



Návrh obnovy Starého parku v Nitre – 2. etapa SO.07 Prípojky elektriny, osvetlenia, napojenie informačného systému

D2.07.3. Svetelno-technický výpočet

Objednávateľ projektovej dokumentácie:

Mesto Nitra

Generálny projektant:

Ateliér Krejčířikovi, s.r.o.
P. Bezruč 182
691 42 Valtice

Projektant časti:

LIGHTECH, spol. s.r.o.
Stará Vajnorská 90
831 04 Bratislava

Stupeň dokumentácie:

Dokumentácia pre vydanie spoločného územného rozhodnutia a stavebného povolenia

Dátum: 12/2020

NÁVRH OBNOVY STARÉHO PARKU V NITRE

SVETELNO-TECHNICKÝ VÝPOČET

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BEGA 77122K3 LED 26 W 1xLED 23,2W / BEGA - LED 26 W (1xLED 23,2W)

BEGA 77122K3 LED 26 W 1xLED 23,2W

BEGA Aufsatzleuchte 77122K3. Symmetrische Lichtstärkeverteilung.
Freistrahles Licht. LED, 26 W Leuchten-Anschlussleistung,
Leuchten-Lichtstrom 2635 lm, Farbtemperatur 3000 K.

Farbwiedergabeindex (CRI) > 80.

Mit austauschbarem BEGA LED-Modul mit Übertemperaturschutz
und einer

Lebenserwartung von mindestens 50.000 Betriebsstunden.

20-jährige Nachliefergarantie auf das LED-Modul und die

Verschleißteile.

Mit LED-Netzteil 220-240 V, 0/50-60 Hz, dimmbar 1-10 V. Schutzart

IP 65,

Schutzklasse II. Leuchte aus Aluminiumguss, Aluminium und

Edelstahl,

Farbe Grafit. Kunststoffabdeckung transluzent-weiß.

Reflektor aus eloxiertem Reinstaluminium. Mastzopfdurchmesser 76
mm,

Einstecktiefe 110 mm. Mit fest angeschlossener Anschlussleitung

X05BQ-F 4 x 1 qmm,

Länge 6 m. Leuchtendurchmesser 510 mm, Höhe 665 mm.

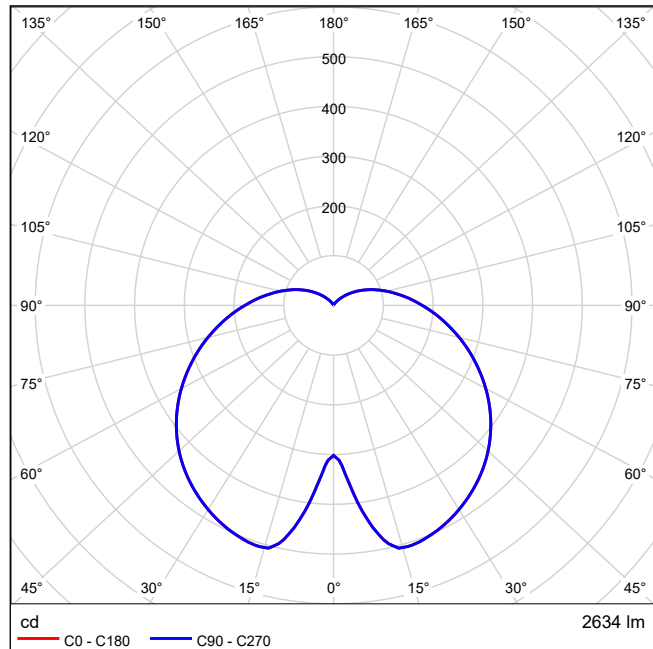
Für Lichtpunkthöhen von 4000 - 6000 mm.

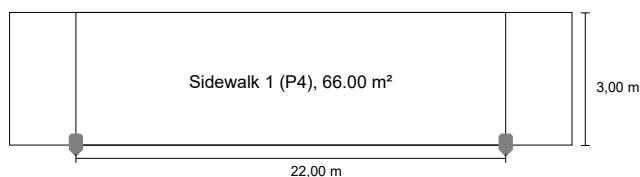
Absolute photometry

Luminaire luminous flux: 2634 lm

Power: 26.0 W

Luminous efficacy: 101.3 lm/W

Luminous emittance 1 / Polar LDC

Bocne komunikacie according to EN 13201:2015**BEGA 77122K3 LED 26 W****Results for valuation fields**

Maintenance factor: 0.80

Sidewalk 1 (P4)

Em [lx] ≥ 5.00 ≤ 7.50	Emin [lx] ≥ 1.00
✓ 6.96	✓ 1.17

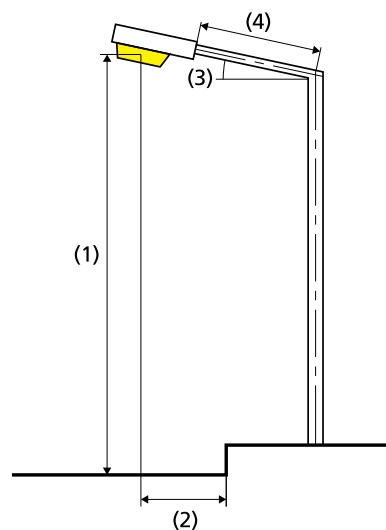
Results for energy efficiency indicators**Power density indicator (Dp)**

0.057 W/lxm²

Energy consumption density

Arrangement: LED 26 W (104.0 kWh/yr)

1.6 kWh/m² yr



Lamp:	1xLED 23,2W
Luminous flux (luminaire):	2633.95 lm
Luminous flux (lamp):	2634.00 lm
Operating Hours	
4000 h:	100.0 %, 26.0 W
W/km:	1170.0
Arrangement:	single side bottom
Pole distance:	22.000 m
Boom inclination (3):	0.0°
Boom length (4):	0.000 m
Light centre height (1):	4.000 m
Light overhang (2):	0.000 m

ULR: 0.16

ULOR: 0.16

Maximum luminous intensities

at 70° and above	112 cd/klm *
at 80° and above	89.0 cd/klm *
at 90° and above	67.6 cd/klm *

Luminous intensity class: /

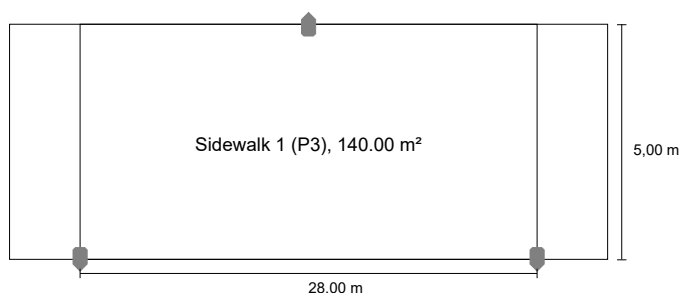
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.

* Luminous intensity values in [cd/klm] for calculating luminous intensity class refer to the output flux of the luminaire, according EN 13201:2015.

Arrangement complies with glare index class D.6

Hlavné komunikácie according to EN 13201:2015

BEGA 77122K3 LED 26 W



Results for valuation fields

Maintenance factor: 0.80

Sidewalk 1 (P3)

Em [lx] ≥ 7.50 ≤ 11.25	Emin [lx] ≥ 1.50
✓ 8.74	✓ 3.66

Results for energy efficiency indicators

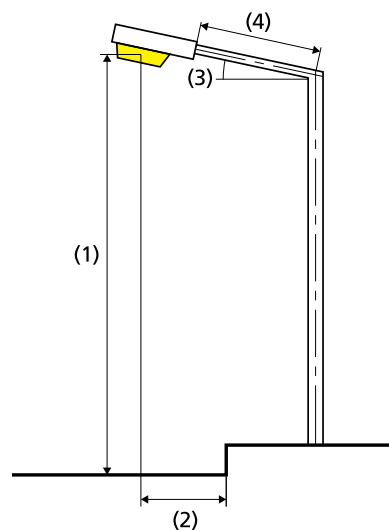
Power density indicator (Dp)

0.043 W/lxm²

Energy consumption density

Arrangement: LED 26 W (208.0 kWh/yr)

1.5 kWh/m² yr



Lamp:	1xLED 23,2W
Luminous flux (luminaire):	2633.95 lm
Luminous flux (lamp):	2634.00 lm
Operating Hours	
4000 h:	100.0 %, 26.0 W
W/km:	1872.0
Arrangement:	both sides offset
Pole distance:	28.000 m
Boom inclination (3):	0.0°
Boom length (4):	0.000 m
Light centre height (1):	4.000 m
Light overhang (2):	0.000 m

ULR: 0.16

ULOR: 0.16

Maximum luminous intensities

at 70° and above	112 cd/klm *
at 80° and above	89.0 cd/klm *
at 90° and above	67.6 cd/klm *

Luminous intensity class: /

Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.

* Luminous intensity values in [cd/klm] for calculating luminous intensity class refer to the output flux of the luminaire, according EN 13201:2015.

Arrangement complies with glare index class D.6