



"...to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting."

IDA Headquarters
3223 North First Avenue, Tucson, AZ 85719, USA
tel +1.520.293.3198 | fax +1.520.293.3192
www.darksky.org | ida@darksky.org

Executive Director
J. Scott Feierabend

Emeritus Director
David L. Crawford, Ph.D.

Board of Directors

President
Jim Dougherty • USA

Vice President
Diane Umpierre • USA

Treasurer
Kim Patten • USA

Secretary
J. Kelly Beatty • USA

Members

Darcie Chinnis, Ph.D. • USA
James Karl Fischer, Ph.D. • USA
Nels Leutwiler • USA
Christian K. Monrad • USA
Martin Morgan-Taylor • UK
Kellie Pendoley, Ph.D. • Australia
Tim Shotbolt • Australia
Leo Smith • USA
Connie Walker, Ph.D. • USA

Via Federal Express
Via Electronic Mail

December 27, 2016

The Honorable Rahm Emanuel
City Hall
121 North LaSalle Street
Chicago, Illinois 60602

Re: City of Chicago Lighting Replacement Plan

Dear Mayor Emanuel:

On behalf of the International Dark-Sky Association ("IDA") and its more than 4,000 members worldwide, I am writing to express our grave concern about the proposed street light replacement plan currently before the City of Chicago and to offer our recommendations on how the plan should be revised.

For the past 30 years IDA, whose mission is to eliminate light pollution and its environmental impacts, has advocated for responsible outdoor lighting that serves the needs of our communities and that protects and conserves the natural resources integral to the sustainability of our urban landscapes. As presently proposed, the City's planned replacement of more than 270,000 streetlights will dramatically exacerbate – rather than mitigate – Chicago's light pollution. For this reason, IDA urges your Administration to incorporate the following six recommendations into the City's final lighting plan.

First, all lighting must be fully shielded, including as much as possible the ornamental luminaires used in the Loop and some of the city parks. Lighting that is not fully shielded causes blinding glare, light trespass, and reduced visibility, particularly for our elderly citizens. Unshielded lighting is also the single largest cause of artificial sky glow, which currently prevents seeing all but the brightest stars above the Chicago night sky.

Second, maximum lighting levels should not exceed recommendations of the Illuminating Engineering Society of North America (IES) and replacements should take advantage of optics that are superior to existing lighting to reduce total lumens by 50 percent or more. Excessive light levels waste energy and



“...to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting.”

IDA Headquarters
3223 North First Avenue, Tucson, AZ 85719, USA
tel +1.520.293.3198 | fax +1.520.293.3192
www.darksky.org | ida@darksky.org

exacerbate all forms of light pollution and, in most LED replacement projects, the energy savings alone can amortize the conversion costs in ten to 12 years. Furthermore, there are no proven safety, security or other benefits to lighting levels higher than the IES recommends.

Third, correlated color temperatures (“CCT”) must not exceed 3,000 Kelvin, with 2,700 Kelvin or lower used for most of the replacement lighting, including arterials, major collectors and freeways. Luminaires with a lower CCT reduce the amount of short wavelength light that causes glare and sky-glow, and must be used to minimize and mitigate light pollution and all of its environmental impacts. This recommendation is consistent with the American Medical Association’s public health position that was issued in June 2016.

Fourth, reduce freeway lighting except at ramps and other conflict zones. Experience on high traffic freeways throughout California’s major cities shows that there is little or no difference in accident rates or fatalities when comparing continuously lighted freeways with those using only conflict zone lighting.

Fifth, reduce residential street lighting to the maximum extent practicable, using low wattage 2,700 Kelvin or amber. In response to complaints from its residents, the City of Los Angeles converted its street lighting to 2,700K and, as a result, now receives positive community feedback. Chicago should learn from Los Angeles’ experience and not repeat its mistake.

Sixth, dim lights after hours. Chicago’s lighting replacement plan should take advantage of technologies that allow their operation remotely, that further reduce energy costs and maintenance, and – importantly – that provide “quieter” and healthier lighting for its residents.

Importantly, our recommendations are not prototypes or “experiments,” but have been adopted by other cities, both domestically and abroad. If properly selected, installed and managed, LED lighting not only provides an opportunity for Chicago to save money and enjoy a more beautiful and welcoming night environment, but also one that is healthier for its citizens and reduces the many environmental impacts of light pollution.

Your Administration stands at a crossroads on a decision being watched by your peers in urban centers around the world, and you have announced that your lighting project will be among the best in the world. By promoting responsible outdoor lighting, Chicago can reduce energy waste, control glare, stop obtrusive light trespass, improve visibility and safety, protect biodiversity, live healthier, and preserve the beauty of our night skies.



"...to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting."

IDA Headquarters
3223 North First Avenue, Tucson, AZ 85719, USA
tel +1.520.293.3198 | fax +1.520.293.3192
www.darksky.org | ida@darksky.org

IDA, its professional lighting engineers, and its technical experts on managing light pollution, stand ready to assist you and your staff to create and implement a responsible outdoor lighting plan that truly serves the needs of Chicago's communities and that protects and conserves City's the natural resources. It is in this spirit of collaboration and cooperation that I hope you will accept our offer.

Sincerely,

A handwritten signature in black ink that reads 'J. Scott Feierabend'. The signature is written in a cursive style with a large, looping 'J' and 'F'.

J. Scott Feierabend
Executive Director

Cc: Dan Burke
Leslie Darling
George Marquisos
Michael Claffey
Michael Kelly
Timothy Later
Chicago Department of Transportation