



MLO Second Draft - Public Comment Form

All Comments must be received by August 23, 2010

REQUIRED INFORMATION WHEN SUBMITTING COMMENTS:

Reminder! The following information must be completed. Not completing the fields renders your comment invalid, and it will not be considered in the final review.

Name	Jan Hollan
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Are You	IDA Member - <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No IES Member - <input type="checkbox"/> Yes <input type="checkbox"/> No

Please use the form on the following page to present your comments. To help the Task Force understand your comments, it is necessary to identify the specific section of MLO you are talking about. **Please copy the form onto a new page for each of your comments.**

If you wish you may include a separate page for general comments. *Supporting Information* in Section 4 on the Comment Page is not required, but will assist the Task Force in better understanding the rationale for the proposed change.

Email submissions are preferred. Please put "2010 MLO Comment" in subject line and email to ida@darksky.org

For postal submissions: IDA, 3225 North First Avenue, Tucson, AZ 85719.

1. Please specify which part of the MLO Draft your comment is directed. (If you are proposing a new section or subsection, so indicate by placing "NEW" at the beginning.)

MLO Draft Section Number _____ **Subsection No.** _____ **Page No.** _____

(or **GENERAL** __x__ if your Comment does not pertain to a specific Section)

2. Please specify whether your Comment relates to

A) Ordinance text (right side) © OR B) User's Guide (left side) ©

3. Enter your Comment or Proposed Change below:

(If suggesting a change of language, use ~~strikeout~~ to show deleted words and underline to show added words.)

Your Comment or Proposed Change: (use additional pages if needed)

I endorse the comments submitted by the (FixTheMLO) Ad Hoc Review Committee.

The MLO, as presented, cannot help to preserve the night sky, not alone to restore it, as was the original goal of my IDA. The sole outcome of it would be the continuation of the current bad lighting practice, offering an apology for it: we obey IDA's rules...

What is worse: it would become a very strong argument against any efficient and effective existing legislation, which really reduces light pollution. There are examples of that within the US territory (Connecticut road lighting, Ketchum municipal lighting...). And there are wonderfully successful examples in Europe (most of Italy – ten provinces at least, whole nation of Slovenia). The rules valid in these European areas are valid for ALL outdoor lighting, simple and easy to verify and enforce:

1. 0 cd/klm horizontally and upwards (meaning 0.49 cd/klm at most, easy to obey), for systems of illumination of the ground
2. never more light than any technical standards recommend (expressed as illuminance or luminance) – if no standards apply, then 10 lx or 1 cd/m2
3. no light outside the building or monument which is illuminated from below; such an illumination from below, which does not obey the rule 1, is to be approved by the municipal council, otherwise it cannot be used
4. exemptions just for lamps below 1500 lm and some very temporary lighting

The Ordinance, if any, should not only restore the natural night environment as much as possible, but also reduce the power consumption for outdoor lighting ten times, compared with the existing one. There is no free CO2-neutral power which could be used for that purpose. Each further kg of oxidized fossil carbon is an evil.

4. Information Supporting Proposed Change (use additional pages if necessary)

Copenhagen Diagnosis, <http://www.copenhagendiagnosis.org/>

Memorandum of Nobel Prize Laureates, <http://www.nobelcause.org/>

Legislation overview, <http://amper.ped.muni.cz/light/EuP/legislation2.htm>

Light pollution definition etc., http://amper.ped.muni.cz/light/lp_what_is.pdf

Reasons for limitation of O.L., <http://amper.ped.muni.cz/bajc/lp181.pdf>

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MLO Draft Section Number __II__ **Subsection No.** ____ **Page No.** __5-6__

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The concept of Lighting Zones is completely absurd. It is very apparent that it is an invention of the lighting industry, to be able to maintain the current practice in the most relevant places: the heavily urbanized ones. All world is “LZO”:

“Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment.”

All people have the right to enjoy night sky, fireflies, healthy sleep in the natural darkness at home with open windows (no luminaire shining parts nor shining advertisements should be visible from a bedroom after 10 p.m., the window artificial illuminance should never be over 0.1 lx). Artificial lighting disturbs both wildlife and people everywhere, if present outdoors.

If the illuminances/luminances are to have various limits at various instances, the limits should be physiology-based. Of course, with the knowledge, that white light over several lux compromises nighttime metabolism and should be avoided whenever possible. The current lighting practice is very probably a major cause of cancer, obesity, diabetes of the 2nd type and sleep disturbances. It is completely unsustainable even without global warming considerations. It should be abandoned, reducing illuminances by orders of magnitude at night and avoiding any wavelengths below 550 nm.

4. Information Supporting Proposed Change (use additional pages if necessary)

<http://www.astro.cz/darksky/>

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All limits fo light amounts given in the tables are much larger than those needed according to the physiology of human vision. Full moonlight is enough for some situations, being 0.1 lx usually, 0.3 lx in extreme cases. Ten times that much is enough in most cases, hundred times that much enables comfortable reading of newspapers. The old technology, HID lamps, was not good in offering low illuminances, the new LED one offers them easily. Amber LED light at 0.3 lx to 10 lx levels suffice for almost all purposes.

BUG rating is far too complicated and even so it is not satisfying. It cannot ensure that illuminance of residential windows will be lower than moonlight. The wonderfully simple rules of zero candela per kilolumen and 10 lx at ground at most in the evening (several times less late at night) are enough. If anything should be added, then the right of any citizen to ask luminaire/billboard owner to hide it from his/her view and a obligation of the light pollution producer to obey such wish within a month or so.

4. Information Supporting Proposed Change (use additional pages if necessary)

Choosing the best luminaire, http://amper.ped.muni.cz/light/ies2/EasyLight-SaveTheSky/ch_best.htm

Sustainable outdoor lighting, <http://amper.ped.muni.cz/light/rules.htm>
Rules for Protecting the Night Environment - a necessary and sufficient set,
http://amper.ped.muni.cz/light/zakon_oo/2007/lpJan05n.pdf