

Lighting Power Denisty

IECC: TABLE C405.3.2(1), TABLE C405.3.2(2)

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2018 International Energy Conservation Code

Revise as follows:

**TABLE C405.3.2(1)
INTERIOR LIGHTING POWER ALLOWANCES: BUILDING AREA METHOD**

BUILDING AREA TYPE	LPD (w/ft²)
Automotive facility	0. 71 <u>64</u>
Convention center	0. 76 <u>70</u>
Courthouse	0. 90 <u>74</u>
Dining: bar lounge/leisure	0. 90 <u>69</u>
Dining: cafeteria/fast food	0. 79 <u>66</u>
Dining: family	0. 78 <u>61</u>
Dormitory ^{a, b}	0. 61 <u>52</u>
Exercise center	0.65
Fire station ^a	0. 53 <u>50</u>
Gymnasium	0. 68 <u>67</u>
Health care clinic	0. 82 <u>68</u>
Hospital ^a	1.05 <u>0.86</u>
Hotel/Motel ^{a, b}	0. 75 <u>70</u>
Library	0.78
Manufacturing facility	0. 90 <u>60</u>
Motion picture theater	0. 83 <u>62</u>
Multifamily ^c	0. 68 <u>49</u>
Museum	1.06 <u>0.68</u>
Office	0. 79 <u>69</u>
Parking garage	0. 15 <u>12</u>
Penitentiary	0. 75 <u>67</u>
Performing arts theater	1.18 <u>0.85</u>
Police station	0. 80 <u>68</u>
Post office	0. 67 <u>62</u>
Religious building	0. 94 <u>72</u>
Retail	1.06 <u>0.91</u>
School/university	0. 81 <u>67</u>
Sports arena	0. 87 <u>76</u>
Town hall	0. 80 <u>72</u>
Transportation	0. 61 <u>51</u>
Warehouse	0. 48 <u>41</u>
Workshop	0. 90 <u>83</u>

- a. Where sleeping units are excluded from lighting power calculations by application of Section R405.1, neither the area of the sleeping units nor the wattage of lighting in the sleeping units is counted.
- b. Where dwelling units are excluded from lighting power calculations by application of Section R405.1, neither the area of the dwelling units nor the wattage of lighting in the dwelling units is counted.

- c. Dwelling units are excluded. Neither the area of the dwelling units nor the wattage of lighting in the dwelling units is counted.

TABLE C405.3.2(2)
INTERIOR LIGHTING POWER ALLOWANCES: SPACE-BY-SPACE METHOD

COMMON SPACE TYPES^a	LPD (watts/sq.ft)
Atrium	
Less than 40 feet in height	0.03 <u>23</u> per foot in total height
Greater than 40 feet in height	0.40 + 0.02 per foot in total height
Audience seating area	
In an auditorium	0.63
In a convention center	0.8 <u>265</u>
In a gymnasium	0.6 <u>543</u>
In a motion picture theater	1.14 <u>0.64</u>
In a penitentiary	0.28
In a performing arts theater	2.03 <u>1.34</u>
In a religious building	1.53 <u>0.98</u>
In a sports arena	0.4 <u>342</u>
Otherwise	0.4 <u>340</u>
Banking activity area	0.8 <u>679</u>
Breakroom (See Lounge/breakroom)	
Classroom/lecture hall/training room	
In a penitentiary	1.3 <u>406</u>
Otherwise	0.9 <u>674</u>
Computer room	1.3 <u>316</u>
Conference/meeting/multipurpose room	1.07 <u>0.93</u>
<u>Confinement cells</u>	<u>0.52</u>
Copy/print room	0.5 <u>650</u>
Corridor	
In a facility for the visually impaired (and not used primarily by the staff) ^b	0.9 <u>281</u>
In a hospital	0.9 <u>281</u>
In a manufacturing facility	0.2 <u>928</u>
<u>In a primary or secondary school (and not used by staff)</u>	<u>0.74</u>
Otherwise	0.6 <u>658</u>
Courtroom	1.3 <u>906</u>
Dining area	
In bar/lounge or leisure dining	0.9 <u>362</u>
In cafeteria or fast food dining	0.6 <u>353</u>
In a facility for the visually impaired (and not used primarily by the staff) ^b	2.00 <u>1.48</u>
In family dining	0.7 <u>154</u>
In a penitentiary	0.9 <u>672</u>
Otherwise	0.6 <u>353</u>
Electrical/mechanical room	0.4 <u>339</u>
Emergency vehicle garage	0.41
Food preparation area	1.06 <u>0.92</u>
Guestroom ^{c, d}	0.7 <u>775</u>
Laboratory	

In or as a classroom	COMMON SPACE TYPES	LPD (watts/sq.ft)
	Otherwise	<u>1.4532</u>
	Laundry/washing area	0.43
	Loading dock, interior	<u>0.5851</u>
	Lobby	
	For an elevator	<u>0.6852</u>
	In a facility for the visually impaired (and not used primarily by the staff) ^b	2.03
	In a hotel	1.06 <u>0.68</u>
	In a motion picture theater	<u>0.4538</u>
	In a performing arts theater	1.70 <u>0.82</u>
	Otherwise	1.00 <u>0.90</u>
	Locker room	<u>0.4845</u>
	Lounge/breakroom	
	In a healthcare facility	<u>0.7853</u>
	Otherwise	<u>0.6244</u>
	Office	
	Enclosed	<u>0.9385</u>
	Open plan	<u>0.8178</u>
	Parking area, interior	0.14 <u>1.1</u>
	Pharmacy area	<u>1.3423</u>
	Restroom	
	In a facility for the visually impaired (and not used primarily by the staff) ^b	<u>0.9681</u>
	Otherwise	<u>0.8575</u>
	Sales area	<u>1.2206</u>
	Seating area, general	<u>0.4238</u>
	Stairway (see Space containing stairway)	
	Stairwell	<u>0.5850</u>
	Storage room	<u>0.4643</u>
	Vehicular maintenance area	<u>0.5653</u>
	Workshop	<u>1.1409</u>
	BUILDING TYPE SPECIFIC SPACE TYPES^a	LPD (watts/sq.ft)
	Automotive (see Vehicular maintenance area)	
	Convention Center—exhibit space	<u>0.8869</u>
	Dormitory—living quarters ^{c, d}	<u>0.5446</u>
	Facility for the visually impaired ^b	
	In a chapel (and not used primarily by the staff)	1.06 <u>0.89</u>
	In a recreation room (and not used primarily by the staff)	<u>1.8053</u>
	Fire Station—sleeping quarters ^c	<u>0.2019</u>
	Gymnasium/fitness center	
	In an exercise area	0.50
	In a playing area	<u>0.8275</u>
	Healthcare facility	
	In an exam/treatment room	<u>1.6816</u>
	In an imaging room	1.06 <u>0.98</u>
	In a medical supply room	0.54
	In a nursery	1.00 <u>0.94</u>

COMMON SPACE TYPES	LPD (watts/sq.ft)
In a nurse's station	0.8175
In an operating room	2.17187
In a patient room ^c	0.6245
In a physical therapy room	0.84
In a recovery room	1.03089
Library	
In a reading area	0.8277
In the stacks	1.20
Manufacturing facility	
In a detailed manufacturing area	0.9386
In an equipment room	0.6561
In an extra-high-bay area (greater than 50' floor-to-ceiling height)	1.05073
In a high-bay area (25-50' floor-to-ceiling height)	0.7558
In a low-bay area (less than 25' floor-to-ceiling height)	0.9661
Museum	
In a general exhibition area	1.05061
In a restoration room	0.8577
Performing arts theater—dressing room	0.3635
Post office—sorting area	0.6866
Religious buildings	
In a fellowship hall	0.5554
In a worship/pulpit/choir area	1.53098
Retail facilities	
In a dressing/fitting room	0.5049
In a mall concourse	0.9079
Sports arena—playing area	
For a Class I facility ^e	2.4726
For a Class II facility ^f	1.9645
For a Class III facility ^g	1.7008
For a Class IV facility ^h	1.13072
Transportation facility	
In a baggage/carousel area	0.4540
In an airport concourse	0.31
At a terminal ticket counter	0.6248
Warehouse—storage area	
For medium to bulky, palletized items	0.3527
For smaller, hand-carried items	0.6965

- a. In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply
- b. A 'Facility for the Visually Impaired' is a facility that is licensed or will be licensed by local or state authorities for senior long-term care, adult daycare, senior support or people with special visual needs.
- c. Where sleeping units are excluded from lighting power calculations by application of Section R405.1, neither the area of the sleeping units nor the wattage of lighting in the sleeping units is counted.
- d. Where dwelling units are excluded from lighting power calculations by application of Section R405.1, neither the area of the dwelling units nor the wattage of lighting in the dwelling units is counted.
- e. Class I facilities consist of professional facilities; and semiprofessional, collegiate, or club facilities with seating for 5,000 or more spectators.
- f. Class II facilities consist of collegiate and semiprofessional facilities with seating for fewer than 5,000

spectators; club facilities with seating for between 2,000 and 5,000 spectators; and amateur league and high-school facilities with seating for more than 2,000 spectators.

g. Class III facilities consist of club, amateur league and high-school facilities with seating for 2,000 or fewer spectators.

h. Class IV facilities consist of elementary school and recreational facilities; and amateur league and high-school facilities without provision for spectators.

i.

The wattage of lighting in daylight transition zones and ramps without parking is excluded

i.

excluded. Neither the area of the swimming or spa pool nor the wattage of the lighting serving them is counted.

Reason Statement: This proposal updates the LPD tables in the IECC to reflect advancements in lighting technology and lighting design practices. A majority of these values are from ASHRAE 189.1-2018 but some values were modified based on discussions with lighting designers and other stakeholders as part of the New York Stretch Code development process. A majority of these changes are driven by how IALD space type definitions have not kept pace with how spaces and lighting needs are evolving. Airport concourses is one such notable examples.

Cost Impact: The code change proposal will increase the cost of construction. This proposal may represent an increase in cost for affected space and building types.