



INTERIOR LIGHTING CATALOGUE

The World Just Got Brighter

INTERIOR LIGHTING CATALOGUE

ISSUE 6

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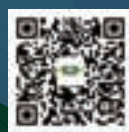
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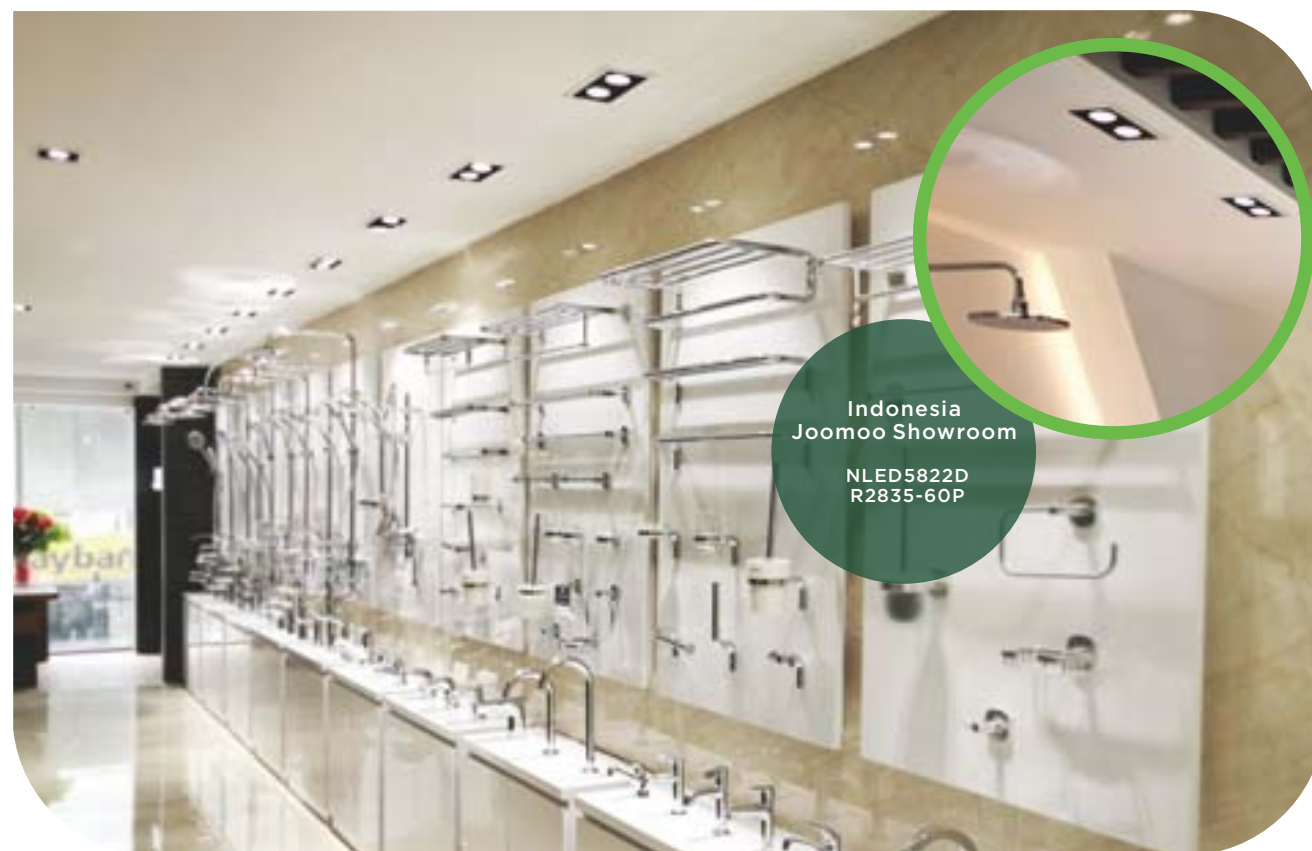
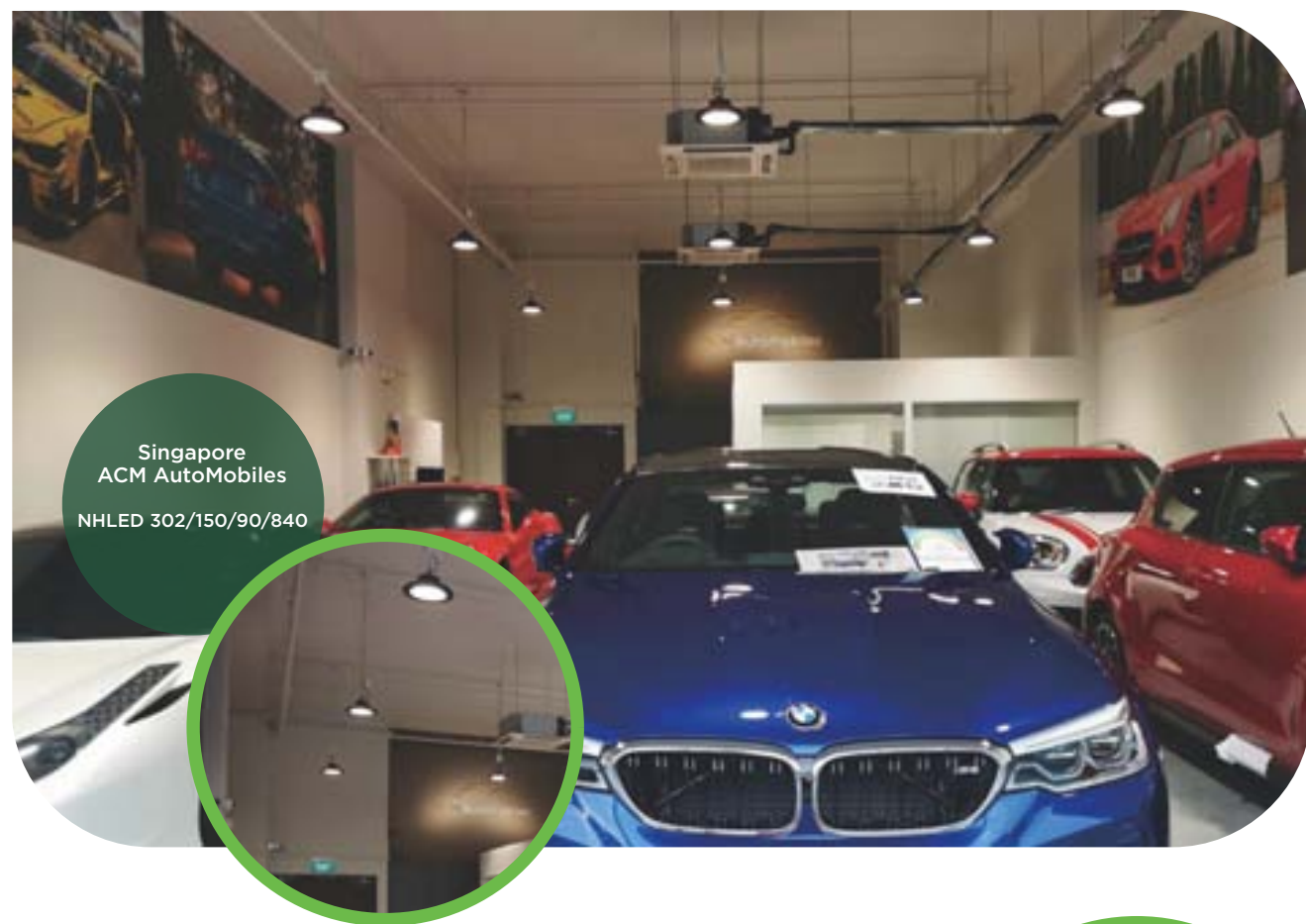


NVC Wechat

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ISSUE 6







NVC Projects in Indonesia
MYKO BALLROOM

ABOUT US

NVC Lighting is a global market leader with recognized expertise in manufacturing & application of innovative (LED) lighting solutions. Wherever we operate we focus on our strengths to provide our clients around the world with the best lighting solutions. We offer exterior and interior lighting products for commercial, industrial and local markets.

LIGHTING PROJECTS

NVC Lighting has a wide range of lighting products that can help with all of your lighting projects. No matter what the demands, from refurbishment project to large-scale industrial space and everything in between, we have lighting products that will meet your requirements.

“THE WORLD
JUST GOT
BRIGHTER,”

NVC LIGHTING
CORPORATION

NVC Lighting, founded in 1998, listed on the main board of the Hong Kong Stock Exchange in 2010, is the largest lighting manufacturer in China, which has 5 main production centres, 4 R&D centres and 36 regional operating centres. Operating through a network of 2000 distributors and more than 3500 exclusive retail outlets in China. NVC Lighting has collaborated with many leading solution providers to deliver projects across the globe. To enhance our presence in the world and deliver our commitments, we have established regional offices in Singapore, Brazil, Japan, and the UK.



NVC has a policy of continual product improvement. The information in this catalogue is provided for reference only and while every effort was made to ensure it was correct at the time of printing, we reserve the right to make corrections as well as product alterations and improvements at any time without notice. Trademarks are the property of NVC Lighting Technology Corporation or their respective owners.

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NVC - a vertically integrated family of companies



NVC – a family of companies, united to bring you the best available lighting technology.

NVC was founded in 1998 and is much more than just the largest lighting manufacturer in China, and one of the largest in the world. We are a family of vertically integrated companies that is unique in our field.



THE LARGEST LIGHTING MANUFACTURER IN CHINA

Our factories and R&D centres in China and the UK design and manufacture one of the widest ranges of lighting products of any company today. With such a broad range of commercial, industrial, retail, decorative and exterior lighting we can generally supply almost everything required on a large project.

In China we distribute our products through a network of 2,000 distributors and more than 3,500 NVC-branded retail outlets.

Around the world we have regional offices, local offices and distributors supplying and supporting our customers in Europe, the Middle East, Asia and South America.

NVC is listed on the Hong Kong stock exchange and we have a global turnover (2019) of \$300 million USD. Our shareholders include Goldman Sachs (5%), Schneider (10%) and ETI (27%).

Our company has two logos: Global logo Domestic logo (China)



A BESPOKE PRODUCT DESIGN AND MANUFACTURING SERVICE

BERKELEY is a division of NVC Lighting providing a bespoke design and manufacturing service. We deploy BERKELEY to support large projects where, for example, a 5-star hotel might require its own signature design of guest-room bedside lights in addition to standard NVC products being used elsewhere. It is the BERKELEY capability that enables us to say with confidence that we really can supply a complete lighting solution.



DRIVERS MADE BY NVC

We design and make our own drivers for many of the fittings in this catalogue. We have a specialist electronics factory in Shanghai manufacturing drivers to European (ENEC) and US (UL) standards for other leading brands – you would recognise their names.

On selected products we use the Arcatec range of drivers. This our own brand of high-performance, high-specification drivers, made in our Shanghai factory and especially suited to industrial applications. Wherever these are used we offer a 5 year warranty.

On most other product we offer NVC branded drivers. These provide excellent value, full compliance with the regulations for the market for which they are designed, and of course, they have the backing of your local NVC office, wherever you are. We make them – so we support them. Unless otherwise stated, products with an NVC-branded driver carry a 3 year warranty.



ONE OF CHINA'S LARGEST LED MANUFACTURERS

ETI is listed on the Shenzhen stock exchange and has factories in Zhuhai, Wuhu and Dalian. ETI designs and manufactures wafers and packaged LEDs in many formats, including SMD and COB. Wherever possible we use ETI LEDs in our products.

Because of our very close relationship with ETI their LEDs are available to us on the shortest possible lead times. Our customers also benefit from having first-use of new products and access to a depth of product technical support and knowledge that few rivals can match.

ETI makes a wide range of LED devices, but when ETI's range does not include the precise product required we use other LED brands, especially Cree. We have a long-standing relationship with Cree stretching back many years, and our head office, with one of our R&D centres, is conveniently located close to one of Cree's factories.

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22 SPOTLIGHTS



48 DOWNLIGHTS



110 TRACK LIGHTS



MULTIPLE LIGHTS 124



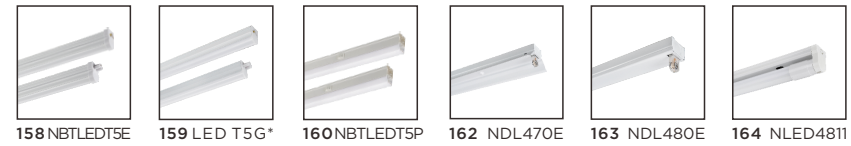
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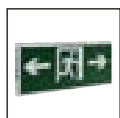


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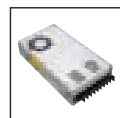
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201 EM003



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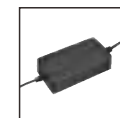
202NLED-DV100



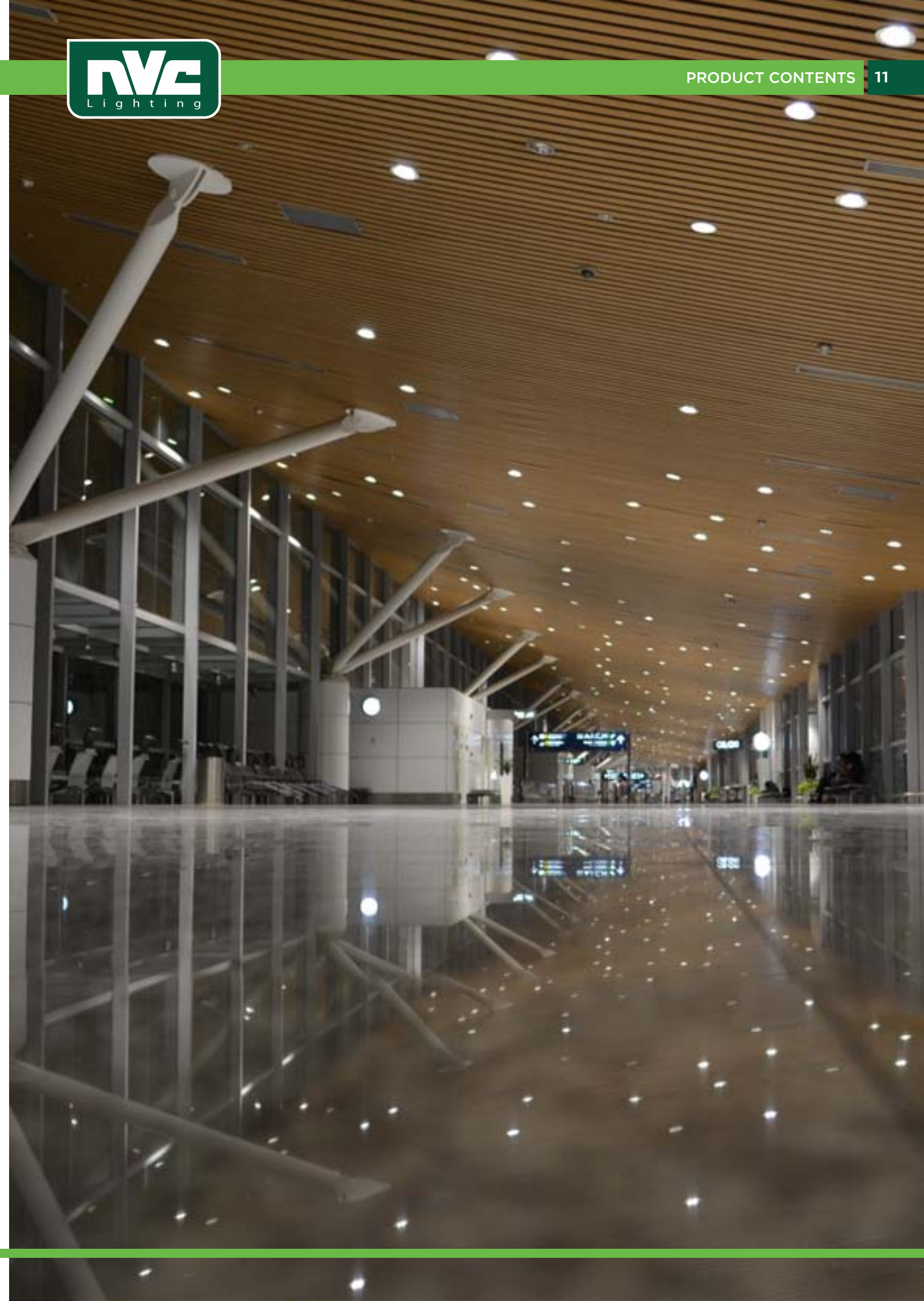
203NLED-DV110



204NLED-DV10*



204NLED-DV10*





LEADING SERIES



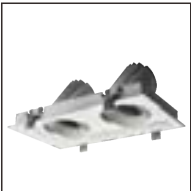
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LEADING SERIES RANGE SUMMARY

	NLED180A PAGE 14	NLED180B PAGE 15	NLED180C PAGE 16	NLED580A PAGE 17	NLED580C PAGE 18	T/SLED380 PAGE 20	SLED71 PAGE 21
POWER (watts)	OUTPUT (lumens)						
3	220						200
4	350						290
9	650	650		650	650	780	630
12	1,000	1,000					
15	1,300	1,300	1,300	1,300	1,300	1,200	
18				1,300			
24	2,100	2,100	2,100	2,100	2,100	2,100	
30				2,600			
35	3,200	3,000	3,200	3,200			
42							
48				4,200			
50	4,700						
FEATURES	NLED180A	NLED180B	NLED180C	NLED580A	NLED580C	T/SLED380	SLED71
Colour Temp.	3000K 3500K 4000K	3000K 3500K 4000K	3000K 3500K 4000K	3000K 3500K 4000K	3000K 3500K 4000K	3000K 3500K 4000K	2700K 3000K 4000K
Visible LED	COB	COB	COB	COB	COB	COB	COB
IP Rating	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Beam angle	15° 24° 36°	15° 24° 36°	15° 24° 36°	24°	24°	10° 15° 24° 36°	24°
Protection Class	Class II	Class II	Class II	Class II	Class II	Class II	Class II



NLED180A

Recessed adjustable LED spotlights



APPLICATIONS

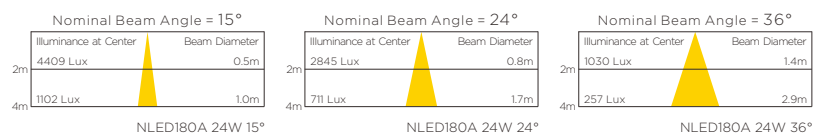
- Residential areas
- Retail stores
- Hospitality projects

CONSTRUCTION

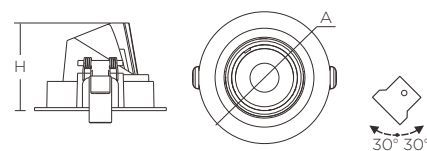
- Die-cast aluminium body
- White powder coated (RAL 9003)
- TIR (Total Internal Reflection) lens
- Adjustable angle: vertical 30°, horizontal 355°
- Shielding angle 30°

TECHNICAL DETAILS

- COB LED
- 15°, 24° & 36° Beam angle
- CRI>90
- SDCM<3
- CCT, Choice of 3000K, 3500K or 4000K
- Supplied complete with separate driver.
- For dimming options, please check availability before ordering



Model	Watts	Colour temp.	Lumens	CRI	PF
NLED1801A	3W	3000K/3500K/4000K	220 lm	>90	>0.45
NLED1802A	4.5W	3000K/3500K/4000K	350 lm	>90	>0.5
NLED1803A	9W	3000K/3500K/4000K	650 lm	>90	>0.85
NLED1804A	12W	3000K/3500K/4000K	1,000 lm	>90	>0.9
NLED1805A	15W	3000K/3500K/4000K	1,300 lm	>90	>0.9
NLED1806A	24W	3000K/3500K/4000K	2,100 lm	>90	>0.9
NLED1807A	35W	3000K/3500K/4000K	3,200 lm	>90	>0.9
NLED1808A	50W	3000K/3500K/4000K	4,700 lm	>90	>0.9



Product codes	Lumens	A	H	Cut-out
NLED180A/3	220 lm	Ø71	47	Ø55
NLED180A/4	350 lm	Ø88	60	Ø75
NLED180A/9	650 lm	Ø88	60	Ø75
NLED180A/12	1,000 lm	Ø105	78	Ø95
NLED180A/15	1,300 lm	Ø105	78	Ø95
NLED180A/24	2,100 lm	Ø139	112	Ø125
NLED180A/35	3,200 lm	Ø139	112	Ø125
NLED180A/50	4,700 lm	Ø162	135	Ø150

NLED180B

Low glare recessed adjustable LED spotlights



APPLICATIONS

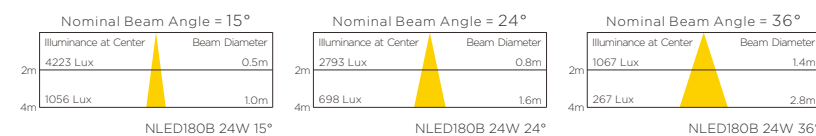
- Residential areas
- Retail stores
- Hospitality projects

CONSTRUCTION

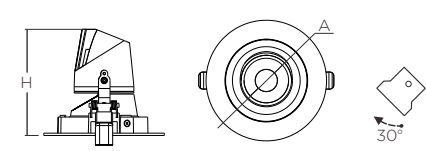
- Die-cast aluminium body
- White powder coated (RAL9003)
- TIR (Total Internal Reflection) lens
- Adjustable angle: vertical 30°, horizontal 355°
- Shielding angle 45°, UGR<19
- Decorative internal reflector can be ordered in Black or Gold

TECHNICAL DETAILS

- COB LED
- 15°, 24° & 36° Beam angle
- CRI>90
- SDCM<3
- CCT, Choice of 3000K, 3500K or 4000K
- Supplied complete with separate driver.
- For dimming options, please check availability before ordering



Model	Watts	Colour temp.	Lumens	CRI	PF
NLED1803B	9W	3000K/3500K/4000K	650 lm	>90	>0.85
NLED1804B	12W	3000K/3500K/4000K	1,000 lm	>90	>0.95
NLED1805B	15W	3000K/3500K/4000K	1,300 lm	>90	>0.95
NLED1806B	24W	3000K/3500K/4000K	2,100 lm	>90	>0.95
NLED1807B	35W	3000K/3500K/4000K	3,000 lm	>90	>0.95



Product codes	Lumens	A	H	Cut-out
NLED180B/9	650 lm	Ø105	93	Ø85
NLED180B/12	1,000 lm	Ø128	127	Ø85
NLED180B/15	1,300 lm	Ø128	127	Ø95
NLED180B/24	2,100 lm	Ø165	166	Ø95
NLED180B/35	3,000 lm	Ø165	166	Ø125

NLED180C

Low glare recessed adjustable LED spotlights



NLED180C/S

NLED180C/R



CRI
90



APPLICATIONS

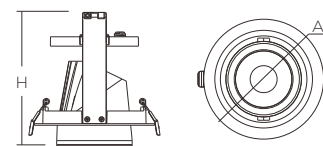
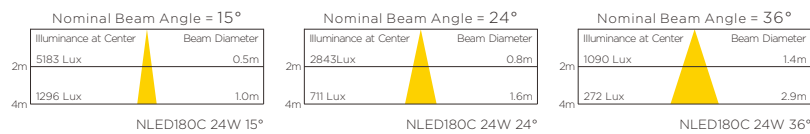
- Residential areas
- Retail stores
- Hospitality projects

CONSTRUCTION

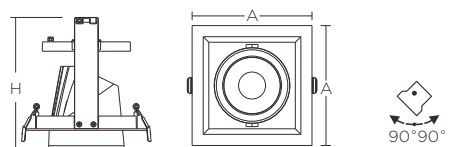
- Die-cast aluminium body
- White powder coated (RAL 9003)
- TIR (Total Internal Reflection) lens
- Adjustable angle: vertical 90°, horizontal 355°
- Adjustable height
- Shielding angle 30°
- Round or Square Bezel

TECHNICAL DETAILS

- COB LED
- 15°, 24° & 36° Beam angle
- CRI>90
- SDCM<3
- CCT, Choice of 3000K, 3500K or 4000K
- Supplied complete with separate driver. For dimming options, please check availability before ordering



Product codes	Lumens	A	H	Cut-out
NLED180C/15/R	1,300 lm	115	127	Ø100
NLED180C/24/R	2,100 lm	151	168	Ø135
NLED180C/35/R	3,000 lm	151	168	Ø135



Product codes	Lumens	A	H	Cut-out
NLED180C/15/S	1,300 lm	115	127	100x100
NLED180C/24/S	2,100 lm	151	168	135x135
NLED180C/35/S	3,000 lm	151	168	135x135

Model	Watts	Colour temp.	Lumens	CRI	PF
NLED1805C	15W	3000K/3500K/4000K	1,300 lm	>90	>0.95
NLED1806C	24W	3000K/3500K/4000K	2,100 lm	>90	>0.95
NLED1807C	35W	3000K/3500K/4000K	3,200 lm	>90	>0.95

NLED580A

Recessed multiple lights



CRI
90



APPLICATIONS

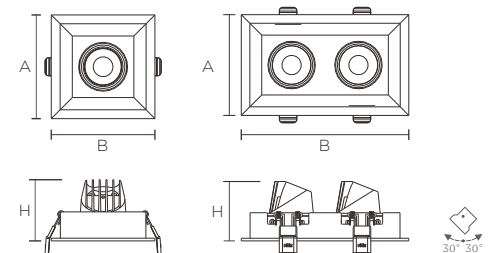
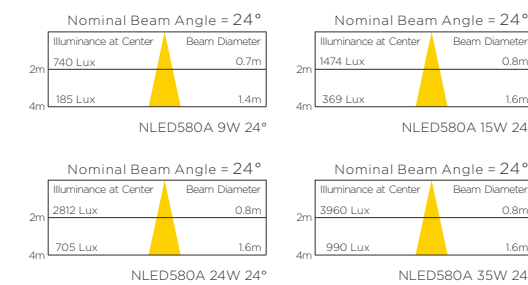
- Retail stores
- Hospitality

CONSTRUCTION

- Die-cast aluminium body
- Powder coated white (RAL9003 or black (RAL7021)
- TIR (Total Internal Reflection) lens
- Adjustable angle: vertical 30°, horizontal 355°

TECHNICAL DETAILS

- COB LED
- 24° Beam angle
- CRI>90
- SDCM<3
- CCT, Choice of 3000K, 3500K or 4000K
- Available in units of 1 or 2 for the three wattages 9, 15 and 24 and in only one unit for the 35W
- Supplied complete with a separate driver. For dimming options, please check availability before ordering



Model	Watts	Colour temp.	Lumens	CRI	PF
NLED5801A1	9W	3000K/3500K/4000K	650 lm	>90	>0.8
NLED5802A1	2x9W	3000K/3500K/4000K	1,300 lm	>90	>0.8
NLED5801A2	15W	3000K/3500K/4000K	1,300 lm	>90	>0.95
NLED5802A2	2x15W	3000K/3500K/4000K	2,600 lm	>90	>0.95
NLED5801A3	24W	3000K/3500K/4000K	2,100 lm	>90	>0.95
NLED5802A3	2x24W	3000K/3500K/4000K	4,200 lm	>90	>0.95
NLED5801A4	35W	3000K/3500K/4000K	3,200 lm	>90	>0.95

Product codes	Lumens	A	B	H	Cut-out
NLED580A/1x9	650 lm	115	115	68	100x100
NLED580A/2x9	1,300 lm	115	191	68	100x175
NLED580A/1x15	1,300 lm	135	135	86	120x120
NLED580A/2x15	2,600 lm	135	236	86	120x225
NLED580A/1x24	2,100 lm	173	173	119	160x160
NLED580A/2x24	4,200 lm	173	317	119	160x305
NLED580A/1x35	3,200 lm	173	173	119	160x160



NLED580C

Surface square adjustable lights



- APPLICATIONS**
- Retail stores
 - Hospitality

- CONSTRUCTION**
- Aluminium body
 - Powder coated white (RAL 9003) or black (RAL7021)
 - TIR (Total Internal Reflection) lens
 - Adjustable angle: vertical 30°, horizontal 355°



Prismatic lens

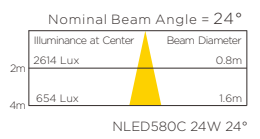
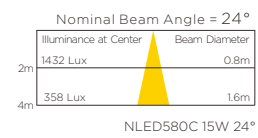
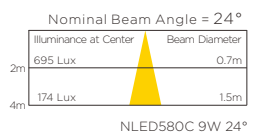


Honeycomb collimator

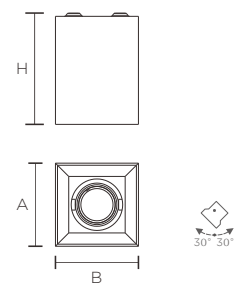


Elliptical lens

- TECHNICAL DETAILS**
- COB LED
 - 24° Beam angle
 - CRI>90
 - SDCM<3
 - CCT, Choice of 3000K, 3500K or 4000K
 - Built-in non-dimmable driver



Model	Watts	Colour temp.	Lumens	CRI	PF
NLED5801C1	9W	3000K/3500K/4000K	650 lm	>90	>0.8
NLED5801C2	15W	3000K/3500K/4000K	1,300 lm	>90	>0.95
NLED5801C3	24W	3000K/3500K/4000K	2,100 lm	>90	>0.95



Product codes	Lumens	A	B	H
NLED580C/1x9	650 lm	100	100	134
NLED580C/1x15	1,300 lm	120	120	154
NLED580C/1x24	2,100 lm	160	160	174





T/SLED380

Slim and powerful track lights



APPLICATIONS

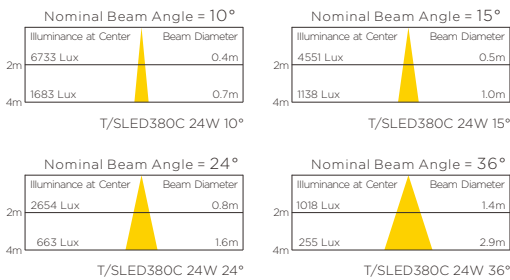
- Residential areas
- Retail stores
- Hospitality projects
- Museums

CONSTRUCTION

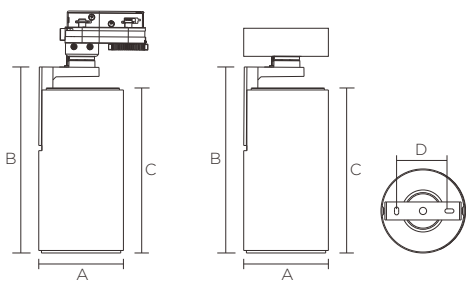
- Die-cast aluminum body
- Powder coated white (RAL9003) or black (RAL7021)
- TIR (Total Internal Reflection) lens
- Adjustable angle: vertical 90°, horizontal 355°
- Shielding angle 30°
- Can be surface mounted

TECHNICAL DETAILS

- COB LED
- 10°, 15°, 24° & 36° Beam angle
- CRI>90
- SDCM<3
- CCT, Choice of 3000K, 3500K or 4000K
- Built-in non-dimmable driver



Model	Watts	Colour temp.	Lumens	CRI	PF
S/TLED380A	9W	3000K/3500K/4000K	780 lm	>90	>0.95
S/TLED380B	15W	3000K/3500K/4000K	1200 lm	>90	>0.95
S/TLED380C	24W	3000K/3500K/4000K	2100 lm	>90	>0.95



Product codes	Lumens	A	B	C	D
SLED380/9/S	780 lm	Ø69	146	129	59
SLED380/15/S	1,200 lm	Ø69	146	129	59
SLED380/24/S	2,100 lm	Ø84	185	165	59
TLED380/9/T	780 lm	Ø69	146	129	-
TLED380/15/T	1,200 lm	Ø69	146	129	-
TLED380/24/T	2,100 lm	Ø84	185	165	-



SLED71

Slim tubular pendant fittings



APPLICATIONS

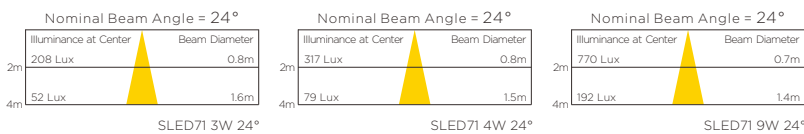
- Retail stores
- Restaurants

CONSTRUCTION

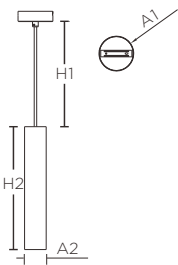
- Aluminum body
- Suspended on electrical cable with transparent insulation
- Powder coated in white (RAL 9003), Black (RAL 7021) or Silver Grey (RAL9007)

TECHNICAL DETAILS

- COB LED
- 24° Beam angle
- CRI>90
- SDCM<3
- CCT, Choice of 2700K, 3000K or 4000K
- Built-in non-dimmable driver



Model	Watts	Colour temp.	Lumens	CRI	PF
SLED711	3W	2700K/3000K/4000K	200 lm	>90	>0.5
SLED712	4.5W	2700K/3000K/4000K	290 lm	>90	>0.5
SLED713	9W	2700K/3000K/4000K	630 lm	>90	>0.8



Product codes	Lumens	A1	H1	A2	H2
SLED71/3/35	200 lm	Ø85	1500	Ø28.5	350
SLED71/3/55	200 lm	Ø85	1500	Ø28.5	550
SLED71/3/75	200 lm	Ø85	1500	Ø28.5	750
SLED71/4/35	290 lm	Ø85	1500	Ø28.5	350
SLED71/4/55	290 lm	Ø85	1500	Ø28.5	550
SLED71/4/75	290 lm	Ø85	1500	Ø28.5	750
SLED71/9/20	630 lm	Ø85	1500	Ø53	200
SLED71/9/30	630 lm	Ø85	1500	Ø53	300
SLED71/9/40	630 lm	Ø85	1500	Ø53	400

SPOTLIGHTS



24 NLED1171



25 NLED105*



26 NLED112*ND



27 NLED119*



28 NLED118*



32 NSPLED181W



34 NSP1180



36 NLED110*



38 NLED801*A



39 NLED801*B



40 NLED801*D



41 NLED115*N



42	NLED8023N NLED8024N
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44 NLED116*N*



45 NLED62*

















46 NLED602



47 NLED604R

LED SPOTLIGHTS RANGE SUMMARY

	NLED1171 PAGE 24	NLED105* PAGE 25	NLED112/114 PAGE 26	NLED119* PAGE 27	NLED118* PAGE 28	NSPLED181W PAGE 32	NSP180 PAGE 34	NLED110* PAGE 36	NLED801* PAGE 38	NLED115* PAGE41	NLED8023N NLED8024N PAGE 42	NLED62* PAGE 45	NLED604R PAGE 47
													
WATTAGE	LUMEN OUTPUTS												
2	120 lm	150 lm											
3					130 lm								
3.5				260 lm	160 lm								
4			270 lm					260 lm					
4.5					220 lm								
5				375 lm	250 lm								
6			400 lm					400 lm					
7					420 lm		525 lm						
8			540 lm	600 lm									
9					540 lm	750 lm		600 lm			550 lm		
10				700 lm			750 lm					700 lm	
12					770 lm	1,000 lm		800 lm			800 lm		
13							950 lm	1,200 lm					
14									1,260 lm				
15					947 lm		1,125 lm	890 lm	850 lm				
20					1,260 lm			1,600 lm				1,500 lm	
25								1,875 lm	3,150 lm				2,150 lm
30										1,900 lm		2,400 lm	
35								2,450 lm	3,450 lm	3,500 lm			3,100 lm
45										4,050 lm			
46									4,140 lm				
50									3,450 lm	3,300 lm			
FEATURES	NLED1171	NLED105*	NLED112*	NLED119*	NLED118*	NSPLED181W	NLED180	NLED110*	NLED801*	NLED115*	NLED8023N NLED8024N	NLED62*	NLED604R
Colour Temp	3000K 4000K 5700K	3000K 4000K 6500K	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 5700K	2700K 3000K 4000K	2700K 3000K 4000K 6500K	3000K 3500K 4000K 5700K 6500K	2700K 3000K 4000K	3000K 3500K 4000K 5700K	2700K 3000K 4000K	3000K 3500K 4000K 5700K	3000K 4000K 6000K
Visible LED	HP LED	HP LED	HP LED	COB LED	SMD LED	COB LED	COB LED	COB LED	COB LED	COB LED	COB LED	COB LED	SMD LED
Protection Class	Class II	Class II	Class I	Class I	Class II	Class II	Class II	Class II	Class I	Class I	Class I	Class II	Class II
IP Rating	IP 20	IP 20	IP 20	IP 20	IP 20	IP 65	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Finishes	Semi-white	Semi-white Sanded silver	Semi-white Sanded silver Sanded-gold Satin-nickel	Semi-white	Semi-white	White	Sanded silver	Semi-white	Semi-white	Semi-white	White	Sanded silver	White
Dimmable	No	No	No	Yes	No	No	No	Yes	Yes	No	No	No	No
Beam angle	15°	30°	30°	15°/24°	30°/38°	20°/40°	20°/30°	15°/24° /36°	15°/24° /36°	15°/24° /30°/40°	15°/24° /40°	15°/24° /36°	110°
Input Voltage	220-240V												



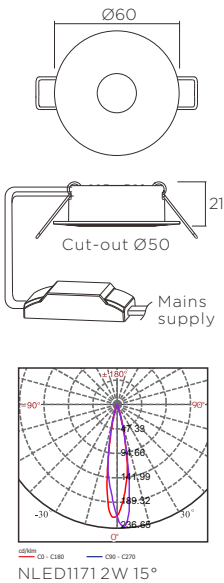
NLED1171

Ultra-slim LED spotlights



- APPLICATIONS
 - Retail stores, especially cosmetics, jewellery, watches and fashion accessories
 - Bars and restaurants
 - Residential areas
- CONSTRUCTION
 - Aluminium rear cover
 - 15° beam angle
 - Pc bezel and PMMA lens
 - Separate driver included

- TECHNICAL DETAILS
- High power LED



Model	Colour temp.	Lumens	CRI	PF
NLED1171 2W	3000K/4000K/5700K	120 lm	>80	>0.5



NLED105 series

Small spotlights



NLED105 (fixed)

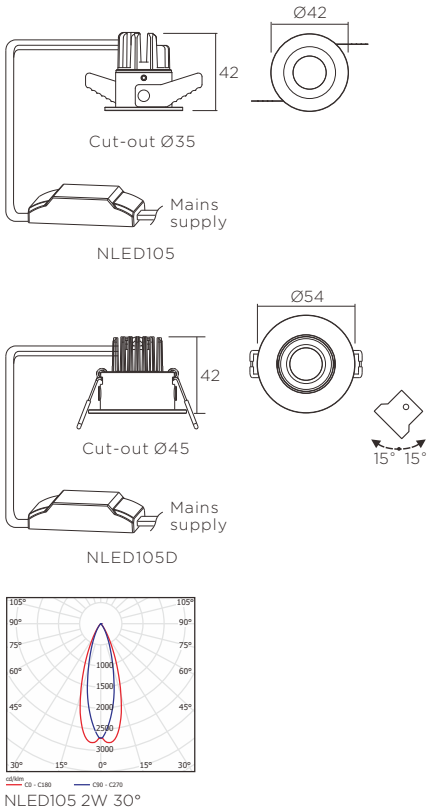


NLED105D (adjustable)



- APPLICATIONS
 - Hotels
 - Retail stores, especially cosmetics, and jewellery
 - Cabinets
 - Residential areas
- CONSTRUCTION
 - Die-cast aluminium housing and heat sink
 - PMMA lens
 - Adjustable angle 15°
 - Separate driver included
 - Sanded silver bezel (SS)
- TECHNICAL DETAILS
 - HP LED

- OPTIONS
- **Fixed or adjustable:** Choice of fixed (NLED105) or adjustable (NLED105D)



Model	Colour temp.	Lumens	CRI	PF
NLED105 2W	3000K/4000K/6500K	150 lm	>80	>0.6
NLED105D 2W	3000K/4000K/6500K	150 lm	>80	>0.6



NLED112/114 series

Adjustable spotlights with various bezels



NLED112*
with steel bezel



NLED114*
with PC bezel



APPLICATIONS

- Retail stores
- Bars and restaurants
- Residential areas

TECHNICAL DETAILS

- HP LEDs

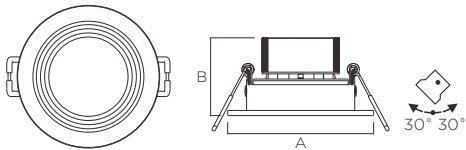
CONSTRUCTION

- Polycarbonate housing
- Bezel made of steel or PC
- PMMA lens
- Adjustable angle 30°
- Integrated driver

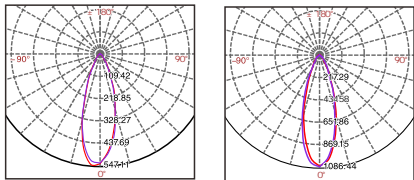
OPTIONS

- **Bezel material & colour:**
 - NLED112* - Steel bezel available colours are:
 - Semi white, use suffix SW
 - NLED114* - Polycarbonate bezel available colours are:
 - Semi-white, use suffix SW

Model	Colour temp.	Lumens	CRI	PF
NLED1124ND 4W	3000K/4000K/5700K	270 lm	>80	>0.5
NLED1126ND 6W	3000K/4000K/5700K	400 lm	>80	>0.8
NLED1128ND 8W	3000K/4000K/5700K	540 lm	>80	>0.8
NLED1144ND 4W	3000K/4000K/5700K	270 lm	>80	>0.5
NLED1146ND 6W	3000K/4000K/5700K	400 lm	>80	>0.8
NLED1148ND 8W	3000K/4000K/5700K	540 lm	>80	>0.8



Watts	A	B	Cut-out
4W	Ø85	45	Ø75
6W/8W	Ø106	46	Ø95



NLED1124ND 30° NLED1128ND 30°



NLED119 series

Adjustable COB lens LED spotlights



NLED119*D (Polycarbonate bezel)



APPLICATIONS

- Hotels
- Retail stores
- Bars and restaurants
- Residential areas

OPTIONS

- **Beam angle:** Choice of 15° or 24°

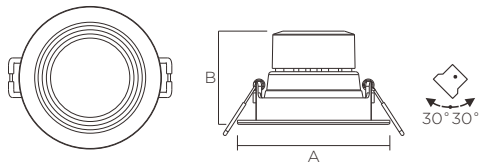
CONSTRUCTION

- Polycarbonate housing and rear cover
- Polycarbonate bezel
- Polycarbonate lens
- Adjustable angle 30°
- Integrated driver

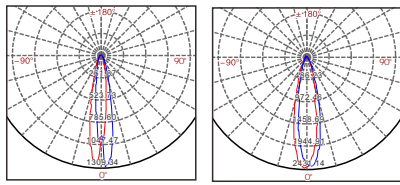
TECHNICAL DETAILS

- COB LED
- **Dimming:** Step-dimming as standard, switch on/off quickly to step between 100%, 50% or 20% output

Model	Colour temp.	Lumens	CIR	PF	Beam angle
NLED1193D 3.5W	3000K/4000K/5700K	260 lm	>90	>0.5	15°/24°
NLED1195D 5W	3000K/4000K/5700K	375 lm	>90	>0.5	15°/24°
NLED1197D 8W	3000K/4000K/5700K	600 lm	>90	>0.8	15°/24°
NLED1199D 10W	3000K/4000K/5700K	700 lm	>90	>0.8	15°/24°
NLED1193DS 3.5W	3000K/4000K/5700K	260 lm	>90	>0.5	15°/24°



Watts	A	B	Cut-out
3.5W(S)	Ø70	53	Ø55
3.5W/5W	Ø93	56	Ø75
8W/10W	Ø116	66	Ø95



NLED1193D 3.5W 15° NLED1199D 10W 24°

NLED118* series

Magic-I spotlights series



APPLICATIONS

- Suitable for shopping malls, retail stores and corridors in commercial area
- Suitable for guest rooms and corridors in hotel
- Suitable for living rooms, bedrooms, dining rooms and corridors in residential area

OPTIONS

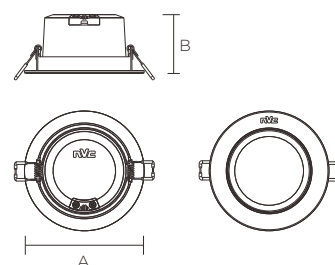
- Gold and silver colours are available to be ordered as customized version (for NLED1183 and NLED1185 only)

CONSTRUCTION

- Clear PC diffuser
- Recessed vacuum electroplated reflector
- Adjustable angle 25°
- Plastic coated aluminium body and PC bezel
- Built in non-isolated driver

TECHNICAL DETAILS

- SMD LEDs
- CRI >80
- CCT, choice of 3000, 4000 or 5700K
- Built-in driver included



Model	A	B	Cut-out
NLED1183S	Ø75	38	Ø60
NLED1183	Ø92	46	Ø75
NLED1185S	Ø75	38	Ø60
NLED1185	Ø92	46	Ø75
NLED1187	Ø115	56	Ø95
NLED1189	Ø115	56	Ø95
NLED11812	Ø140	72	Ø120
NLED11815	Ø140	72	Ø120
NLED11820	Ø140	73	Ø120

Model	Watts	Color temp.	Lumens	CRI	PF	Beam angle
NLED1183S	3W	3000K/4000K/5700K	135 lm	>80	0.5	38°
NLED1183	3.5W	3000K/4000K/5700K	160 lm	>80	0.5	38°
NLED1185S	4.5W	3000K/4000K/5700K	220 lm	>80	0.5	38°
NLED1185	5W	3000K/4000K/5700K	250 lm	>80	0.5	38°
NLED1187	7W	3000K/4000K/5700K	420 lm	>80	0.8	38°
NLED1189	9W	3000K/4000K/5700K	540 lm	>80	0.8	38°
NLED11812	12W	3000K/4000K/5700K	770 lm	>80	0.85	30°
NLED11815	15W	3000K/4000K/5700K	947 lm	>80	0.85	30°
NLED11820	20W	3000K/4000K/5700K	1,260 lm	>80	0.9	30°

Structure and details

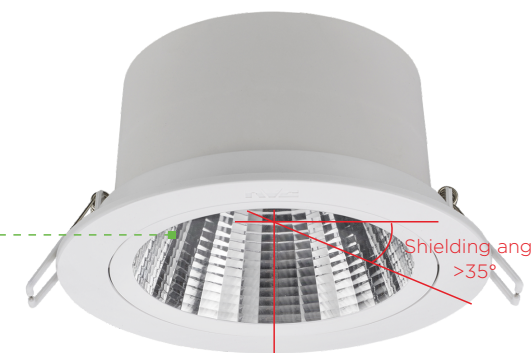


Suitable for more applications

Gold and silver colours are available to be ordered as customized version (for NLED1183 and NLED1185 only), which can make the product suitable for more applications.

Optical design

The product uses a recessed optical design so that the shielding angle is more than 35 degrees. This reduces glare.



High light transmittance and low glare

Clusters of SMD LEDs covered with a high light transmittance PC diffuser, deep recessed in quality. Recessed vacuum electroplated reflector cells for high light transmittance effect and or low-glare performance. This makes the fitting very suitable for a range of retail, showroom, office and residential projects.

Compact structure

Built in non-isolated LED driver and compact design of body, which are more easier to install and have benefit for storage. Compliant with EMC and EMI standards.

New material

Use new material for body. To compare with the aluminium, new material is more insulation and environment friendly

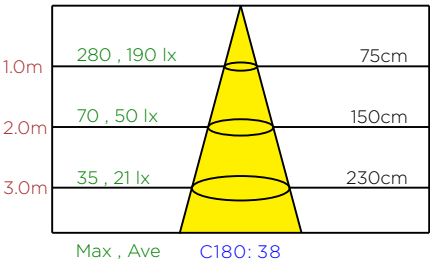
Strong heat dissipation

High thermal conductivity plastic coated aluminium housing allows the products to have a strong heat dissipation effect.

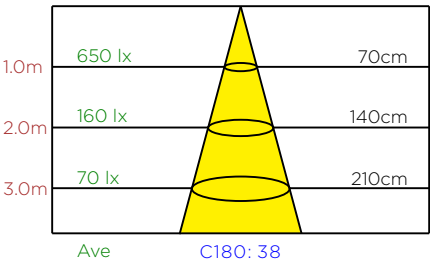




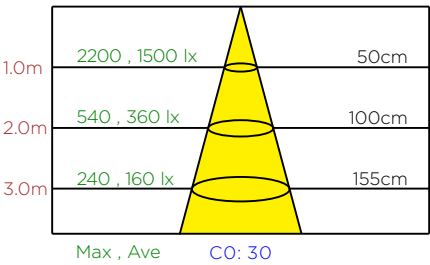
NLED1183S 3W



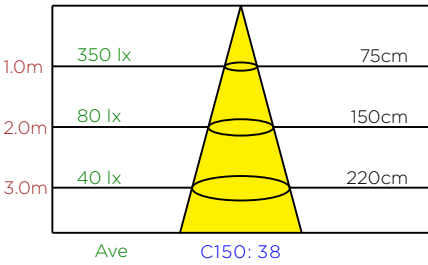
NLED1185 5W



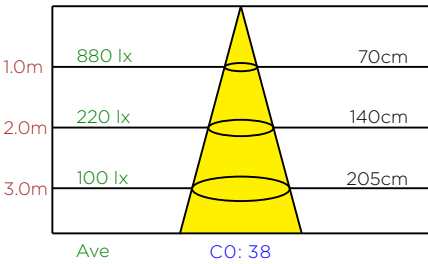
NLED11812 12W



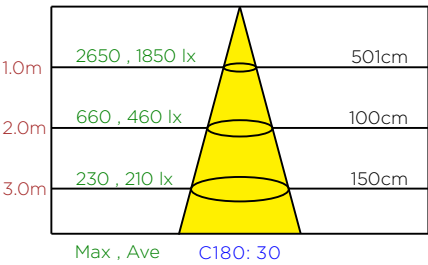
NLED1183 3.5W



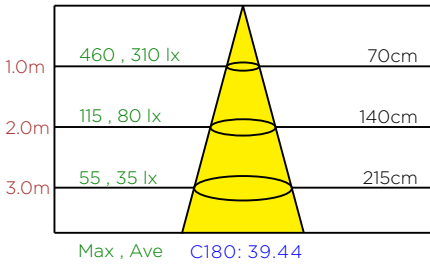
NLED1187 7W



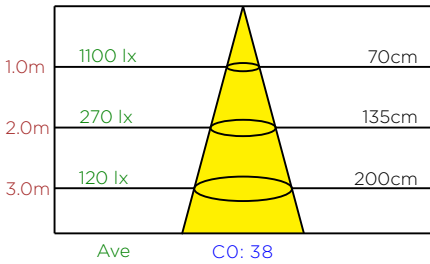
NLED11815 15W



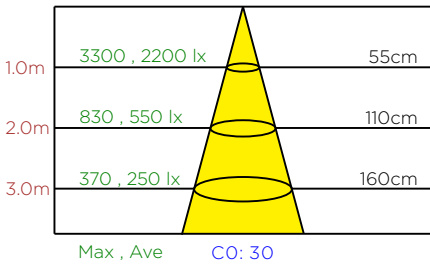
NLED1185S 4.5W



NLED1189 9W



NLED11820 20W



NSPLED181W series

Surface waterproof spotlights



APPLICATIONS

- Bathrooms
- Corridors
- Humid areas requiring waterproof fixtures (toilets, washroom and showers)

CONSTRUCTION

- Main material: Die-cast aluminium and glass
- Body colour: White
- Electroplated aluminium reflector
- Separate driver included

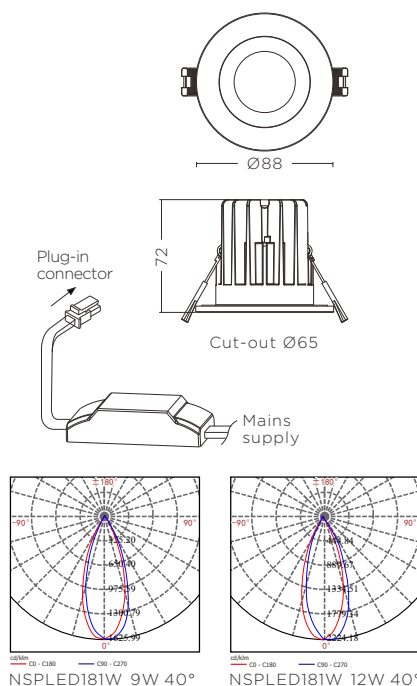
TECHNICAL DETAILS

- CREE COB LED
- IP65 rated to the front of the fitting

OPTIONS

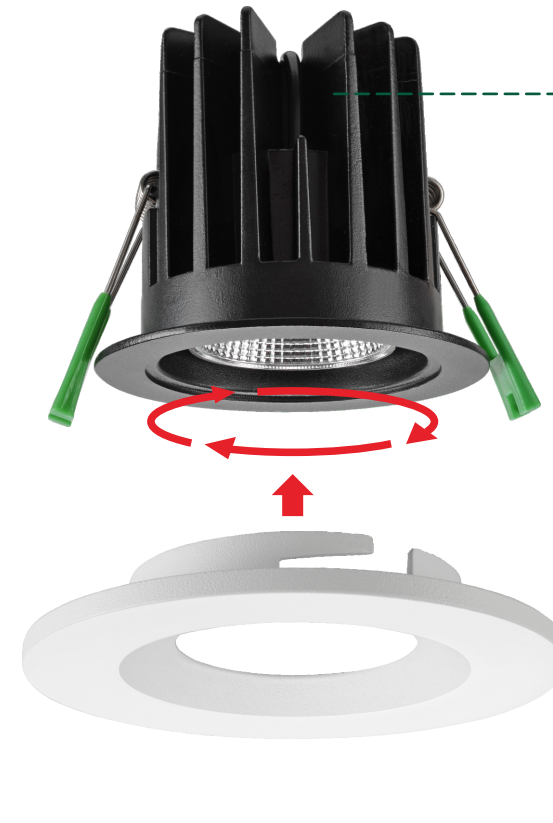
- **Beam angle:** Choice of 20° or 40°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NSPLED181W 9W	2700K/3000K/4000K	750 lm	>80	>0.5	20°/40°
NSPLED181W 12W	2700K/3000K/4000K	1,000 lm	>80	>0.5	20°/40°



NSPLED181W 9W 40° NSPLED181W 12W 40°

Structure and details



Heat dissipation & lifespan

Die-cast aluminium housing allows the products have better heat dissipation and a compact appearance.

Suitable for more applications

Separate fixture and bezel structure with the multiple choice of bezel colour allows the customer to choose their preferred style (chrome, satin nickel, black and white), which can make the product suitable for more applications.

Easy installation

Use female/male connector to connect with the fixture and driver, which facilitates easy installation and replacement

Water proof performance

Built in water proof rubber gasket design and its rotational installation IP65 cover allows the bezel to fit to the body closely, which ensures strong water proof performance.





NSP1180

Recessed LED spotlights with a range of bezel and reflector attachments

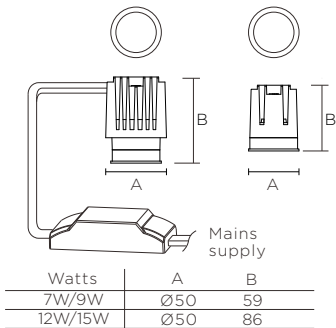


- APPLICATIONS**
- Bars and restaurants
 - Hotels
 - Meeting rooms and corridors
 - High-specification residential projects

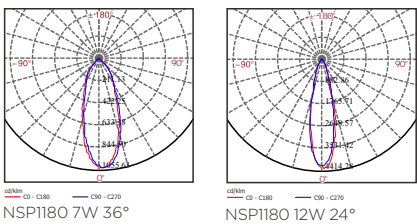
- OPTIONS**
- **Bezels:** A range of bezels, as illustrated above, is available and are to be ordered as separate items.
 - **Emergency:** 1.5 hours or 3 hours emergency kit (EM001/002) available. Please refer to the driver section

- CONSTRUCTION**
- Die-cast aluminium body and heat sink
 - Frosted PC diffuser
 - White painted die-cast aluminium bezels
 - Adjustable angle 20° (for NSP1180-1/2/4/6 only)
 - Separate driver included

- TECHNICAL DETAILS**
- COB LED



Watts	C	D	Cut-out
NSP1180-1	Ø85	37	Ø75
NSP1180-2	Ø108	33	Ø95
NSP1180-3	Ø84	62	Ø75
NSP1180-4	Ø100	60	Ø90
NSP1180-5	84x84	62	75x75
NSP1180-6	100x100	60	90x90



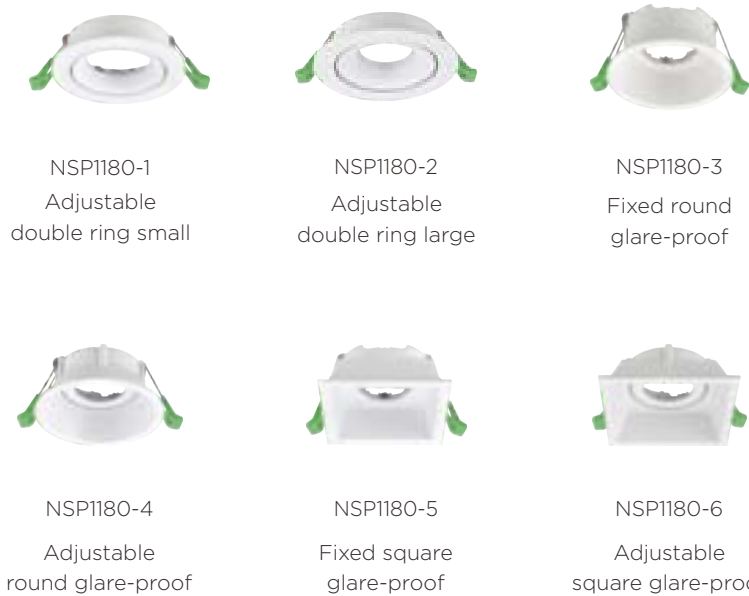
Model	Colour temp.	Lumens	CRI	PF	Beam angle
NSP1180 7W	2700K/3000K/4000K/5700K	650 lm	>80	>0.9	15°/24°/36°
NSP1180 9W	2700K/3000K/4000K/5700K	860 lm	>80	>0.9	15°/24°/36°
NSP1180 12W	2700K/3000K/4000K/5700K	1,150 lm	>80	>0.9	15°/24°/36°
NSP1180 15W	2700K/3000K/4000K/5700K	1,360 lm	>80	>0.9	15°/24°/36°

Bezels		
NSP1180-1	NSP1180-2	NSP1180-3
NSP1180-4	NSP1180-5	NSP1180-6

Structure and details



Wide choices of attachments



NSP1180 waterproof module (IP54): 7W, 9W, 12W and 15W





NLED110 series

Recessed die-cast aluminium COB LED spotlights



APPLICATIONS

- Hotels
- Shopping malls
- Retail stores
- Residential areas

TECHNICAL DETAILS

- COB LED

CONSTRUCTION

- Die-cast aluminium housing and heat sink
- Semi-white powder coated finish
- Anodized aluminium reflector
- Adjustable angle 30°
- Separate driver included



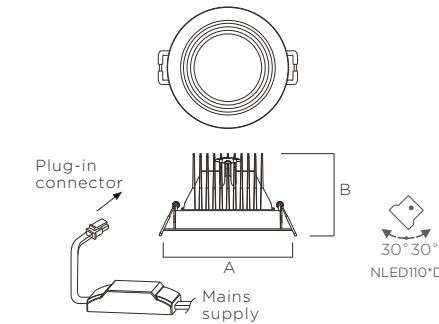
Fixed



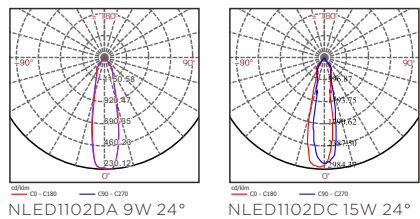
Adjustable

OPTIONS

- **Beam angle:** Choice of 15°, 24° or 36°
- **Dimming:** Fixed output as standard, but 6W, 12W and 20W product are also available for suitable mains dimming, analogue dimming and digital dimming. If required, add suffix MD, 0-10V when and DD when ordering
- **Emergency:** 1.5 hours or 3 hours emergency kit (EM001/002) available. Please refer to the driver section



Watts	A	B	Cut-out
4W/6W	Ø75	48	Ø65
4W/6W(D)	Ø85	48	Ø75
9W/12W/15W	Ø98	63	Ø85
9W/12W/15W(D)	Ø108	63	Ø95
13W/20W/27W	Ø145	87	Ø120
25W/35W	Ø170	101	Ø150



Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED1101A 4W	3000K/3500K/4000K/5700K	260 lm	>90	>0.5	15°/24°/36°
NLED1101DA 4W	3000K/3500K/4000K/5700K	260 lm	>90	>0.5	15°/24°/36°
NLED1101B 6W	3000K/3500K/4000K/5700K	400 lm	>90	>0.9	15°/24°/36°
NLED1101DB 6W	3000K/3500K/4000K/5700K	400 lm	>90	>0.9	15°/24°/36°
NLED1102A 9W	3000K/3500K/4000K/5700K	600 lm	>90	>0.9	15°/24°/36°
NLED1102DA 9W	3000K/3500K/4000K/5700K	600 lm	>90	>0.9	15°/24°/36°
NLED1102B 12W	3000K/3500K/4000K/5700K	800 lm	>90	>0.9	15°/24°/36°
NLED1102DB 12W	3000K/3500K/4000K/5700K	800 lm	>90	>0.9	15°/24°/36°
NLED1102C 15W	3000K/3500K/4000K/5700K	890 lm	>90	>0.9	15°/24°/36°
NLED1102DC 15W	3000K/3500K/4000K/5700K	890 lm	>90	>0.9	15°/24°/36°
NLED1103D 20W	3000K/3500K/4000K/5700K	1600 lm	>90	>0.9	15°/24°/36°
NLED1104DA 25W	3000K/3500K/4000K/5700K	1,875 lm	>90	>0.9	15°/24°/36°
NLED1104D 35W	3000K/3500K/4000K/5700K	2,450 lm	>90	>0.9	15°/24°/36°
High output					
NLED1103D 13W	3000K/4000K 3000K/4000K/6500K	1,100 lm 1,200 lm	>90 >80	>0.9 >0.9	15°/24°/36°
NLED1103D 27W	3000K/4000K 3000K/4000K/6500K	2,200 lm 2,500 lm	>90 >80	>0.9 >0.9	15°/24°/36°





NLED801A series

LED commercial
fixed spotlights



CRI
90



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Exhibition centres

CONSTRUCTION

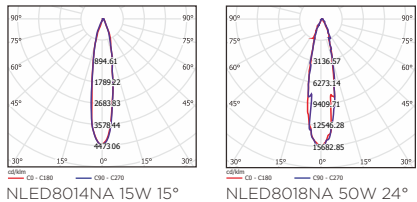
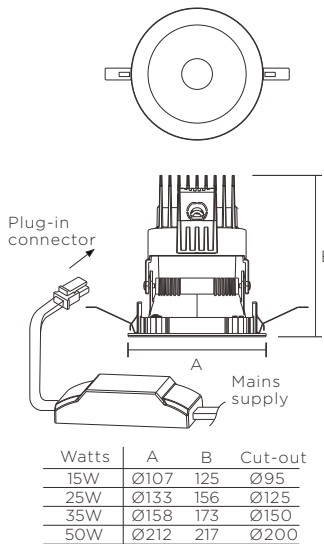
- Die-cast aluminium housing and heat sink
- Semi white powder coated finish
- Recessed PC diffuser
- Separate driver included

TECHNICAL DETAILS

- COB LED
- Standard version
 - Choice of four wattages:
 - 15W, 850 lm, PF >0.8
 - 25W, 1,580 lm, PF >0.95
 - 35W, 2,450 lm, PF >0.95
 - 50W, 3,450 lm, PF >0.95
- High efficiency version
 - Choice of four wattages:
 - 14W, 1,260 lm, PF >0.8
 - 25W, 2,150 lm, PF >0.95
 - 35W, 3,450 lm, PF >0.95
 - 46W, 4,140 lm, PF >0.95

OPTIONS

- **Beam angle:** Choice of 15°, 24° or 36°
- **Driver:** Choice of standard driver or DALI driver
- **Dimming:** Fixed output as standard, but for dimming versions add suffix DD
- **Emergency:** 1.5 hours or 3 hours emergency kit (EM001/002) available. Please refer to the driver section



Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED8014NA 15W	2700K/3000K/4000K	850 lm	>90	>0.8	15°/24°/36°
NLED8015NA 25W	2700K/3000K/4000K	1,580 lm	>90	>0.95	15°/24°/36°
NLED8016NA 35W	2700K/3000K/4000K	2,450 lm	>90	>0.95	15°/24°/36°
NLED8018NA 50W	2700K/3000K/4000K	3,450 lm	>90	>0.95	15°/24°/36°
High output					
NLED8014A 14W	2700K/3000K/4000K	1,260 lm	>80	>0.8	15°/24°/36°
NLED8015A 25W	2700K/3000K/4000K	2,150 lm	>80	>0.95	15°/24°/36°
NLED8016A 35W	2700K/3000K/4000K	3,450 lm	>80	>0.95	15°/24°/36°
NLED8018A 46W	2700K/3000K/4000K	4,140 lm	>80	>0.95	15°/24°/36°



NLED801B series

Glass diffuser fixed
wallwasher spotlights



CRI
90



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Exhibition centres

TECHNICAL DETAILS

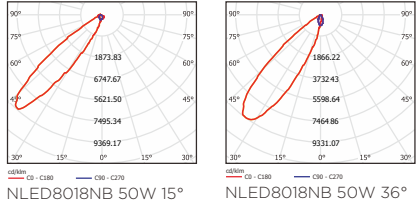
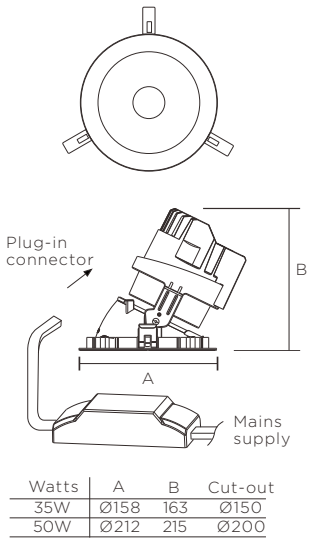
- COB LED

CONSTRUCTION

- Die-cast aluminium housing and heat sink
- Semi white powder coated finish
- Polycarbonate diffuser for fixed version, glass diffuser for wallwasher version
- Separate driver included

OPTIONS

- **Beam angle:** Choice of 15°, 24° or 36°
- **Driver:** Choice of standard driver or DALI driver
- **Dimming:** Fixed output as standard, but for dimming versions add suffix DD



Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED8016NB 35W	2700K/3000K/4000K	2,450 lm	>90	>0.95	15°/24°/36°
NLED8018NB 50W	2700K/3000K/4000K	3,450 lm	>90	>0.95	15°/24°/36°



NLED801D series

Adjustable wallwasher spotlights



CRI 90



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Exhibition centres

TECHNICAL DETAILS

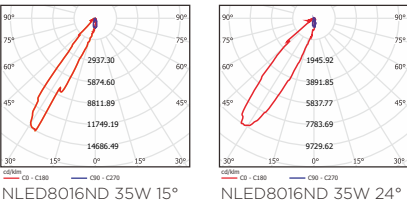
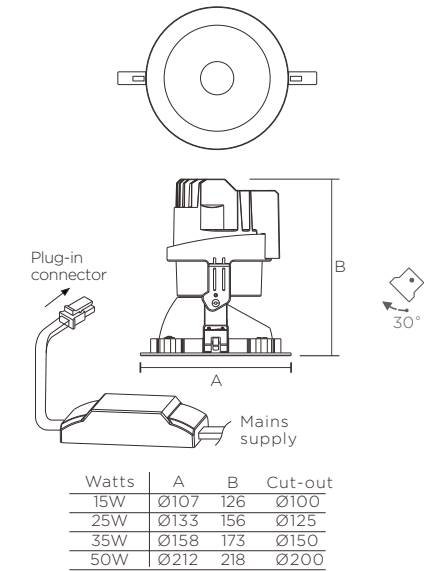
- COB LED

CONSTRUCTION

- Die-cast aluminium housing and heat sink
- Semi white powder coated finish
- PC diffuser for fixed version, Glass diffuser for wallwasher version
- Adjustable angle: vertical 30°
- Separate driver included

OPTIONS

- **Beam angle:** Choice of 15°, 24° or 36°
- **Driver:** Choice of standard driver or DALI driver
- **Dimming:** Fixed output as standard, but for dimming versions add suffix DD



Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED8014ND 15W	2700K/3000K/4000K	850 lm	>90	>0.8	15°/24°/36°
NLED8015ND 25W	2700K/3000K/4000K	1,580 lm	>90	>0.9	15°/24°/36°
NLED8016ND 35W	2700K/3000K/4000K	2,450 lm	>90	>0.9	15°/24°/36°
NLED8018ND 50W	2700K/3000K/4000K	3,450 lm	>90	>0.9	15°/24°/36°



NLED1152 series

High power spotlights



CRI 90



APPLICATIONS

- Hotels
- Shopping malls
- Retail stores
- Bars

TECHNICAL DETAILS

- COB LED

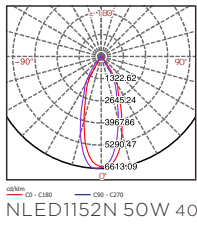
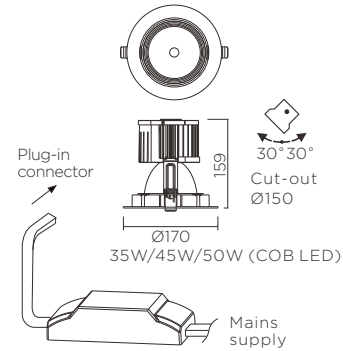
CONSTRUCTION

- Die-cast aluminium housing and heat sink
- Semi white powder coated finish
- PC lens or anodized aluminium reflector
- Adjustable angle: vertical 30°, horizontal 355°
- Separate driver included (NLED1152/NLED1152N/NLED1152NA)

OPTIONS

- **Beam angle:** Choice of 15°, 24°, or 40°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED1152NA 35W	3000K/3500K/4000K	2,450 lm	>90	>0.95	15°/24°/40°
NLED1152N 50W	3000K/3500K/4000K	3,300 lm	>90	>0.95	15°/24°/40°
High output					
NLED1152 35W	3000K/4000K	3,500 lm	>80	>0.95	15°/24°/40°
		2,850 lm	>90		
NLED1152 45W	3000K/4000K	4,050 lm	>80	>0.95	15°/24°/40°
		3,650 lm	>90		





NLED8023N/NLED8024N series

Wallwasher spotlights



NLED8024NA1



NLED8024ND2

NLED8024NA2



NLED8023ND1

NLED8024NA3 glass cover



APPLICATIONS

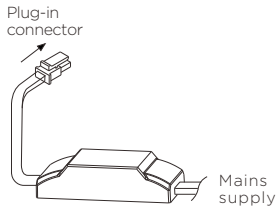
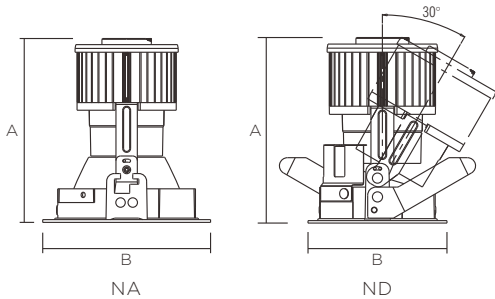
- Hotels
- Shopping malls
- Exhibition centres
- High-specification residential projects

CONSTRUCTION

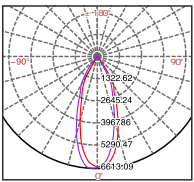
- Die-cast aluminium alloy bezel and aluminium heat sink
- Aluminium diffuser
- Low flicker separate driver included

TECHNICAL DETAILS

- COB LED



Watts	A	B	Cut-out
9W	Ø85	94	Ø75
12W	Ø110	101	Ø100



NLED1152N 50W 40°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED8023NA1 9W	2700K/3000K/4000K	550 lm	>80	>0.9	15°/24°/36°
NLED8023NA2 9W	2700K/3000K/4000K	330 lm	>80	>0.9	24°
NLED8023NA3 9W	2700K/3000K/4000K	290 lm	>80	>0.9	24°
NLED8023ND1 9W	2700K/3000K/4000K	550 lm	>80	>0.9	24°
NLED8023ND2 9W	2700K/3000K/4000K	330 lm	>80	>0.9	24°
NLED8024NA1 12W	2700K/3000K/4000K	800 lm	>80	>0.95	15°/24°/36°
NLED8024NA2 12W	2700K/3000K/4000K	440 lm	>80	>0.95	24°
NLED8024NA3 12W	2700K/3000K/4000K	380 lm	>80	>0.95	24°
NLED8024ND1 12W	2700K/3000K/4000K	800 lm	>80	>0.95	24°
NLED8024ND2 12W	2700K/3000K/4000K	440 lm	>80	>0.95	24°





NLED1162 series

Adjustable height and beam direction
high power spotlights



APPLICATIONS

- Hotels
- Shopping malls
- Retail stores
- Bars

TECHNICAL DETAILS

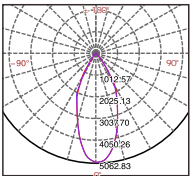
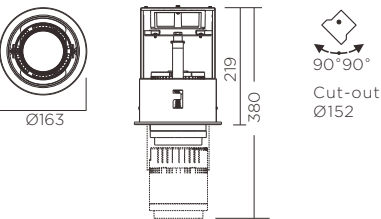
- COB LED

CONSTRUCTION

- Die-cast aluminium housing
- Semi white powder coated finish
- PC lens or anodized aluminium reflector
- Adjustable height and beam direction
- Adjustable angle 90°
- Integrated driver

OPTIONS

- **Beam angle:** Choice of 15°, 24°, or 40°



NLED1162N 50W 40°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED1162NA 35W	3000K/4000K	2,200 lm	>80	>0.9	15°/24°/40°
NLED1162N 50W	3000K/4000K	3,200 lm	>80	>0.9	15°/24°/40°



NLED62 series

Wallwasher spotlights



NLED623D 10W



NLED622D 20W



NLED621D 30W



APPLICATIONS

- Showrooms
- Retailers
- Fashion shops
- Exhibition centres

TECHNICAL DETAILS

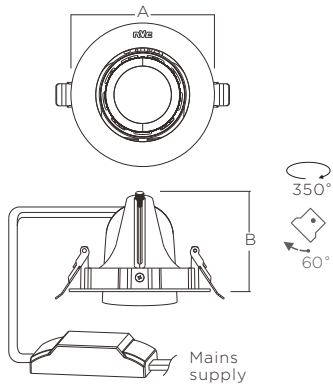
- COB LED

CONSTRUCTION

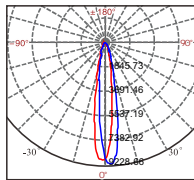
- Die-cast aluminium housing and heat sink
- Separate LED driver included
- Heavy-duty spring clips
- Sanded white powder coated finish
- Adjustable angle: vertical 60°, horizontal 350°

OPTIONS

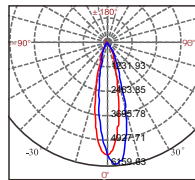
- **Beam angle:** Choice of 15°, 24° or 36°



Watts	A	B	Cut-out
10W	Ø105	75	Ø95
20W	Ø130	100	Ø120
30W	Ø160	128	Ø150



NLED622D 20W 15°



NLED621D 30W 24°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED623D 10W	3000K/3500K/4000K/5700K	700 lm	>90	>0.9	24°/36°
NLED622D 20W	3000K/3500K/4000K/5700K	1,500 lm	>90	>0.9	15°/24°/36°
NLED621D 30W	3000K/3500K/4000K/5700K	2,400 lm	>90	>0.9	15°/24°/36°



NLED602

Wallwasher spotlights



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Museums

TECHNICAL DETAILS

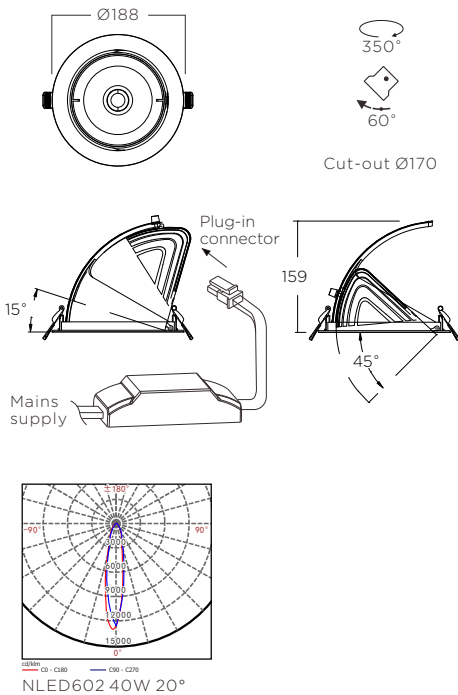
- Bridgelux COB LED

CONSTRUCTION

- Die-cast aluminium housing and heat sink
- Semi white or white powder coated finish
- Glass cover
- Adjustable: Horizontal 360°, vertical 60°
- Separate driver included

OPTIONS

- **Beam angle:** Choice of 20°, 40° or 60°

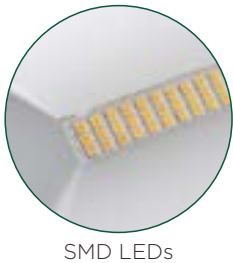


Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED602 40W	2700K/3000K/4000K/5000K	3,325 lm	>80	>0.9	20°/40°/60°



NLED604R

Rectangular wallwasher spotlights



APPLICATIONS

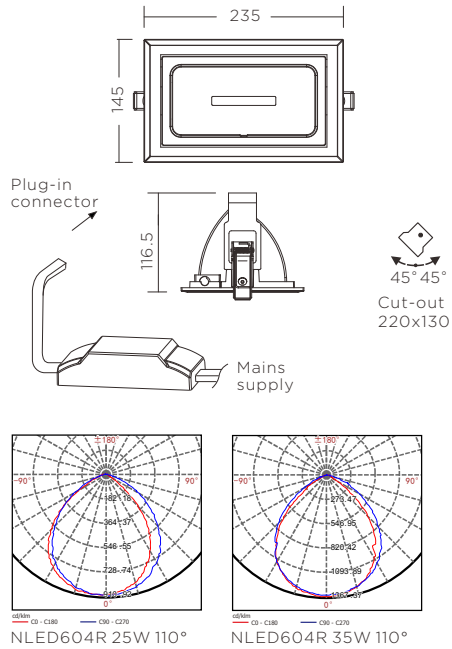
- Hotels
- Shopping malls
- Theatres
- Museums

CONSTRUCTION

- Die-cast aluminium housing and heat sink
- White powder coated finish
- Glass diffuser
- Adjustable angle 45°
- Separate driver included

TECHNICAL DETAILS

- SMD LEDs



Model	Colour temp.	Lumens	CRI	PF
NLED604R 25W	3000K/4000K/6000K	2,150 lm	>80	>0.9
NLED604R 35W	3000K/4000K/6000K	3,100 lm	>80	>0.9

DOWNLIGHTS



52 NLED920*



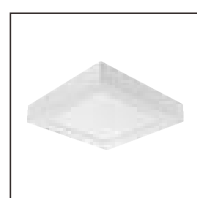
55 NLED912*



56 NDLED915*



58-59 NLED950*E
NLED951*E
NLED950*E-D



62 NDL201



64 NLED9508P



65 NDLED930



66 NLED940*



67 NLED924*



68 NDLED929*



70 NLED931/IR



73 NLED918*M/IR



78 NDLED928*



80 NDLED9235



81 NDLED9286AM



85 NLED925



86 NDLED970*



88 NDLED980*








90 NLED948M



92-109 NDLLED81*

LED DOWNLIGHTS RANGE SUMMARY

	NLED920* PAGE 52	NLED912* PAGE 55	NDLLED915* PAGE 56	NLED950* PAGE 58	NDL201 PAGE 62	NDLLED950P PAGE 64	NDLLED930 PAGE 65	NLED940* PAGE 66	NLED924* PAGE 67	NDLLED925* PAGE 68
										
WATTAGE	LUMEN OUTPUTS									
3	180 lm									
4		250 lm	240 lm							310 lm
4.5										
5	300 lm			460 lm						
6		360 lm	360 lm		420 lm		450 lm	450 lm		590 lm
7				650 lm					700 lm	
8	480 lm	480 lm	480 lm	700 lm				650 lm	760 lm	750 lm
9				840 lm						
10		600 lm	650 lm	890 lm						
11									1,200 lm	
12	720 lm	720 lm		1,150 lm	860 lm		960 lm	1,050 lm	960 lm	
14				1,300 lm						
15	900 lm	850 lm							1,275 lm	1,500 lm
16									1,600 lm	
17				1,550 lm						
18	1,100 lm				1,380 lm		1,530 lm			
20		1,200 lm		1,950 lm	1,600 lm			1,700 lm	1,800 lm	2,050 lm
22									2,200 lm	
24							2,040 lm			
25				2,450 lm				2,100 lm		2,500 lm
30							2,500 lm	2,700 lm	2,700 lm	3,000 lm
34									3,250 lm	
35										
40				3,600 lm		3,600 lm				
50										
55										
FEATURES	NLED920*	NLED912*	NDLLED915*	NLED950*	NDL201	NDLLED950P	NDLLED930	NLED940*	NLED924*	NDLLED925*
Colour Temp	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 6500K	3000K 4000K 6500K	3000K 4000K 5700K	3000K 4000K 5700K
Mounting	Recessed	Recessed	Recessed	Recessed	Recessed Surface	Recessed	Recessed	Recessed	Recessed	Recessed
IP Rating	IP 20	IP 20	IP 20	IP 44	IP 20	IP 20	IP 20	IP 20	IP 40	IP 40
Finishes	Semi-white	Semi-white	Semi-white Sanded Silver Brass	Sanded-white	White	White	White	White	Semi-white	White
Dimmable	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes
Emerg.	Choice of maintained 1.5 or 3 hours emergency operation, If Emergency function is needed.									



LED DOWNLIGHTS RANGE SUMMARY

	NLED931/IR PAGE 70	NLED918*M/IR PAGE 73	NDLLED928* PAGE 78	NDLLED9235 PAGE 80	NDLLED9286 PAGE 81	NLED925 PAGE 85	NDLLED970 PAGE 86	NDLLED980 PAGE 88	NLED948M PAGE 90	NLED81* PAGE 92-109
WATTAGE	LUMEN OUTPUTS									
3										170 lm
4	240 lm					270 lm				
4.5										170 lm
5										
6	360 lm	470 lm							360 lm	
7										
8	480 lm					610 lm			600 lm	570 lm
9		600 lm	770 lm							
10	600 lm							1,000 lm		
11										870 lm
12	720 lm	740 lm				1,070 lm			860 lm	
14										
15		900 lm	1,100 lm			1,370 lm		1,400 lm	1,170 lm	1,200 lm
16										
17										
18		1,080 lm							1,350 lm	
20				1,580 lm		1,840 lm	1,450 lm	1,950 lm		1,700 lm
22										
24			2,200 lm		1,780 lm					
25								2,400 lm		
30						2,610 lm	2,450 lm	3,000 lm		2,500 lm
34										
35			2,530 lm					3,100 lm		2,900 lm
40							3,800 lm			
50										3,900 lm
55										
FEATURES	NLED931/IR	NLED918*M/IR	NDLLED928*	NDLLED9235	NDLLED9286	NLED925	NDLLED970	NDLLED980	NLED948M	NLED81*
Colour Temp	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 5700K	1800K/2500K 3200K/3700K 4200K	1800K/2500K 3200K/3700K 4200K	3000K 3500K 4000K 5700K	3000K 4000K 6500K	3000K 4000K 5700K	3000K 4000K 5700K	2700K 3000K 4000K
Mounting	Recessed	Surface	Surface	Recessed	Surface	Recessed	Recessed	Recessed	Surface	Recessed
IP Rating	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20/40/44
Finishes	White	Black White	Black White	Silver	Black White	White Satin Silver Black	White	White	Black White	White
Dimmable	No	No	No	No	No	Yes	No	No	No	Yes
Emerg.	Choice of maintained 1.5 or 3 hours emergency operation, If Emergency function is needed.									





NLED920* series

UFO-I downlights



APPLICATIONS

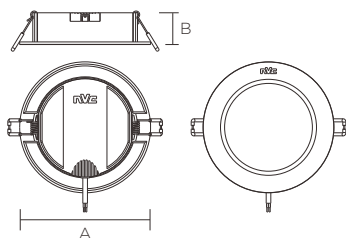
- Suitable for shopping malls, retail stores, corridors and general lighting in commercial area
- Suitable for corridors and working areas in office
- Suitable for living rooms, bedrooms, kitchens and corridors in residential area

CONSTRUCTION

- Project heat dissipation plastic body and bezel
- Suitable for recessed mount
- Wide bezel design, the diameter of bezel 125mm (NLED9204)
- Use plug-in connector to connect the bezel and body, no screws from the appearance and no gap between the body and bezel

TECHNICAL DETAILS

- ETI SMD LEDs
- Choice of six wattage:
 - 3W, 180 lm, PF >0.5 (2.5 inch)
 - 5W, 300 lm, PF >0.5 (3 inch)
 - 8W, 480 lm, PF >0.5 (4 inch)
 - 12W, 720 lm, PF >0.5 (5 inch)
 - 15W, 900 lm, PF >0.5 (6 inch)
 - 18W, 1100 lm, PF >0.5 (8 inch)
- CRI >80
- CCT, choice of 3000K, 4000K or 5700K
- Integral driver included (driver on board)



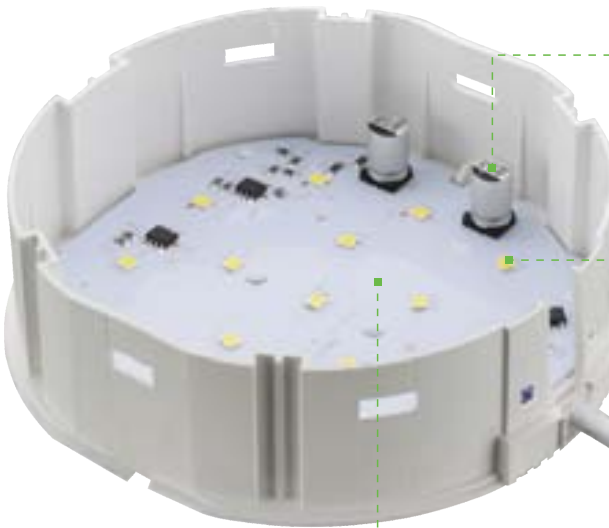
Watts	A	B	Cut-out
3W	Ø95	51	Ø75-85
5W	Ø110	56	Ø95-95
8W	Ø125	36	Ø100-110
12W	Ø150	36	Ø125-135
15W	Ø175	37	Ø150-160
18W	Ø225	37	Ø198-208

Model	Watts	Color temp.	Lumens	CRI	PF	Beam angle
NLED92025	3W	3000K/4000K/5700K	180 lm	>80	>0.5	90°
NLED9203	5W	3000K/4000K/5700K	300 lm	>80	>0.5	90°
NLED9204	8W	3000K/4000K/5700K	480 lm	>80	>0.5	100°
NLED9205	12W	3000K/4000K/5700K	720 lm	>80	>0.5	100°
NLED9206	15W	3000K/4000K/5700K	900 lm	>80	>0.5	100°
NLED9208	18W	3000K/4000K/5700K	1,100 lm	>80	>0.5	100°

Structure and details



Glare-free lighting
At the front of the fitting is a polycarbonate diffuser. This has a slight opal effect with a micro-prismatic surface. It gives a very even, well diffused light, but with very little loss, so the high efficiency is maintained.



DOB design
Use DOB (driver on board) design, making the luminous flux maintenance rate is up to 70%.

New generation ETI SMD clip
Use new generation ETI SMD clips, which is advance in high outputs, longer lifespan, less light decay and energy-saving.

AC wire for easy wiring and convenience to test.

Wide voltage electronic components
The use of wide voltage electronic components. This allows the fitting to work under the input voltage between 198V and 264V.

Product with plastic body and bezel
Injection molded plastic allows the product to better resist dust, rust and corrosion. No screws from the appearance and no gap between the body and bezel. Suitable for coastal areas.

Wide bezel design
The wide bezel (15mm) means that the cut-out does not have to be very accurate (around +/- 10mm), and the fitting is more likely to be an easy retro-fit solution.

The fitting passed 3C certification and gained the CE marking, confirm to the ISO 9001 standards.

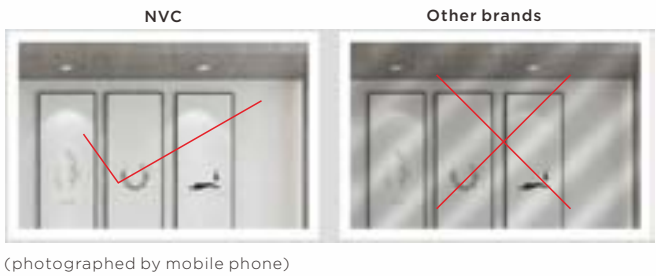




Suitable for small space
Ultra-slim size will let the product to be suitable for the application whereby it just need to have limited space, such as shopping mall, office or a place where is under the air conduit etc..

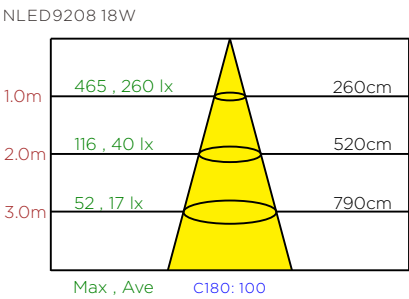
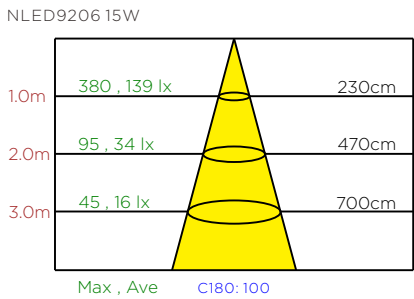
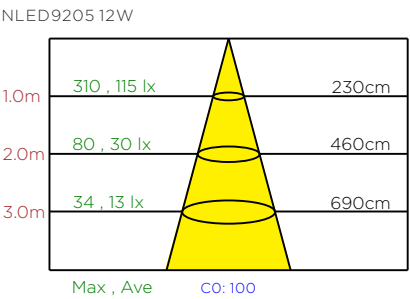
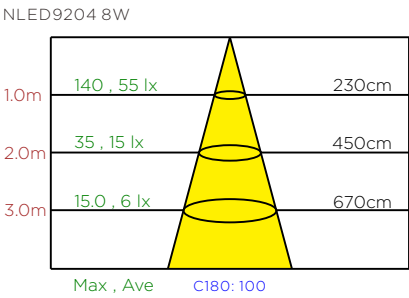
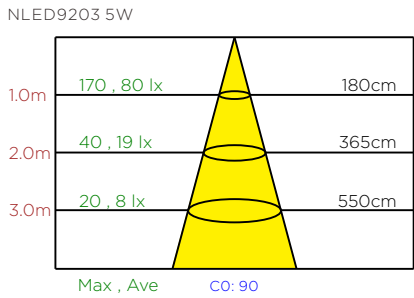
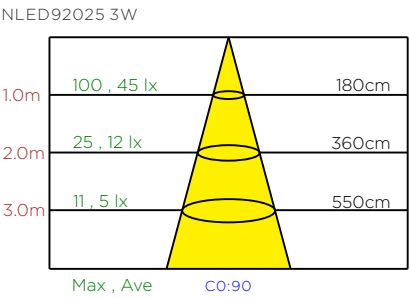


Low flicker
Using unique filter circuit design, the ripple (fluctuation of the output) is less than 3%.



Comparison with PLC downlights

Product	NLED920*	E27/PLC Downlight	NLED920*	E27/PLC Downlight	Energy-saving
Luminaire efficiency of lamp (Lumens/Wattage)	180 lm/3W	85 lm/3W			
	300 lm/5W	150 lm/5W			
	480 lm/8W	235 lm/8W			
	720 lm/12W	355 lm/12W			
	920 lm/15W	423.5 lm/14W			
Rated Life	1,100 lm/18W	550 lm/18W	3w	3w~5w	40%
	20,000 hours	8,000 hours	5w	8w~9w	44%
			8w	12w~18w	56%
			12w	18w~26w	54%
			15w	2x14w~2x18w	58%
			18w	2x18w~2x26w	60%



NLED912 series
Downlights with polycarbonate bezel



APPLICATIONS

- Residential lighting
- Retail stores
- Shopping malls

OPTIONS

- Sizes: Fittings are available in seven wattages. Note that the 8W version is available in two sizes as listed below

CONSTRUCTION

- Aluminium + polycarbonate housing
- Semi-white colour
- Frosted polycarbonate diffuser
- Polycarbonate bezel
- Integrated driver

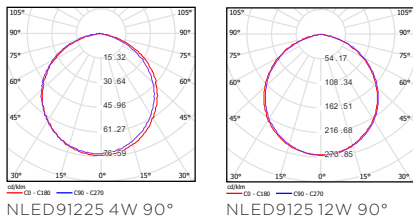
TECHNICAL DETAILS

- SMD LEDs

Model	Colour temp.	Lumens	CRI	PF
NLED91225 4W	3000K/4000K/5700K	250 lm	>80	>0.5
NLED9123 6W	3000K/4000K/5700K	360 lm	>80	>0.5
NLED91235 8W	3000K/4000K/5700K	480 lm	>80	>0.9
NLED9124 8W	3000K/4000K/5700K	480 lm	>80	>0.9
NLED9124 10W	3000K/4000K/5700K	600 lm	>80	>0.9
NLED9125 12W	3000K/4000K/5700K	720 lm	>80	>0.9
NLED9126 15W	3000K/4000K/5700K	850 lm	>80	>0.9
NLED9128 20W	3000K/4000K/5700K	1,200 lm	>80	>0.9

NLED912*

Watts	A	B	Cut-out
4W	Ø94	59	Ø75
6W	Ø104	60	Ø85
8W	Ø107	65	Ø95
8W/10W	Ø132	71	Ø120
12W	Ø180	75	Ø165
15W	Ø188	81	Ø175
20W	Ø220	87	Ø200





NDLLED915 series

Downlights with step-dimming or colour temperature selection



Semi-white



- APPLICATIONS**
- Residential lighting
 - Bedrooms
 - Corridors and living rooms

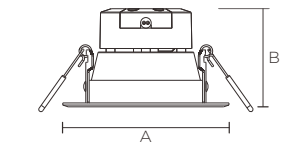
- CONSTRUCTION**
- Aluminium body
 - Bezel colour: Semi-white
 - Integrated driver

- TECHNICAL DETAILS**
- SMD LEDs

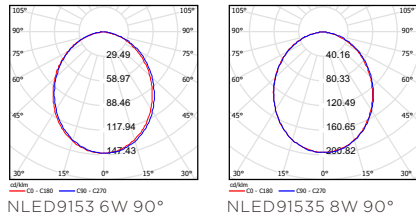
- OPTIONS**
- **Dimming and CCT selection**
This downlight can be controlled via the mains switch to deliver either step-dimming or a choice of colour temperatures:
 - Step-dimming (ST). Switching the mains switch on/off quickly causes the light source to step between 100%, 50% and 20% output

- Colour selection (CCT). Switching the mains switch on/off quickly causes the light to step between 3000K, 4000K and 5700K
- Note that each version offers either step-dimming or colour selection. If ordering step-dimming then a fixed CCT has to be specified; if ordering a CCT selectable version then step-dimming is not available

Model	Colour temp.	Lumens	CRI	PF
NDLLED91525 4W	3000K/4000K/5700K	240 lm	>80	>0.5
NDLLED9153 6W	3000K/4000K/5700K	360 lm	>80	>0.5
NDLLED91535 8W	3000K/4000K/5700K	480 lm	>80	>0.95
NDLLED9154 10W	3000K/4000K/5700K	650 lm	>80	>0.95



Watts	A	B	Cut-out
4W	Ø94	56	Ø75
6W	Ø104	54	Ø85
8W	Ø114	59	Ø95
10W	Ø140	66	Ø120



NLED91535 6W 90° NLED91535 8W 90°

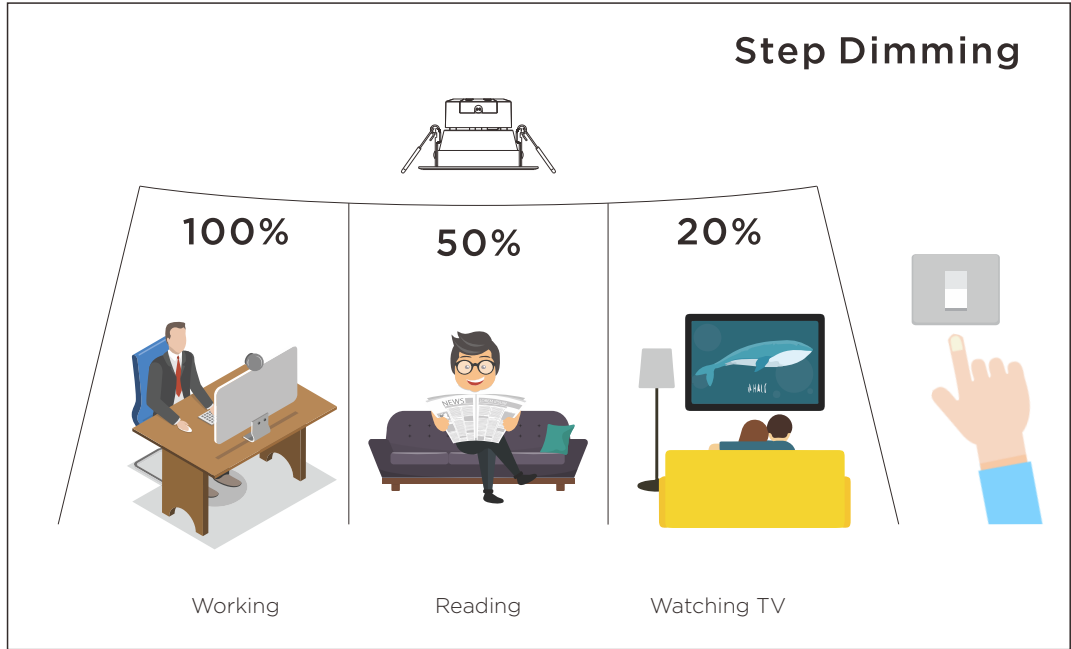


The light that changes to suit your mood

One room, many functions

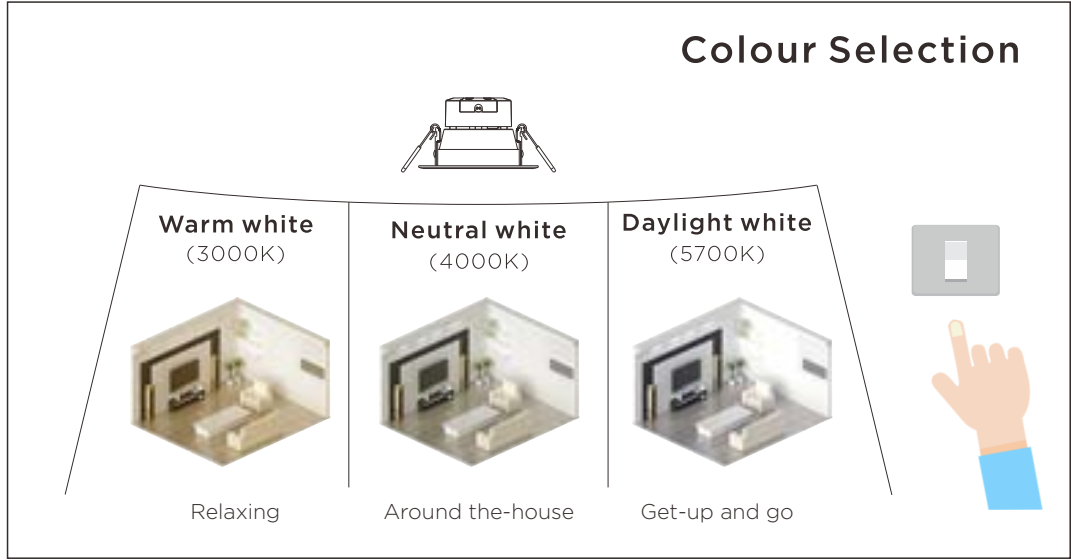
What do you do in your living room? Sometimes you work, sometimes you are relaxing, other times you might be watching TV. The NDL915 is a perfect dimming solution without the hassle of re-wiring or spending extra on dimmers.

When ordering, choose “ST”, for step dimming and your fittings will automatically get brighter and dimmer at the flick of an ordinary switch.



Change the light to suit your mood

Light effects our mood. A bright, crisp white light helps us get going in the morning, and a warm, cosy light helps us relax in the evening. NDL915 offers three popular colour temperatures – 3000K (warm white) for relaxing, 4000K (neutral white) suitable for general activities round the home and 5700K (daylight white) for helping us to get up and going in the mornings, and to give us a boost after lunch too. When ordering, choose “CS” for the colour selectable version.



NLED950 E series NLED951 E series

A range of economical IP44 downlights



APPLICATIONS

- Kitchens and washrooms
- Corridors and living areas in homes and small commercial projects

TECHNICAL DETAILS

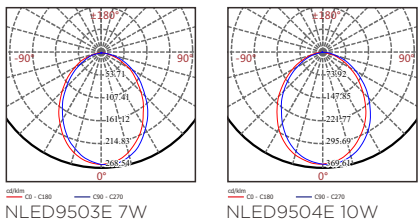
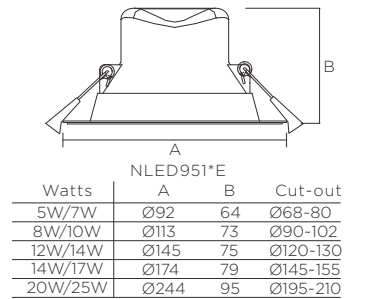
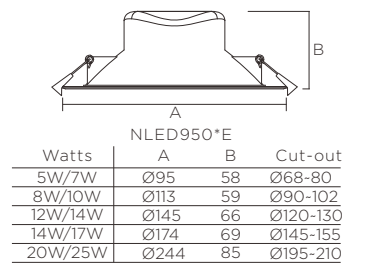
- SMD LEDs
- IP44 front face – suitable for most areas in kitchens, toilets and washrooms
- Push-fit (screwless) terminal block for fast installation
- Terminal block cover with built-in strain relief

CONSTRUCTION

- Body and heat sink made of white plastic coated aluminium
- Nano-coated internal reflector for maximum efficiency
- Opal diffuser
- Integrated non-dimmable driver
- Available in five sizes and 10 wattages as listed below: 3 inch, 4 inch, 5 inch, 6 inch and 8 inch

OPTIONS

- Choice of 3000K, 4000K or 5700K colour temperatures



Model	Colour temp.	Lumens	CRI	PF
NLED9503E/NLED9513E 5W	3000K/4000K/5700K	460 lm	>80	>0.5
NLED9503E/NLED9513E 7W	3000K/4000K/5700K	650 lm	>80	>0.5
NLED9504E/NLED9514E 8W	3000K/4000K/5700K	700 lm	>80	>0.5
NLED9504E/NLED9514E 10W	3000K/4000K/5700K	890 lm	>80	>0.9
NLED9505E/NLED9515E 12W	3000K/4000K/5700K	1,150 lm	>80	>0.9
NLED9505E/NLED9515E 14W	3000K/4000K/5700K	1,300 lm	>80	>0.9
NLED9506E/NLED9516E 14W	3000K/4000K/5700K	1,330 lm	>80	>0.9
NLED9506E/NLED9516E 17W	3000K/4000K/5700K	1,550 lm	>80	>0.9
NLED9508E/NLED9518E 20W	3000K/4000K/5700K	1,950 lm	>80	>0.9
NLED9508E/NLED9518E 25W	3000K/4000K/5700K	2,400 lm	>80	>0.9

NLED950 E-D series

A range of dimmable and colour selectable IP44 downlights



APPLICATIONS

- Kitchens and washrooms
- Corridors and living areas in homes and small commercial projects

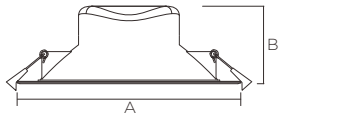
CONSTRUCTION

- Body and heat sink made of white plastic coated aluminium
- Nano-coated internal reflector for maximum efficiency
- Opal diffuser
- Integrated dimmable driver
- Available in 5 sizes and wattages as listed below: 3 inch, 4 inch, 5 inch, 6 inch and 8 inch

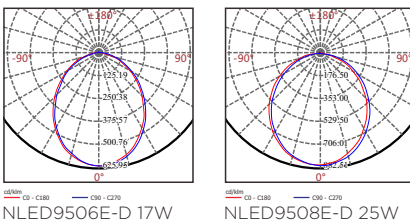
TECHNICAL DETAILS

- SMD LEDs
- Presettable tri-white. With a switch at the back of the fitting, the colour temperature of the light can be adjusted to three kinds of colour temperatures:
 - 3000K – warm white, suitable for bedrooms and living areas
 - 4000K – neutral white, suitable for kitchens, corridors and stairways
 - 5700K – daylight white, suitable for offices and working areas

- Dimmable driver: Designed to be used with triac (leading edge) phase dimmers.
- IP44 front face: Suitable for most areas in kitchens, toilets and washrooms
- Push-fit (screwless) terminal block for fast installation
- Terminal block cover with built-in strain relief



Watts	A	B	Cut-out
7W	Ø95	58	Ø68-80
9W	Ø113	59	Ø90-102
14W	Ø145	66	Ø120-130
17W	Ø174	69	Ø145-155
25W	Ø244	85	Ø195-210



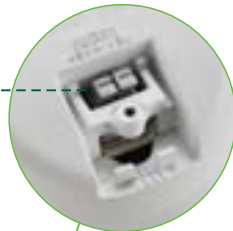
Model	Colour temp.	Lumens	CRI	PF
NLED9503E-D 7W	3000K/4000K/5700K	650 lm	>80	>0.9
NLED9504E-D 9W	3000K/4000K/5700K	840 lm	>80	>0.9
NLED9505E-D 14W	3000K/4000K/5700K	1,330 lm	>80	>0.9
NLED9506E-D 17W	3000K/4000K/5700K	1,650 lm	>80	>0.9
NLED9508E-D 25W	3000K/4000K/5700K	2,450 lm	>80	>0.9

Cost efficient & easy to install

NLED950*E range is the first choice of downlight in any domestic residential project

EASY TO INSTALL

The push-fit, screwless terminal block makes wiring quickly and easily and the built-in strain relief cover just has one screw.



ONE DESIGN MEETS ALL REQUIREMENTS

- Five sizes - suitable for all sizes of room.
- Dimmable - ideal for bedrooms and living rooms.
- IP44 front face - suitable for kitchens & bathrooms.
- Colour selectable - choose 3000K for the bedroom, 4000K for the kitchen and 5700K for the study or workshop.

GREAT RETRO-FIT SOLUTION

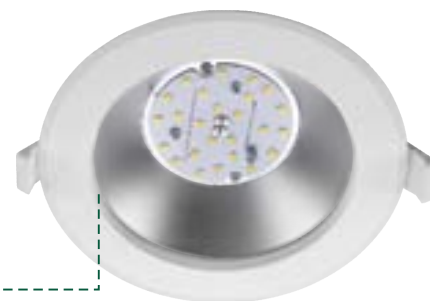
The strong installation clips, with plastic coated ends, help to hold the fitting securely, even if the hole is a little over-sized or irregular in shape. Replacing old fittings. The wide bezel means that the cut-out can be +/- 10mm, with rough edges, and the new fitting will still fit well and look neat.

QUALITY & RELIABILITY

The aluminium body helps dissipate the heat from the LEDs and driver, so the fitting will not overheat and fail early.

Aluminium LED plate

Helps dissipate the heat from the LEDs.



GREAT FOR KITCHENS & BATHROOMS

Because the body has a thick plastic coating it is completely protected from moisture - so this is a reliable, long-lasting and good looking solution for lighting in these areas.

EFFICIENT & ENERGY SAVING

Inside the fitting there is an aluminium reflector with a nano-coated surface. This helps to make the fitting very efficient - up to 85 lumens per watt.

GLARE-FREE LIGHTING

At the front of the fitting is a polycarbonate diffuser. This has a slight opal effect with a micro-prismatic surface. This gives a very even, well diffused light, but with very little loss, so the high efficiency is maintained.





NDL201 series

Side-lit ultra-slim LED downlights with recessed and surface installations



Square surface version



APPLICATIONS

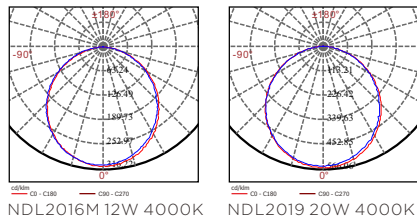
- Residential areas
- Stores
- Supermarkets
- Offices

CONSTRUCTION

- Plastic housing
- Bezel shape: Choice of the round or square
- Suitable for surface and recessed installations
- Colour: White RAL 9016
- Round recessed version available for surface installation by using surface mounting kits

TECHNICAL DETAILS

- SMD 2835 LEDs
- Flammability rating: V0
- Rated ambient temperature: -20°C to 45°C



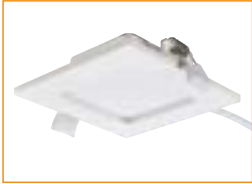
Model	Watts	Color temp.	Lumens	CRI	PF
NDL2014	6W	3000K/4000K/5700K	420 lm	>80	> 0.5
NDL2016	12W	3000K/4000K/5700K	860 lm	>80	> 0.9
NDL2018	18W	3000K/4000K/5700K	1,380 lm	>80	> 0.9
NDL2019	20W	3000K/4000K/5700K	1,600 lm	>80	> 0.9
NDL2014S	6W	3000K/4000K/5700K	420 lm	>80	> 0.5
NDL2016S	12W	3000K/4000K/5700K	860 lm	>80	> 0.9
NDL2018S	18W	3000K/4000K/5700K	1,380 lm	>80	> 0.9
NDL2014M	6W	3000K/4000K/5700K	420 lm	>80	> 0.5
NDL2016M	12W	3000K/4000K/5700K	860 lm	>80	> 0.9
NDL2018M	18W	3000K/4000K/5700K	1,380 lm	>80	> 0.9
NDL2019M	20W	3000K/4000K/5700K	1,600 lm	>80	> 0.9
NDL2014SM	6W	3000K/4000K/5700K	420 lm	>80	> 0.5
NDL2016SM	12W	3000K/4000K/5700K	860 lm	>80	> 0.9
NDL2018SM	18W	3000K/4000K/5700K	1,380 lm	>80	> 0.9



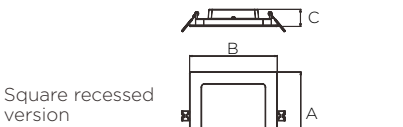
Round surface version



Round recessed version

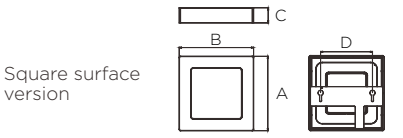


Square recessed version



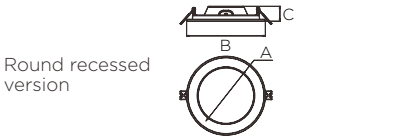
Square recessed version

Model	A	B	C	Cut-out
NDL2014S	115	115	30	105x105
NDL2016S	165	165	32	155x155
NDL2018S	220	220	31	205x205



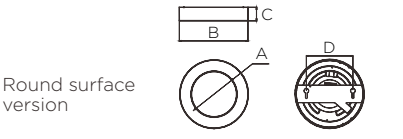
Square surface version

Model	A	B	C	D
NDL2014SM	128	128	39	78
NDL2016SM	181	181	39	120
NDL2018SM	231	231	39	174



Round recessed version

Model	A	B	C	Cut-out
NDL2014	Ø71	Ø115	30	Ø100-110
NDL2016	Ø120	Ø170	32	Ø150-160
NDL2018	Ø170	Ø220	31	Ø200-210
NDL2019	Ø190	Ø240	31	Ø220-230



Round surface version

Model	A	B	C	D
NDL2014M	Ø67	Ø128	39	72
NDL2016M	Ø116	Ø182	39	120
NDL2018M	Ø166	Ø232	39	170
NDL2019M	Ø186	Ø252	39	190

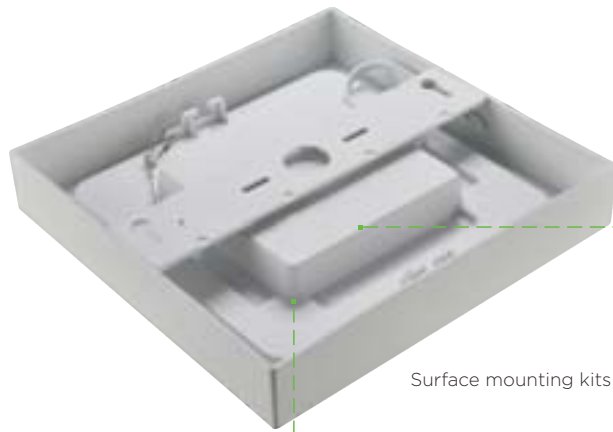


Structure and details



Suitable for more applications & flexible for inventory
Separate fixture and bezel structure with the multiple choice of bezel shape allow the customer to choose their preferred style (round and square), which can make the product suitable for more applications and flexible for inventory. All shapes are available for surface and recessed installations.

Resistance of corrosion and rust
Polycarbonate housing polyamide bezel for easier cleaning and can protect from corrosion and rust. More suitable for coastal area countries.



Surface mounting kits (square)

PF >0.9 (for 10W product and above)
Integral driver included, PF is more than 0.9. No electronic interference, compliant with the EMC requirements.

Multiple fixing points
Multiple types of fixing points at the surface install support can satisfy the installation requirements of different countries.

Safety & Convenience
2 rotation buckle design for surface version which can avoid the process of drilling on the side, more easy to install and remove.

Prevent from falling
Safety wire is provided to prevent the accident of falling.



Ultra-slim design
The thickness for surface version is 39mm and for recessed version is 30mm



Surface mounting kits (round)

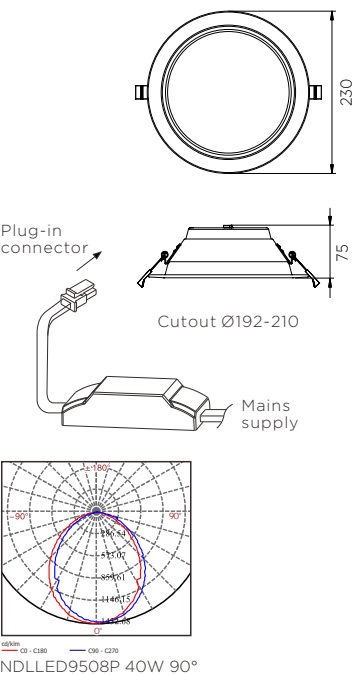
NDLLED950P

LED professional downlights



- APPLICATIONS
- Living rooms
 - Stations
 - Shopping malls
 - Office buildings
- TECHNICAL DETAILS
- SMD LEDs
- CONSTRUCTION
- Aluminium housing, good heat dissipation
 - VO flame rating material, prevent turning yellowish
 - With separate driver design, High PF, EMC/EMI compliant, makes long lifespan
 - Easy connector for driver & lamp
 - Chip deep inside with PC cover, more soft light output

- OPTIONS
- **Emergency:** 1.5 hours or 3 hours emergency kit(EM001/002) available. please refer to the driver section
 - 0-10V Dimmable



Model	Colour temp.	Lumens	CRI	PF
NDLLED9508P 40W	3000K/4000K/5700K	3,600 lm	>90	>0.9

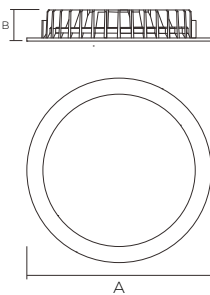
NDLLED930 E series

Slim downlights with a choice of multiple wattages & dimensions

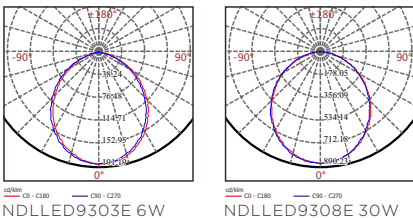


- APPLICATIONS
- Offices & Meeting rooms
 - Malls & Retails
 - Corridors
 - Residential ares
- CONSTRUCTION
- Die-cast aluminium housing & PC diffuser
 - Powder coated surface treatment
 - Separate constant current LED driver included

- TECHNICAL DETAILS
- SMD LEDs



Watts	A	B	Cut-out
6W	Ø102	30	Ø50-80
12W	Ø128	30	Ø100-110
18W	Ø178	30	Ø150-160
24W/30	Ø227	30	Ø200-210



Model	Colour temp.	Lumens	CRI	PF
NDLLED 9303E 6W	3000K/4000K/6500K	450 lm	>80	>0.5
NDLLED 9304E 12W	3000K/4000K/6500K	960 lm	>80	>0.5
NDLLED 9306E 18W	3000K/4000K/6500K	1,530 lm	>80	>0.9
NDLLED 9308E 24W	3000K/4000K/6500K	2,040 lm	>80	>0.9
NDLLED 9308E 30W	3000K/4000K/6500K	2,500 lm	>80	>0.9



NLED940 series

High-output ultra-slim downlights



APPLICATIONS

- Lobbies
- Corridors
- Reception area in hotels
- Shopping malls
- Residential hallways

TECHNICAL DETAILS

- SMD LEDs

OPTIONS

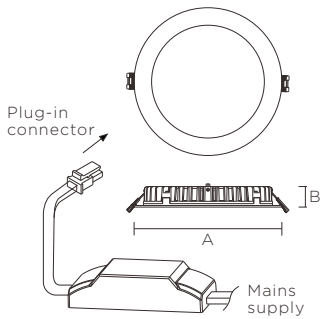
- **Driver:** Choice of standard driver or osram driver
- **Dimming:** Fixed output as standard. Dimming options are available with an Osram driver, add suffix MD and DD as required when ordering
- **Emergency:** 1.5 hours or 3 hours emergency kit (EM001/002) available. please refer to the driver section

CONSTRUCTION

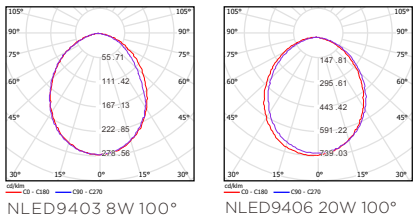
- Die-cast aluminium housing and heat sink
- Powder coated finish
- UV stable polycarbonate diffuser
- Separate standard driver or Osram driver included

Note

- Choose additional waterproof bezel to achieve waterproof function on the standard product



Watts	A	B	Cut-out
6W/8W	Ø110	26	Ø90
12W	Ø140	26	Ø120
20W	Ø190	26	Ø170
25W/30W	Ø230	29	Ø210



NLED9403 8W 100° NLED9406 20W 100°



NLED924 series

Slim die-cast aluminium downlights with wide range of sizes and wattages



NLED924*N / NLED924*NA
PC (polycarbonate) bezel (IP20 or IP40)



NLED924*
Die-cast aluminium bezel



APPLICATIONS

- Stations
- Offices
- Shopping malls

TECHNICAL DETAILS

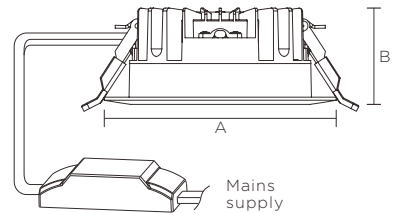
- SMD LEDs
- IP44 available for PC (polycarbonate) bezel version

CONSTRUCTION

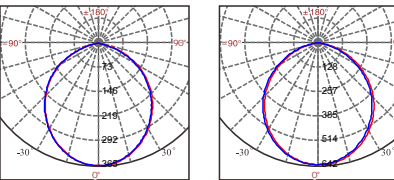
- Die-cast aluminium housing and heat sink
- Semi-transparent acrylic diffuser
- Protective plastic sleeve on spring clips
- Powder-coated finish
- Separate driver included

OPTIONS

- **Bezel material:** Choice of die-casting aluminium bezel or polycarbonate bezel
- **Emergency:** 1.5 hours or 3 hours emergency kit (EM001/002) available. please refer to the driver section
- **Dimming:** Fixed output as standard, but NLED9244 10W, NLED9246 20W and NLED9248 30W product are also available for use with suitable mains dimming, 1-10V analogue dimming and digital dimming. If required, add suffix MD, 1-10V when and DD ordering



Watts	A	B	Cut-out
7W/8W/12W	Ø114	46	Ø100
15W (NLED9245N)	Ø141	49	Ø125
11W/15W (NLED9246NA) / 20W	Ø168	52	Ø150
16W/22W/30W/34W	Ø218	55	Ø200



NLED9244 12W 100° NLED9246 20W 100°



NDLLED929 series

Ultra-slim die-cast aluminium downlights with circular and square options and a wide range of size and wattages



NDLLED929*



NDLLED929*R



APPLICATIONS

- Corridors
- Residential lighting
- Offices
- Shopping malls

TECHNICAL DETAILS

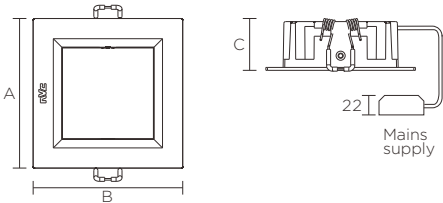
- SMD LEDs
- Available in circular and square formats (suffix R). Each format is available in six sizes. Where there is a choice of wattages in one size, to order the smaller wattage add suffix "A"
- 2.5", 92mm, 4W
- 3", 105mm, 6W
- 4", 116mm, 6W (suffix A) & 8W
- 5", 142mm, 12W (suffix A) & 15W
- 6", 175mm, 15W (suffix A) & 20W
- 8", 218mm, 20W/25W/30W (suffix AS/A)

CONSTRUCTION

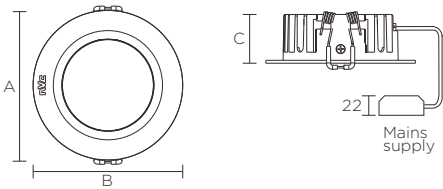
- Die-cast aluminium housing and PC diffuser
- Semi white powder coated finish
- Supplied complete with separate constant current driver, pre-wired with 90mm of 2 x 0.75mm² flex

OPTIONS

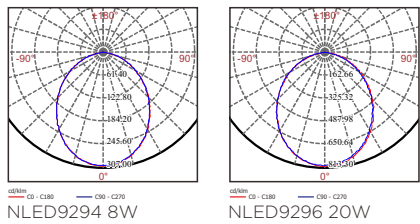
- **Version:** Choice of square version or circular version
- **Dimming:** Fixed output as standard, but 20W, 25W and 30W product are also available for suitable mains dimming, analogue dimming and digital dimming. If required, add suffix MD and DD when ordering



NDLLED929*R				
Watts	A	B	C	Cut-out
4W	92	92	30	75x75
6W	105	105	30	90x90
6W/8W	116	116	30	100x100
12W/15W	142	142	30	125x125
15W/20W	175	175	30	150x150
20W/25W/30W	218	218	30	200x200



NDLLED929*			
Watts	A	C	Cut-out
4W	Ø92	30	Ø75
6W	Ø105	30	Ø90
6W/8W	Ø116	30	Ø100
12W/15W	Ø142	30	Ø125
15W/20W	Ø175	30	Ø150
20W/25W/30W	Ø218	30	Ø200



Model	Colour temp.	Lumens	CRI	PF
NDLLED92925/R 4W	3000K/4000K/5700K	310 lm	>80	>0.7
NDLLED9293/R 6W	3000K/4000K/5700K	510 lm	>80	>0.7
NDLLED9294/R 8W	3000K/4000K/5700K	750 lm	>80	>0.8
NDLLED9295/R 15W	3000K/4000K/5700K	1,400 lm	>80	>0.9
NDLLED9296/R 20W	3000K/4000K/5700K	2,050 lm	>80	>0.9
NDLLED9298/R 30W	3000K/4000K/5700K	3,000 lm	>80	>0.9
NDLLED9294A/AR 6W	3000K/4000K/5700K	590 lm	>80	>0.8
NDLLED9295A/AR 12W	3000K/4000K/5700K	1,215 lm	>80	>0.9
NDLLED9296A/AR 15W	3000K/4000K/5700K	1,500 lm	>80	>0.9
NDLLED9298AS/ASR 20W	3000K/4000K/5700K	2,000 lm	>80	>0.9
NDLLED9298A/AR 25W	3000K/4000K/5700K	2,500 lm	>80	>0.9

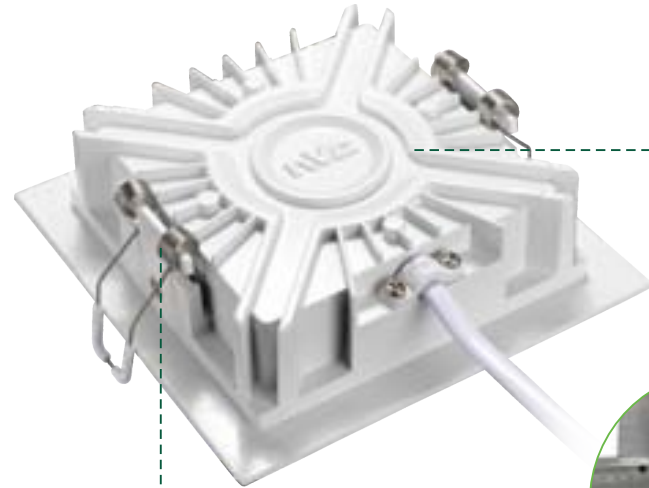
Structure and details

Ultra slim profile
Being just 30mm thick the NDLLED929 can fit in almost any ceiling void.

Low flicker
The ripple (fluctuation of the output) from the driver is less than 3.2%. This means that the flicker of the LEDs is so low that at a distance of more than 20cm no flicker is visible at all. This creates a better lit environment with less risk of sore eyes, tiredness and headaches.

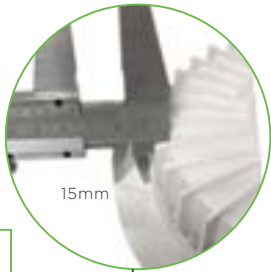


High efficiency
Delivering up to 103 luminaire lumens per circuit watt, this is a highly efficient fixture, delivering more light for less power than many similar competing fittings. Its high efficiency not only lowers electricity bills, it also reduces the total load on the air conditioning system.



High quality design and materials
The heavy-duty die-cast aluminium housing with cooling fins ensures that the LEDs stay cool. That helps ensure a long life for the fitting with low rates of lumen depreciation.

Secure ceiling fixing
The strong spring clips are easy to fit to the housing and they pull the whole fitting firmly up against the ceiling. This ensures the fitting remains in exactly the right position, even if there is vibration, so the installation stays looking good for years. The plastic coating on the clips reduces the risk of damage to the ceiling.



Wide bezel
The wide bezel (15mm) means that the cut-out does not have to be very accurate, and the fitting is more likely to be an easy retro-fit solution when upgrading an existing installation.

Size	929	929A
2.5 inch	4W	/
3 inch	6W	/
4 inch	8W	6W
5 inch	15W	12W
6 inch	20W	15W
8 inch	30W	20W/25W



Wide choice of sizes and outputs
With a choice of eight wattages, six sizes and two shapes this range can be used in a wide range of applications, for both new-build and retro-fit projects.



NLED931 series

Recessed mounted SMD downlights

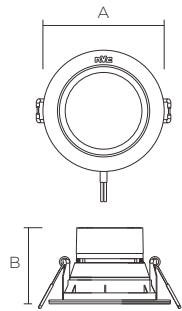


- APPLICATIONS**
- Living rooms
 - Bedrooms
 - Corridors
 - Residential areas

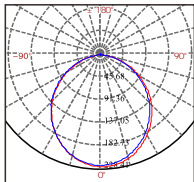
- CONSTRUCTION**
- Material: SPCC (cold-rolled sheet)+plastic
 - Driver built-in constant current driver included

- TECHNICAL DETAILS**
- SMD LEDs

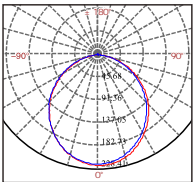
Model	Colour temp.	Lumens	CRI	PF
NLED93125 4W	3000/4000/5700K	240 lm	>80	>0.5
NLED9313 6W	3000/4000/5700K	360 lm	>80	>0.5
NLED9315 8W	3000/4000/5700K	480 lm	>80	>0.9
NLED9314 10W	3000/4000/5700K	600 lm	>80	>0.9
NLED9314 12W	3000/4000/5700K	720 lm	>80	>0.9



Watts	A	B	Cut-out
4W	Ø94	59	75
6W	Ø104	60	85
8W	Ø107	70	95
10W/12W	Ø132	77	120



NLED9313 6W



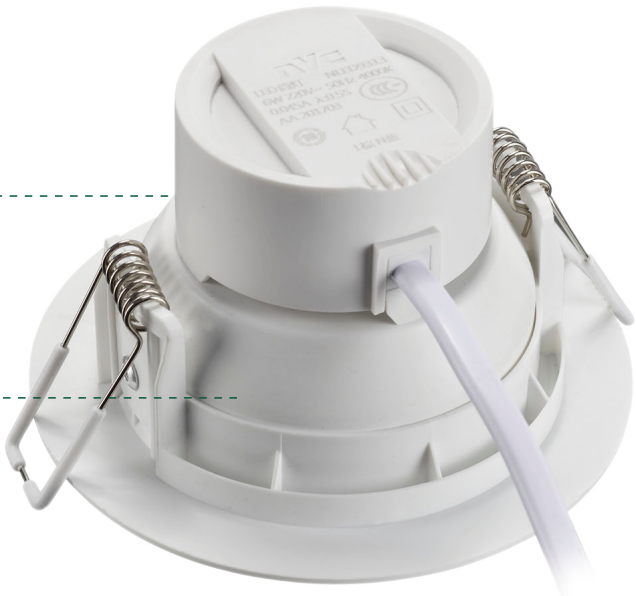
NLED9314 12W



Structure and details

Integrated lamp structure:
built-in power supply with compact fixture structure

Powder coated finish optical cover:
allow the fixture to resist rust and colour change, more durable to use.



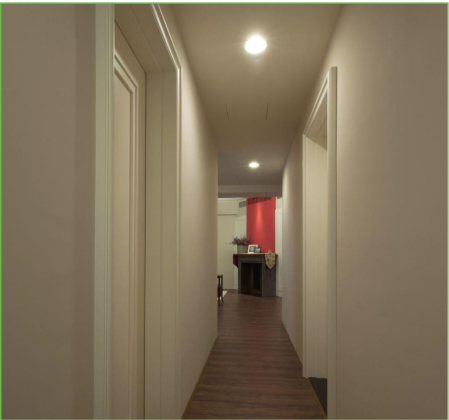
Frosted diffuser:
the diffuser is made of quality plastic which has advantage of high light transmittance. This also protect the fixture from the fog and reduce glare, providing comfortable and soft lighting.



Living room: living room is the area used most frequently in the residential space. Lighting suggestions: 100lux, 3/4/5/6W, 6/8W Ra80



Bedroom: bedroom should be warm and comfortable. Lighting suggestions: 75lux, 3/4/5/6W 3000K Ra80



Lighting suggestions: 30lux, 3/4/5/6W, 5700K Ra80



NLED931 IR series

Recessed mounted downlights with PIR sensor fitted



APPLICATIONS

- Stairwells
- Balconies
- Corridors
- Public washrooms

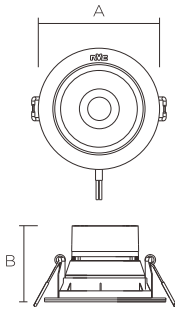
CONSTRUCTION

- Steel housing and PC cover
- PIR sensor fitted
- Colour: Semi-white

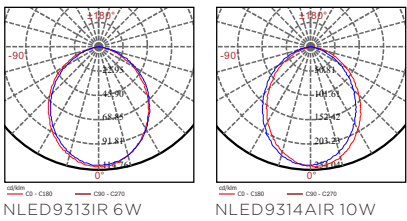
TECHNICAL DETAILS

- SMD LEDs
- Choice of two wattage:
 - 6W, 340 lm, PF >0.5 (3 inch)
 - 10W, 520 lm, PF >0.85 (4 inch)
- CRI >80
- CCT, choice of 3000, 4000 or 5700K
- Built-in driver included

Model	Watts	Color temp.	Lumens	CRI	PF
NLED9313IR	6W	3000K/4000K/5700K	340 lm	>80	>0.5
NLED9314IR	10W	3000K/4000K/5700K	520 lm	>80	>0.85



Model	A	B	Cut-out
NLED9313IR	Ø104	65	Ø80
NLED9314IR	Ø132	78	Ø110



NLED9184M IR

Surface mounted SMD downlights with PIR sensor fitted



(Black)



(White)



APPLICATIONS

- Stairwell
- Balconies
- Corridors
- Public washrooms

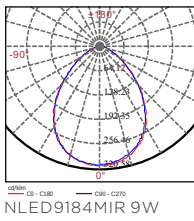
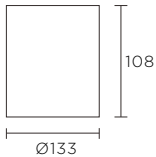
CONSTRUCTION

- Aluminium and steel housing
- Suitable for surface mount
- Colour: Semi-white or black

TECHNICAL DETAILS

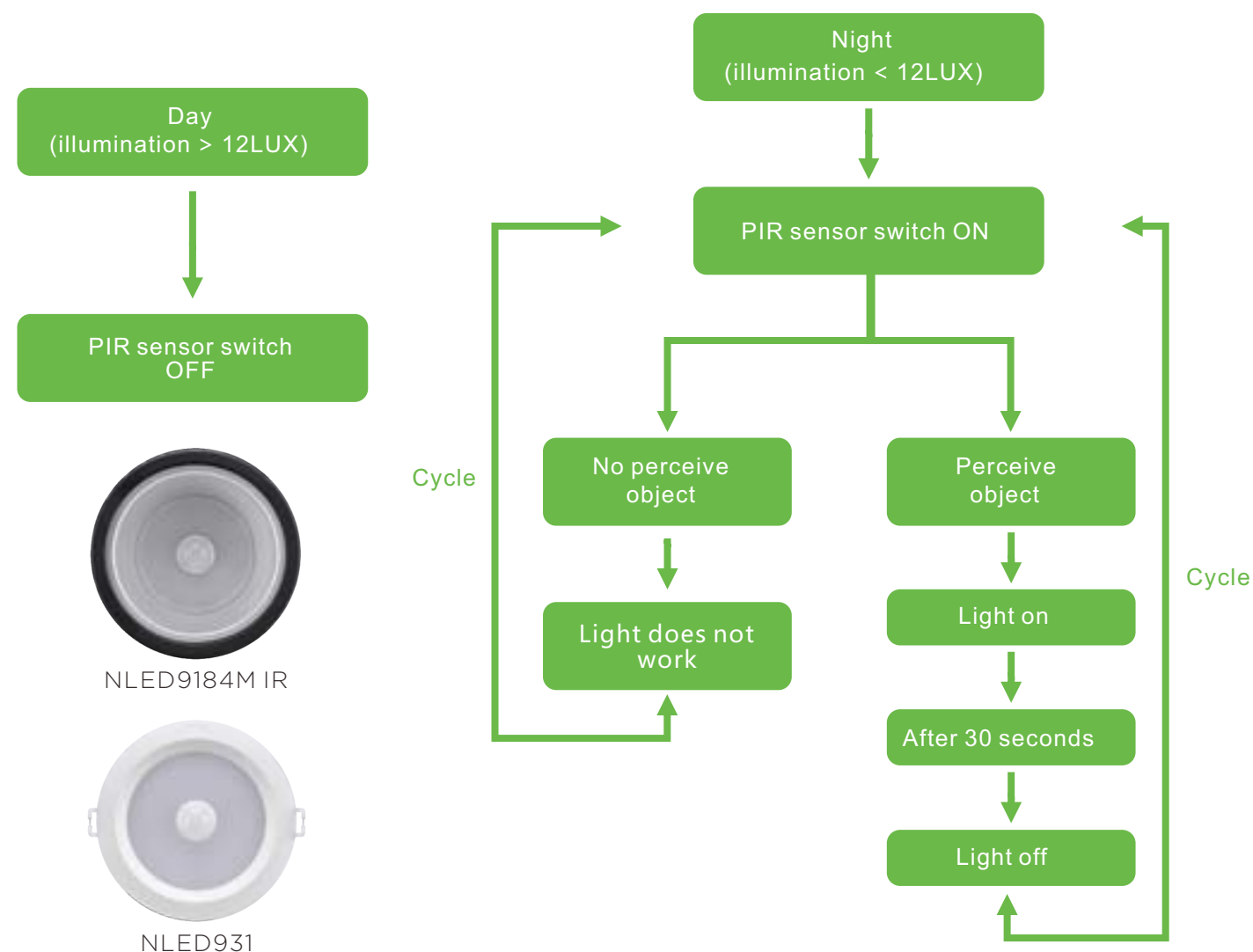
- SMD LEDs
- 9W, 600 lm, PF >0.8 (4 inch)
- CRI >80
- CCT, choice of 3000, 4000 or 5700K
- Integrated driver included

Model	Watts	Color temp.	Lumens	CRI	PF
NLED9184MIR	9W	3000K/4000K/5700K	600 lm	>80	>0.85



Structure and details

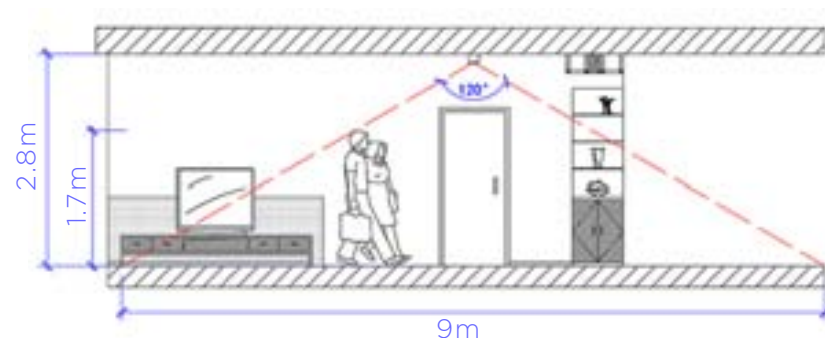
Induction principle (PIR + light induction)



Wider induction range

The enhanced PIR sensor will have wider induction range and higher sensitivity.

The induction range of product is up to 9 diameter metres.



Multiple installation method

This fitting is available for recessed mount and surface mount, which can make the product suitable for more applications and cater to different usage scenarios.





NLED918*M

Economic surface and suspended mounted SMD downlights



APPLICATIONS

- Commercial areas
- Terminals
- Meeting rooms
- Stairwells
- Aisles
- Offices

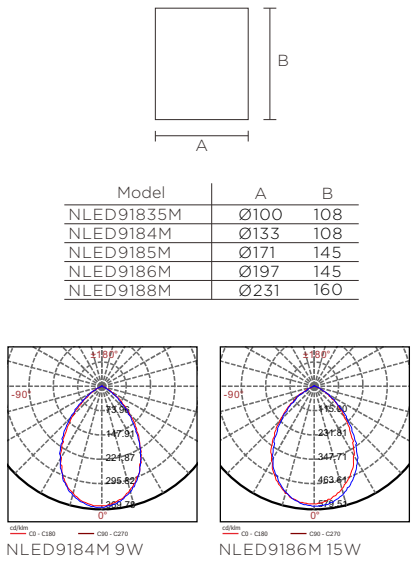
CONSTRUCTION

- Aluminium housing and reflector
- Suitable for surface and suspended mounted

TECHNICAL DETAILS

- SMD LEDs
- Choice of 5 wattage
 - 6W, 470 lm, PF>0.5 (3.5 inch)
 - 9W, 540 lm, PF>0.9 (4 inch)
 - 12W, 740 lm, PF>0.9 (5 inch)
 - 15W, 900 lm, PF>0.9 (6 inch)
 - 18W, 1,080 lm, PF>0.9 (8 inch)
- CRI >80
- CCT, choice of 3000K, 4000K or 5700K
- Internal driver included

Model	Watts	Color temp.	Lumens	CRI	PF
NLED91835M	6W	3000K/4000K/5700K	470 lm	>80	>0.5
NLED9184M	9W	3000K/4000K/5700K	540 lm	>80	>0.9
NLED9185M	12W	3000K/4000K/5700K	740 lm	>80	>0.9
NLED9186M	15W	3000K/4000K/5700K	900 lm	>80	>0.9
NLED9188M	18W	3000K/4000K/5700K	1,080 lm	>80	>0.9



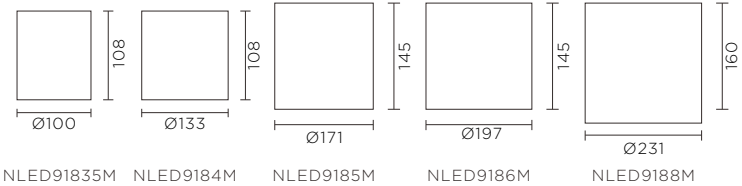
Structure and details



Elegant
Right proportion design of size gives a more elegant look.

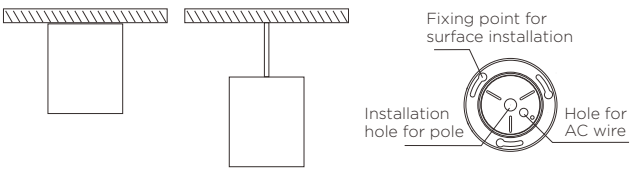
Glare proof design
Recessed optical design and satin silver glare proof cover create a more comfortable visual environment, shielding angle is more 30°.

Wide choice of sizes and outputs
With a choice of five sizes and wattages, this range can be used in a wide range of applications.



Reliable and safety
Use 3 slots and screw to connect with the body and base, more reliable and safety

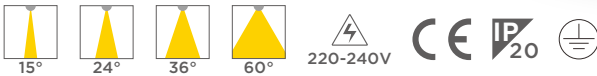
More installation
The standard installation method is surface installation. However, this product is also available for suspended installation, customer should purchase the installation or wire from the local market





NDLLED928 series

Surface mounted LED downlights



APPLICATIONS

- Hotels
- Exhibition rooms
- Arts centers
- Office
- Fresh foods
- Retail outlets

Options

- **Body colour:** Choice of white (WH) or black (BK)
- **Bezel colour:** Choice of gold (G) or silver (S)
- **Beam angle:** State choice of 15°, 24°, 36° or 60° when ordering

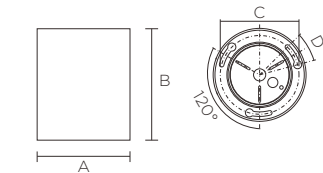
CONSTRUCTION

- Heavy duty die-cast aluminium housing
- Integrated driver included
- Optical distribution
 - Polycarbonate reflector
 - Polycarbonate bezel
 - Acrylic light pipe

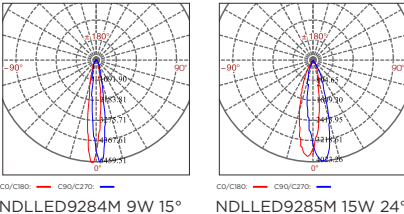
- **Fresh food spectrum:** If required, this product can be delivered with a light spectrum specially enriched with a choice of three colours to show different types of fresh food at their best
 - Meat. Enriched with extra red in the spectrum. Use suffix R
 - Bakery. Enriched with extra yellow in the spectrum. Use suffix Y
 - Fruit and vegetables. Enriched with extra green in the spectrum. Use suffix G

TECHNICAL DETAILS

- COB LED



Watts	A	B	C	D
9W	Ø100	120	78	30°
15W	Ø125	120	100	30°
24W	Ø150	140	124	24°
35W	Ø150	160	124	24°



Model	Colour temp.	Lumens	CRI	PF	Beam angle
NDLLED9284M 9W	3000K/3500K/4000K/5700K	770 lm	>80	>0.9	15°/24°/36°
NDLLED9285M 15W	3000K/3500K/4000K/5700K	1,100 lm	>80	>0.9	15°/24°/36°
NDLLED9286AM 24W	3000K/3500K/4000K/5700K	2,000 lm	>80	>0.95	15°/24°/36°/60°
NDLLED9286M 35W	3000K/3500K/4000K/5700K	2,530 lm	>80	>0.95	15°/24°/36°/60°

Structure and details

High-quality housing construction
The housing is made of 5mm thick aluminium to give it strength, durability and excellent heat dissipation properties for a long life.



High-end material
Made from high quality aluminium material, specially designed for high end projects.

PF > 0.9, CRI > 80

Easy to match different styles
Four different color options made to match most of design requirements.

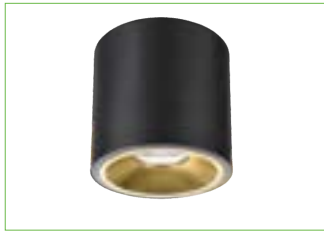
Glare-proof lighting
This fitting will deliver glare-free lighting in almost any installation.



black silver



white gold



black gold



white silver



NDLLED9235

A range of recessed downlights for specific food and jewellery retail projects

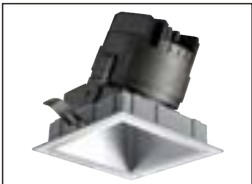


NDLLED9235ARS



NDLLED9235AS

Fresh



NDLLED9235DRS



NDLLED9235DS



APPLICATIONS

- Fresh food retailing
- meat, bakery and fruit
- Jewellery retailing

TECHNICAL DETAILS

- COB LED
- Available in the following CRI and colour temperatures:
 - CRI >80, 1800K, 2500K
 - CRI >90, 3200K, 3700K, 4200K
- Separate, non-dimmable, driver included
- PF: 0.95
- Ta: -20C°- 40C°

CONSTRUCTION

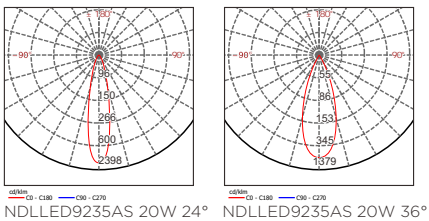
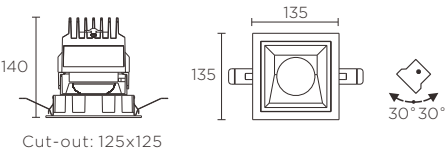
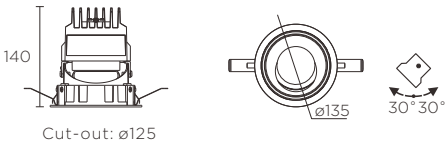
- Die-cast aluminium housing
- Polycarbonate reflector and bezel

OPTIONS

- **Version:** Choice of the fixed circular (suffix AS), fixed square (suffix ARS), adjustable circular (suffix DS) or adjustable square (suffix DRS)

COLOUR SPECTRUM TUNED FOR SPECIFIC RETAILERS

- The NDLLED9235 is engineered with a range of COB LEDs to deliver a choice of colour spectra designed to enhance the appearance of particular categories of merchandise
 - Enriched red (1800K) – suitable for the display of meat in butchery and delicatessen stores
 - Enriched yellow (2500K) – this enhances the appearance of bread, cakes and other bakery items
 - Enriched deep yellow (3200K) – suitable for the display of gold jewellery in particular
 - Enriched green (3700K) – this displays fresh fruit and vegetables at their best
 - Enriched green/blue (4200K) – designed for displays of fish, seafood, diamonds and crystal



Model	Watts	Colour temp.	Lumens	CRI	Beam angle
NDLLED9235AS/DS	20W	1800K	920 lm	>80	24°/36°
NDLLED9235AS/DS	20W	2500K	1580 lm	>80	24°/36°
NDLLED9235AS/DS	20W	3200K	1300 lm	>90	24°/36°
NDLLED9235AS/DS	20W	3700K	1380 lm	>90	24°/36°
NDLLED9235AS/DS	20W	4200K	1380 lm	>90	24°/36°
NDLLED9235ARS/DRS	20W	1800K	870 lm	>80	24°/36°
NDLLED9235ARS/DRS	20W	2500K	1500 lm	>80	24°/36°
NDLLED9235ARS/DRS	20W	3200K	1235 lm	>90	24°/36°
NDLLED9235ARS/DRS	20W	3700K	1300 lm	>90	24°/36°
NDLLED9235ARS/DRS	20W	4200K	1300 lm	>90	24°/36°



NDLLED9286

A range of surface mounted downlights for specific food and jewellery retail projects



Fresh



APPLICATIONS

- Fresh food retailing – meat, bakery and fruit
- Jewellery retailing

TECHNICAL DETAILS

- COB LED
- Available in the following CRI and colour temperatures:
 - CRI >80, 1800K, 2500K
 - CRI >90, 3200K, 3700K, 4200K
- Separate, non-dimmable, driver included
- Pf: 0.95
- Ta: -20C°- 40C°

CONSTRUCTION

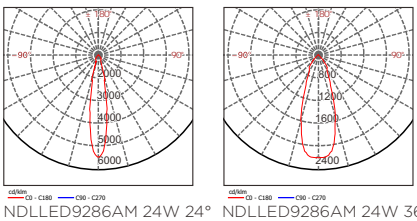
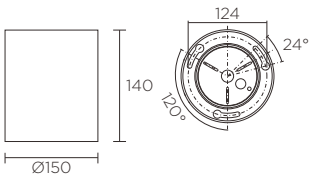
- Die-cast aluminium housing
- Polycarbonate reflector and bezel
- Toughened clear cover

OPTIONS

- **Body colour:** Choice of white (WH) or black (BK)
- **Bezel colour:** Choice of gold (G) or silver (S)
- **Beam angle:** Choice of 24° or 36°
- **CCT & CRI:** 1800K Ra>80, 2500K Ra>80, 3200K Ra>90, 3700K Ra>90 and 4200K Ra>90

COLOUR SPECTRUM TUNED FOR SPECIFIC RETAILERS

- The NDLLED9286 is engineered with a range of COB LEDs to deliver a choice of colour spectra designed to enhance the appearance of particular categories of merchandise
 - Enriched red (1800K) – suitable for the display of meat in butchery and delicatessen stores
 - Enriched yellow (2500K) – this enhances the appearance of bread, cakes and other bakery items
 - Enriched deep yellow (3200K) – suitable for the display of gold jewellery in particular
 - Enriched green (3700K) – this displays fresh fruit and vegetables at their best
 - Enriched green/blue (4200K) – designed for displays of fish, seafood, diamonds and crystal



Model	Watts	Colour temp.	Lumens	CRI	Beam angle
NDLLED9286AM	24W	1800K	1090 lm	>80	24°/36°
NDLLED9286AM	24W	2500K	1780 lm	>80	24°/36°
NDLLED9286AM	24W	3200K	1580 lm	>90	24°/36°
NDLLED9286AM	24W	3700K	1780 lm	>90	24°/36°
NDLLED9286AM	24W	4200K	1780 lm	>90	24°/36°



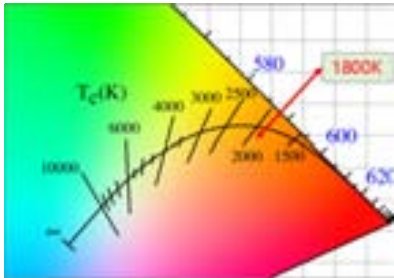
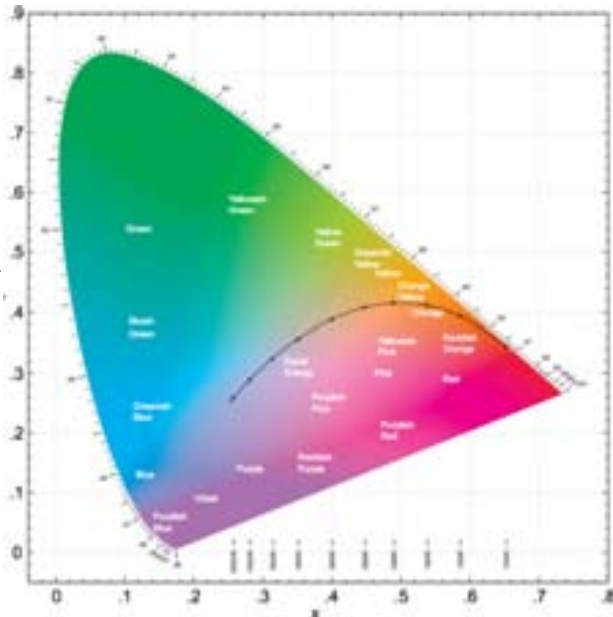
USING THE COLOUR SPECTRUM TO IMPROVE RETAIL PERFORMANCE

The colour we see in the objects around us is reflected light. White light is a mix of many different colours, and when it falls on an object some of those colours are absorbed and the rest are reflected back to our eyes, creating the impression that meat is red and lettuce is green, for example. By altering the composition of the white light we effect the mix of colours that is reflected back towards us, and hence the appearance of the object we are looking at.

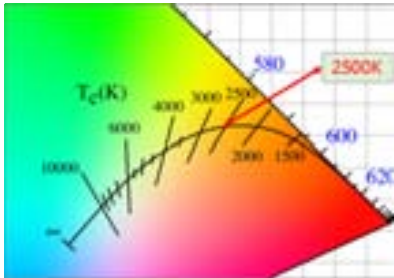
In the NLED9235 range we have adjusted the phosphors in the LEDs to produce five different blends of light, each designed to enhance the appearance of a particular group of merchandise.

In the colour space map here the black line is the “black body locus” (BBL). This marks the position of “white” at different colour temperatures, and most normal light sources are positioned on, or very close to, this line. However, with the NLED9235 the light source is positioned slightly above or below this line, indicating that the light is not a perfectly balanced white light, but is biased towards the part of the spectrum that will be most beneficial when displaying a particular type of merchandise.

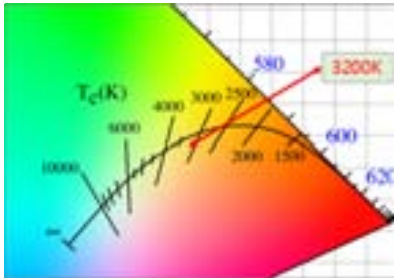
The CCT alone is not sufficient to enhance the appearance of a product. Using 1800K for meat, for example, will not enhance its colour if the light source is on the BBL. To make the meat appear redder, and fresher, it is necessary to nudge the light source to one side of the BBL by increasing the proportion of (in this case) red in the overall colour mix.



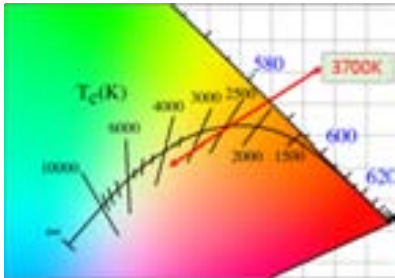
1800K for meat
CCT: 1800K
CRI Ra> 80
Position in the colour space map:
Below the BBL
Feature: Increased proportion of red
Application: Butchers and fresh meat counters in supermarkets



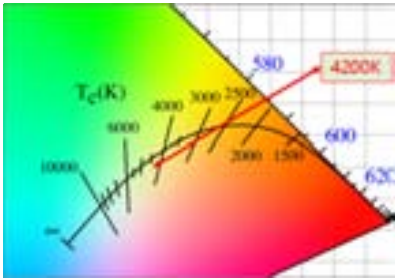
2500K for bakery goods
CCT: 2500K
CRI Ra>80
Position in the colour space map:
Close to the BBL
Feature: Slightly increased proportion of yellow
Application: Bakeries and coffee shops



3200K for gold and jewellery
CCT: 3200K
CRI Ra>90
Position in the colour space map:
Below the BBL
Feature: Increased proportion of deep yellow
Application: Jewellery shops, especially where gold is displayed



3700K for fresh fruit and vegetables
CCT: 3700K
CRI Ra>90
Position in the colour space map:
Below the BBL
Feature: Increased proportion of yellow/green
Application: Fruit and vegetable shops



4200K for seafood and jewellery
CCT: 4200K
CRI: Ra>90
Position in the colour space map:
Below the BBL
Feature: Increased proportion of blue/yellow
Application: Shops selling fish, seafood, diamonds and crystal, and also some sports goods





NLED925

Low flicker recessed downlights



White



Satin silver



Black



APPLICATIONS

Suitable for commercial areas, residential areas and offices

OPTIONS

- Glare proof reflector: Choice of white, satin silver or black (specular reflector)
- Dimming: Choice of standard version or step dimming version (only available for NLED92525C)

TECHNICAL DETAILS

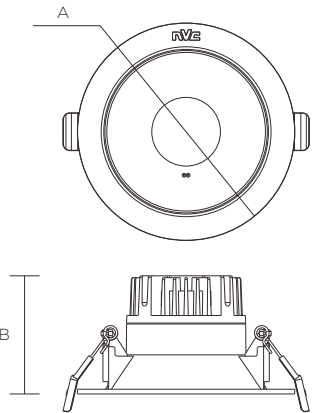
- SMD LEDs

STEP DIMMING

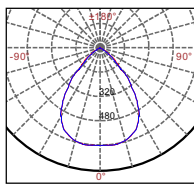
This is a low-cost optional feature that gives simple control of the light output. By pressing the light switch twice in quick succession, the light output steps between 20%, 50% and 100%.

CONSTRUCTION

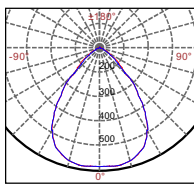
- High light transmittance PC cover
- Die-cast aluminium heat sink
- Low flicker separate driver included (Ripple < 3.2%)



Watts	A	B	Cut-out
4W	Ø95	53	Ø75
8W/12W	Ø115	63	Ø100
12W/15W	Ø150	75	Ø125
15W/20W	Ø180	88	Ø150
30W	Ø180	101	Ø150



NLED9254 12W



NLED9255 15W

Model	Color temp.	Lumens	CRI	PF
NLED92525 4W	3000K/3500K/4000K/5700k	270 lm	>80	0.5
NLED92525C 4W	3000K/3500K/4000K/5700k	270 lm	>80	0.5
NLED9254A 8W	3000K/3500K/4000K/5700k	610 lm	>80	0.8
NLED9254 12W	3000K/3500K/4000K/5700k	910 lm	>80	0.95
NLED9255A 12W	3000K/3500K/4000K/5700k	1,070 lm	>80	0.95
NLED9255 15W	3000K/3500K/4000K/5700k	1,350 lm	>80	0.95
NLED9256A 15W	3000K/3500K/4000K/5700k	1,370 lm	>80	0.95
NLED9256 20W	3000K/3500K/4000K/5700k	1,840 lm	>80	0.95
NLED9256H 30W	3000K/3500K/4000K/5700k	2,610 lm	>80	0.95
NLED9258 30W	3000K/3500K/4000K/5700k	2,400 lm	>80	0.95



NDLLED970 series
Recessed glare proof downlights



APPLICATIONS

- Hotels
- Shopping malls
- Offices
- Hospitals
- Schools
- Exhibition halls
- Public areas

TECHNICAL DETAILS

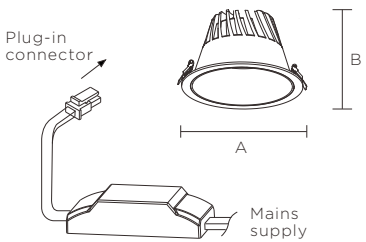
- Citizen COB/SMD LEDs

CONSTRUCTION

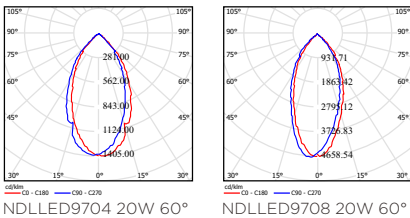
- Main material: Aluminium alloy and glass
- Body colour: White
- Product size: 4 inch, 6 inch and 8 inch
- Aluminium reflector for COB version
- Reflective sheeting for SMD version
- Separate driver included (also available with PHILIPS driver if required)

OPTIONS

- **LED:** Choice of COB version or SMD version (for 40W version only), to order the SMD version add suffix "S"
- **Driver:** Choice of the standard driver or PHILIPS driver (for 40W version only)



Watts	A	B	Cut-out
20W	Ø137.5	82	Ø120
30W	Ø195	107	Ø170
40W	Ø235	127.5	Ø200



Model	Colour temp.	Lumens	CRI	PF
NDLLED9704 20W	3000K/4000K/6500K	1,450 lm	>80	>0.9
NDLLED9706 30W	3000K/4000K/6500K	2,450 lm	>80	>0.9
NDLLED9708 40W	3000K/4000K/6500K	3,600 lm standard driver	>80	>0.95
NDLLED9708 40W	3000K/4000K/6500K	3,800 lm PHILIPS driver	>80	>0.95
NDLLED9708S 40W	3000K/4000K/6500K	3,300 lm standard driver	>80	>0.95
NDLLED9708S 40W	3000K/4000K/6500K	3,400 lm PHILIPS driver	>80	>0.95

High-output downlights with a choice of
SMD or COB

Good thermal design

The one-piece die-cast aluminium design of the heat-sink, body and bezel ensures the best possible thermal management for a long and reliable LED life.

Easy installation and maintenance

The connector between the driver and the fitting makes installation and maintenance easy.

Extra safety

The body is equipped with a suspension cable so that it can be hung from the ceiling as a safety measure.

Excellent light diffusion

The light source (COB or SMD LEDs) is protected behind a frosted diffuser so that it cannot be viewed directly. In addition, the outer reflector is made of semi-specular aluminium for additional anti-glare protection.

High luminous efficacy

A high level of anti-glare shielding and diffusion can sometimes lead to a drop in luminous efficacy. We counter that in the NDL970 by the use of highly efficient light sources and reflective materials behind the diffuser. The COB versions have an internal aluminium reflector while the SMD versions use a nano-coated sheet for excellent reflectivity.

High shielding angle

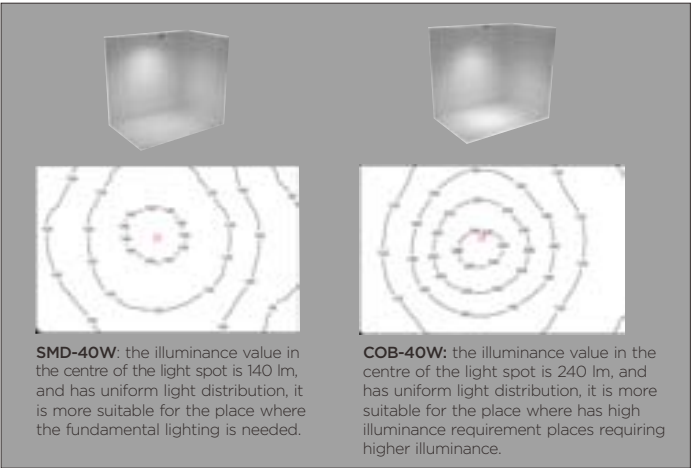
The deep recessed design means that the shielding angle is above 35°, so that in normal use the occupants of a building will never see the diffuser directly.

Model and Driver



NDLLED970 has 3 different size and wattages: 4 inch (20W), 6 inch (30W) and 8 inch (40W). Therefore, the customer can choose the SMD LED version and PHILIPS driver for 8 inch (40W) version if required.

This is the simulation light distribution diagram between 40W COB and 40W SMD at a simulated height of five meters





NDLLED980 series

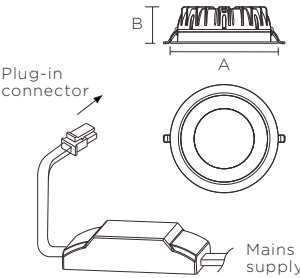
Recessed low glare SMD downlights



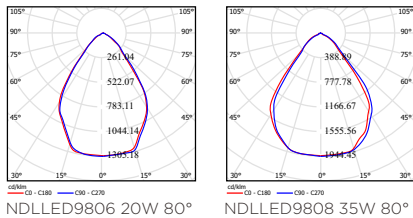
- APPLICATIONS
- Hotels
 - Shopping malls
 - Offices
 - Hospitals
 - Schools
 - Exhibition halls
 - Public areas
- CONSTRUCTION
- Main material: Aluminium alloy and PC (polycarbonate)
 - Body colour: White
 - Product size: 6 inch and 8 inch
 - Electroplated PC (polycarbonate) reflector
 - Separate driver included

TECHNICAL DETAILS

- SMD LEDs



Watts	A	B	Cut-out
NDLLED9806P	Ø165	62	Ø140
NDLLED9808P	Ø225	76	Ø200



Model	Colour temp.	Lumens	CRI	PF
NDLLED9806P 10W	3000K/4000K/5700K	1,000 lm	>80	>0.9
NDLLED9806P 15W	3000K/4000K/5700K	1,400 lm	>80	>0.9
NDLLED9806P 20W	3000K/4000K/5700K	1,950 lm	>80	>0.9
NDLLED9808P 25W	3000K/4000K/5700K	2,400 lm	>80	>0.9
NDLLED9808P 30W	3000K/4000K/5700K	3,000 lm	>80	>0.9
NDLLED9808P 35W	3000K/4000K/5700K	3,100 lm	>80	>0.9



Low-profile and low-glare with high efficiency

Strong, with good thermal properties
The die-cast aluminium rear cover is in direct contact with the LED circuit board, so it conducts the heat away very effectively.

Good thermal design
The LEDs are on an aluminium backed printed circuit board so that the thermal path from the LEDs to the rear cover is short and effective. This ensures that the LEDs will have a long life with minimum lumen depreciation.

Efficient optical design
The optical control module is moulded from PC and electro-chrome plated for maximum reflectivity.

Dust protection
A transparent polycarbonate cover protects the LEDs and the optical control module from dust and dirt.



Rubber gasket
This provides a seal between the PC cover and the outer reflector.

Low-glare outer reflector
The deep design of the outer reflector shields the LEDs from being seen. This ensures a very low risk of glare.

Corrosion-free design
The moulded PC bezel is rust proof, helping the fitting to stay looking new for many years.



Strong spring clips
These hold the fitting firmly in the ceiling.





NLED948M

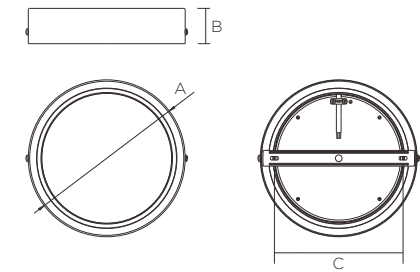
Ultra-slim surface mounted LED downlights



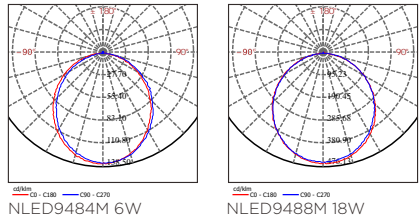
- APPLICATIONS**
 - Sitting rooms
 - Corridors
 - Residential lighting
 - Shopping malls
 - Hotels
 - Exhibition rooms
- CONSTRUCTION**
 - SPCE housing
 - Frosting treatment PC cover
 - Low flicker integrated driver included (DOB)**Options**
 - **Colour:** Choice of white (WH) or black (BK)

TECHNICAL DETAILS
- SMD LEDs

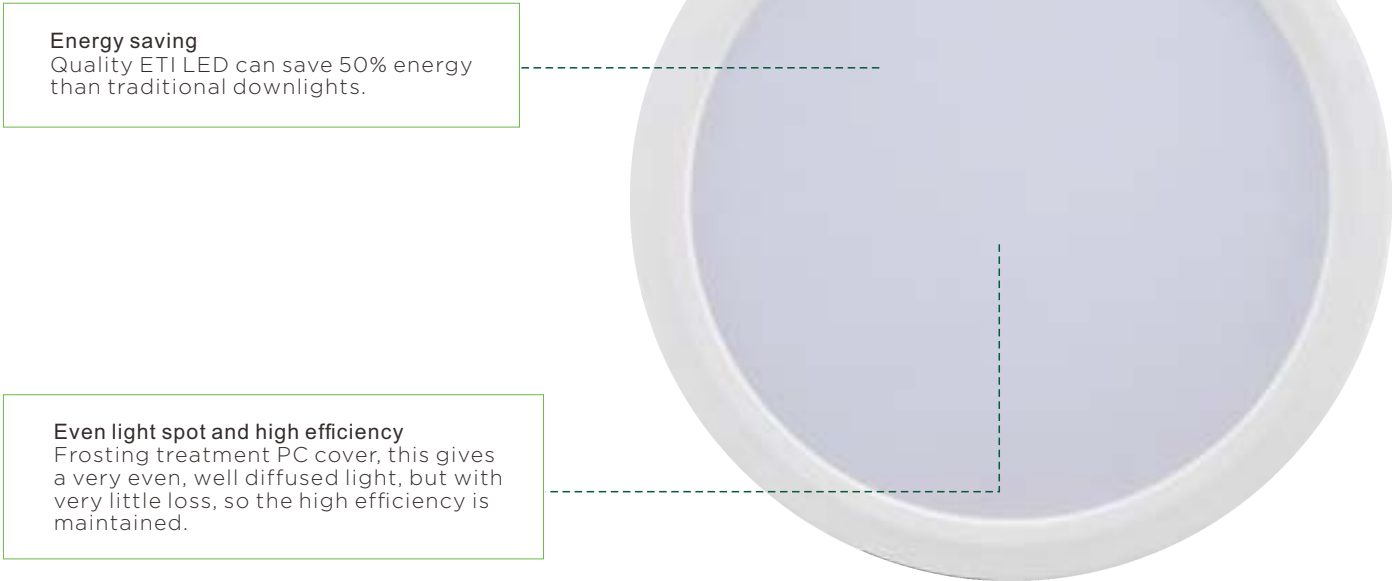
Model	Colour temp.	Lumens	CRI	PF
NLED9484M 6W	3000K/4000K/5700K	360 lm	>80	>0.5
NLED9485M 8W	3000K/4000K/5700K	600 lm	>80	>0.5
NLED9486M 12W	3000K/4000K/5700K	860 lm	>80	>0.5
NLED9488AM 15W	3000K/4000K/5700K	1,170 lm	>80	>0.5
NLED9488M 18W	3000K/4000K/5700K	1,350 lm	>80	>0.5



Watts	A	B	C
NLED9484M 6W	Ø100	45	64
NLED9485M 8W	Ø125	45	89
NLED9486M 12W	Ø150	45	105
NLED9488AM 15W	Ø200	45	164
NLED9488M 18W	Ø200	45	164




























Structure and details





NLED81 SERIES RANGE SUMMARY

		NARROW EDGE								RIMLESS						
		FIXED A 				ADJUSTABLE D 			WALL WASH B 	FIXED A 			ADJUSTABLE D 			
SIZE	WATT															
2"	3W					8112D										
3"	8W	8113A	8113A1	8113A2	8113P	8113D	8113D1	8113D2		8123A	8123A1	8123A2	8123D	8123D1	8123D2	
4"	11W	8114AS				8114DS				8124AS				8124DS		
	15W	8114A				8114D				8124A				8124D		
5"	20W	8115AS				8115DS			8115BS							
	30W	8115A				8115D			8115B							
6"	35W	8116AS				8116DS			8116BS							
	50W	8116A				8116D			8116B							
																
3"	8W	8133A				8133D			8143A				8143D			

*Suffix S: Means same size but lower in wattage

NLED81 2 inch series

High-specification LED commercial and residential downlights



APPLICATIONS

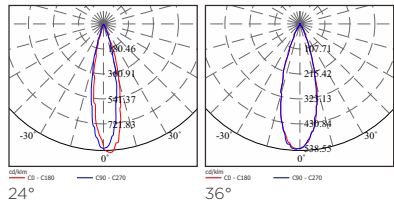
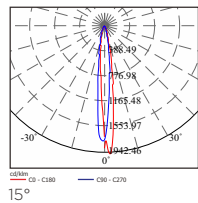
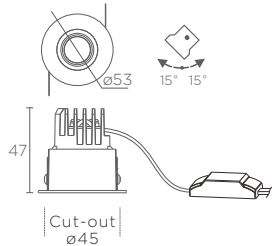
- Hotels
- Shopping malls
- Theatres
- Exhibition centres

TECHNICAL DETAILS

- Separate, non-dimmable, driver included
- PF>0.5
- Ta: -20°C ~ 40°C

CONSTRUCTION

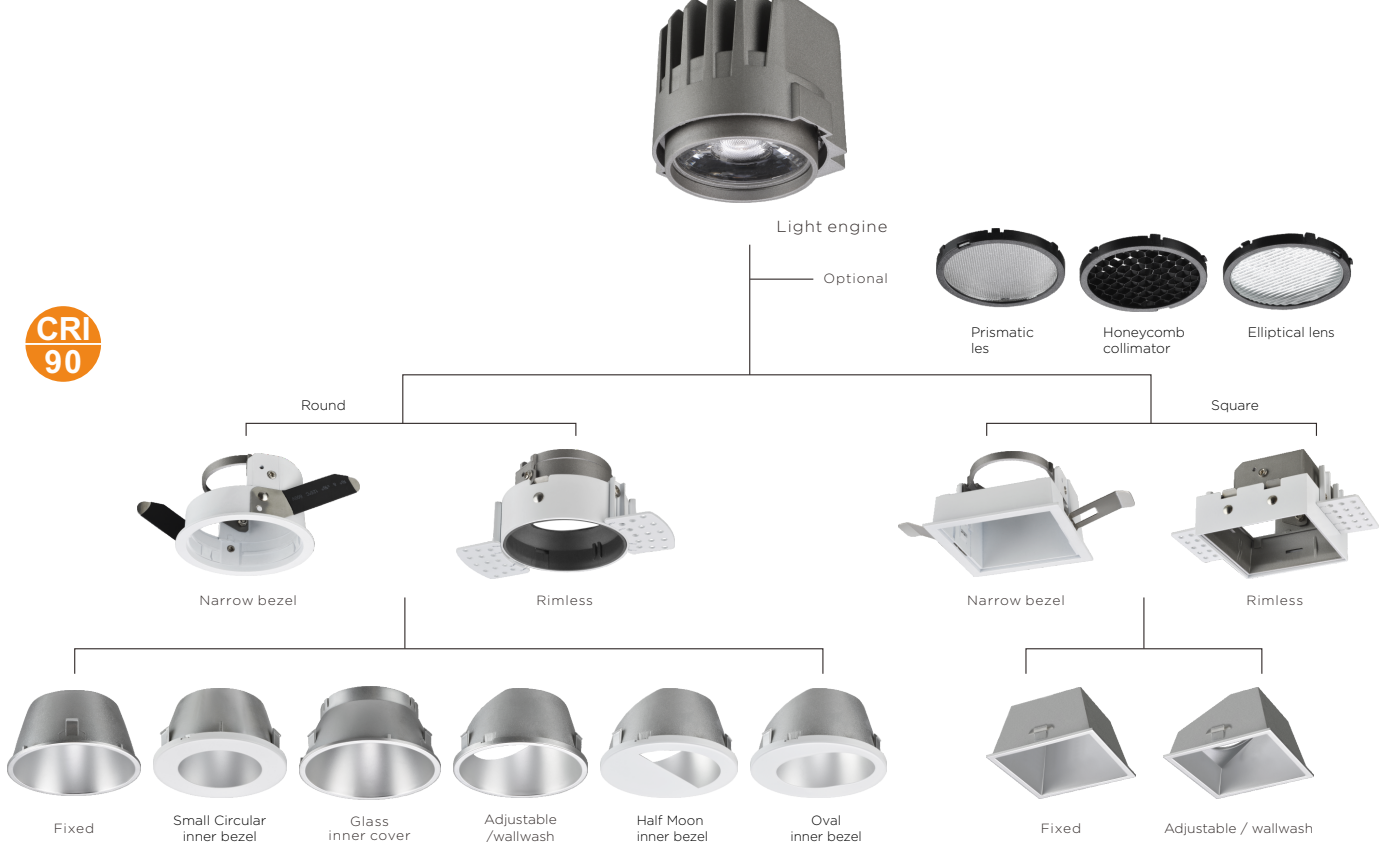
- Die-cast aluminium housing
- PMMA lens
- Beam angle: 15° , 24° or 36°
- Adjustable: vertical 15°



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8112D 3W	2700K	160 lm	90	0.5	15°/24°/36°
NLED8112D 3W	3000K	160 lm	90	0.5	15°/24°/36°
NLED8112D 3W	4000K	170 lm	90	0.5	15°/24°/36°

NLED81 3 inch series

High-specification LED commercial and residential downlights



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Exhibition centres
- High-specification residential projects

TECHNICAL DETAILS

- Separate, non-dimmable, driver included
 - PF>0.9
 - Ta: -20°C ~ 40°C

CONSTRUCTION

- Die-cast aluminium housing
- PMMA lens
- Adjustable angle: vertical 30°
- 35°shielding angle for reduce the glare
- Remote constant current driver included

OPTIONS

- **Bezel shape:** Choice of the round or square
- **Bezel version:** Choice of the standard bezel or rimless bezel
- **Direction:** Choice of the fixed, adjustable (wall wash) version
- **Beam angle:** Choice of the 15°, 24° or 36°
- **Optical attachment:** End-user comfort. A choice of three different, detachable, optical accessories is available to control glare and the beam direction
 - Honeycomb collimator. This narrows the beam angle and is a useful attachment for eliminating glare especially in display cabinets
 - Prismatic lens. This scatters the light so that the boundary of the cut-off and shielding angles is less distinct, giving a softer lighting effect
 - Elliptical lens. This lens can change the spot from round to ellipse. The prisms can be rotated in their holder, so that the orientation of the ellipse can be adjusted to suit the application

- **Bezel accessories for round version:** Silver reflector for standard bezel and rimless bezel silver reflector with glass inner cover (IP40) for fixed standard bezel and rimless bezel silver reflector with small circular inner bezel for fixed standard bezel and rimless bezel silver reflector with half moon inner bezel for adjustable standard bezel and rimless bezel silver reflector with oval inner bezel for adjustable standard bezel and rimless bezel
- **Dimming:** The standard product is non-dimmable. for the other dimmable option can be specified by adding the following suffixes: MD (mains dimmable), DD (digital dimmable, includes DALI, switch dim and corridor function in one driver) or 0-10 (analogue) as required
- **Emergency:** Emergency maintained 3 hours and 1.5 hours versions are available, add suffix M3 or M1.5 if required. Please refer to the driver section

NLED8113A series



NLED8113A

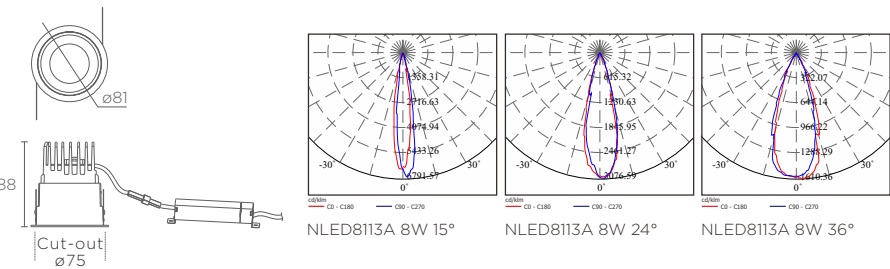


NLED8113A1
(NLED8113A+small circle)

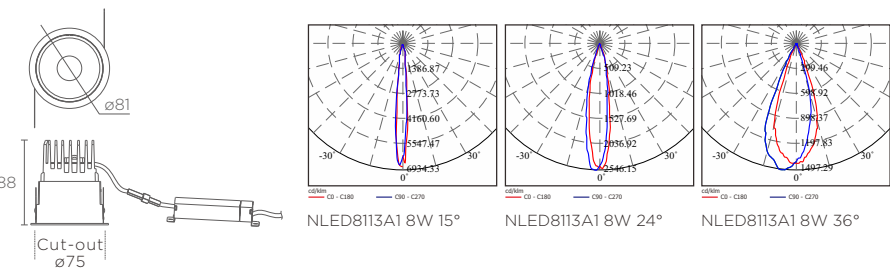


NLED8113A2
(NLED8113A+clear glass)

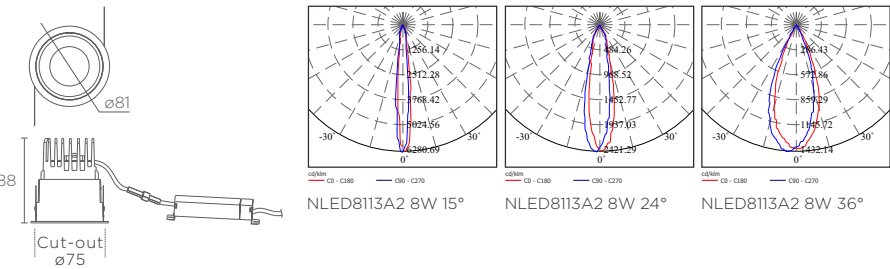
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8113AS 4.5W	2700K	310 lm	90	0.7	15°/24°/36°
NLED8113AS 4.5W	3000K	330 lm	90	0.7	15°/24°/36°
NLED8113AS 4.5W	4000K	360 lm	90	0.7	15°/24°/36°
NLED8113A 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8113A 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8113A 8W	4000K	570 lm	90	0.9	15°/24°/36°
High output					
NLED8113A 8W	4000K	760 lm	90	0.95	24°



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8113A1 8W	2700K	310 lm	90	0.9	15°/24°/36°
NLED8113A1 8W	3000K	340 lm	90	0.9	15°/24°/36°
NLED8113A1 8W	4000K	390 lm	90	0.9	15°/24°/36°



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8113A2 8W	2700K	420 lm	90	0.9	15°/24°/36°
NLED8113A2 8W	3000K	450 lm	90	0.9	15°/24°/36°
NLED8113A2 8W	4000K	520 lm	90	0.9	15°/24°/36°





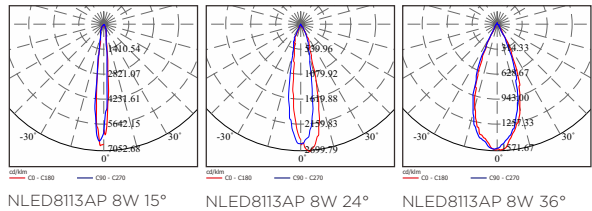
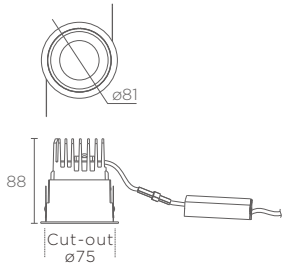
NLED8113P series



IP44 (driver + lamp)



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8113ASP 4.5W	2700K	280 lm	90	0.7	15°/24°/36°
NLED8113ASP 4.5W	3000K	300 lm	90	0.7	15°/24°/36°
NLED8113ASP 4.5W	4000K	340 lm	90	0.7	15°/24°/36°
NLED8113AP 8W	2700K	460 lm	90	0.8	15°/24°/36°
NLED8113AP 8W	3000K	490 lm	90	0.8	15°/24°/36°
NLED8113AP 8W	4000K	570 lm	90	0.8	15°/24°/36°



NLED8113D series



NLED8113D

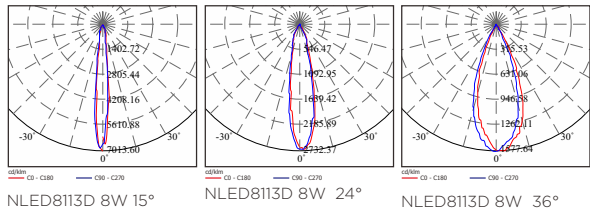
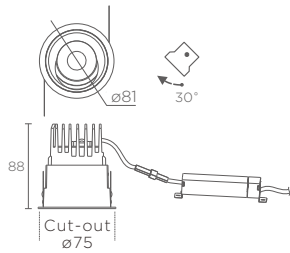


NLED8113D1
(NLED8113D+semicircle)

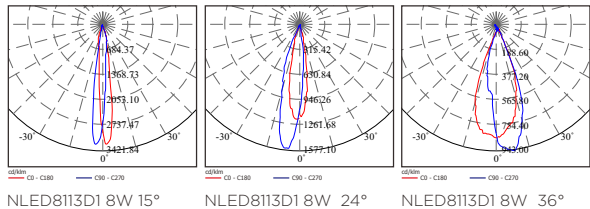
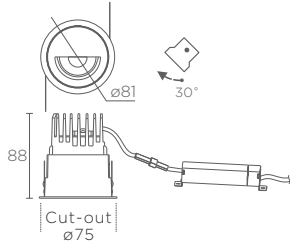


NLED8113D2
(NLED8113D+oval)

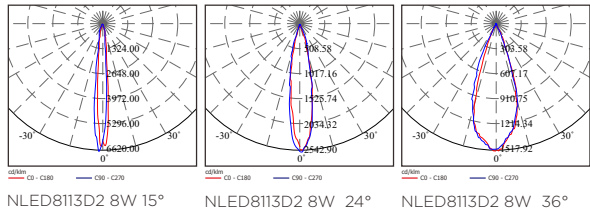
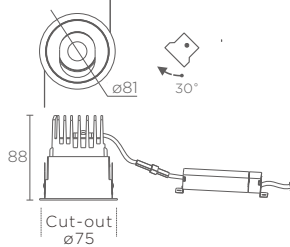
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8113DS 4.5W	2700K	310 lm	90	0.7	15°/24°/36°
NLED8113DS 4.5W	3000K	330 lm	90	0.7	15°/24°/36°
NLED8113DS 4.5W	4000K	360 lm	90	0.7	15°/24°/36°
NLED8113D 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8113D 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8113D 8W	4000K	570 lm	90	0.9	15°/24°/36°



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8113D1 8W	2700K	230 lm	90	0.9	15°/24°/36°
NLED8113D1 8W	3000K	250 lm	90	0.9	15°/24°/36°
NLED8113D1 8W	4000K	290 lm	90	0.9	15°/24°/36°



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8113D2 8W	2700K	320 lm	90	0.9	15°/24°/36°
NLED8113D2 8W	3000K	350 lm	90	0.9	15°/24°/36°
NLED8113D2 8W	4000K	400 lm	90	0.9	15°/24°/36°

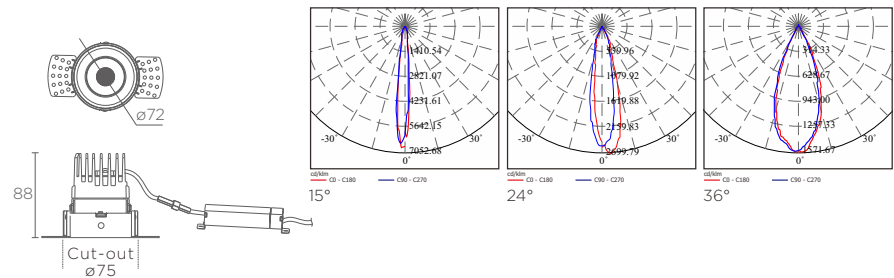


NLED8123A series



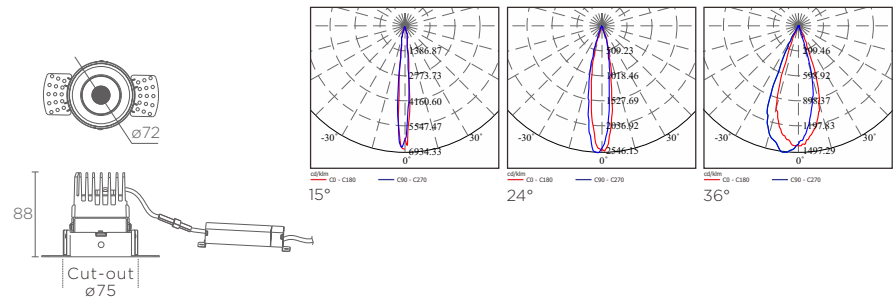
NLED8123A

Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8123A 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8123A 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8123A 8W	4000K	570 lm	90	0.9	15°/24°/36°



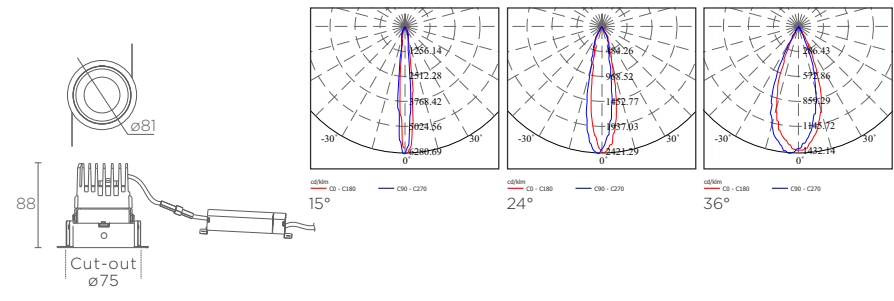
NLED8123A1
(NLED8123A+small circle)

Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8123A1 8W	2700K	310 lm	90	0.9	15°/24°/36°
NLED8123A1 8W	3000K	340 lm	90	0.9	15°/24°/36°
NLED8123A1 8W	4000K	390 lm	90	0.9	15°/24°/36°



NLED8123A2
(NLED8123A+clear glass)

Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8123A2 8W	2700K	420 lm	90	0.9	15°/24°/36°
NLED8123A2 8W	3000K	450 lm	90	0.9	15°/24°/36°
NLED8123A2 8W	4000K	520 lm	90	0.9	15°/24°/36°

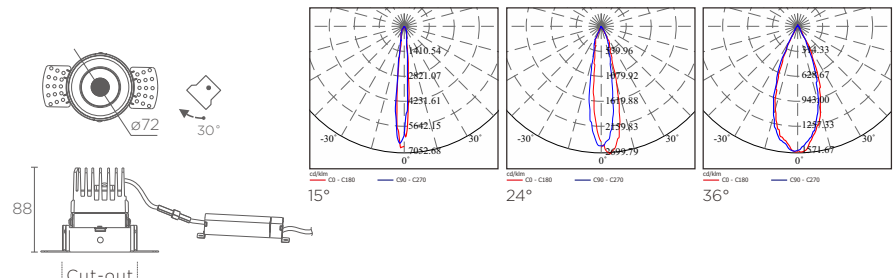


NLED8123D series



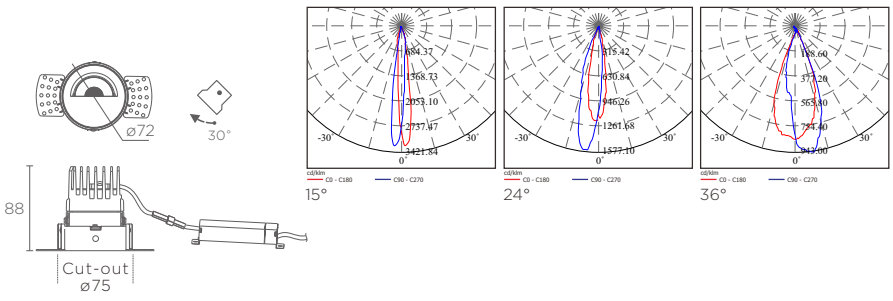
NLED8123D

Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8123D 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8123D 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8123D 8W	4000K	570 lm	90	0.9	15°/24°/36°



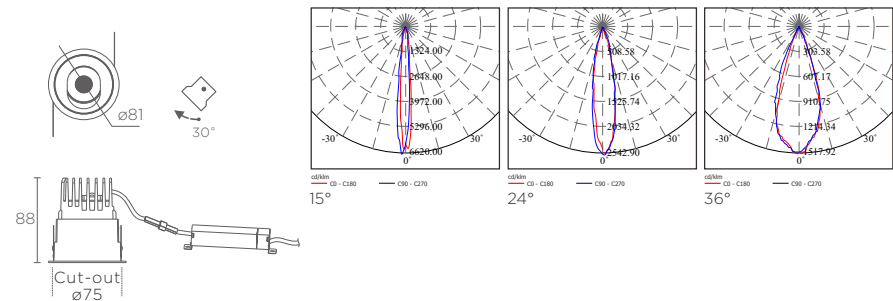
NLED8123D1
(NLED8123D+small circle)

Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8123D1 8W	2700K	230 lm	90	0.9	15°/24°/36°
NLED8123D1 8W	3000K	250 lm	90	0.9	15°/24°/36°
NLED8123D1 8W	4000K	290 lm	90	0.9	15°/24°/36°

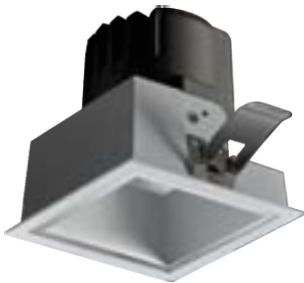


NLED8123D2
(NLED8123D+clear glass)

Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8123D2 8W	2700K	320 lm	90	0.9	15°/24°/36°
NLED8123D2 8W	3000K	350 lm	90	0.9	15°/24°/36°
NLED8123D2 8W	4000K	400 lm	90	0.9	15°/24°/36°



NLED813 series

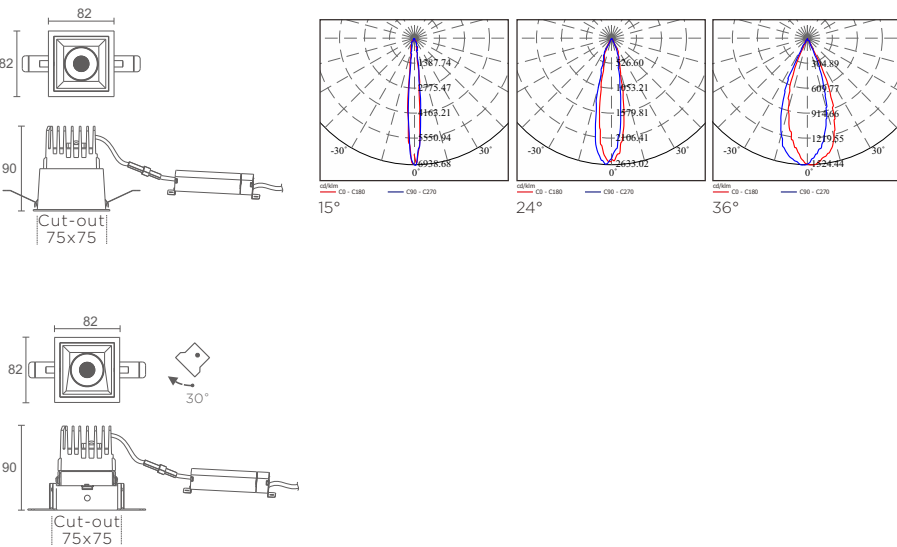


Fixed
NLED8133A 8W

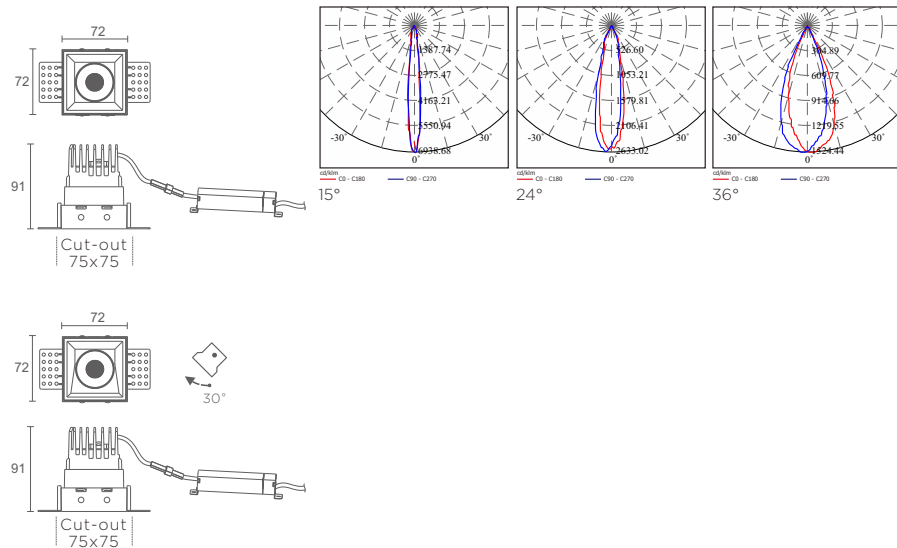


Adjustable
NLED8133D 8W

Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8133A 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8133A 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8133A 8W	4000K	570 lm	90	0.9	15°/24°/36°
NLED8133D 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8133D 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8133D 8W	4000K	570 lm	90	0.9	15°/24°/36°



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8143A 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8143A 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8143A 8W	4000K	570 lm	90	0.9	15°/24°/36°
NLED8143D 8W	2700K	460 lm	90	0.9	15°/24°/36°
NLED8143D 8W	3000K	490 lm	90	0.9	15°/24°/36°
NLED8143D 8W	4000K	570 lm	90	0.9	15°/24°/36°



Fixed
NLED8143A 8W



Adjustable
NLED8143D 8W

NLED81 4 inch series

High-specification LED commercial and residential downlights



Fixed/Adjustable
NLED8114AS 11W NLED8114A 15W
NLED8114DS 11W NLED8114D 15W



Fixed/Adjustable
NLED8124AS 11W NLED8124A 15W
NLED8124DS 11W NLED8124D 15W

CRI
90



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Exhibition centres

TECHNICAL DETAILS

- Separate, non-dimmable, driver included
 - PF>0.9 (12W), PF>0.95 (15W)
 - Ta: -20°C ~ 40°C

CONSTRUCTION

- Die-cast aluminium housing
- PMMA lens
- Adjustable angle: horizontal 355°, vertical 30°
- Vacuum painting reflector with 35° shielding angle
- Remote constant current driver included

OPTIONS

- **Bezel version:** Choice of the standard bezel or rimless bezel
- **Direction:** Choice of the fixed, adjustable (wall wash) version
- **Beam angle:** Choice of the 15°, 24° or 36°

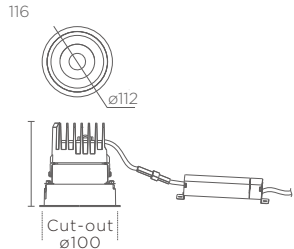
- **Dimming:** The standard product is non-dimmable. For the other dimmable option can be specified by adding the following suffixes: MD (mains dimmable), DD (digital dimmable, includes DALI, switch dim and corridor function in one driver) or 0-10 (analogue) as required
- **Emergency:** Emergency maintained 3 hours and 1.5 hours versions are available, add suffix M3 or M1.5 if required. Please refer to the driver section



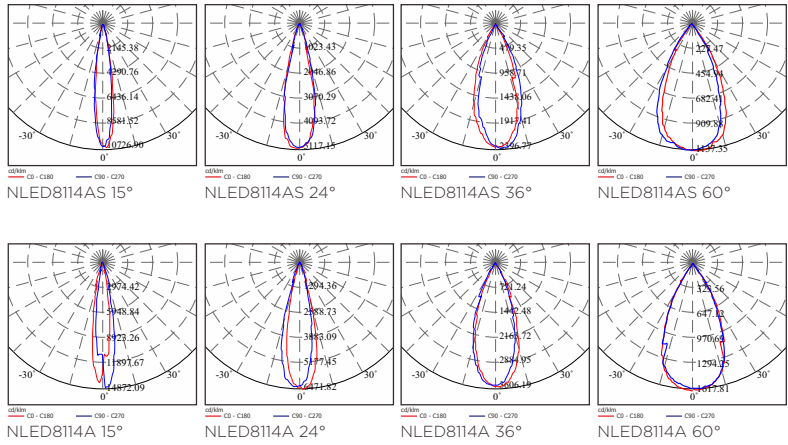
NLED814 series



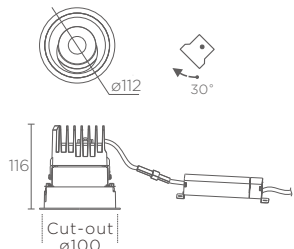
Fixed



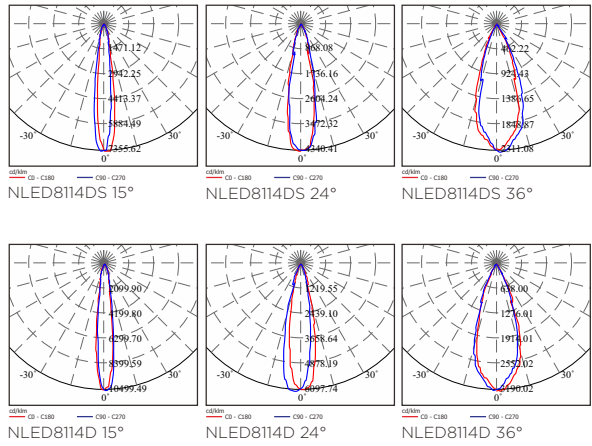
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8114AS 11W	2700K	760 lm	90	0.9	15°/24°/36°/60°
NLED8114AS 11W	3000K	810 lm	90	0.9	15°/24°/36°/60°
NLED8114AS 11W	4000K	870 lm	90	0.9	15°/24°/36°/60°
NLED8114A 15W	2700K	1,040 lm	90	0.9	15°/24°/36°/60°
NLED8114A 15W	3000K	1,120 lm	90	0.9	15°/24°/36°/60°
NLED8114A 15W	4000K	1,200 lm	90	0.9	15°/24°/36°/60°
High output					
NLED8114AS 11W	4000K	990 lm	90	0.95	24°
NLED8114A 15W	4000K	1,350 lm	90	0.95	24°



Adjustable



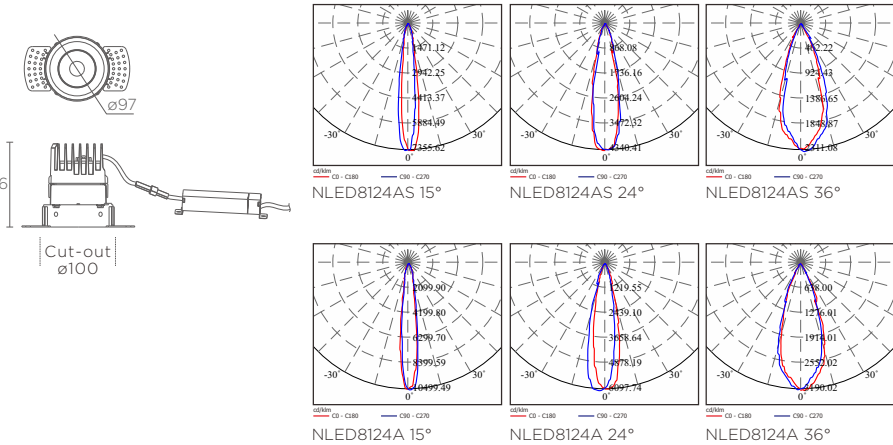
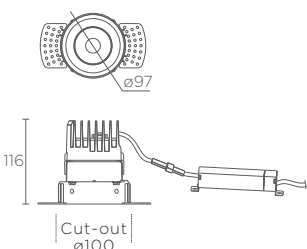
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8114DS 11W	2700K	760 lm	90	0.9	15°/24°/36°
NLED8114DS 11W	3000K	810 lm	90	0.9	15°/24°/36°
NLED8114DS 11W	4000K	870 lm	90	0.9	15°/24°/36°
NLED8114D 15W	2700K	1,040 lm	90	0.9	15°/24°/36°
NLED8114D 15W	3000K	1,120 lm	90	0.9	15°/24°/36°
NLED8114D 15W	4000K	1,200 lm	90	0.9	15°/24°/36°



NLED8124 series



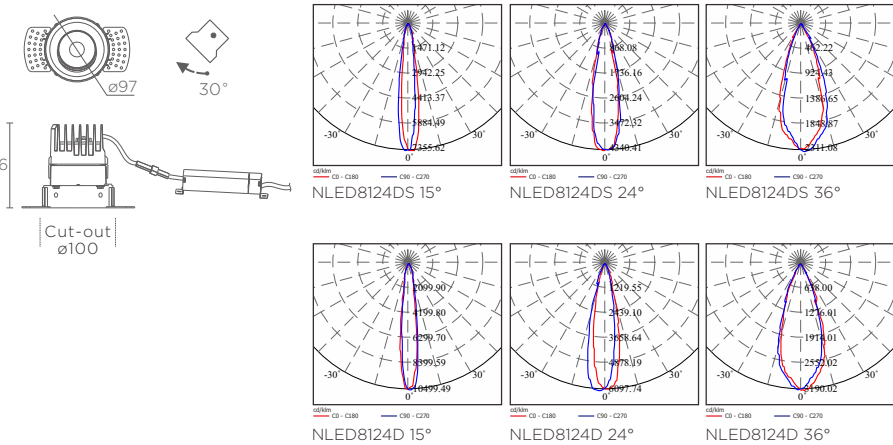
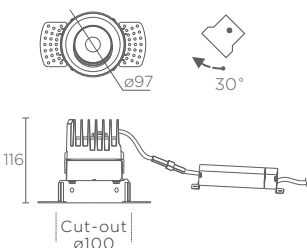
Fixed



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8124DS 11W	2700K	760 lm	90	0.9	15°/24°/36°
NLED8124DS 11W	3000K	810 lm	90	0.9	15°/24°/36°
NLED8124DS 11W	4000K	870 lm	90	0.9	15°/24°/36°
NLED8124D 15W	2700K	1,040 lm	90	0.9	15°/24°/36°
NLED8124D 15W	3000K	1,120 lm	90	0.9	15°/24°/36°
NLED8124D 15W	4000K	1,200 lm	90	0.9	15°/24°/36°



Adjustable



NLED81 5 inch series

High-specification LED commercial and residential downlights



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Exhibition centres

TECHNICAL DETAILS

- Separate, non-dimmable, driver included
 - PF>0.95
 - Ta: -20°C ~ 40°C

CONSTRUCTION

- Die-cast aluminium housing
- PMMA lens
- Adjustable angle: horizontal 355°, vertical 30°
- Vacuum painting reflector with 35° shielding angle
- Remote constant current driver included

OPTIONS

- **Direction:** Choice of the fixed, adjustable or wall wash version (not available for beam angle 60°)
- **Beam angle:** Choice of the 15°, 24°, 36° or 36°

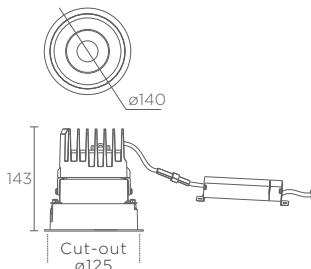
- **Dimming:** The standard product is non-dimmable. For the other dimmable option can be specified by adding the following suffixes: MD (mains dimmable), DD (digital dimmable, includes DALI, switch dim and corridor function in one driver) or 0-10 (analogue) as required
- **Emergency:** Emergency maintained 3 hours and 1.5 hours versions are available, add suffix M3 or M1.5 if required. Please refer to the driver section



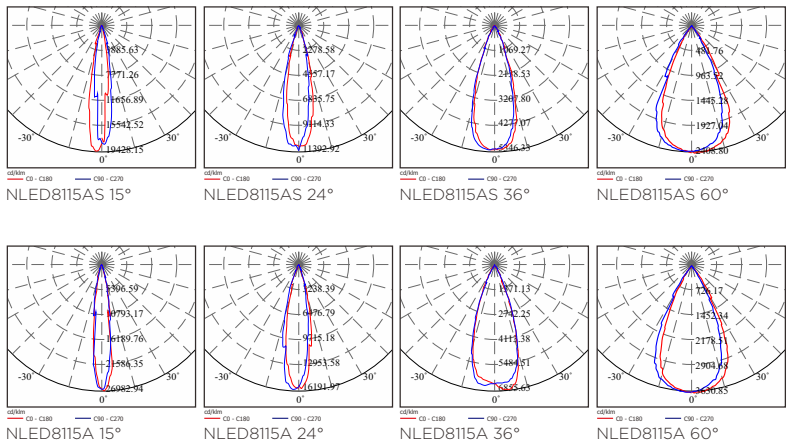
NLED8115 series



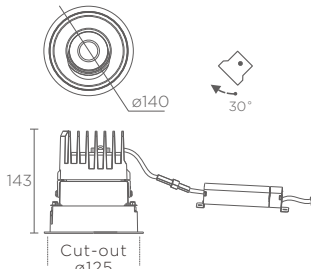
Fixed



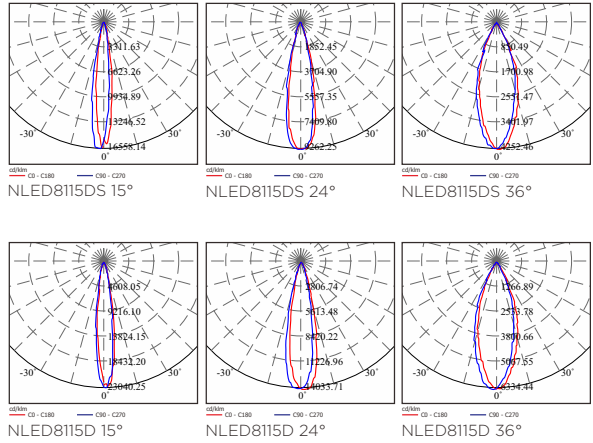
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8115AS 20W	2700K	1,480 lm	90	0.95	15°/24°/36°/60°
NLED8115AS 20W	3000K	1,600 lm	90	0.95	15°/24°/36°/60°
NLED8115AS 20W	4000K	1,700 lm	90	0.95	15°/24°/36°/60°
NLED8115A 30W	2700K	2,170 lm	90	0.95	15°/24°/36°/60°
NLED8115A 30W	3000K	2,330 lm	90	0.95	15°/24°/36°/60°
NLED8115A 30W	4000K	2,500 lm	90	0.95	15°/24°/36°/60°
High output					
NLED8115AS 20W	4000K	1,960 lm	90	0.95	24°
NLED8115A 30W	4000K	2,840 lm	90	0.95	24°



Adjustable



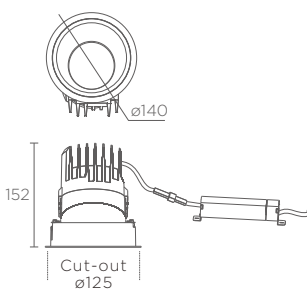
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8115DS 20W	2700K	1,480 lm	90	0.95	15°/24°/36°
NLED8115DS 20W	3000K	1,600 lm	90	0.95	15°/24°/36°
NLED8115DS 20W	4000K	1,700 lm	90	0.95	15°/24°/36°
NLED8115D 30W	2700K	2,170 lm	90	0.95	15°/24°/36°
NLED8115D 30W	3000K	2,330 lm	90	0.95	15°/24°/36°
NLED8115D 30W	4000K	2,500 lm	90	0.95	15°/24°/36°



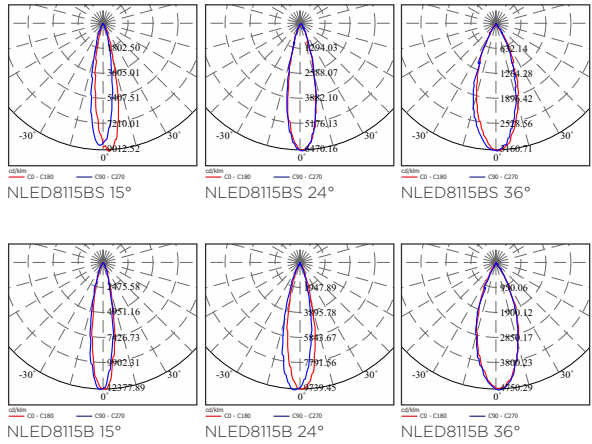
NLED815 series



Wall wash



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8115BS 20W	2700K	1,210 lm	90	0.95	15°/24°/36°
NLED8115BS 20W	3000K	1,300 lm	90	0.95	15°/24°/36°
NLED8115BS 20W	4000K	1,400 lm	90	0.95	15°/24°/36°
NLED8115B 30W	2700K	1,820 lm	90	0.95	15°/24°/36°
NLED8115B 30W	3000K	1,960 lm	90	0.95	15°/24°/36°
NLED8115B 30W	4000K	2,100 lm	90	0.95	15°/24°/36°



NLED81 6 inch series

High-specification LED commercial and residential downlights



Fixed
NLED8115AS 20W NLED8115A 30W



Adjustable
NLED8115DS 20W NLED8115D 30W



Wall wash
NLED8115BS 20W NLED8115B 30W



APPLICATIONS

- Hotels
- Shopping malls
- Theatres
- Exhibition centres

TECHNICAL DETAILS

- Separate, non-dimmable, driver included
 - PF>0.95
 - Ta: -20°C - 40°C

CONSTRUCTION

- Die-cast aluminium housing
- PMMA lens
- Adjustable angle: horizontal 355°, vertical 30°
- Vacuum painting reflector with 35° shielding angle
- Remote constant current driver included

OPTIONS

- **Direction:** Choice of the fixed, adjustable or wall wash version (not available for beam angle 60°)
- **Beam angle:** Choice of the 15°, 24°, 36° or 60°
- **Reflector colour:** The standard colour is silver. However, the white colour, black colour and gold colour are available to be ordered as customized version

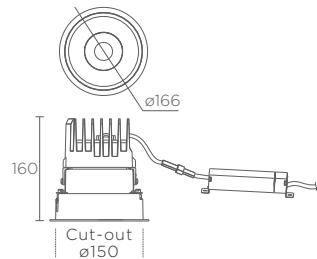


- **Dimming:** The standard product is non-dimmable. For the other dimmable option can be specified by adding the following suffixes: MD (mains dimmable), DD (digital dimmable, includes DALI, switch dim and corridor function in one driver) or 0-10 (analogue) as required
- **Emergency:** Emergency maintained 3 hours and 1.5 hours versions are available, add suffix M3 or M1.5 if required. Please refer to the driver section

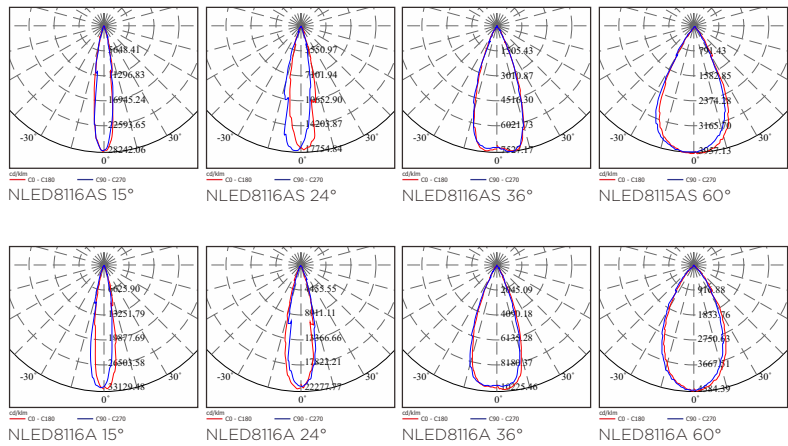
NLED816 series



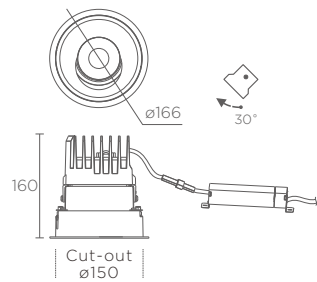
Fixed



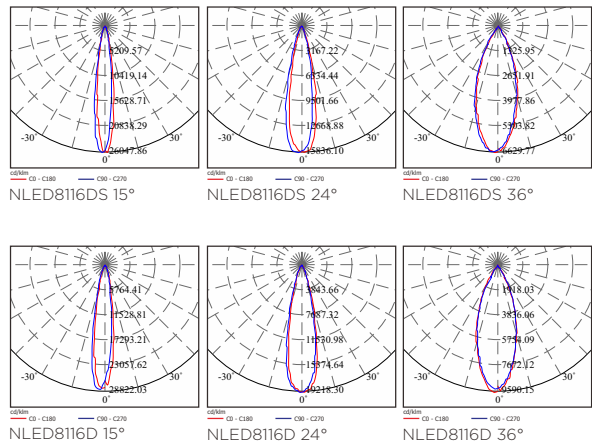
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8116AS 35W	2700K	2,520 lm	90	0.95	15°/24°/36°/60°
NLED8116AS 35W	3000K	2,700 lm	90	0.95	15°/24°/36°/60°
NLED8116AS 35W	4000K	2,900 lm	90	0.95	15°/24°/36°/60°
NLED8116A 50W	2700K	3,400 lm	90	0.95	15°/24°/36°/60°
NLED8116A 50W	3000K	3,620 lm	90	0.95	15°/24°/36°/60°
NLED8116A 50W	4000K	3,900 lm	90	0.95	15°/24°/36°/60°
High output					
NLED8116AS 35W	4000K	3,210 lm	90	0.95	24°
NLED8116A 50W	4000K	4,110 lm	90	0.95	24°



Adjustable



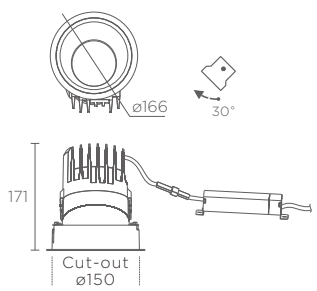
Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8116DS 35W	2700K	2,520 lm	90	0.95	15°/24°/36°/60°
NLED8116DS 35W	3000K	2,700 lm	90	0.95	15°/24°/36°/60°
NLED8116DS 35W	4000K	2,900 lm	90	0.95	15°/24°/36°/60°
NLED8116D 50W	2700K	3,400 lm	90	0.95	15°/24°/36°/60°
NLED8116D 50W	3000K	3,620 lm	90	0.95	15°/24°/36°/60°
NLED8116D 50W	4000K	3,900 lm	90	0.95	15°/24°/36°/60°



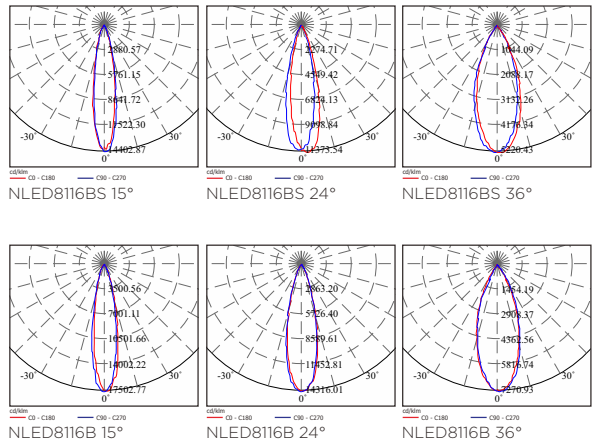
NLED816 series



Wall wash



Model	Color temp.	Lumens	CRI	PF	Beam angle
NLED8116BS 35W	2700K	2,150 lm	90	0.95	15°/24°/36°
NLED8116BS 35W	3000K	2,300 lm	90	0.95	15°/24°/36°
NLED8116BS 35W	4000K	2,500 lm	90	0.95	15°/24°/36°
NLED8116B 50W	2700K	2,950 lm	90	0.95	15°/24°/36°
NLED8116B 50W	3000K	3,150 lm	90	0.95	15°/24°/36°
NLED8116B 50W	4000K	3,400 lm	90	0.95	15°/24°/36°





TRACK LIGHTS



112 NTLED328



113 NTLED320*



114 NTLED332*



115 NTRLED327*



116 NTLED317N



117 NTRLED321



118 TLED326



120 NTRLED335



121 NTRLED334



122 Accessories



123 Accessories



LED TRACK LIGHTS RANGE SUMMARY

	TLED328 PAGE 112	TLED320* PAGE 113	TLED332* PAGE 114	NTRLED327* PAGE 115	TLED317N PAGE 116	NTRLED321 PAGE 117	TLED326 PAGE 118	NTRLED335 PAGE 120	NTRLED334 PAGE 121
WATTAGE	LUMEN OUTPUTS								
9				700 lm					
12		810 lm							
15				1,050 lm					
18		1,120 lm							
20			1,100 lm						1,800 lm
24		1,360 lm		1,700 lm			1,680 lm		
25									2,250 lm
30			1,650 lm						
33									
35	2,200 lm			2,500 lm	2,100 lm	2,730 lm	2,840 lm	2,850 lm	
45									
50				3,000 lm	3,000 lm			3,820 lm	
FEATURES	TLED328	TLED320*	TLED332*	NTRLED327*	TLED317N	NTRLED321	TLED326	NTRLED335	NTRLED334
Colour Temp	3000K 4000K 5700K	3000K 4000K 5700K	3000K 4000K 5700K	3000K 3500K 4000K 5700K	3000K 3500K 4000K 5700K	3000K 3500K 4000K 5700K	3000K 4000K	3000K 3500K 4000K 5700K	3000K 3500K 4000K
Visible LED	High power	COB	COB	COB	COB	COB	COB	COB	COB
Mounting	Single circuit track	Single circuit track	Single circuit track	Single circuit track	Single circuit track	Single circuit track	Single circuit track	Single circuit track	Single/three circuit track
IP Rating	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Finishes	Black/ Semi-white	Black/ Semi-white	Black/ Semi-white	Black/ Semi-white	Black/ Semi-white	Black/ Semi-white	Black/ Semi-white	White	Black Silver White



NTLED328

Economic high power track lights



APPLICATIONS

- Fashion shops
- Shop windows
- Retail stores
- Hotels

TECHNICAL DETAILS

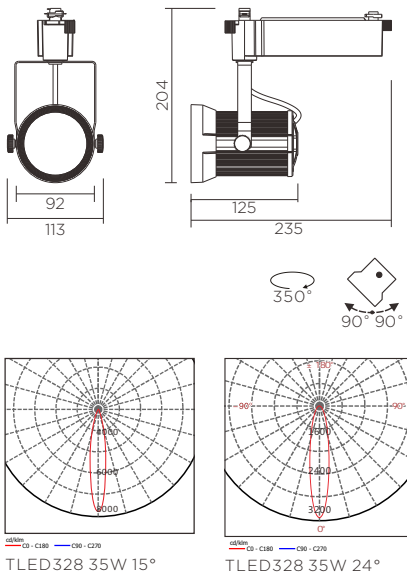
- High power LEDs

CONSTRUCTION

- Die-cast aluminium housing and heat sink with powder coated finish
- Adjustable angle: horizontal 350°, vertical 90°
- Polycarbonate driver housing
- Built-in constant current driver included
- For single circuit NVC track

OPTIONS

- **Colour:** Choice of black or semi white
- **Beam angle:** Choice of 15° , 24° or 36°
- NVC track and accessories, see page 122 and 123



Model	Colour temp.	Lumens	CRI	PF	Beam angle
NTLED328 35W	3000K/4000K/5700K	2,200 lm	>80	>0.9	15°/24°/36°



TLED320 series

Low power COB accent lighting for track or surface mounting



SLED320*
(Surface mounted)



TLED320*
(Track mounted)



APPLICATIONS

- Fashion shops
- Supermarkets
- Retail stores
- Shop windows

TECHNICAL DETAILS

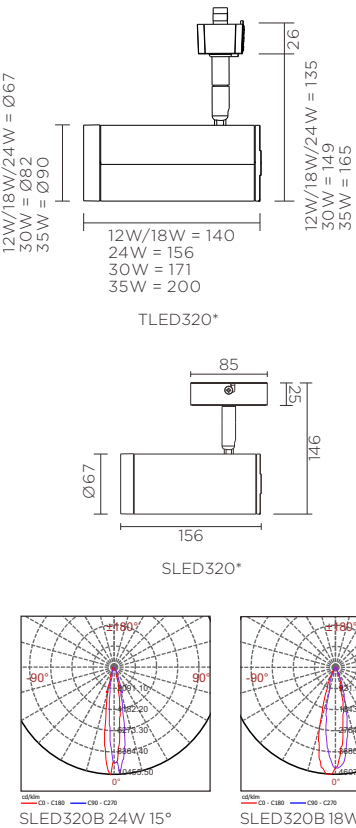
- COB LED

CONSTRUCTION

- Aluminium alloy housing
- Adjustable angle: horizontal 350°, vertical 90°
- Powder coated finish
- Built-in constant current driver included
- For single circuit NVC track

OPTIONS

- **Colour:** Choice of black or semi white
- **Beam angle:** Choice of 15° , 24° or 38°
- **Installation:** Choice of track mounted (TLED) or surface mounted (SLED)
- NVC track and accessories, see page 122 and 123



Model	Colour temp.	Lumens	CRI	PF	Beam angle
TLED320A 12W	3000K/4000K/5700K	810 lm	>80	>0.9	15°/24°/36°
TLED320B 18W	3000K/4000K/5700K	1,120 lm	>80	>0.9	15°/24°/36°
TLED320C 24W	3000K/4000K/5700K	1,360 lm	>80	>0.9	15°/24°/36°
SLED320 12W	3000K/4000K/5700K	810 lm	>80	>0.9	15°/24°/36°
SLED320 18W	3000K/4000K/5700K	1,120 lm	>80	>0.9	15°/24°/36°
SLED320 24W	3000K/4000K/5700K	1,360 lm	>80	>0.9	15°/24°/36°
TLED320E 30W	3000K/4000K/5700K	2,600 lm	>80	>0.9	15°/24°/36°
TLED320D 35W	3000K/4000K/5700K	2,500 lm	>80	>0.9	15°/24°/36°



TLED332 series

Versatile LED spotlights for a wide range of installation conditions



TLED332D (Class I)
(Track mounted)

CRI
90



TLED332C (Class I)
(Track mounted)

TLED332Z (Class I)
(Track mounted)

SLED332 (Class I)
(Surface mounted)

SLED332Q (Class II)
(Recessed mounted)



APPLICATIONS

- Retail stores
- Showrooms
- Museums & galleries
- Bars & restaurants

TECHNICAL DETAILS

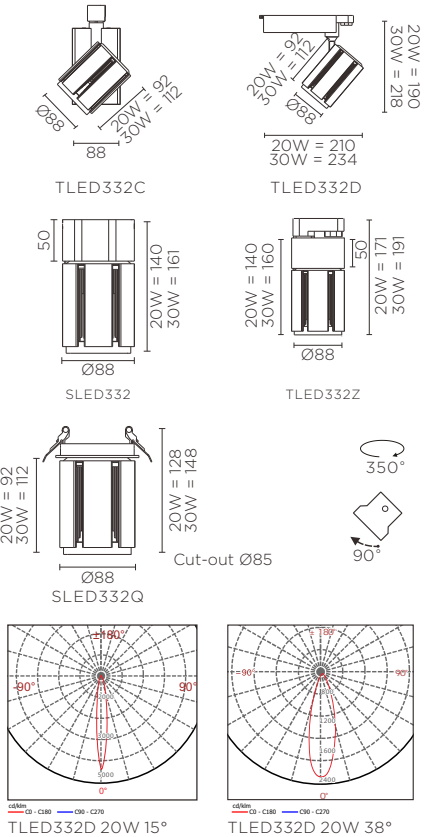
- COB LED

CONSTRUCTION

- Adjustable angle: horizontal 350°, vertical 90°
- Die-cast aluminium housing, powder coated
- Built-in constant current driver included
- For single circuit NVC track, surface and recessed installations

OPTIONS

- **Colour:** Choice of black or semi-white
- **Beam angle:** Choice of 15°, 24° or 36°
- NVC track and accessories, see page 122 and 123



Model	Colour temp.	Lumens	CRI	PF	Beam angle
TLED332D 20W	3000K/4000K/5700K	1,100 lm	>90	>0.9	15°/24°/38°
TLED332D 30W	3000K/4000K/5700K	1,650 lm	>90	>0.9	15°/24°/38°
TLED332Z 20W	3000K/4000K/5700K	1,100 lm	>90	>0.9	15°/24°/38°
TLED332Z 30W	3000K/4000K/5700K	1,650 lm	>90	>0.9	15°/24°/38°
TLED332C 20W	3000K/4000K/5700K	1,100 lm	>90	>0.9	15°/24°/38°
TLED332C 30W	3000K/4000K/5700K	1,650 lm	>90	>0.9	15°/24°/38°
SLED332Q 20W	3000K/4000K/5700K	1,100 lm	>90	>0.9	15°/24°/38°
SLED332Q 30W	3000K/4000K/5700K	1,650 lm	>90	>0.9	15°/24°/38°
SLED332 20W	3000K/4000K/5700K	1,100 lm	>90	>0.9	15°/24°/38°
SLED332 30W	3000K/4000K/5700K	1,650 lm	>90	>0.9	15°/24°/38°



NTRLED327 series

Track lights with a simple minimalist design



CRI
90



APPLICATIONS

- Chain stores
- Museums
- Fashion shops
- Showrooms

TECHNICAL DETAILS

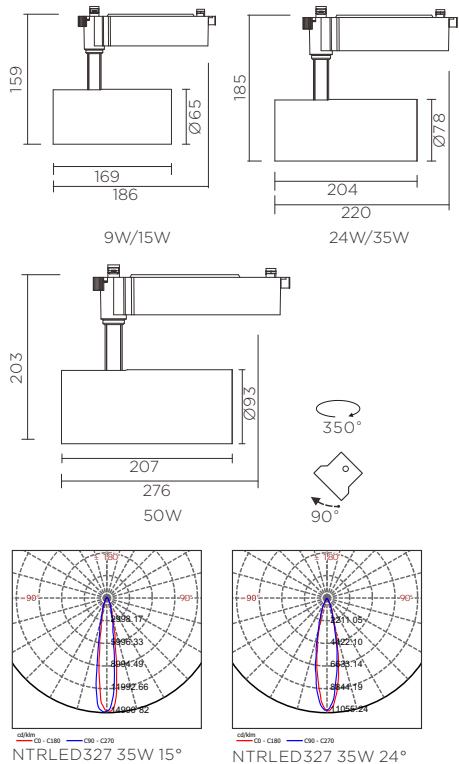
- COB LED

CONSTRUCTION

- Die-cast aluminium housing
- Powder coated surface treatment
- 30° glare-proof design
- Adjustable angle: horizontal 350°, vertical 90°
- Die-cast aluminium heat sink with air convection design
- Built-in constant current driver included
- For single circuit NVC track

OPTIONS

- **Beam angle:** Choice of 15°, 24° or 36°
- **Body color:** Choice of black or semi white
- **Glare-proof ring colour:** Choice of gold or silver colour
- NVC track and accessories, see page 122 and 123



Model	Colour temp.	Lumens	CRI	PF	Beam angle
NTRLED327A 9W	3000K/3500K/4000K/5700K	700 lm	>90	>0.9	15°/24°/36°
NTRLED327B 15W	3000K/3500K/4000K/5700K	1,050 lm	>90	>0.9	15°/24°/36°
NTRLED327C 24W	3000K/3500K/4000K/5700K	1,700 lm	>90	>0.9	15°/24°/36°
NTRLED327 35W	3000K/3500K/4000K/5700K	2,500 lm	>90	>0.9	15°/24°/36°
NTRLED327D 50W	3000K/3500K/4000K/5700K	3,200 lm	>90	>0.9	15°/24°/36°



TLED317N

COB LED track lights with built-in driver



CRI
90



APPLICATIONS

- Fashion shops
- Shop windows
- Retail stores
- Restaurants

TECHNICAL DETAILS

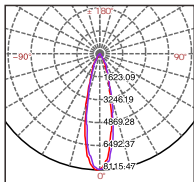
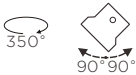
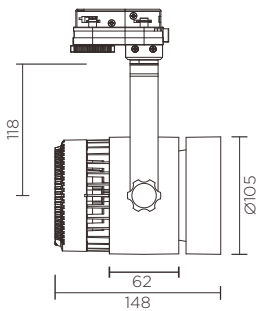
- COB LED

CONSTRUCTION

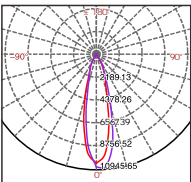
- Die-cast aluminium housing and heat sink
- Adjustable angle: horizontal 350°, vertical 90°
- Powder coated finish
- Built-in constant current driver included
- For single circuit NVC track

OPTIONS

- **Colour:** Choice of black or semi white
- **Beam angle:** Choice of 15°, 24° or 40°
- NVC track and accessories, see page 122 and 123



TLED317N 35W 24°



TLED317N 50W 24°



NTRLED321 series

Low glare spotlights for track, surface or recessed installation



CRI
90



APPLICATIONS

- Chain stores
- Fashion shops
- Museums
- Show rooms

TECHNICAL DETAILS

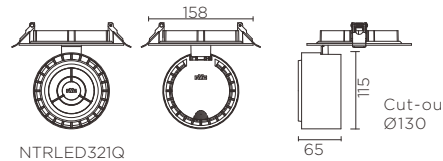
- COB LED

CONSTRUCTION

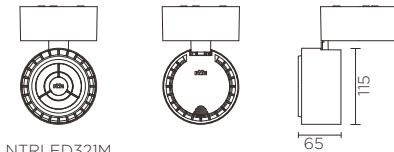
- Beam angle: Choice of 15°, 24° or 36°
- Body colour: Black or semi white
- Adjustable angle: horizontal 350°, vertical 90°
- High efficiency PMMA lens
- Die-cast aluminium housing, powder coated
- Built-in constant current driver included
- For single circuit NVC track

OPTIONS

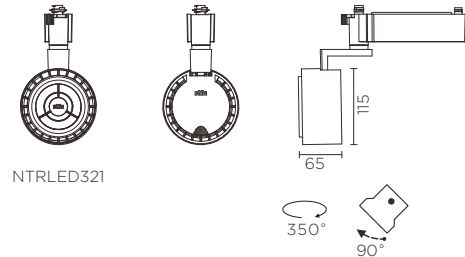
- **Colour:** Choice of black or semi-white
- **Beam angle:** Choice of 15°, 24° or 36°
- NVC track and accessories, see page 122 and 123



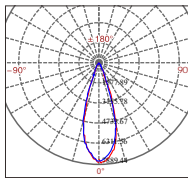
NTRLED321Q



NTRLED321M



NTRLED321



NTRLED321 35W 36°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NTRLED321 35W	3000K/3500K/4000K/5700K	2,730 lm	>90	>0.9	15°/24°/36°
NTRLED321M 35W	3000K/3500K/4000K/5700K	2,730 lm	>90	>0.9	15°/24°/36°
NTRLED321Q 35W	3000K/3500K/4000K/5700K	2,730 lm	>90	>0.9	15°/24°/36°



TLED326 series

Low glare COB LED track lights



CRI
90



APPLICATIONS

- Hotels
- High-end retails
- Flagship stores

TECHNICAL DETAILS

- COB LEDs

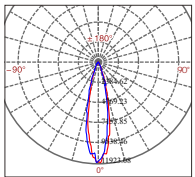
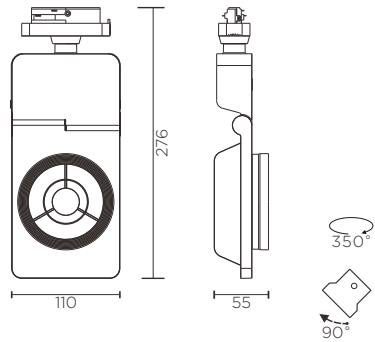
CONSTRUCTION

- Die-cast aluminium housing and heat sink
- Adjustable angle: horizontal 350°, vertical 90°
- High efficiency PMMA lens
- Powder coated finish
- Built-in constant current driver included
- For single circuit NVC track

OPTIONS

- **Colour:** Choice of black or semi white
- **Beam angle:** Choice of 15° or 30°
- NVC track and accessories, see page 122 and 123

Model	Colour temp.	Lumens	CRI	PF	Beam angle
TLED326A 24W	3000K/4000K	1,680 lm	>90	>0.9	15°/30°
TLED326B 35W	3000K/4000K	2,840 lm	>90	>0.9	15°/30°



NTLED326B 35W 24°





NTRLED 335 series

LED track lights



APPLICATIONS

- Fashion shops
- Museums
- Exhibition centres
- Children's toy shops

TECHNICAL DETAILS

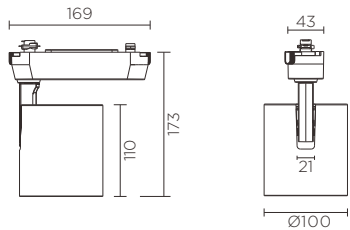
- COB LED

CONSTRUCTION

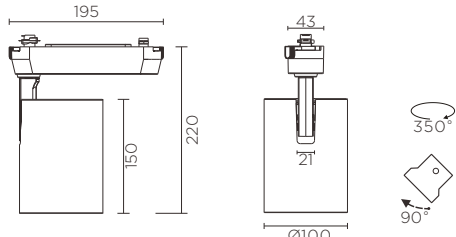
- Die-cast aluminium alloy body
- High efficiency PMMA lens
- Separate constant current driver included
- For single circuit NVC track

OPTIONS

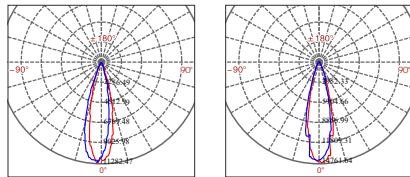
- Colour: White
- Beam angles: Choices of 15°, 24° or 36°
- NVC track and accessories, see page 122 and 123



NTRLED335 35W



NTRLED335D 50W



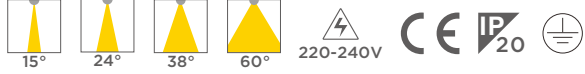
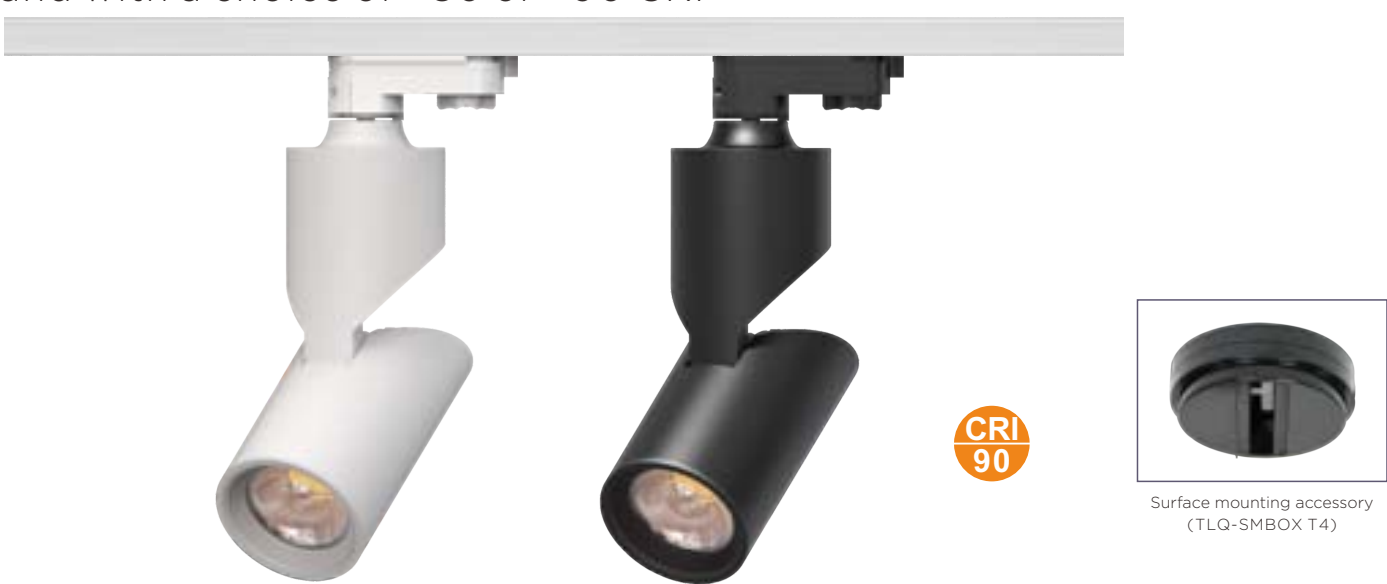
NTRLED335 35W 24° NTRLED335D 50W 24°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NTRLED335 35W	3000K/3500K/4000K/5700K	2,850 lm	>90	>0.9	15°/24°/36°
NTRLED335D 50W	3000K/3500K/4000K/5700K	3,820 lm	>90	>0.9	15°/24°/36°



NTRLED334

COB LED track lights for a wide range of installation conditions and with a choice of >80 or >90 CRI



APPLICATIONS

- Museums
- Exhibition rooms
- Art galleries
- Retail stores
- Showroom areas

TECHNICAL DETAILS

- Quality Cree COB LED

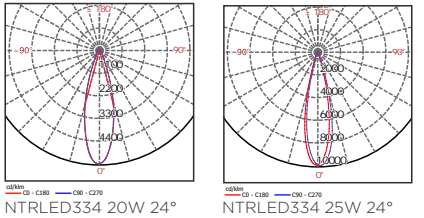
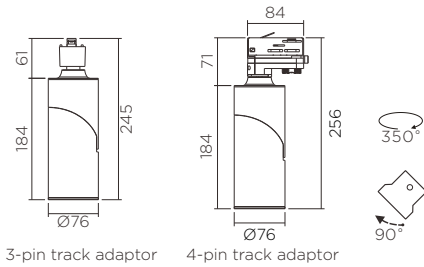
CONSTRUCTION

- Die-cast aluminium housing and heat sink
- Adjustable angle: horizontal 360°, vertical 90°
- Aluminium driver housing
- Powder coated finish
- Built-in constant current driver included
- For single circuit or three circuit track

OPTIONS

- Colour: Choice of black, silver or white
- Beam angle: Choice of 15°, 24°, 38° or 60°
- Installation: Choice of track mounted or surface mounted (surface mounting accessory should be ordered as a separate item)
- NVC track and accessories, see page 122 and 123

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NTRLED334 20W	2700K/3000K/4000K	1,800lm	>90	>0.9	15°/24°/38°/60°
NTRLED334 25W	2700K/3000K/4000K	2,250lm	>90	>0.9	15°/24°/38°/60°
Accessories					
TLQ-SMBOX T4					



NTRLED334 20W 24° NTRLED334 25W 24°



Single circuit track + accessories



Black



Semi white

Single circuit track

- Live and dead ends included with each length of track
- Available in three lengths: 1m, 1.5m or 2m

Model	QTY/CTN	CTN Dimension	MOQ
T3/1M	20 PCS	1030x190x83mm	100 PCS
T3/1.5M	20 PCS	1530x190x83mm	100 PCS
T3/2M	20 PCS	2030x190x83mm	100 PCS

- Three joining accessories are available to give I, L, T and X installations, as listed below
- Material: PMMA(Polymethylmethacrylate)

Model	QTY/CTN	CTN Dimension	MOQ
T3-IJ	100 PCS	375x195x225mm	100 PCS
T3-LJ	50 PCS	370x235x140mm	100 PCS
T3-TJ	50 PCS	375x195x225mm	100 PCS
T3-XJ	25 PCS	360x220x175mm	100 PCS

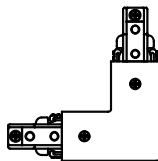
FEATURES AND SPECIFICATION

- Three copper wires (conductors), secured in an insulating (polycarbonate) retainer
- The configuration of the I, L, T and X connectors prevents any connection either with another connector (listed below) or an NVC light fitting with reversed polarity
- Aluminium body, powder coated in white or black
- Available in three lengths of 1m, 1.5m and 2m
- Uniform surface and interior colour (black or white)

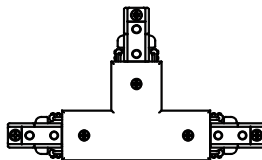
T3-IJ



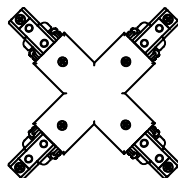
T3-LJ



T3-TJ



T3-XJ



Three circuit track + accessories



Black



Semi white

Three circuit track

- Live and dead ends included with each length of track
- Available in three lengths: 1m, 1.5m or 2m

Model	QTY/CTN	CTN Dimension	MOQ
T4/1M	10 PCS	1030x185x95mm	100 PCS
T4/1.5M	10 PCS	1530x185x95mm	100 PCS
T4/2M	10 PCS	2030x185x95mm	100 PCS

- Four joining accessories are available to give I, L, T and X installations, as listed below
- Material: PMMA(Polymethylmethacrylate)

Model	QTY/CTN	CTN Dimension	MOQ
T4-IJ	50 PCS	375x195x225mm	100 PCS
T4-LJ	50 PCS	375x195x225mm	100 PCS
T4-TJ	30 PCS	375x195x225mm	100 PCS
T4-XJ	20 PCS	370x235x220mm	100 PCS

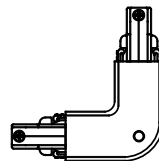
FEATURES AND SPECIFICATION

- Four copper wires (conductors), secured in an insulating (polycarbonate) retainer
- The configuration of the live and neutral connectors prevents any connection either with another connector (listed below) or an NVC light fitting with reversed polarity
- Aluminium body, powder coated in white or black
- Available in three lengths of 1m, 1.5m and 2m
- Uniform surface and interior colour (black or white)

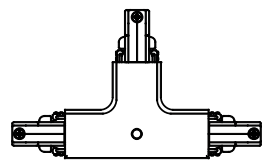
T4-IJ



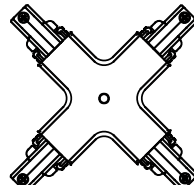
T4-LJ



T4-TJ



T4-XJ





MULTIPLE LIGHTS



126 NMTLED 52*



128 NMTLED 585*



129 NMTLED 585*



130 NLED 54*



132 NLED 582*



133 NLED 583*



LED MULTIPLE LIGHTS RANGE SUMMARY

	NMTLED52* PAGE 126	NMTLED585* PAGE 128	NMTLED585* PAGE 129	NLED54* PAGE 130	NLED582* PAGE 132	NLED583* PAGE 133
WATTAGE	LUMEN OUTPUTS					
3	160 lm					
6	350 lm				450 lm	
9	530 lm	870 lm	720 lm		500 lm	
12	720 lm			650 lm	720/900 lm	
15	970 lm	1,450 lm				
18		1,740 lm	1,440 lm		1,000/1,350 lm	
20					1,500 lm	
24		2,140 lm		1,300 lm	1,440 lm	2,100 lm
27		2,610 lm	2,160 lm		1,500 lm	
30	1,950 lm	2,900 lm				
35		2,800 lm				2,600 lm
36				1,950 lm	2,160 lm	
40					3,000 lm	
45		4,350 lm				
48		4,270 lm				3,500 lm
60					4,500 lm	
70		5,300 lm				5,100 lm
72		6,320 lm				5,000 lm
105		8,370 lm				7,600 lm
FEATURES	NMTLED52*	NMTLED585*	NMTLED585*	NLED54*	NLED582*	NLED583*
Colour Temp	3000K 3500K 4000K	3000K 3500K 4000K 5700K	3000K 4000K 5700K	3000K 3500K 6500K	3000K 3500K 5700K	3000K 3500K 4000K 5700K
Visible LED	HP LED	COB LED	COB LED	COB LED	COB LED	COB LED
Mounting	Recessed	Recessed	Recessed	Recessed	Recessed	Recessed
IP Rating	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Finishes	Black/White /Silver grey	Black/Semi-white	Black/Semi-white	Semi-white/Silver	Semi-white	Semi-white
Dimmable	Yes	No	No	No	No	No
Emerg.	No	No	No	No	No	No
Protection Class	Class II	Class II	Class I	Class II	Class II	Class II
Input Voltage	220-240V	220-240V	220-240V	220-240V	220-240V	220-240V
Material & Housing	Aluminium	Aluminium	PC	Aluminium	Aluminium	Aluminium



NMTLED52 series

A range of multiple lights for high-specification retail, hospitality and residential projects



APPLICATIONS

- Fashion retailers; jewellerys, accessories and clothings
- Hotels and restaurants
- Luxury residential properties

Options

- **Body colour:** Rimmed versions available in a choice of white or silver grey. Rimless version available in black only
- **Beam angle:** Choice of 12°, 30° or 50°
- **CCT:** Choice of 3000K, 3500K or 4000K
- **Body style:** Rimmed (suffix A), rimmed adjustable (suffix C) or rimless (suffix B)

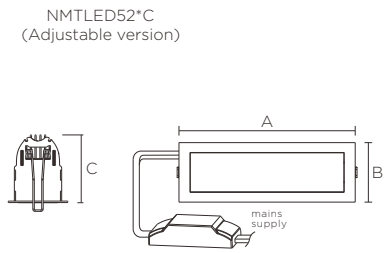
TECHNICAL DETAILS

- COB LEDs

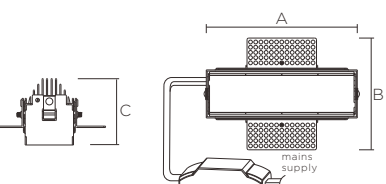
CONSTRUCTION

- Aluminium body in a choice of finishes
- Extruded aluminium heat sink for excellent thermal performance and long life
- Three body styles, all for recessed installation:
 - Rimmed with fixed beam direction and spring clips
 - Rimmed with adjustable beam direction and spring clips. Rimless with fixed beam direction
- Constructed of multiple 3W modules assembled in units of 1, 2, 3, 4, 5 or 10 modules
- Cut-off angle of 35° for minimum glare product design allows units to be joined together seamlessly
- Separate driver included with each unit

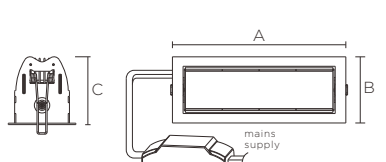
Model	Colour temp.	Lumens	CRI	PF	Beam angle
NMTLED5201* 3W	3000K/3500K/4000K	160 lm	>90	>0.45	12°/30°/50°
NMTLED5202* 2X3W	3000K/3500K/4000K	350 lm	>90	>0.45	12°/30°/50°
NMTLED5203* 3X3W	3000K/3500K/4000K	530 lm	>90	>0.9	12°/30°/50°
NMTLED5204* 4X3W	3000K/3500K/4000K	720 lm	>90	>0.9	12°/30°/50°
NMTLED5205* 5X3W	3000K/3500K/4000K	970 lm	>90	>0.9	12°/30°/50°
NMTLED5210* 10X3W	3000K/3500K/4000K	1,950 lm	>90	>0.9	12°/30°/50°



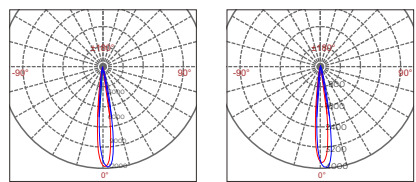
Model	A	B	C	Cut-out
3W	50	48	55	43x40
2x3W	81	48	55	74x40
3x3W	112	48	55	105x40
4x3W	143	48	55	136x40
5x3W	174	48	55	167x40
10x3W	330	48	55	320x40



Model	A	B	C	Cut-out
3W	37	97	57	40x46
2x3W	68	97	57	70x46
3x3W	99	97	57	101x46
4x3W	130	97	57	132x46
5x3W	160	97	57	163x46
10x3W	318	97	57	319x46



Model	A	B	C	Cut-out
3W	53	56	56	47x47
2x3W	84	56	56	78x47
3x3W	116	56	56	109x47
4x3W	147	56	56	140x47
5x3W	178	56	56	171x47
10x3W	334	56	56	327x47



NMTLED5201A 3W 12° NMTLED5202B 2X3W 12°



Structure and details

High colour rendering index

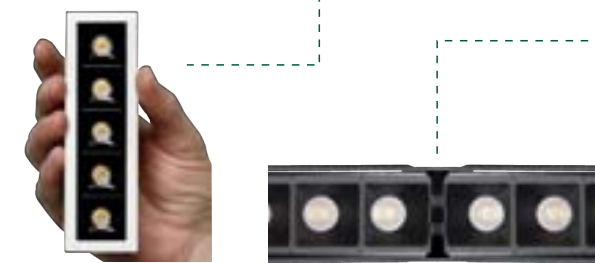
CRI >90. The high CRI makes this fitting very suitable for high-end retail applications where very accurate colour rendering is required.

Low-glare characteristics

The NMTLED52 range offers a choice of beam angles, but all with excellent low-glare characteristics. Because the COB light source is deeply recessed inside the fitting body it is not easily visible, so whichever beam angle is chosen end-users benefit from glare-free lighting. This makes the fitting very suitable for a range of retail, hospitality and residential projects.

Compact size

The visible area can be as little as 48mm wide, making this exceptionally slim for a fitting of this type.

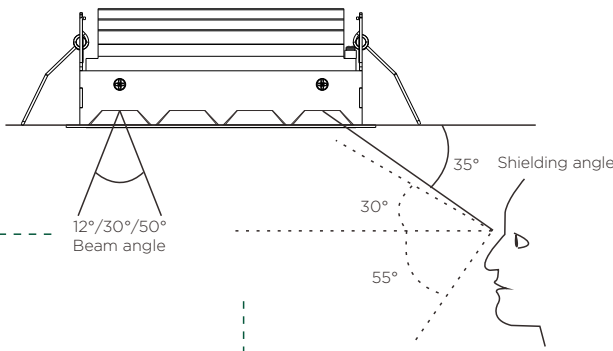


Extruded aluminium heat sink

Each unit has an extruded aluminium heat sink. This provides each unit with its mechanical strength, so it is easier to install, and excellent heat dissipation properties so the COB LEDs remain cool and have a long service life.

Wide range of specifications

With three different body styles, six product lengths and three beam angles this range of products can be specified on a wide range of projects.

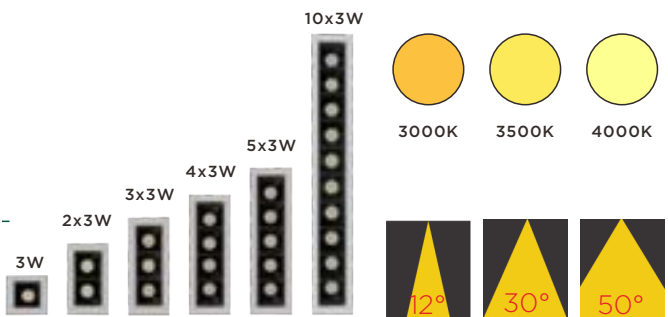


Viewing angles

When looking at an object in front of them a person's view is concentrated in the area from 55 degrees below the horizontal to 30 degrees above the horizontal. The NMTLED has a shielding angle of 35 degrees, so the viewer is protected from glare.

Easily joined together

Individual units can be installed end-to-end giving an almost seamless installation for a neater and more versatile effect.





NMTLED585 series

COB LED modular multiple lights



NLED5853C / NLED5853D



NLED5851C / NLED5851D



NLED5852C / NLED5852D



APPLICATIONS

- Retail stores
- Shopping malls
- Hotels and restaurants

TECHNICAL DETAILS

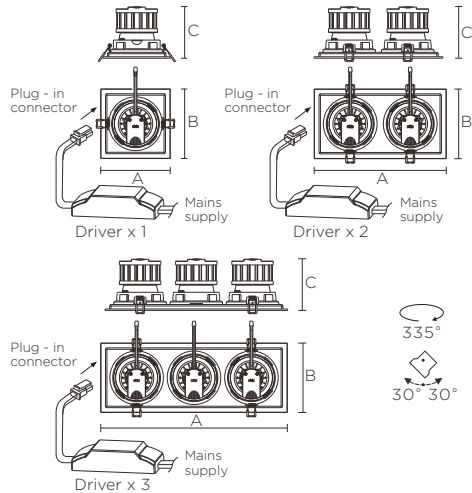
- COB LEDs
- Large diameter acrylic lens for precise beam angle and light control
- Choice of two wattages (15W, 24W or 35W) per module and 1, 2 or 3 modules per fitting

OPTIONS

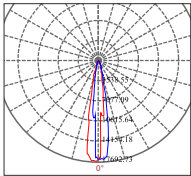
- **Bezel colour:** Choices of semi white or black
- **Beam angle:** Choices of 15°, 24° or 36°
- **Emergency:** 1.5 hours or 3 hours emergency kit (EM001/002) available. Please refer to the driver section

CONSTRUCTION

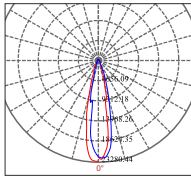
- Adjustable angle: horizontal 335°, vertical 30°
- LED module is easily removed and replaced if required for maintenance purposes
- 24W and 35W modules are both the same size, so fittings of different wattages can be mixed in the same installation and retain a uniform appearance
- Separate driver for each head included



Watts	A	B	C	Cut-out
9W	117	117	82	100x100
2x9W	117	221	82	100x205
3x9W	117	325	82	100x310
15W	117	117	97	100x100
2x15W	117	221	97	100x205
3x15W	117	325	97	100x310
24W/35W	145	145	110	130x130
2x24W/2x35W	275	145	110	130x260
3x24W/3x35W	390	145	110	130x375



NMTLED5851C 24W 15°



NMTLED5851C 24W 24°



NMTLED585 series

Economical low-powered modular multiple lights



NMTLED5853A



NMTLED5851A



NMTLED5852A



APPLICATIONS

- Retail stores
- Shopping malls
- Hotels and restaurants

TECHNICAL DETAILS

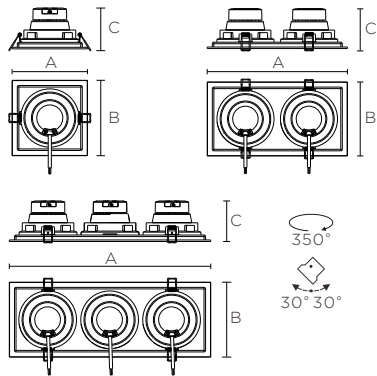
- 9W COB LEDs
- Large diameter acrylic lens for precise beam angle and light control
- 9W per module and 1, 2 or 3 modules per fitting

CONSTRUCTION

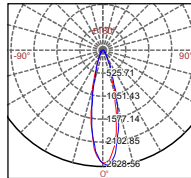
- Polycarbonate body
- Adjustable angle: horizontal 350°, vertical 30°
- Integrated driver included

OPTIONS

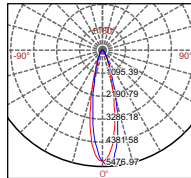
- **Body colour:** Choice of black or semi-white
- **Beam angle:** Choice of 15°, 24° or 36°



Watts	A	B	C	Cut-out
9W	145	145	83	130x130
2x9W	275	145	83	130x260
3x9W	390	145	83	130x375



NMTLED5851A 9W 24°



NLED5852A 2x9W 24°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NMTLED5851A 9W	3000K/4000K/5700K	720 lm	>80	>0.75	15°/24°/36°
NMTLED5852A 2x9W	3000K/4000K/5700K	1,440 lm	>80	>0.75	15°/24°/36°
NMTLED5853A 3x9W	3000K/4000K/5700K	2,160 lm	>80	>0.75	15°/24°/36°



NLED54 series

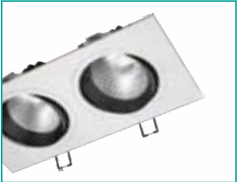
Ultra-slim multiple lights



NLED543



NLED541



NLED542



APPLICATIONS

- Retail stores
- Clubs
- Fashion shops

TECHNICAL DETAILS

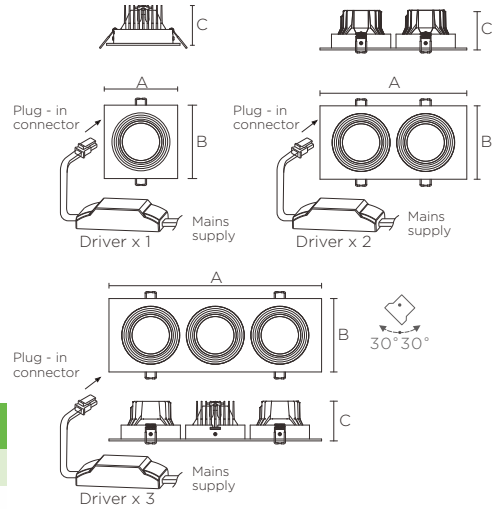
- COB LEDs

CONSTRUCTION

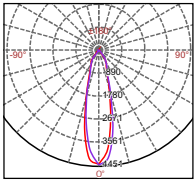
- Die-cast aluminium bezel with powder coated finish
- Anodized aluminium reflector
- Adjustable angle 30°
- One-head, two-head and three-head designs
- Separate driver for each head included

OPTIONS

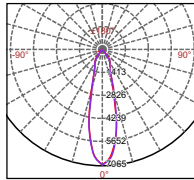
- **Body Colour:** Choices of cream white or oxidized brushed silver
- **Emergency:** 1.5 hours or 3 hours emergency kit (EM001/002) available. Please refer to the driver section



Watts	A	B	C	Cut-out
12W	116	116	63	100x100
2x12W	232	116	63	100x200
3x12W	336	116	63	100x300



NLED542 24W 24°



NLED543 36W 24°

Model	Colour temp.	Lumens	CRI	PF
NLED541 12W	3000K/4000K/6500K	650 lm	>80	>0.9
NLED542 2x12W	3000K/4000K/6500K	1,300 lm	>80	>0.9
NLED543 3x12W	3000K/4000K/6500K	1,950 lm	>80	>0.9



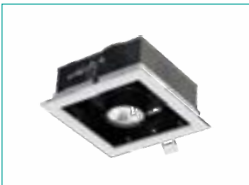


NLED582 series

Multiple light with several wattages and sizes



NLED5823



NLED5821



NLED5822



APPLICATIONS

- Retails stores
- Showrooms
- Fashion shops

TECHNICAL DETAILS

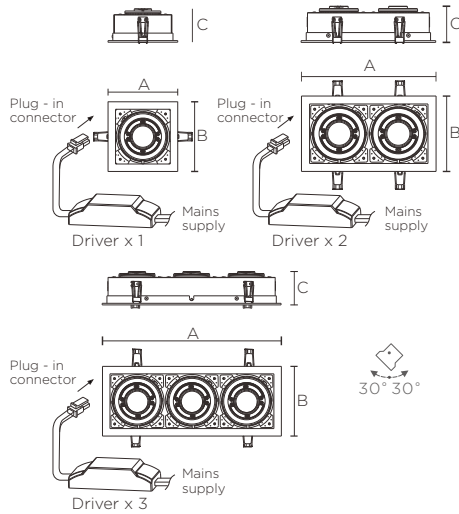
- COB LEDs
- Rated life: 30,000 hours

CONSTRUCTION

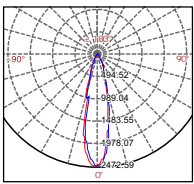
- Die-cast aluminium bezel
- Steel housing
- Powder coated finish
- Adjustable angle: horizontal 350°, vertical 30°
- One-head, two-head and three-head designs
- Separate driver for each head included

OPTIONS

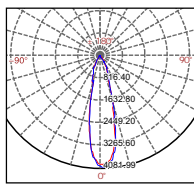
- Beam angle: Choice of 15° or 24°



Watts	A	B	C	Cut-out
6W	131	131	63	120x120
2x6W	233	131	63	120x223
3x6W	335	131	63	120x325
9W/12W	131	131	78	121x121
2x9W/2x12W	233	131	78	120x223
3x9W/3x12W	335	131	78	120x325
20W	131	131	86	121x121
2x20W	233	131	86	120x223
3x20W	335	131	86	120x325



NLED5821B 9W 24°



NLED5821D 20W 24°

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED5821A 6W	3000K/4000K/5700K	450 lm	>80	>0.9	15°/24°
NLED5822A 2x6W	3000K/4000K/5700K	900 lm	>80	>0.9	15°/24°
NLED5823A 3x6W	3000K/4000K/5700K	1,350 lm	>80	>0.9	15°/24°
NLED5821B 9W	3000K/4000K/5700K	500 lm	>80	>0.9	15°/24°
NLED5822B 2x9W	3000K/4000K/5700K	1,000 lm	>80	>0.9	15°/24°
NLED5823B 3x9W	3000K/4000K/5700K	1,500 lm	>80	>0.9	15°/24°
NLED5821C 12W	3000K/4000K/5700K	720 lm	>80	>0.9	15°/24°
NLED5822C 2x12W	3000K/4000K/5700K	1,440lm	>80	>0.9	15°/24°
NLED5823C 3x12W	3000K/4000K/5700K	2,160 lm	>80	>0.9	15°/24°
NLED5821D 20W	3000K/4000K/5700K	1,500 lm	>80	>0.9	15°/24°
NLED5822D 2x20W	3000K/4000K/5700K	3,000 lm	>80	>0.9	15°/24°
NLED5823D 3x20W	3000K/4000K/5700K	4,500 lm	>80	>0.9	15°/24°



NLED583 series

High power multiple lights



NLED5833



APPLICATIONS

- Shopping malls
- Showrooms
- Fashion shops
- Lobbies

TECHNICAL DETAILS

- COB LEDs
- Rated life: 30,000 hours

OPTIONS

- Beam angle: Choice of 15°, or 24°

CONSTRUCTION

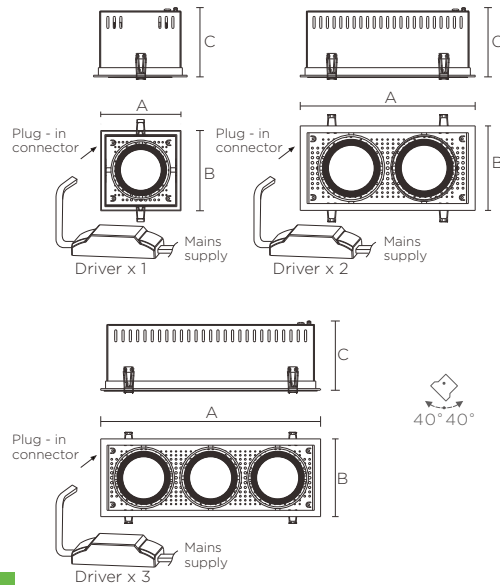
- Die-cast aluminium bezel
- Anodized aluminium reflector
- Steel housing
- Semi-white powder coated finish
- Adjustable angle 40°
- One-head, two-head and three-head designs
- Separate driver for each head included



NLED5831

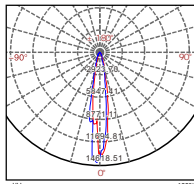


NLED5832

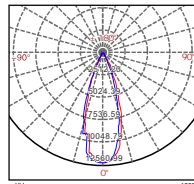


Watts	A	B	C	Cut-out
12W	131	131	85	120x120
2x12W	233	131	85	120x223
3x12W	335	131	85	120x325
20W	154	154	112	144x144
2x20W	280	154	112	144x270
3x20W	407	154	112	144x397
24W/35W	173	173	128	160x160
2x24W/2x35W	358	173	128	345x160
3x24W/3x35W	489	173	128	475x160

Model	Colour temp.	Lumens	CRI	PF	Beam angle
NLED5831D 12W	3000K/3500K/4000K/5700K	760 lm	>90	>0.9	24°
NLED5832D 2x12W	3000K/3500K/4000K/5700K	1,530 lm	>90	>0.9	24°
NLED5833D 3x12W	3000K/3500K/4000K/5700K	2,200 lm	>90	>0.9	24°
NLED5831B 20W	3000K/3500K/4000K/5700K	1,600 lm	>90	>0.9	24°
NLED5832B 2x20W	3000K/3500K/4000K/5700K	3,250 lm	>90	>0.9	24°
NLED5833B 3x20W	3000K/3500K/4000K/5700K	4,900 lm	>90	>0.9	24°
NLED5831 24W	3000K/3500K/4000K/5700K	2,100 lm	>90	>0.9	15°/24°
NLED5832 2x24W	3000K/3500K/4000K/5700K	3,500 lm	>90	>0.9	15°/24°
NLED5833 3x24W	3000K/3500K/4000K/5700K	5,000 lm	>90	>0.9	15°/24°
NLED5831A 35W	3000K/3500K/4000K/5700K	2,600 lm	>90	>0.9	15°/24°
NLED5832A 2x35W	3000K/3500K/4000K/5700K	5,100 lm	>90	>0.9	15°/24°
NLED5833A 3x35W	3000K/3500K/4000K/5700K	7,600 lm	>90	>0.9	15°/24°



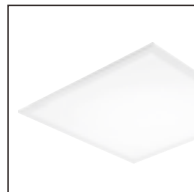
NLED5831 24W 15°



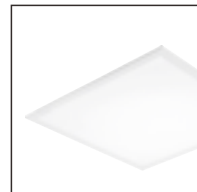
NLED5832A 70W 24°



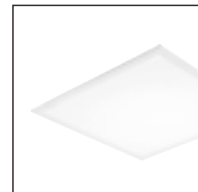
PANELS



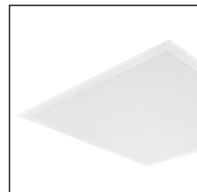
136 NPNLED451*V1



137 NLED451* V2



138 NPNLED451*P



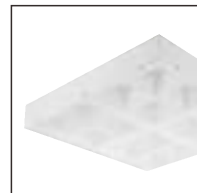
140 NLED461*



142 NLED420 v1



143 NLED420 v2



144 NTFLED41*

LED PANEL RANGE SUMMARY

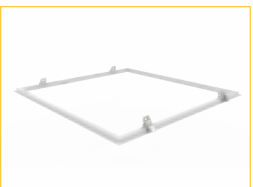
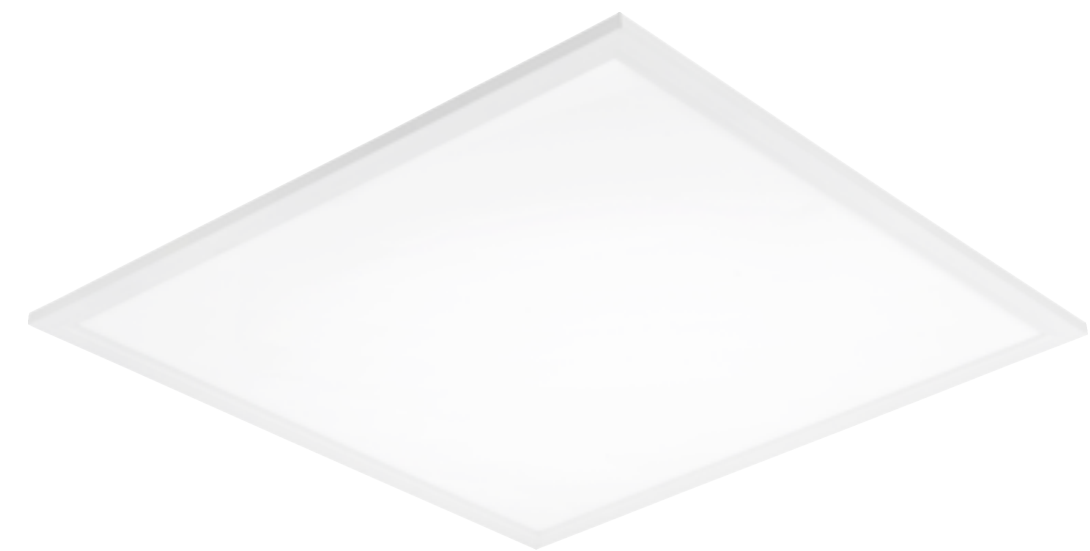
We have one of the widest ranges of panels in the industry, so you can choose the fitting that is right for your project

[illegible]



NPNLED451 v1 series

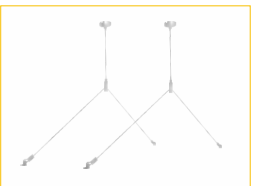
LED panels for general offices



Recessed kit



Surface kit



Suspension kit



APPLICATIONS

- General commercial use
- Offices
- Schools
- Hospitals

CONSTRUCTION

- Seamless aluminium frame
- White powder coated finish
- PS (polystyrene) diffuser
- Separate low-flicker driver included

TECHNICAL DETAILS

- SMD LEDs

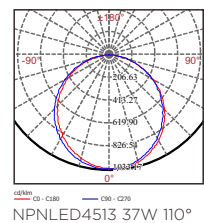
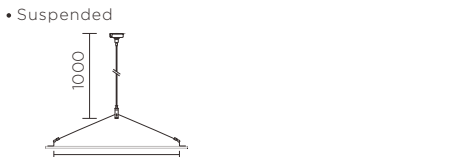
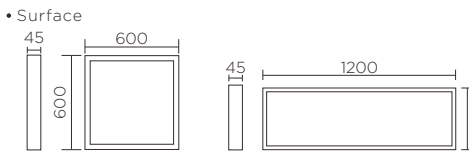
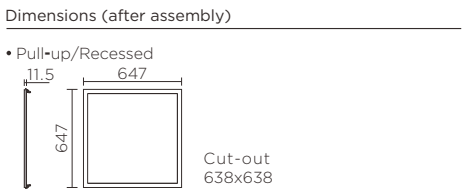
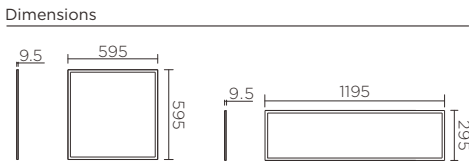
OPTIONS

- Available to be mounted in four different ways:

- **Lay-in:**
On 15-24mm exposed T ceiling grids.
Two sizes available (600x600 or 1200x300).
No attachments required
- **Pull-up/Recessed:**
In plasterboard ceilings (cut-out needed).
One size available only (600x600). Recessed kit (supplied with mounting springs) required. Order this as a separate item
- **Suspended:**
Two sizes available (600x600 or 1200x300).
Wire suspension kit required. Order this as a separate item
- **Surface mounted:**
Two sizes available (600x600 or 1200x300).
Surface mounting kit required. Order this as a separate item
- **Emergency:** 1.5 hours or 3 hours emergency kit(EM001/002/003) available. Please refer to the driver section

Model	Colour temp.	Lumens	CRI	PF
NPNLED4514/37W/66	3000K/4000K/6500K	3,400 lm	>80	>0.97
NPNLED4513/37W/123	3000K/4000K/6500K	3,400 lm	>80	>0.97

Accessories	Description
Suspension kit	Suspension kit (2pcs*1m/set)
Surface kit	Surface kit (600x600mm)
	Surface kit (300x1200mm)
Recessed kit	Recessed kit (600x600mm)

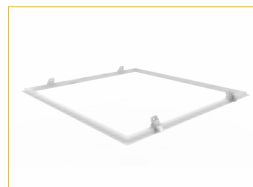
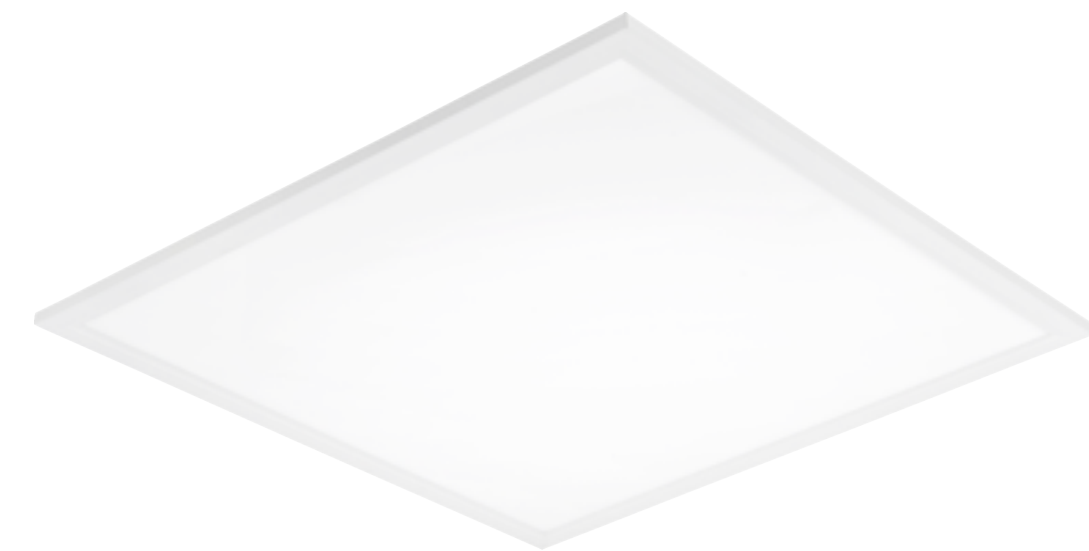


NPNLED4513 37W 110°



NPNLED451 v2 series

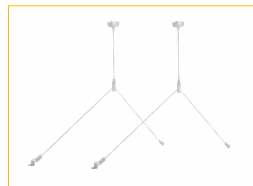
LED panels for general offices



Recessed kit



Surface kit



Suspension kit



APPLICATIONS

- General commercial use
- Offices
- Schools
- Hospitals

CONSTRUCTION

- Seamless aluminium frame
- White powder coated finish
- PP (Polypropylene) diffuser
- Separate low-flicker driver included

TECHNICAL DETAILS

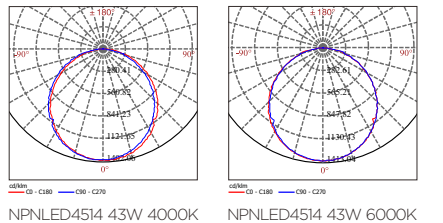
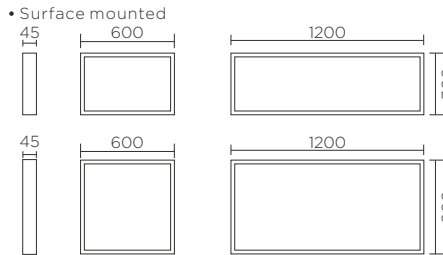
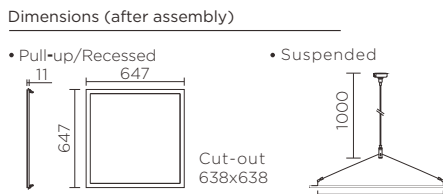
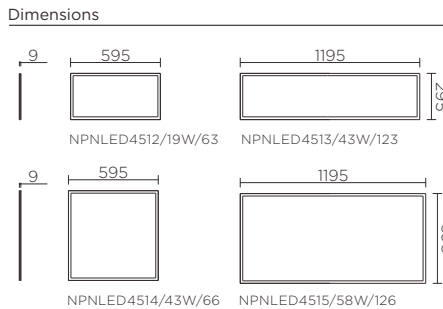
- SMD LEDs

OPTIONS

- Available to be mounted in four different ways:

- **Lay-in:**
On 15-24mm exposed T ceiling grids.
No attachments required
- **Pull-up/Recessed:**
In plasterboard ceilings (cut-out needed). One size available only (600x600). Recessed kit (supplied with mounting springs) required. Order this as a separate item
- **Surface mounted:**
Surface mounting kit required. Order this as a separate item
- **Suspended:**
Wire suspension kit required. Order this as a separate item
- **Emergency:** 1.5 hours or 3 hours emergency kit(EM001/002/003) available. Please refer to the driver section

Model	Colour temp.	Lumens	CRI	PF
NPNLED4512/19W/63	3000K/4000K/6500K	2,000 lm	>80	>0.9
NPNLED4513/43W/123	3000K/4000K/6500K	4,200 lm	>80	>0.9
NPNLED4514/43W/66	3000K/4000K/6500K	4,200 lm	>80	>0.9
NPNLED4515/58W/126	3000K/4000K/6500K	5,700 lm	>80	>0.9
Accessories		Description		
Suspension kit		Suspension kit (2pcs*1m/set)		
Surface kit		Surface kit (600x300mm)		
		Surface kit (1200x300mm)		
		Surface kit (600x600mm)		
		Surface kit (1200x600mm)		
Recessed kit		Recessed kit (595x595mm)		

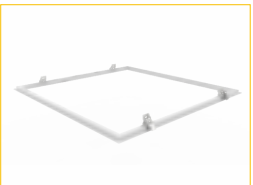


NPNLED4514 43W 4000K NPNLED4514 43W 6000K



NPNLED451*P

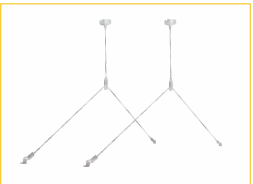
High panels with long lifespan for high-end office



Recessed kit



Surface kit



Suspension kit



APPLICATIONS

- General commercial use
- Offices
- Schools
- Hospitals

CONSTRUCTION

- Side-lit design with LEDs in aluminum frame
- PMMA Light guide plate
- PS (Poly Styrene) diffuser
- Powder coated surface treatment (similar to RAL9016)
- Philips low flicker and separate LED driver included

TECHNICAL DETAILS

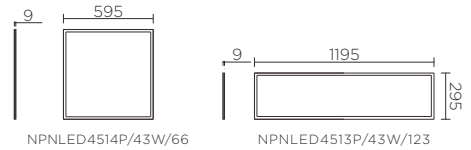
- SMD LEDs

OPTIONS

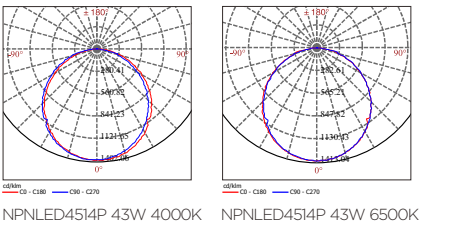
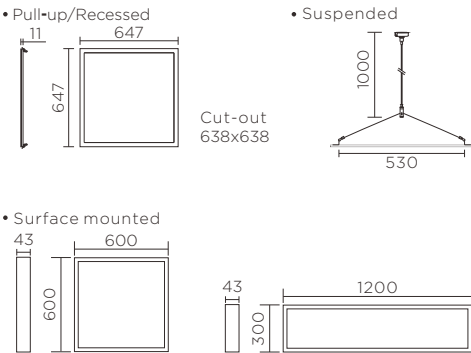
- Available to be mounted in four different ways:

- **Lay-in:**
On 15-24mm exposed T ceiling grids.
Two sizes available (600x600 or 1200x300).
No attachments required
- **Pull-up/Recessed:**
In plasterboard ceilings (cut-out needed).
One size available only (600x600). Recessed kit (supplied with mounting springs) required Order this as a separate item
- **Suspended:**
Two sizes available (600x600 or 1200x300).
Wire suspension kit required. Order this as a separate item
- **Surface mounted:**
Two sizes available (600x600 or 1200x300).
Surface mounting kit required. Order this as a separate item
- **Emergency:** 1.5 hours or 3 hours emergency kit(EM001/002/003) available. Please refer to the driver section

Dimensions



Dimensions (after assembly)



Model	Colour temp.	Lumens	CRI	PF
NPNLED4513P/43W/123	3000K/4000K/6500K	4,200 lm	>80	>0.9
NPNLED4514P/43W/66	3000K/4000K/6500K	4,200 lm	>80	>0.9
Accessories		Description		
Suspension kit		Suspension kit (2pcs*1m/set)		
Surface kit		Surface kit (1200x300mm)		
Surface kit		Surface kit (600x600mm)		
Recessed kit		Recessed kit (647x647mm)		





NPNLED461 series

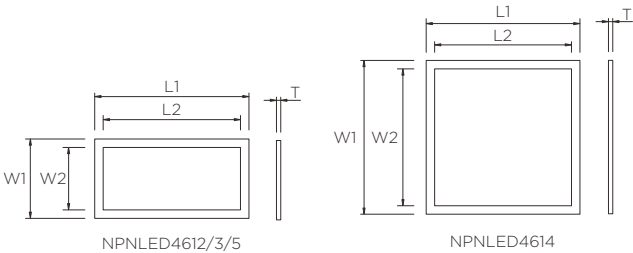
LED panels with spring clip for plasterboard ceiling



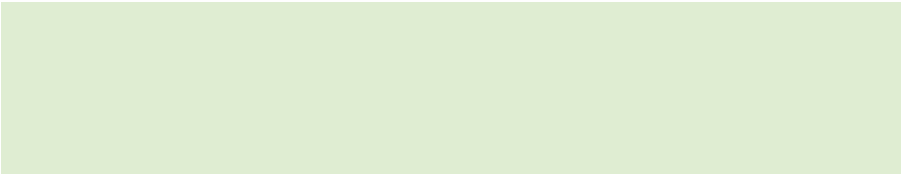
- APPLICATIONS**
- General commercial use
 - Offices
 - Schools
 - Hospitals

- CONSTRUCTION**
- Side - lit design with LEDs in aluminum frame
 - MS (Methyl + Styrene) light guide plate
 - PP (Polypropylene) diffuser
 - White power coated surface treatment to RAL 9016
 - For recessed installation
 - Spring clips included
 - Low flicker separate LED driver included

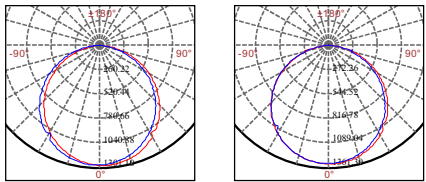
- TECHNICAL DETAILS**
- SMD LEDs



Model	Colour temp.	Lumens	CRI	PF
NPNLED4612/19W/63	3000K/4000K/6500K	1,600/1,700/1,800 lm	>80	0.97
NPNLED4613/43W/123	3000K/4000K/6500K	3,800/3,900/4,000 lm	>80	0.97
NPNLED4614/43W/66	3000K/4000K/6500K	3,800/3,900/4,000 lm	>80	0.97



Model	W1	W2	L1	L2	T	Cut-out
NPNLED4612	318	250	618	550	9	605x305
NPNLED4613	318	250	1218	1150	9	305x1205
NPNLED4614	618	550	618	550	9	605x605
NPNLED4615	618	550	1218	1150	9	605x1205



NPNLED4613 43W 123 840 NPNLED4614 43W 66 865

Simple installation

- no recessed mounting frame needed



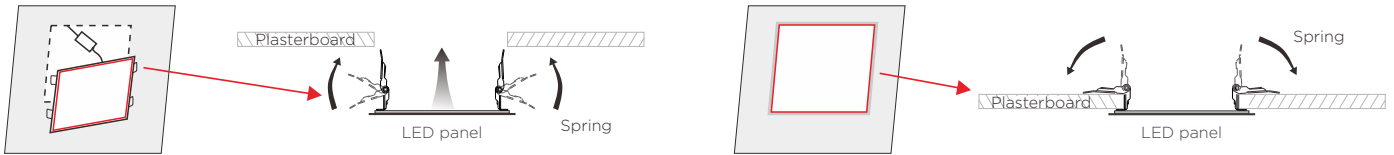
Structure and details

Lower height and extended frame edge design allows the fixture to fit seamlessly in the ceiling. The spring clip further helps to secure the fixture and do not damage the ceiling.



Recessed Installation

Connect the driver and panel, then pull up the panel into the ceiling.





NLED420 v1 series

Recessed LED fittings with class-leading performance



APPLICATIONS

- Classrooms, offices and meeting rooms
- Hospitals and medical centers

CONSTRUCTION

- Robust steel body with white powder coated finish
- PS (polystyrene) diffuser
- Separate low-flicker driver included
- For 15-24mm exposed T ceiling grids and plasterboard ceiling

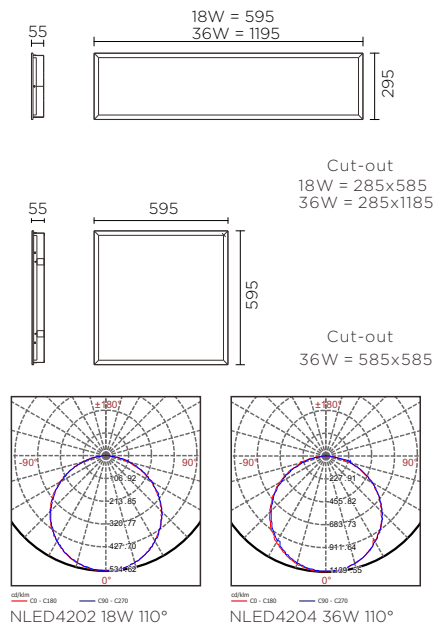
TECHNICAL DETAILS

- SMD LEDs

OPTIONS

- **Available to be mounted in two different ways:**
 - Lay-in: On 15-24mm exposed T ceiling grids. Three sizes available (300x600, 600x600 or 1200x300). No attachments required
 - Pull-up/Recessed: In plasterboard ceilings (cut-out is needed). Three sizes available (300x600, 600x600 or 1200x300). Recessed clip kit required. Order this as a separate item
 - HO version: High lumen output is available

- **Emergency:** 1.5 hours or 3 hours emergency kit(EM001/002/003) available. Please refer to the driver section
- **Dimming:** 0-10V, mains dimming and digital dimming available



Model	Colour temp.	Lumens	CRI	PF
NLED4202/0306/18W	3000K/4000K/6500K	1,800 lm	>85	>0.97
NLED4203/0312/36W	3000K/4000K/6500K	3,600 lm	>85	>0.97
NLED4204/0606/36W	3000K/4000K/6500K	3,600 lm	>85	>0.97
NLED4204/33W/66/HO	6500K	4,000 lm	>85	>0.97

Accessories	Description
Recessed clip kit	Panel Clip NLED420 series (4pcs or 6pcs included)



NLED420 v2 series

Upgraded non-yellowing thinner back-lit LED panels with long lifespan for high-end offices



APPLICATIONS

- Classrooms
- Offices
- Meeting rooms

TECHNICAL DETAILS

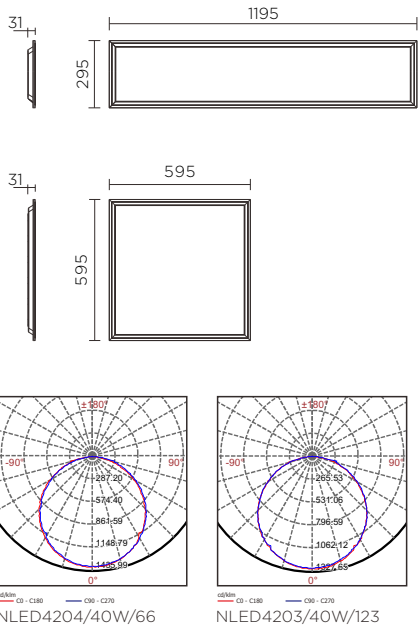
- SMD LEDs

OPTIONS

- Version: Choice of the standard version or UGR version
- **Available to be mounted in one way:**
 - Lay-in: On 15-24mm exposed T ceiling grids. two sizes available (600x600 or 1200x300). No attachments required

CONSTRUCTION

- Robust steel body with white powder coated finish
- PS (polystyrene) diffuser and PC optical lens
- Separate low-flicker driver included
- For 15-24mm exposed T ceiling grids



Model	Colour temp.	Lumens	CRI	PF
NLED4204/40W/66	3000K/4000K/6500K	4,000 lm	>80	>0.9
NLED4203/40W/123	3000K/4000K/6500K	3,900 lm	>80	>0.9

Accessories	Description
-------------	-------------



NTFLED41 series

A range of troffer fittings for recessed or surface installation that deliver low UGR in most installations



APPLICATIONS

- Schools
- Hospitals
- Offices

TECHNICAL DETAILS

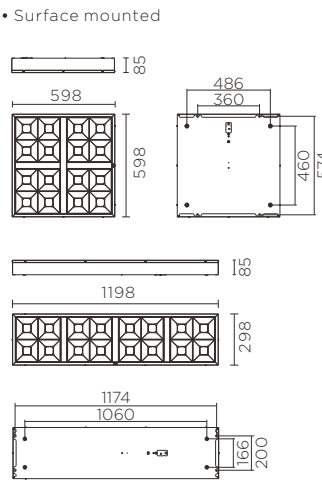
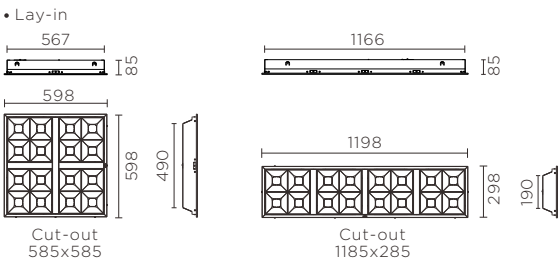
- SMD LEDs
- SDCM<2

CONSTRUCTION

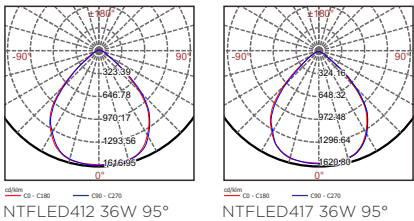
- Steel body with white powder coated finish
- Clusters of SMD LEDs covered with a PC diffuser, deep recessed in steel reflector cells for low-glare performance
- Integral low-flicker driver included

OPTIONS

- Available to be mounted in two different ways:
- Lay-in: On 15-24mm exposed T ceiling grids. Two sizes available (598 x 598 or 1198 x 298). No attachments required
- Surface mounted: use suffix M. Two sizes available (598 x 598 or 1198 x 298). No attachments required. Folded mounting lugs on rear for surface mounting included



Model	Watts	Colour temp.	Lumens	CRI	PF
Lay-in					
NTFLED412/36W/66	36W	3500K/4000K/5000K	3,200 lm	>90	>0.95
NTFLED417/36W/123	36W	3500K/4000K/5000K	3,200 lm	>90	>0.95
Surface mounted					
NTFLED412M/36W/66	36W	3500K/4000K/5000K	3,200 lm	>90	>0.95
NTFLED417M/36W/123	36W	3500K/4000K/5000K	3,200 lm	>90	>0.95



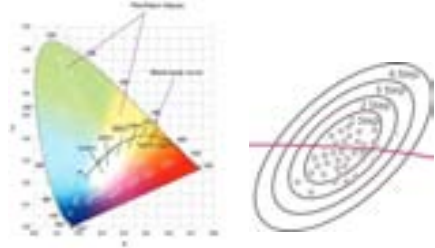
Low glare for maximum comfort



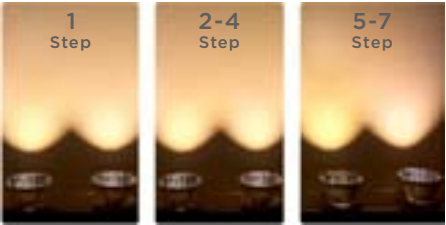
Flexible installation
Flexible Installation (lay-in and surface mounted), meeting various installation requirements.



Excellent color consistency (SDCM<2)
In LED lighting, SDCM (Standard Deviation Colour Matching) uses deviations relative to MacAdam ellipses to describe color precision of a light source. Each MacAdam ellipse can be divided into seven Steps, the smaller SDCM value, the more consistent color you will get.



SDCM Step	Color Deviation
1	Undetectable
2-4	No Significant Differences
5-7	Obvious Distinction



High CRI (Ra>90)
CRI (Colour Rendering Index) is an objective measure of the ability of a light source to reveal the colours of objects faithfully in comparison to a perfect light source. CRI plays a vital role in product display. The higher the CRI, the more accurately will the colours of an object be presented.





The Unified Glare Ratio (UGR) can be calculated for every installation. The important points to note are that:

- Actually, the UGR is calculated for an installation. UGR is not a feature of a single luminaire, but the design of the luminaire does influence what the UGR will be after installation.
- However, the features of a luminaire that help it to deliver low UGR values where it is installed also have drawbacks, and these can include reduced uniformity and increased shadowing along the tops of walls.
- Generally, the lower the UGR the better. International standards such as EN12464 recommend maximum UGR values for specific applications and the degree of discomfort glare as below:

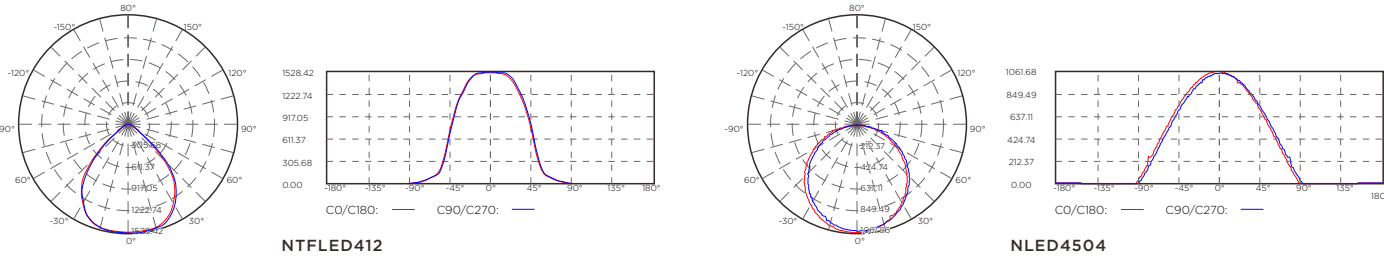
MAXIMUM RECOMMENDED UGR FOR DIFFERENT APPLICATIONS

Applications	Working Area	Maximum allowed UGR	Discomfort Glare Criterion
Hospital	Operation Room	10	Imperceptible
	Ward room	13	Just perceptible
Office	Drawing office, Meeting room	16	Slight but negligible
	General office, Exhibition room	19	Just acceptable
School	Class room, Laboratory	16	Slight but negligible
	Library, Common room	19	Just acceptable
Commercial	Supermarket, Restaurant	22	Unacceptable
Public	Lobby, Corridor	25	Strong, uncomfortable
Industrial	Ultra precise processing	19	Just acceptable
	Precise processing	22	Unacceptable
	Normal processing	25	Strong, uncomfortable
	Group assembly	28	Too strong, unbearable

The NTFLED41* has been designed with a number of features to ensure that, compared with other fittings that might be used in the same application (such as flat LED panel NLED4504), the NTFLED41 will result in a lower UGR in almost any situation.

- The LEDs are mounted behind an opal diffuser.
 - Each cluster of LEDs is mounted in a deeply recessed louvre.
 - The sides of the louvre are coated in a highly reflective but non-specular coating.
- Together, these features ensure the exceptionally low-glare performance of the NTFLED41* and can assist lighting designers achieve low UGR values (typically <19) in a wide range of installations.

Polar Curve Comparison of the NTFLED412 and NLED4504



NTFLED412 (UGR<16):
The light is directed downwards. The risk of glare is greatly reduced, but less light is projected onto the walls, so a wall-wash fitting might be recommended. Careful attention also needs to be given to the luminaire spacing to avoid a loss of uniformity at the working plane or at floor level.

NLED4504 (UGR<19):
Compared with the NTFLED 412, more light is directed sideways. This increases the risk of glare, but there is a benefit that more light is projected onto the walls which is generally considered to give a pleasing effect. High levels of uniformity are also easier to achieve with a light distribution like this.





LINEAR LIGHTS



149 NBTLED4771A12



152 NLILED495



NBTLED4771A12

Suspended asymmetric LED wall wash batten



CRI 90



APPLICATIONS

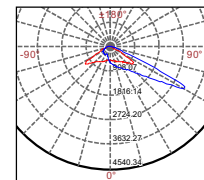
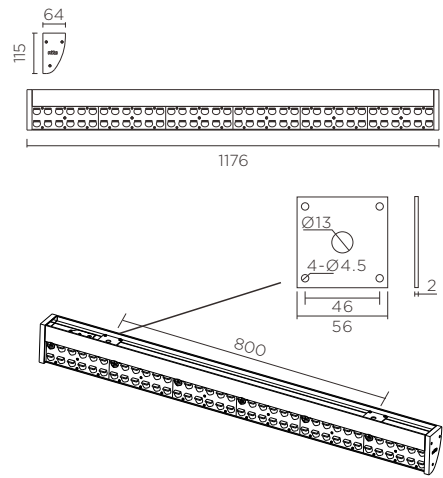
- Schools
- Supermarkets

CONSTRUCTION

- Die-cast aluminium housing with powder coated finish
- Semi-white body (equivalent to RAL9003)
- Transparent PC optical lens
- Integral low-flicker driver included
- Installation: to be installed on 13mm diameter suspension rods. Suspension rods not supplied (should be purchased locally)

TECHNICAL DETAILS

- SMD 2835 LEDs
- CRI> 90, R9≥50
- UGR<16
- SDCM<3



NBTLED4771A12/42W

Model	Watts	Colour temp.	Lumens	CRI	PF
NBTLED4771A12/42W	42W	3500K	3,600 lm	>90	>0.95
NBTLED4771A12/42W	42W	4000K	3,800 lm	>90	>0.95
NBTLED4771A12/42W	42W	5000K	3,900 lm	>90	>0.95



The perfect classroom blackboard fitting



Visual comfort
Most traditional blackboard lights could be harmful to the eyes after a long period because of the high amount of blue in their spectrum. However, the NBTLED4771 has reduced blue in the spectrum to prevent this risk and help enable students to stay concentrated on their studies for longer.



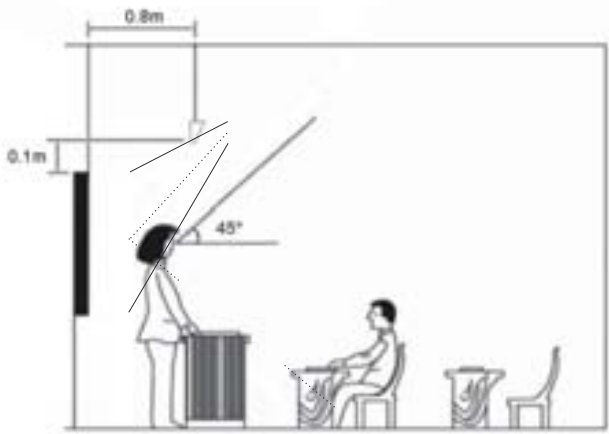
Low flicker
An integral low-flicker driver is included. The ripple (fluctuation of the output) from the driver is less than 5%, which causes less fatigue and assists concentration.



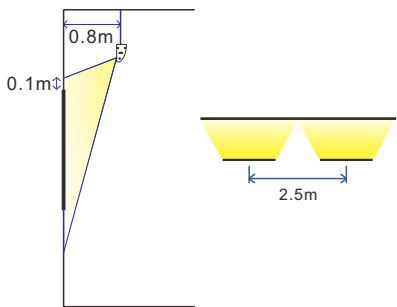
Installation
This fitting is designed for suspension rod installation.

NVC classroom solution

- Installation guide :
- 1. The blackboard light should mounted at a place where the reflected glare can't effect a student sitting in the first row.
 - 2. The blackboard light should mounted at a place where is outside of the 45 degrees the teacher's vision.



- Suggest installation place:
- 1. 0.8 metres horizontal distances from the blackboard
 - 2. 0.1 metres vertical distances above the top edge of the blackboard
 - 3. Install two blackboard lights and keep 2.5 metres distance between two installation position.

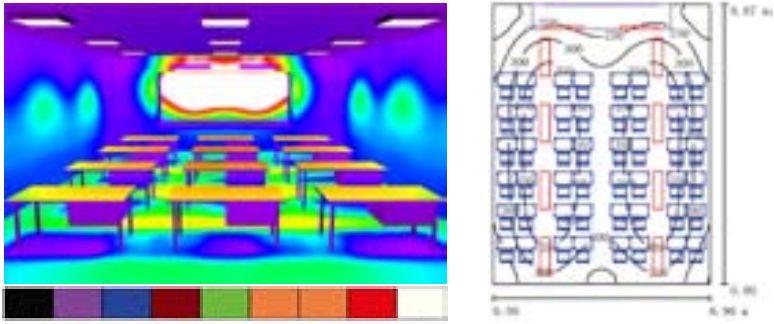


8+2 Classroom solution

- 8+2 Classroom solution**
- 8: Use 8 recessed glare proof troffer light (e.g.NTFLED41 series) in the classroom, which will deliver enough light with very little glare
 - 2: Use 2 side - lit blackboard lights to satisfy the lighting requirement in the blackboard area.

Benefit
In a Dialux simulation of our suggested layout in a classroom the average illuminance in the student area was 348 lux and the uniformity was 0.8. In the blackboard area the illuminance is more than 500 lux and the uniformity >0.8. These levels meet the requirements of EN12464.

Uniformity
The average illuminance value in the study area (desk) is 348 lux, and the uniformity is 0.8.
The average illuminance value in the blackboard area is more than 500 lux, and the uniformity is more than 0.8.





NLILED495

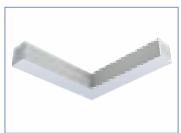
A range of very adaptable linear fittings with some advanced features



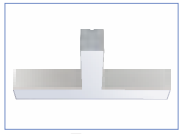
NLILED495AM1200



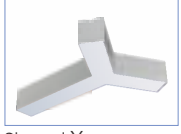
NLILED495A1200



Shaped L



Shaped T



Shaped Y



Shaped X



APPLICATIONS

- Offices
- Corridors

OPTIONS

- **Width:** 30mm, 60mm & 80mm available
- **Suspended or recessed installation:**
For suspended installation, use suffix M
- **Straight sections or shaped modules:**
 - **Straight sections:** one length (1200mm)
 - **Shaped modules:** Four shapes (L, T, Y, X)
- See drawings for dimensions

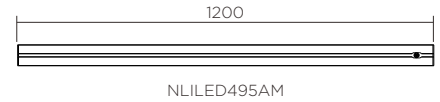
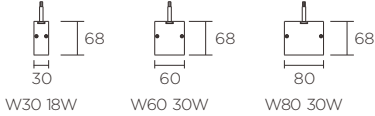
CONSTRUCTION

- Extruded aluminium housing with anodised finish
- Matt silver-grey
- Opal PC diffuser
- Constant current driver included in each module, no through-wiring required
- **Suspended variants** supplied complete with 1.0m long wire
- **Recessed variants** supplied complete with mounting clips

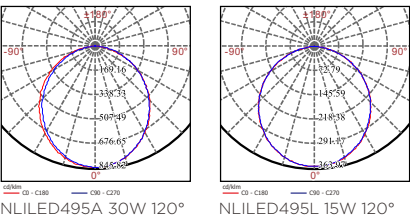
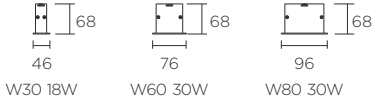
TECHNICAL DETAILS

- SMD LEDs

• Suspended



• Recessed



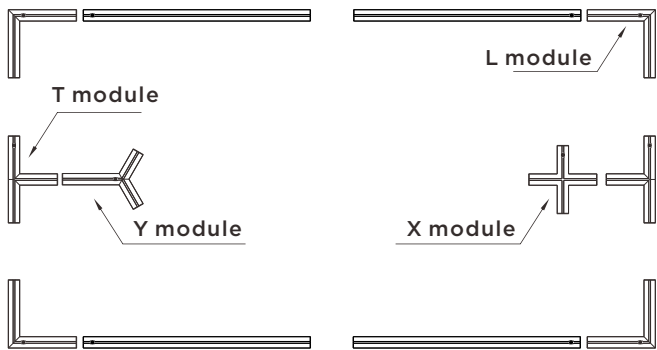
Model	Colour temp.	Lumens	CRI	PF
Suspended				
NLILED495AM1200 W30 18W	3000K/4000K/5700K	1,224 lm	>80	>0.95
NLILED495AM1200 W60 30W	3000K/4000K/5700K	2,250 lm	>80	>0.95
NLILED495AM1200 W80 30W	3000K/4000K/5700K	2,400 lm	>80	>0.95
Recessed				
NLILED495A1200 W30 18W	3000K/4000K/5700K	1,224 lm	>80	>0.95
NLILED495A1200 W60 30W	3000K/4000K/5700K	2,250 lm	>80	>0.95
NLILED495A1200 W80 30W	3000K/4000K/5700K	2,400 lm	>80	>0.95
Shaped modules				
Suspended				
NLILED495LM/TM/YM/XM W30 9W	3000K/4000K/5700K	612 lm	>80	>0.8
NLILED495LM/TM/YM/XM W60 15W	3000K/4000K/5700K	1,125 lm	>80	>0.85
NLILED495LM/TM/YM/XM W80 15W	3000K/4000K/5700K	1,200 lm	>80	>0.85
Recessed				
NLILED495L/T/Y/X W30 9W	3000K/4000K/5700K	612 lm	>80	>0.8
NLILED495L/T/Y/X W60 15W	3000K/4000K/5700K	1,125 lm	>80	>0.85
NLILED495L/T/Y/X W80 15W	3000K/4000K/5700K	1,200 lm	>80	>0.85

Structure and details



Light uniformity

Shadows and dark spots at the joint between sections are a problem with some rival products, but with the NLILED495 there are no dark spots at all – just a continuous line of uniform light.



Design flexibility

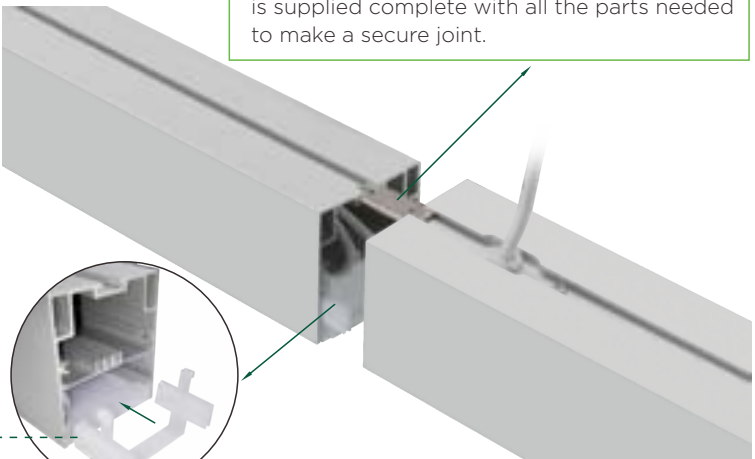
With the simple construction and choice of modules, NLILED495 can be assembled on-site in many different ways to create a wide range of shapes and effects as required.

Simple connection

Each straight section and shaped module is supplied complete with all the parts needed to make a secure joint.

No light leakage

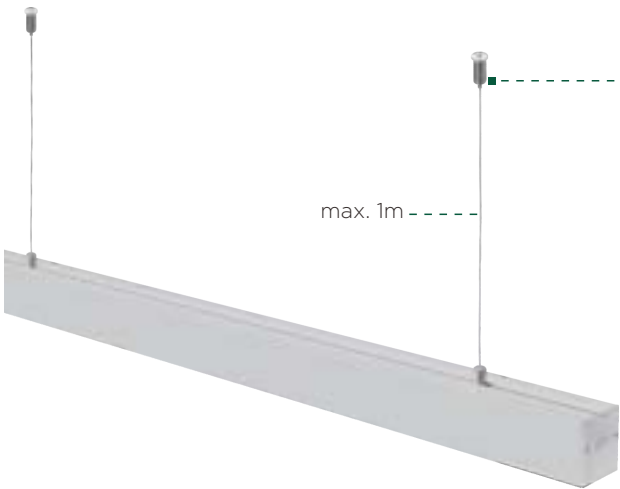
Light bleed is a problem on similar rival fittings, but on NVC NLILED495 this problem is eliminated with an internal baffle overlapping the joints between sections.



Internal baffle

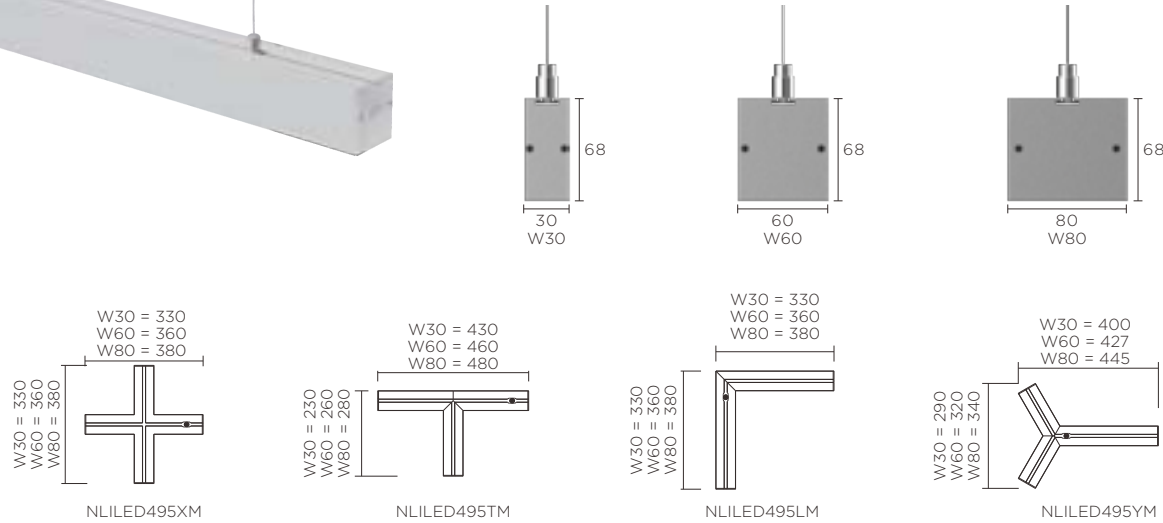


Mounting options



Suspended installation
Suitable for offices and other spaces with high ceilings. A wire suspension kit (max length 1.0m) is supplied with each module.

Suspended
Dimensions

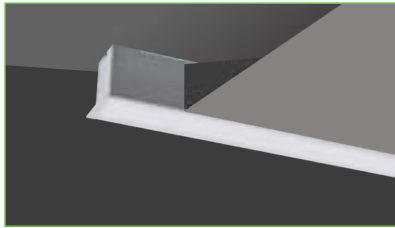
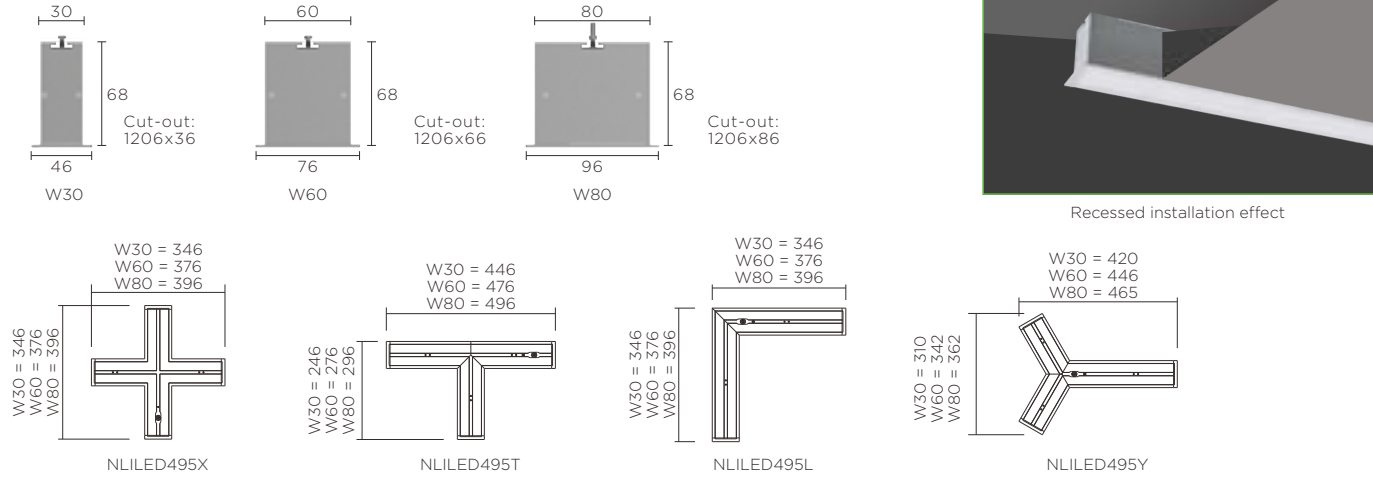


Recessed installation
Suitable for installation in plaster board ceilings. Each module is supplied complete with recessed mounting clips.



Mounting clip

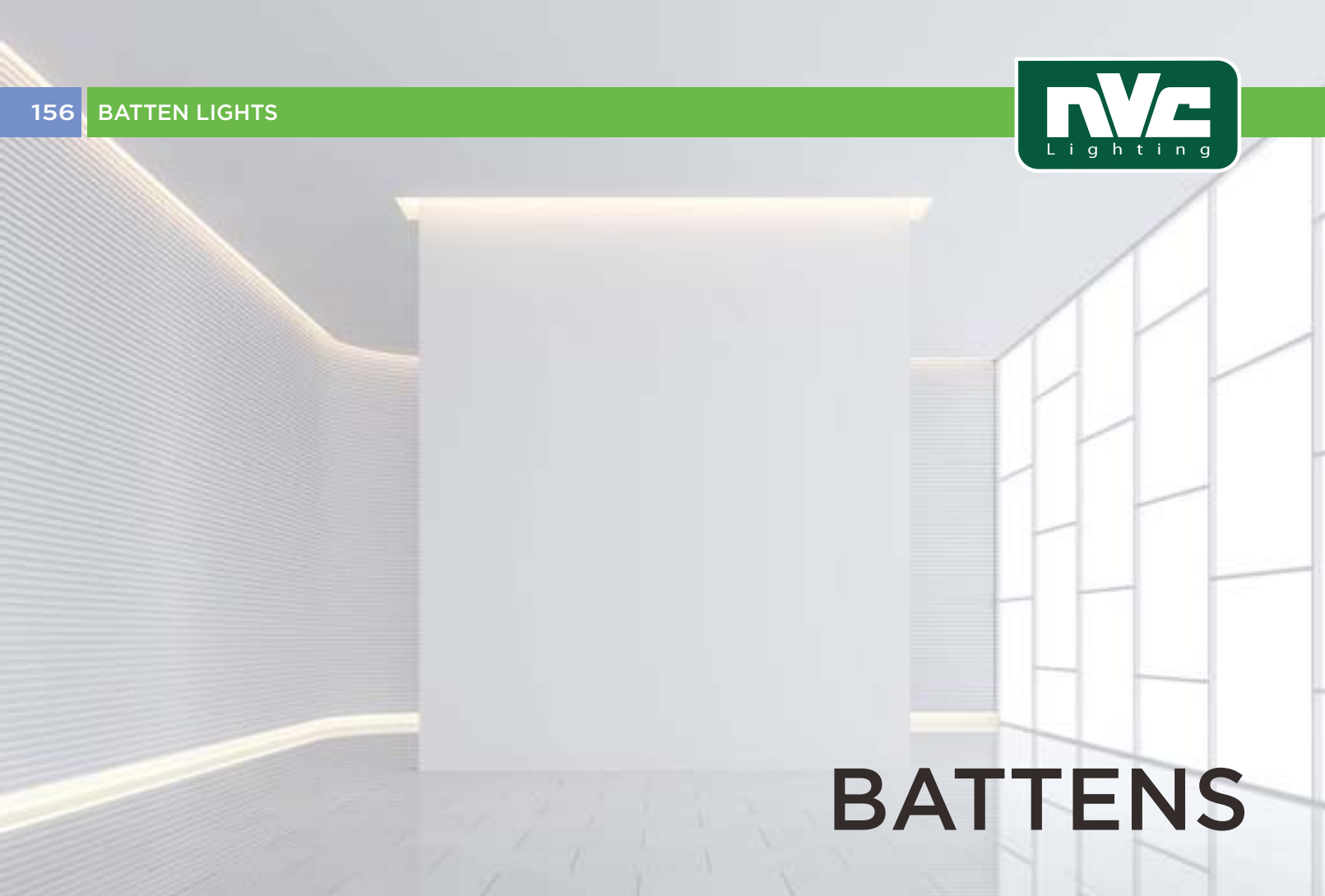
Recessed
Dimensions



Recessed installation effect

Notes: For cutout of variants as above, please contact local distributors for details.





BATTENS



158 NBTLED T5E



159 LED T5G*



160 NBTLED T5P



162 NDL470E



163 NDL480E



164 NLED4811

LED BATTENS RANGE SUMMARY

We have a complete range of battens covering most working areas like residential, commercial, cove lighting, grocery shelves lighting and general area lighting

	T5E PAGE 158	T5G-II PAGE 159	T5GH PAGE 159	T5P PAGE 160	NDL470E PAGE 162	NDL480E PAGE 163	NLED4811 PAGE 164
WATTAGE	LUMEN OUTPUTS						
4	380 lm	280 lm	400 lm	400 lm			
7	665 lm	550 lm	700 lm	700 lm			
9							
10		800 lm	1,000 lm	1,000 lm			
11	1,045 lm						
14	1,330 lm	1,050 lm	1,400 lm	1,400 lm			
18			2,000 lm				
30							
36							
40							
50							
55							
65							
75							
85							
FEATURES	T5E	T5G-II	T5GH	T5P			
Lumen per Watt	95 lm/W	70-80 lm/W	100-110 lm/W	100 lm/W	-	-	-
Colour Temp	3000K 4000K 6500K	3000K 4000K 6500K	3000K 4000K 6500K	3000K 4000K 6500K	-	-	-
Input Voltage	220-240V	110-240V	110-240V	220-240V	220-240V	220-240V	220-240V
Wiring	Double-ended input	Double-ended input	Double-ended input	Double-ended input	-	-	-
Material & Housing	Steel	Aluminium	Aluminium	Plastic	Cold rolled sheet	Cold rolled sheet	Cold rolled sheet
Optical Diffuser	Glass	PC	PC	PC	-	-	-
Lamp Replacable	NO	NO	NO	NO	-	-	-
Protection Class	Class I	Class I	Class I	Class II	Class I	Class I	Class I
Linkable	Yes	Yes	Yes	Yes	No	No	No



NBTLED T5E

Glass battens



APPLICATIONS

- Residential cove lighting
- Small retail stores
- Advertisement lighting

NOTES

- Maximum connection
•8pcs for all wattages

CONSTRUCTION

- SPCC (steel plate cold common) housing by bending and forming processes
- Glass tube with inner nano optical powder coating
- Built-in LED driver included
- Linkable
- Plugs, end caps and installation accessories included

TECHNICAL DETAILS

- SMD LEDs

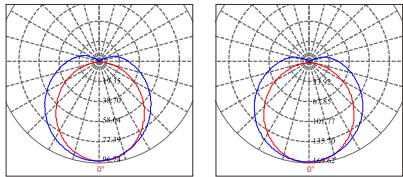
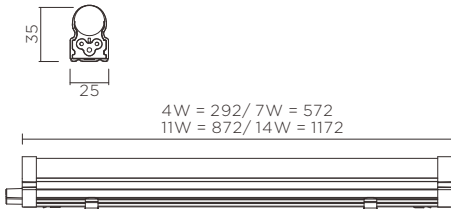
OPTIONS

- **Jumper cable:** Order this as a separate item



Model	Watts	Colour temp.	Lumens	CRI	PF
NBTLED T5E4/03	4W	3000K/4000K/6500K	380 lm	70	0.5
NBTLED T5E7/06	7W	3000K/4000K/6500K	665 lm	70	0.5
NBTLED T5E11/09	11W	3000K/4000K/6500K	1,045 lm	70	0.5
NBTLED T5E14/12	14W	3000K/4000K/6500K	1,330 lm	70	0.5

Accessories	Description
Jumper cable	NBTLED T5E Jumper Cable (3 wires 25CM long)



NBTLED T5E4/03 140° NBTLED T5E7/06 140°



LED T5G series

Slim T5 LED battens for cove lighting



APPLICATIONS

- General commercial use
- Cove lighting
- Residential lighting

TECHNICAL DETAILS

- SMD LEDs
- Standard version (T5G-II):
 - 4W/280 lm, 7W/550 lm, 10W/800 lm, 14W/1,050 lm
- High lumen version (T5GH):
 - 4W/400 lm, 7W/700 lm, 10W/1,000 lm, 14W/1,400 lm, 18W/2,000 lm

CONSTRUCTION

- Aluminium housing
- Opal polycarbonate diffuser
- White powder coated surface treatment
- Built-in driver
- Linkable
- Plugs, end caps and installation accessories included

NOTES

- Maximum connection
•8pcs for 4W, 7W, 10W, and 14W, 5pcs for 18W

OPTIONS

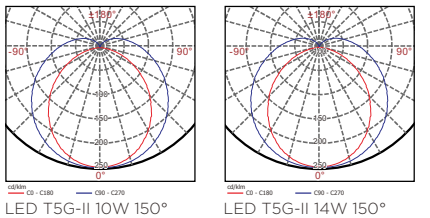
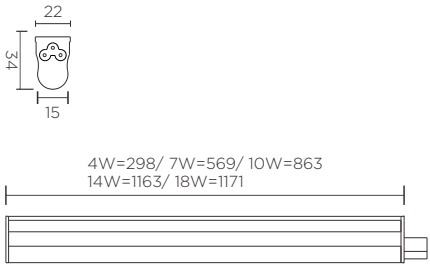
- **Version:**
 - Standard version (T5G-II)
 - High output version (T5GH)
- **Jumper cable:** Order this as a separate item
- **Adjustable bracket:** Order this as a separate item



Model	Colour temp.	Lumens	CRI	PF
Standard version				
LED T5G-II 4W	3000K/4000K/6500K	280 lm	>75	>0.5
LED T5G-II 7W	3000K/4000K/6500K	550 lm	>75	>0.5
LED T5G-II 10W	3000K/4000K/6500K	800 lm	>75	>0.5
LED T5G-II 14W	3000K/4000K/6500K	1,050 lm	>75	>0.5

High output version				
LED T5GH 4W	3000K/4000K/6500K	400 lm	>75	>0.5
LED T5GH 7W	3000K/4000K/6500K	700 lm	>75	>0.5
LED T5GH 10W	3000K/4000K/6500K	1,000 lm	>75	>0.5
LED T5GH 14W	3000K/4000K/6500K	1,400 lm	>75	>0.5
LED T5GH 18W	3000K/4000K/6500K	2,000 lm	>75	>0.5

Accessories	Description
Jumper cable	LED T5G Jumper Cable (3 wires 15CM long)
Adjustable bracket	LED T5G Adjustable Bracket (2 pcs/set)

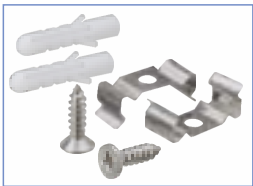


LED T5G-II 10W 150° LED T5G-II 14W 150°



NBTLED T5P

Plastic batten



APPLICATIONS

- General commercial lighting
- Stores
- Cove lighting

TECHNICAL DETAILS

- SMD LEDs

NOTES

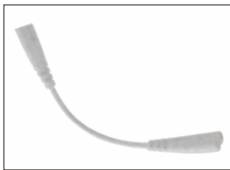
- Maximum connection
•10pcs for all wattages

CONSTRUCTION

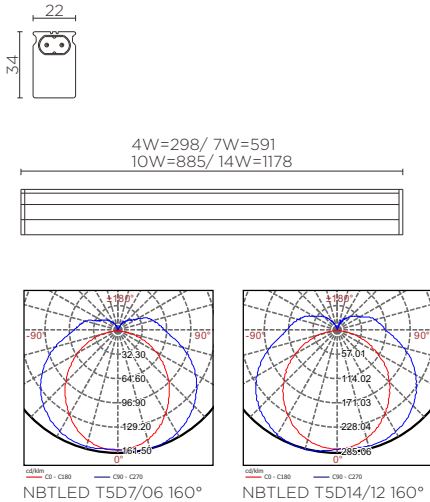
- Plastic housing
- Opal polycarbonate diffuser
- Built-in LED driver included
- Linkable
- Plugs, middle connectors, end caps and installation accessories included

OPTIONS

- Built-in switch version available, use suffix S
- **Jumper cable:** Order this as a separate item



Model	Watts	Colour temp.	Lumens	CRI	PF
Standard version					
NBTLED T5P4/03	4W	3000K/4000K/6500K	400 lm	>70	>0.5
NBTLED T5P7/06	7W	3000K/4000K/6500K	700 lm	>70	>0.5
NBTLED T5P10/09	10W	3000K/4000K/6500K	1,000 lm	>70	>0.5
NBTLED T5P14/12	14W	3000K/4000K/6500K	1,400 lm	>70	>0.5
Switch version					
NBTLED T5PS4/03	4W	3000K/4000K/6500K	400 lm	>70	>0.5
NBTLED T5PS7/06	7W	3000K/4000K/6500K	700 lm	>70	>0.5
NBTLED T5PS10/09	10W	3000K/4000K/6500K	1,000 lm	>70	>0.5
NBTLED T5PS14/12	14W	3000K/4000K/6500K	1,400 lm	>70	>0.5
Accessories					
Jumper cable	NBTLED T5P Jumper Cable (2 wires 20cm long)				





NDL470E

Surface or suspended mounted battens



APPLICATIONS

- Supermarkets
- Schools
- Indoor car parks
- General commercial lighting

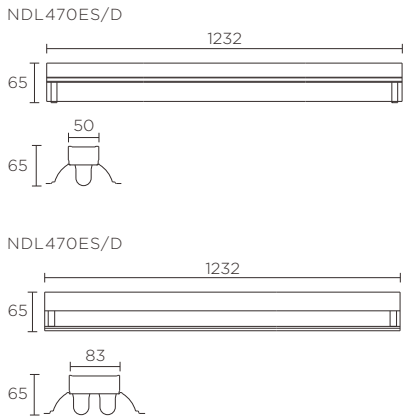
CONSTRUCTION

- Suitable for LED T8 tube (should be ordered this as a separate item)
- Cold rolled sheet body

NOTES

- Installation: Choice of surface mounted or suspended mounted

Model	Description
NDL470ES	Double-end empty battens with cover, suitable for one 1,200mm LED T8 tube
NDL470ED	Single-end empty battens with cover, suitable for one 1,200mm LED T8 tube
NDL470ES	Double-end empty battens with cover, suitable for two 1,200mm LED T8 tube
NDL470ED	Single-end empty battens with cover, suitable for two 1,200mm LED T8 tube



NDL480E

Surface or suspended mounted battens



APPLICATIONS

- Supermarkets
- Schools
- Indoor car parks
- General commercial lighting

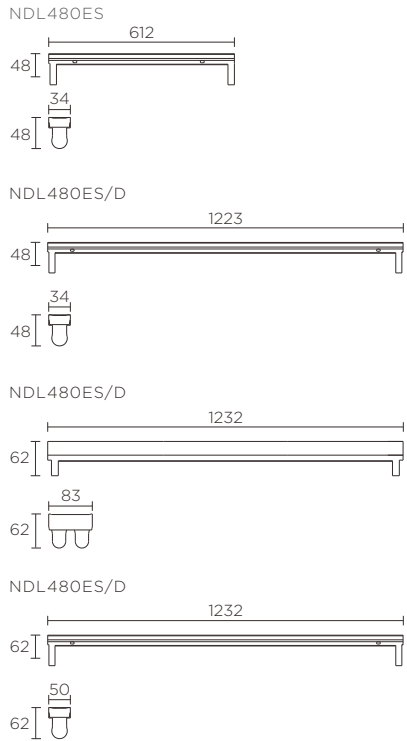
CONSTRUCTION

- Suitable for LED T8 tube (should be ordered this as a separate item)
- Cold rolled sheet body

NOTES

- Installation: Choice of surface mounted or suspended mounted

Model	Description
NDL480ES	Double-end empty battens without cover, suitable for one 600mm LED T8 tube
NDL480ES	Double-end empty battens without cover, suitable for one 1,200mm LED T8 tube
NDL480ED	Single-end empty battens without cover, suitable for one 1,200mm LED T8 tube
NDL480ES	Double-end empty battens without cover, suitable for two 1,200mm LED T8 tube
NDL480ED	Single-end empty battens without cover, suitable for two 1,200mm LED T8 tube
NDL480ES	Double-end empty battens without cover, suitable for two 1,200mm LED T8 tube. (emergency function available for choice)
NDL480ED	Single-end empty battens without cover, suitable for one 1,200mm LED T8 tube emergency function available for choice)





NLED4811

Surface or suspended mounted battens

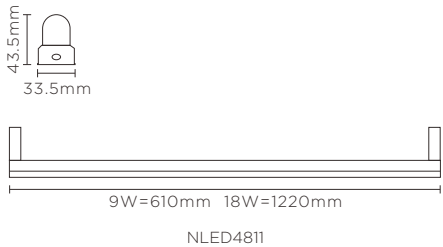


- APPLICATIONS**
- Supermarkets
 - Schools
 - Indoor car parks
 - General commercial lighting

- CONSTRUCTION**
- Suitable for LED T8 tube (should be ordered this as a separate item)
 - Cold rolled sheet body

- NOTES**
- Installation: Choice of surface mounted or suspended mounted

Model	Description
NLED4811 9W	Empty battens, suitable for one 588mm LED T8 tube
NLED4811 18W	Empty battens, suitable for one 1,198mm LED T8 tube





COMMON AREA LIGHTS



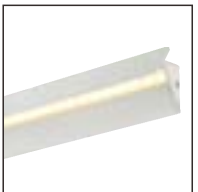
168 NPXLED1008



171 NWLED1001



171 NWLED1002



172 NWLED1003



173 NWLED1004



174 NSPLED1001



LED COMMON AREA LIGHTS RANGE SUMMARY

	NPXLED1008 PAGE 168	NWLED1001 PAGE 171	NWLED1002 PAGE 171	NWLED1003 PAGE 172	NWLED1004 PAGE 173	NSPLED1001 PAGE 174
						
WATTAGE	LUMEN OUTPUTS					
1.5						90 lm
3				102 lm		
3.5						175 lm
4.5						115 lm
6		440 lm	440 lm	198 lm	149 lm	
7						270 lm
10						
12	700 lm			390 lm		
18	1,100 lm			590 lm		
20						
22						
24						
27						
FEATURES	NPXLED1008	NWLED1001	NWLED1002	NWLED1003	NWLED1004	NSPLED1001
IP Rating	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Colour Temp	3000K 4000K 6500K	3000K	3000K	3000K	3000K	3000/4000
Material	Steel + acrylic	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Angle	Fixed	Fixed	Fixed	Adjustable	Adjustable	Fixed
Colour	White	Black/White	Black/White	Black/White	Black/White	White
Input Voltage	220-240V	110-240V				220-240V/ 220-240V



NPXLED1008

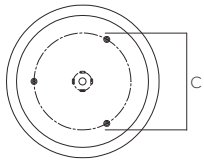
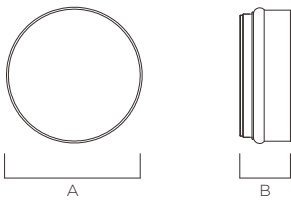
Circular LED ceiling lights



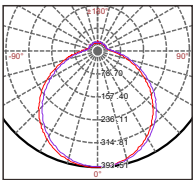
- APPLICATIONS**
- Residences
 - Corridors
 - Balconies
 - Hotels
 - Exhibition halls
 - Restaurants
 - Storerooms

- CONSTRUCTION**
- Steel base and acrylic diffuser
 - Built-in driver constant current driver included

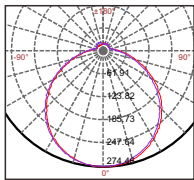
- TECHNICAL DETAILS**
- SMD LEDs



Watts	A	B	C
12W	Ø270	88	185
18W	Ø340	95	250
24W	Ø400	105	267



NPXLED1008 18W 120°



NPXLED1008 24W 120°

Model	Colour temp.	Lumens	CRI	PF
NPXLED1008 12W	3000/4000/6500K	700 lm	>70	>0.5
NPXLED1008 18W	3000/4000/6500K	1,100 lm	>70	>0.5
NPXLED1008 24W	3000/4000/6500K	1,400 lm	>70	>0.5





NWLED1001/1002

LED surface wall lights



NWLED1001



NWLED1002



APPLICATIONS

- Paths and gardens
- Building perimeters

TECHNICAL DETAILS

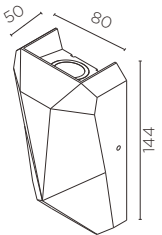
- COB LED

CONSTRUCTION

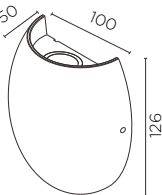
- Aluminium housing
- White or black powder coated finish
- Built-in driver included

OPTIONS

- **IP rate:** Choice of IP20

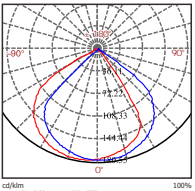


NWLED1001

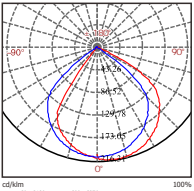


NWLED1002

Model	Colour temp.	Lumens	CRI	IP
NWLED1001 6W	3000K	440 lm	>80	20
NWLED1002 6W	3000K	440 lm	>80	20



NWLED1001 6W



NWLED1002 6W



NWLED1003

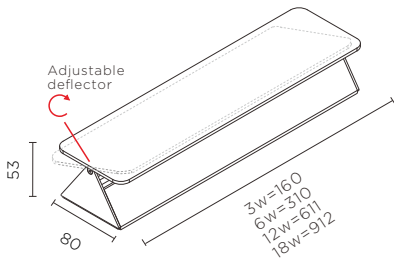
Adjustable LED surface wall lights



- APPLICATIONS**
 - Public areas in hotels and offices etc.
 - Restaurants
- CONSTRUCTION**
 - Aluminium housing with white or black powder coated finish
 - Built-in driver included
 - Adjustable deflector: The deflector is adjustable to control glare and allow the light distribution to be altered to suit the installation

- TECHNICAL DETAILS**
- HP LEDs

Model	Colour temp.	Lumens	CRI
NWLED1003 3W	3000K	102 lm	>80
NWLED1003 6W	3000K	198 lm	>80
NWLED1003 12W	3000K	390 lm	>80
NWLED1003 18W	3000K	590 lm	>80



NWLED1004

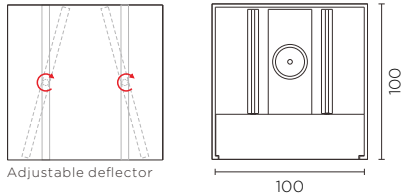
Adjustable LED surface wall lights



- APPLICATIONS**
 - Home
 - Restaurants
 - Exhibitions
- CONSTRUCTION**
 - Aluminium housing with white or black powder coated finish
 - Double-ended construction giving up and down light
 - Movable internal deflector allows the beam angle to be adjusted.
 - Narrow beam up, wide beam down
 - Wide beam up, narrow beam down
 - Medium beam up and down
 - Built-in driver included

- TECHNICAL DETAILS**
- COB LEDs

Model	Colour temp.	Lumens	CRI
NWLED1004 4W	3000K	149 lm	>80





NSPLED100 Series

Indoor stairs lights



NSPLED1001



NSPLED1002



NSPLED1003



NSPLED1004



APPLICATIONS

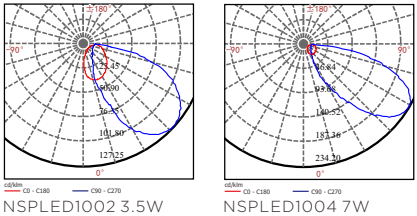
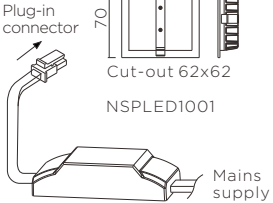
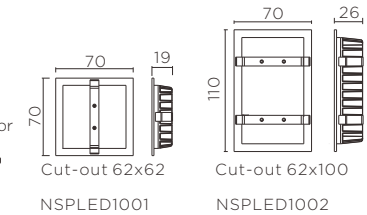
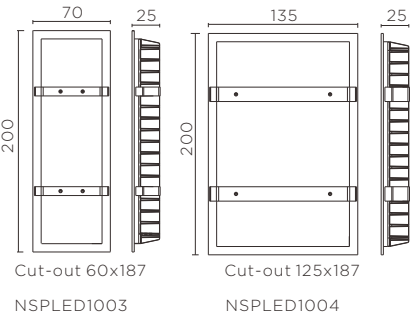
- Hotels
- Shopping malls
- Offices
- Residential areas
- Exhibition halls

CONSTRUCTION

- Construction material: Aluminium alloy and glass
- Body colour: White
- Electroplated aluminium reflector
- Separate driver included

TECHNICAL DETAILS

- SMD LEDs
- Input: 110-240V for 1.5W, 3.5W and 4.5W, 220-240V for 7W



Model	Colour temp.	Lumens	CRI	PF
NSPLED1001 1.5W	3000K/4000K	90 lm	>80	>0.4
NSPLED1002 3.5W	3000K/4000K	175 lm	>80	>0.4
NSPLED1003 4.5W	3000K/4000K	115 lm	>80	>0.4
NSPLED1004 7W	3000K/4000K	270 lm	>80	>0.4





LED LAMPS



178 LED T8E



179 LED MR16*



180 LED MR16I
LED GU10I



181 LED MR16L
LED GU10L



182 LED CLE/CLLE



183 LED A45



184 LED A45-EE
LED A60I-EE
LED A70I-EE



185 LED A50N
LED A60N
LED A65N



186 LED QR111D
LED QR111E



LED LAMPS RANGE SUMMARY

We have various types of LED lamps which can be used in most LED fittings, such as batten lights, spot lights or the residential lighting etc.

	T8E PAGE 178	MR16- B/C/H PAGE 179	MR16I GU10I PAGE 180	MR16L GU10L PAGE 181	CLEC LLE PAGE 182	A45 PAGE 183	A45-EE A60I-EE A70I-EE PAGE 184	A50N A60N A65N PAGE 185	QR111D QR111E PAGE 186
WATTAGE									
1									
2									
3					300 lm	240 lm	270 lm	300 lm	
4			220 lm		360 lm	310 lm			
5			270 lm		440 lm	370 lm	450 lm	480 lm	
6			330 lm	520 lm	580 lm				
7				520 lm			680 lm	700 lm	
8									
9	900 lm						900 lm	900 lm	
10							1,000 lm		
11									
12							1,200 lm	1,200 lm	850 lm
14							1,400 lm		
15								1,500 lm	950 lm
18	1800 lm	2000 lm							
20									1300 lm
FEATURES	T8E	MR16- B/C/H	MR16I GU10I	MR16L GU10L	CLEC LLE	A45	A45-EE A60I-EE A70I-EE	A50N A60N A65N	QR111D QR111E
Lumen per Watt	100 lm/W	55 lm/W	70 lm/W	80 lm/W	80 lm/W	80 lm/W	90 lm/W	90 lm/W	70 lm/W
Colour Temp	2700K 3000K 4000K 6500K	2700K 3000K 4000K 6500K	2700K 3000K 4000K 6500K	2700K 3000K 4000K 6500K	2700K 3000K 4000K 6500K	2700K 3000K 4000K 6500K	3000K 4000K 6500K	3000K 4000K 6500K	3000K 4000K 6000K
Input Voltage	220-240V	DC/AC12V	DC/AC12V 110-240V	DC/AC12V 110-240V	DC/AC12V 110-240V	110-240V	220-240V	220-240V	DC/AC12V 220-240V
Wiring	all- ended input								
Material	Glass	Aluminium	Polycar- bonate coated aluminium	Polycar- bonate coated aluminium	Polycar- bonate coated aluminium	Plastic	Polycar- bonate coated aluminium	Polycar- bonate coated aluminium	Aluminium
Optical Diffuser	Glass	PC	PC	PC	PC	PC	PC	PC	PC



LED T8E

Standard LED tubes for general lighting



APPLICATIONS

- Ideal solution for replacement of traditional fluorescent tubes in schools, offices, supermarkets and rail stations

TECHNICAL DETAILS

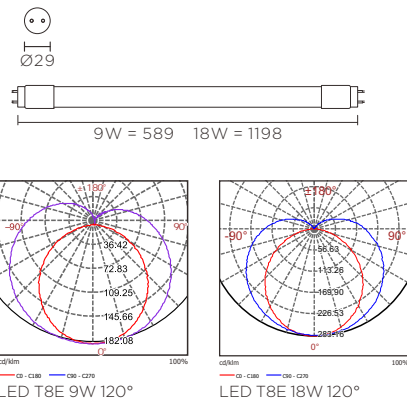
- SMD 2835

CONSTRUCTION

- Glass body with plastic external light diffusion film
- Built-in constant current LED driver included
- Safe to install. Input is via any two pins and the other pins are automatically isolated

OPTIONS

- Not suitable for use in sealed fittings



Model	Colour temp.	Lumens	CRI	PF
LED T8E 9W	2700K/3000K/4000K/6500K	940 lm	>70	>0.9
LED T8E 18W	2700K/3000K/4000K/6500K	1,800 lm	>70	>0.9



LED MR16B/C/H

LED lamps with GX5.3 base and aluminium body



APPLICATIONS

- Suitable for use in fittings with a GX5.3 lamp holder

OPTIONS

- **Dimming:** Fixed output as standard, but mains dimmable versions are available for use with suitable phase-cutting dimmers. If required, add suffix MD when ordering

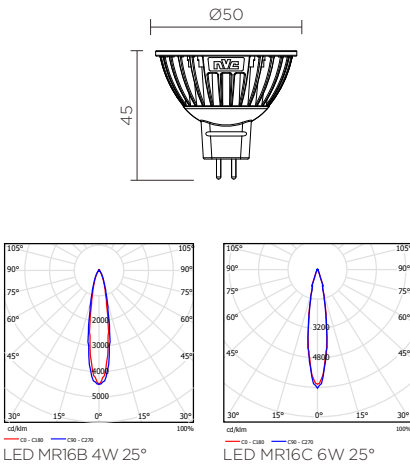
CONSTRUCTION

- GX5.3 base
- Die-cast aluminium housing
- Anodized surface treatment
- Dimmable version complete with dimmable driver
- Built-in constant current LED driver included

TECHNICAL DETAILS

- COB LED for MR16B, high power LEDs for MR16H/C

Model	Colour temp.	Lumens	Dimmable	CRI	PF
LED MR16B 4W	3000K/4000K/6000K	220 lm	NO	>80	>0.75
LED MR16B DIM 4W	3000K/4000K/6000K	220 lm	YES	>80	>0.75
LED MR16H 5W	3000K/4000K/6000K	270 lm	NO	>80	>0.75
LED MR16C 6W	3000K/4000K/6000K	330 lm	NO	>80	>0.75
LED MR16C DIM 6W	3000K/4000K/6000K	310 lm	YES	>80	>0.75





MR16I/GU10I

PC coated aluminium housing LED lamps, ideal replacement for traditional spotlight



GX5.3 base (Class III)

GU10 base (Class II)



APPLICATIONS

- Suitable for use in fittings with either a GX5.3 or GU10 lamp holder

TECHNICAL DETAILS

- High Power LEDs

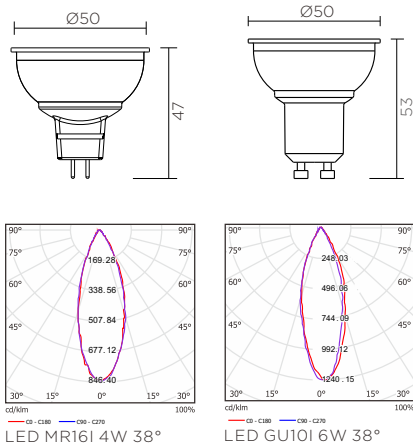
CONSTRUCTION

- Polycarbonate coated aluminium housing
- Built-in constant current LED driver included
- Dimmable version complete with dimmable driver

OPTIONS

- Beam angle: Choice of 24° or 38°
- **Dimming:** Fixed output as standard, but mains dimmable versions are available for use with suitable phase-cutting dimmers. If required, add suffix MD when ordering

Model	Colour temp.	Lumens	Input	Dimmable	CRI	PF	Beam angle
LED MR16I 3W	2700K/3000K/4000K/6500K	220lm	AC/DC12V	NO	>80	>0.75	24°/38°
LED MR16I 4W	2700K/3000K/4000K/6500K	360lm	AC/DC12V	NO	>80	>0.75	24°/38°
LED MR16I 5W	2700K/3000K/4000K/6500K	440lm	AC/DC12V	NO	>80	>0.75	24°/38°
LED MR16I 4W	2700K/3000K/4000K/6500K	360lm	110-240V	NO	>80	>0.75	24°/38°
LED MR16I 6W	2700K/3000K/4000K/6500K	500lm	110-240V	NO	>80	>0.75	24°/38°
LED GU10I 3W	2700K/3000K/4000K/6500K	300lm	110-240V	NO	>80	>0.75	24°/38°
LED GU10I 4W	2700K/3000K/4000K/6500K	360lm	110-240V	NO	>80	>0.75	24°/38°
LED GU10I 6W	2700K/3000K/4000K/6500K	580lm	110-240V	NO	>80	>0.75	24°/38°
LED GU10I DIM 6W	2700K/3000K/4000K/6500K	550lm	220-240V	YES	>80	>0.75	24°/38°



LED MR16L / GU10L

LED lamps with GX5.3/GU10 base



GX5.3 base (Class III)

GU10 base (Class II)



APPLICATIONS

- Suitable for use in fittings with a GX5.3/GU10 lamp holder

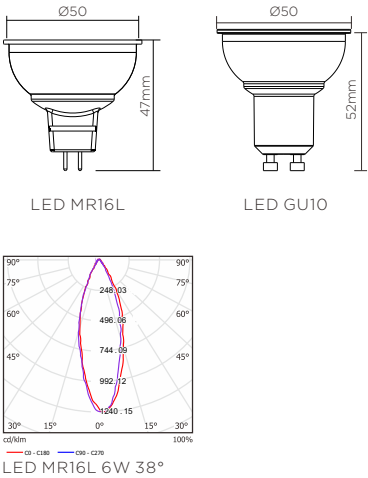
CONSTRUCTION

- GX5.3/GU10 base
- Polycarbonate coated aluminium housing
- Anodized surface treatment
- Dimmable version complete with dimmable driver
- Built-in LED driver included

TECHNICAL DETAILS

- COB LED
- CRI >80
- PF >0.75
- CCT: 2700K, 3000K, 4000K or 6500K

Model	Color temp.	Lumens	Input	Dimmable	CRI	PF	Beam angle
LED MR16L 6W	2700K/3000K/4000K/6500K	520 lm	AC/DC12V/110-240V	NO	>80	>0.75	38°
LED GU10L 7W	2700K/3000K/4000K/6500K	520 lm	110-240V	NO	>80	>0.75	38°
LED GU10LD 7W	2700K/3000K/6500K	520 lm	220-240V	YES	>80	>0.75	38°





LED CLE/CLLE

Convenient replacement for CFL and incandescent lamps with E14 base



CLE E14 CLLE E14



APPLICATIONS

- To replace conventional candle lamps in fittings with E14 lampholders

TECHNICAL DETAILS

- SMD LEDs

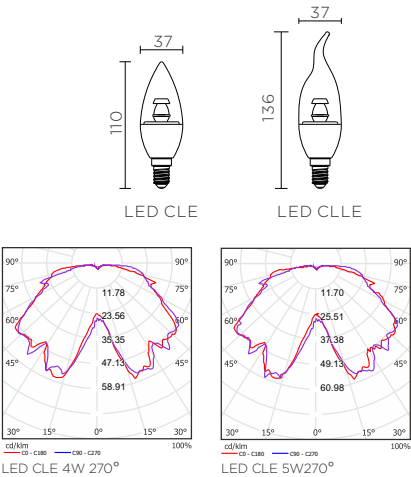
CONSTRUCTION

- Plastic coated aluminium housing
- Built-in constant current LED driver included

OPTIONS

- Dimming: Fixed output as standard, but mains dimmable versions are available for use with suitable phase-cutting dimmers. If required, add suffix MD when ordering.
 - 110-240V: Standard version
 - 220-240V: Dimmable version

Model	Colour temp.	Lumens	Input	CRI	PF
LED CLE 3W	2700K/3000K/4000K/6500K	240lm	110-240V	>80	>0.7
LED CLE 4W	2700K/3000K/4000K/6500K	310lm	110-240V	>80	>0.7
LED CLE 5W	2700K/3000K/4000K/6500K	370lm	110-240V	>80	>0.7
LED CLE DIM 5W	2700K/3000K/4000K/6500K	370lm	220-240V	>80	>0.7
LED CLLE 3W	2700K/3000K/4000K/6500K	240lm	110-240V	>80	>0.7
LED CLLE 4W	2700K/3000K/4000K/6500K	310lm	110-240V	>80	>0.7
LED CLLE 5W	2700K/3000K/4000K/6500K	370lm	110-240V	>80	>0.7
LED CLLE DIM 5W	2700K/3000K/4000K/6500K	370lm	220-240V	>80	>0.7



LED A45

LED lamps with a choice of E27 or E14 bases



APPLICATIONS

- To replace incandescent and CFL lamps in fittings with E14 lampholders

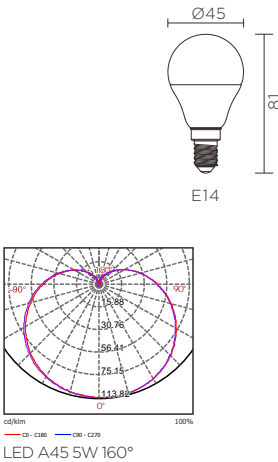
CONSTRUCTION

- Plastic housing for 3W
- Plastic coated aluminium housing for 5W
- Built-in constant current LED driver included

TECHNICAL DETAILS

- SMD LEDs

Model	Colour temp.	Lumens	Base	CRI	PF
LED A45 3W	2700K/3000K/4000K/6000K	240 lm	E14	>80	>0.5
LED A45 5W	2700K/3000K/4000K/6000K	400 lm	E14	>80	>0.5





LED A45-EE/A60I-EE/A70I-EE

Economical LED lamps with E27 base



E27

E27



APPLICATIONS

- For use in fittings with E27 lampholders
- To replace incandescent and CFL lamps

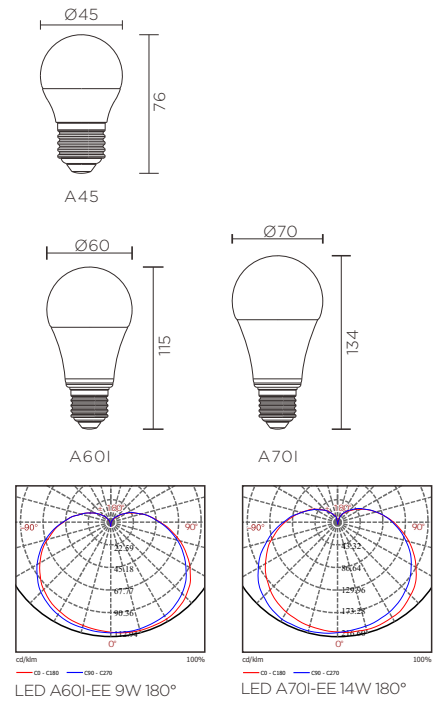
CONSTRUCTION

- Plastic coated aluminium housing
- Built-in constant current LED driver included
- Easy identification of colour temperature by coloured lamp base

TECHNICAL DETAILS

- SMD LEDs

Model	Colour temp.	Lumens	Input	CRI	PF
LED A45-EE 3W	3000K/4000K/6500K	270 lm	220-240V	>80	>0.5
LED A45-EE 5W	3000K/4000K/6500K	450 lm	220-240V	>80	>0.5
LED A60I-EE 7W	3000K/4000K/6500K	680 lm	220-240V	>80	>0.5
LED A60I-EE 9W	3000K/4000K/6500K	900 lm	220-240V	>80	>0.5
LED A60I-EE 10W	3000K/4000K/6500K	1000 lm	220-240V	>80	>0.5
LED A60I-EE 12W	3000K/4000K/6500K	1200 lm	220-240V	>80	>0.5
LED A70I-EE 14W	3000K/4000K/6500K	1400 lm	220-240V	>80	>0.5



LED A50N/A60N/A65N

Economical LED lamps



A50
3W/5W

A60
7W/9W

A60
12W

A65
15W



APPLICATIONS

- For use in fittings with E27 lampholders
- To replace incandescent and CFL lamps

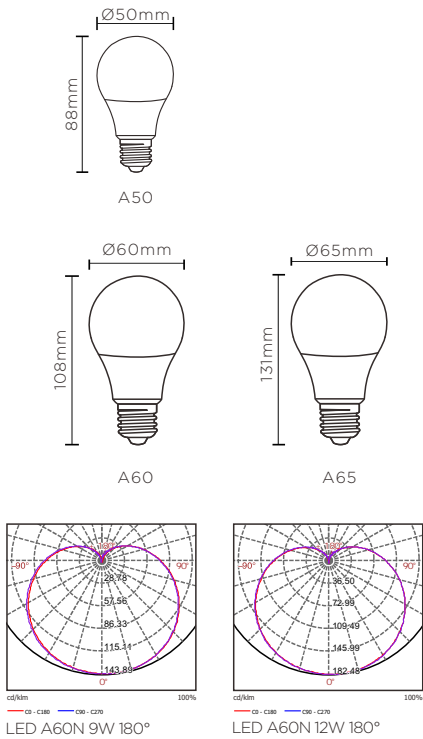
CONSTRUCTION

- Plastic coated aluminium housing
- Built-in constant current LED driver
- Easy identification of colour temperature by coloured lamp base

TECHNICAL DETAILS

- SMD LEDs

Model	Colour temp.	Lumens	Input	CRI	PF
LED A50N 3W	3000K/4000K/6500K	260/280/300 lm	220-240V	>80	>0.5
LED A50N 5W	3000K/4000K/6500K	420/440/480 lm	220-240V	>80	>0.5
LED A60N 7W	3000K/4000K/6500K	600/650/700 lm	220-240V	>80	>0.5
LED A60N 9W	3000K/4000K/6500K	800/850/900 lm	220-240V	>80	>0.5
LED A60N 12W	3000K/4000K/6500K	1100/1150/1200 lm	220-240V	>80	>0.5
LED A65N 15W	3000K/4000K/6500K	1380/1440/1500 lm	220-240V	>80	>0.5





LED QR111D/QR111E

LED lamps to replace traditional QR111 lamps with a G53 base



APPLICATIONS

- For use in fittings designed for QR111 lamps with a G53 lampholder

OPTIONS

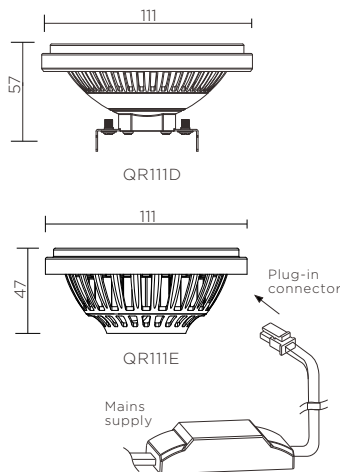
- Dimming: Fixed output as standard, but mains dimmable versions are available for use with suitable phase-cutting dimmers. If required, add suffix MD when ordering

TECHNICAL DETAILS

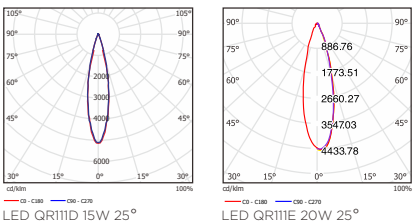
- High power LEDs
- Available in two versions:
 - QR111E, with separate driver for 220-240V power supply
 - 20W non-dimmable
 - 20W dimmable
- QR111D, with integral driver and G53 base
- 15W non-dimmable
- 12W dimmable

CONSTRUCTION

- Die-cast aluminium housing
- Anodized surface treatment
- PC lens
- Dimmable version complete with dimmable driver



Model	Colour temp.	Lumens	Input	Dimmable	CRI	PF
LED QR111D 15W	3000K/4000K/6000K	950 lm	AC/DC12V	NO	>80	>0.9
LED QR111D DIM 12W	3000K/4000K/6000K	850 lm	AC/DC12V	YES	>80	>0.9
LED QR111E 20W	3000K/4000K/5700K	1,300 lm	220-240V	NO	>80	>0.9
LED QR111E DIM 20W	3000K/4000K/5700K	1,300 lm	220-240V	YES	>80	>0.9





LED STRIPS

LED STRIP LIGHTS

The recessed linear can be lighting in the interior and exterior areas

	LED R2835/5050 PAGE 189	LED 5050 PAGE 190	LED N2835/5050 PAGE 191	NFSLED2835-60P/IP65 PAGE 192
WATTAGE	LUMEN OUTPUTS			450 lm
3.5/m				
4.8	350 lm			
9		550/650/600 lm		
12		700 lm		
14.4	750/900 lm			
FEATURES	LED R2835/5050	LED 5050	LED N2835/5050	NFSLED2835-60P/IP65
Colour Temp	2700/3000k/4000/6500k/RG	2700/3000k/4000/6500k/RG	W/WW/R/Y/B/G/A/P/RG	3000k/4000/6500k
Input Voltage	12V	220-240V	220-240V	170-240V
Material	Silicon	FPL (Flexible printed circuit)	Silicon	PVC (polyvinyl chloride)



LED R2835/5050

Slim & flexible LED strip lights



APPLICATIONS

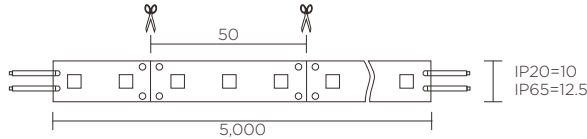
- Cove lighting
- Cornice lighting
- Corridors
- Patios
- Pergolas

CONSTRUCTION

- For use with 12V constant voltage driver
- 5m/roll with no driver

TECHNICAL DETAILS

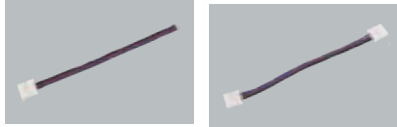
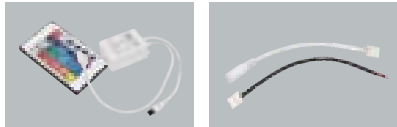
- Choice of SMD 2835 or 5050 LEDs
- Can be cut every 50mm



OPTIONS

- **IP rating:** Choice of IP20 or IP65
- **Colour:** Choice of white (with different CCTs), red, green, blue or yellow or RGB.
- For other wattages and outputs please enquire for details
- A wide range of accessories is available as listed below

Model	Colour temp.	Lumens/m	Watts/m	IP	CRI
LED R2835E/60P	2700K/3000K/4000K/6500K	350lm	4.8W	20/65	>80
LED R5050E/60P	2700K/3000K/4000K/6500K	750lm	14.4W	20/65	>80
LED R2835/60P	2700K/3000K/4000K/6500K	350lm	4.8W	20/65	>80
LED R5050/60P	2700K/3000K/4000K/6500K	900lm	14.4W	20/65	>80
LED R5050/60P	RGB	—	14.4W	20/65	>80
LED R5050/60P	R	—	14.4W	20/65	>80
LED R5050/60P	G	—	14.4W	20/65	>80
LED R5050/60P	B	—	14.4W	20/65	>80
LED R5050/60P	Y	—	14.4W	20/65	>80





LED 5050

Double-row high voltage, high output LED strip lights



APPLICATIONS

- Cove lighting
- Cornice lighting
- Corridors
- Patios
- Pergolas

CONSTRUCTION

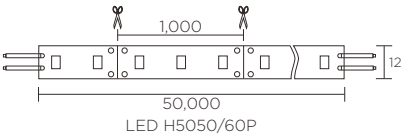
- Flame retardant PVC sleeve
- 50 meters per roll (one IP20 driver included)

NOTES

- No more than 35 meters for one LED driver

OPTIONS

- **Colour:** Choice of white (2700K, 3000K, 4000K or 6500K) or RGB



Model	Colour temp.	Lumens/m	Watts/m	CRI
LED H5050/60P	2700K/3000K/4000K/6500K	550lm	9W	>60
LED H5050/60P	R/G/B/Y	—	9W	>60



Easy middle connector



End-cap



Mounting clip



LED Neon flex single color driver 220V



LED N2835/5050

Coloured LED strip with diffused lights



APPLICATIONS

- Building decoration
- Highlighting architectural features
- Corridors and walkways
- Decorative garden lighting

TECHNICAL DETAILS

- SMD LEDs
- PVC opal jacket
- 8w/m, 50m/roll
- Available in white, warm white, red, yellow, blue, green, amber, pink and RGB
- High voltage (220-240v) and low voltage (DC24V) available

Model	Colour temp.	Input	Watts/m
LED N2835/126P	W/WW/R/Y/B/G/A/P	24V	8W
LED N2835/120P	W/WW/R/Y/B/G/A/P	220-240V	8W
LED N5050/126P	RGB	24V	8W
LED N5050/120P	RGB	220-240V	8W

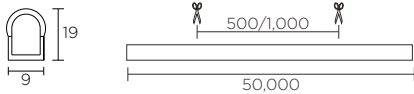
CONSTRUCTION

- 220-240V version:
 - Flame retardant PVC sleeve
 - 50 meters per roll (one IP20 driver included)
- DC24V version:
 - With 24V constant voltage driver
 - Five meters per roll (driver is not included)

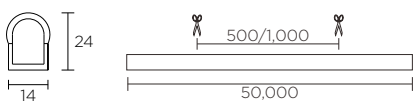
OPTIONS

- 220-240V/24V for choice
- 220-240V version not more than 30 meters for one LED driver
- 220-240V version can be cut every 1,000mm
- DC24V version can be cut every 500mm

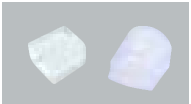
Single color



RGB



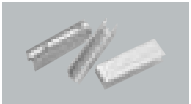
- RGB color middle connector
- Single color middle connector
- Single color mounting pins(2 pins)
- RGB color mounting pins(4 pins)



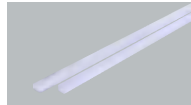
- Single color end cap
- RGB color end cap



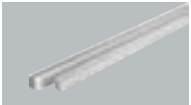
- Single color PC mounting clip
- RGB color PC mounting clip



- Single color aluminium mounting clip 60mm
- RGB color aluminium mounting clip 60mm



- Single color PVC mounting channel (H19xW10xL2000mm)
- RGB color PVC mounting channel (H19xW14xL2000mm)



- Single color aluminium mounting channel (H19xW14xL1000mm)
- RGB color aluminium mounting channel (H19xW14xL1000mm)



- LED Neon flex single color driver 220V
- LED Neon flex RGB color easy controller



- RGB infrared controller and remove



NFSLED2835-60P/IP65

IP65, high luminaire efficiency, non-flicking LED strip lights

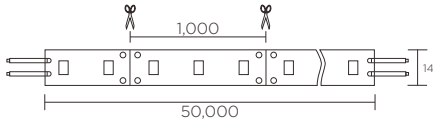


- APPLICATIONS**
- Building lighting/decoration
 - Shopping malls
 - Restaurants/Hotels/Cafes
 - Villas/Gardens
 - Tunnels lighting
 - Interior/Exterior important projects

- CONSTRUCTION**
- Dedicated strip drivers (should be ordered as a separate item)
 - Flame retardant anti-aging PVC
 - Quality anti-sulfuration processed LEDs
 - 2835 SMD LEDs, 60pcs/m

- TECHNICAL DETAILS**
- High luminaire efficiency, 120lm/w
 - Energy saving over 50% compared with common LED strips
 - Low flicker for a comfortable visual effect
 - Constant voltage & current output drivers, PF>0.95, with intelligent protection function
 - Even luminaire output from the initial to the ending for 100-meter strip
 - Convenient installation, only one dedicated 400w driver needed for 100-meter strip

- Options**
- Choice of connection types, middle connectors
 - Choice of installation methods, end-caps, clips



Model	Colour temp.	Lumens	Watts/m	CRI	PF
NFSLED2835-60P/IP65	3000K/4000K/6500K	450 lm/m	3.5W	>80	>0.95

Dedicated drivers	Input	Output	PF	Adapted NFSLED2835/60P/IP65
NDRLED-DV2002-100W/IP65	170-275V	190V	>0.95	1-25m
NDRLED-DV2003-200W/IP65	170-275V	190V	>0.95	10-50m
NDRLED-DV2004-400W/IP65	170-275V	190V	>0.95	20-100m





EMERGENCY LIGHTS

LS-BLZD series

LED emergency exit signs



APPLICATIONS

- Cinemas
- Aisles
- Tunnels
- Railway stations
- Public areas

CONSTRUCTION

- Aluminium alloy frame and glass cover
- Use triple electric wire
- Nickel-cadmium battery
- Special integrated circuits for emergency lights
- Full-automatic examination and sound-light alarm function
- 3 indicator light status: lighting under main power, charging and fault (sound-light alarm)

TECHNICAL DETAILS

- Wattages: 3W
- Switch time to emergency power: <5s
- Lighting time in emergency: 90min
- Battery Specification: 1.2V/800mAh
- IP rate: IP30



195 LS-BLZD

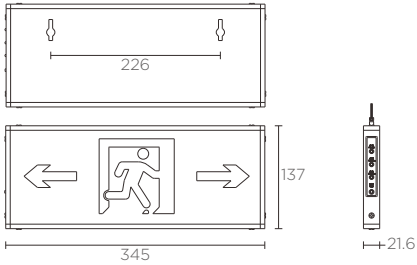


196 LS-ZFZD



197 LS-ZLZD

Model	Picture	description	Single/double side	Installation
LS-BLZD-2LROE I 3WGA/XFB-LRBGGAD		Left & Right	Double	Suspended
LS-BLZD-2LROE I 3WGA/XFB-LBGGAD		Left	Double	Suspended
LS-BLZD-1LROE I 3WGA/XFB-LAGGAD		Left	Single	Surface wall mounted
LS-BLZD-1LROE I 3WGA/XFB-RAGGAD		Right	Single	Surface wall mounted
LS-BLZD-1LROE I 3WGA/XFB-OAGGAD		Exit	Single	Surface wall mounted
LS-BLZD-2LROE I 3WGA/XFB-OAGGAD		Exit	Double	Suspended





LS-ZFZD

LED double head emergency lights

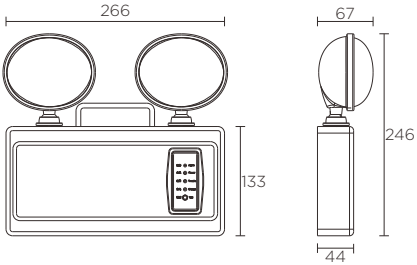


- APPLICATIONS**
- Cinemas
 - Aisles
 - Tunnels
 - Railway stations
 - Public areas

- CONSTRUCTION**
- Steel body and glass lamp cover
 - Use triple electric wire
 - Nickel-cadmium battery
 - Special integrated circuits for emergency lights
 - Full-automatic examination and sound-light alarm function
 - 3 indicator light status: lighting under main power, charging and fault (sound-light alarm)

- TECHNICAL DETAILS**
- Wattages: 3W
 - Switch time to emergency power: <5s
 - Lighting time in emergency: 90min
 - Battery Specification: 1.2V/800mAh
 - IP rate: IP30

Model	description	Installation
LS-ZFZD-E3WSA/XFZ-Y3SSAD	Double head emergency light	Suspended



LS-ZLZD series

LED emergency ceiling lights

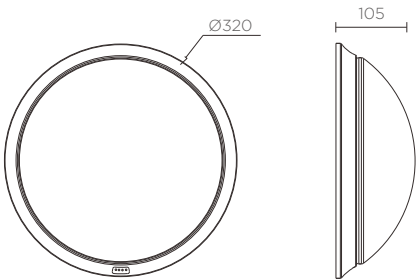


- APPLICATIONS**
- Cinemas
 - Aisles
 - Tunnels
 - Reilway stations
 - Public areas

- CONSTRUCTION**
- Spraying plastics body and flame retardant plastic cover
 - Nickel-cadmium battery
 - Special integrated circuits for emergency lights
 - Full-automatic examination and sound-light alarm function
 - 3 status of indicator light: lighting under main power, charging and fault (sound-light alarm)
 - Integrated design (indicator light, test switch, driver and emergency battery in one fitting)

- TECHNICAL DETAILS**
- Wattages: 3W
 - Switch time to emergency power: <5s
 - Lighting time in emergency: 90min
 - Battery Specification: 1.2V/800mAh
 - IP rate: IP30

Model	Wattages	Installation
LS-ZLZD-E24WXA	24W	Surface
LS-ZLZD-E18WXB	18W	Surface
LS-ZLZD-E12WXC	12W	Surface
LS-ZLZD-E8WXD	8W	Surface





200 EM002



200 EM001



201 EM003



202 NLED-DV100* IP20



202 NLED-DV100* IP20



203 NLED-DV110* IP65



204 NLED-DV10* IP20



204 NLED-DV10* IP20



LED DRIVERS RANGE SUMMARY

Suit for the low-voltage strip or other emergency kits

	NLED EM00* PAGE 200	NLED EM003 PAGE 201	NLED-DV100*IP20 PAGE 202	NLED-DV110*IP65 PAGE 203	NLED-DV10*IP20 PAGE 204
WATTAGE					
2.4	✓				
4		✓			
5	✓				
12					✓
20				✓	
24					✓
30			✓	✓	
36					✓
50			✓		
60				✓	✓
72					✓
80			✓		
100			✓	✓	
150			✓	✓	
200			✓	✓	
240			✓	✓	
300			✓		
350			✓		
FEATURES	NLED EM00*	NLED EM003	NLED-DV110*IP20	NLED-DV110*IP65	NLED-DV110*IP20
IP Rating	IP 20	IP 20	IP 20	IP 65	IP 20
Input Voltage	220-240V	220-240V	110-240V	110-240V	110-240V
Output Voltage	10-60V	10-60V	12/24V	24V	12/24V
Material	Steel	Plastic	Metal	Plastic	Plastic



NLED EM00 series

Emergency conversion kits suitable for use on almost any LED luminaire with a separate driver



APPLICATIONS

- For use on a wide range of LED fittings to convert them from standard to maintained emergency operation
- The standard (mains powered) driver is retained in the circuit, so this unit is only suitable if access to the driver is available

TECHNICAL DETAILS

- Available in two sizes, two wattages and two battery capacities:
- Size: Choice of two, as pictured
- Wattages: 5W or 2.4W
- Battery capacity: Two options to give 180 or 90 minute duration
- Forward voltage: For use with LED products with a Vf of 10-60V

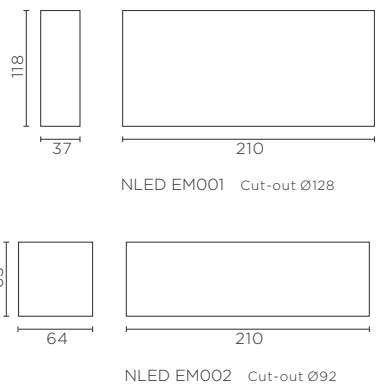
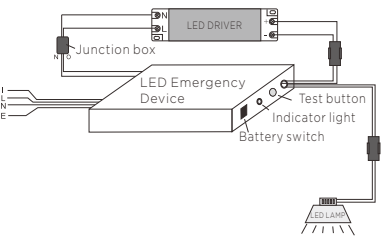
CONSTRUCTION

- Steel housing
- NiCd batteries
- Test switch and charge indicator lamp fitted

NOTE

A range of emergency kits to provide 1.5 or 3 hours of emergency lighting in the event of a mains power failure

Wiring Diagram

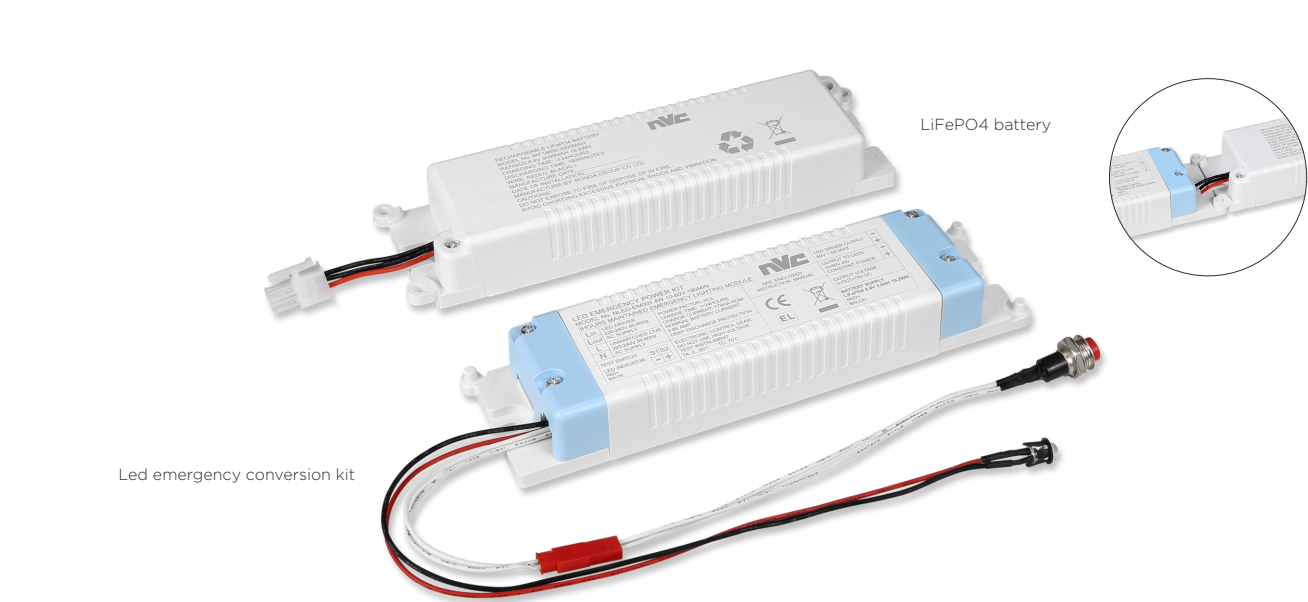


Model	Output Voltage	Charge Time	Discharge Time
NLED EM001 5W 180mins	10-60V	24hrs	180mins
NLED EM001 5W 90mins	10-60V	24hrs	90mins
NLED EM001 2.4W 180mins	10-60V	24hrs	180mins
NLED EM001 2.4W 90mins	10-60V	24hrs	90mins
NLED EM002 5W 180mins	10-60V	24hrs	180mins
NLED EM002 5W 90mins	10-60V	24hrs	90mins
NLED EM002 2.4W 180mins	10-60V	24hrs	180mins
NLED EM002 2.4W 90mins	10-60V	24hrs	90mins



NLED EM003

Emergency conversion kits suitable for use on almost any LED luminaire with a separate driver



APPLICATIONS

- For use on a wide range of LED fittings to convert them from standard to maintain emergency operation
- The standard (mains powered) driver is retained in the circuit, so this unit is only suitable if access to the driver is available

TECHNICAL DETAILS

- Available in one size, four wattage DC10...60V (3-20 LEDs) constant power output
- Forward voltage for use with LED products with a Vf 10-60V
- Battery capacity: LiFePO4 6.4V 3000mAh
- When installed the fitting will work as normal on the standard driver
- In the event of a power failure the LEDs will be driven at 4W for three hours on battery power
- Rated to 500 charge/discharge cycles
- Charge time 24hours

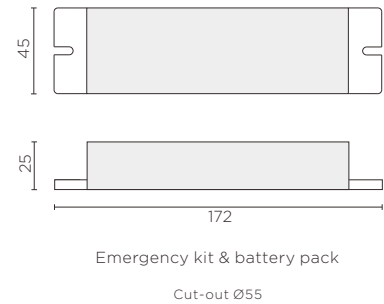
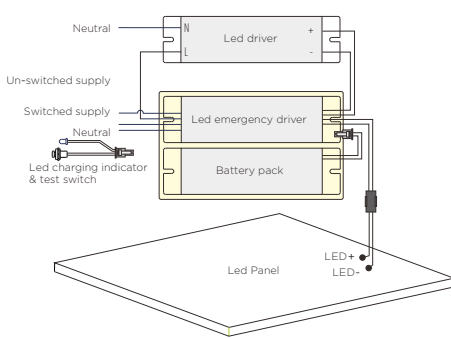
Model	Output Voltage	Charge Time	Discharge Time
NLED EM003 4W 180mins	10-60V	24hrs	180mins

CONSTRUCTION

- Plastic housing
- Batteries included
- Test switch and charge indicator

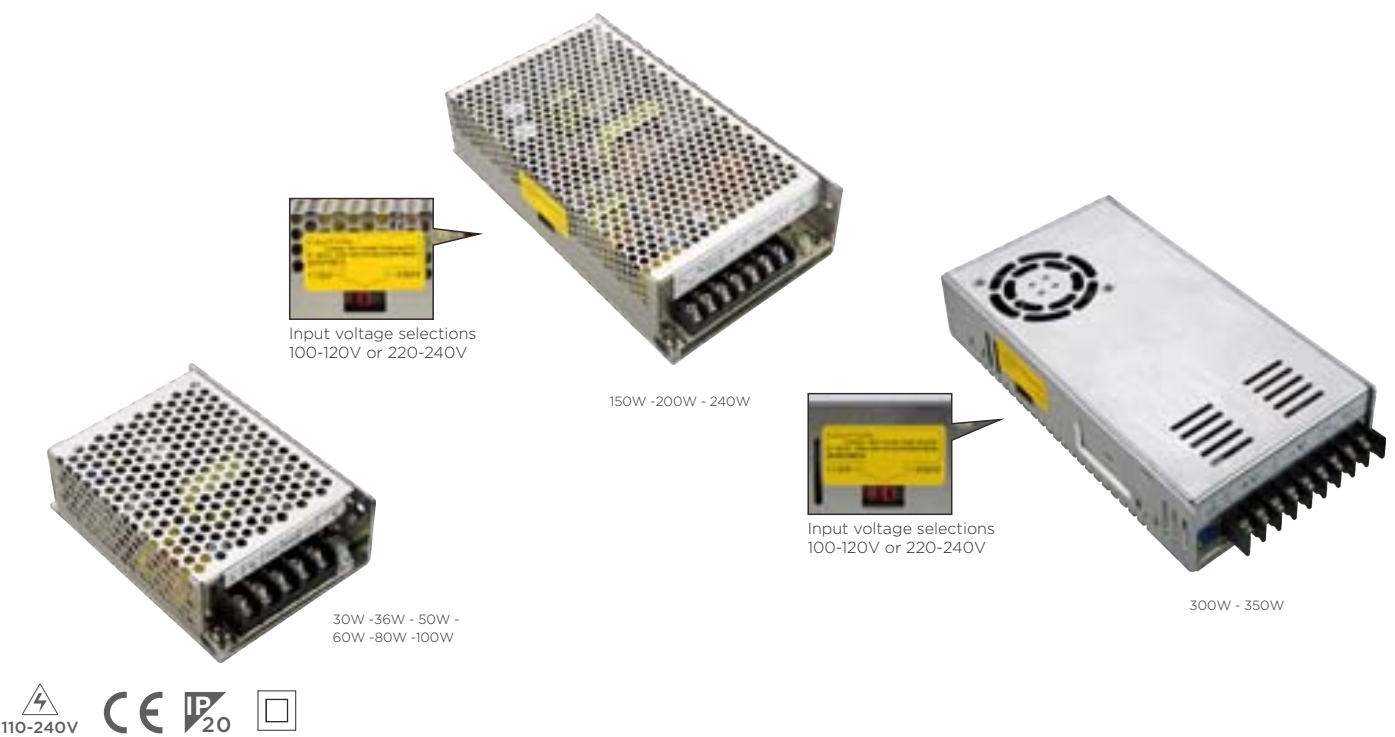
NOTE

Wiring diagram





NLED-DV100 IP20 series



CONSTRUCTION

- Metal housing

OPTIONS

- Choices of five sizes:
 - 110mmx78mmx35mm (30W 12V, 36W 24V)
 - 129mmx97mmx38mm (50W 12V, 60W 24V)
 - 159mmx97mmx38mm (80W 12V/24V, 100W 12V/24V)
 - 200mmx110mmx50mm (150W 12V/24V, 240W 12V/24V)
 - 215mmx115mmx50mm (300W12V/24V, 350W 12V/24V)

APPLICATIONS

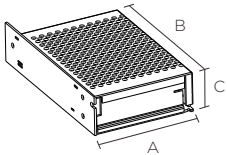
- For low voltage indoor LED fittings

TECHNICAL DETAILS

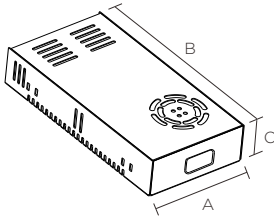
- 12V DC output
 - PF >0.5
 - Choices of eight wattages:
 - Input voltage 110-240V
 - 30W 2.5A, 50W 4.17A, 80W 6.67A
 - Input voltage 100-120V or 220-240V
 - 100W 8.5A, 150W 12.5A, 200W 16.7A, 300W 25A, 350W 30A

This emergency kit provides three hours of emergency lighting in the event of a mains power failure

- 24V DC output
 - PF >0.5
 - Choices of eight wattages:
 - Input voltage 110-240V
 - 36W 1.5A, 60W 2.5A, 80W 3.3A
 - Input voltage 100-120V or 220-240V
 - 100W 4.2A, 150W 6.3A, 200W 10A, 300W 12.5A, 350W 15A



30W - 240W



300W - 350W

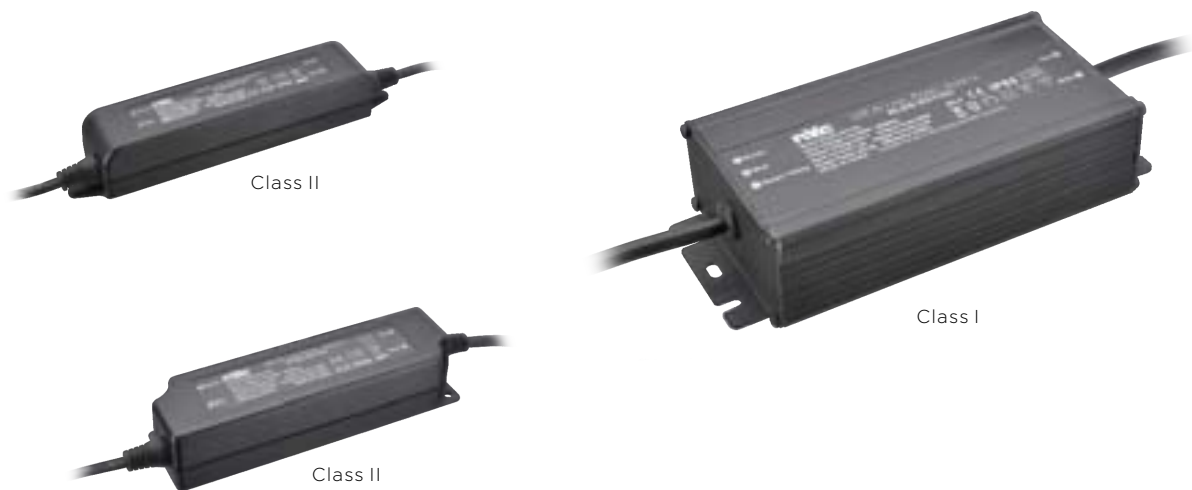
Watts	A	B	C	Cut-out
30W/130W	97	110	35	Ø105
50W/60W	97	129	38	Ø110
80W/100W	97	159	38	Ø110
150W/200W	110	200	50	Ø110
240W	110	200	50	Ø125
300W/350W	115	215	50	Ø130

Model	watts	Input voltage
NLED-DV1001-30W-DC12V/2.5A	30W	110-240V
NLED-DV1002-50W-DC12V/4.17A	50W	110-240V
NLED-DV1003-80W-DC12V/6.67A	80W	110-240V
NLED-DV1004-100W-DC12V/8.5A	100W	100-120V/220-240V
NLED-DV1005-150W-DC12V/12.5A	150W	100-120V/220-240V
NLED-DV1006-200W-DC12V/16.7A	200W	100-120V/220-240V
NLED-DV1007-300W-DC12V/25A	300W	100-120V/220-240V
NLED-DV1008-350W-DC12V/30A	350W	100-120V/220-240V
NLED-DV1001-36W-DC24V/1.5A	36W	110-240V
NLED-DV1002-60W-DC24V/2.5A	60W	110-240V
NLED-DV1003-80W-DC24V/3.3A	80W	110-240V
NLED-DV1004-100W-DC24V/4.2A	100W	100-120V/220-240V
NLED-DV1005-150W-DC24V/6.3A	150W	100-120V/220-240V
NLED-DV1006-240W-DC24V/10A	240W	100-120V/220-240V
NLED-DV1007-300W-DC24V/12.5A	300W	100-120V/220-240V
NLED-DV1008-350W-DC24V/15A	350W	100-120V/220-240V



NLED-DV110 IP65 series

IP65 LED driver



APPLICATIONS

- For low voltage outdoor LED fittings

TECHNICAL DETAILS

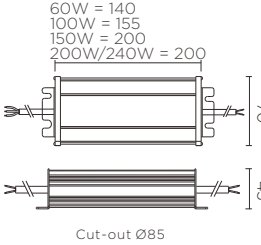
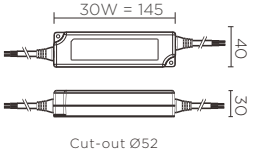
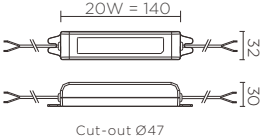
- Input voltage: 110-240V
- Output voltage: 24V DC

CONSTRUCTION

- Flame resistant PC housing (20W, 30W)
- Aluminium housing (60W, 100W, 150W, 200W, 240W)
- Rubber insulated cable
- Silicone filled

OPTIONS

- Choices of six sizes:
 - 140mmx32mmx30mm (20W)
 - 145mmx40mmx30mm (30W)
 - 140mmx70mmx45mm (60W)
 - 155mmx70mmx45mm (100W)
 - 200mmx70mmx45mm (150W, 200W)
 - 220mmx70mmx45mm (240W)



Model	Output voltage	watts	PF
NLED-DV1101	24V	20W	0.5
NLED-DV1102	24V	30W	0.5
NLED-DV1103	24V	60W	0.95
NLED-DV1104	24V	100W	0.95
NLED-DV1105	24V	150W	0.95
NLED-DV1106	24V	200W	0.95
NLED-DV1106	24V	240W	0.95



NLED-DV10* IP20 series

IP20 LED driver



Supplied with DC connector



Available on request with screw-fixing feature



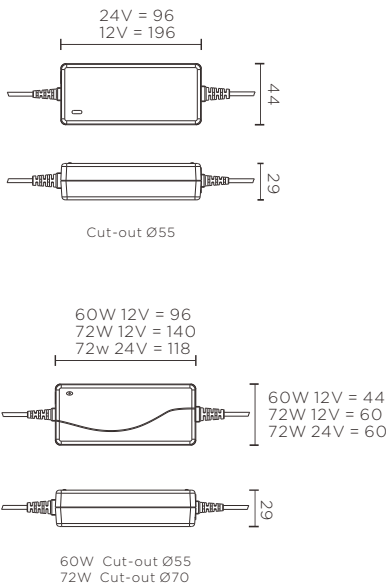
APPLICATIONS
- For low voltage indoor LED fittings

CONSTRUCTION
- Plastic housing

TECHNICAL DETAILS
- Input voltage: 110-240V, 50/60Hz
- Output voltage: 12V, DC/24V DC

- OPTIONS**
- Choices of five sizes:
 - 96mmx44mmx29mm (24W/36W 24V)
 - 96mmx44mmx29mm (12W/24W/36W 12V)
 - 96mmx44mmx29mm (60W 12V)
 - 118mmx60mmx36mm (60W/72W 24V)
 - 140mmx60mmx36mm (72W 12V)

Model	Output voltage	watts	PF
NLED-DV1001-12W-DC12V/1A	12V	12W	0.5
NLED-DV1002-24W-DC12V/2A	12V	24W	0.5
NLED-DV1003-36W-DC12V/3A	12V	36W	0.5
NLED-DV1011-24W-DC24V/1A	24V	24W	0.5
NLED-DV1012-36W-DC24V/1.5A	24V	36W	0.5
NLED-DV1004-60W-DC12V/5A	12V	60W	0.5
NLED-DV1005-72W-DC12V/6A	12V	72W	0.5
NLED-DV1013-60W-DC24V/2.5A	24V	60W	0.5
NLED-DV1014-72W-DC24V/3A	24V	72W	0.5



Global Quality Approvals & Symbol Keys

CE This mark is a declaration that the product in question meets the requirements of the applicable EU directives. In the case of lighting products this means that they comply with the Low Voltage Directive (LVD), the Electromagnetic Compatibility (EMC) Directive and the Restrictions of the Use of Certain Hazardous Substances Directive (RoHS). It is the responsibility of the lighting manufacturer to ensure that all their products that are sold in the European Economic Area carry the CE mark.

I Class I. The product is provided with basic insulation and all exposed conductive parts are connected to an earth terminal

II Class II. Basic and supplementary insulation in accordance with BS EN60598. No provision for an earth connection.

III Class III. Separated extra-low voltage. No voltages higher than 50v AC or 120v DC are generated.

12V AC/DC Mains voltage 12V AC/DC

100-240V Mains voltage 100-240V AC

220V Mains voltage 220V AC

220-240V Mains voltage 220-240V AC

IP20 IP rating. All fittings are IP20 unless otherwise stated. A table of Ingress Protection values is to be found on page 136.

Non Dimmable It can not be dimmed.

DIMMING Mains dimming. The fitting can be dimmed with mains dimming function.

0-10V DIMMING Analogue dimming. The fitting can be dimmed with analogue dimming.

Digital DIMMING Digital dimming. The fitting can be dimmed with DALI, switch dim and corridor function.

Step DIMMING Step dimming. The fitting can be dimmed with step dimming.

30° Beam angle. The angle of the beam dictates the size of the area to be covered in light.

Fresh Fresh light. Luminaire suitable for applications where natural colour is required.

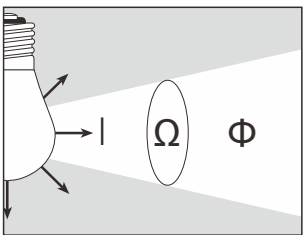
Glossary of the Most Important Lighting Terms

As with any technical or scientific discipline, lighting technology has its own special terms and concepts for defining the characteristics of lamps and luminaires and for standardizing the units of measurement.

The most important of these are described here.

Luminous flux Φ

Unit of measurement: lumen [lm]. Luminous flux Φ is all the radiated power emitted by a light source evaluated with the spectral sensitivity of the eye and the photometric radiation equivalent km.

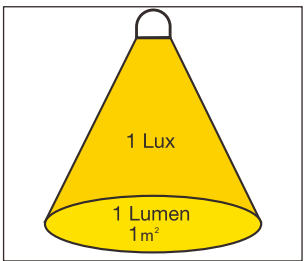


Luminous flux Φ
Luminous intensity I is a measure of the luminous flux Φ emitted in solid angle Φ .

Illuminance E

Unit of measurement: lux [lx]. Illuminance E is the ratio between the luminous flux and the area being illuminated.

An illuminance of 1 lx occurs when a luminous flux of 1 lm is evenly distributed over an area of 1 m².



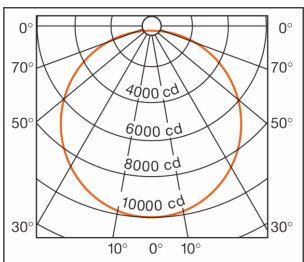
Illuminance E

Light and radiation

Light is taken to mean the electromagnetic radiation that the human eye perceives as brightness, in other words that part of the spectrum that can be seen. This is the radiation between 360 and 830 nm, a tiny fraction of the known spectrum of electromagnetic radiation.

Luminous intensity I

Unit of measurement: candela [cd]. Generally speaking, a light source emits its luminous flux Φ in different directions and at different intensities. Luminous intensity is the luminous flux radiated in a particular direction (solid angle Ω).

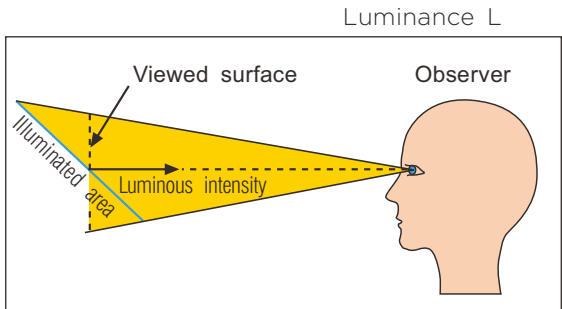


Polar diagram

Luminance L

Unit of measurement: candela per square meter [cd/m²].

The luminance L of a light source or an illuminated area is a measure of the impression of brightness.



Luminance L

The most important photometric formulae:

Luminous intensity [cd]	I	Luminous flux Solid angle Ω [sr]	$\frac{\text{Luminous flux}}{\text{Solid angle } \Omega \text{ [sr]}}$	Luminance [cd/m ²]	L	Luminous intensity [cd]	I
Illuminance [lx]	E	Luminous flux falling on area [lm]	$\frac{\text{Luminous flux falling on area [lm]}}{\text{Illuminated area [m}^2\text{]}}$	Lum. efficacy [lm/W]	η	Generated luminous flux [lm]	Φ
						Electrical power consumed [W]	P



IP Rating

Luminaires are rated according to their resistance to the ingress of both liquids and solids by the code defining their Index of Protection (explained below)-often known as an “IP” Rating which you will find next to every product in this catalogue.

IP ratings explained

“IP” (“Ingress Protection”) Rating

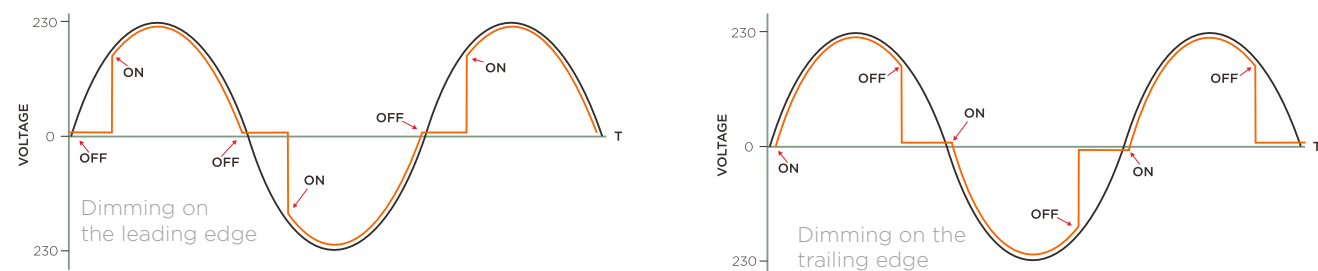
First digit
Protection against ingress of foreign bodies e.g. tools, dust, fingers, etc.
Second digit
Protection against ingress of liquids

Foreign Bodies First digit		Liquids Second digit	
IP0	No-protection	IPX0	No-protection
IP1	Protected against solid objects greater than 50mm (e.g. accidental touch by hands)	IPX1	Protected against vertically falling drops of water (e.g. condensation)
IP2	Protected against solid objects up to 12mm (e.g. fingers)	IPX2	Protected against direct sprays of water up to 15 degrees from vertical
IP3	Protected against solid objects greater than 2.5mm (e.g. tools and wires)	IPX3	Protected against direct sprays of water up to 60 degrees from vertical
IP4	Protected against solid objects greater than 1mm (e.g. small tools and wires)	IPX4	Protected against water sprays from all directions-limited ingress permitted
IP5	Protected against dust, limited ingress (e.g. no harmful deposit)	IPX5	Protected against low pressure jets of water from all directions-limited ingress permitted
IP6	Totally protected against dust	IPX6	Protected against high pressure jets of water (use on ship deck)-limited ingress permitted
		IPX7	Protected against the effects of immersion between 15cm and 1m
		IPX8	Protected against long periods of immersion under pressure

Dimming

MAINS DIMMING

Fluorescent fittings and many LED fittings cannot be dimmed with 50Hz (phase) dimmers. Whether these are leading or trailing edge dimmers, the control gear or driver cannot operate correctly if it is switched off for a variable period twice in every mains cycle (which is how a mains dimmer works, see diagrams below). If mains dimming (abbreviated to MD) is not mentioned on any page in this catalogue it should be assumed that the fitting in question is not mains dimmable.



HF DIMMING

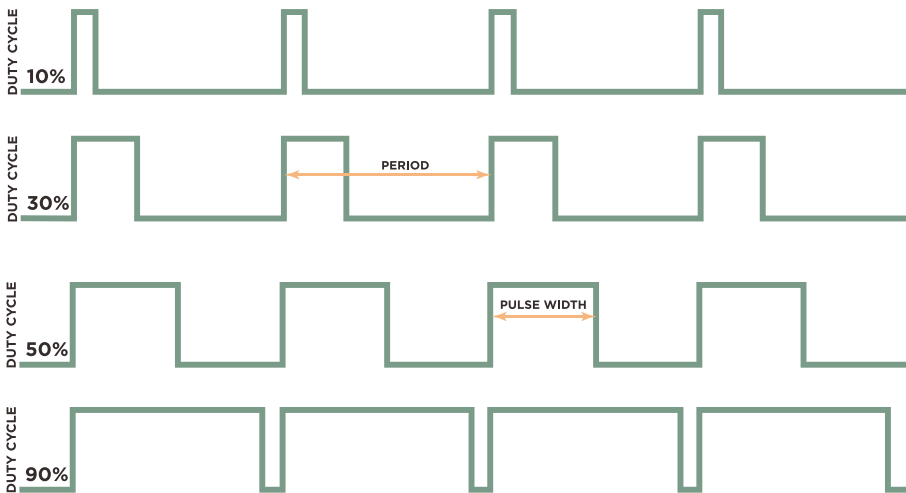
Many fittings can be dimmed if the correct driver is used. To do this the driver is permanently connected to mains power but also receives a dimming control signal, instructing it to increase or lower the light output.

On receipt of a dimming control signal a driver will dim the fittings by use of pulse width modulation, amplitude modulation or sometimes a combination of them both.

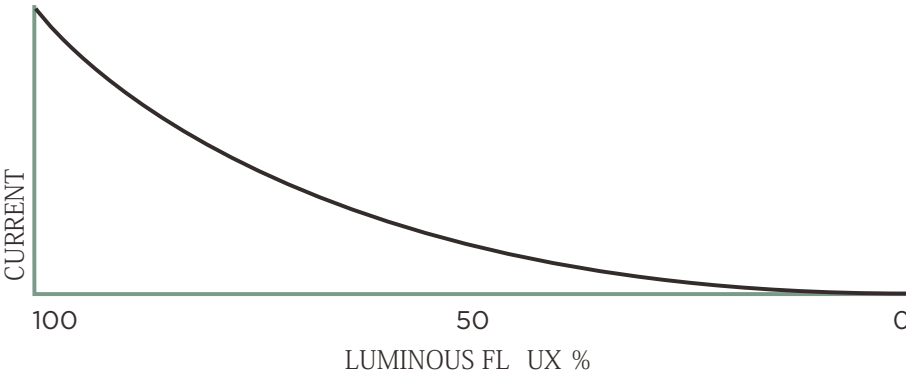
Pulse width modulation (PWM) entails turning the LEDs on and off. The % “on” time is the duty cycle. The higher the duty cycle the brighter the light appears to be to the human eye. PWM has many advantages as a dimming method (efficiency, simplicity of implementation and low cost), but it has disadvantages too, one of which is the risk of discernible flicker and stroboscopic effects.

Amplitude modulation (AM) involves the gradual reduction of the drive current to bring about a reduction in light output. This method of dimming avoids the risk of visible flicker but it lacks the simplicity and efficiency of PWM.

Some driver manufacturers use a combination of PWM and AM to achieve the best possible performance.



Pulse Width Modulation

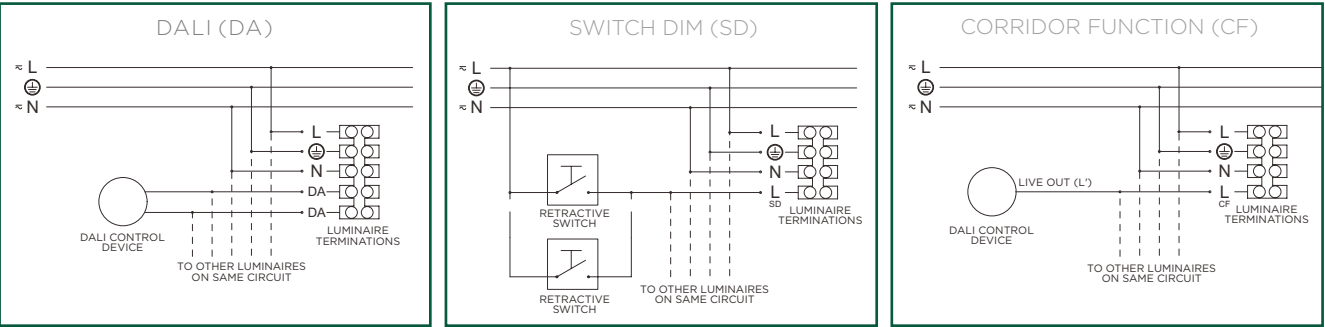


Amplitude Modulation



DIMMING CONTROL SIGNALS

There are three types of dimming control signal that we offer as standard options and it may be helpful to think of them as languages – a means by which the driver is told what to do. The three types of dimming control signal we offer are as follows:



DALI

Typically, a DALI control signal will be generated by a sensor or a lighting control system. Manually operated rotary knobs that generate a DALI control signal are available (at some cost), but if pure manual control is required we would usually recommend switch dim as the simpler and more economical solution.

SWITCH DIM

Switch dim is a means of controlling a luminaire via a retractive switch. It is a low-cost, intuitive and easy-toinstall approach to providing manual dimming control.

CORRIDOR FUNCTION

Corridor function can be operated by an occupancy sensor, time switch or manual switch. When the switch contact is “made” the light output will be 100%; when the contact is broken the light output will be 10%, or some other value that may be programmed in the driver or control gear.

Other dimming control options are available, including 1-10v (analogue dimming) and DSI (digital serial interface). If one these is needed, please check availability and lead-time before ordering.

FLICKER

Almost all LEDs flicker to some extent and this is often increased during dimming. Flicker is caused by **Ripple Current** - a regular fluctuation of the output of the driver. The best drivers have current ripple of less than 10%, but on others the ripple can be several times this.

The **frequency of flicker** varies greatly from product to product, but with LEDs it is generally in the range of 100 – 1,000Hz. By comparison, mains flicker (as with switch-start products) is 50Hz and fluorescent Hf products are operating typically at 40,000-60,000Hz.

The **extent of flicker** is measured in two ways, Percent Flicker and Flicker Index. In both cases a low figure indicates better performance. A poor LED fitting might have a percent flicker of 50 and a flicker index of 0.3. A better fitting might have a percent flicker of 17.5 and a flicker index of 0.05.

Frequency effects our perception of flicker; a flicker index of 0.2 might be deemed unacceptable at 100Hz, but acceptable at 300Hz. It is therefore not helpful for a manufacturer to claim “My flicker index is better than yours.” The extent to which flicker matters (or not) is a function of the extent of the flicker and the frequency

Can we see flicker? Generally we cannot see flicker, but some people are sensitive to it and for them it can cause headaches, as was the case with people working under some old fluorescent fittings operating at 50Hz.

A digital camera is not the best way to judge flicker. What you see through a digital camera is a function of LED flicker and the camera’s frequency of operation.





Product rated life

Leading series	
Model	Rated life
NLED180A	30/50KH
NLED180B	30/50KH
NLED180C	30/50KH
NLED580A	30/50KH
NLED580C	30/50KH
T/SLED380	30KH
SLED71	30KH

Spotlights	
Model	Rated life
NLED1171	30KH
NLED105*	30/50KH
NLED112*	30KH
NLED114*	30KH
NLED119*	30KH
NLED118*	20KH
NSPLED181W	30/50KH
NLED1180	30/50KH
NLED110*	30/50KH
NLED801*A	30/50KH
NLED801*B	30/50KH
NLED801*D	30/50KH
NLED1152	30/50KH
NLED8023N	30KH
NLED8024N	30KH
NLED1162	30/50KH
NLED62*	30/50KH
NLED602	30/50KH
NLED604R	30/50KH

Downlights	
Model	Rated life
NLED920*	20KH
NLED912*	30KH
NDLLED915*	30KH
NLED950E*	30KH
NLED951E*	30KH
NDL201*	30KH
NDLLED950P	30KH
NDLLED930E	30KH
NLED940*	30KH
NLED924*	30/50KH
NDLLED929*	30/50KH
NLED931*	30KH
NLED931*IR	30KH
NDLLED918*IR	30KH
NDLLED918M IR	30KH
NDLLED928*	30KH
NDLLED9235	30KH
NDLLED9286*	30KH
NLED925	30/50KH
NDLLED970*	30/50KH
NDLLED980*	30KH
NLED948M	20KH
NLED811*	30/50KH

Track Lights	
Model	Rated life
NTLED328	30KH
TLED320*	30KH
TLED332*	30KH
NTRLED327*	30KH
TLED317N	30KH
NTRLED321	30KH
TLED326	30KH
NTRLED335	30KH
NTRLED334	30KH

Multiple Lights	
Model	Rated life
NMTLED52*	30KH
NMTLED585*	30KH
NLED54*	30KH
NLED582*	30KH
NLED583	30KH

Panel Lights	
Model	Rated life
NPNLED451*V1	30KH
NPNLED451*V2	30KH
NPNLED451*P	50KH
NPNLED461	30KH
NLED420*V1	30KH
NLED420*V2	50KH
NTFLED41*	30KH

Linear Lights	
Model	Rated life
NBTLED477A12	30KH
NLILED495	30KH

Batten Lights	
Model	Rated life
NBTLED T5E	25KH
LED T5G	30KH
NBTLED T5P	30KH

Common Area Lights	
Model	Rated life
NPXLED1008	25KH
NWLED1001	20KH
NWLED1002	20KH
NWLED1003	20KH
NWLED1004	20KH
NSPLED100*	30KH

Product rated life

LED Lamps	
Model	Rated life
LED T8E	30KH
LED MR16B/C/H	30KH
LED MR16I	30KH
LED GU10I	30KH
LED MR16L	30KH
LED GU10L	30KH
LED CLE	25KH
LED CLLE	25KH
LED A45	15KH
LED A45-EE	15KH
LED A60I-EE	15KH
LED A70I-EE	15KH
LED A50N	15KH
LED A60N	15KH
LED A65N	15KH
LED QR111D	25KH
LED QR111E	25KH

LED Strips	
Model	Rated life
LED R2835/5050	30/50KH
LED 5050LED	30KH
N2835/5050LED	30KH
NFSLED2835	50KH

Emergency Lights	
Model	Rated life
LS-BLZD*	25KH
LS-ZFZD*	25KH
LS-ZLZD*	25KH

Drivers	
Model	Rated life
NLED EM001	30KH
NLED EM002	30KH
NLED EM003	30KH
NLED-DV100* IP20	30KH
NLED-DV110* IP65	30KH
NLED-DV10*IP20	30KH



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Bahrain

13

Palestine

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<http://www.stes.pk>
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