Energy DUE
LED Street/Area Luminaire

Advanced LIGHTING TECHNOLOGIES | **CREE** LIGHTING

Product Description

Designed as a complete street lighting system and optimized for LED light sources, it is distinguished by its extraordinary efficiency. Energy provides the best lighting solution.
Developed with three product sizes, a wide range of light sources together with a comprehensive optical range, stand-alone flux control options and Zhaga and Nema connectivity.
Energy can be mounted on a pole or bracket with an adjustability of +/- 20° and with 5° increments.
Adjustments can be done from outside without having to open the product cover
Applications: Urban and internal roads, pedestrian walkways and car parks.

Performance Summary

Efficacy: Up to 180 lm/W

Initial Color Consistency: 4 Step SDCM

System Lumen Output: Up to 23000 lm

Limited Warranty: 5 years on luminaire
Extended warranty (up to 10 years) available for approved projects. Contact ADLT for further information.

Ordering information

Eg.TRMB-2-K10-E-180-407-^-A-G-FX-S-S-00

TRMB	2	K10	E	180	407	^	A	G	FX	S	S	00
Product	Mounting	Optic	Light engine	Lumen output	CCT	Insulation Class	Voltage	Finish	Option	Variant	Protection	Cable Length
TRMB Energy DUE Version B **TUMB** Energy DUE LCu Version B	**2** Horiz/vert tenon 60/42mm OD **3** Vert tenon 76mm OD	**K07** NanoComfort Narrow Street **K08** NanoComfort Narrow Street **K09** NanoComfort Medium Street **K10** NanoComfort Medium Street **K11** NanoComfort Medium Street **K12** NanoComfort Broad Street **100** Medium Street **125** Broad Street	**150** Wide Street **200** Extra Wide Street **SCP** Street & Cycle Path **PCR** Pedestrian Crossing Right **PCL** Pedestrian Crossing Left **P05** Pedestrian Narrow **P25** Pedestrian Extra Wide	**D** Up to 13000 lm **E** Up to 17300 lm **F** Up to 23000 lm	**120** - 12000lm **130** - 13000lm **140** - 14000lm **150** - 15000lm **160** - 16000lm **173** - 17300lm **180** - 18000lm **200** - 20000lm **220** - 22000lm **230** - 23000lm	**227** 2200K CRI70 **277** 2700K CRI70 **307** 3000K CRI70 **407** 4000K CRI70	**+** Class I **^** Class II	**A** 220-240V	**G** Sapphire Grey **S** Silver **B** Black	**FX** Fixed Output **M1** Virtual Midnight 1 **M2** Virtual Midnight 2	**S** No socket/ No sensor **N** Nema socket **Z** Zhaga Top **B** Zhaga Bottom **D** Zhaga Top & Bottom	**S** By Driver **SF*** Standard +Fuse **U** 10 kV **UF*** 10 kV +Fuse	**00** No cable **B1** Exit cable 1 m **B6** Exit cable 6 m **B8** Exit cable 8 m **0B** Exit cable 10 m **2B** Exit cable 12 m

*Fuseholder with 5x20 8A rit. fuse on the input (line only)

Standard cable cross-section 1.5mm². Other cross-sections available on request.

LIGHT SHIELDS	
TRS-BLSF	Front shield
TRM-BLSR	Right shield
TRM-BLSL	Left shield
TRS-BLSB	Back shield

ADAPTER	
KIT-TRS-AP60-42-48-V0	Fitter kit to mount to 42 & 48 mm tenon

Energy DUE

LED Street/Area Luminaire

Advanced LIGHTING TECHNOLOGIES | **CREE ⇆ LIGHTING**

Dimensions

697 · 134 · 244
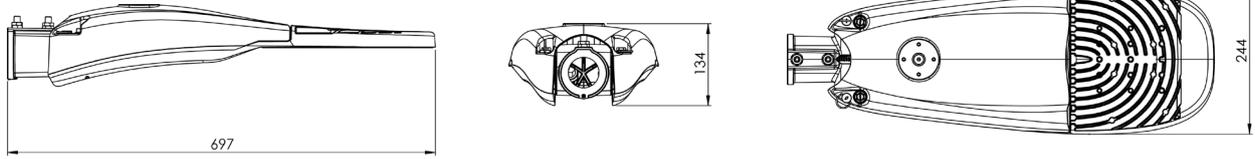
Light engine	System Lumen Output (lm)	Power (W)	Efficacy (lm/W)
D	12087	69,6	174
	13004	75,2	173
E	14033	76,3	184
	14959	82,4	182
	16062	88,7	181
	17275	97,0	178
F	18100	101,0	179
	19921	114,1	180
	21998	129,8	169
	23082	138,4	167

Note[1]: Data above for 4000K CRI70. Conversion factor for 3000K CRI70 = 0.95 | 2700K CRI70 = 0.91 | 2200K CRI70 = 0.79

Note[2]: Lumen and power data are typical values at 25°C ambient temperature. These values are subject to a tolerance of ± 7%.
In order to facilitate product updates, Cree Lighting Europe reserves the right to make changes without prior notice

M1 - Virtual Midnight 1 | **M2 -** Virtual Midnight 2

(M1 chart: 100%–10% axis; 23:00, 05:00)
(M2 chart: 100%–10% axis; 21:00, 00:00, 04:00, 06:00)
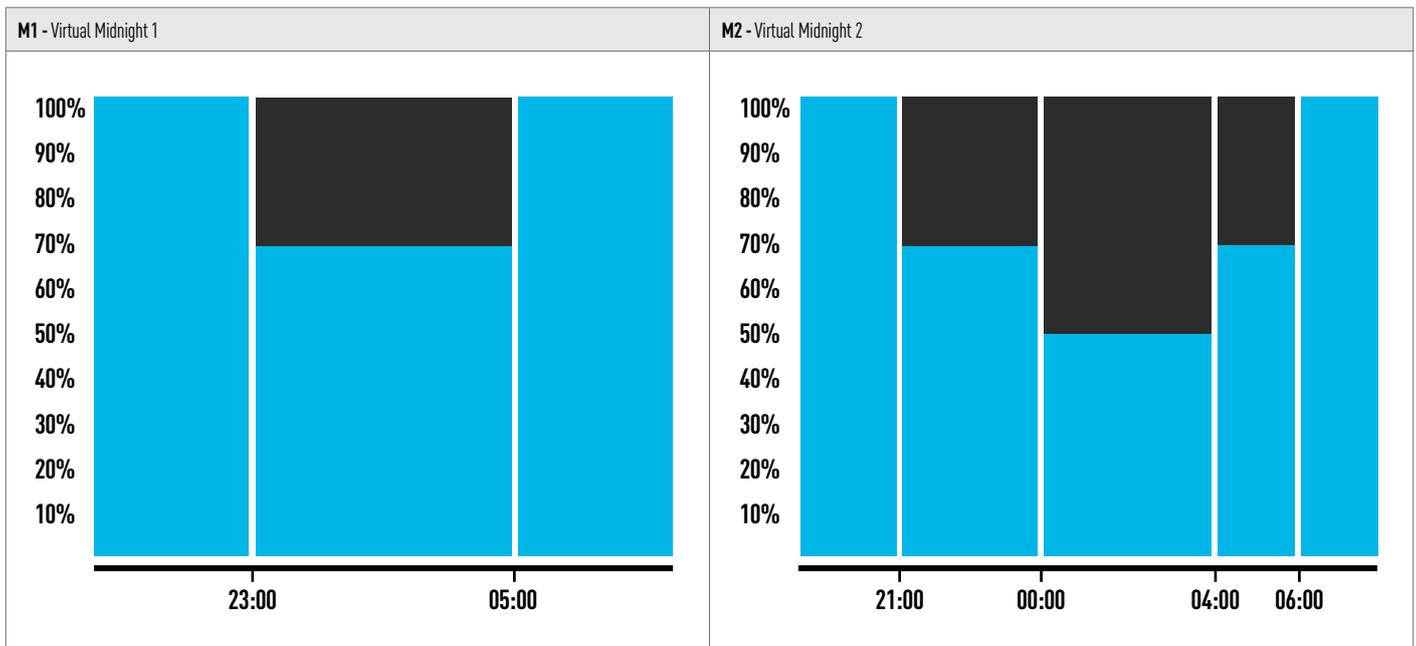
Virtual Midnight

This independent stand-alone system requires no additional wiring; it is integrated into the luminaire and requires no intervention from the installer. A system that is reliable and easy to set, as the adjustment follows pre-defined steps. Virtual Midnight offers excellent results in terms of savings: the device updates automatically according to the system's switch-on and switch-off times. Most energy saving regulations - GPP and the like - require maximum light output during the first and last hours of operation, which are generally the busiest, and a reduction of at least 30% during the central hours of the night. Through a self-learning process, the microprocessor determines the central point - the so-called virtual midnight - between the time the system is switched on (sunset) and the time it is switched off (dawn). The process is carried out over three consecutive days with regular on/off cycles. Virtual midnight is the reference point for switching the setback intervals according to the desired profile.

Energy DUE

LED Street/Area Luminaire

FEATURES

- Available with **NanoComfort®** precision optical system
- System lumen output up to 23000lm
- Zhaga Book 15 compliant LED module efficiency (excluding optical system): ≥220 lm/W
- Luminaire efficiency (including optical losses): up to 180 lm/W
- CCT: 4000K Ra70, 3000K Ra70, 2700K Ra70, 2200K Ra70
- CRI Standard min. 70
- Initial Chromatic Selection: ≤ 4-Step MacAdam ellipse or Δu'v' ≤ 0.003 (LM80:08)
- Luminous flux maintenance factor: L90B10 >100,000 hours Ta=25°C
- Optical compartment and wiring compartment ingress protection: IP66 (IEC 60529)
- Optical compartment and wiring compartment impact resistance: IK10 (EN 62262)
- Overvoltage protection: up to 10kV CM/DM according to EN 61000-4-5 and EN 61547
- Driver equipped with over-temperature protection for optimal performance and safety
- Power factor: up to 0.98 at full load
- Operating temperature: -40°C up to +50°C
- Control options: Virtual Midnight, D4i
- Available with fuse, 20mm Zhaga Book 18 connector and NEMA socket
- Backlight control accessory available on request for selected lenses
- Front, side & rear light shield accessories available
- SPD with LED fault indicator (Standard in class I, available on request in class II)
- Weight: 7,5 kg
- Lateral windage area: 0.04 m^2, maximum windage area: 0.13 m^2

CONSTRUCTION AND MATERIALS

- Die-cast aluminum body EN 47100 (copper content <0.7%). Aluminum alloy EN AB 44300 (copper content <0.1%) available as an option.
- Power supply compartment accessible without the use of tools
- Ultra-clear 4mm tempered glass with anti-reflective coating
- Replaceable PMMA lenses
- Replaceable LED board equipped with ESD protection
- Cable type H07RN-F (Cable length up to 15m)
- Easy installation: wiring compartment accessible without tools, no need to open it for installation if the fixture is configured with protruding cable
- Convenience in routine and extraordinary maintenance: accessible power supply compartment; lenses and LEDs easily removable and replaceable
- Luminaire assembled without the use of adhesives, fully demountable and recyclable
- Can be mounted on poles or brackets with an adjustability of +/- 20° and with 5° increments

WARRANTY AND CERTIFICATIONS

- Warranty: 5 years / 10 years on request
- CE / CB / RoHS / ENEC
- Compliant to: EN 60598-1, EN 60598-2-3
- TM66 rated with an excellent circularity
- Meets CAM requirements
- Exempt risk class (EN 62471)
- Compliant with vibration test in accordance with IEC 60068-2-6 severity levels
- Lead-free powder coatings with excellent exterior durability, conforms to the requirements:
    - Adhesion - test compliant with ISO 2409
    - Salt spray - test NSS compliant with ISO 9227
    - Accelerated Weathering - test UV compliant with ISO 16474-3 (ex ISO 11507)
    - Constant humidity - test compliant with ISO 6270-1

Energy DUE

LED Street/Area Luminaire

**Advanced** LIGHTING TECHNOLOGIES | **CREE** LIGHTING

Photometry

All published luminaire photometric testing performed by an external certified ISO 17025 laboratory.
To obtain an IES file specific to your project consult: www.creelighting-europe.com

K07 - Narrow Street
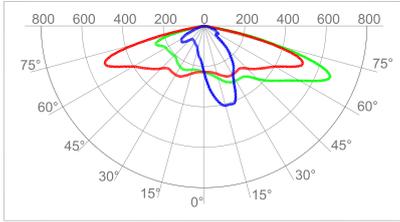
cd/klm
— C0 - 180   — C90 - C270   — C05 - C185
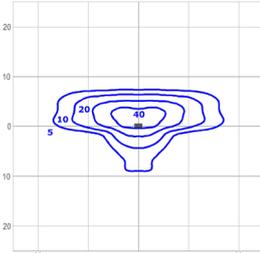
Luminous Intensity Class G*3
Glare Index D6

TRSB-2-K07-B-80-407
Mounting Height: 6m

K08 - Narrow Street
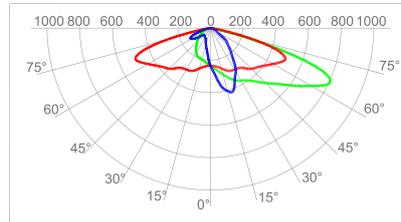
cd/klm
— C0 - 180   — C90 - C270   — C17 - C197
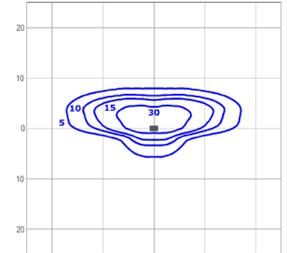
Luminous Intensity Class G*3
Glare Index D5

TRSB-2-K08-B-80-407
Mounting Height: 6m

K09 - Medium Street
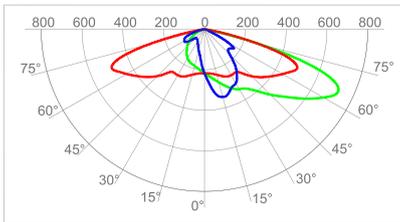
cd/klm
— C0 - 180   — C90 - C270   — C16 - C196
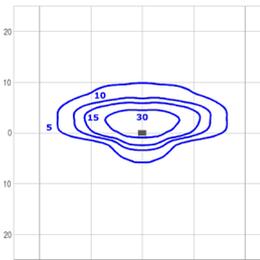
Luminous Intensity Class G*3
Glare Index D5

TRSB-2-K09-B-80-407
Mounting Height: 6m

K10 - Medium Street

cd/klm
— C0 - 180   — C90 - C270   — C20 - C200
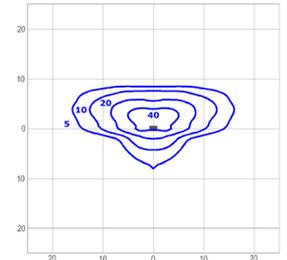
Luminous Intensity Class G*3
Glare Index D5

TRSB-2-K10-B-80-407
Mounting Height: 6m

K11 - Medium Street
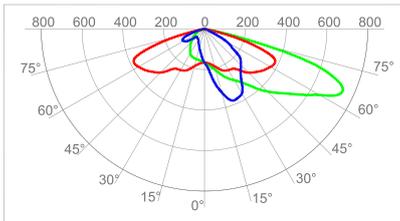
cd/klm
— C0 - 180   — C90 - C270   — C19 - C199
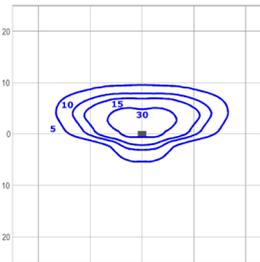
Luminous Intensity Class G*3
Glare Index D5

TRSB-2-K11-B-80-407
Mounting Height: 6m

K12 - Broad Street

cd/klm
— C0 - 180   — C90 - C270   — C20 - C200
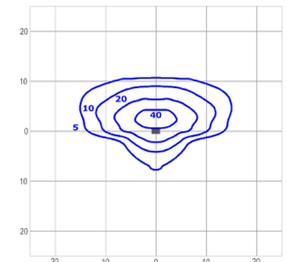
Luminous Intensity Class G*3
Glare Index D5

TRSB-2-K12-B-80-407
Mounting Height: 6m

100 - Medium Street
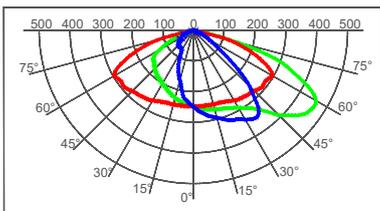
cd/klm
— C0 - 180   — C90 - C270   — C22.5 - C202.5
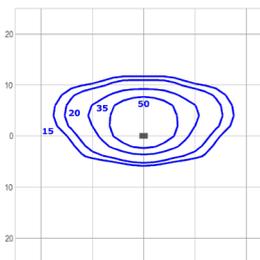
Luminous Intensity Class G*4
Glare Index D5

TRSB-2-100-B-80-407
Mounting Height: 6m

125 - Broad Street
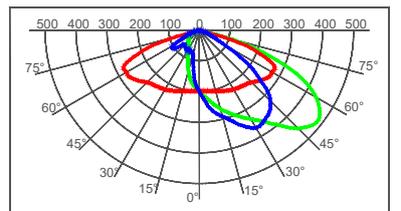
cd/klm
— C0 - 180   — C90 - C270   — C32.5 - C212.5
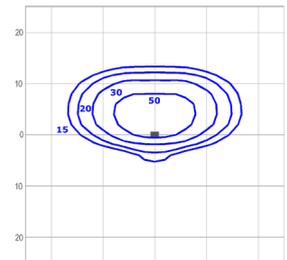
Luminous Intensity Class G*4
Glare Index D6

TRSB-2-125-B-80-407
Mounting Height: 6m

Energy DUE

LED Street/Area Luminaire

Advanced LIGHTING TECHNOLOGIES | **CREE** LIGHTING

Photometry

All published luminaire photometric testing performed by an external certified ISO 17025 laboratory.
To obtain an IES file specific to your project consult: www.creelighting-europe.com

### 150 - Wide Street
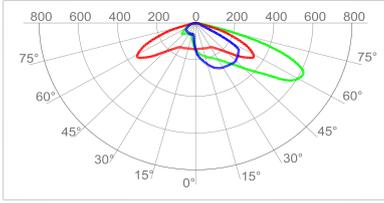
cd/klm
C0 - C180 | C90 - C270 | C27.5 - C207.5

lux

Luminous Intensity Class G*3
Glare Index D5
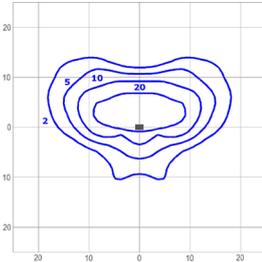
TRSB-2-150-B-80-407
Mounting Height: 6m

200 - Extra Wide Street
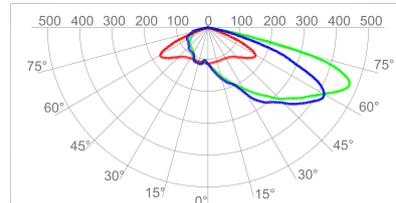
cd/klm
C0 - C180 | C90 - C270 | C55 - C235

lux

Luminous Intensity Class G*3
Glare Index D5
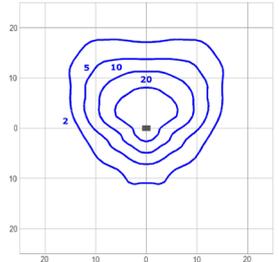
TRSB-2-200-B-80-407
Mounting Height: 6m

SCP - Street & Cycle Path
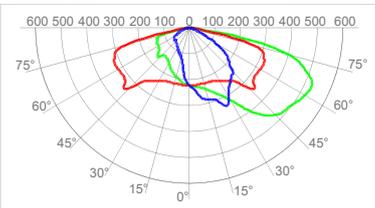
cd/klm
C0 - C180 | C90 - C270 | C20 - C200

lux

Luminous Intensity Class G*2
Glare Index D4
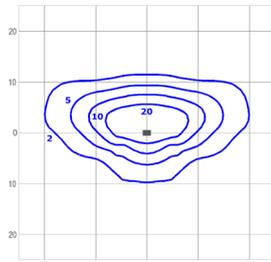
TRSB-2-SCP-B-80-407
Mounting Height: 6m

PCR - Pedestrian Crossing Right
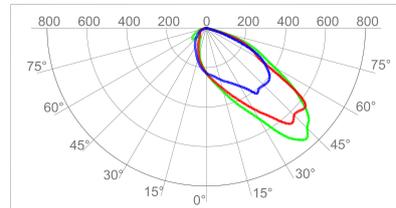
cd/klm
C0 - C180 | C90 - C270 | C17.5 - C197.5


lux

Luminous Intensity Class G*6
Glare Index D5
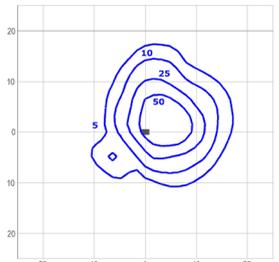
TRSB-2-PCR-B-80-407
Mounting Height: 6m

PCL - Pedestrian Crossing Left
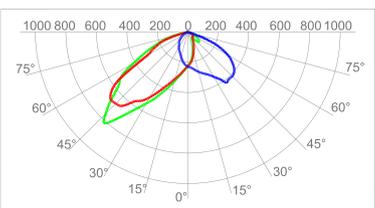
cd/klm
C0 - C180 | C90 - C270 | C160 - C340

lux

Luminous Intensity Class G*6
Glare Index D5
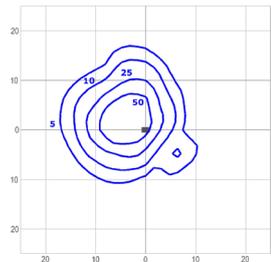
TRSB-2-PCL-B-80-407
Mounting Height: 6m

P05 - Pedestrian Narrow
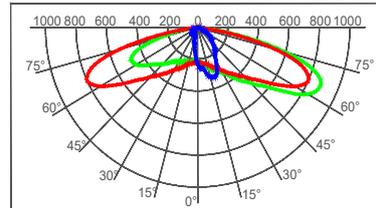
cd/klm
C0 - C180 | C90 - C270 | C9 - C189

lux

Luminous Intensity Class G*1
Glare Index D4
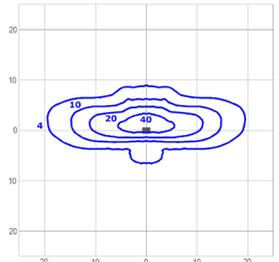
TRSB-2-P05-B-80-407
Mounting Height: 6m

P25 - Pedestrian Extra Wide
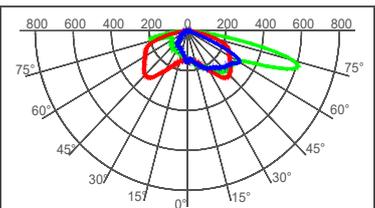
cd/klm
C0 - C180 | C90 - C270 | C45 - C225

lux

Luminous Intensity Class G*0
Glare Index D4
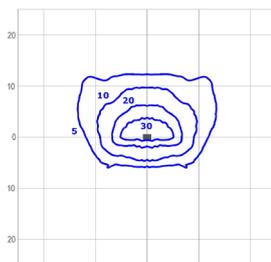
TRSB-2-P25-B-80-407
Mounting Height: 6m