

eW Downlight Powercore Surface-mounted LED downlight for general and accent lighting



eW Downlight Powercore

Surface-mounted LED downlight for general and accent lighting

eW Downlight Powercore is a low-profile, surface-mounted LED downlight for basic white general illumination. This easy-to-install, dimmable fixture uses standard mounting and direct line voltage connection without the need for remote transformers. Ideally suited for lobbies, corridors, elevators, conference rooms, common spaces, kitchenettes, and interiors in commercial, hospitality, retail, and residential environments, eW Downlight Powercore is especially appropriate where recessed installation is not possible.

- Integrates patented Powercore technology

 Powercore technology rapidly, efficiently,
 and accurately controls power output to eW
 Downlight Powercore fixtures directly from line voltage, eliminating the need for transformers or other external power supplies.
- Simple, standard installation Contractorfriendly installation uses standard wiring and mounting to dramatically simplify installation and help lower total system cost.
- Warm and cool color temperatures Available in two color temperatures, a warm 2700 K appropriate for intimate, open environments such as restaurants, hotel lobbies, and homes, and a cool 4000 K for lighting clean and efficient spaces such as offices, classrooms, and hospitals.
- Flexible mounting options Mounts to junction box or directly to a flat mounting surface where allowed. Slotted through-holes in the mounting plate provide adjustment in surface mount applications. Swivel bracket for 120 and 277 VAC units allows precise adjustment during installation.

- Two available beam angles Available with a 30° beam angle for high ceilings or spotlighting an area or object, and a 65° beam angle for floodlighting and low-ceiling environments such as corridors.
- Revolutionary thermal management system Unique convection current design optimizes cooling for maximum efficiency and lifetime.
- Four available voltages Power modules of 100, 120, 220 – 240, and 277 VAC for consistent installation and operation in multiple locations.
- Unobtrusive, sleek design Low-profile fixture is ideal for surface mounting and semi-recessed applications. Metal bezel is available in white, black, or brushed aluminum. Custom bezel colors are also available.
- Dimming capability Patented DIMand technology offers smooth dimming capability with selected commercially available reverse-phase ELV-type dimmers.



High-Quality Light at Substantially Lower Cost

Provides light level and quality comparable to CFL downlights with no wasted energy, light, or heat. Offers total cost of ownership reduction of up to 58% as compared with CFL downlights.

Transforming the Downlight: Elegance and Sustainability

Flinstering

Flinstering, a funky restaurant in Breda, the Netherlands, demonstrates how LED lighting can bring an extra dimension to hospitality. The cozy eatery uses LED lighting throughout the premises to help create a memorable dining experience for guests, while reaping the benefits of its long lifetime, low maintenance, simplicity of installation, and energy efficiency.

To differentiate Flinstering from other area venues, the owners used LED lighting as an important component in the restaurant's design. eW Downlight Powercore fixtures, which provide general illumination throughout the restaurant, helped the owners to create a warm atmosphere while dramatically cutting energy consumption.



Low-profile eW Downlight Powercore directly accepts line voltage to provide easy and unobtrusive installation. Although its output is comparable to a 50-watt halogen bulb, eW Downlight Powercore yields energy savings of roughly 70%. The restaurateurs are delighted with the design and warm 2700 K color temperature, which is equivalent to that of traditional halogen sources.



More and Mary Name

Heineken The City

Heineken added a new dimension to its company by opening a unique, ultramodern concept store, Heineken The City, in the brewer's home city of Amsterdam. The store sells special products and services — including music, fashion, travel, events, and its signature beer — in six renovated historical buildings.

Heineken The City's revolutionary, hypermodern design makes effective use of the latest technology, including speaking mirrors, 3D television screens, an ice wall, and

interactive pillars. The store is the first in Europe to be entirely illuminated by LED lighting. The lighting designers found LED lighting to be the perfect choice for general, accent, and decorative applications throughout the store.

General lighting is provided by dozens of surface-mounted eW Downlight Powercore fixtures, which can offer either cool or warm white light. Cool 4000 K fixtures illuminate the two-story entrance, while warm 2700 K fixtures illuminate the sound studio for a cozier, more intimate atmosphere. Fixtures with a narrow 30° beam angle is used in areas with high ceilings, while the wide 65° beam angle is used in areas with lower ceilings.

Visitors have been pleased and impressed with the Heineken The



City's sophisticated ambiance since the day it opened, while the store's owners and managers benefit from the long lifetime and low energy consumption of the eW Downlight Powercore fixtures and other LED fixtures used in the store.

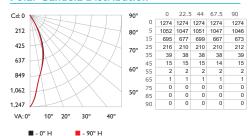
Photometrics

Photometric data is based on test results from an independent NIST traceable testing lab. IES data is available at www.philipscolorkinetics.com/support/ies.

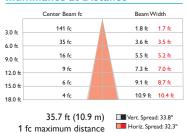
eW Downlight Powercore 4000 K, 30° (narrow) beam angle

Lumens	420
Efficacy	28.0 lm / W

Polar Candela Distribution



Illuminance at Distance



Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire							
0-30	379.4	90.1%	90.5%							
0-40	403.8	95.9%	96.3%							
0-60	418.1	99.3%	99.7%							
60-90	1.1	0.3%	0.3%							
0-90	419.2	99.6%	100%							
90-180	0	0%	0%							
0-180	419.2	99.6%	100%							
Total Efficiency: 99.6%										

Coefficients Of Utilization - Zonal Cavity Method

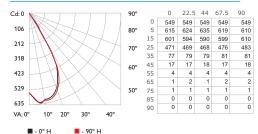
											Е	ffectiv	e Flo	or Ca	vity R	eflect	ance:	20%
RCC %:		8	0			7	0			50			30			10		0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.14	1.12	1.10	1.08	1.12	1.10	1.08	.95	1.06	1.04	1.03	1.02	1.01	1.00	.98	.98	.97	.95
2	1.10	1.06	1.02	.99	1.07	1.04	1.01	.91	1.01	.98	.96	.98	.96	.94	.95	.94	.92	.91
3	1.05	1.00	.96	.93	1.04	.99	.95	.87	.96	.93	.91	.94	.91	.89	.92	.90	.88	.87
4	1.01	.95	.91	.87	1.00	.94	.90	.84	.92	.89	.86	.90	.87	.85	.89	.86	.84	.83
5	.98	.91	.86	.83	.96	.90	.86	.80	.88	.85	.82	.87	.84	.81	.85	.83	.80	.79
6	.94	.87	.82	.79	.93	.86	.82	.77	.85	.81	.78	.84	.80	.77	.82	.79	.77	.76
7	.91	.83	.79	.75	.90	.83	.78	.74	.82	.78	.75	.80	.77	.74	.79	.76	.74	.73
8	.88	.80	.75	.72	.87	.79	.75	.71	.78	.74	.72	.78	.74	.71	.77	.73	.71	.70
9	.85	.77	.72	.69	.84	.76	.72	.68	.76	.72	.69	.75	.71	.68	.74	.71	.68	.67
10	.82	.74	.69	.66	.81	.74	.69	.66	.73	.69	.66	.72	.69	.66	.72	.68	.66	.65

RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

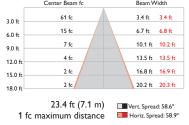
eW Downlight Powercore 4000 K, 65° (wide) beam angle

Lumens	525
Efficacy	35.0 lm / W

Polar Candela Distribution



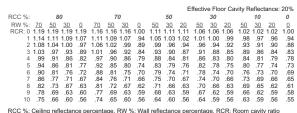
Illuminance at Distance



Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire							
0-30	434.7	82.6%	82.8%							
0-40	504.5	95.9%	96.1%							
0-60	522.6	99.4%	99.5%							
60-90	2.5	0.5%	0.5%							
0-90	525.1	99.8%	100%							
90-180	0	0%	0%							
0-180	525.1	99.8%	100%							
Total Efficiency: 99.8%										

Coefficients Of Utilization - Zonal Cavity Method

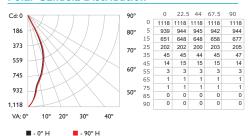


For lux multiply fc by 10.7

eW Downlight Powercore 2700 K, 30° (narrow) beam angle

Lumens	405
Efficacy	27.0 lm / W

Polar Candela Distribution



Illuminance at Distance



Vert. Spread: 34.9°
Horiz. Spread: 35.8° 1 fc maximum distance

Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire							
0-30	358.3	88.3%	88.6%							
0-40	387.1	95.3%	95.7%							
0-60	402.8	99.2%	99.6%							
60-90	1.7	0.4%	0.4%							
0-90	404.5	99.6%	100%							
90-180	0	0%	0%							
0-180	404.5	99.6%	100%							
Total Efficiency: 99.6%										

Coefficients Of Utilization - Zonal Cavity Method

											Е	ffectiv	e Flo	or Ca	vity R	eflect	ance:	20%
RCC %:		8	0			7	0			50			30		,	10		0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.14	1.12	1.09	1.08	1.12	1.09	1.08	.95	1.05	1.04	1.03	1.02	1.01	1.00	.98	.97	.97	.95
2	1.09	1.05	1.02	.99	1.07	1.04	1.01	.91	1.00	.98	.96	.98	.96	.94	.95	.93	.92	.90
3	1.05	1.00	.96	.92	1.03	.98	.95	.87	.96	.93	.90	.94	.91	.89	.91	.89	.87	.86
4	1.01	.95	.90	.87	.99	.94	.89	.83	.92	.88	.85	.90	.87	.84	.88	.85	.83	.82
5	.97	.90	.86	.82	.96	.89	.85	.79	.88	.84	.81	.86	.83	.80	.85	.82	.80	.78
6	.94	.86	.81	.78	.92	.86	.81	.76	.84	.80	.77	.83	.79	.77	.82	.79	.76	.75
7	.90	.83	.78	.74	.89	.82	.77	.73	.81	.77	.74	.80	.76	.73	.79	.75	.73	.72
8	.87	.79	.74	.71	.86	.79	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.70	.69
9	.84	.76	.71	.68	.83	.76	.71	.67	.75	.71	.68	.74	.70	.67	.73	.70	.67	.66
10	.81	.73	.68	.65	.80	.73	.68	.65	.72	.68	.65	.71	.67	.65	.71	.67	.65	.64

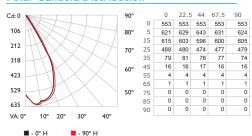
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

For lux multiply fc by 10.7

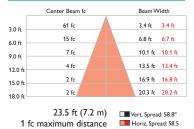
eW Downlight Powercore 2700 K, 65° (wide) beam angle

Lumens	527
Efficacy	35.1 lm / W

Polar Candela Distribution



Illuminance at Distance



Zonal Lumen

Zone	Lumens	% Lamp	% Luminaire						
0-30	438.9	83.1%	83.4%						
0-40	508.3	96.3%	96.5%						
0-60	525.2	99.5%	99.7%						
60-90	1.4	0.3%	0.3%						
0-90	526.6	99.7%	100%						
90-180	0	0%	0%						
0-180	526.6	99.7%	100%						
Total Efficiency: 99.7%									

Coefficients Of Utilization - Zonal Cavity Method

											Е	ffectiv	e Flo	or Ca	vity R	eflect	ance:	20%
RCC %:		8	0			7	0			50			30			10		0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.14	1.11	1.09	1.07	1.11	1.09	1.07	.94	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96	.94
2	1.08	1.04	1.00	.97	1.06	1.02	.99	.89	.99	.96	.94	.96	.94	.92	.93	.91	.90	.88
3	1.03	.97	.93	.89	1.01	.96	.92	.84	.93	.90	.87	.91	.88	.86	.89	.86	.84	.83
4	.99	.92	.86	.83	.97	.90	.86	.79	.88	.84	.81	.86	.83	.80	.85	.82	.79	.78
5	.94	.86	.81	.77	.92	.85	.80	.74	.84	.79	.76	.82	.78	.75	.80	.77	.75	.73
6	.90	.81	.76	.72	.88	.81	.75	.70	.79	.75	.71	.78	.74	.71	.77	.73	.70	.69
7	.86	.77	.71	.67	.84	.76	.71	.66	.75	.70	.67	.74	.70	.67	.73	.69	.66	.65
8	.82	.73	.67	.63	.81	.72	.67	.62	.71	.67	.63	.70	.66	.63	.69	.65	.63	.61
9	.78	.69	.64	.60	.77	.69	.63	.59	.68	.63	.60	.67	.63	.59	.66	.62	.59	.58
10	.75	.66	.60	.57	.74	.65	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.56	.55

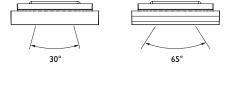
RCC %: Ceiling reflectance percentage, RW %: Wall reflectance percentage, RCR: Room cavity ratio

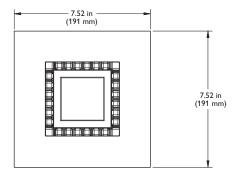
For lux multiply fc by 10.7

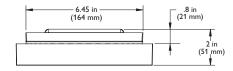
Specifications

Due to continuous improvements and innovations, specifications may change without notice.

Item	Specification	2700 K*	4000 K*						
	Beam Angle	30° / 65°							
Output	Lumens†	405 (30° beam angle) 527 (65° beam angle)	420 (30° beam angle) 525 (65° beam angle)						
	Efficacy (lm / W)	27.0 (30° beam angle) 35.1 (65° beam angle)	28.0 (30° beam angle) 35.0 (65° beam angle)						
	CRI	84	85						
	Lumen Maintenance‡	85,000 hours L ₇₀ @ 25° C 50,000 hours L ₇₀ @ 50° C							
	Input Voltage	100 / 120 / 220 – 240 / 277 VAC	c, 50 / 60 Hz						
Electrical	Power Consumption	15 W maximum at full output, st	eady state						
	Power Factor	0.95 @ 120 VAC	0.95 @ 120 VAC						
Control	Dimming	Compatible with selected commercially available reverse-phase ELV-type dimmers. \S							
	Dimensions (Height x Width x Depth)	7.5 x 7.5 x 2 in (191 x 191 x 51 mm)							
	Weight	3.1 lb (1.4 kg)							
	Housing	Die-cast aluminium chassis and bezel with black, white, or brushed aluminum finish							
Physical	Lens	Clear polycarbonate							
· i i joicai	Fixture Connections	6 in (152 mm) flying leads (100 / Terminal block (220 – 240 VAC)	120 / 277 VAC)						
	Temperature Ranges	-4° - 122° F (-20° - 50° C) O ₁ -4° - 122° F (-20° - 50° C) Star -40° - 176° F (-40° - 80° C) S	artup						
	Humidity	0 – 95%, non-condensing							
Certification	Certification	UL / cUL, FCC Class B, CE, CCC, C-Tick							
and Safety	Environment	Dry / Damp Location, IP50							







* Color temperatures conform to nominal CCTs as defined in ANSI Chromaticity Standard C78.377A.









- † Lumen measurement complies with IES LM-79-08 testing procedures.
- \ddagger L70 = 70% lumen maintenance (when light output drops below 70% of initial output). Ambient luminaire temperatures specified. Lumen maintenance calculations are based on lifetime prediction graphs supplied by LED source manufacturers. Calculations for white-light LED fixtures are based on measurements that comply with IES LM-80-08 testing procedures. Refer to www. philipscolorkinetics.com/support/appnotes/lm-80-08.pdf for more information.
- § Refer to www.philipscolorkinetics.com/support/appnotes/ for specific details.

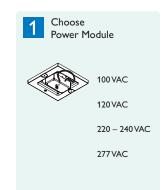
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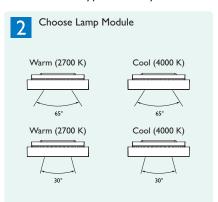


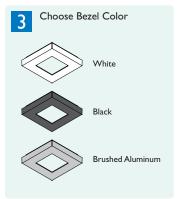
eW Downlight Powercore fixtures are available in three bezel colors: white, brushed aluminum, and black.

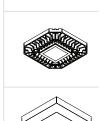
Product Selection

eW Downlight Powercore is comprised of three separate modules. From the list below, choose one of each module type to build your eW Downlight Powercore fixture.







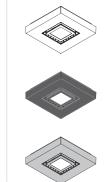


Item	Туре		Item Number	Philips 12NC
Power Modules	100 VAC		523-000010-02	910503700235
	120 VAC		523-000010-00	910503700233
	220 – 240 VAC		523-000010-03	910503700236
	277 VAC		523-000010-01	910503700234
Lamp Modules	100 / 120 / 277 VAC 2700 K (warm)	65° beam angle	523-000009-06	910503700560
		30° beam angle	523-000009-08	910503700562
	100 / 120 / 277 VAC 4000 K (warm)	65° beam angle	523-000009-07	910503700561
		30° beam angle	523-000009-09	910503700563
Bezel Modules	White		523-000011-00	910503700237
	Black		523-000011-01	910503700238
	Brushed Aluminum		523-000011-02	910503700239

Use Item Number when ordering in North America.

Complete Kits

For 220 – 240 VAC applications, eW Downlight Powercore is available as a complete kit. From the list below, choose one kit for your eW Downlight Powercore fixture.



Туре			Item Number	Philips 12NC
White	2700 K (warm)	65° beam angle	523-000031-06	910503700346
		30° beam angle	523-000031-00	910503700340
	4000 K (cool)	65° beam angle	523-000031-07	910503700347
		30° beam angle	523-000031-01	910503700341
Black	2700 K (warm)	65° beam angle	523-000031-08	910503700348
		30° beam angle	523-000031-02	910503700342
	4000 K (cool)	65° beam angle	523-000031-09	910503700349
		30° beam angle	523-000031-03	910503700343
Brushed Aluminum	2700 K (warm)	65° beam angle	523-000031-10	910503700350
		30° beam angle	523-000031-04	910503700344
	4000 K (cool)	65° beam angle	523-000031-11	910503700351
		30° beam angle	523-000031-05	910503700345
	White Black Brushed	2700 K (warm) White 4000 K (cool) 2700 K (warm) Black 4000 K (cool) 2700 K (warm) Brushed Aluminum	2700 K (warm) 2700 K (warm) 4000 K (cool) 2700 K (warm) 2700 K (warm) 2700 K (warm) 65° beam angle 30° beam angle 4000 K (cool) 2700 K (warm) 4000 K (cool) 65° beam angle 65° beam angle 65° beam angle 65° beam angle	White 2700 K (warm) 65° beam angle 523-000031-06 30° beam angle 523-000031-00 4000 K (cool) 65° beam angle 523-000031-07 30° beam angle 523-000031-01 65° beam angle 523-000031-01 65° beam angle 523-000031-02 30° beam angle 523-000031-02 65° beam angle 523-000031-03 30° beam angle 523-000031-03 65° beam angle 523-000031-03 30° beam angle 523-000031-03 65° beam angle 523-000031-10 30° beam angle 523-000031-10 30° beam angle 523-000031-11

Use Item Number when ordering in North America.

Installation

Owner / User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate eW Downlight Powercore fixtures in such a manner as to comply with all applicable codes, state and local laws, ordinances, and regulations. Consult with the appropriate electrical inspector to ensure compliance.

Installing in Damp Locations

Use this Product Guide to verify that the positioning of fixtures in your layout meets specifications for operating temperature and humidity. Each eW Downlight Powercore fixture is Dry / Damp Rated, allowing for placement in a location that is normally or periodically subject to condensation of moisture adjacent to the fixture. You must use suitable UL-rated junction boxes when installing in damp locations.

Planning Your Installation

Well-designed lighting brightens an area, highlights architectural features or products, and enhances the ways you perform tasks. Before installing eW Downlight Powercore fixtures, use information from architectural drawings, CAD files, or other available materials to create a layout map that specifies and locates all fixtures, dimmers, and the power source. Keep these features in mind as you plan your installation:

- eW Downlight Powercore connects directly to standard line voltage, using standard wiring familiar to contractors. Because of its low power consumption, you can install up to 150 eW Downlight Powercore fixtures on a single 20 A circuit,
- eW Downlight Powercore fixtures mount to standard octagonal junction boxes.
 Where local codes allow, you can also mount eW Downlight Powercore fixtures
 directly to flat surfaces, such as concrete ceilings. Slotted through-holes in the
 mounting plate provide adjustment in surface mount applications. The swivel
 bracket included with the 120 VAC and 277 VAC fixtures lets you fine-tune fixture
 alignment during installation.
- eW Downlight Powercore fixtures can be controlled either with a standard wall switch (on / off) or with selected commercially available reverse-phase ELV-type dimmers. Refer to the installation instructions included with the wall of dimmer switch for installing and wiring information.

Install the Fixtures

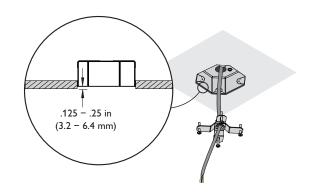
Before installing eW Downlight Powercore fixtures, make sure that all junction boxes, switches, and dimmers have been installed, and that line circuit wiring has been pulled to each mounting location.

Make sure the power is OFF before mounting eW Downlight Powercore fixtures.

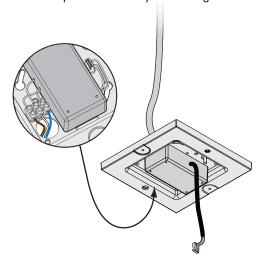
- If using the optional swivel bracket included with the power module for a 120 VAC or 277 VAC fixture, thread the wiring through the swivel bracket's center hole, then mount the swivel bracket to the junction box using four screws.
 - Make sure that the knockout for the junction box is recessed from .125 .25 in (3.2 6.4 mm) to provide additional clearance for the swivel bracket.

♦ When using the optional swivel bracket, recess the junction box an additional .125 – .25 in (3.2 – 6.4 mm) so that the fixture lies flush against the mounting surface.

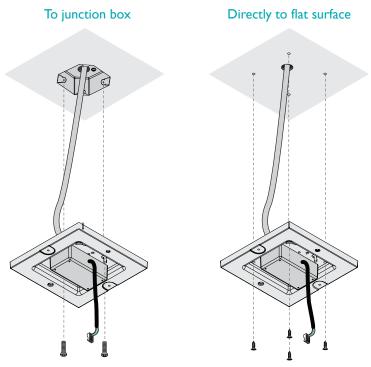
For a complete list of compatible ELV dimmers, and for details on selecting the appropriate dimmer for your lighting installation, visit www.philipscolorkinetics.com/support/appnotes, or consult Application Engineering services at support@colorkinetics.com.



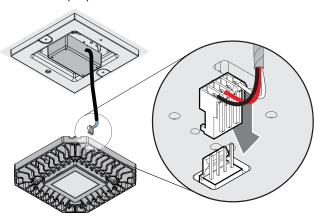
2. Install the power module by connecting the lead wires to a line circuit.



3. Mount the power module either to a junction box or directly to a flat surface, using appropriate mounting hardware.

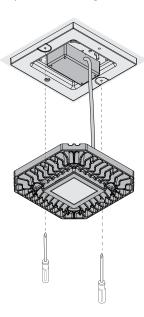


4. Install the LED module by inserting the four-pin connector on the power module into the four-pin port on the LED module.

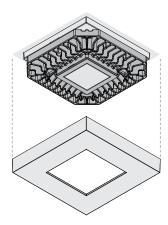


For CE compliance, all terminal blocks must conform to EN 60998-2-1 or EN 60998-2-2 and meet the specified ratings for the voltage and amperage listed in this Product Guide.

5. Mount the LED module to the power module with the LED module's two captured mounting screws.



6. Snap the bezel in place.



7. Turn the power ON.

