

LD1081 FIXED ULTRA SHALLOW RECESSED LED DOWNLIGHT



The LD1081 is part of a range of ultra shallow, high-power downlights designed to fit into ceilings with a minimal recess depth. The LD1081 is particularly unique since it only requires a ceiling depth of 50mm, but can deliver in excess of 1000lm, with two LED engine options available. This compact, high quality downlight is ideal for general illumination, as well as wall washing and architectural applications. Rated IP40 as standard, the LD1081 can also be specified as IP65 for wet or humid areas including bathrooms and spas. With a minimalistic design it complements a range of interior project styles that require a high-power light output, from a very compact, shallow fitting.

KEY FEATURES

- > High-power N1 engine with CREE COB delivering 1024lm in 3000K at 700mA
- > E3 engine featuring NICHIA LED delivering over 713lm in 3000K at 700mA
- > Designed for ultra shallow applications with a minimal recess depth of 50mm (350mA/500mA only)
- > 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.
- > Deep recessed LED and optic and optional honeycomb louvre for low glare
- > Single optic produces a very consistent beam with no multiple shadows
- > 9 beam angle choices, including 12° narrow and 12° x 49° oval beam (E3 engine)
- > 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°, 12° x 49°			25°, 35°, 46°, 22° x 43°		
LED manufacturer	NICHIA			CREE		
Colour temperature*	2200K, 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 ₁₀₀)	405	542	713	594	799	1024
Lumens per circuit watt	81	77	71	84	79	72
CRI (Typ)	85		90***	93		
Forward voltage (V ₁₀₀)	14V			18V		
Colour consistency	2 SDCM			2 SDCM		
Peak intensity	6583 cd			3622 cd		
LED Lumens	840lm			1393lm		
LOR	0.85			0.73		
TM30	RF85.5		RG98.0	RF90.9		RG101.6
UGR	16.2			21.3		
LED lifetime	L90B5 at 90,000hrs					
Applications	   					

These values are based around a LD1081-E3-700/830/NB & LD1081-N1-700/930/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

***90 CRI available in 2700K/3000K only. Approx. 10% lumen drop will occur compared to 85 CRI variants

***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	0.274kg
IP rating	IP40 & 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 LD1081 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



ANTIQUE BRONZE



SATIN ANTIQUE BRASS



SATIN BRASS



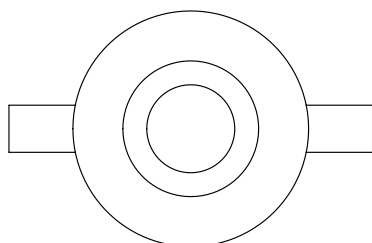
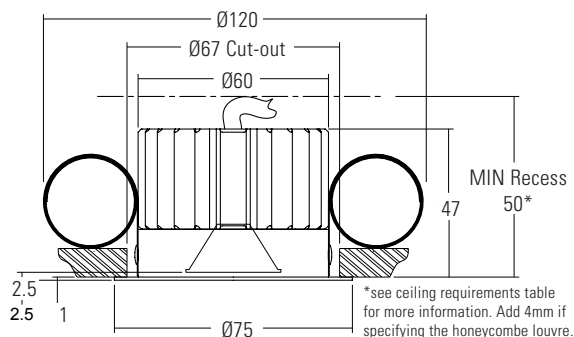
ANTHRACITE GREY (RAL 7016)



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

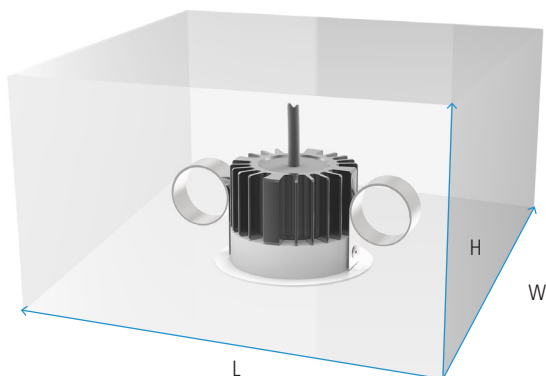
/HL Honeycomb Louvre

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 50mm at 350mA/500mA.



E3 LED			
Output current	Minimum void dimension requirements (Lmm x Wmm x Hmm)	Minimum void volume	
		cm ³	Litre(s)
350mA	120 x 120 x 50 (54 with /HL)	720cm ³	0.7
500mA	120 x 120 x 70 (70 with /HL)	1008cm ³	1
700mA	150 x 150 x 50 (74 with /HL)	1125cm ³	1.1

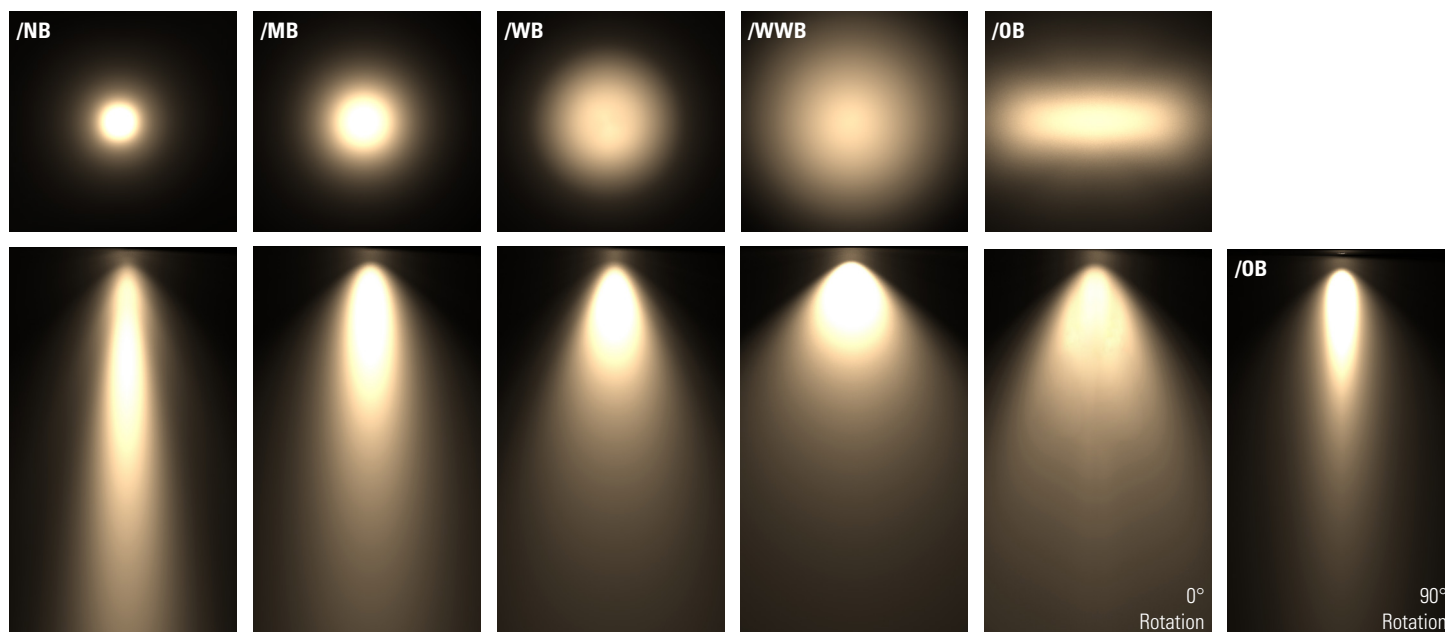
N1 LED			
Output current	Minimum void dimension requirements (Lmm x Wmm x Hmm)	Minimum void volume	
		cm ³	Litre(s)
350mA	150 x 150 x 50 (54 with /HL)	1125cm ³	1.1
500mA	160 x 160 x 50 (54 with /HL)	1280cm ³	1.3
700mA	230 x 230 x 56 (60 with /HL)	2962cm ³	3

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 LD1081 product page on the website.



Narrow Beam
700mA using a 12° optic

Distance (m)	Illuminance (lx)
0.5	0.13 26269
1.0	0.26 6567
1.5	0.39 2919
2.0	0.53 1642
2.5	0.66 1051
3.0	0.79 730

Cone Width (m)

Medium Beam
700mA using a 19° optic

Distance (m)	Illuminance (lx)
0.5	0.19 14268
1.0	0.37 3567
1.5	0.56 1585
2.0	0.75 892
2.5	0.94 571
3.0	1.12 396

Cone Width (m)

Wide Beam
700mA using a 34° optic

Distance (m)	Illuminance (lx)
0.5	0.28 7110
1.0	0.55 1777
1.5	0.83 790
2.0	1.10 444
2.5	1.38 284
3.0	1.65 197

Cone Width (m)

Extra Wide Beam
700mA using a 54° optic

Distance (m)	Illuminance (lx)
0.5	0.55 2769
1.0	1.09 692
1.5	1.64 308
2.0	2.19 173
2.5	2.74 111
3.0	3.28 77

Cone Width (m)

Oval Beam
700mA using a 12° X 49° optic

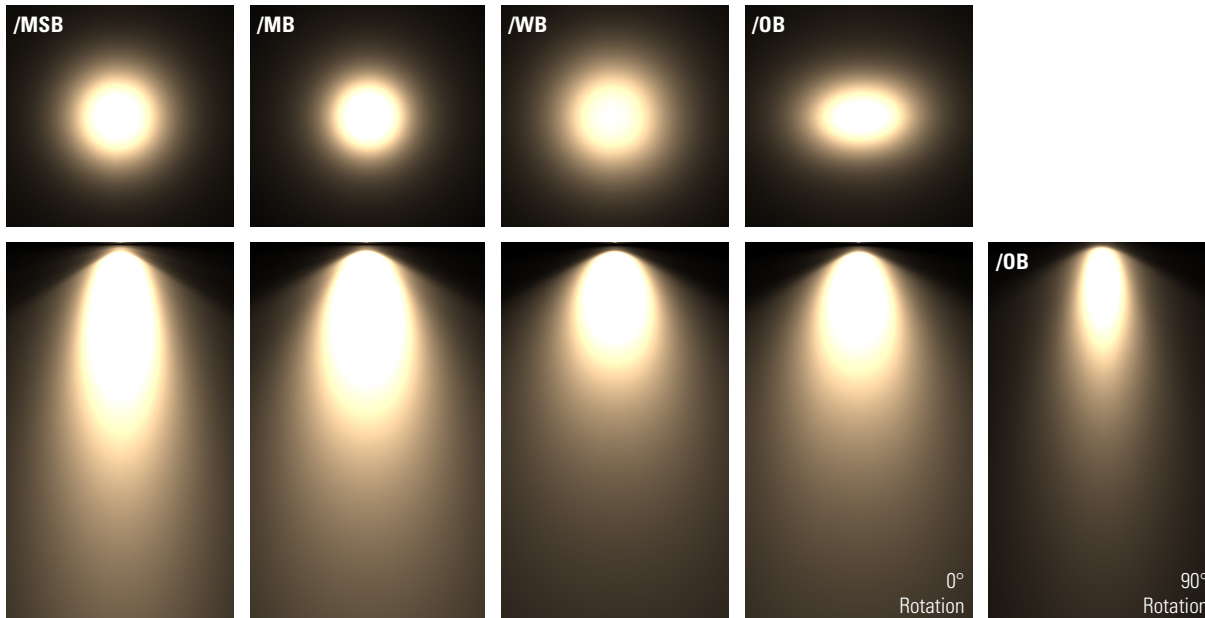
Distance (m)	Illuminance (lx)
0.5	0.14 / 0.42 9285
1.0	0.28 / 0.83 2321
1.5	0.42 / 1.25 1032
2.0	0.56 / 1.67 580
2.5	0.69 / 2.08 371
3.0	0.83 / 2.50 258

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 LD1081 product page on the website.



Medium Spot Beam
700mA using a 25° optic

Distance (m)	Illuminance (lx)	
0.5	0.23	14557
1.0	0.46	3639
1.5	0.69	1617
2.0	0.92	910
2.5	1.15	582
3.0	1.39	582

Cone Width (m)

Medium Beam
700mA using a 35° optic

Distance (m)	Illuminance (lx)	
0.5	0.32	8574
1.0	0.64	2143
1.5	0.96	953
2.0	1.28	536
2.5	1.61	343
3.0	1.93	238

Cone Width (m)

Wide Beam
700mA using a 46° optic

Distance (m)	Illuminance (lx)	
0.5	0.43	5612
1.0	0.85	1403
1.5	1.28	624
2.0	1.71	351
2.5	2.13	224
3.0	2.56	156

Cone Width (m)

Oval Beam
700mA using a 22° X 43° optic

Distance (m)	Illuminance (lx)	
0.5	0.19 / 0.39	10083
1.0	0.39 / 0.77	2521
1.5	0.58 / 1.16	1120
2.0	0.78 / 1.54	630
2.5	0.97 / 1.93	403
3.0	1.17 / 2.32	280

Cone Width (m)

ORDER CODES & OPTIONS

Example: LD1081-E3-500/830/MB/IP65/Paint Finish White/HL

Light Engine & Drive Current	LED colour	Beam angle	IP rating	Finishes	Accessory
LD1081-	/	/	/	/	/

E3

5W LED at 350mA	LD1081-E3-350	2200K 85+ CRI /822	12° Narrow spot /NB	IP40 /IP40	 Paint Finish White (RAL 9016)	 /HL
7W LED at 500mA	LD1081-E3-500	2700K 85+ CRI /827	19° Medium /MB	IP65 /IP65		
10W LED at 700mA	LD1081-E3-700	3000K 85+ CRI /830	34° Wide /WB			
		4000K 85+ CRI on request /840	54° Extra wide /WWB			
		5000K 85+ CRI /850	12° x 49° Oval Beam /OB			
		2700K 90+ CRI /927				
		3000K 90+ CRI /930				

N1

7W LED at 350mA	LD1081-N1-350	2200K 93+ CRI /922	25° Medium spot /MSB		 Paint Finish Antique Bronze
10W LED at 500mA	LD1081-N1-500	2700K 93+ CRI /927	35° Medium /MB		 Paint Finish Satin Antique Brass
14W LED at 700mA	LD1081-N1-700	3000K 93+ CRI /930	46° Wide /WB		 Paint Finish Satin Brass
		4000K 93+ CRI on request /940	22° x 43° Oval Beam /OB		 Paint Finish Anthracite Grey (RAL 7016)
		5000K 93+ CRI /950			 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.