



REPUBLIC of CROATIA
Ministry of Economy and
Sustainable Development

LIGHT POLLUTION LEGISLATION IN CROATIA

Ministry of Economy and Sustainable Development

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GOALS

- Environmental protection
- Biodiversity protection
- Nature preservation
- Ecological stability protection
- Rational use of energy and resources
- Contribution to the concept of sustainable development



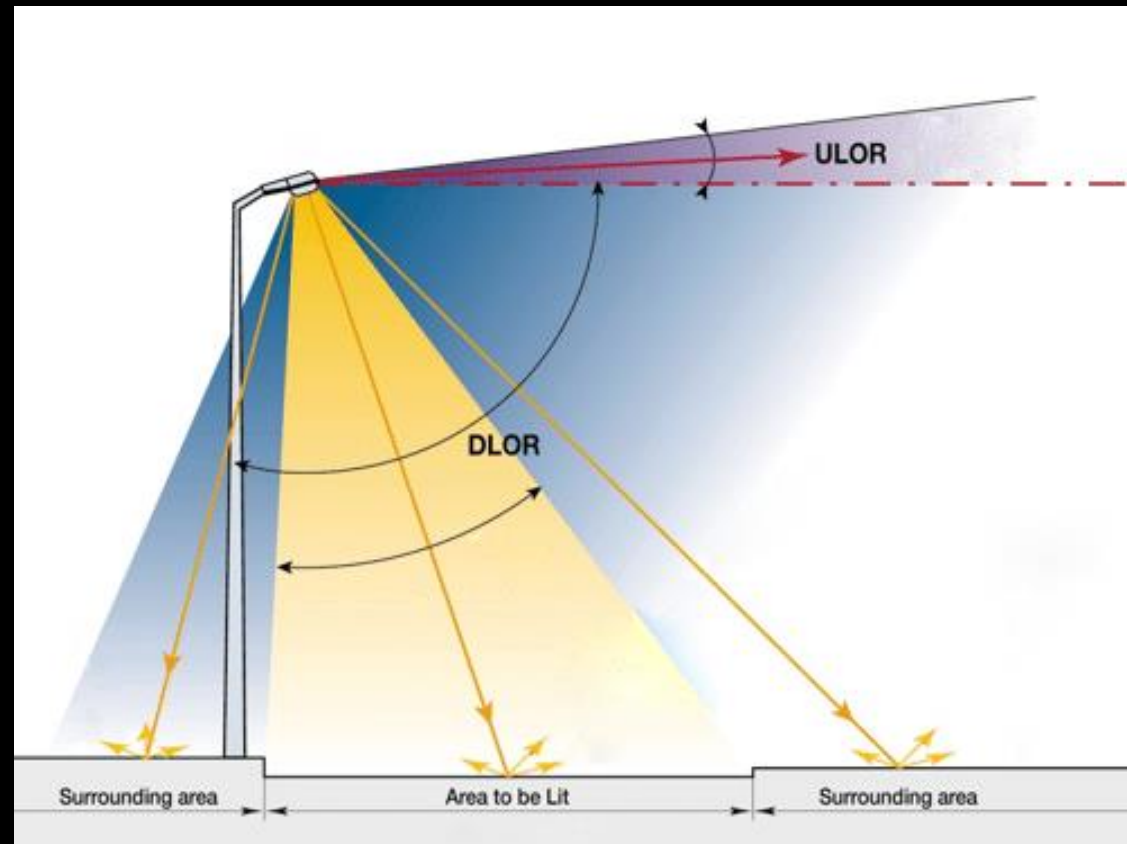
LEGISLATION

- Protection Against Light Pollution Act (OG 14/19)
 - Ordinance on Lighting Zones, Permitted Lighting Values and Methods of Managing Lighting Systems (OG 128/20)
 - Ordinance on the Content, Format and Drafting the Lighting Plan and Action Plan for the Construction and/or Reconstruction of Outdoor Lighting (OG 22/23)
 - Ordinance on Measurement and Monitoring of Environmental Lighting (OG 22/23)



ALLOWED LAMPS

- Urban areas
 - CCT 3000 K or lower
 - ULOR 0.0%
 - G-index ≥ 1.5
- In protected areas:
 - CCT 2200 K or lower
 - ULOR 0.0%
 - G-index ≥ 2





ORDINANCE ON LIGHTING ZONES, PERMITTED LIGHTING VALUES AND METHODS OF MANAGING LIGHTING SYSTEMS (OG 128/20)

ZONE	DESIGNATION	CIRCUMSTANCES
E0	Areas with natural illumination	Proximity to major professional observatories Dark Sky Parks Natural areas of open space Nature areas outside the boundaries of settlements important for the preservation of wild species sensitive to light pollution, with special emphasis on strictly protected species Protected areas - Strict reserves, special reserves and zones of strict and targeted protection within nature parks and national parks Shelters for wild species Parts of landscape and landscape infrastructure
E1	Dark landscape areas	Rural and urban areas and areas with limited night activity Buildings within natural areas of open space Unclassified local roads, mostly unlit Protected areas outside the of the settlement boundaries except protected areas in E0 Protected areas within the settlement borders crucial for strictly protected species Shelters and habitats of wild species sensitive to light pollution within settlements
E2	Areas of low ambient illumination	Construction sites of the settlements Residential zones Protected areas except in zones E0 and E1 Activity zones within nature parks and national parks Protected areas within the settlement boundaries
E3	Areas of medium ambient illumination	Individual Industrial and commercial zones segregated from the settlement areas Industrial and commercial zones within the settlements Infrastructure from transport
E4	Areas of high ambient illumination	Urban commercial areas with a high intensity of night activity



ORDINANCE ON LIGHTING ZONES, PERMITTED LIGHTING VALUES AND METHODS OF MANAGING LIGHTING SYSTEMS (OG 128/20)

ANNEX II.

A. Limit values of vertical illuminance at building openings

Table 2.a Maximum levels of vertical illuminance (FL) at openings (doors, windows) of neighbouring buildings

Description	Part of night	Illumination zone				
		E0 (lx)	E1 (lx)	E2 (lx)	E3 (lx)	E4 (lx)
Vertical illumination	before curfew	0,5	1	2	3	8
	during curfew	0	0	0,5	1	2

ANNEX IV.

Table 8. Maximum permissible brightness values of billboards or advertising media/screens

**implied operation during the night*

Type of billboard or media	Permissible lamp position/light direction	Illumination zone			
		E0	E1	E2	E3 - E4
with external lamps	On the top edge / down	0 cd/m ²	0 cd/m ²	10 cd/m ²	20 cd/m ²
with internal lamps and static lighting	Individual inner source	0 cd/m ²	0 cd/m ²	5 cd/m ²	20 cd/m ²
Digital screens*	Individual inner source	0 cd/m ²	0 cd/m ²	0 cd/m ²	20 cd/m ²



ORDINANCE ON THE CONTENT, FORMAT AND DRAFTING THE LIGHTING PLAN AND ACTION PLAN FOR THE CONSTRUCTION AND/OR RECONSTRUCTION OF OUTDOOR LIGHTING (OG 22/23)

- Prescribes the obligations of local self-government units, municipalities, cities and large lighting operators
- Lighting Plans
- Action Plans for the construction or reconstruction of outdoor lighting
- Method of submitting data for the needs of the Environmental Protection Information System



Illumination Plan of Bakar city

Trial Plan

Map symbols



City boarder

Illumination zones

(according to Ordinance on illumination zones classification)



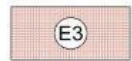
Areas with natural illumination



Dark landscape areas



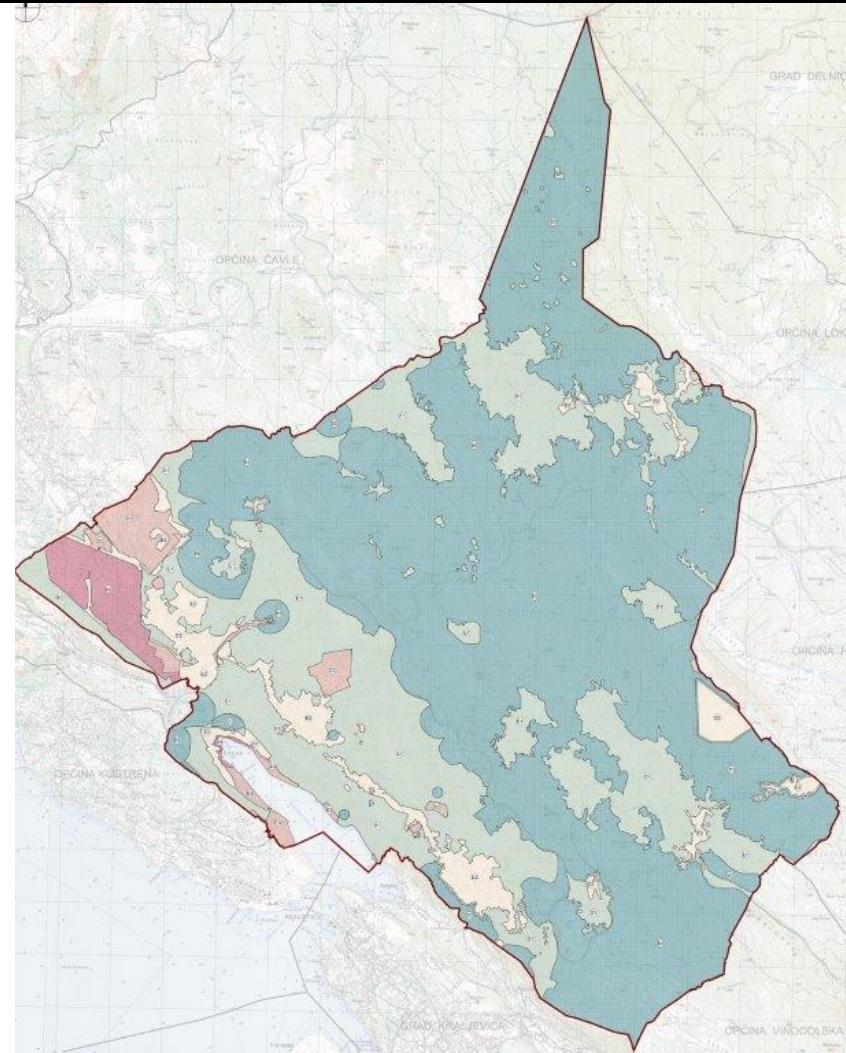
Areas of low ambient illumination



Areas of medium ambient illumination



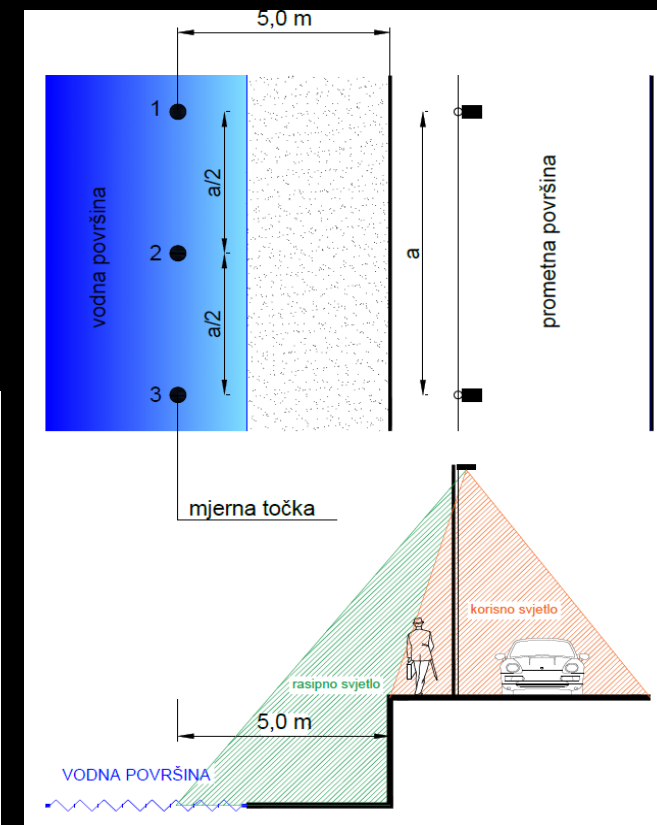
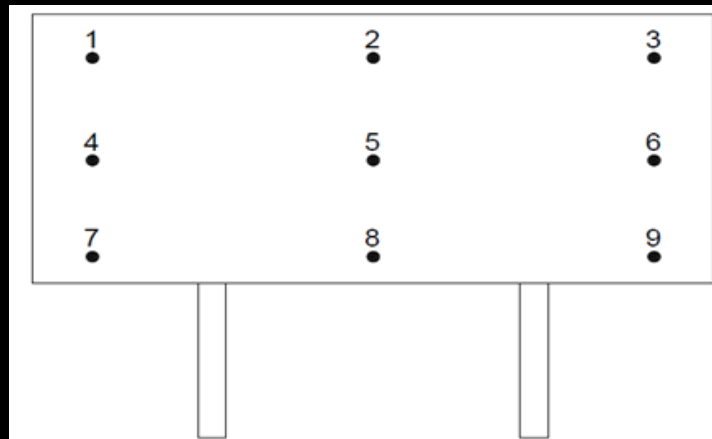
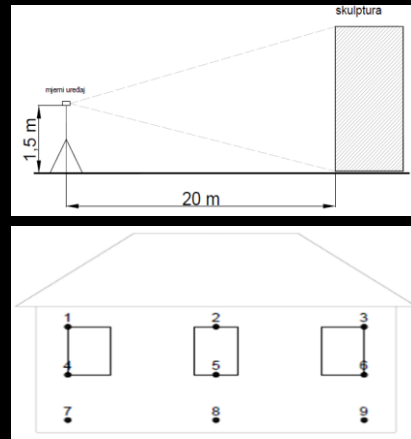
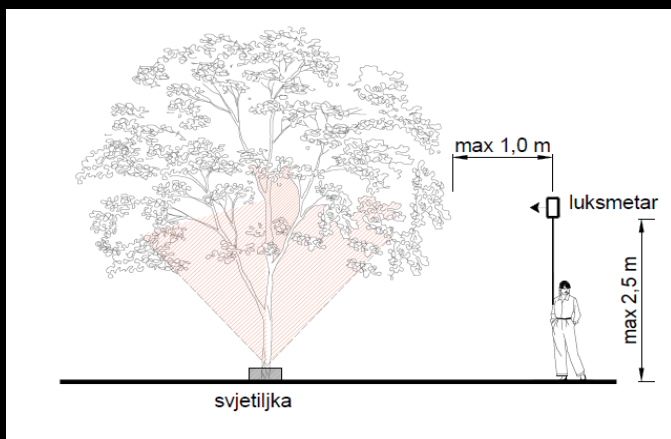
Areas of high ambient illumination





ORDINANCE ON MEASUREMENT AND MONITORING OF ENVIRONMENTAL LIGHTING (OG 22/23)

- Defines:
 - Requirements of measuring outdoor illumination
 - Content of the report
 - Report drafting methods
 - Measurement methods





CHALLENGES AND OPPORTUNITIES

- Observed issues:
 - Definition of new and existing lights
 - Curfew
 - Deadlines for Plans endorsement
 - Jurisdiction clarifications
 - Administrative interpretation of the legislation
 - Public inquiries
 - Distrust towards the inspection
 - Behavior of the operators



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THANK YOU FOR YOUR
ATTENTION!

