

# Recommended Light Levels

The table below provides recommended average maintained footcandle levels for common applications from the Illuminating Engineering Society (IES). Additional information and best practices can be found in the IESNA Handbook and online at [www.ies.org](http://www.ies.org).

Application and task	Maintained horizontal		Maintained vertical		Comments
	Average (fc) <sup>1</sup>	Range (fc) <sup>2</sup>	Average (fc) <sup>1</sup>	Range (fc) <sup>2</sup>	
<b>Common Areas</b>					
ATM or Service Kiosk	20	10 - 40	10	5 - 20	Vertical at face of ATM
Circulation/Corridor	5	2.5 - 10	3	1.5 - 6	Independent passageway
Conference room	See <b>Commercial Office</b>				
Filing (Intermittent)	15	7.5 - 30	10	5 - 20	
Restroom (General)	5	2.5 - 10	3	1.5 - 6	
Restroom (Vanities)	15	7.5 - 30	20	10 - 40	See also Fixtures/Lockers/Showers
Lunch & Break Room	10	5 - 20	3	1.5 - 6	
Stairs	5	2.5 - 10	3	1.5 - 6	Not high activity or surveillance
<b>Commercial Office</b>					
Open Office (Desk)	40	30 - 50	–	–	Measured at desk height
Private Office (Desk)	40	30 - 50	–	–	Measured at desk height
Conference Room (Table)	30	15 - 60	–	–	
Whiteboard (Reading)	–	–	15	7.5 - 30	
Whiteboard (Presenting)	–	–	30	15 - 60	
Presentation Screen (Projector)	–	–	1.5	1.5 - 6	
Lunch & Break Room	15	5 - 20	–	–	
<b>Educational (Schools)</b>					
Classroom (Challenging Applications) <sup>3</sup>	25	25 - 100	3.75	3.75 - 15	Arts, blueprints, lab bench; measured at desk height
Classroom (Typical Applications) <sup>3</sup>	15	15 - 60	2.5	2.5 - 10	Reading, writing; measured at desk height
Auditorium/Lecture Hall (AV, Notes)	5	2.5 - 10	5	2.5 - 10	
Auditorium/Lecture Hall (AV)	1	0.5 - 2	5	2.5 - 10	
Auditorium/Lecture Hall (No AV)	10	5 - 20	5	2.5 - 10	
Gymnasium-Class I (Pro or Div. 1 College)	100	–	30	–	See NCAA & professional guides; > 5,000 spectators
Gymnasium-Class II (Div. 2 or 3 College)	75	–	20	–	Competition; ≤ 5,000 spectators
Gymnasium-Class III (High School)	50	–	150	–	Competition; some spectators
Gymnasium-Class IV (Elementary)	30	–	100	–	Competition or recreational play; no provision for spectators

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	Average (fc) <sup>1</sup>	Range (fc) <sup>2</sup>	Average (fc) <sup>1</sup>	Range (fc) <sup>2</sup>	
<b>Exterior</b>					
Parking (Covered)	5	–	–	–	1 min; 10:1 max-min uniformity
Parking (Uncovered) Zone 3 (Urban)	1.5	0.75 - 3	0.8	0.4 - 1.6	
Parking (Uncovered) Zone 2 (Suburban)	1	0.5 - 2	0.6	0.3 - 1.2	
Gas Station Canopy	12.5	10 - 15	–	–	
Safety (Building Exterior)	1	0.5 - 2	–	–	For security issues, raise avg. to 3
<b>Industrial / Manufacturing</b>					
Assembly & Inspection (Simple) Component Manufacture (Large Part)	30	15 - 60	30	15 - 60	
Component Manufacture (Medium Part)	50	25 - 100	50	25 - 100	
Assembly & Inspection (Difficult) Component Manufacture (Fine Part)	100	50 - 200	100	50 - 200	
Assembly & Inspection (Exacting)	300	150 - 600	–	–	
<b>Retail</b>					
Discount / Warehouse / Drug / Convenience (Ambient)	50	25 - 100	20	10 - 40	
Discount / Warehouse / Drug / Convenience (Perimeter)	–	–	50	25 - 100	
Department Store (Ambient)	40	20 - 80	15	7.5 - 30	
Department Store (Perimeter)	–	–	75	25 - 150	
Accent Lighting (Displays)	–	–	–	–	3 - 10 times more than ambient
<b>Retail (Automotive Sales)</b>					
Showroom	50	25 - 100	10	5 - 20	
Service Area	50	25 - 100	30	15 - 60	
Sales Lot (Exterior) Zone 3 (Urban)	20	10 - 40	20	10 - 40	
Sales Lot (Exterior) Zone 2 (Suburban)	15	7.5 - 30	15	7.5 - 30	
<b>Retail (Grocery)</b>					
Circulation	20	10 - 40	7.5	3.5 - 15	
General Retail	50	25 - 100	20	10 - 40	
Perimeter	–	–	50	25 - 100	
<b>Warehousing &amp; Storage</b>					
Bulky Items – Large Labels	10	5 - 20	5	2.5 - 10	
Small Items – Small Labels	30	15 - 60	15	7.5 - 30	
Receiving / Shipping Dock	10	5 - 20	3	1.5 - 6	
Receiving / Staging	30	15 - 60	10	5 - 20	

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