

## Characterizing the Need for Protection of Dark Skies from Commercial Cannabis Operations in Humboldt County

Presented to the Planning Commission of Humboldt County, August 2018, by Jacob Nowatzke of Arcata

### Humboldt CMMLUO 1.0 (OrdNo.2559; 13.Sep2016)\*

"Mixed-Light" means cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold as set forth in performance standards in Section 55.4.11 (v), et seq. of this ordinance, or as to be determined by the Department of Food and Agriculture, whichever is less.

#### **Performance Standards for Mixed-Light Cultivation:**

- v) Those cultivators using artificial lighting for mixed-light cultivation shall shield greenhouses so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise.
- w) The light source should comply with the International Dark Sky Association standards for Lighting Zone 0 and Lighting Zone 1, and be designed to regulate light spillage onto neighboring properties resulting from backlight, uplight, or glare (BUG). Should the Humboldt County Planning Division receive complaints that the lighting is out of alignment or not complying with these standards, within ten (10) working days of receiving written notification that a complaint has been filed, the applicant shall submit written verification that the lights' shielding and alignment has been repaired, inspected and corrected as necessary.

### Humboldt CCLUO 2.0 (OrdNo.2598&9; 8.May2018)\*

"Mixed-Light" means cultivation using a combination of natural and supplemental artificial lighting.

#### **55.4.12.4 Performance Standard for Light Pollution Control**

- a) Structures used for Mixed Light Cultivation and Nurseries shall be shielded so that no light escapes between sunset and sunrise.
- b) Where located on a Parcel abutting a residential Zoning District or proposed within Resource Production or Rural Residential areas, any Security Lighting for Commercial Cannabis Activities shall be shielded and angled in such a way as to prevent light from spilling outside of the boundaries of the Parcel(s) or Premises or directly focusing on any surrounding uses.
- c) The County shall provide notice to the operator upon receiving any light pollution complaint concerning the cultivation site. Upon receiving notice, the applicant shall correct the violation as soon as possible and submit written documentation within ten (10) calendar days, demonstrating that all shielding has been repaired, inspected and corrected as necessary. Failure to correct the violation and provide documentation within this period shall be grounds for permit cancellation or administrative penalties, pursuant to the provisions of 55.4.5.3.

San Mateo (OrdNo.4797; 13.Mar2018)\*\*

h) Lighting. All lighting shall be fully shielded, downward casting, and not spill over onto other structures, other properties or the night sky. All operations shall be fully contained so that little to no light escapes. Between sunset and sunrise, light shall not escape at a level that is visible from neighboring properties or the public right of way, and, to the extent feasible, from a fixed location 250 feet in all directions from the structure where the Cultivation is being conducted.

International Dark-Sky Association's Lighting Zone Standards\*\*\*

Zone	Recommended Uses or Areas	Zoning Considerations
LZ-0	Lighting Zone 0 should be applied to areas in which permanent lighting is not expected and when used, is limited in the amount of lighting and the period of operation. LZ-0 typically includes undeveloped areas of open space, wilderness parks and preserves, areas near astronomical observatories, or any other area where the protection of a dark environment is critical. Special review should be required for any permanent lighting in this zone. Some rural communities may choose to adopt LZ-0 for residential areas.	Recommended default zone for wilderness areas, parks and preserves, and undeveloped rural areas.  Includes protected wildlife areas and corridors.
LZ-1	Lighting Zone 1 pertains to areas that desire low ambient lighting levels. These typically include single and two family residential communities, rural town centers, business parks, and other commercial or industrial/storage areas typically with limited nighttime activity. May also include the developed areas in parks and other natural settings.	Recommended default zone for rural and low density residential areas.  Includes residential single or two family; agricultural zone districts; rural residential zone districts; business parks; open space include preserves in developed areas.

\*References to Humboldt County ordinances are available at

<https://humboldt.gov.org/2124/Medical-Marijuana-Land-Use-Ordinance>

\*\*References to San Mateo County ordinances are available at

<https://planning.smcgov.org/commercial-cannabis-activity-license>

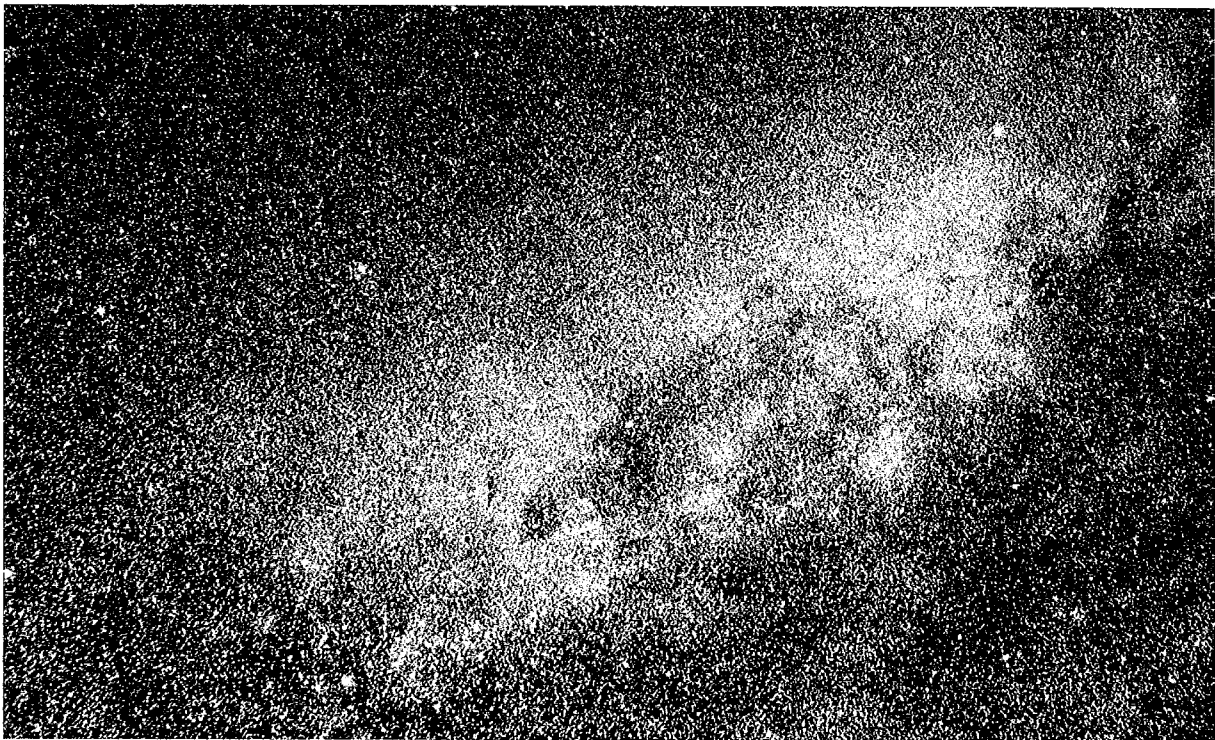
\*\*\*References to IDA are available at

<http://darksky.org/lighting/model-lighting-laws-policy/recommended-lighting-zones/>



### Recommended Considerations for the Protection of Dark Skies from Commercial Cannabis Operations in Humboldt County

1. The County's CCLUO should concisely delineate and prohibit the light pollution of otherwise-pristine night sky by any and all commercial cannabis activity.
2. The CCLUO should make a clear effort to discriminate against unnecessary lighting for any and all commercial cannabis activity.
3. The Planning Commission should consider that "no light" escaping from mixed light and/or nursery operations may be demanding more than we should, leading to unnecessary energy consumption or other unforeseen issues.
4. The Planning Commission may benefit from recognizing the International Dark-Sky Association's Lighting Zone standards/definitions, in implementing these considerations.
5. The Planning Commission would benefit from referencing these points before further implementation, when considering discretionary permits for commercial cannabis activity.
6. Most involved parties would benefit from attempting to count the stars by hand, in inner-Eureka vs. inland Humboldt County (of course when given an opportune, fogless night).



*Photograph of Milky Way taken by the author from Kneeland Airport, Kneeland, CA, Aug2017*