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BCOSR RESOLUTION 2026-06 / EC RESOLUTION 2026-01

**MINIMIZING LIGHT POLLUTION AND ATTAINING
DARK SKY CERTIFICATION FOR BLOOMINGTON**

- WHEREAS, gazing at the majesty of the stars is an ancient human birthright common to all cultures since time immemorial, a source of expansive awe and mystery, of myths and legends, of direction both spiritual and navigatory, of the humbling awareness of the vastness of the cosmos and the perspective of our small place in it, of connection to galaxies whose basic matter is our matter and of wonder at the question of what other beings may be looking at the same sky, of the knowledge that to look up is to look back across time and that some starlight reaching our eyes was emitted even before the birth of our species, of the passage of seasons and the marking of births, of humanity's deepest inquiries into the nature of the universe and of the quiet contemplation available to anyone who steps out and looks up; and
- WHEREAS, light pollution causes profound ecological disruption, manipulating the rhythms of the natural, and contributing to increased insect mortality, bird disorientation, disrupted plant phenology, confused migration patterns, with documented harms to species such as the endangered Indiana bat and to declining firefly populations, as well as causing suppressed melatonin production in humans; and
- WHEREAS, the presence in our city of Indiana University's Astronomy Department and the Kirkwood Observatory, as well as Bloomington's proximity to Hoosier National Forest, Morgan-Monroe and Yellowwood State Forests, Brown County, Spring Mill, and McCormick's Creek State Parks, and some of the darkest remaining skies in Indiana makes the city a natural candidate to anchor a regional dark sky corridor, and Dark Sky Community certification would distinguish Bloomington as a leader in a growing national movement while supporting astrotourism and the regional outdoor recreation economy; and
- WHEREAS, light pollution is a manageable phenomenon that can be reduced by choice through political will and vision, and Bloomington is well-placed to attain certification as a Dark Sky community, having already made advancements that meet some of the existing criteria for such a designation; and
- WHEREAS, the American Medical Association in 2016 adopted guidance (Report 2-A-16)¹ recommending that outdoor lighting use a correlated color temperature of no greater than 3000 Kelvin, finding that

¹Human and Environmental Effects of Light Emitting Diode (LED) Community Lighting, Report of the Council on Science and Public Health, American Medical Association: https://policysearch.ama-assn.org/councilreports/downloadreport?uri=/councilreports/al6_csaph2.pdf

high-CCT lighting is associated with adverse health effects including sleep disruption and melatonin suppression; and

WHEREAS, a 2026 study² found that artificial light at night significantly extends the duration of the pollen season and elevates allergen exposure, with light-polluted sites experiencing pollen seasons up to fifty days longer and nearly twice the proportion of days at severe allergy thresholds compared to sites with minimal artificial light; and

WHEREAS, the assumption that more lighting necessarily produces greater public safety is not supported by evidence; research³ consistently finds that poorly designed lighting can reduce safety by producing glare⁴ that impairs night vision and creating sharp shadows that conceal rather than reveal, and that the most rigorous studies on the relationship between lighting levels and crime find no consistent effect, while finding that lighting quality, direction, and appropriateness to context matter far more than light quantity; and

WHEREAS, the City does not currently maintain a comprehensive inventory of streetlights within Bloomington, and existing datasets held by the City and Duke Energy diverge dramatically in their totals, do not agree on which lights the City itself maintains, omit most city-maintained lights in parks, and do not include any information on lights on the Indiana University campus, all demonstrating the need for a full inventory of public lights; and

WHEREAS, the City directly maintains only a small fraction of the total streetlights within Bloomington, with the overwhelming majority leased from or maintained by Duke Energy; and

WHEREAS, based on responses to public record requests, the city does not currently possess an inventory of streetlights that contains information pertaining to the correlated color temperature or most recent date of replacement for lights maintained either by Duke or the city; and

WHEREAS, outdoor lighting accounts for a significant share of municipal energy consumption, and measures such as dimming, adaptive controls, curfews, and the removal of unwarranted fixtures directly reduce electricity use, lowering both costs to the community and greenhouse gas emissions associated with energy generation; and

WHEREAS, the City of Bloomington began a large-scale conversion of sodium vapor streetlights to LED by 2023⁵, during which period uReport complaints from residents regarding bright, glaring, or otherwise intrusive lighting rose sharply from an average of 11 per year in the preceding decade to over one hundred per year, consistent with Duke Energy's standard Roadway LED product being specified at 4000 Kelvin through this period; and

WHEREAS, more recent Outdoor Lighting Service Agreements indicate that fixtures now being leased by the City are 3000 Kelvin and compliant with the recommended color temperature standard, such that bringing the remaining non-compliant fixtures into compliance through the natural replacement cycle represents primarily an ongoing operational cost rather than a significant capital expenditure; and

² Brandt Geist, Lin Meng, Daniel S W Katz, Huidong Li, Franz Hölker, Qian Xiao, Artificial light at night extends pollen season and elevates allergen exposure, PNAS Nexus, Volume 5, Issue 1, January 2026, pgaf405, <https://doi.org/10.1093/pnasnexus/pgaf405>

³ Steinbach, R., Perkins, C., Tompson, L., Johnson, S., Armstrong, B., Green, J., Grundy, C., Wilkinson, P., & Edwards, P. (2015). "The effect of reduced street lighting on road casualties and crime in England and Wales: controlled interrupted time series analysis." Journal of Epidemiology and Community Health, 69(11), 1118–1124. DOI: [10.1136/jech-2015-206012](https://doi.org/10.1136/jech-2015-206012)

⁴ <https://darksky.org/resources/what-is-light-pollution/effects/safety/>

⁵ "Bloomington in the midst of transitioning to LED streetlamps," Indiana Public Media, June 2023 <https://www.ipm.org/2023-06-28/bloomington-in-the-midst-of-transitioning-to-led-streetlamps>

- WHEREAS, Bloomington's Unified Development Ordinance (UDO) at Section 20.04.090 already requires full cutoff shielding, establishes light trespass limits at property lines, caps total lumen output adjacent to residential districts, mandates curfews for parking lots and recreational facilities, and prohibits lighting of conservation easements, meeting some but not all of the criteria⁶ established by DarkSky International for community designation; and
- WHEREAS, certification of Bloomington as a Dark Sky Community would make it among the largest such communities in the United States and peer to cities such as Flagstaff, Arizona, a similarly sized college town; and
- WHEREAS, obtaining Dark Sky Community status is an ambitious, attainable goal for Bloomington, and the substantive reforms required to pursue it would meaningfully reduce light pollution, protect ecological and human health, and improve nighttime quality of life regardless of whether full certification is ultimately achieved.

NOW THEREFORE, BE IT HEREBY RESOLVED BY THE BLOOMINGTON COMMISSION ON SUSTAINABILITY AND RESILIENCE AND THE BLOOMINGTON ENVIRONMENTAL COMMISSION, THAT

SECTION 1. Recommendations.

- (1) **Unified Development Ordinance (UDO) Changes.** The following changes to the UDO are recommended to reduce light pollution and to advance Bloomington toward certification as a Dark Sky Community by DarkSky International:
- (a) That the Common Council amend UDO § 20.04.090(b) by adding a new subsection (4), titled “Amortization of Non-Conforming Lighting,” to read: “All outdoor lighting fixtures existing on the effective date of this subsection, both publicly and privately owned, that do not conform to the requirements of UDO § 20.04.090 shall be brought into compliance within ten (10) years of the effective date of this subsection.” *This satisfies Dark Sky Community Requirement 1(H),*
 - (b) That the Common Council amend UDO § 20.04.090(c)(4) to add a new subsection (d) as follows: “A maximum light intrusion threshold of 0.1 footcandles shall be established at the boundary of any riparian buffer, wetland buffer, karst conservancy easement, or conservation easement established under UDO § 20.04.030, and to require photometric plans demonstrating compliance for development adjacent to such areas.” *This exceeds Dark Sky Community requirements.*
 - (c) That the Common Council amend UDO § 20.04.090(c)(5) by adding a new subsection (C), titled “Prohibition of Exterior Uplighting,” to read: “Exterior uplighting of buildings and architectural features is prohibited, with a narrow exception for structures designated as historic where the Historic Preservation Commission approves a lighting plan” and to repeal UDO § 20.04.090(c)(5)(A)(iii) which allows such uplighting when under canopy structures. *This exceeds Dark Sky Community requirements.*
 - (d) That the Common Council amend UDO § 20.04.090(c)(5)(A) to add a definition of “fully shielded” as follows after (i): “(ii) Fully shielded shall mean that the fixture, as installed, (a) emits no light at or above the horizontal plane, such that the light source is not visible from any point at or above the horizontal plane of the fixture; (b) does not exceed a rating of U0, G1, and B2 under the Illuminating Engineering Society's BUG classification system⁷ (TM-15) with a reduced maximum of U0, G0, B1 for fixtures within 500 feet of any environmentally sensitive area protected under § 20.04.030; and (c) directs all emitted light within a maximum cone of seventy (70) degrees from the vertical axis of the fixture (i.e., no light emitted at angles greater than 70 degrees from nadir),” and deleting § 20.04.090(c)(5)(A)(iii). *This clarifies and significantly*

⁶ See full list of criteria here: <https://darksky.org/app/uploads/2018/07/IDSC-Guidelines-Jun2018.pdf>

⁷ http://www.escolighting.com/PDFfiles/BUG_rating.pdf

strengthens the existing full cutoff standard, exceeding Dark Sky Community Requirement 1(A).

- (e) That the Common Council amend UDO § 20.04.090(c) of the UDO to add a new subsection (7) as follows: “A maximum color temperature of 3000 Kelvin or lower for all new outdoor lighting installations shall be required and any replacement of existing outdoor lighting fixtures shall comply with the same correlated color temperature standards, with a reduced maximum of 2200 Kelvin or lower for fixtures within 500 feet of any environmentally sensitive area protected under Section 20.04.030.” *This satisfies Dark Sky Community Requirement 1(B),*
- (f) That the Common Council amend UDO § 20.04.090(c) by adding a new subsection (8), titled “Warrant for Publicly-Owned Lighting,” to read: “(A) General Provisions. New publicly-owned outdoor lighting shall be installed only where a specific, site-specific, and documented safety, navigation, or functional need has been established. General assertions of improved safety or security, without reference to conditions at the specific location, shall not constitute a sufficient warrant.” *This satisfies Dark Sky Community Requirement 1(E)(i).*
- (g) That the Common Council add a new subpart (B) to UDO § 20.04.090(c)(8), titled “Lighting Restrictions Near Environmentally Sensitive Areas,” to read: “No new outdoor lighting, whether publicly or privately owned, shall be installed within 500 feet of any riparian buffer, wetland buffer, karst conservancy easement, or conservation easement established under Section 20.04.030, unless the installing authority or applicant demonstrates by clear and specific evidence that (i) a serious and immediate risk to public safety exists that cannot be mitigated through non-lighting alternatives such as reflective materials, signage, barriers, or path realignment; (ii) the proposed installation is the minimum fixture count, lowest lumen output, and narrowest distribution pattern sufficient to address the identified risk; and (iii) all fixtures comply with a maximum correlated color temperature of 2200 Kelvin, are fully shielded with no backlight component oriented toward the sensitive area, and are subject to adaptive controls or curfew. The burden of proof shall rest with the installing authority or applicant.” *This exceeds Dark Sky Community requirements.*
- (h) That the Common Council amend UDO § 20.04.090(c) by adding a new subsection (9), titled “Publicly-Owned Lighting Controls,” to read: “All new installations of publicly-owned outdoor lighting, including streetlights, park path lighting, and lighting at public facilities, shall incorporate adaptive controls such as timers, motion sensors, or photocell-activated switches, or shall be subject to an established curfew consistent with the use. In the absence of an explicitly established curfew for a public use, a default cutoff time of no later than 10 pm or 30 minutes after normal authorized activities, whichever is later, shall be established.” *This satisfies Dark Sky Community Requirement 1(E)(ii),*
- (i) That the Common Council amend UDO § 20.04.090(e)(1) by striking the language limiting the lumens-per-acre cap to parcels “bordered by any R1, R2, R3, R4, or RMH zoning district” so that the 40,000 lumens per acre cap applies to all mixed-use and nonresidential properties, and retitling the subsection from “Adjacent to Residential Districts” to “Maximum Light Output.” *This satisfies Dark Sky Community Requirement 1(C) and 1(D),*
- (j) That the Common Council amend UDO § 20.04.090(e)(2)(A), (B), and (C) to move the curfew time up to 10 p.m. for all categories that currently have an 11 p.m. curfew; and to establish a 10 p.m. curfew for all other categories that currently have no hard curfew. All categories shall allow lighting to stay illuminated after 10 p.m. until up to 30 minutes past the cessation of normal authorized activities if those activities take place after 10 p.m. *This satisfies Dark Sky Community Requirement 1(G) for outdoor recreational facilities and exceeds Dark Sky requirements for parking lots, canopies, and drive-through bays.*
- (k) That the Common Council amend UDO § 20.04.100(g) by adding a new subsection (5), titled “Illuminated Sign Standards,” to read: “Illuminated signs shall not exceed 100 nits (100 cd/m²) luminance between sunset and sunrise, measured under conditions of a full white display. Sign illumination shall be extinguished completely beginning one hour after sunset and remain off until one hour before sunrise. Individual illuminated signs shall not exceed 200 square feet (18.6 square

meters) of luminous surface area.” *This satisfies Dark Sky Community Requirement 1(F)(i), 1(F)(ii), and 1(F)(iii),*

- (l) That the Common Council amend UDO § 20.04.090(c)(4)(a) to read “All lighting fixtures shall be installed so that light trespass from any property line shall not exceed 0.5 footcandles at a point one (1) meter beyond the property line. Properties bordered by R1, R2, R3, R4, or RMH are allowed no more than 0.3 footcandles at a point five meters beyond the property line adjacent to those districts or at the dwelling façade, whichever distance is closest.”
 - (m) That the Common Council amend UDO § 20.04.090(c)(4)(b) to read “Properties bordered by R1, R2, R3, R4, or RMH are allowed no more than 0.3 footcandles at a point five (5) meters beyond the property line adjacent to those districts or at the dwelling façade, whichever distance is closest.”
- (2) **General Recommendations.** The following policy actions are further recommended to bring Bloomington into compliance for Dark Sky Community recognition and reduce light pollution in Bloomington:
- (a) That City of Bloomington Utilities conduct an inventory of all city-owned and utility-leased streetlights and public facility lighting, assessing each fixture for correlated color temperature, shielding type, full cutoff compliance, and lumen output. The inventory shall specifically identify all fixtures that do not meet the full cutoff standard defined in UDO § 20.04.090(c)(5)(A), and shall include an assessment of whether non-compliant fixtures can be brought into compliance through retrofit shielding or require full replacement. The results shall be reported to the Common Council with a proposed timeline and cost estimate for converting non-compliant fixtures to 3000K or lower, fully shielded, full cutoff alternatives, with a reduced maximum of 2200K or lower for fixtures located within 500 feet of any environmentally sensitive area protected under UDO § 20.04.030, with a goal of reaching at least 70% compliance within three years and substantial progress toward full compliance within five years, subject to Council appropriation, utility coordination with Duke Energy, and alignment where practical with the natural replacement cycle of existing fixtures. *This satisfies Dark Sky Community Requirement 2(A).*
 - (b) That the City establish a sky quality measurement program, in partnership with Indiana University’s astronomy department or other qualified entity, to document baseline and ongoing nighttime sky brightness conditions at representative locations across the city. *This satisfies Dark Sky Community Requirement 6,*
 - (c) That the City develop a public education and outreach program on light pollution and dark sky awareness, which may be coordinated with existing environmental education efforts and community partners, with a goal of at least three public outreach events annually. *This satisfies Dark Sky Community Requirement 2(B) and 4(A),*
 - (d) That the Commission on Sustainability and Resilience and/or the Environmental Commission, upon substantial progress toward the actions described above, evaluate the city’s readiness to apply for Dark Sky Community designation and report to the Common Council with a recommended timeline for application.
 - (e) That the City initiate coordination with Monroe County government regarding compatible lighting standards for the shared planning jurisdiction and for county roads adjacent to city limits, particularly near Griffy Lake, the Clear Creek corridor, and the Lake Monroe watershed.
 - (f) That the Mayor formally request that Indiana University evaluate its campus outdoor lighting for consistency with DarkSky International standards, including correlated color temperature and shielding, and explore a voluntary commitment to align campus lighting practices with the city’s standards.
 - (g) That the City of Bloomington amend its Outdoor Lighting Service Agreement with Duke Energy to specify correlated color temperatures of 3000K or lower (2200K or lower in sensitive areas), full cutoff optics, and appropriate wattage matched to task as the default procurement

specifications in all future Outdoor Lighting Service Agreements between the City and Duke Energy, consistent with the specifications already used in recent city contracts⁸.

SECTION 2. Transmittal.

1. The Chairs of each respective commission shall jointly transmit copies of this Resolution within ten (10) business days of the date of passage, or shall delegate such task to the Vice Chair or Secretary of both commissions, to the Mayor, to all members of the Common Council, to the Director of the Planning and Transportation, to the Director of Economic and Sustainable Development, to the Director of Public Works, to the Director of Housing and Neighborhood Development, to the Director of Parks and Recreation, to the President of Indiana University, to all members of the Indiana University Board of Trustees, to all members of the Monroe County Board of Commissioners, and to all members of the Monroe County Council.
2. The Chairs of each respective commission are requested to jointly transmit a courtesy copy to the chair of the Indiana University Department of Astronomy.
3. The staff liaisons of each respective commission are requested to post a copy of the resolution on both of the Commission websites within ten (10) business days of passage.
4. The Commissions further authorize the resolution author and co-sponsor(s) to speak before the Common Council on behalf of their respective Commissions in order to communicate the recommendations of this resolution as adopted.

PASSED AND ADOPTED JOINTLY by the Bloomington Commission on Sustainability and Resilience and the Bloomington Environmental Commission together in joint session upon this 15th day of September, 2026.



Justin Vassel, Chair
Bloomington Commission on Sustainability and Resilience



Carrie Albright, Chair
Bloomington Environmental Commission

The views expressed here are solely those of the Bloomington Commission on Sustainability and Resilience and the Bloomington Environmental Commission, as approved in their public meetings, and do not necessarily reflect the views, policies, or positions of the City of Bloomington. Only the Office of the Mayor has the authority to issue policy statements on behalf of the Executive Branch of the City of Bloomington.

⁸ See city contract: [Outdoor Lighting Service Agreement with Duke Energy for Various Locations](#), Feb. 2026 specifying 3000K lighting for 22 new light poles, which appears broadly representative of several other recent contracts with Duke for similar services.