



LED LIGHTING

PRODUCT CATALOGUE

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

Mitsubishi Chemical Holdings Group



INTRODUCTION

VERBATIM - TECHNOLOGY YOU CAN TRUST

For 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.*

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Phosphors

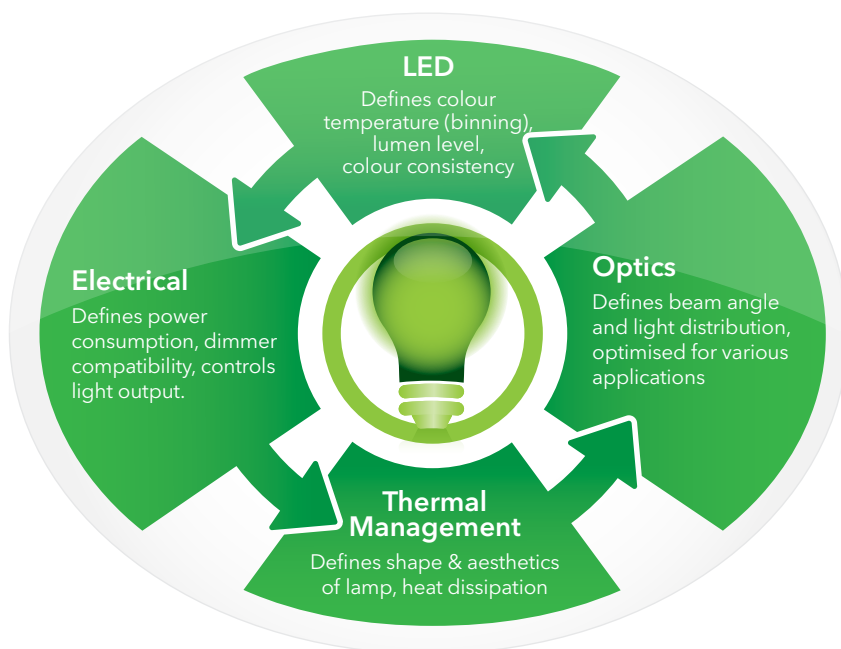


Encapsulant

MITSUBISHI TECHNOLOGY - MATERIALS

Mitsubishi Chemical is a world-leading supplier of phosphor to the global lighting industry. Phosphors play a key role in converting blue LED light to the natural white light that humans enjoy. The quality of the phosphors is crucial in ensuring that the colours do not degrade over time which could result in serious decline in the white light output.

Furthermore, Mitsubishi'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.



GaN ON GaN

It has been widely reported that LEDs using a GaN epi on GaN substrate structure chip is the future for LED lighting, and Mitsubishi is one of the pioneers in this field. GaN on GaN theoretically offers far improved power density performances compared to standard GaN on sapphire structures because there is a crystal lattice match at the atomic level so no buffer layers are needed. This results in far fewer defects and a simpler device architecture. By minimizing defects in the active layer, current densities and light output are projected to be 5 to 10 times higher with GaN on GaN chips, allowing for much smaller lighting fixtures and narrower beam angles.

DICHROIC MR16 LED

Dichroic halogen lamps are very popular for applications such as track lighting, pendant fixtures and retail display lighting. They produce a unique surrounding lighting effect as they allow infrared radiation to pass through the coating which also has the benefit of reducing the heating of illuminated objects.

Up until now, the LED industry has not been able to create anything that satisfactorily matches halogen dichroic's lamps in terms of their distinctive glitter/surround lighting effect. Verbatim's new high quality dichroic MR16 GU5.3 delivers a high quality beam, and with no noticeable heatsink fits neatly into standard fixtures – so much so that it's very difficult to tell the difference between it and it's halogen relative (apart from an 80% energy saving of course)!

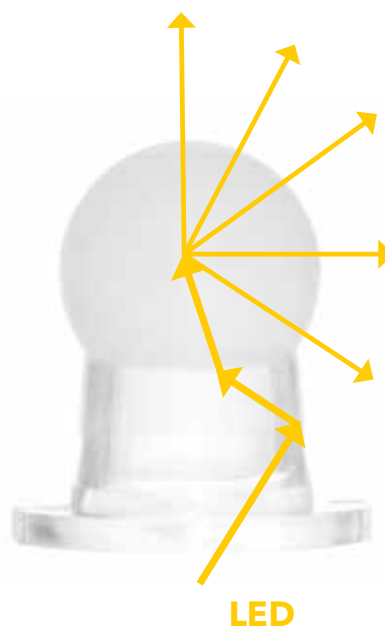


MIRAGEBALL OPTICS

A problem with many LED non-directional wide beam lamps is that the light output is not uniform which results in shadows or rings. Mitsubishi has created the Mirageball optic lens, using a two-colour molding process, that delivers a very even and wide angled light that is perfect for floor lamps or wall sconces where uniformity is particularly important.



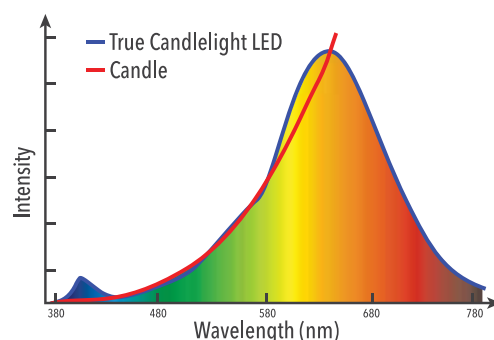
EVEN LIGHT DISTRIBUTION



52243 - VxRGB Natural Vision Candle

REAL CANDLE FLAME

With a colour temperature of 1900K, Verbatim's new VxRGB Natural Vision LED candle lamp provides a warm candle-like glow that closely matches the spectrum of a real candle flame. A full range of special candle lamps using Mitsubishi technology will soon be available, providing features including an even richer flame colour (1650K), dimmable colour tunability (2400K-1900K) and a flickering effect that replicates the dancing light of a real flame.



VxRGB TECHNOLOGY

Mitsubishi's unique VxRGB technology uses violet light to excite the red, green and blue phosphors, producing unparalleled colour illumination with a much wider and richer spectrum than conventional LED light sources.

VxRGB Natural Vision LEDs, with their high CRI performance (>98), can more closely match other light sources such as halogen or incandescent light, making them ideal for applications such as jewellery and fashion stores, or art galleries and museums.

VxRGB Vivid Vision™ 'high definition' lighting provides high perceptual fidelity for special applications by helping to discriminate between even very close hues. Black, navy and dark blue are often difficult to identify under conventional halogen lighting, but is much easier to distinguish under VxRGB Vivid Vision™ lighting. It can also illuminate objects including typography in finer detail, make whites whiter and presents skin-tones more accurately.

VxRGB
LED LIGHTING



52245 / 52500 / 52224



Lamps for animal enclosures



Lamps for fashion



Lamps for travel

LAMPS FOR ANIMAL ENCLOSURES

For humans, although LED lamps do not appear to flicker, this is not the case for animals. In low frequencies (150-200Hz), animals can detect flickering in the light which can result in distress and significantly reduced egg production in chickens or slower rehabilitation of horses.



52220

Verbatim's IP65 certified E27 Classic A lamp reports no oscillations when tested at 50µms indicating that there is no flickering up to 20KHz. This means that animals (as well as humans) do not perceive any form of flickering from the LED lamp which should encourage them to carry on with their business as normal with no distraction!

- No flickering for animals
- IP65 certified for outdoor and indoor applications including areas with high humidity
- 220° beam angle
- Good dimming profile
- A+ energy rated with 64lm/W
- 40,000h lifetime
- Replacement for 40W incandescent

LAMPS FOR FASHION

Verbatim's wide range of performance LED lamps have been developed to provide lighting solutions that brings out the best in objects. Available in different colour temperatures and beam angles, dimmable and with a lifetime of between 30,000 - 40,000 hours. Lamps with CRI ~ 97 for fine retail presentations as well as the premium VxRGB Vivid Vision™ "high definition" lamps for special displays.

- Car showrooms
- Museums
- Fashion retail
- High-end restaurants
- Jewellery stores
- Beauty salons



52040 / 52041 / 52224 / 52042 / 52204

LAMPS FOR TRAVEL

Caravans and boats are two typical applications that demand lighting solutions that minimise energy usage. With up to 85% energy saving, Verbatim's warm white MR11 GU4 and Bi Pin G4 LEDs use only 1W and have a lifetime of over 40.000 hours - making it a perfect match for low power applications.



52143 / 52145 / 52144

RETROFIT LAMPS

Verbatim's LED retrofit lamps provide a direct replacement to current incandescent and halogen lamps. They offer outstanding light performance for a wide range of applications, significantly reducing energy and maintenance costs.



CLASSIC A

Verbatim LED Classic A offers a direct replacement for conventional E27 and B22 incandescent lamps. The range includes lamps for home or professional installations and includes features such as dimmability, high lumen output, wide beam angles, built in temperature control systems and IP65 rating for outdoor use.

APPLICATION

Suitable for a wide range of applications from creating a comfortable atmosphere at home or in hotel rooms to providing specialist outdoor lighting.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information



PRODUCT DESCRIPTION

PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMINOUS FLUX (lm)	LUMINOUS EFFICIENCY (lm/W)	BEAM ANGLE (°)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
CLASSICA												
SOCKET: E27		VOLTAGE: 220 - 240V						CRI: ≥80				
LED Classic A E27 3.5W 3000K WW 270LM 130DEG	52126	3.5	26	270	77	130	3000	30,000	No	A+	Home	4
LED Classic A E27 4W 2700K WW 250LM 130DEG DIM	52147	4	25	250	62.5	130	2700	30,000	Yes	A+	Home	4
LED Classic A E27 5.5W 3000K WW 380LM 130DEG	52128	5.5	34	380	69	130	3000	30,000	No	A+	Home	4
LED Classic A E27 6W 2700K WW 480LM 220DEG Frost	52600	6	40	480	80	220	2700	20,000	No	A+	Home	4
LED Classic A E27 6.5W 3000K WW 480LM 130DEG	52130	6.5	41	480	74	130	3000	30,000	No	A+	Home	4
LED Classic A E27 7.5W 2700K WW 480LM 220DEG DIM	52220	7.5	40	480	64	220	2700	40,000	Yes	A	Performance	6
LED Classic A E27 7.7W 2700K WW 500LM 220DEG DIM	52225	7.7	42	500	65	220	2700	40,000	Yes	A+	Performance	4
LED Classic A E27 8W 2700K WW 530LM 130DEG DIM	52148	8	43	530	66.3	130	2700	30,000	Yes	A	Home	4
LED Classic A E27 9W 2700K WW 810LM 220DEG Frost	52601	9	60	810	90	220	2700	20,000	No	A+	Home	4
LED Classic A E27 9.5W 3000K WW 860LM 130DEG	52132	9.5	63	860	91	130	3000	30,000	No	A+	Home	4
LED Classic A E27 10W 2700K WW 730LM 130DEG DIM	52150	10	55	730	73	130	2700	30,000	Yes	A+	Home	4
LED Classic A E27 10.5W 2700K WW 806LM 240DEG DIM	52227	10.5	60	806	77	240	2700	25,000	Yes	A+	Performance	4
LED Classic A E27 12W 3000K WW 1100LM 130DEG	52153	12	77	1100	91.7	130	3000	30,000	No	A+	Home	4
LED Classic A E27 13W 2700K WW 1000LM 130DEG DIM	52152	13	71	1000	76.9	130	2700	30,000	Yes	A+	Home	4
LED Classic A E27 14W 2700K WW 1000LM 270DEG DIM	52244	14	71	1000	71	270	2700	30,000	Yes	A	Performance	4
CLASSICA												
SOCKET: B22		VOLTAGE: 220 - 240V						CRI: ≥80				
LED Classic A B22 3.5W 3000K WW 270LM 130DEG	52127	3.5	26	270	77	130	3000	30,000	No	A+	Home	4
LED Classic A B22 5.5W 3000K WW 380LM 130DEG	52129	5.5	34	380	69	130	3000	30,000	No	A+	Home	4
LED Classic A B22 6.5W 3000K WW 480LM 130DEG	52131	6.5	41	480	74	130	3000	30,000	No	A+	Home	4
LED Classic A B22 7.7W 2700K WW 500LM 220DEG DIM	52226	7.7	42	500	65	220	2700	40,000	Yes	A+	Performance	4
LED Classic A B22 8W 2700K WW 530LM 130DEG DIM	52149	8	43	530	66.3	130	2700	30,000	Yes	A	Home	4
LED Classic A B22 9.5W 3000K WW 860LM 130DEG	52133	9.5	63	860	91	130	3000	30,000	No	A+	Home	4
LED Classic A B22 10W 2700K WW 730LM 130DEG DIM	52151	10	55	730	73	130	2700	30,000	Yes	A+	Home	4
LED Classic A B22 10.5W 2700K WW 806LM 240DEG DIM	52228	10.5	60	806	77	240	2700	25,000	Yes	A+	Performance	4
LED Classic A B22 12W 3000K WW 1100LM 130DEG	52154	12	77	1100	91.7	130	3000	30000	No	A+	Home	4
LED Classic A B22 14W 2700K WW 1000LM 270DEG DIM	52300	14	71	1000	71	270	2700	30,000	Yes	A	Performance	4

INDOOR & OUTDOOR

IP65



CANDLE

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

For those special locations, the VxRGB Natural Vision Candle delivers a unique candle-like glow that closely matches the spectrum of a real flame.

APPLICATION

For chandeliers, wall sconces and other decorative fixtures in homes, hotels or restaurants.

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	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMINOUS FLUX (lm)	LUMINOUS EFFICIENCY (lm/W)	CCT (K)	CRI (RA)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
CANDLE		SOCKET: E14		VOLTAGE: 220 - 240V								
VxRGB Natural Vision Candle E14 2.5W 1900K WW	52243	2.5	-	50	20	1900	85	25,000	No	B	Premium	10
LED Candle Clear E14 3.7W 2700K WW 150LM DIM	52047	3.7	16	150	41	2700	80	15,000	Yes	A	Performance	10
LED Candle Clear E14 3.8W 2700K WW 90LM	52140	3.8	15	90	24	2700	80	30,000	No	B	Home	4
LED Candle Frost E14 3.8W 2700K WW 250LM	52136	3.8	25	250	66	2700	80	30,000	No	A+	Home	4
LED Candle Clear E14 4.0W 2700K WW 250LM	52123	4	25	250	70	2700	80	25,000	No	A+	Home	4
LED Candle Clear E14 4.5W 2700K WW 250LM	52603	4.5	25	250	55.6	2700	80	20,000	No	A+	Home	4
LED Candle Frost E14 4.5W 2700K WW 350LM	52602	4.5	31	350	77.8	2700	80	20,000	No	A+	Home	4
LED Candle Clear E14 5.5W 2700K WW 330LM	52604	5.5	30	330	60	2700	80	15,000	No	A+	Home	4



GLOBE & MINI GLOBE

The Verbatim LED Globe and Mini Globe range provides a direct replacement for E27 or E14 sockets. They deliver an incandescent-like light with energy savings of up to 85%.

APPLICATION

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

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Photometric diagrams



Dimmer compatibility information



PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMINOUS FLUX (lm)	LUMINOUS EFFICIENCY (lm/W)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
GLOBE	SOCKET: E27		VOLTAGE: 220 - 240V				CRI: ≥81				
LED Globe E27 7W 2700K WW 470LM DIM	52610	7	40	470	67.1	2700	20,000	Yes	A+	Home	10
LED Globe E27 10W 2700K WW 810LM DIM	52611	10	60	810	81	2700	20,000	Yes	A+	Home	10
MINI GLOBE	SOCKET: E14		VOLTAGE: 220 - 240V				CRI: ≥80				
LED Mini Globe E14 3.5W 3000K WW 250LM Frosted	52134	3.5	25	250	71	3000	30,000	No	A+	Home	4
LED Mini Globe E14 5.5W 2700K WW 330LM Clear	52605	5.5	30	330	60	2700	15,000	No	A+	Home	4
MINI GLOBE	SOCKET: E27		VOLTAGE: 220 - 240V				CRI: ≥80				
LED Mini Globe E27 3.5W 3000K WW 250LM Frosted	52135	3.5	25	250	71	3000	30,000	No	A+	Home	4
LED Mini Globe E27 5.5W 2700K WW 330LM Clear	52606	5.5	30	330	60	2700	15,000	No	A+	Home	4



PAR16

The spot PAR16 is a great 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 energy savings 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 and 36 degrees.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information



52607 / 52608



52234 / 52235 / 52236



52045 / 52213 / 52046



52141



52137



52155 / 52156 / 52157



52040



52233 / 52041

PRODUCT DESCRIPTION

PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMEN (lm)	USEFUL LUMEN 90° CONE (lm)	LUMINOUS EFFICIENCY (lm/W)	LUMINOUS INTENSITY (CD)	BEAM ANGLE (°)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
PAR16	SOCKET: GU10			VOLTAGE: 220 - 240V				CRI: ≥80						
LED PAR16 GU10 4W 3000K WW 160LM 20DEG	52137	4	27	200	160	50	750	20	3000	30,000	No	A	Home	4
LED PAR16 GU10 4W 2700K WW 250LM 35DEG	52607	4	38	250	250	62.5	650	35	2700	20,000	No	A+	Home	4
LED PAR16 GU10 SN 6W 2700K WW 220LM DIM	52040	6	33	220	-	-	570	30	2700	25,000	Yes	A	Performance	10
LED PAR16 GU10 5W 3000K WW 230LM 32DEG DIM	52155	5	32	250	230	46	700	32	3000	30,000	Yes	A	Home	4
LED PAR16 GU10 5W 2700K WW 350LM 35DEG	52608	5	51	350	350	70	750	35	2700	20,000	No	A+	Home	4
LED PAR16 GU10 6.5W 2700K WW 240LM 35DEG DIM	52045	6.5	35	240	230	35	580	35	2700	35,000	Yes	A	Performance	10
LED PAR16 GU10 6.5W 3000K WW 240LM 35DEG DIM	52213	6.5	36	250	240	37	600	35	3000	35,000	Yes	A	Performance	10
LED PAR16 GU10 6.5W 4000K NW 300LM 35DEG DIM	52046	6.5	44	320	300	46	760	35	4000	35,000	Yes	A	Performance	10
LED PAR16 GU10 6.5W 3000K WW 400LM 35DEG	52141	6.5	57	-	400	62	1000	35	3000	25,000	No	A+	Home	4
LED PAR16 GU10 6.5W 3000K WW 270LM 36DEG DIM	52156	6.5	36	330	270	42	550	36	3000	30,000	Yes	A	Home	4
LED PAR16 GU10 7W 3000K WW 350LM 36DEG DIM	52157	7	51	420	350	50	680	36	3000	30,000	Yes	A	Home	4
LED PAR16 GU10 7.3W 2700K WW 390LM 36DEG DIM	52234	7.3	60	420	390	53	720	36	2700	35,000	Yes	A	Performance	10
LED PAR16 GU10 7.3W 3000K WW 420LM 36DEG DIM	52235	7.3	64	450	420	58	800	36	3000	35,000	Yes	A	Performance	10
LED PAR16 GU10 7.3W 4000K NW 440LM 36DEG DIM	52236	7.3	66	470	440	60	830	36	4000	35,000	Yes	A	Performance	10
LED PAR16 GU10 LN 8.5W 2700K WW 250LM DIM	52041	8.5	38	310	250	29	720	30	2700	25,000	Yes	A	Performance	10
LED PAR16 GU10 LN 9W 3000K WW 465LM 25DEG DIM	52233	9	66	500	465	52	2000	25	3000	25,000	Yes	A	Performance	10





MR16

The MR16 range has been developed to replace 20W, 35W & 50W equivalent MR16 halogen lamps. They are available in multiple beam angle and colour temperature options to provide the desired atmosphere.

Verbatim VxRGB MR16's provide unsurpassed premium lighting for specialist applications. The Natural Vision MR16 produces light with a colour rendering index of approximately 97 which closely resembles natural daylight. The Vivid Vision MR16 provides 'high definition' lighting that accentuates the colours and fidelity of highlighted objects.

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, 2950K, 3000K), neutral white (4000K) and cold white (6500K) colour temperatures and beam angles of 20, 25, 35, 36 and 40 degrees.

Go to www.verbatim.com for:

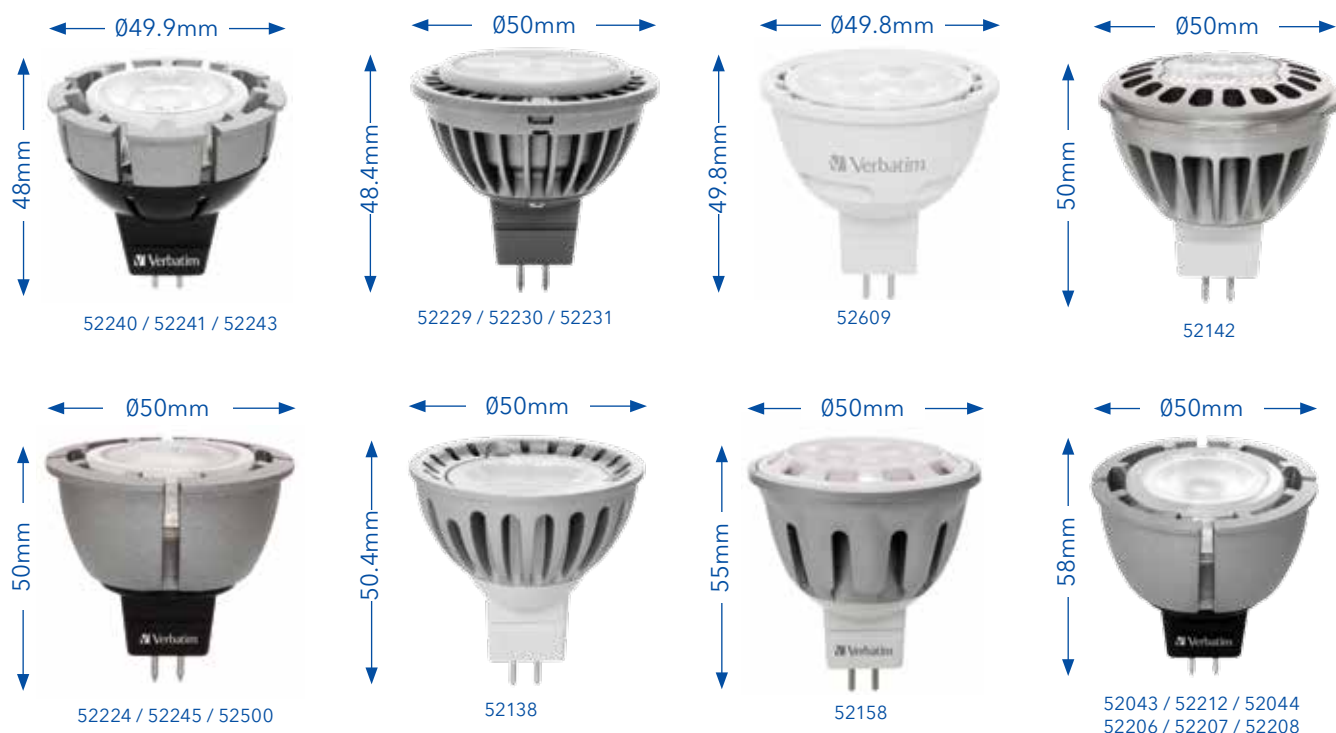
DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information



PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMEN (LM)	USEFUL LUMEN 90° CONE (LM)	LUMINOUS EFFICIENCY (lm/W)	LUMINOUS INTENSITY (CD)	BEAM ANGLE (°)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
MR16	SOCKET: GU5.3			VOLTAGE: 12V AC/DC				CRI: ≥80						
LED MR16 GU5.3 4.0W 3000K WW 160LM 20DEG	52138	4	up to 20	200	160	40	750	20	3000	30,000	No	A	Home	4
LED MR16 GU5.3 5.5W 2700K WW 350LM 35DEG	52609	5.5	35	350	350	63.6	750	35	2700	20,000	No	A+	Home	4
VxRGB Natural Vision LED MR16 GU5.3 6.5W 2950K WW 170LM 25DEG DIM	52245	6.5	16	180	170	28	570	25	2950	25,000	Yes	A	Premium	10
VxRGB Natural Vision LED MR16 GU5.3 6.5W 6500K CW 170LM 25DEG DIM	52500	6.5	16	190	170	26	570	25	6500	25,000	Yes	A	Premium	10
LED MR16 GU5.3 6.5W 3000K WW 370LM 35DEG	52142	6.5	36	-	370	57	1080	35	3000	25,000	No	A	Home	4
LED MR16 GU5.3 6.5W 2700K WW 260LM 35deg DIM	52043	6.5	26	270	260	40	550	35	2700	35,000	Yes	A	Performance	10
LED MR16 GU5.3 6.5W 3000K WW 270LM 35deg DIM	52212	6.5	27	280	270	42	600	35	3000	35,000	Yes	A	Performance	10
LED MR16 GU5.3 6.5W 4000K NW 300LM 35deg DIM	52044	6.5	30	320	300	46	760	35	4000	35,000	Yes	A	Performance	10
VxRGB Vivid Vision LED MR16 GU5.3 6.5W 2900K WW 155LM 36DEG DIM	52224	6.5	14	180	155	28	300	36	2900	25,000	Yes	A	Premium	10
LED MR16 GU5.3 6.5W 3000K WW 350LM 36DEG	52158	6.5	35	420	350	54	650	36	3000	30,000	No	A	Home	4
LED MR16 GU5.3 7.0W 12V AC / DC 2700K WW 440LM 25deg DIM	52229	7	40	460	440	63	2400	25	2700	25,000	Yes	A	Performance	10
LED MR16 GU5.3 7.0W 12V AC / DC 3000K WW 475LM 25deg DIM	52230	7	42	500	475	68	2500	25	3000	25,000	Yes	A+	Performance	10
LED MR16 GU5.3 7.0W 12V AC / DC 4000K NW 485LM 25deg DIM	52231	7	43	510	485	69	2500	25	4000	25,000	Yes	A+	Performance	10
LED MR16 GU5.3 7.0W 2700K WW 390LM 35deg DIM	52206	7	37	-	390	55	850	35	2700	25,000	Yes	A	Performance	10
LED MR16 GU5.3 7.0W 3000K WW 410LM 35deg DIM	52207	7	39	-	410	59	950	35	3000	25,000	Yes	A	Performance	10
LED MR16 GU5.3 7.0W 4000K NW 430LM 35deg DIM	52208	7	39	-	430	61	1000	35	4000	25,000	Yes	A	Performance	10
LED MR16 GU5.3 7.0W 2700K WW 375LM 40DEG DIM	52240	7	37	400	375	54	680	40	2700	30,000	Yes	A	Performance	10
LED MR16 GU5.3 7.0W 3000K WW 385LM 40DEG DIM	52241	7	37	410	385	55	700	40	3000	30,000	Yes	A	Performance	10
LED MR16 GU5.3 7.0W 4000K NW 450LM 40DEG DIM	52242	7	41	480	450	64	800	40	4000	30,000	Yes	A	Performance	10

HIGH CRI
>95HIGH CRI
>95

HIGH DEF

UNIVERSAL
DIMMINGUNIVERSAL
DIMMINGUNIVERSAL
DIMMING



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, boats and caravans.

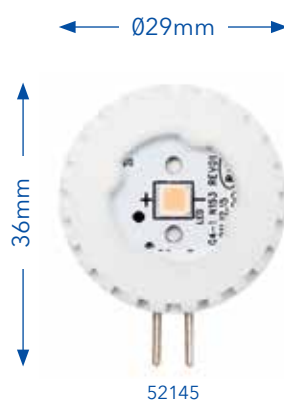


MR11

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, retail stores boats and caravans.



PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMINOUS FLUX (LM)	LUMINOUS EFFICIENCY (lm/W)	BEAM ANGLE (°)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
BI PIN	SOCKET: G4		VOLTAGE: 12V AC/DC				CRI: ≥80					
LED BI PIN G4 Capsule 1.0W 12V AC/DC 2700K WW 80LM	52143	1	10W	80	80	100	2700	25,000	No	A++	Home	10*
LED BI PIN G4 Button 1.5W 12V AC/DC 2700K WW 85LM	52145	1.5	10W	85	57	110	2700	40,000	No	A+	Home	10
MR11	SOCKET: GU4		VOLTAGE: 12V AC/DC				CRI: ≥80					
LED MR11 GU4 2.0W 2700K WW 90LM 35DEG	52144	2	Up to 15W	90	45	35	2700	25,000	No	A+	Home	6

* Installer pack available



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.



R50

Verbatim LED R50 is a simple direct replacement for conventional lamps.

APPLICATION

Ideal for accent lighting and general illumination.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information



52232



52042



52139

PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMEN (LM)	USEFUL LUMEN 90° CONE (LM)	LUMINOUS EFFICIENCY (lm/W)	LUMINOUS INTENSITY (CD)	BEAM ANGLE (°)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
PAR20		SOCKET: E27		VOLTAGE: 220 - 240V			CRI: ≥80							
LED PAR20 E27 3000K WW 8.0W 340LM 35DEG DIM	52232	8	49	380	340	43	900	35	3000	35,000	Yes	A	Performance	6
PAR30		SOCKET: E27		VOLTAGE: 220 - 240V			CRI: ≥95							
LED PAR30 E27(SN) 14.5W 4000K NW 600LM DIM	52042	14.5	71	680	600	41	1300	30	4000	25,000	Yes	A	Performance	6
R50		SOCKET: E14		VOLTAGE: 220 - 240V			CRI: ≥80							
LED R50 E14 4W 3000K WW 160LM 20DEG	52139	4	27	200	160	40	750	20	3000	30,000	No	A	Home	4





PAR38

The Verbatim PAR38 is an energy saving alternative for public area lighting replacing halogen or incandescent PAR lamps. The IP54-rated PAR38 Outdoor lamp is suitable for both outdoor and indoor applications.

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



52033



52034

PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMEN (LM)	USEFUL LUMEN 90° CONE (LM)	LUMINOUS EFFICIENCY (lm/W)	LUMINOUS INTENSITY (CD)	BEAM ANGLE (°)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
PAR38	SOCKET: E27	VOLTAGE: 220 - 240V			CRI: ≥80									
LED PAR38 Outdoor E27 19W 4500K NW 1250LM	52033	19	119	1250	1030	54	1200	45	4500	25,000	No	A	Performance	6
LED PAR38 E27 3000K WW 20W 1100LM 22DEG DIM	52034	20	128	1200	1100	55	6500	22	3000	35,000	Yes	A	Performance	4



IP54



AR111

Verbatim LED AR111 has high luminous intensity with different beam angle options making it a perfect replacement for traditional AR111 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 on for long periods.

Go to www.verbatim.com for:

DIALux Technical parameters and product data for direct project integration



Photometric diagrams



Dimmer compatibility information



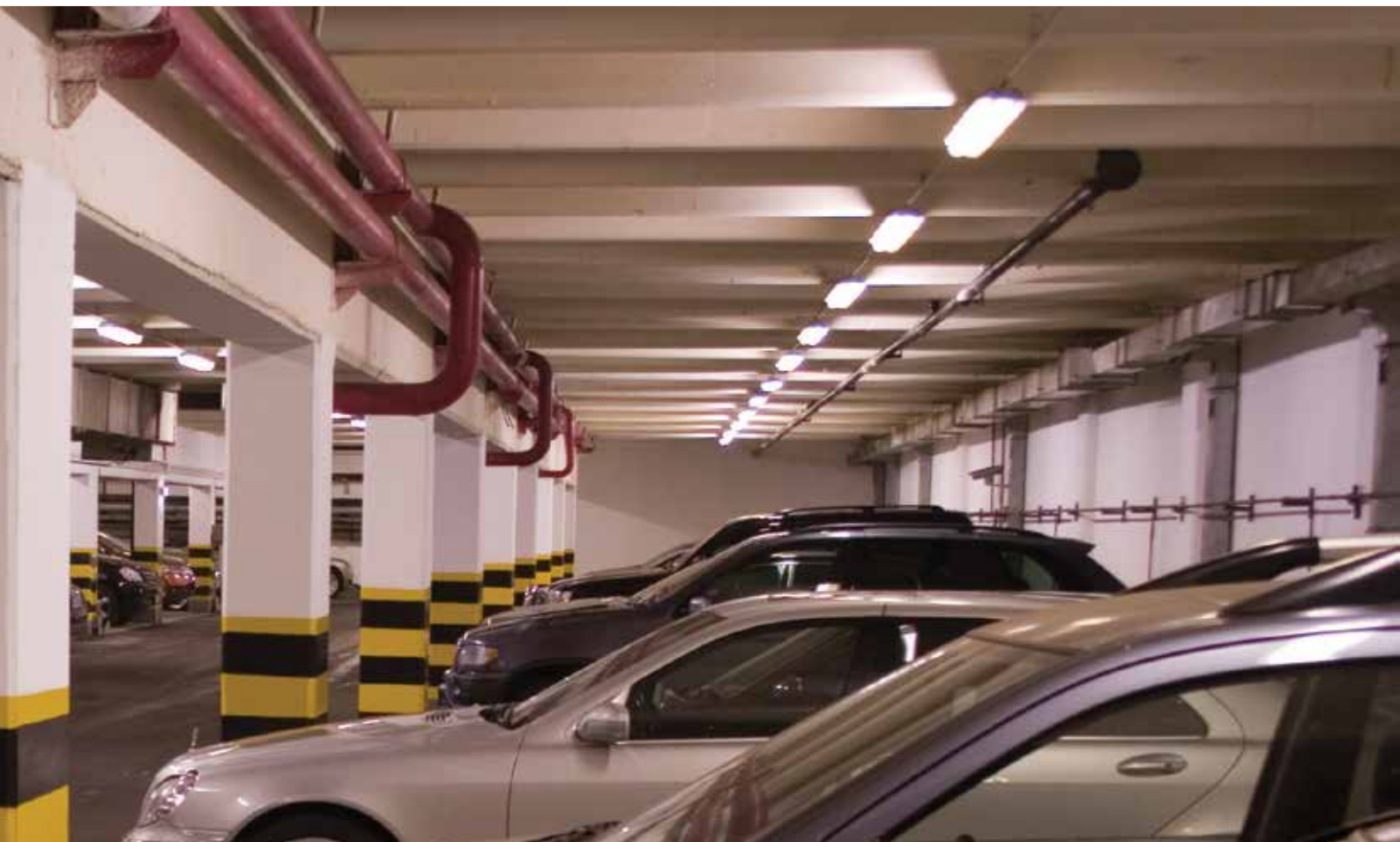
52048 / 52202 / 52201



52203 / 52205 / 52204

Silver and white outer ring options included in the box.

PRODUCT DESCRIPTION	PRODUCT NUMBER	ACTUAL WATTAGE (W)	EQUIVALENT WATTAGE (W)	LUMEN (LM)	USEFUL LUMEN 90° CONE (LM)	LUMINOUS EFFICIENCY (lm/W)	LUMINOUS INTENSITY (CD)	BEAM ANGLE (°)	CCT (K)	LIFETIME (HOURS)	DIMMABLE	ENERGY EFFICIENCY CLASS	PRODUCT RANGE	MOQ
AR111	SOCKET: G53			VOLTAGE: 12V AC/DC			CRI: ≥80							
LED AR111 G53 14.5W 2700K WW 670LM silver	52048	14.5	69	750	670	46	3500	25	2700	25,000	No	A	Performance	12
LED AR111 G53 14.5W 3000K WW 715LM silver	52202	14.5	72	800	715	49	3700	25	3000	25,000	No	A	Performance	12
LED AR111 G53 14.5W 4000K NW 760LM silver	52201	14.5	79	850	760	52	3900	25	4000	25,000	No	A	Performance	12
LED AR111 G53 15.0W 3000K WW 690LM 35deg Box	52203	15	71	750	690	46	1600	35	3000	25,000	No	A	Performance	6
LED AR111 G53 15.0W 2700K WW 660LM 35deg Box	52205	15	68	720	660	44	1500	35	2700	25,000	No	A	Performance	6
LED AR111 G53 15.0W 4000K NW 800LM 35deg Box	52204	15	85	880	800	53	1950	35	4000	25,000	No	A	Performance	6



LED TUBES

BATTEN LUMINAIRES

LED T8 TUBES:

Uniform light distribution for general or cove lighting. Available in warm, neutral and cool white light options. Provides an energy efficient solution for T8 fixtures in installations with conventional control gear (CCG/VVG). Includes replacement starter.

LED BATTEN LUMINAIRES:

LED batten luminaires for indoor and outdoor use delivered with one or two Verbatim 22W 4000K LED T8 Tubes. Uniform light distribution for general or cove lighting. A direct replacement for standard fluorescent tube batten luminaires. Recommended for use with Verbatim LED T8 tubes 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



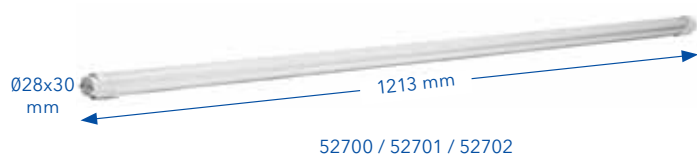
Photometric diagrams



Dimmer compatibility information

LED T8 TUBES

22W

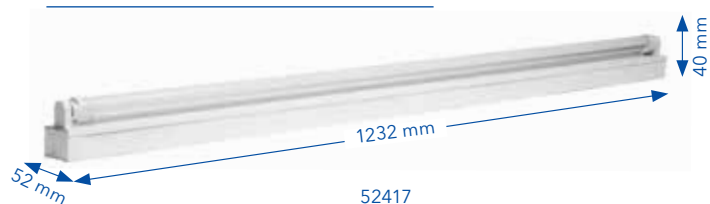


28W

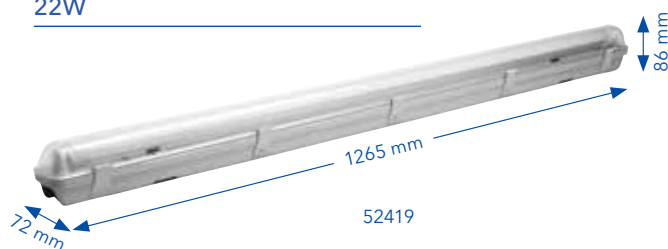


LED BATTEN LUMINAIRES WITH LED T8 TUBES

22W



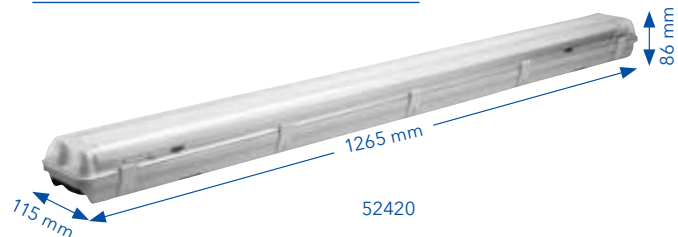
22W



44W



44W



PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	LUMINOUS FLUX (LM)	BASE	CCT (K)	BEAM ANGLE (°)	DIAMETER (MM)	LENGTH (MM)	ENERGY EFFICIENCY CLASS	LIFETIME (HOURS)	DIMMABLE	MOQ
LED T8 TUBES												
					VOLTAGE: 220 - 240V				CRI: ≥80			
LED T8 Tube G13 1900lm 22W 3000K 1200mm	52700	22	1900	G13	3000	120	28 x 30	1213	A+	40,000	No	10
LED T8 Tube G13 1950lm 22W 4000K 1200mm	52701	22	1950	G13	4000	120	28 x 30	1213	A+	40,000	No	10
LED T8 Tube G13 2000lm 22W 6500K 1200mm	52702	22	2000	G13	6500	120	28 x 30	1213	A+	40,000	No	10
LED T8 Tube G13 2400lm 28W 3000K 1500mm	52703	28	2400	G13	3000	120	28 x 30	1513	A+	40,000	No	10
LED T8 Tube G13 2500lm 28W 4000K 1500mm	52704	28	2500	G13	4000	120	28 x 30	1513	A+	40,000	No	10
LED T8 Tube G13 2600lm 28W 6500K 1500mm	52705	28	2600	G13	6500	120	28 x 30	1513	A+	40,000	No	10

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	LUMINOUS FLUX (LM)	BASE	CCT (K)	DIMENSIONS (MM)	SAFETY CLASS	PROTECTION CLASS	LIFETIME (HOURS)	DIMMABLE	MOQ
LED BATTEN LUMINAIRES WITH LED T8 TUBES											
VOLTAGE: 220 - 240V											
Batten Luminaire 1 x LED T8 tube 1200mm Indoor	52417	22	1950	G13	4000	40x52x1232	Class II	IP20	40,000	No	4
Batten Luminaire 2 x LED T8 tube 1200mm Indoor	52418	44	3800	G13	4000	40x52x1232	Class II	IP20	40,000	No	4
Batten Luminaire 1 x LED T8 tube 1200mm Outdoor	52419	22	1700	G13	4000	86x72x1265	Class I	IP65	40,000	No	4
Batten Luminaire 2 x LED T8 tube 1200mm Outdoor	52420	44	3100	G13	4000	86x115x1265	Class I	IP65	40,000	No	4





RECESSED DOWNLIGHTS AND SPOTLIGHTS

RECESSED DOWNLIGHTS

LED recessed downlights for general lighting emitting a warm white light, offering a uniform, homogenous light distribution. Easy to integrate thanks to its five different diameters, compact dimensions and external power supply. White housing for discreet integration in ceilings.

APPLICATION

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



RECESSED SPOTLIGHTS

LED recessed spotlights for directional accent lighting available in 25° and 40° beam angles with an adjustable LED head with 30° tilting angle. 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

RECESSED DOWNLIGHTS

11W / 12W

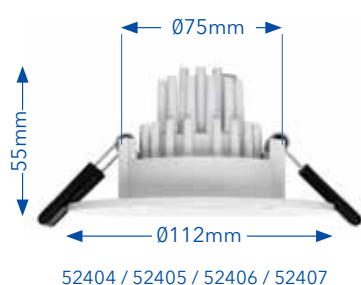


15W / 21W / 24W



RECESSED SPOTLIGHTS

12W



RECESSED DOWNLIGHTS - GENERAL LIGHTING

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	LUMINOUS FLUX (LM)	CCT (K)	HEIGHT (MM)	OUTER DIAMETER (MM)	INNER DIAMETER (MM)	ENERGY EFFICIENCY CLASS	LIFETIME (HOURS)	DIMMABLE	MOQ
LED RECESSED DOWNLIGHTS - GENERAL LIGHTING		VOLTAGE: 220 - 240V				CRI: ≥80					
LED Downlight 104mm 11W 3000K WW 600lm White	52412	11	600	3000	74.8	104	90	A	30,000	No	4
LED Downlight 119mm 12W 3000K WW 680lm White	52413	12	680	3000	74.8	119	105	A	30,000	No	4
LED Downlight 135mm 15W 3000K WW 800lm White	52414	15	800	3000	78	135	125	A	30,000	No	4
LED Downlight 183mm 21W 3000K WW 1300lm White	52415	21	1300	3000	80.5	183	170	A	30,000	No	4
LED Downlight 235mm 24W 3000K WW 1600lm White	52416	24	1600	3000	92	235	216	A	30,000	No	4

RECESSED SPOTLIGHTS - ACCENT AND SPOT LIGHTING

PRODUCT DESCRIPTION	PRODUCT NUMBER	WATTAGE (W)	LUMINOUS FLUX (LM)	LUMINOUS INTENSITY (CD)	CCT (K)	BEAM ANGLE (°)	TILTING ANGLE (°)	HEIGHT (MM)	OUTER DIAMETER (MM)	INNER DIAMETER (MM)	ENERGY EFFICIENCY CLASS	LIFETIME (HOURS)	DIMMABLE	MOQ
LED RECESSED SPOTLIGHTS - ACCENT AND SPOT LIGHTING		VOLTAGE: 220 - 240V				CRI: ≥80								
LED Downlight 12W 3000K WW 685lm 25° White DIM	52404	12	685	3150	3000	25	30	55	112	75	A	30,000	Yes	4
LED Downlight 12W 3000K WW 675lm 40° White DIM	52405	12	675	1200	3000	40	30	55	112	75	A	30,000	Yes	4
LED Downlight 12W 3000K WW 685lm 25° Chrome DIM	52406	12	685	3150	3000	25	30	55	112	75	A	30,000	Yes	4
LED Downlight 12W 3000K WW 675lm 40° Chrome DIM	52407	12	675	1200	3000	40	30	55	112	75	A	30,000	Yes	4

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.

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.

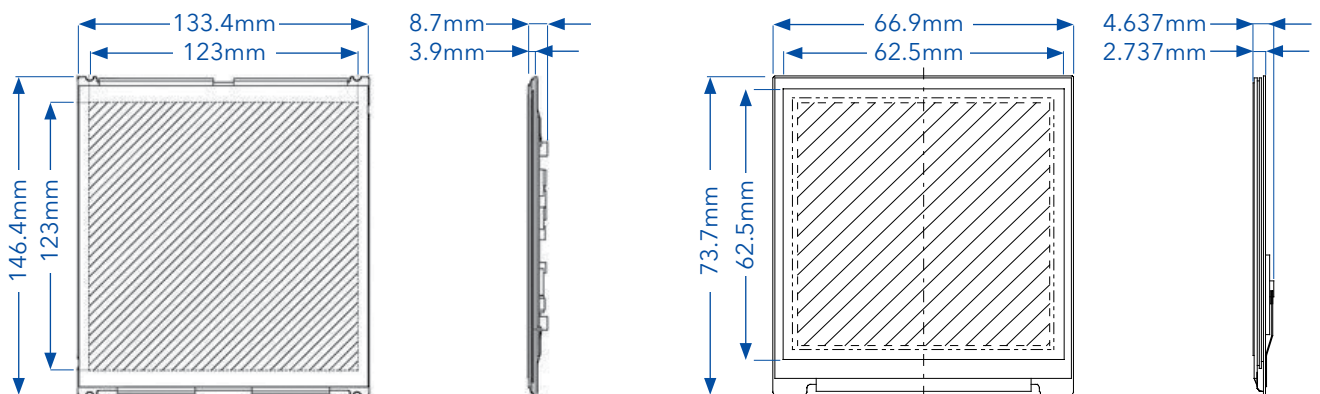
Verbatim is to introduce a new VELVE family in 2014, characterized by a new wet coating manufacturing method which significantly reduces costs. Wet coating is also an effective and reliable method for producing larger, better quality panels enabling breakthrough lighting applications to be developed. The newly introduced OLED panel module operates from 12V to 24V DC input, creates warm white lighting and performs 3,000 cd/m². Its electronic board with driving circuit is specially designed for non-complex integration with associated electronic control gears and further components, and for PWM dimming.

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 electronic board
- 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	-20°C ~ +60°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

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.

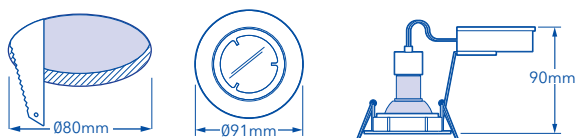
APPLICATION

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

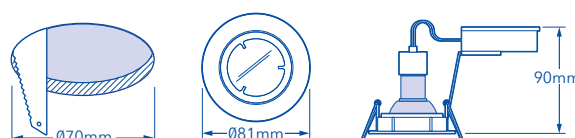


PRODUCT DESCRIPTION	ORDER NO.	VOLTAGE	HOUSING COLOUR	COVER	MOQ
LED Down light IP23 Twist lock	52400	220-240V	White	None	10
LED Down light IP23 Twist lock	52401	220-240V	Brushed Aluminium	None	10
LED Down light IP44 Twist lock	52402	220-240V	White	Glass	10
LED Down light IP44 Twist lock	52403	220-240V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

DIMENSIONS: 52400 / 52401



DIMENSIONS: 52402 / 52403



12V LED-COMPATIBLE ELECTRONIC TRANSFORMER



TYPE	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	Halogen: 0-70 W LED lamp: 0-45 W recommended
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

* specifications are subject to operating with halogen lamps

GUIDE TO VERBATIM LED PACKAGING

HOME RANGE

A range of attractive LED lamps for the home designed to be sold through retail outlets.



PACKAGING 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

PERFORMANCE RANGE

LED lamps for the professional installer with a wide range of beam angles and colour temperatures to suit all applications.



PACKAGING 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

PREMIUM RANGE

Top of the range LED lamps incorporating special Mitsubishi technology or other unique features for high-end applications.



PACKAGING FEATURES

- Premium box design
- Easy to open for professional installations
- Compact design saves cost and space
- Detailed technical specifications

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.



Crown (consumer range)

English crowner – part number: 68777

German crowner – part number: 68775

Italian crowner – part number: 68778

Dutch crowner – part number: 68779

French crowner – part number: 68794

Swedish crowner – part number: 68813

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.



Crown (professional range)

English crowner – part number: 68791

French crowner – part number: 68789



Demo Display Box
Available on request.



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
Crown - 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.
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.



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. We also have a dedicated warehouse in Johannesburg which services the Sub-Sahara African 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 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 LED has a lifetime of up to 40,000 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.

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.
Establishment of MC Pioneer OLED Corporation, joint venture between MCC and Pioneer.
- 2014** Launch of OLED panel production by wet coating process.

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