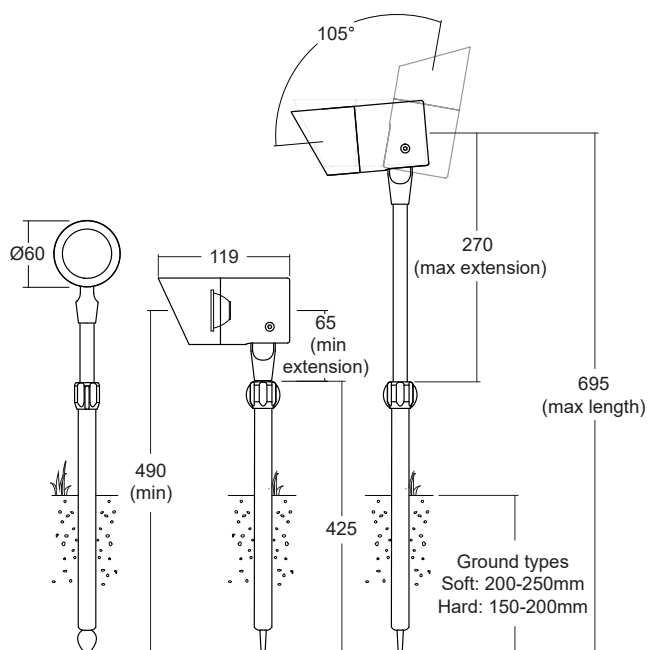
**/GSA Adjustable ground spike**

Adjustable ground spike for in-ground applications. Ground spike adjustment allows spotlight to be raised above the growing plants around it. Tilt adjustment is not lockable, but is factory set to a robust friction to allow focussing. Height adjustment of 490mm to 695mm to the centre of the fitting. Weight: 0.18kg



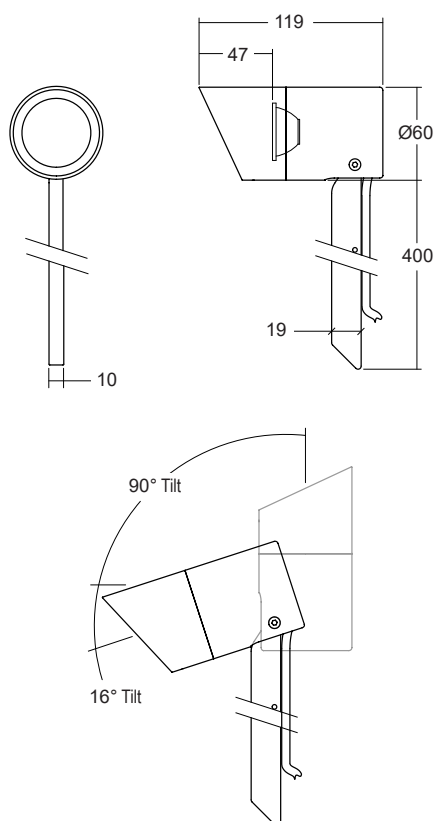
**/SMBEX Extended surface adjustable mount**

Surface mount base with customisable arm length between 200mm and 600mm to the centre of the fitting. Suitable for vertical and horizontal mounting. Tilt adjustment is not lockable, but is factory set to a robust friction to allow focussing. Weight: 0.14kg



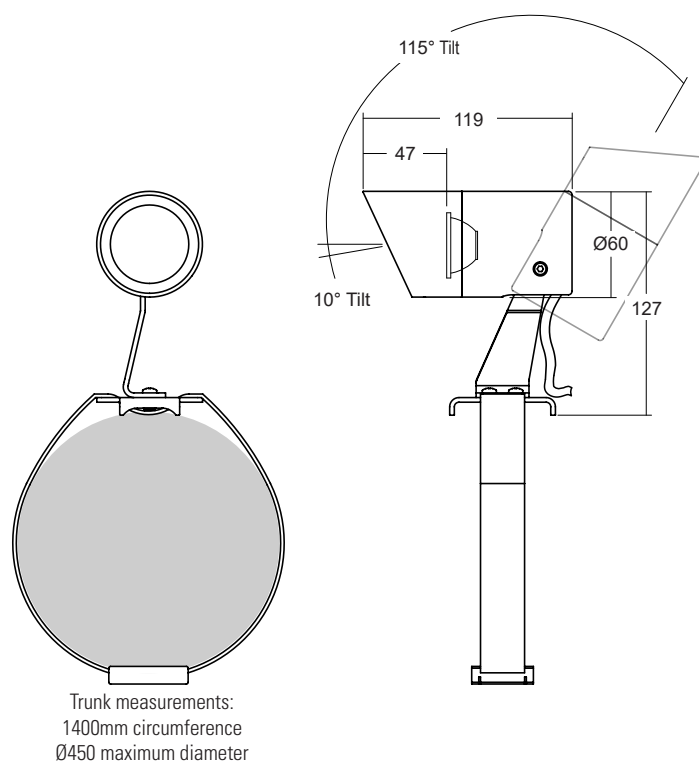
**/GS Ground spike**

Fixed height 400mm ground spike for in-ground applications. Tilt adjustment is not lockable, but is factory set to a robust friction to allow focussing. Weight: 0.21kg



**/TS Tree strap**

The tree strap material grips and is tightened around the trunk. A tilt adjustment of 10° can be achieved towards the tree to provide a vertical beam. It is not lockable, but is factory set to a robust friction to allow focussing. Weight: 0.21kg





## CONE DIAGRAMS

### E3 LED Engine

Cone diagrams below are based on a 3000K E3 LED engine run at maximum output 700mA, 10W. Images below represent 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 LD10238 product page on the website.



**Narrow Beam**

700mA using a 12° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	0.76	869
2.5	0.63	1252
2.0	0.51	1516
1.5	0.38	2694
1.0	0.25	6062
0.5	0.13	24248



**Medium Beam**

700mA using a 19° optic

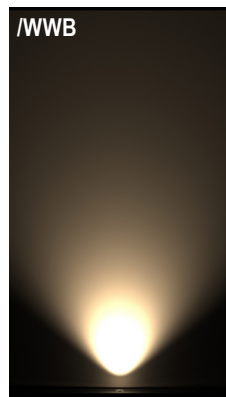
Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	0.95	434
2.5	0.79	625
2.0	0.63	977
1.5	0.48	1737
1.0	0.32	3909
0.5	0.16	15637



**Wide Beam**

700mA using a 34° optic

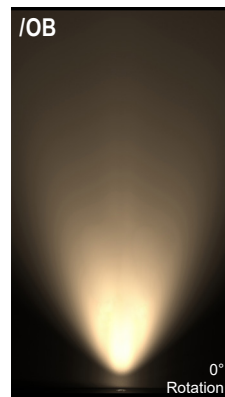
Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	1.77	121
2.5	1.47	174
2.0	1.18	271
1.5	0.88	483
1.0	0.59	1086
0.5	0.29	4344



**Extra Wide Beam**

700mA using a 54° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	3.26	74
2.5	2.71	107
2.0	2.17	167
1.5	1.63	296
1.0	1.09	667
0.5	0.54	2667



**Oval Beam**

700mA using a 15° X 49° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	2.45 / 0.75	264
2.5	2.04 / 0.62	380
2.0	1.63 / 0.50	593
1.5	1.23 / 0.37	1054
1.0	0.82 / 0.25	2372
0.5	0.41 / 0.12	9489



### N1 LED Engine

Cone diagrams below are based on a 3000K N1 LED engine run at maximum output 700mA, 14W. Images below represent 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 LD10238 product page on the website.



**Medium Spot Beam**

700mA using a 25° optic

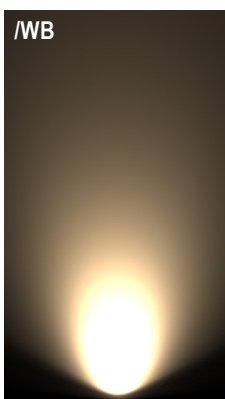
Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	1.42	331
2.5	1.18	477
2.0	0.95	745
1.5	0.71	1325
1.0	0.47	2981
0.5	0.24	11925



**Medium Beam**

700mA using a 35° optic

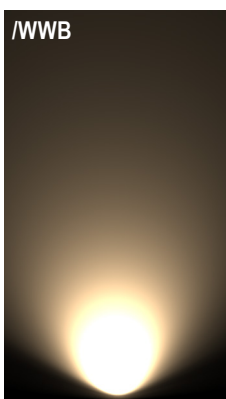
Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	1.90	230
2.5	1.59	331
2.0	1.27	517
1.5	0.95	919
1.0	0.63	2067
0.5	0.32	8267



**Wide Beam**

700mA using a 46° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	2.57	149
2.5	2.14	215
2.0	1.71	336
1.5	1.29	598
1.0	0.86	1344
0.5	0.43	5378



**Extra Wide Beam**

700mA using a 65° optic

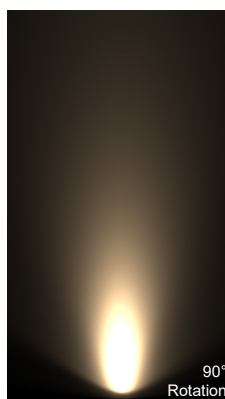
Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	3.85	88
2.5	3.21	127
2.0	2.57	198
1.5	1.93	352
1.0	1.28	792
0.5	0.64	3167



**Oval Beam**

700mA using a 22° x 43° optic

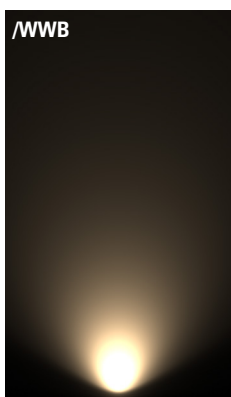
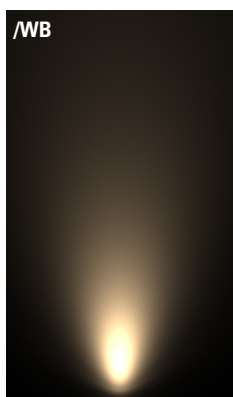
Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	2.14 / 1.20	281
2.5	1.78 / 1.00	404
2.0	1.42 / 0.80	631
1.5	1.07 / 0.60	1122
1.0	0.71 / 0.40	2525
0.5	0.36 / 0.20	10100





#### F1 LED Engine

Cone diagrams below are based on a 2200K F1 LED engine run at maximum output 700mA, 7W. Images below represent 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 LD10238 product page on the website.



Medium Spot Beam  
700mA using a 25° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	1.17	202
2.5	0.97	290
2.0	0.78	454
1.5	0.58	806
1.0	0.39	1814
0.5	0.19	7256

Wide Beam  
700mA using a 46° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	2.02	82
2.5	1.68	119
2.0	1.35	185
1.5	1.01	330
1.0	0.67	742
0.5	0.34	2968

Extra Wide Beam  
700mA using a 65° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	3.85	39
2.5	3.21	56
2.0	2.57	88
1.5	1.93	156
1.0	1.28	351
0.5	0.64	1402

Oval Beam  
700mA using a 18° X 45° optic

Distance (m)	Illuminance (lx)	Cone Width (m)
3.0	2.47 / 0.91	149
2.5	2.06 / 0.76	214
2.0	1.65 / 0.60	335
1.5	1.24 / 0.45	595
1.0	0.82 / 0.30	1339
0.5	0.41 / 0.15	5357



Design: Lighting Design International  
Project: Four Seasons Astir Palace Hotel, Athens  
Product: LD10238  
Photography: Gavril (www.gavrilux.com)

## ORDER CODES & OPTIONS

Example: LD10238-E3-700/LW30/NB/Black/SMB/HL

Light engine & drive current	LED colour	Beam angle	Finish	Accessories
LD10238 -	/	/	/	/

Ambient temperature key: 55°C

### WHITE LED ENGINES

#### E3

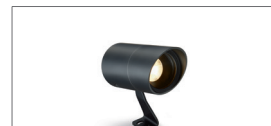
5W LED at 350mA	LD10238-E3-350
7W LED at 500mA	LD10238-E3-500
10W LED at 700mA	LD10238-E3-700

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

12° Narrow spot	/NB
19° Medium	/MB
34° Wide	/WB
54° Extra wide	/WWB
15° x 49° Oval	/OB



Powder Coat  
Black  
(RAL 9005 - Standard)



/SAM



Powder Coat  
White  
(RAL 9016)



/SMB



Powder Coat  
Classic Bronze  
(YM262E)



/GSA



Powder Coat  
Textured Fir Green  
(RAL 6009)



/GS



Powder Coat  
Textured Mars Bronze



/SMBEX (DIM)



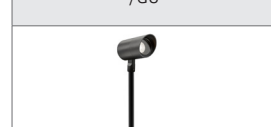
Powder Coat  
Gunmetal Grey  
(RAL 7021)



/TS



Custom  
RAL Colours



/HL  
(Not suitable for use  
with /OB or RGBW LED)

#### N1

7W LED at 350mA	LD10238-N1-350
10W LED at 500mA	LD10238-N1-500
14W LED at 700mA	LD10238-N1-700

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

25° Medium spot	/MSB
35° Medium	/MB
46° Wide	/WB
65° Extra wide	/WWB
22° x 43° Oval	/OB



Powder Coat  
White  
(RAL 9016)



/SMB



Powder Coat  
Classic Bronze  
(YM262E)



/GSA



Powder Coat  
Textured Fir Green  
(RAL 6009)



/GS



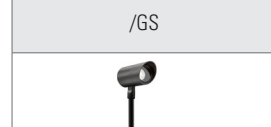
Powder Coat  
Textured Mars Bronze



/SMBEX (DIM)



Powder Coat  
Gunmetal Grey  
(RAL 7021)



/TS



Custom  
RAL Colours



/HL  
(Not suitable for use  
with /OB or RGBW LED)

#### F1

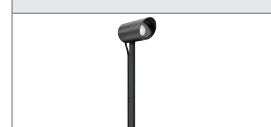
3.5W LED at 350mA	LD10238-F1-350
5W LED at 500mA	LD10238-F1-500
7W LED at 700mA	LD10238-F1-700

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

25° Medium spot	/MSB
46° Wide	/WB
65° Extra wide	/WWB
18° x 45° Oval	/OB



Powder Coat  
Textured Fir Green  
(RAL 6009)



/GS



Powder Coat  
Textured Mars Bronze



/SMBEX (DIM)



Powder Coat  
Gunmetal Grey  
(RAL 7021)



/TS



Custom  
RAL Colours



/HL  
(Not suitable for use  
with /OB or RGBW LED)

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

Example: LD10238-RGBW-350/38° Colour mix lens/Black/SMB/HL

Light engine & drive current	LED colour	Beam angle	Finish	Accessories
LD10238 -	/	/	/	/

### COLOUR & DYNAMIC LED ENGINES

#### CLR

7W LED at 500mA	LD10238-CLR-500	Red /LR	24° Medium /MB
		Green /LG	38° Wide /WB
		Blue /LB	54° Extra wide /WWB
		Amber /LA	20° x 46° Oval /OB

#### RGBW

5W LED at 350mA	LD10238-RGBW-350	38° Colour mix lens
7W LED at 500mA	LD10238-RGBW-500	

#### TW

3.5W LED at 350mA	LD10238-TW-350	Tunable White 2700K & 4000K (standard option) /LW27 + LW40	24° Medium /MB
		Tunable White 2700K & 5000K /LW27 + LW50	38° Wide /WB
		Custom /LW** + L**	54° Extra wide /WWB
			20° x 46° Oval /OB

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.

	
Powder Coat Black (RAL 9005 - Standard)	/SAM
	
Powder Coat White (RAL 9016)	/SMB
	
Powder Coat Classic Bronze (YM262E)	/GSA
	
Powder Coat Textured Fir Green (RAL 6009)	/GS
	
Powder Coat Textured Mars Bronze	/SMBEX (DIM)
	
Powder Coat Gunmetal Grey (RAL 7021)	/TS
	
Custom RAL Colours	/HL (Not suitable for use with /OB or RGBW LED)