

Pitt Streetlight Report

Comparison of light-emitting diode (LED) streetlights to high-pressure sodium (HPS), metal halide, and induction lamps

Light Technology:	LED	HPS	Metal halide	Induction
% of U.S. streetlamps: (total: 131 million)	Less than 1	39	27	6
Cost per bulb (USD):	9 to 322	12	27	280
Wattage:	105	150	162.9	109
Bulbs per 100,000 hrs.: (vs. one induction)	1.7	4.17	8.28	1
CO₂ per 100,000 hrs.: (million kg)	300	450	500	320
NO_x per 100,000 hrs.: (million kg)	1.1	1.6	1.7	1.15
CFCs per 100,000 hrs.: (kg)	4.5	6.4	6.8	4.7
Ecotoxicity: (million kg of 2,4-D/100,000 hrs.)*	175	240	260	180
Respiration Impact: (thousand kg of PM2.5/100,000 hrs.)**	90	100	110	95
Color temperature, brightness: (degrees Kelvin)	5,000	2,000	3,000-4,000	5,000

* Ecotoxicity was expressed in kilograms of 2,4-Dichlorophenoxyacetic (2,4-D), a common herbicide.

**Respiratory impact was expressed in kilograms of particulates designated as "fine," or less than 2.5 microns in diameter (PM2.5).

©University of Pittsburgh, 2010