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All terms defined in section X must be in *italics* whenever used in the ordinance text. Revise each instance of a defined term to be in italics.

REJECTED - This is not code language formatting.

#43 - The terms “Exceptions” and “Exemptions” are both used in several places in the ordinance. It is not clear if this is this is an intentional distinction or not. If it is, it would be good to understand the intended difference between the two. If not, then please use one term consistently throughout.

Comment Acknowledged: Exceptions are equipment specific for example in V. Residential Lighting, exceptions apply to specific types of luminaires. Exemptions are application specific for example in Section III General Requirements B. Applicability where Lighting within the public right-of-way is exempt.

X. DEFINITIONS - Ordinance Text

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| <i>Absolute photometry</i> | Photometric measurements (usually of a solid-state luminaire) that directly measures the light output of the luminaire. Reference standard: IES LM-79. |
| <i>Architectural Lighting</i> | Lighting designed to reveal architectural beauty, shape and/or form and for which lighting for any other purpose is incidental. |
| <i>Authority</i> | The adopting municipality, agency or other governing body. |
| <i>Astronomic Time Switch</i> | An automatic lighting control device that switches outdoor lighting relative to time of solar day with time of year correction. |
| <i>Backlight</i> | For an exterior luminaire, lumens emitted flux radiated in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light. |
| <i>BUG</i> | A luminaire classification system that classifies evaluates backlight (B), uplight (U) and glare (G). |
| <i>Canopy</i> | A covered, unconditioned structure with at least one side open for pedestrian and/or vehicular access. (An unconditioned structure is one that may be open to the elements and has no heat or air conditioning.) |
| <i>Common Outdoor Areas</i> | One or more of the following: a parking lot, for three or more domiciles or buildings ; a parking structure or covered vehicular entrance, garage or covered entrance intended to be used by three or more domicile or buildings ; an a common entrance or open public space shared by all occupants of the domiciles. for three or more domiciles or buildings; primarily intended to be used by the occupants of three or more domiciles or buildings. |

General Comment #1 - Definitions in the MLO are somewhat convoluted requiring specialists for their interpretation. It also requires complex compliance data to be reported and assessed. This will not encourage its acceptance by non-lighting specialists because the quantitative goals are not obvious to politicians, urban planners or neighborhood lighting contractors. (These are critical for adoption, implementation and use.)
REJECT - Comment is not specific enough to understand and apply. In general we have changed wording of definitions identified as inaccurate or unclear.

35 - Definitions in Section X could be updated to include references to specific testing standards for absolute vs. relative photometry.
ACCEPT IN PART - Term is Deleted.

#25 - This term does not require definition and is included in the definition for "ornamental lighting." Delete.

REJECTED: Architectural lighting is a subset of ornamental lighting, and thus a definition is in order.

#25 - "Flux radiated" is an unnecessarily technical term. Revise to: For an exterior luminaire, flux radiated light emitted (lumens) in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light. **ACCEPT - Change to "Lumens Emitted"**

31 - Under the definition for *Backlight*, For an exterior luminaire, **luminous flux radiated in the quarter sphere below horizontal**...REASON: Assuming "luminous flux" is intended, since "flux" is not defined in Section X, we should explain it here.

REJECTED - Wording changed to "Lumens Emitted" instead.

31 - Under the definition for *Backlight*, add to the last sentence ...so that dark sky friendly lighting can be installed in places that traditional-appearing style luminaires are required desired.- Or "...are required preferred."
REJECT - Incorrect interpretation of backlight. Doesn't add to the clarity of the definition. Definitions should not be used to define code requirements such as "required".

#25 - BUG does not actually "evaluate." Revise to: A luminaire classification system that classifies luminaires in terms of backlight (B), uplight (U) and glare (G).

ACCEPTED - Wording changed to "classifies"

X. DEFINITIONS - Ordinance Text

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| Backlight | For an exterior luminaire, lumens emitted flux radiated in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light. |
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| Common Outdoor Areas | One or more of the following: a parking lot for three or more domiciles or buildings ; a parking structure or covered vehicular entrance, garage or covered entrance intended to be used by three or more domicile or buildings ; an a common entrance or open public space shared by all occupants of the domiciles. for three or more domiciles or buildings; primarily intended to be used by the occupants of three or more domiciles or buildings. |
| Curfew | A time defined by the authority when outdoor lighting is reduced or extinguished. |

#35 - Backlight BUG ratings: what if luminaires are not mounted perpendicular to the property line? The definition of “backlight ” in the BUG Luminaire Classification System is relative to the luminaire, but what’s relevant from a “light pollution” perspective is how the luminaire is mounted on the site. Backlight might actually be USEFUL if luminaire is mounted in the center part of a site, but possibly offensive if mounted at the perimeter! Also, the same distribution might be more offensive if luminaire is oriented, for example, 45-degrees from the property line, thus shining some of its “forward” light off the property, and backward light INTO the property. Therefore, “Backlight” in the BUG luminaire classification system is not predictive of offensive light outside of property boundaries...

REJECTED: Backlight for the purpose of this definition is describing the luminaire photometric performance, and not where it is located. Table C has an extended section on different Backlight ratings depending on mounting locations on the site.

43 - Revise the definition of “Common Outdoor Area”

One or more of the following: A parking lot, ~~for three or more domiciles or buildings~~; a parking structure, or covered vehicular entrance. ~~intended to be used by three or more domiciles or buildings~~; a common entrance for three or more domiciles or buildings; or open public space ~~primarily intended to be used shared by all occupants of the domiciles. three or more domiciles or buildings~~

REASONS: As written, the inclusion of “multiple residential properties having common areas” under the “Non-Residential” lighting requirements is a potentially huge problem. The current definition of “outdoor common areas” would mean that many properties that should be considered residential (small, often owner- occupied, multi-family buildings with more than two units) might fall into this a category. In metropolitan areas such as Boston there are thousands of three family houses (“triple deckers”), converted single family homes with multiple apartments or condominium units, and small four or six unit buildings. Some have common entrances and possibly “open space primarily intended to be used by the occupants...”, and maybe shared garages. We understand what you are trying to do (treat apartment buildings as commercial properties) but we doubt if many cities would adopt the MLO this way, or if they did, would not really intend for such properties that they consider to be residential, to comply with the non-residential section – it would either be ignored or unenforced, or there would be an uproar.

Accepted: Code language is revised.”

X. DEFINITIONS - Ordinance Text

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| <p><i>Emergency conditions</i></p> | <p>Generally, lighting that is only energized during by an emergency; lighting fed from a backup power source; or lighting for illuminating to illuminate the path of egress solely during a fire or other emergency situation; or, lighting for security purposes used solely during an alarm.</p> |
| <p><i>Footcandle</i></p> | <p>A non-SI unit of illuminance or light intensity, defined as the amount of illumination the inside surface of a 1-foot radius sphere would be receiving if there were a uniform point source of one candela in the exact center of the sphere. The foot candle is equal to one lumen per square foot. The unit of measure expressing the quantity of light received on a surface. One footcandle is the illuminance produced by a candle on a surface one foot square from a distance of one foot.</p> |
| <p><i>Forward Light</i></p> | <p>For an exterior luminaire, flux (lumens emitted) radiated in the quarter sphere below horizontal and in the direction of the intended orientation of the luminaire.</p> |
| <p><i>Fully Shielded Luminaire</i></p> | <p>A luminaire with opaque top and sides, capable of only emitting light only in the lower photometric hemisphere as installed. A luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.</p> |
| <p><i>Glare</i></p> | <p>Lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.</p> |

#25 - The definition describes a type of lighting, not “conditions.” Also, we believe that “solely” is incorrect in that emergency lighting can be energized for normal use as well as emergency use but must continue to operate during an emergency condition. Therefore, change to “Emergency lighting” and revise to:

Generally, lighting that is only energized by an emergency Lighting fed from a backup power source; or lighting to illuminate the a path of egress solely or area during an fire or other emergency situation; or, lighting for security purposes used solely during an alarm.

ACCEPT - Commenter is correct - Wording changed

#25 - The definition is unnecessarily obscure. We suggest replacing with the following:

“The unit of measure expressing the quantity of light received on a surface. One footcandle is the illuminance produced by a candle on a surface one foot square from a distance of one foot.”

ACCEPTED - New Definition provided

#25 - Make consistent with “backlight,” as follows:

For an exterior luminaire, light emitted (lumens) radiated in the quarter sphere below horizontal and in the direction of the intended orientation of the luminaire.

ACCEPTED IN PART - Wording changed to lumens emitted

#25 - Fully shielded:

Should follow “footcandle” in alphabetic sequence.

REJECTED: Forward Light is alphabetically ahead of Fully Shielded Luminaire

#25: We believe a better definition would be as follows:

“A luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.”

ACCEPTED - New Definition provided

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| <i>Hardscape</i> | Permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, etc. |
| <i>Hardscape Area</i> | Hardscape The area measured in square feet of all hardscape. It is used to calculate the Total Site Lumen Limit in both the Prescriptive Method and Performance Methods. Refer to Hardscape definition. |
| <i>Hardscape Perimeter</i> | Hardscape The perimeter of the hardscape area measured in linear feet is used to calculate the Total Site Lumen Limit in the Performance Method. Refer to Hardscape definition. |
| <i>IDA</i> | International Dark-Sky Association. |
| <i>IESNA</i> | Illuminating Engineering Society of North America. |

#25 - The general rule is not to use the term being defined as part of the definition! Revise as follows:
 Permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is 10 feet or less in width.

ACCEPT - Wording changed

29 - Request: define “Hardscape” **ACCEPT - new wording**

#35 - Hardscape
 What is the significance of 10' width when defining “hardscape”? If a driveway is 11' wide instead of 10' it does NOT get a lumen allowance? Why are larger areas of hardscape excluded? Without a publication justifying the process for developing MLO, this 10' appears arbitrary. Also, increase detail in definition of hardscape, to include material examples, rather than uses. Or if uses are more important than material (for some reason) then directly define those uses, rather than materials.

Rejected: The 10' width is for landscape and not for hardscape such as driveways. The 10' landscape width is used in California's Title 24 allowance.

#25 - ~~Hardscape~~ Area measured in square feet that is used to calculate the Total Site Lumen Limit in both the Prescriptive Method and Performance Methods. Refer to Hardscape definition.

ACCEPTED IN PART - Wording changed

#25 - ~~Hardscape~~ **The perimeter of a hardscape area** is measured in linear feet is and used to calculate the Total Site Lumen Limit in the Performance Method. Refer to Hardscape definition.

ACCEPTED IN PART - Wording changed

X. DEFINITIONS - Ordinance Text

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| <i>Illuminated area</i> | An exterior areas for which lighting of reasonable uniformity (20:1 or less maximum to minimum illuminance ratio) and illumination (average greater than 0.2 fc) is provided; not incidentally lighted or partially lighted. Reference: RP 20 98. |
| <i>Impervious Material</i> | Sealed to severely restrict water entry and movement, such as brick, concrete, asphalt, stone, etc. |
| <i>Industry Standard Lighting Software</i> | Lighting software that calculates point-by-point illuminance that includes reflected light using either ray-tracing or radiosity methods. |
| <i>Initial lamp lumens</i> | Calculated as the sum of the initial lamp lumens for all luminaires lamps tested within an individual luminaire, multiplied by the luminaire efficiency. If the efficiency is not known for a residential luminaire, assume 70%. relative photometry and 140% of initial lamp lumens for all luminaires tested with absolute photometry. Although not applicable to solid-state luminaires tested with absolute photometry, initial luminaire lumens are approximated as 140% of luminaire lumens for all luminaires tested with absolute photometry. Lumen rating of a lamp or luminaire tested with absolute photometry when the lamp or luminaire is new and has not depreciated in light output. |
| <i>Initial luminaire lumens</i> | Calculated as the sum of the initial luminaire lumens for all luminaires. |
| <i>Lamp</i> | A generic term for a source of optical radiation (i.e. “light”), often called a “bulb” or “tube”. Examples include incandescent, fluorescent, high-intensity discharge (HID) lamps, and low pressure sodium (LPS) lamps, as well as light-emitting diode (LED) modules and arrays. |
| <i>Landscape Lighting</i> | Lighting designed specifically for illuminating exterior architectural and natural features. of trees, shrubs, or other plant material as well as ponds and other landscape features |

#25 - Does not appear to be used anywhere in MLO and should therefore be deleted.

ACCEPTED

55. Revise as follows - “Calculated as the sum of the initial lamp lumens for all luminaires tested with relative photometry. Not applicable to solid-state and 140% of initial lamp lumens for all luminaires tested with absolute photometry.
 REASON: The term “lamp lumens” is not applicable to solid-state luminaires tested with absolute photometry. When referring to lumens for luminaires tested with absolute photometry, indicate luminaire lumens – not lamp lumens.
 Referenced Standards : IESNA LM-79-08

ACCEPTED IN PART - Wording changed (Lamp does not apply to LED products).

Calculated as the sum of the initial lamp lumens for all lamps within an individual luminaire, multiplied by the luminaire efficiency. If the efficiency is not known for a residential luminaire, assume 70%.
 Although not applicable to solid-state luminaires tested with absolute photometry, initial luminaire lumens are approximated as 140% of luminaire lumens for all luminaires tested with absolute photometry. Lumen rating of a lamp or luminaire tested with absolute photometry when the lamp or luminaire is new and has not depreciated in light output.

#25 - Lighting of buildings (“architectural”) is not “landscape” lighting, but landscape lighting often includes features that are not “natural.” We recommend replacing with the following:
 “Lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.”. **ACCEPT - Definition Reworded**

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| LED | Light Emitting Diode. |
| Light Pollution | Any adverse effect of artificial light including, but not limited to, glare, light trespass, skyglow, energy waste, compromised safety and security, and impacts on the nocturnal environment. |
| Light Trespass | Light that falls beyond the property it is intended to illuminate. |
| Lighting | “Electric” or “man-made” or “artificial” lighting. See “lighting equipment”. |
| Lighting Equipment | Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components. |

#25 Add Definition for “Light Pollution”

“Light Pollution” should be defined, particularly since MLO currently is using it in its obsolete sense. We recommend the following (very similar to IDA's definition) and intend this meaning where we have used it elsewhere in our comments:
 “Any adverse effect of artificial light including, but not limited to, glare, light trespass, sky glow, energy waste, compromised safety and security, and impacts on the nocturnal environment.” **ACCEPTED - Definition added**

3 - ADD Definition for Light Pollution & Light Trespass

The MLO uses “Light Pollution” and “Light Trespass” a lot; those definitions ought to be added to Section X. Although the terms are widely used, the particular difference between “Light Pollution” and “Light Trespass” needs to be better understood within the MLO. It is my understanding that Light Trespass is among the various ways that Light Pollution could occur – yet these and other important terms describing how lighting systems can be obnoxious and/or wasteful are tossed about sort of indiscriminately in the MLO. Examples: Handbook Section IV, p. 14: “**Offsite impacts include both light pollution and light trespass.**” (...as if light trespass were something other than pollution which could also occur.)
 Handbook Section V, p. 19, “**it can cause light pollution and light trespass**” (same comment)

REASON The IDA definition of Light Pollution includes Light Trespass, among other offenses. The MLO's use of these terms should at least be consistent with that definition.
ACCEPTED - New definitions added for both terms

#25 Add Definition for “Light Trespass”

“Light Trespass” is used frequently in both the ordinance text and the Guide and should be defined.
 “Light that falls beyond the boundaries of the property it is intended to illuminate.”
ACCEPTED - New definition added

X. DEFINITIONS - Ordinance Text

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| <i>Lighting System</i> | On a site, all exterior electric lighting and controls. |
| <i>Lighting Zone</i> | An overlay zoning system establishing legal limits for lighting for particular parcels, areas, or districts in a community. |
| <i>Low Voltage Landscape Lighting</i> | Landscape lighting powered at less than 15 volts and limited to lamps luminaires having a rated initial luminaire lumen output of 750 525 lumens or less. |
| <i>Lumen</i> | The unit of luminous flux, a measure of the power of light perceived by the human eye. If a light source emits one candela of luminous intensity uniformly across a solid angle of one steradian, its total luminous flux emitted into that angle is one lumen. measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from “watt,” a measure of power consumption). |
| <i>Luminaire</i> | The complete lighting unit (fixture), consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply. |
| <i>Luminaire Lumens</i> | The cumulative total of lumens emitted by all lamps contained within a single luminaire. |
| <i>Lux</i> | The SI unit of illuminance. One lux is one lumen per square meter. 1 Lux is a unit of incident illuminance approximately equal to 1/10 footcandle. |
| <i>Mounting height</i> | The height of the photometric center of a luminaire above grade level. |
| <i>New lighting</i> | Lighting for areas not previously illuminated; newly installed lighting of any type except for replacement lighting or lighting repairs. |
| <i>Non-Shielded Luminaire</i> | A luminaire capable of emitting light in any direction including downwards. |

43 - Delete the term “Lighting System” and its definition, and where used in the ordinance replace with “Outdoor Lighting”
 REASON: This definition is redundant and therefore confusing. See comment IALD#22 for proposed revised definition of “Outdoor Lighting”. This proposed revised definition includes controls. **ACCEPT - Deleted**

#25 - The definition appears to be in conflict with Section V and Table G. Please see our Section V comments. **REJECT - Table G has been corrected to match this definition.**

#25 - Another unnecessarily obscure definition. We suggest replacing, as follows:
 “The unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from “watt,” a measure of power consumption).” **ACCEPT - Definition Reworded**

43 - Delete the term “luminaire lumens” and its definition.
 REASON: Using “luminaire lumens” with a non-standard definition is extremely confusing and is not necessary. “Luminaire lumens”, or “fixture lumens”, typically means lumens exiting the luminaire after fixture efficiency losses. Using the defined term “Initial Lamp Lumens” is clearer and does account for luminaires with multiple lamps because the definition of “Luminaire” includes “a lamp, or lamps”.
ACCEPT - Definition Deleted

#25 - “Unshielded” seems like the more customary usage and is what appears in Table G. We recommend replacing “non shielded” where it appears on Guide page 15 and in the Section V text.
ACCEPTED in PART - “Non-Shielded” DELETED from Definitions - New Definition added for UNSHIELDED. Section V changed to “unshielded”.

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| Object | A permanent structure located on a site. Objects may include statues or artwork, garages or canopies, outbuildings, etc. | |
| Object Height | The highest point of an entity, but shall not include antennas or similar structures. | |
| Ornamental lighting | Lighting that does not impact the function and safety of an area but is purely decorative, or used to illuminate architecture and/or landscaping, and installed for aesthetic effect. | #35 - Loose definition of "ornamental lighting" seems like it creates a loophole for compliance. ACCEPTED in PART - New Wording |
| Ornamental Street Lighting | A streetlight luminaire that may have a historical period appearance or decorative housing, globe, arm, or pole. A luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the following design characteristics: <ul style="list-style-type: none"> · designed to mount on a pole using an arm, pendant, or vertical tenon; · opaque or translucent top and/or sides; · an optical aperture that is either open or enclosed with a flat, sag or drop lens; · mounted in a fixed position; and · with its photometric output measured using Type C photometry per IESNA LM-75-01. | #25 - This is defined in Section XI and not used anywhere else, so we recommend deleting from the Definitions section. Accepted in Part: If the Streetlighting Option is accepted, definition may be required by some jurisdictions. #25 - This term seems self-evident, not requiring definition. Delete. REJECTED - Definition needed to exclude lighting located within the public right-of-way - limits outdoor lighting to within the property line. Term may not be self evident. |
| Outdoor Lighting | Lighting equipment installed within the property line and outside the building envelopes, whether attached to poles, building structures, the earth, or any other location; and any associated lighting control equipment. outdoors. | 43 - Revise definition of "Outdoor Lighting" Lighting Equipment <i>Lighting Equipment</i> installed outdoors within the property line and outside the building envelopes, whether attached to poles, buildings structures, the earth or any other location; and any associated lighting control equipment. REASON: This is a fundamental term in the MLO and the definition needs to be amplified to clarify that "outdoor lighting" includes all lighting equipment located within the property line and outside the building envelopes, no matter where it is mounted, along with any control equipment (which might be located indoors) ACCEPT - New wording provided with a more complete definition. |
| Outdoor Lighting Energy Code | An energy code at least as stringent as ASHRAE/IES 90.1-2007 with amendments providing for 4 or 5 lighting zones. | #25 - Not used anywhere in the document. Delete. ACCEPT - Deleted |

X. DEFINITIONS - Ordinance Text

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| <i>Partly shielded luminaire</i> | A luminaire with opaque top and translucent or perforated sides, designed to emit most light downward. |
| <i>Pedestrian Hardscape</i> | Stone, brick, concrete, asphalt or other similar finished surfaces intended primarily for walking, such as sidewalks and pathways. |
| <i>Photoelectric Switch</i> | A control device employing a photocell or photodiode to detect daylight and automatically switch lights off when sufficient daylight is available. |
| <i>Property line</i> | The edges of the legally-defined extent of privately owned property. |
| <i>Relative photometry</i> | Photometric measurements made of the lamp plus luminaire, and adjusted to allow for light loss due to reflection or absorption within the luminaire. Reference standard: IES LM-63. |
| <i>Repair(s)</i> | The reconstruction or renewal of any part of an existing luminaire for the purpose of its ongoing operation, other than relamping or replacement of components including capacitor, ballast or photocell. Note that retrofitting a luminaire with new lamp and/or ballast technology is not considered a repair and for the purposes of this ordinance the luminaire shall be treated as if new. “Repair” does not include normal relamping or replacement of components including capacitor, ballast or photocell. |
| <i>Replacement Lighting</i> | Lighting installed specifically to replace existing lighting that is sufficiently broken to be beyond repair. |

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#25 - Should either be changed to “partially,” as used on page 19, or text should be changed to “partly.” We prefer the latter.
ACCEPT - Change to PARTLY - also on Page 19 Residential.
Both words mean the same in this context.

#25 - We do not think this requires definition. Delete.
REJECT - Rejected: Property line stated in the performance method and a definition was required.

55. Revise as follows - “Photometric ratings for measurements made of the lamp ~~plus~~ and luminaire are determined separately. Ballast factor and luminaire efficiency are required to determine luminaire output, and adjusted to allow for light loss due to reflection or absorption within the luminaire. Typically used for non-LED luminaires.”
ACCEPTED IN PART - Reference Standard added

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#25 - Should precede “replacement” alphabetically.
We are totally baffled by this. Does relamping mean that a previously non-conforming luminaire would have to abide by regulations prior to amortization? We are not able to understand this sufficiently to propose alternate language.
ACCEPTED IN PART - NEW SENTENCE ADDED

#16 - I have read and reread this definition and I'm not sure I understand it. I think it states that replacement of existing parts of like kind is allowed for maintenance purposes, i.e. lamp, ballast, PE, etc. however when a change to new technology is used in the repair, it is treated like a new luminaire. We need wording similar to this instead of what is now used.
ACCEPTED IN PART - NEW SENTENCE ADDED for Clarity

X. DEFINITIONS - Ordinance Text

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| <i>Sales area</i> | Uncovered area used for sales of retail goods and materials, including but not limited to automobiles, boats, tractors and other farm equipment, building supplies, and gardening and nursery products. |
| <i>Seasonal lighting</i> | Temporary lighting installed and operated in connection with holidays or traditions. |
| <i>Shielded Directional Luminaire</i> | A fully shielded luminaire with that includes an adjustable mounting device allowing aiming in a any direction other than straight downward. and contains a shield, louver, or baffle to reduce direct view of the lamp. |
| <i>Sign</i> | Advertising, directional or other outdoor promotional display of art, words and/or pictures. |
| <i>Skyglow</i> | The brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one's ability to view the night sky. |
| <i>TV Illuminance</i> | Line of sight illuminance, measured at the eye in a plane perpendicular to the line of sight when looking at the brightest source in the field of view. |
| <i>Temporary lighting</i> | Lighting installed and operated for periods not to exceed 60 days, completely removed and not operated again for at least 30 days. |
| <i>Third Party</i> | A party contracted to provide lighting, such as a utility company. |
| <i>Time Switch</i> | An automatic lighting control device that switches lights according to time of day. |

#25 - The term "shielded," as used in "partially shielded," "non-shielded" and "shielded directional floodlight" on page 19, needs to be clearly defined in order that those terms can be correctly interpreted. This definition seems to be calling "fully shielded" a luminaire that is not "fully shielded" as installed.

ACCEPTED IN PART - Definition Reworded

43 - Revise definition of Shielded Directional Luminaire as follows:
A ~~fully shielded~~ *Luminaire* ~~with that includes~~ an adjustable mounting device allowing aiming in ~~a any~~ direction ~~other than straight downward,~~ and contains a shield, louver, or baffle, reducing direct view of the lamp.

REASON: The definition as written is confusing. It is defined as a fully shielded luminaire with an adjustable mounting device, etc. but the definition of "fully shielded" doesn't allow an adjustable fixture that might project light above horizontal. Also, a directional luminaire can be aimed down.

ACCEPTED IN PART - Definition Reworded

#25 Add Definition for "Skyglow" - Is this more commonly written as one word? It is used a number of times and should be defined. We suggest the following:
"The brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere.

Skyglow is caused by light directed or reflected upwards or sideways and reduces one's ability to view the night sky."

ACCEPT - New Definition added - wording accepted

43 - Replace "TV Illuminance" with new term and definition, "Off-Site Illuminance"

Line-of-sight illuminance, measured at the eye in a plane perpendicular to the line-of-sight when looking at the brightest source in the field of view

Off-Site Illuminance:

Illuminance on the inner sides of the vertical planes of the calculation enclosure, measured at a height of 5 feet (1.5 meters) above the ground and perpendicular to the vertical plane. Calculation points shall be spaced no greater than 10 feet (3 meters) apart

REASON: The definition of TV Illuminance, and the term itself is unclear and confusing. Where is the "eye" located? What defines the field of view? And regardless of where and how these measurements are taken, how can the computer program "look at the brightest source in the field of view"?

Do we have software that can do this or do you assume that this would be done manually by guessing which source is the "brightest" for each calculation point and then aiming the point towards that source? This would be immensely time consuming even for a simple project with few luminaires. The proposed new term and definition answers all the questions and provides a calculation requirement that can easily be met with standard software and procedures. It would also allow for easy field verification compliance measurements.

Accept in Part - TV Illuminance eliminated and replaced with LINE-OF-SIGHT ILLUMINANCE

#25 - No definition necessary. Delete.

For #25 above: Disagree. It is important to point out that a utility can function as a 3rd party. The term is use in Ill General Requirements Section B Applicability.

Translucent

A ~~material~~ allowing light to pass through, **diffusing it so that objects beyond cannot be seen clearly** ~~but obscures or diffuses the image~~ (not transparent or clear).

#25 - This is an adjective, not a material. We suggest: ~~A material~~ allowing light to pass through, but obscures or diffusing the image it so that objects beyond cannot be seen clearly. (not transparent or clear).

ACCEPTED

*Unshielded
Luminaire*

A luminaire capable of emitting light in any direction including downwards.

Uplight

For an exterior luminaire, **lumens emitted** ~~flux radiated~~ in the hemisphere at or above the horizontal plane.

#25 - For an exterior luminaire, ~~flux radiated~~ light emitted (lumens) in the hemisphere at or above the horizontal plane.

ACCEPTED

*Vertical
Illuminance*

Illuminance measured or calculated in a plane perpendicular to the site boundary or property line.

Fully Shielded Luminaires

#35 - USER's Side "Examples of Fully Shielded Luminaires" includes inconsistent text that says "Full Cutoff". Note also how this figure does in fact include credit to the artist, whereas page 25 does not. An editor should make sure figure notations and credits are consistent, and specifically referenced.

ACCEPTED - Illustrative Table wording reviewed and made consistent using the term Fully Shielded to replace any use of the term Full Cutoff.

