



LED Lighting

PRODUCT CATALOGUE

 **Verbatim**[®]
Technology you can trust

Mitsubishi Chemical Holdings Group



CONTENTS

Introduction	4
Mitsubishi Lighting Material History.....	6
Innovative Products.....	7
Quality Control	7
Verbatim Technology - VxRGB	8
Velve OLED Lighting.....	10
Retrofit Lamps	12
Classic A.....	12
Candle.....	14
Mini Globe	15
PAR16	16
MR16.....	18
Capsule.....	20
MR11	20
PAR20 & PAR30	21
PAR38	22
AR111	23
LED Downlights / Spotlights	24
LED Tubes & Batten Luminaires	26
Downlight Fittings.....	27
LED Transformer	27
Guide to Verbatim LED Packaging.....	28
Marketing Tools.....	29
Glossary of Terms	30

INTRODUCTION

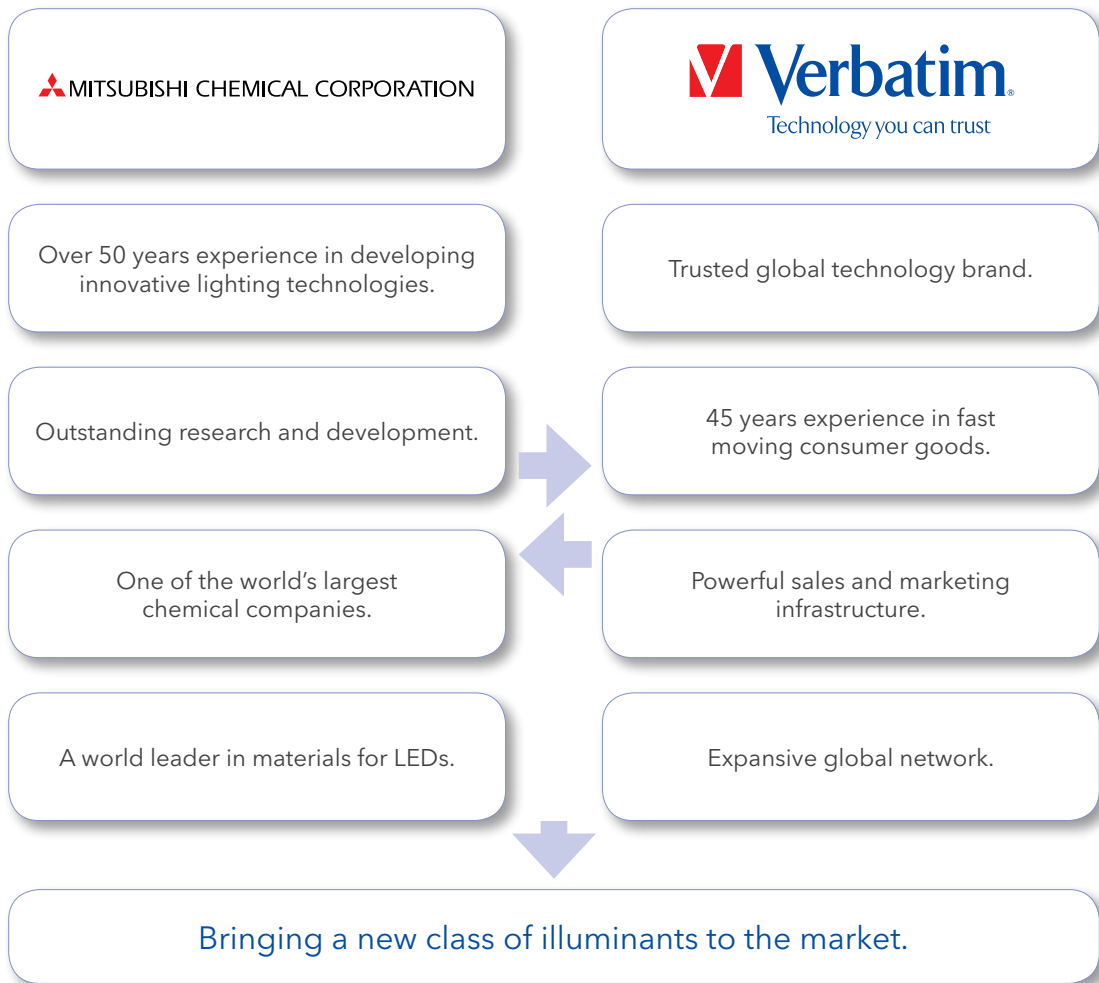
VERBATIM - TECHNOLOGY YOU CAN TRUST

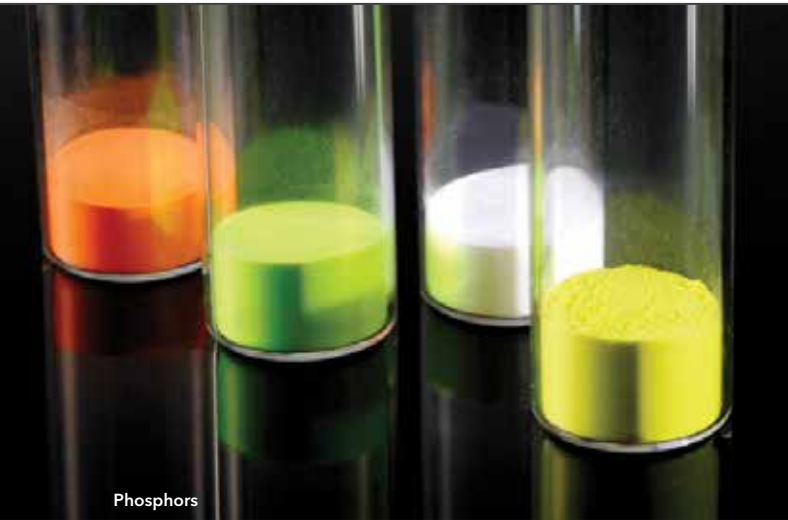
For nearly 45 years, the Verbatim brand has been at the forefront of the evolution in data storage technology and remains one of the most recognizable and respected names in the industry.

The company has a strong reputation as a trusted global supplier, providing quality products backed up by fast and reliable service.

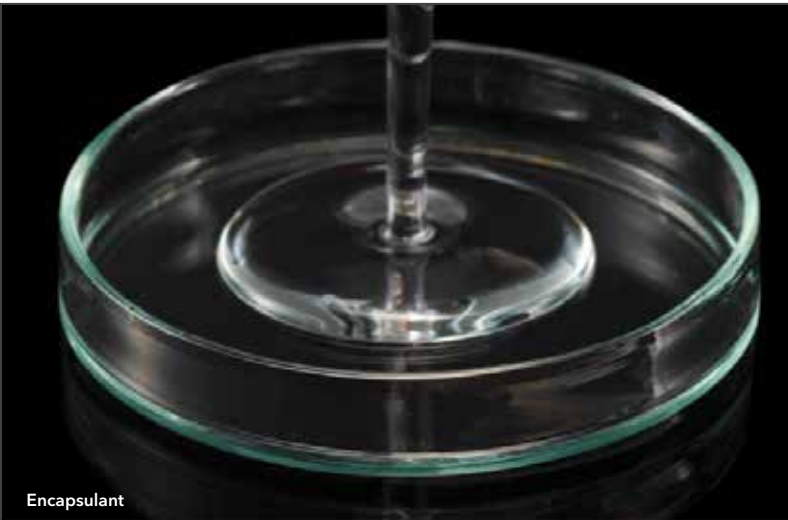
MITSUBISHI BACKING

In entering the lighting industry, Verbatim has been able to marry Mitsubishi Chemical's 50 years of expertise developing lighting materials with its own experience in bringing technological products to marketing volume. *It's a powerful combination.*





Phosphors



Encapsulant

HIGH QUALITY MATERIALS

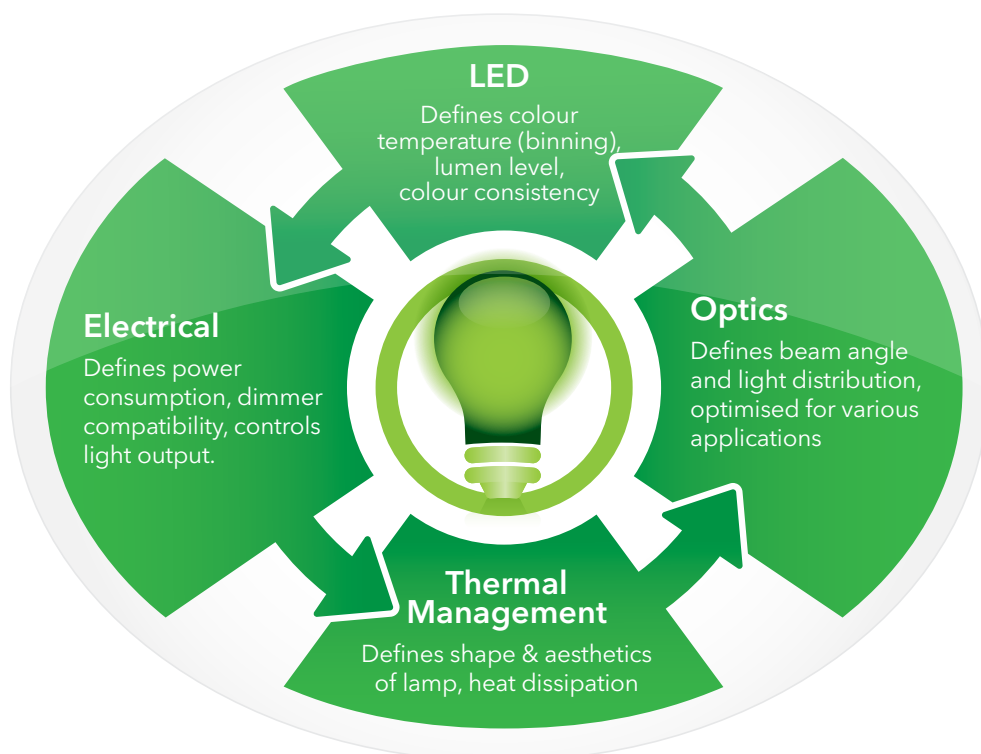
Mitsubishi Chemical Corporation (MCC) is developing key materials and components which work together to replicate natural light and provide additional solutions for LED lighting. The new generation of LED products uses MCC materials to enable high quality, comfortable lighting environments.

PHOSPHOR

Phosphor materials play a key role in converting blue LED light to natural white light that humans can enjoy. An industry leader, MCC has been developing and manufacturing phosphors for over 50 years.

INDUSTRY EXPERIENCE

MCC's experience and understanding of the four key technical elements of an LED bulb - electronics, the LED, thermal management and optics - ensures that the products are highly optimised and deliver the best in class in terms of efficiency and performance.



mitsubishi

LIGHTING MATERIAL HISTORY

DEVELOPMENT MILESTONES

- 1950 Phosphor for black & white CRT-TV.
- 1961 Phosphor for colour CRT-TV.
- 1967 Phosphor for fluorescent tubes.
- 1971 GF (Gradient Freeze) GaAs wafer for LED & LD.
GaAsP epitaxial wafer by HVPE for LED.
- 1976 High contrast phosphor for colour CRT-TV.
- 1980 GaAs & GaAlAs epitaxial wafer by LPE for LED.
- 1982 LEC GaAs wafer for high speed electronic device & LED.
- 1990 Natural colour phosphor for lighting.
Phosphor for PDP-TV.
- 1993 780nm LD epitaxial wafer, chips for storage media.
- 1997 VGF GaAs wafer for LED & LD.
- 1998 980nm LD module for submarine communication.
GaP epitaxial wafer by LPE for LED.
- 2005 Nitride red phosphor for white LED (world's first commercialisation).
- 2006 Encapsulation material for LED.
- 2008 GaN wafer by HVPE.
- 2009 Encapsulation material S-grade for LED.
Start of manufacturing & sales of violet chip LEDs.
- 2010 Alliance with Pioneer on OLED lighting business.
- 2011 Nitride yellow phosphor for white LED (world's first commercialisation).
Colour tunable OLED (world's first commercialisation).
- 2012 Installed SCAAT™ large reactor.
Developed VxRGB white LED package for lighting.
- 2013 LED lamp using GaN on GaN technology



INNOVATIVE PRODUCTS

Our growing LED lighting portfolio includes innovative technologies and products designed to provide a better lighting experience, coupled with low power consumption and long life.

QUALITY CONTROL

Verbatim and Mitsubishi's demanding quality control during the manufacturing process guarantees first-class products. The company delivers products and services that exceed customer expectations by leveraging its technology leadership, marketing expertise, and state-of-the-art distribution capabilities.

GLOBAL NETWORK DISTRIBUTION

Our operation is truly worldwide with offices, R&D, manufacturing and warehousing facilities spanning the globe. In EMEA, our sales and marketing offices are located in or close to the key cities of London, Frankfurt, Milan, Paris, Copenhagen, Johannesburg, Moscow and Amsterdam.

EMEA WAREHOUSING AND OPERATION

In Europe, we operate out of our state-of-the-art central warehouse in Duisburg, Germany, which has excellent rail, road, river and sea access. Also through dedicated warehouses in Dubai (servicing the Middle East) and Johannesburg (servicing the Sub-Saharan region).

FREE OF CHARGE HOTLINE SERVICE SUPPORT

To maintain and deliver our promise of guaranteed customer satisfaction, we offer free of charge hotline service support.

HIGH POWER LED

Verbatim LEDs deliver high quality, high brightness lighting.

HIGH COLOUR RENDERING

Verbatim LED lamps, with their high CRI performance, shows objects with truer colour and greater vibrancy.

UNIQUE TEMPERATURE CONTROL SYSTEM

Most Verbatim LEDs have a unique temperature control system that prevents the lamp from overheating and improves its reliability.

85% ENERGY SAVING

Extremely energy efficient - they save up to 85% energy compared to traditional incandescent lamps.

DIMMABLE

Most Verbatim LEDs can be dimmed to create the desired mood.

LASTS LONGER

A Verbatim light has an average lifetime of 35,000 hours while a typical incandescent bulb only has 1,000 hours.

DIRECT REPLACEMENT

Verbatim offers "retrofit" or direct replacements for existing incandescent and halogen lamps.

OPTIONS OF COLOUR TEMPERATURE AND BEAM ANGLES

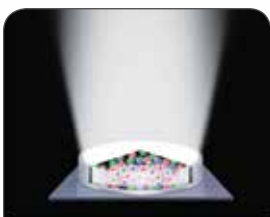
Available in different colour temperatures and beam angles to cater to various applications.

VxRGB

LED LIGHTING



Art gallery lights



VxRGB uses a unique phosphor mix to provide supreme colour illumination.



VxRGB Halogen

Colour example:
VxRGB shows a navy blue jacket as it should be seen.



VERBATIM TECHNOLOGY

HIGHEST QUALITY LEDS UTILIZING VIOLET LIGHT

VxRGB is an evolution in LED lighting offering unparalleled colour illumination with a much wider and richer spectrum than conventional LED light sources.

The name VxRGB is derived from the makeup of the technology - Violet excited Red, Green and Blue phosphor combination. By using a violet light to excite the phosphors, blue phosphor can be added to the mix to provide a more complete spectrum. (Conversely, standard LEDs that use blue light to excite the phosphors do not include blue phosphor in the mix.)

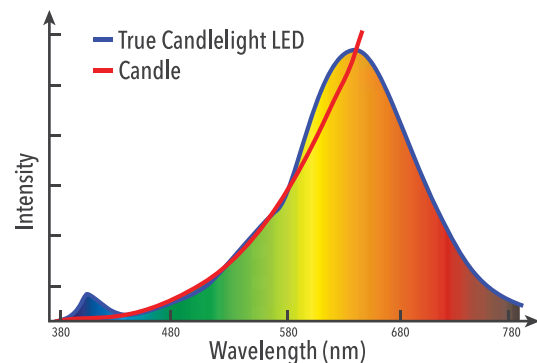
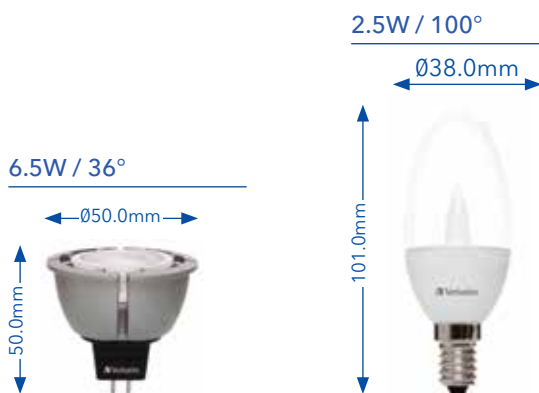
The result is that LEDs using VxRGB technology can more closely match other light sources such as halogen or incandescent lights.

VxRGB technology can ensure that colours appear as they should do and illuminates objects, including typography, in finer detail. It also makes whites whiter, presents skin-tones more accurately, and helps to discriminate between even very close hues.

It can also be tailored to particular customer preferences, increasing chroma where required of selected colours in illuminated objects.

Experience VxRGB Vivid Vision 'high definition' lighting, offering high perceptual fidelity for special applications such as jewellery and fashion stores, or art galleries and museums.

With a colour temperature of 1900K, Verbatim's VxRGB Natural Vision (High CRI) candle lamp provides a warm candle-like glow that closely matches the spectrum of a real candle flame. It is a feature not possible with traditional LED or incandescent lamps and is ideal for decorative lighting fixtures such as chandeliers, wall sconces and table settings.



	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	CANDELA (CD)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
VxRGB Vivid Vision LED MR16 GU5.3 6.5W 2900K WW 155LM 36DEG DIM	52224	6.5	14	GU5.3	12V AC/DC	300	155	36	2900	85	25,000	50.0	50.0	Yes	Box	10
VxRGB Natural Vision Candle E14 2.5W 1900K WW 50LM	52243	2.5	-	E14	220-240	15	50	100	1900	85	25,000	38.0	101.0	No	Box	10

VELVE
OLED LIGHTING



Designed by Uchihara Creative Lighting Design Inc. Photo by Toshio Kaneko

VELVE OLED LIGHTING

OLEDs (Organic Light Emitting Diodes) promises a paradigm shift in lighting design which will have designers, planners and architects glowing with excitement. It is a highly-adaptable surface light source that distributes light evenly across its complete surface area which explains why it is suited to creating a sense of mood or to gently illuminate objects. The technology removes the design boundaries usually associated with conventional lighting. There is no flickering, no glare and no excessive heat emission.

Users of Verbatim's VELVE modules benefit from harmonious soft-light output, integrated calibration and an even distribution of light from panel-to-panel without hot spots, glare or uncomfortable intensity. VELVE is particularly suitable for use in retail and hospitality locations as well as bar, restaurant and disco venues.

Many rival OLED modules available in the market are limited because they only produce white light illumination. However, VELVE is

colour-tunable and offers adjustable colour creation and brightness to deliver more creative possibilities. In terms of white light, the modules now use a red, yellow and blue (RYB) system to form brighter and more accurate colour mixing than was the case previously with its red, green, and blue (RGB) system.

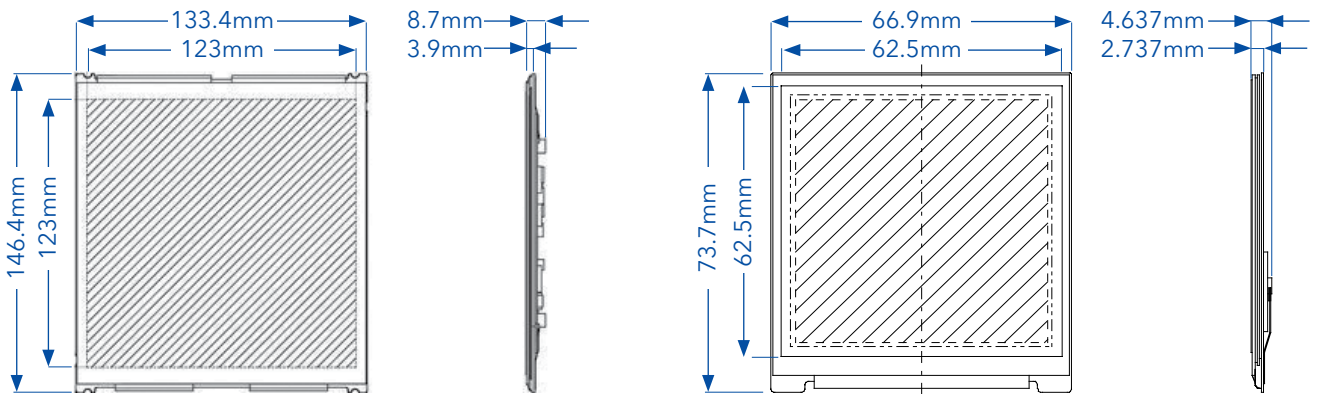
The latest series of VELVE™ products are arguably the world's most advanced colour-tunable and dimmable OLED modules, delivering glare-free brightness of up to 2,000 cd/m² - twice as bright as before. The new product also achieves a high luminous efficacy of 51.6 lm/W which equates to 70% greater efficiency. Verbatim's symmetrical VELVE modules are lightweight at just 193g while boasting a lighting area measuring 123mm square which is bigger than the industry-standard size. The modules are thin at 8.7mm, the width including a Process Control Block on the rear of each panel.

OLED

- Soft and rich colour saturation
- High light quality
- Low power consumption
- Easy to combine with new materials

KEY FEATURES

- Full colour tunable OLED Module
- 24V DC connection
- With integrated control PCB on the backside
- Including DMX512 & DALI interface
- Uniform light distribution by integrated calibration
- Dimmable



PRODUCT DESCRIPTION	Verbatim VELVE OLED Module 001	Verbatim VELVE OLED OLE-D1414-Y	Verbatim VELVE OLED OLE-D0707S-G	Verbatim VELVE OLED OLE-D0707S-Y
PRODUCT NUMBER	52800	52802	52805	52807
COLOUR	RGB	RYB	RGB	RYB
LUMINOUS EFFICACY (@1K NITS)	31 lm/W	52 lm/W	35 lm/W	49 lm/W
MAXIMUM LUMINANCE	1000 cd/m ²	2000 cd/m ²	1000 cd/m ²	2000 cd/m ²
COLOUR TEMPERATURE RANGE	1200K~6500K	1200K~6500K	1200K~6500K	1200K~6500K
MAXIMUM LUMINOUS FLUX	48 lm	90 lm	10 lm	19 lm
CRI	Ra 84	Ra 87	Ra 84	Ra 87
CHROMATICITY COORDINATES	(0.43-0.40)	(0.43-0.40)	(0.43 - 0.40)	(0.43 - 0.40)
OPERATING TEMP. RANGE	-20°C ~ +40°C	-20°C ~ +40°C	-20°C ~ +40°C	-20°C ~ +40°C
STORAGE TEMP. RANGE	-20°C ~ +60°C	-30°C ~ +80°C	-20°C ~ +60°C	-20°C ~ +60°C
OPERATING LIFETIME (1K NITS)	(LT70) 8000h (LT50) 20000h	(LT70) 8000h (LT50) 20000h	(LT70) 8000h (LT50) 20000h	(LT70) 8000h (LT50) 20000h
DIMENSION	146.4 x 133.4 x 8.7 (mm)	146.4 x 133.4 x 8.7 (mm)	73.7 x 66.9 x 4.6 (mm)	73.7 x 66.9 x 4.6 (mm)
LIGHTING AREA	123.1 x 123.1 (mm)	123.1 x 123.1 (mm)	56.1mm x 56.1 (mm)	56.1mm x 56.1 (mm)
WEIGHT	192 g	193 g	26 g	26 g
RATED VOLTAGE	DC 24 V	DC 24 V	DC 24 V	DC 24 V
RATED POWER	3.9 W	6.5 W	1.2 W	1.7 W
INTERFACE	DMX512-A/DALI	DMX512-A/DALI	DMX512-A/DALI	DMX512-A/DALI

RETROFIT LAMPS

Verbatim's LED retrofit lamps are direct replacements to current lamps. These lamps offer outstanding light performance while significantly reducing energy consumption, maintenance and energy cost.



CLASSIC A

Verbatim LED Classic A offers a direct replacement for a conventional incandescent lamp. This dimmable and elegantly designed lamp has a built-in temperature control system that protects the lamp electronics from overheating.

APPLICATION

Basic lighting for comfortable atmosphere at home, in hotel rooms, restaurants or other similar applications.

Go to www.verbatim.com for:

DIALux *Technical parameters and product data for direct project integration*

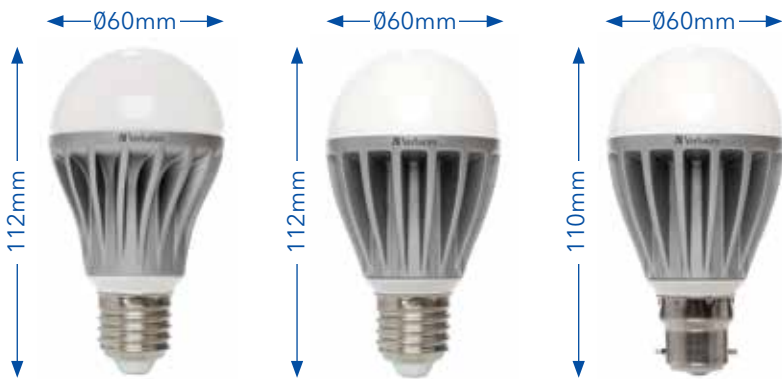


Photometric diagrams

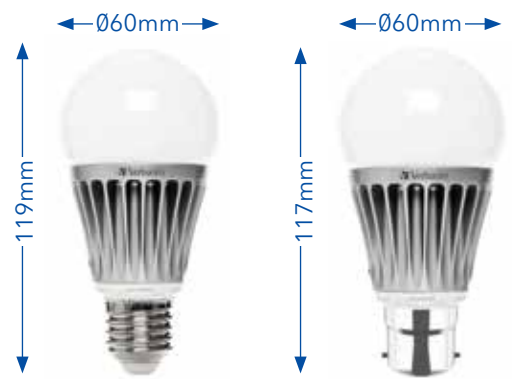


Dimmer compatibility information

3.5W / 4W / 5.5W / 6.5W / 8W / 9.5W / 12W



7.7W / 10.5W



9W



7.5W



10W / 13W



PRODUCT DESCRIPTION

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED Classic A E27 3.5W 3000K WW 270LM 130DEG	52126	3.5	26	E27	220-240V	270	130	3000	80	30,000	60	112	No	Blister	4
LED Classic A B22 3.5W 3000K WW 270LM 130DEG	52127	3.5	26	B22	220-240V	270	130	3000	80	30,000	60	110	No	Blister	4
LED Classic A E27 4W 2700K WW 250LM 130DEG DIM	52147	4	25	E27	220-240V	250	130	2700	80	30,000	60	112	Yes	Blister	4
LED Classic A E27 5.5W 3000K WW 380LM 130DEG	52128	5.5	34	E27	220-240V	380	130	3000	80	30,000	60	112	No	Blister	4
LED Classic A B22 5.5W 3000K WW 380LM 130DEG	52129	5.5	34	B22	220-240V	380	130	3000	80	30,000	60	110	No	Blister	4
LED Classic A E27 6.5W 3000K WW 480LM 130DEG	52130	6.5	41	E27	220-240V	480	130	3000	80	30,000	60	112	No	Blister	4
LED Classic A B22 6.5W 3000K WW 480LM 130DEG	52131	6.5	41	B22	220-240V	480	130	3000	80	30,000	60	110	No	Blister	4
LED Classic A E27 7.5W 2700K WW 480LM 220DEG DIM	52220	7.5	40	E27	220-240V	480	220	2700	80	40,000	60	122	Yes	Box	6
LED Classic A E27 7.7W 2700K WW 500LM 220DEG DIM	52225	7.7	42	E27	220-240V	500	220	2700	80	40,000	60	119	Yes	Box	4
LED Classic A B22 7.7W 2700K WW 500LM 220DEG DIM	52226	7.7	42	B22	220-240V	500	220	2700	80	40,000	60	117	Yes	Box	4
LED Classic A E27 8W 2700K WW 530LM 130DEG DIM	52148	8	43	E27	220-240V	530	130	2700	80	30,000	60	112	Yes	Blister	4
LED Classic A B22 8W 2700K WW 530LM 130DEG DIM	52149	8	43	B22	220-240V	530	130	2700	80	30,000	60	110	Yes	Blister	4
LED Classic A E27 9W 2700K WW 440LM DIM	52019	9	40	E27	220-240V	440	170	2700	80	25,000	58	108.4	Yes	Box	10
LED Classic A E27 9.5W 3000K WW 860LM 130DEG	52132	9.5	63	E27	220-240V	860	130	3000	80	30,000	60	112	No	Blister	4
LED Classic A B22 9.5W 3000K WW 860LM 130DEG	52133	9.5	63	B22	220-240V	860	130	3000	80	30,000	60	110	No	Blister	4
LED Classic A E27 10W 2700K WW 730LM 130DEG DIM	52150	10	55	E27	220-240V	730	130	2700	80	30,000	60	120	Yes	Blister	4
LED Classic A B22 10W 2700K WW 730LM 130DEG DIM	52151	10	55	B22	220-240V	730	130	2700	80	30,000	60	119	Yes	Blister	4
LED Classic A E27 10.5W 2700K WW 806LM 240DEG DIM	52227	10.5	60	E27	220-240V	806	240	2700	80	25,000	60	119	Yes	Box	4
LED Classic A B22 10.5W 2700K WW 806LM 240DEG DIM	52228	10.5	60	B22	220-240V	806	240	2700	80	25,000	60	117	Yes	Box	4
LED Classic A E27 12W 3000K WW 1100LM 130DEG	52153	12	77	E27	220-240V	1100	130	3000	80	30,000	60	112	No	Blister	4
LED Classic A B22 12W 3000K WW 1100LM 130DEG	52154	12	77	B22	220-240V	1100	130	3000	80	30000	60	110	No	Blister	4
LED Classic A E27 13W 2700K WW 1000LM 130DEG DIM	52152	13	71	E27	220-240V	1000	130	2700	80	30,000	60	120	Yes	Blister	4

INDOOR & OUTDOOR

IP65



CANDLE

These candle lamps offer a similar ambience to that of incandescent light sources, delivering a beautiful and sparkling warm white light.

APPLICATION

An ideal direct replacement for decorative applications at home, in hotels and restaurants.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information

3.7W



3.8W



4W



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	LUMEN (LM)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED Candle Clear 3.7W E14 2700K WW 150LM DIM	52047	3.7	16	E14	220-240V	150	2700	80	15,000	35	103	Yes	Box	10
LED Candle Clear E14 3.8W 2700K WW 90LM	52140	3.8	15	E14	220-240V	90	2700	80	30,000	38	102	No	Blister	4
LED Candle Frost E14 3.8W 2700K WW 250LM	52136	3.8	25	E14	220-240V	250	2700	80	30,000	38	102	No	Blister	4
LED Candle Clear E14 4.0W 2700K WW 250LM	52123	4	25	E14	220-240V	250	2700	80	25,000	36	100	No	Blister	4



MINI GLOBE

The Verbatim LED Mini Globe produces an incandescent-like light, has an energy saving of up to 85% and a long lifetime.

APPLICATION

Suitable for a variety of general lighting applications such as restaurants, hotels, homes and offices.



Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration

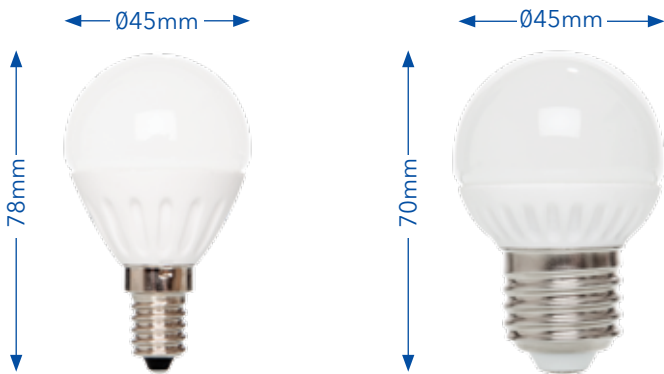


Photometric diagrams



Dimmer compatibility information

3.5W / 160°



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED Mini Globe E14 3.5W 3000K WW 250LM 160DEG	52134	3.5	25	E14	220-240V	250	160	3000	80	30,000	45	78	No	Blister	4
LED Mini Globe E27 3.5W 3000K WW 250LM 160DEG	52135	3.5	25	E27	220-240V	250	160	3000	80	30,000	45	70	No	Blister	4



PAR16

The spot PAR16 is an ideal replacement for standard high voltage halogen lamps. It has high energy efficiency and a built-in temperature management control system that guarantees long lifetime. Verbatim LED spot PAR16 has an energy saving of up to 85%.

APPLICATION

Ideal for spotlighting and general lighting in public areas such as reception, corridors, lobbies, conference room and other areas where the light is on for long periods.

CCT AND BEAM ANGLES

Warm White (2700K, 3000K) and Neutral White (4000K) colour temperatures and beam angles of 20, 25, 30, 32, 35, 36 and 55 degrees.

Go to www.verbatim.com for:

DIALux *Technical parameters and product data for direct project integration*



Photometric diagrams



Dimmer compatibility information

6.5W / 7W / 35° 7W / 55°



7.3W / 36°



6W / 30°



8.5W / 30°



9W / 25°



4W / 20°



6.5W / 35°



5W / 32° 6.5W / 7W / 36°



4W / 20°



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	CANDELA (CD)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED PAR16 E14 4.0W 3000K WW 160LM 20DEG	52139	4	27	E14	220-240V	750	160	20	3000	80	30,000	50	76	No	Blister	4
LED PAR16 GU10 4.0W 3000K WW 160LM 20DEG	52137	4	27	GU10	220-240V	750	160	20	3000	80	30,000	50	57.2	No	Blister	4
HIGH CRI >95 LED PAR16 GU10 SN 6.0W 2700K WW 220LM DIM	52040	6	33	GU10	220-240V	570	220	30	2700	95	25,000	50	63	Yes	Box	10
LED PAR16 GU10 5.0W 3000K WW 230LM 32DEG DIM	52155	5	32	GU10	220-240V	700	230	32	3000	80	30,000	50	60	Yes	Blister	4
LED PAR16 GU10 6.5W 2700K WW 240LM 35DEG DIM	52045	6.5	35	GU10	220-240V	580	240	35	2700	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 6.5W 3000K WW 240LM 35DEG DIM	52213	6.5	36	GU10	220-240V	600	240	35	3000	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 6.5W 4000K WW 300LM 35DEG DIM	52046	6.5	44	GU10	220-240V	760	300	35	4000	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 6.5W 3000K WW 400LM 35DEG	52141	6.5	57	GU10	220-240V	1000	400	35	3000	80	25,000	50	57	No	Blister	4
LED PAR16 GU10 6.5W 3000K WW 270LM 36DEG DIM	52156	6.5	36	GU10	220-240V	550	270	36	3000	80	30,000	50	60	Yes	Blister	4
LED PAR16 GU10 7.0W 2700K WW 370LM 35DEG DIM	52049	7	53	GU10	220-240V	850	370	35	2700	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 7.0W 3000K WW 390LM 35DEG DIM	52200	7	56	GU10	220-240V	890	390	35	3000	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 7.0W 4000K WW 410LM 35DEG DIM	52214	7	58	GU10	220-240V	940	410	35	4000	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 7.0W 2700K WW 300LM 55DEG DIM	52215	7	44	GU10	220-240V	420	300	55	2700	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 7.0W 3000K WW 310LM 55DEG DIM	52216	7	45	GU10	220-240V	430	310	55	3000	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 7.0W 4000K WW 360LM 55DEG DIM	52217	7	52	GU10	220-240V	480	360	55	4000	80	35,000	50	58	Yes	Box	10
LED PAR16 GU10 7.0W 3000K WW 350LM 36DEG DIM	52157	7	51	GU10	220-240V	680	350	36	3000	80	30,000	50	60	Yes	Blister	4
LED PAR16 GU10 7.3W 2700K WW 390LM 36DEG DIM	52234	7.3	60	GU10	220-240V	720	390	36	2700	80	35,000	49.9	56.6	Yes	Box	10
LED PAR16 GU10 7.3W 3000K WW 420LM 36DEG DIM	52235	7.3	64	GU10	220-240V	800	420	36	3000	80	35,000	49.9	56.6	Yes	Box	10
LED PAR16 GU10 7.3W 4000K WW 440LM 36DEG DIM	52236	7.3	66	GU10	220-240V	830	440	36	4000	80	35,000	49.9	56.6	Yes	Box	10
HIGH CRI >95 LED PAR16 GU10 LN 8.5W 2700K WW 250LM DIM	52041	8.5	38	GU10	220-240V	720	250	30	2700	95	25,000	50	81.7	Yes	Box	10
LED PAR16 GU10 LN 9W 3000K WW 465LM 25DEG DIM	52233	9	66	GU10	220-240V	2000	465	25	3000	80	25,000	50	81.7	Yes	Box	8

Downlight fittings are also available - please refer to page 27.



MR16

The MR16 range has been developed to replace 20W, 35W & 50W equivalent MR16 halogen lamps. They are designed for MR16 applications with the same profile as halogen MR16 and deliver excellent lighting performance. Verbatim LED MR16s are perfect substitutes for halogen MR16s and are available in multiple beam angles and colour temperature options to provide the desired atmosphere.

APPLICATION

Ideal for spotlighting and general lighting in public areas such as restaurants, reception, corridors, lobbies, conference room and other areas where the light is on for long periods.

CCT AND BEAM ANGLES

Warm White (2700K, 3000K) and Neutral White (4000K) colour temperatures and beam angles of 20, 25, 35, 40 and 55 degrees.

Go to www.verbatim.com for:

DIALux *Technical parameters and product data for direct project integration*

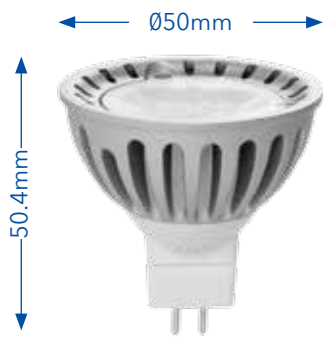


Photometric diagrams

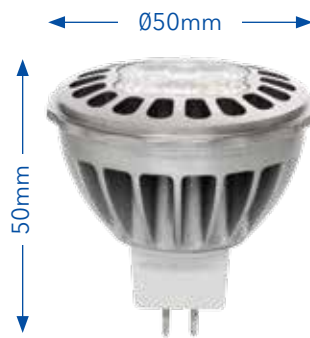


Dimmer compatibility information

4W / 20°



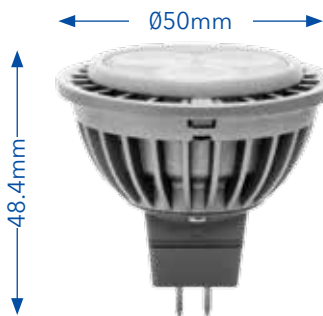
6.5W / 35°



6.5W / 36°



7W / 25°



6.5W / 7W / 35° 7W / 55°



7W / 40°



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	CANDELA (CD)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED MR16 GU5.3 4.0W 3000K WW 160LM 20DEG	52138	4	up to 20	GU5.3	12V AC/DC	750	160	20	3000	80	30,000	50	50.4	No	Blister	4
LED MR16 GU5.3 6.5W 3000K WW 370LM 35DEG	52142	6.5	36	GU5.3	12V AC/DC	1080	370	35	3000	80	25,000	50	50	No	Blister	4
LED MR16 GU5.3 6.5W 2700K WW 260LM 35deg DIM	52043	6.5	26	GU5.3	12V AC/DC	550	260	35	2700	80	35,000	50	58	Yes	Box	10
LED MR16 GU5.3 6.5W 3000K WW 270LM 35deg DIM	52212	6.5	27	GU5.3	12V AC/DC	600	270	35	3000	80	35,000	50	58	Yes	Box	10
LED MR16 GU5.3 6.5W 4000K NW 300LM 35deg DIM	52044	6.5	30	GU5.3	12V AC/DC	760	300	35	4000	80	35,000	50	58	Yes	Box	10
LED MR16 GU5.3 6.5W 3000K WW 350LM 36DEG	52158	6.5	51	GU5.3	12V AC/DC	650	350	36	3000	80	30,000	50	55	No	Blister	5
LED MR16 GU5.3 7.0W 12V AC / DC 2700K WW 440LM 25deg DIM	52229	7	40	GU5.3	12V AC/DC	2400	440	25	2700	80	25,000	50	48.4	Yes	Box	10
LED MR16 GU5.3 7.0W 12V AC / DC 3000K WW 475LM 25deg DIM	52230	7	42	GU5.3	12V AC/DC	2500	475	25	3000	80	25,000	50	48.4	Yes	Box	10
LED MR16 GU5.3 7.0W 12V AC / DC 4000K NW 485LM 25deg DIM	52231	7	43	GU5.3	12V AC/DC	2500	485	25	4000	80	25,000	50	48.4	Yes	Box	10
LED MR16 GU5.3 7.0W 2700K WW 390LM 35deg DIM	52206	7	37	GU5.3	12V AC/DC	850	390	35	2700	80	25,000	50	58	Yes	Box	10
LED MR16 GU5.3 7.0W 3000K WW 410LM 35deg DIM	52207	7	39	GU5.3	12V AC/DC	950	410	35	3000	80	25,000	50	58	Yes	Box	10
LED MR16 GU5.3 7.0W 4000K NW 430LM 35deg DIM	52208	7	39	GU5.3	12V AC/DC	1000	430	35	4000	80	25,000	50	58	Yes	Box	10
LED MR16 GU5.3 7.0W 2700K WW 330LM 55deg DIM	52209	7	34	GU5.3	12V AC/DC	420	330	55	2700	80	25,000	50	58	Yes	Box	10
LED MR16 GU5.3 7.0W 3000K WW 360LM 55deg DIM	52210	7	36	GU5.3	12V AC/DC	440	360	55	3000	80	25,000	50	58	Yes	Box	10
LED MR16 GU5.3 7.0W 4000K NW 390LM 55deg DIM	52211	7	37	GU5.3	12V AC/DC	460	390	55	4000	80	25,000	50	58	Yes	Box	10
LED MR16 GU5.3 7.0W 2700K WW 375LM 40DEG DIM	52240	7	37	GU5.3	12V AC/DC	800	375	40	2700	80	30,000	49.9	48	Yes	Box	10
LED MR16 GU5.3 7.0W 3000K WW 385LM 40DEG DIM	52241	7	37	GU5.3	12V AC/DC	700	385	40	3000	80	30,000	49.9	48	Yes	Box	10
LED MR16 GU5.3 7.0W 4000K NW 450LM 40DEG DIM	52242	7	41	GU5.3	12V AC/DC	800	450	40	4000	80	30,000	49.9	48	Yes	Box	10



BI PIN

Verbatim LED G4 Capsules and Buttons provide replacement lighting for low voltage bi-pin halogen bulbs.

APPLICATION

Suitable for desk lamps, vanity and cabinet lighting.



MR11

Verbatim MR11 GU4 LED lamps offer an ideal replacement for low voltage halogen lamps.

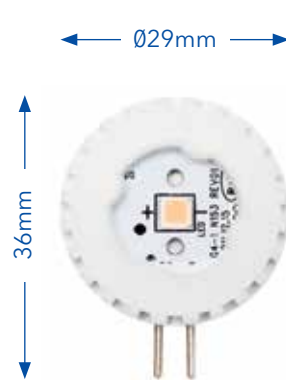
APPLICATION

Suitable for accent lighting, vanity and display cabinet lighting, exhibitions and retail stores.

1W /100°



1.5W /110°



2W /35°



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	CANDELA (CD)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED BI PIN G4 Capsule 1.0W 12V AC/DC 2700K WW 80LM	52143	1	10W	G4	12V AC/DC	27	80	100	2700	80	25,000	13.8	41	No	Blister	10
LED BI PIN G4 Button 1.5W 12V AC/DC 2700K WW 85LM	52145	1.5	10W	G4	12V AC/DC	25	85	110	2700	80	40,000	29	36	No	Blister	10
LED MR11 GU4 2.0W 2700K WW 90LM 35DEG	52144	2	Up to 15W	GU4	12V AC/DC	200	90	35	2700	80	25,000	35	41	No	Blister	6



PAR20 & PAR30

This energy saving alternative for public area lighting is an ideal replacement for halogen or incandescent PAR lamps. It is dimmable and has a good colour rendering.

APPLICATION

Ideal for general lighting and spotlighting in public areas such as lobbies, corridors, stairwells and shops where the light is always on.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information



8W / 35°




11.3W / 25°



14.5W / 30°



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	CANDELA (CD)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED PAR20 E27 3000K WW 8.0W 340LM 35DEG DIM	52232	8	49	E27	220-240V	900	340	35	3000	80	35,000	60	94	Yes	Box	6
LED PAR30 E27 12W 2700K WW 580LM DIM	52016	11.3	75	E27	220-240V	1300	580	25	2700	80	25,000	90.5	118.2	Yes	Box	6
 LED PAR30 E27(SN) 14.5W 4000K NW 600LM DIM	52042	14.5	75	E27	220-240V	1300	600	30	4000	95	25,000	90.8	90.2	Yes	Box	6



PAR38

This energy saving alternative for public area lighting is an ideal replacement for halogen or incandescent PAR lamps. It is dimmable and has a good colour rendering.

APPLICATION

Ideal for general lighting and spotlighting in public areas such as lobbies, corridors, stairwells and shops where the light is always on.

PAR38 OUTDOOR

IP54-rated PAR38 suitable for outdoor and indoor applications.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information

17.5W / 25°



19W / 45°



20W / 22°



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	CANDELA (CD)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED PAR38 E27 18W 2700K WW 800LM DIM	52017	17.5	100	E27	220-240V	2400	800	25	2700	80	25,000	108.5	131.4	Yes	Box	6
LED PAR38 Outdoor E27 19W 4500K NW 1250LM IP54	52033	19	120	E27	220-240V	1200	1030	45	4500	70	25,000	122.7	133.8	No	Box	6
LED PAR38 E27 3000K WW 20W 1100LM 22DEG DIM	52034	20	120	E27	220-240V	6500	1100	22	3000	80	35,000	119.5	128.5	Yes	Box	4





AR111

Verbatim LED AR111 has high luminous intensity with different beam angle options making it an ideal replacement for traditional halogen lamps. It has high energy savings and a long lifetime.

APPLICATION

Ideal for general lighting and spotlighting in public areas such as lobbies, corridors, stairwells and shops where the light is always on.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information



14.5W / 25°



15W / 35°



Silver and white outer ring options included in the box.

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	CANDELA (CD)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED AR111 G53 14.5W 2700K WW 670LM silver	52048	14.5	69	G53	12V AC/DC	3500	670	25	2700	80	25,000	111	51.6	No	Box	12
LED AR111 G53 14.5W 3000K WW 715LM silver	52202	14.5	72	G53	12V AC/DC	3700	715	25	3000	80	25,000	111	51.6	No	Box	12
LED AR111 G53 14.5W 4000K NW 760LM silver	52201	14.5	79	G53	12V AC/DC	3900	760	25	4000	80	25,000	111	51.6	No	Box	12
LED AR111 G53 15.0W 3000K WW 690LM 35deg Box	52203	15	71	G53	12V AC/DC	1600	690	35	3000	80	25,000	111	64	No	Box	6
LED AR111 G53 15.0W 2700K WW 660LM 35deg Box	52205	15	68	G53	12V AC/DC	1500	660	35	2700	80	25,000	111	64	No	Box	6
LED AR111 G53 15.0W 4000K NW 800LM 35deg Box	52204	15	85	G53	12V AC/DC	1950	800	35	4000	80	25,000	111	64	No	Box	6



LED DOWNLIGHTS

GENERAL ILLUMINATION

Warm white downlights offering a wide beam angle of 90° and a uniform, glare free light distribution. Easy to integrate thanks to its five different diameters, compact dimensions and external power supply. White housing for a discreet integration in ceilings.

APPLICATION

A direct replacement for compact fluorescent downlights. For general purpose use corridors, offices, hotels and restaurants. Suitable for most suspended ceilings.

ACCENT AND SPOT ILLUMINATION

Available in 25° and 40° angles with an adjustable LED head. The diamond cut optics provide uniform, glare free light distribution. Dimmable with most leading edge dimmers. The external power supply and compact housing dimensions make it easy to integrate. White or chrome coloured housing.

APPLICATION

A direct replacement for halogen spotlights. For homes, reception areas, retail, offices and other areas. Suitable for most suspended ceilings.



Go to www.verbatim.com for:

DIALux *Technical parameters and product data for direct project integration*

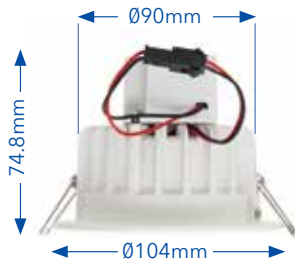


Photometric diagrams

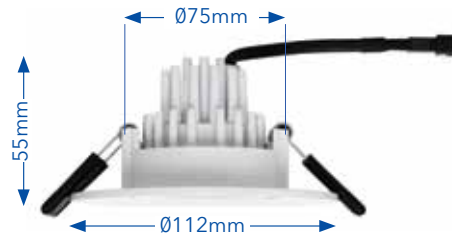


Dimmer compatibility information

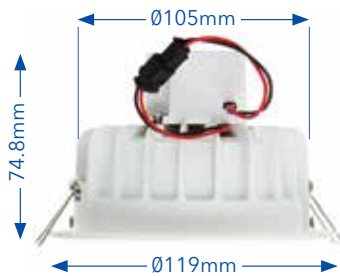
11W / 90°



12W / 25° / 90°



12W / 90°



21W / 90°



15W / 90°



24W / 90°



GENERAL ILLUMINATION

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	VOLTAGE (V)	LUMEN (LM)	CANDELA (CD)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	LENGTH (OR HEIGHT) (MM)	OUTER DIAMETER (MM)	INNER DIAMETER (MM)	DIMMING	PACKAGING TYPE	MOQ
LED Downlight 104mm 11W 3000K WW 600lm 90deg White	52412	11	220-240	600	450	90	3000	80	30,000	74.8	104	90	No	Box	4
LED Downlight 119mm 12W 3000K WW 680lm 90deg White	52413	12	220-240	680	580	90	3000	80	30,000	74.8	119	105	No	Box	4
LED Downlight 135mm 15W 3000K WW 800lm 90deg White	52414	15	220-240	800	550	90	3000	80	30,000	78	135	125	No	Box	4
LED Downlight 183mm 21W 3000K WW 1300lm 90deg White	52415	21	220-240	1300	650	90	3000	80	30,000	80.5	183	170	No	Box	4
LED Downlight 235mm 24W 3000K WW 1600lm 90deg White	52416	24	220-240	1600	650	90	3000	80	30,000	92	235	216	No	Box	4

ACCENT AND SPOT ILLUMINATION

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	VOLTAGE (V)	LUMEN (LM)	CANDELA (CD)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	LENGTH (OR HEIGHT) (MM)	OUTER DIAMETER (MM)	INNER DIAMETER (MM)	DIMMING	PACKAGING TYPE	MOQ
LED Downlight 12.0W 3000K WW 685LM 25DEG White DIM	52404	12	220-240	685	3150	25	3000	80	25,000	55	112	75	Yes	Box	4
LED Downlight 12.0W 3000K WW 675LM 40DEG White DIM	52405	12	220-240	675	1200	40	3000	80	25,000	55	112	75	Yes	Box	4
LED Downlight 12.0W 3000K WW 685LM 25DEG Chrome DIM	52406	12	220-240	685	3150	25	3000	80	25,000	55	112	75	Yes	Box	4
LED Downlight 12.0W 3000K WW 675lm 40DEG Chrome DIM	52407	12	220-240	675	1200	40	3000	80	25,000	55	112	75	Yes	Box	4



LED TUBES & BATTEN LUMINAIRES

LED T8 TUBES:

Uniform, glare free light distribution for general illumination or cove lighting. Warm, neutral and cool white light options. Provides a direct retrofit solution to replace T8 fluorescent tubes in installations with conventional control gear (CCG/VVG). Includes replacement starter.

LED BATTEN LUMINAIRES:

LED T8 tube kit delivered with one or two Verbatim 22W 4000K LED T8 Tubes. Uniform, glare free light distribution for general illumination or cove lighting. A direct replacement for standard fluorescent tube batten luminaires. For LED tubes with one sided feed-in only.

APPLICATION:

For car parks, garages, sports areas, workshops and warehouses.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	BASE	VOLTAGE (V)	LUMEN (LM)	BEAM ANGLE (°)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIAMETER (MM)	LENGTH (MM)	DIMMING	PACKAGING TYPE	MOQ
LED Tube T8 G13 1900lm 22W 3000K 1200mm	52700	22	36	G13	220-240	1900	120	3000	80	40,000	28 x 30	1213	No	Box	10
LED Tube T8 G13 1950lm 22W 4000K 1200mm	52701	22	36	G13	220-240	1950	120	4000	80	40,000	28 x 30	1213	No	Box	10
LED Tube T8 G13 2000lm 22W 6500K 1200mm	52702	22	36	G13	220-240	2000	120	6500	80	40,000	28 x 30	1213	No	Box	10
LED Tube T8 G13 2400lm 28W 3000K 1500mm	52703	28	58	G13	220-240	2400	120	3000	80	40,000	28 x 30	1513	No	Box	10
LED Tube T8 G13 2500lm 28W 4000K 1500mm	52704	28	58	G13	220-240	2500	120	4000	80	40,000	28 x 30	1513	No	Box	10
LED Tube T8 G13 2600lm 28W 6500K 1500mm	52705	28	58	G13	220-240	2600	120	6500	80	40,000	28 x 30	1513	No	Box	10

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	WATTAGE EQUIVALENT	SOCKET	VOLTAGE (V)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	PRODUCT DIMENSIONS	PROTECTION CLASS	INGRESS PROTECTION
Batten Luminaire 1xT8LED tube 1200mm Indoor	52417	22	36	G13	220-240	4000	80	40,000	40x52x1232	Class II	IP20
Batten Luminaire 2xT8LED tube 1200mm Indoor	52418	44	36	G13	220-240	4000	80	40,000	40x52x1232	Class II	IP20
Batten Luminaire 1xT8LED tube 1200mm IP65	52419	22	36	G13	220-240	4000	80	40,000	86x72x1265	Class I	IP65
Batten Luminaire 2xT8LED tube 1200mm IP65	52420	44	36	G13	220-240	4000	80	40,000	86x115x1265	Class I	IP65

DOWNLIGHT FITTINGS

Verbatim downlight fittings are perfect for all Verbatim LED PAR16 GU10 lamps. They are available in packs which consist of a white or aluminium fixed ring plus a holding pin, a GU10 socket and an electrical connection box. Available in two different IP protection ratings, the IP23 rated version is suitable for general-purpose lighting while the IP44 version offers better water resistance making it ideal for lighting in bathrooms and other wet rooms.

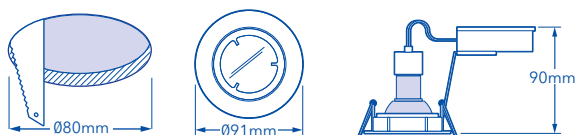
APPLICATION

Economic solution for general lighting in corridors, offices, shops or in domestic households, in living rooms, kitchens, bedrooms or bathrooms.



PRODUCT DESCRIPTION	ORDER NO.	VOLTAGE	HOUSING COLOUR	COVER	MOQ
LED Down light IP23 Twist lock	52400	220-240V	White	None	10
LED Down light IP23 Twist lock	52401	220-240V	Brushed Aluminium	None	10
LED Down light IP44 Twist lock	52402	220-240V	White	Glass	10
LED Down light IP44 Twist lock	52403	220-240V	Brushed Aluminium	Glass	10

DIMENSIONS: 52400 / 52401



DIMENSIONS: 52402 / 52403



LED TRANSFORMER



TYPE	LW70 ELECTRONIC TRANSFORMER
Product number	52900
Primary voltage range	220-240 V
Frequency	50/60 Hz
Input current	0.29 A
Secondary voltage	11.5 VAC
Lamp wattage	0-70 W
Efficiency	>95 %
Power factor	>0.99
Input capacitance	100 nF
Dimming	Leading and trailing edge dimmers
Dimensions	LxWxH mm 113x44x28
Weight	80 g
MOQ	10

GUIDE TO VERBATIM LED PACKAGING

Verbatim has a comprehensive range of LED products available in boxed packaging for professional customers.



KEY FEATURES

- Simple structure ideal for wholesale and project use
- Easy to open for mass installations
- Compact design saves cost and space
- Quick and easy to understand technical specifications

Selected LED lamps are available in tough blister packaging which is particularly suited for retail sales.



KEY FEATURES

- Integrated RF chip to protect against theft
- Clear blister design makes whole product visible
- Hangs on euro hook or stands free on the shelf
- Compact design with easy to understand messaging for end users

MARKETING TOOLS



Single tray free standing display unit (consumer range)
 Part number: 68774
 The part number is for the display unit only.
 The crowner must be ordered separately.



3-tray free standing display unit (consumer range)
 Part number: 68776
 The part number is for the display unit only.
 The crowner must be ordered separately.



Crowner (consumer range)
 English crowner - part number: 68777
 German crowner - part number: 68775
 Italian crowner - part number: 68778
 Dutch crowner - part number: 68779

Demo case
 Part number: 68722



3-tray free standing display unit (professional range)
 Part number: 68788
 The part number is for the display unit only.
 The crowner must be ordered separately.



Crowner (professional range)
 English crowner - part number: 68791
 French crowner - part number: 68789



Demo Display Box
 Available on request.



Counter Display
 Part number: 68723
 Comes with an English crowner.



Metal Counter Display without crowner
 Part number: 68772
 The part number is for the display unit only.
 The crowner must be ordered separately.
 German crowner - part number: 68773

Light bar
 Part number: 68807
 Crowner - part number: 68808



Light bar
 Available in 1M and 1.25M / 70° and 90° on request.



GLOSSARY OF TERMS

TERMINOLOGY	DESCRIPTION
Beam Angle	It is the angular dimension of the cone of light from reflectorized lamps encompassing the central part of the beam out to the angle where the intensity is 50% of maximum.
Correlated Colour Temperature (CCT)	A specification of the colour appearance of a lamp relating its colour to that of a reference source heated to a particular temperature, measured in degrees Kelvin (K).
Colour Temperature (K)	The colour temperature of a light source is defined in comparison with a "black body radiator" and plotted on a "Planckian curve". Colour temperature or the colour effect of the light source is presented in Kelvin (K). The typical colour temperatures are: 3500K and below is warm white; 3500K-4500K is neutral white; around 4500K or higher is cool white.
Colour rendering Index (CRI)	The colour rendering index is a measure of the correspondence between the colour of an object and its appearance under a light source. The higher the colour rendering index of the light source, the more naturally the colours of the object are rendered.
Heat Sink	A heat sink is an enclosure that serves to radiate the heat from the LED lamp. Materials with good thermal conductivity are used here to transfer the heat generated inside the lamp to the surrounding air.
Illuminance	The density of light arriving on a surface. Illuminance is measured in footcandles or lux.
Incandescent Lamp	A light source that generates light utilizing a thin filament wire heated to white heat by an electric current passing through it.
LED	Light Emitting Diodes or LED is a semiconductor device that illuminates by the movement of electrons in the material. It is a solid that directly converts electrical impulses into light. Most white light LEDs incorporate phosphors to change the colour characteristics of the emitted light.

TERMINOLOGY	DESCRIPTION
Luminaire	It is a complete lighting unit consisting of a lamp (or lamps), ballast (or ballasts) as required together with the parts designed to distribute the light, position and protect the lamps and connect them to the power supply. A luminaire is also called a fixture.
Luminous flux (lm)	It is a measure of the amount of light emitted by a light source and is presented in Lumens (lm).
Luminous Intensity (cd)	Luminous intensity indicates the strength of light in a particular direction and is presented in candela (cd).
Lux (lx)	A unit of illuminance or light falling onto a surface. One lux is equal to one lumen per square metre. Ten lux approximately equals one footcandle.
Organic light emitting diode	An organic light emitting diode (OLED) is a light-emitting diode (LED) in which the emissive electroluminescent layer is a film of organic compounds which emit light in response to an electric current.
Phosphor	An inorganic chemical compound processed into a powder and deposited on the inner glass surface of fluorescent tubes and some mercury and metal-halide lamp bulbs. Phosphors are designed to absorb short wavelength ultraviolet radiation and to transform and emit as visible light. Phosphors are also used in LED devices to create white light when used in combination with LEDs of certain wavelengths.
Watt	A unit of electrical power. Lamps are rated in watts to indicate the rate at which they consume energy.

Verbatim - Denmark, Norway, Sweden & Finland

Tobaksvejen 25, 2860 Søborg, **Denmark**
T: +45 7022 6323 / F: +45 4590 7088
E: info.nordic@verbatim-europe.com

Verbatim - France, Spain, Portugal, Middle East & North Africa

Immeuble Hermes, 20 rue Jacques Daguerre, 92565 Rueil-Malmaison
Cedex, **France**
T: +33 (0) 1 47 16 94 20 / F: +33 (0) 1 47 16 15 00
E: info.france@verbatim-europe.com /
E: infomideastafrica@verbatim-europe.com
<http://facebook.com/VerbatimFrance>
<http://www.facebook.com/VerbatimEspaña>

Verbatim - Germany, Austria & Switzerland, Central/East Europe

Düsseldorfer Str. 13, D - 65760 Eschborn, **Germany**
T: +49 (0) 6196 900 10 / F: +49 (0) 6196 900 120
E: info.germany@verbatim-europe.com /
E: info.central-east@verbatim-europe.com
<http://facebook.com/VerbatimDeutschland>

Verbatim - Italy, Cyprus, Greece & Malta

Via Roma 108 , 20060 Cassina de' Pecchi MI, **Italy**
T: +39 02 9530 1115 / F: +39 02 9530 0449
E: info.italy@verbatim-europe.com
<http://facebook.com/VerbatimItalia>

Московское представительство,

Verbatim – Russia, Commonwealth of Independent States
Бизнес центр Ситидел, ул. Земляной Вал, 9, 105064 **Москва**
T: +7 (495) 967 97 24 / F: +7 (495) 967 97 19
E: info.east@verbatim-europe.com
<http://www.facebook.com/VerbatimRussia>

Verbatim - Belgium, The Netherlands & Luxembourg

Laan van Zuid Hoorn 14, 2289 DE Rijswijk, **The Netherlands**
T: +31 (0)70 336 76 00 / F: +31 (0)70 336 76 11
E: info.nl@verbatim-europe.com

Verbatim - Africa & Turkey

First Floor, Building 4, Pinewood Office Park, 33 Riley Road,
Woodmead, **South Africa**
T: +27 (0) 11 253 4940 / F: +27 (0)11 234 3626
E: info.sa@verbatim-europe.com
<http://www.facebook.com/VerbatimSouthAfrica>
<http://www.facebook.com/VerbatimTurkiye>

Verbatim - United Kingdom, Ireland & Israel

(EMEA Head Office)
Prestige House, 23-26 High Street, Egham, Surrey TW20 9DU,
United Kingdom
T: +44 (0) 1784 439 781 / F: +44 (0) 1784 471 337
E: info.uk@verbatim-europe.com
<http://facebook.com/VerbatimEurope>

**www.verbatim.com**

- EUROPE/ MIDDLE EAST/ AFRICA: Verbatim Ltd, Prestige House, 23- 26 High Street, Egham, Surrey, TW20 9DU, UK
- AMERICAS: USA Verbatim Americas LLC, Charlotte, NC
- AUSTRALIA/ NEW ZEALAND: Verbatim Australia Pty Ltd, Unit 6, 450 Princes Highway, Noble Park, Victoria, 3174 Australia
Tel: +61 3 9790 8999 Fax: +61 3 9790 8955 Email: support@verbatim.com.au

銷售公司：香港威實有限公司
公司地址：香港九龍尖沙咀東部加連威老道92號幸福中心1101-02室
銷售公司：台灣威實國際貿易股份有限公司
公司地址：臺北市基隆路二段166號4樓
聯絡電話：02-23771698
銷售公司：威宝国际贸易(深圳)有限公司
公司地址：深圳市福田区泰然九路海松大廈A座1105室

"VERBATIM" and  logo are the trademarks of Mitsubishi Kagaku Media Co., Ltd. registered in EU and other countries.

68796-110/GB/5000/1013