



Operating temperature
-30 to +30 °C

The perfect fit

InteGrade LED engines NB (narrow beam)

InteGrade LED engines NB enable easy creation of narrow-beam lighting solutions for vertical and horizontal display applications. The narrow beam in combination with the extremely small dimensions makes this system suitable for applications like chiller door and under-canopy lighting, where there is no room to place a sizable lighting solution. The unique optical system directs the light precisely where you want it, thus making optimum use of the light and energy. Our LEDs have minimal output degradation and color shift, so the light remains consistent throughout their long lifetime. InteGrade LED is an ideal solution for high-quality lighting without flicker or color differences. With a choice of mounting profiles, mounting clips, power cables, and Xitanium Constant Voltage Outdoor LED power drivers, your under-canopy or display lighting will always be a perfect fit.

*NB = narrow beam

Benefits

- Smooth and uniform linear lighting of products on display
- Aesthetic integration of LED lighting; possible to mount on very small mullions
- Excellent Total Cost of Ownership with attractive payback times

Product features

- Energy savings of up to 55% (102 W compared to 224 W for a TL5 28/35 W system in a 3.75 m cabinet)
- Dedicated Xitanium LED Outdoor drivers for reliable operation
- Scalable to length
- An InteGrade connector makes the electrical connection between two LED engines; an inline lock fixes the engine in a profile.

Applications

- Vertical and horizontal linear floodlighting, mounted on very small chiller door mullions, canopies and island freezers
- Display lighting in supermarkets, refrigerated cabinets, retail environments, libraries, museums

System

InteGrade LED engines and accessories are designed and marketed together, as we believe good system design is crucial to effective functioning of the system, and it also facilitates an easy design-in.

www.philips.com/ledrefrigeration



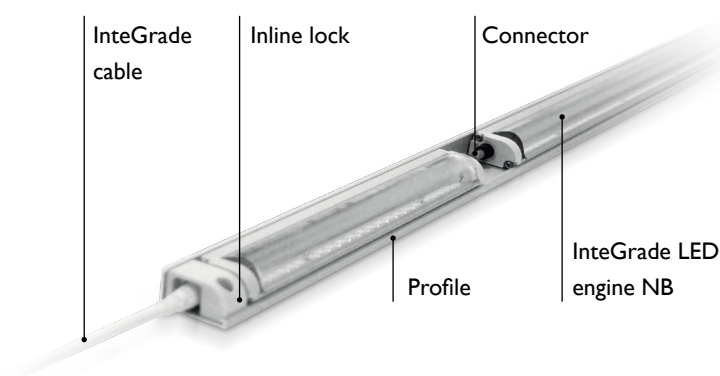
PHILIPS

Specifications

- The rated average life of the engines, in combination with a Philips LED power driver, is B50L70 at 50,000 hours (70% lumen maintenance). This rated average life is based on engineering data testing and probability analysis and three switchings a day.
- Operating temperature (performance)
min -30 °C / max +30 °C
- Storage temperature min -30 °C / max +60 °C
- Housing color: aluminum
- Safety Extra Low Voltage (SELV); safety is ensured even if wiring or units become damaged (only when a SELV-rated power supply is used).
- Compliance and approval:
ENEC, UL, CE, Product safety class III, RoHS, WEEE, EU directive 2002/95/EC and IEC 60335-2/89
- The engines are suitable for the described applications on condition of typical use in dry and damp locations.

InteGrade LED engine NB

Installation



Installation advice

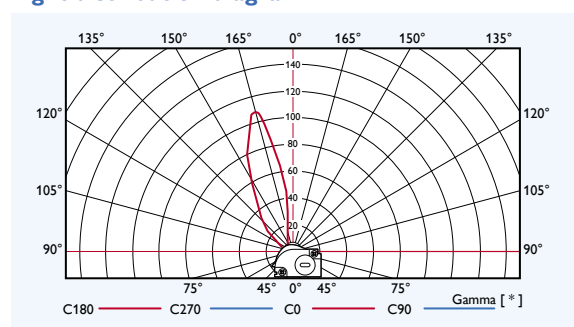
We advise you to consult our website for the latest up-to-date information and important detailed installation instructions. See www.philips.com/ledrefrigeration.

Energy savings

Energy savings are a major benefit of the InteGrade LED engine compared to TL5 and TL-D systems. Based on a 3.75 m chiller cabinet energy savings of 55% can be achieved.

| | T5 28 W in canopy and 35 W vertical | New Chiller door InteGrade LED system |
|---------------------------|-------------------------------------|---------------------------------------|
| Technology | Fluorescent | LED |
| Wattage of lamp | 224 W | 102 W |
| Wattage ballast / driver | 22.4 W | 12.2 W |
| System energy consumption | 246 W | 112 W |
| Energy savings | | Saving 55% |

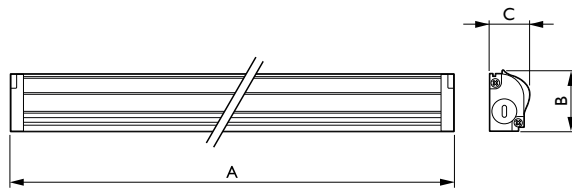
Light distribution diagram



Wattage and lighting characteristics InteGrade LED engine NB

| | Typical power consumption | Lumen | Color Rendering Index (typ) | Correlated Color Temperature* |
|--|---------------------------|-------------------|-----------------------------|-------------------------------|
| | W \pm 20% | Typical \pm 20% | CRI typical | K |
| InteGrade LED engine vision 140mm(6") 830 NB | 2 | 115 | 85 | 3000 |
| InteGrade LED engine vision 140mm(6") 835 NB | 2 | 115 | 86 | 3500 |
| InteGrade LED engine vision 140mm(6") 840 NB | 2 | 115 | 85 | 4100 |
| InteGrade LED engine vision 140mm(6") WWVR NB | 2 | 100 | n.a. | n.a. |
| InteGrade LED engine vision 575mm(23") 830 NB | 7 | 500 | 85 | 3000 |
| InteGrade LED engine vision 575mm(23") 835 NB | 7 | 500 | 85 | 3500 |
| InteGrade LED engine vision 575mm(23") 840 NB | 7 | 500 | 85 | 4100 |
| InteGrade LED engine vision 575mm(23") WWVR NB | 7.5 | 450 | n.a. | n.a. |

* Correlated color temperature within 6 SDCM range

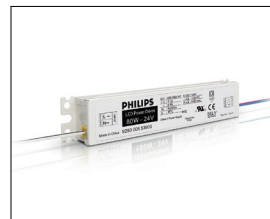


Dimensions InteGrade LED engine NB

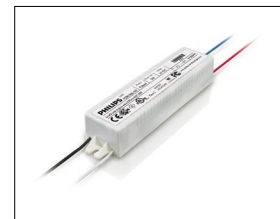
| InteGrade LED engines NB | Dimensions (mm) | | |
|------------------------------------|-----------------|------|----|
| | A | B | C |
| InteGrade LED engine 140mm(6") NB | 140 | 18.5 | 13 |
| InteGrade LED engine 575mm(23") NB | 575 | 18.5 | 13 |

Xitanium LED power driver

We have developed Xitanium Constant Voltage LED power drivers of 20 and 80 W 24 V which are ideal for powering the InteGrade LED engines NB, see ordering table on the last pages.

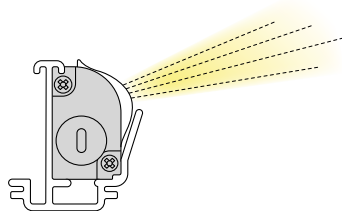


Xitanium Constant Voltage
Outdoor driver 80 W

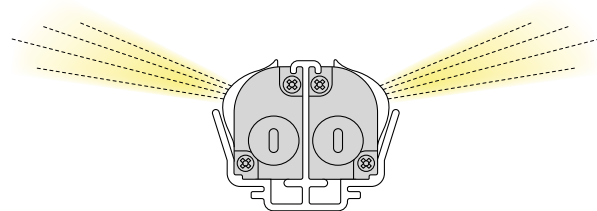


Xitanium Constant Voltage
Outdoor driver 20 W

Installation examples



Profile (for edges) with one LED engine



ProfileT style (center) with two LED engines

Accessories

Power cables

The power cables are available in different lengths and colors (black and white). They are easy to connect to the engines and the driver. Specific details can be found in the design-in guide available on our website.

Connector and lock

The connector is used to electrically connect two LED engines. The lock fixes the engine in its profile.

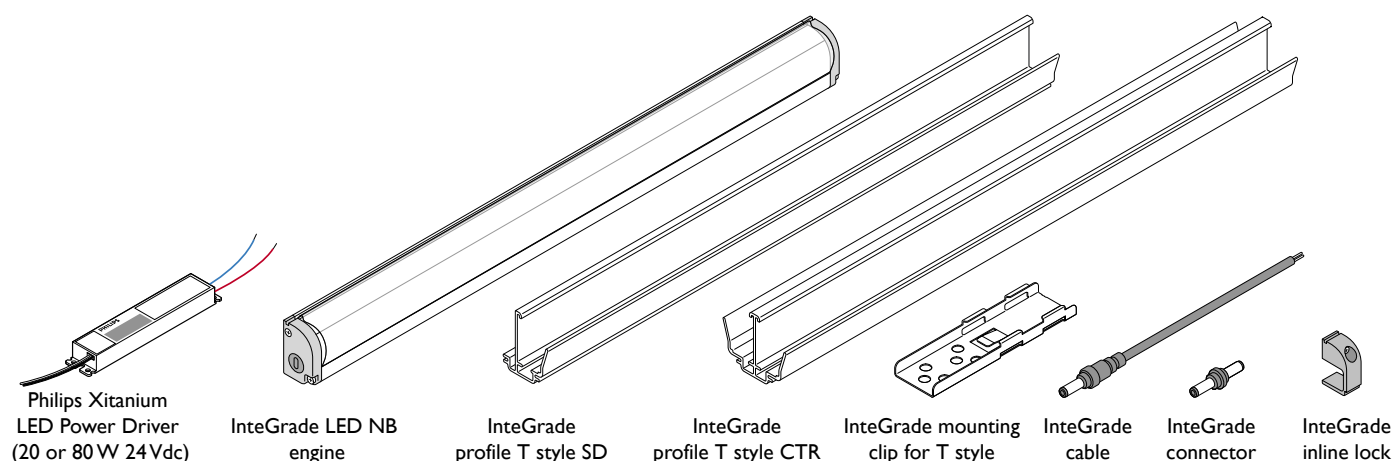
Profiles

The InteGrade profiles are made of satinized aluminum. The T profile is designed to be integrated in the doorframe or mullion to distribute the lighting to both sides of the cabinet.



Installation with InteGrade profile T style

Ordering details for InteGrade LED engine NB systems



InteGrade LED engine system

| | Logistic code 12 NC | European ordering code EOC | Minimum order quantity pcs |
|--|------------------------|-------------------------------|-------------------------------|
| Engines | | | |
| InteGrade LED engine vision 140mm(6") 830 NB | 9290 006 55013 | 871829125781300 | 24 |
| InteGrade LED engine vision 140mm(6") 835 NB | 9290 008 49813 | 871829166174000 | 24 |
| InteGrade LED engine vision 140mm(6") 840 NB | 9290 006 55113 | 871829125783700 | 24 |
| InteGrade LED engine vision 140mm(6") WWVR NB* | 9290 008 49213 | 871829166170200 | 24 |
| InteGrade LED engine vision 575mm(23") 830 NB | 9290 006 54813 | 871829125785100 | 24 |
| InteGrade LED engine vision 575mm(23") 835 NB | 9290 008 49913 | 871829166184900 | 24 |
| InteGrade LED engine vision 575mm(23") 840 NB | 9290 006 54913 | 871829125787500 | 24 |
| InteGrade LED engine vision 575mm(23") WWVR NB* | 9290 008 49313 | 871829166180100 | 24 |
| Profiles | | | |
| InteGrade profile 2000mm(79") T style CTR | 9290 008 53013 | 871829167646100 | 16 |
| InteGrade profile 2000mm(79") T style SD | 9290 008 53113 | 871829167648500 | 16 |
| InteGrade mounting clip for T style profile | 9290 008 53213 | 871829167650800 | 100 |
| InteGrade power cables - to connect engine to driver | | | |
| InteGrade power cable 1m(39") black | 9290 006 41014 | 871829121812800 | 24 |
| InteGrade power cable 2.5m(98") black | 9290 006 41114 | 871829122144900 | 24 |
| InteGrade cable 1m(39") black angle | 9290 006 44614 | 871829122136400 | 24 |
| InteGrade cable 2.5m(98") black angle | 9290 006 44814 | 871829122146300 | 24 |
| InteGrade power cable 1m(39") white | 9290 006 45614 | 871829122140100 | 24 |
| InteGrade power cable 2.5m(98") white | 9290 006 44514 | 871829122148700 | 24 |
| InteGrade cable 1m(39") white angle | 9290006 44714 | 871829122142500 | 24 |
| InteGrade cable 2.5m(98") white angle | 9290 006 44914 | 871829122150000 | 24 |
| Lock-inline - fix engine in profile | | | |
| InteGrade inline lock | 9290 006 43713 | 871829121951400 | 100 |
| Connector - connect engine to engine | | | |
| InteGrade connector | 9290 009 59106 | 871829122115900 | 500 |
| Power driver | | | |
| Xitanium Constant Voltage Outdoor LED Power Driver 20W - 24V | 9290 006 54006 | 871829121524000 | 10 |
| Xitanium Constant Voltage Outdoor LED Power Driver 80W - 24V | 9290 006 53906 | 871829121526400 | 10 |

* WWVR = LED rose

** On request, for availability please contact local sales office



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Data subject to change.

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