

## LD1090

### ADJUSTABLE HIGH-POWER SHALLOW RECESSED LOW GLARE LED DOWNLIGHT



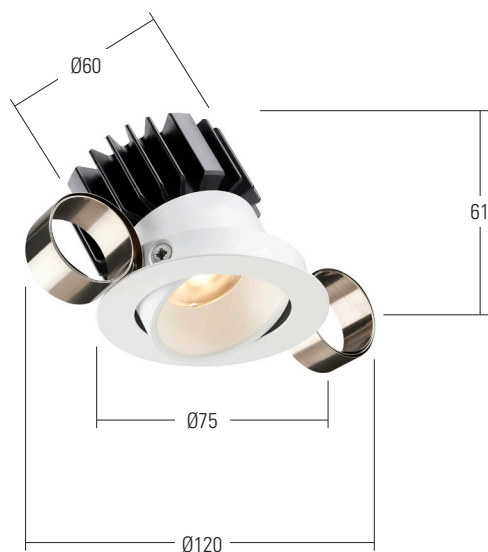
The LD1090 is part of a range of ultra shallow, high power downlights designed for ceilings with a minimal recess depth. This compact, high quality downlight delivers in excess of 1000lm making it ideal for general downlighting, as well as wall washing and architectural applications. The adjustable lens assembly can be tilted up to 25° to allow ultimate flexibility when focusing the product. Rated IP40 as standard, LD1090 can also be specified as IP65 for wet or humid areas including bathrooms and spas. With a minimalistic design it complements most interior project styles that require a high-power and adjustable light output, from a very compact, shallow fitting.

## KEY FEATURES

- > High-power N1 CREE COB engine delivering up to 1006lm in 3000K at 700mA
- > E3 engine featuring NICHIA LED delivering 703lm in 3000K at 700mA
- > Adjustable lens assembly with a 25° tilt
- > Designed for shallow applications with a minimal recess depth of 70mm
- > Deep recessed LED with optional honeycomb louvre available
- > Single optic produces a very consistent beam with no multiple shadows
- > 7 beam angle choices, including 12° narrow and 54° extra wide beam (E3 engine)
- > High quality, machined, anodised aluminium bezel available in a wide range of paint finishes including: White (RAL 9016), Black (RAL 9005), Silver Anodised, Antique Bronze, Satin Brass, Satin Antique Brass, Anthracite Grey (RAL 7016) or any RAL finish.
- > Rated IP40 with IP65 option for wet areas such as bathrooms and spas
- > Simple spring clip fixing method, suitable for surfaces 1mm-23mm thick
- > Switched, 0-10V, Casambi, DMX, Dali or Mains dimmable drivers available

## DIMENSIONS

For full dimensions please go to page 3.



## WHITE LED ENGINE SPECIFICATION

Engine	⊕ E3			⊙ N1		
Beam angles	12°, 19°, 34°, 54°			25°, 35°, 46°		
LED manufacturer	NICHIA			CREE		
Colour temperature*	2700K / 3000K / 4000K / 5000K			2200K / 2700K / 3000K / 4000K / 5000K		
Current	350mA	500mA	700mA	350mA	500mA	700mA
LED power (Max)	4.2W (5W**)	6W (7W**)	8.4W (10W**)	6.6W (7W**)	9.4W (10W**)	13.3W (14W**)
Delivered lumens (L <sub>100</sub> )	407	542	703	588	776	1006
Lumens per circuit watt	81	77	70	84	78	72
CRI (Typ)	85			93		
Forward voltage (V <sub>100</sub> )	14V			18V		
Colour consistency	2 SCDM			2 SCDM		
Peak intensity	6945 cd			3622 cd		
LED Lumens	840lm			1393lm		
LOR	0.84			0.73		
TM30	RF85.5	RG98.1		RF90.9	RF91	
UGR	12.9			16.8		
LED lifetime	L90B5 at 90,000hrs					
Applications						

These values are based around a LD1090-E3-700-LW30-NB & LD1090-N1-700-LW30-MSB

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

\*\*indicates the nominal power for the LED run at that particular current and includes losses associated with using an 85% efficient driver

\*\*\*UGR values based on room parameter of 4H, 8H, C70 W50 F20

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

## MECHANICAL

Ambient temperature	-20° to 35° (700mA) or -20° to 40° (500mA) or -20° to 55° (350mA)
Glass	IP65 version uses a 1mm thick low iron glass
Materials	Anodised aluminium bezel and body, stainless steel constant force spring clips
Weight of product	0.282kg
IP rating	IP40 or IP65
Wiring	In-series constant current wiring (Pre-wired with 2 core cable at a length of 350mm - can be specified up to 10 metres)

## AVAILABLE FINISHES

*Please refer to our finishes guide for full details*

The LD1090 bezel is machined from aluminium and painted in-house at LightGraphix. Wet spray paint finishes are suitable for interior, exterior and high saline marine environments. Our standard colours are below but we can accommodate any RAL request.



WHITE (RAL 9016)



BLACK (RAL 9005)



SILVER ANODISED



ANTIQU BRONZE



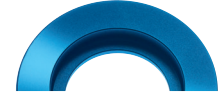
SATIN ANTIQUE BRASS



SATIN BRASS



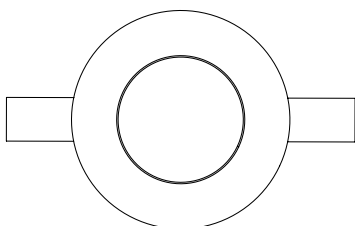
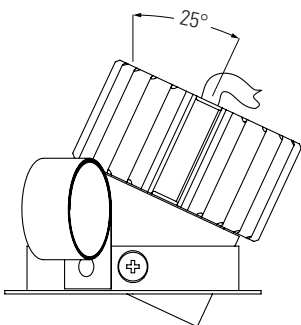
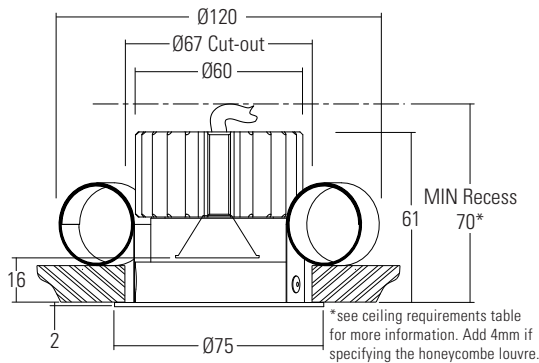
ANTHRACITE GREY (RAL 7016)



RAL

## DIMENSIONS AND FIXING OPTIONS

Supplied as standard with spring clips, which are suitable for use in surfaces with a thickness of 1mm – 23mm. Spring clips provide a simple, single fix mounting method.



## ACCESSORIES

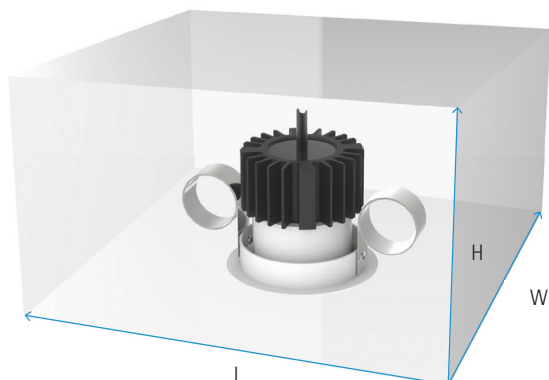
### /HL Honeycomb Louvre

Honeycomb louvre for reduced glare from all angles. Please note this will increase the height of the fitting by 4mm.



## CEILING VOID REQUIREMENTS

Installation requirements can vary but the minimum installation volume requirements must be adhered to. The volume of air within the void ensures that the thermal performance of the product is not compromised and that proper cooling of the LED can take place. The minimum void height is 70mm.



E3 LED			
Output current	Minimum void dimension requirements (Lmm x Wmm x Hmm)	Minimum void volume	
		cm <sup>3</sup>	Litre(s)
350mA / 500mA	120 x 120 x 70 (74 with /HL)	1008cm <sup>3</sup>	1
700mA	150 x 150 x 70 (74 with /HL)	1575cm <sup>3</sup>	1.5

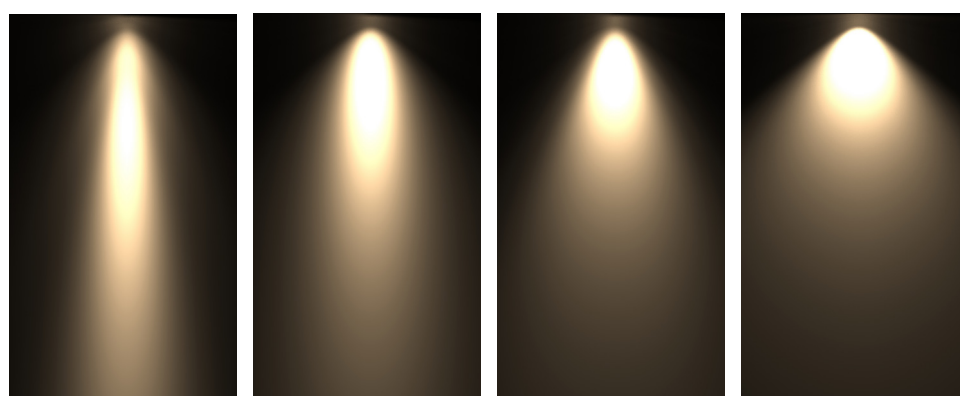
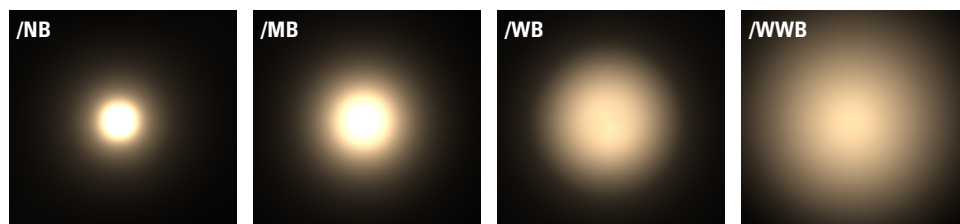
N1 LED			
Output current	Minimum void dimension requirements (Lmm x Wmm x Hmm)	Minimum void volume	
		cm <sup>3</sup>	Litre(s)
350mA	120 x 120 x 70 (74 with /HL)	1008cm <sup>3</sup>	1
500mA	140 x 140 x 70 (74 with /HL)	1372cm <sup>3</sup>	1.3
700mA	200 x 200 x 70 (74 with /HL)	2800cm <sup>3</sup>	2.8

Note: At 700mA the minimum dimension between a wall, within the ceiling void and the edge of the fitting must be 70mm.

## 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 LD1090 product page on the website.



Narrow Beam  
700mA using a 12° optic

Distance (m)	Cone Width (m)	Luminance (lx)
0.5	0.13	27750
1.0	0.26	6938
1.5	0.38	3083
2.0	0.51	1734
2.5	0.64	1110
3.0	0.77	771

Cone Width (m)

Medium Beam  
700mA using a 19° optic

Distance (m)	Cone Width (m)	Luminance (lx)
0.5	0.19	13983
1.0	0.38	3496
1.5	0.57	1554
2.0	0.76	874
2.5	0.94	558
3.0	1.13	388

Cone Width (m)

Wide Beam  
700mA using a 34° optic

Distance (m)	Cone Width (m)	Luminance (lx)
0.5	0.28	7320
1.0	0.57	1830
1.5	0.85	813
2.0	1.13	458
2.5	1.41	293
3.0	1.70	203

Cone Width (m)

Extra Wide Beam  
700mA using a 54° optic

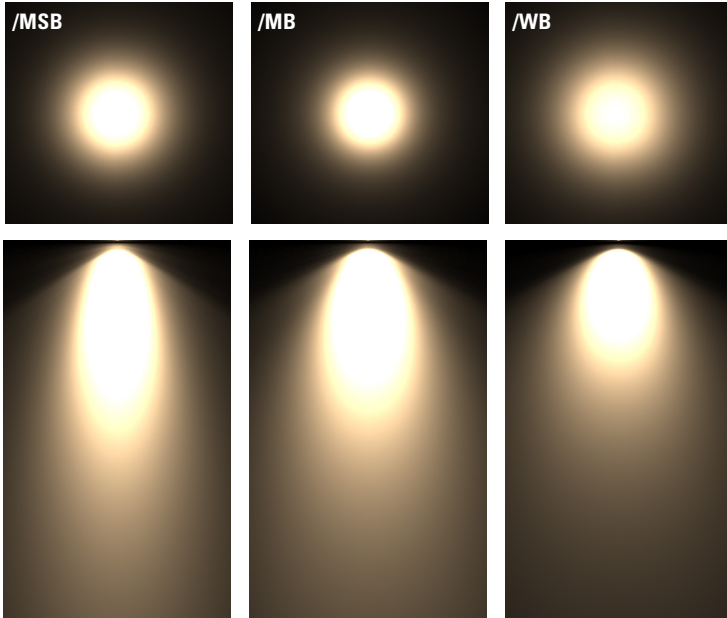
Distance (m)	Cone Width (m)	Luminance (lx)
0.5	0.56	2826
1.0	1.13	707
1.5	1.69	314
2.0	2.25	177
2.5	2.82	113
3.0	3.38	79

Cone Width (m)

CONE DIAGRAMS

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 LD1090 product page on the website.



Medium Spot Beam  
700mA using a 25° optic

Distance (m)	Cone Width (m)	Luminance (lx)
0.5	0.23	14350
1.0	0.46	3588
1.5	0.69	1594
2.0	0.92	897
2.5	1.15	574
3.0	1.39	399

Cone Width (m)

Medium Beam  
700mA using a 35° optic

Distance (m)	Cone Width (m)	Luminance (lx)
0.5	0.32	8890
1.0	0.64	2222
1.5	0.96	988
2.0	1.28	566
2.5	1.61	356
3.0	1.93	247

Cone Width (m)

Wide Beam  
700mA using a 46° optic

Distance (m)	Cone Width (m)	Luminance (lx)
0.5	0.43	5863
1.0	0.85	1466
1.5	1.28	651
2.0	1.71	366
2.5	2.13	235
3.0	2.56	163

Cone Width (m)

ORDER CODES & OPTIONS

Example: LD1090-E3-500 / LW30 / MB / IP65 / White / HL

Light engine & drive current	LED colour	Beam angle	IP rating	Finishes	Accessory
LD1090-	/	/	/	/	/

**E3**

5W LED at 350mA	LD1090-E3-350
7W LED at 500mA	LD1090-E3-500
10W LED at 700mA	LD1090-E3-700

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

IP40	/IP40
IP65	/IP65



Paint Finish - White (RAL 9016)



Paint Finish - Black (RAL 9005)



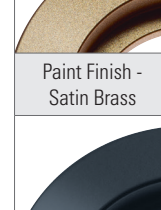
Paint Finish - Silver Anodised



Paint Finish - Antique Bronze



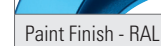
Paint Finish - Satin Antique Brass



Paint Finish - Satin Brass



Paint Finish - Anthracite Grey (RAL 7016)



Paint Finish - RAL



/HL

**N1**

7W LED at 350mA	LD1090-N1-350
10W LED at 500mA	LD1090-N1-500
14W LED at 700mA	LD1090-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

IP40	/IP40
IP65	/IP65

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.