

LEDSPOTS CC

EVOLVE 111



EVOLVE 111

Smaller Dimensions increase fixation possibilities

Your EVOLVE 111 has been substantially improved to maximise performance and simplify installation. The Evolve 111 is the next generation of AR111 LED spot with optics.

Evolve 111

- Interchangeable lenses
- Front part available in black or white

Typical applications

Integration in luminaires

- Retail lighting
- Hospitality lighting
- Museum lighting
- Residential lighting



Evolve 111

- **MODULAR SYSTEM: ENGINE + LENS**
- **ROBUST COB WITH ALUMINIUM PCB**
- **NARROW COLOUR TOLERANCES:
3 STEP MACADAM**
- **FOUR DIFFERENT BEAM ANGLES**
- **COLOUR RENDERING INDEX: CRI 92
(DIFFERENT CRI, PEARL WHITE, CLEAR WHITE
AND FOOD ON REQUEST)**
- **LUMINOUS FLUX UP TO 2800 LM**

Evolve 111

Technical notes

Dimensions (ØxH)

VCA2-128: Ø111x41.8 mm (heat sink: 20 mm)

VCA2-128: Ø111x61.8 mm (heat sink: 40 mm)

Optics: PC, interchangeable

Heat sink material: aluminium

Lumen maintenance: L80/B10; 50,000 hrs.

65 °C at t_p point

Colour accuracy initially: 3 SDCM

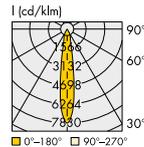
Use of external LED constant-current drivers

Leads: Cu tinned, stranded conductors AWG22,

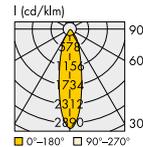
FEP-insulation and PVC sleeve, length: 600 mm

With integrated cord grip

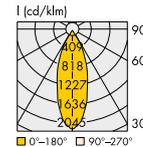
Versions in white have a black heatsink



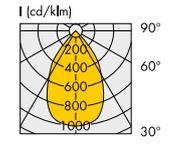
Evolve 16° (VCA2-128)



Evolve 30° (VCA2-128)



Evolve 40° (VCA2-128)



Evolve 60° (VCA2-128)

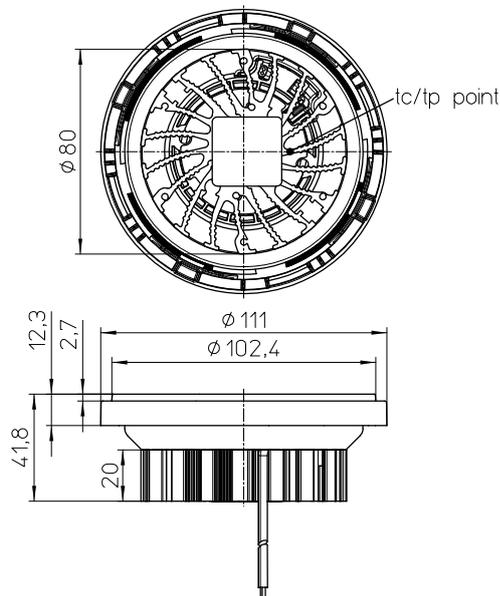
Maximum ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the modules.

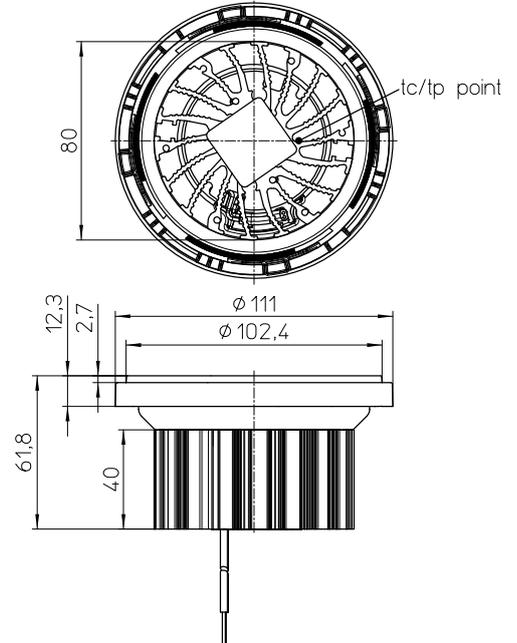
Type	Ambient temperature range (t_a)		Operation temperature range at t_c point		Storage temperature range		Max. allowed repetitive peak current mA
	°C min.	°C max.	°C min.	°C max.	°C min.	°C max.	
VCA2-128	-25	+45	-25	+80	-40	+90	1400

Temperatures depend on installation situation and has to be checked by the luminaire manufacturer.

VCA2-128 up to 500 mA



VCA2-128 up to 700 mA



Evolve 111

Optical characteristics

at $t_p = 65\text{ °C}$

Type	Ref. No.		Colour	Correlated colour temperature K	Typ. luminous flux and typical voltage ($U_{typ.}$) and power consumption (P_{el})*				Light intensity at max. current Candela	Beam angle °	CRI R_a
	for black LEDSpots	white LEDSpots			350 mA lm	lm/W	500 mA lm	lm/W			
Type VCA2-128					$P_{el} = 11.3\text{ W}$		$P_{el} = 16.5\text{ W}$				
Heat sink height = 20 mm					$V_f = 32.4\text{ V}$		$V_f = 33.1\text{ V}$				
Evolve 111 VCA2-128_930	572003	572011	warm white	3000	1415	125	1935	117	16860	16°	92
Evolve 111 VCA2-128_940	572007	572015	neutral white	4000	1455	129	1990	121	17340	16°	92
Evolve 111 VCA2-128_930	572004	572012	warm white	3000	1415	125	1935	117	6500	30°	92
Evolve 111 VCA2-128_940	572008	572016	neutral white	4000	1455	129	1990	121	6680	30°	92
Evolve 111 VCA2-128_930	572005	572013	warm white	3000	1450	128	1985	120	4890	40°	92
Evolve 111 VCA2-128_940	572009	572017	neutral white	4000	1490	132	2040	124	5030	40°	92
Evolve 111 VCA2-128_930	572006	572014	warm white	3000	1485	131	2035	123	2040	60°	92
Evolve 111 VCA2-128_940	572010	572018	neutral white	4000	1525	135	2090	127	2090	60°	92

* Production tolerance of luminous flux, voltage and power consumption: $\pm 10\%$

Versions with other colour temperature, different CRI, special white colour (pearl or clear) or food on request

Optical characteristics

at $t_p = 65\text{ °C}$

Type	Ref. No.		Colour	Correlated colour temperature K	Typ. luminous flux and typical voltage ($U_{typ.}$) and power consumption (P_{el})*						Light intensity at max. current Candela	Beam angle °	CRI R_a
	for black LEDSpots	white LEDSpots			500 mA lm	lm/W	600 mA lm	lm/W	700 mA lm	lm/W			
Type VCA2-128					$P_{el} = 16.5\text{ W}$		$P_{el} = 20.1\text{ W}$		$P_{el} = 23.6\text{ W}$				
Heat sink height = 40 mm					$V_f = 33.1\text{ V}$		$V_f = 33.4\text{ V}$		$V_f = 33.8\text{ V}$				
Evolve 111 VCA2-128	572019	572027	warm white	3000	1935	117	2270	113	2585	110	22530	16°	92
Evolve 111 VCA2-128	572431	572031	neutral white	4000	1990	121	2340	116	2660	113	23180	16°	92
Evolve 111 VCA2-128	572020	572028	warm white	3000	1935	117	2270	113	2585	110	8680	30°	92
Evolve 111 VCA2-128	572024	572032	neutral white	4000	1990	121	2340	116	2660	113	8930	30°	92
Evolve 111 VCA2-128	572021	572029	warm white	3000	1985	120	2330	116	2655	113	6540	40°	92
Evolve 111 VCA2-128	572025	572033	neutral white	4000	2040	124	2400	119	2730	116	6730	40°	92
Evolve 111 VCA2-128	572022	572030	warm white	3000	2035	123	2385	119	2720	115	2730	60°	92
Evolve 111 VCA2-128	572026	572034	neutral white	4000	2090	127	2455	122	2795	118	2800	60°	92

* Production tolerance of luminous flux, voltage and power consumption: $\pm 10\%$

Versions with other colour temperature, different CRI or pearl white on request

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

LED Engines Evolve 111

Optical characteristics

at $t_p = 65\text{ °C}$

Type	Ref. No.		Colour	Correlated colour temperature K	Typ. luminous flux and typical voltage ($U_{typ.}$) and power consumption (P_{el})*		CRI
	for black LEDSpots	white LEDSpots			350 mA lm	500 mA lm	
Type VCA2-128					$P_{el} = 11.3\text{ W}$	$P_{el} = 16.5\text{ W}$	
Heat sink height = 20 mm					$V_f = 32.4\text{ V}$	$V_f = 33.1\text{ V}$	
E.Evolve 111 VCA2-128_930	571995	571997	warm white	3000	1775	2425	92
E.Evolve 111 VCA2-128_940	571996	571998	neutral white	4000	1820	2495	92

* Production tolerance of luminous flux, voltage and power consumption: $\pm 10\%$
 Versions with other colour temperature, different CRI, special white colour (pearl or clear) or food on request

Optical characteristics

at $t_p = 65\text{ °C}$

Type	Ref. No.		Colour	Correlated colour temperature K	Typ. luminous flux and typical voltage ($U_{typ.}$) and power consumption (P_{el})*			CRI
	for black LEDSpots	white LEDSpots			500 mA lm	600 mA lm	700 mA lm	
Type VCA2-128					$P_{el} = 16.5\text{ W}$	$P_{el} = 20.1\text{ W}$	$P_{el} = 23.6\text{ W}$	
Heat sink height = 40 mm					$V_f = 33.1\text{ V}$	$V_f = 33.4\text{ V}$	$V_f = 33.8\text{ V}$	
E.Evolve 111 VCA2-128	571999	572001	warm white	3000	2425	2845	3245	92
E.Evolve 111 VCA2-128	572000	572002	neutral white	4000	2495	2930	3335	92

* Production tolerance of luminous flux, voltage and power consumption: $\pm 10\%$
 Versions with other colour temperature, different CRI or pearl white on request

Optics for LED Engines Evolve 111

Technical notes

Diameter: 111 mm (lens: 90 mm)
 Material: PC, metallized
 Operating temperature: -25 to 90 °C
 Storage temperature: -40 to 90 °C
 Packaging units: 24 pcs.

Ref. No.	Beam characteristics	Beam angle (°) VCA2-128
603411	narrow	16°
603412	medium	30°
603413	wide	40°
604983	extra wide	60°

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LEDSpot Evolve 111

General information

Performance acc. to IEC 62717: $t_p = 75\text{ °C}$; 100,000 hrs.

LED Constant Current Drivers

Please visit our homepage for details for suitable

LED constant current drivers: www.vossloh-schwabe.com

Packaging unit

Type	heatsink heigh mm	Packaging unit pcs.	Box dimensions (LxWxH) mm	Weight single (g)	Gross weight packaging unit (g)
Evolve 111 VCA2-128	20	12	380x260x140	230	3160
E.Evolve 111 VCA2-128	20	12	380x260x140	170	2440
Evolve 111 VCA2-128	40	12	380x260x140	340	4420
E.Evolve 111 VCA2-128	40	12	380x260x140	280	3760
Lens Evolve	-	24	340x260x90	60	1950

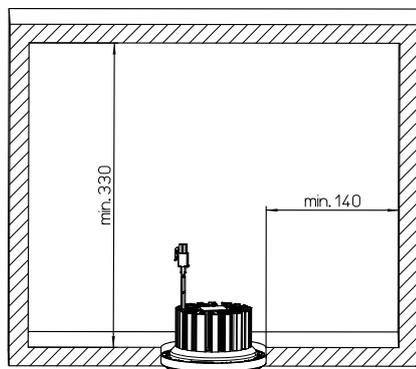
Product guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

General safety and installation instructions

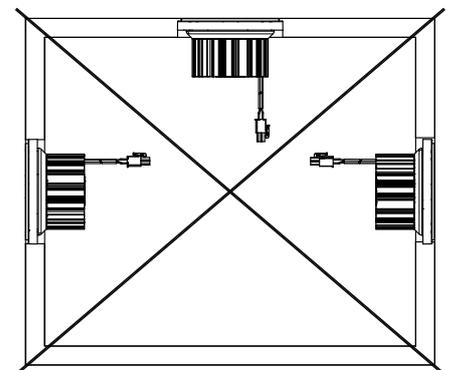
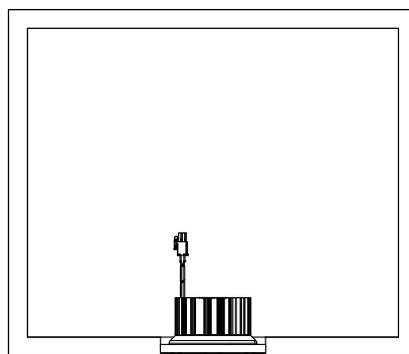
- VS product may only be installed and commissioned by authorised and fully qualified staff.
- These instructions must be carefully read before installing and commissioning the system, as this is the only way to ensure safe and correct handling.
- An external constant-current driver is required.
- Before any work is carried out on the equipment, it must be disconnected from the mains.
- All valid safety and accident-prevention regulations must be observed.
- The products should never be inexpertly opened. Repairs may only be undertaken by the manufacturer

Built-in



Correct position

OK



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Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Safety regulations acc. to EN 60598 has to be observed. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains).

- Mains frequency: 0 Hz
- LED built-in modules must not be subjected to any undue mechanical stress, e. g.:
 - handle LED modules carefully
 - avoid shear and compressive forces onto the optics during handling and installation
 - do not carry or move the LED engines by using the wires
- When installing/screwing the module into a luminaire, please ensure that the cables are not squeezed between luminaire and LED engine.
- The LED engine must not be used in hermetically sealed casings.
- Safe operation only possible by the use of external constant current sources (I_{max} , see table "Electrical Characteristics").
- Operation is dependent on constant current drivers that should provide the following protective measures:
 - short-circuit protection
 - overload protection
 - overheating protection
 - SELV; $U_{max} \leq 60$ V
 - I_{max} must not be exceeded
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- The maximum output of the power supply must be observed.
- For optimal load of used constant current driver the modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver. Safety regulations acc. to EN 60598 has to be observed if the sum of forward voltage exceed the permitted touchable value.
- A parallel connection of the LED engines is not allowed.
- Measurement tolerances:
 - luminous flux: ± 10 %
 - voltage: ± 3 %
 - CRI: ± 1 %
- Maximum allowed number of switching cycles: 15,000
- Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
- To ensure problem-free operation, the specified maximum temperature at the t_c and t_p point (see "Operating Life") must be observed (measured in accordance with EN 60598-1). To satisfy this point, it is necessary to put measures in place to ensure any heat is dissipated from the LED engine to the environment.

- To ensure good thermal behaviour take care about "general safety and installation instructions".
- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471 Rating in accordance with IEC / TR 62778



The following LED modules are in risk group 1:

Up to 4000 K

LED module type	Max. allowed luminous flux per module (lm)	For higher luminous flux: E threshold to RG1 (lx)
VCA2-128	4512	1464

Applied Standards

EN 62031

LED modules for general lighting – Safety specifications

EN 62471-2

Photobiological safety of lamps and lamp systems

EPREL information

Containing product	Light Source	EPREL Reg. No.	EE Class
Evolve 111/E.Evolve111			
Types	Type	EPREL Reg. No.	EE Class
Evolve 111 VCA2-128_930	VCA2-128-930	857352	E
E.Evolve 111 VCA2-128_930	VCA2-128-930	857352	E
Evolve 111 VCA2-128_940	VCA2-128-940	856367	E
E.Evolve 111 VCA2-128_940	VCA2-128-940	856367	E

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