



COMcheck Software Version 4.0.2.2

Interior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
 Project Title: Patrons Oxford Offices
 Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:
 Portland Technology Park
 Rand Road
 Portland, ME

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B x C)
Kitchen 104, Cafe 105 (Dining: Cafeteria/Fast Food)	1030	1.4	1442
Fitness 116, SHWR 119, SHWR 120, SHWR 121, SHWR 122 (Exercise Center)	1520	1	1520
All areas not identified above (Office)	15891	1	15891
Total Allowed Watts =			18853

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Kitchen 104, Cafe 105 (Dining: Cafeteria/Fast Food 1030 sq.ft.)				
R6: R6: T-BAR LED 2' Linear: Other:	1	18	17	306
R3: R3: LED Downlight w/ frosted glass: Other:	1	8	25	200
P1: P1: LED Direct/Indirect Pendant: Other:	1	1	84	84
Fitness 116, SHWR 119, SHWR 120, SHWR 121, SHWR 122 (Exercise Center 1520 sq.ft.)				
P1-8': P1: LED Direct/Indirect Pendant: Other:	1	7	84	588
P1-2': P1: LED Direct/Indirect Pendant: Other:	1	1	21	21
S2: S2: LED Surface Downlight: Other:	1	4	15	60
R3: R3: LED Downlight w/ frosted glass: Other:	1	4	25	100
All areas not identified above (Office 15891 sq.ft.)				
P1-8': P1: LED Direct/Indirect Pendant: Other:	1	22	84	1848
U1: U1: 4' LED Lensed Strip: Other:	1	15	25	375
R1-4': R1: Narrow Recessed Linear LED: Other:	1	7	27	189
R1-8': R1: Narrow Recessed Linear LED: Other:	1	34	54	1836
P5-2': P5: 2' Diameter Pendant Ring: Other:	1	1	41	41
P5-4': P5: 4' Diameter Pendant Ring: Other:	1	1	82	82
P5-5': P5: 5' Diameter Pendant Ring: Other:	1	1	102	102
P3: P3: 8' LED Direct/Indirect Pendant: Other:	1	6	58	348
R3: R3: LED Downlight w/ frosted glass: Other:	1	58	25	1450
R4: R4: 4" Square LED Downlight: Other:	1	24	23	552
S2: S2: LED Surface Downlight: Other:	1	1	15	15
R2: R2: 2x2 HIGH PERFORMANCE TROFFER: Other:	1	19	35	665
LED 20: R5: Narrow Recessed Linear LED: Other:	1	5	60	300
R6: R6: T-BAR LED 2' Linear: Other:	1	4	17	68
Total Proposed Watts =				9230

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 51% better than code.

Lighting Wattage:

1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
18853	9230	YES

Controls, Switching, and Wiring:

2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
3. Daylight zones have individual lighting controls independent from that of the general area lighting.

Exceptions:

- Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.
- Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.

4. Independent controls for each space (switch/occupancy sensor).

Exceptions:

- Areas designated as security or emergency areas that must be continuously illuminated.
- Lighting in stairways or corridors that are elements of the means of egress.

5. Master switch at entry to hotel/motel guest room.
6. Individual dwelling units separately metered.
7. Medical task lighting or art/history display lighting claimed to be exempt from compliance has a control device independent of the control of the nonexempt lighting.
8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.

Exceptions:

- Only one luminaire in space.
- An occupant-sensing device controls the area.
- The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
- Areas that use less than 0.6 Watts/sq.ft.

9. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.

Exceptions:

- Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.

10. Photocell/astronomical time switch on exterior lights.

Exceptions:

- Lighting intended for 24 hour use.

11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

Exceptions:

- Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 5: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 4.0.2.2 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title

Signature

Date



Exterior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
 Project Title: Patrons Oxford Offices
 Project Type: New Construction
 Exterior Lighting Zone: 2 (Light industrial area with limited nighttime use)

Construction Site: Owner/Agent: Designer/Contractor:
 Portland Technology Park
 Rand Road
 Portland, ME

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Front entrance canopy (Entry canopy)	946 ft2	0.25	Yes	237	299
Total Pedestrian walks (Walkway < 10 feet wide)	533 ft of walkway length	0.7	Yes	373	254
Total other entries (Other door (not main entry))	12 ft of door width	20	Yes	240	200
Entrance Drive (Driveway)	6816 ft2	0.06	Yes	409	258
Parking (Parking area)	25132 ft2	0.06	Yes	1508	645
Total Tradable Watts* =				2766	1656
Total Allowed Watts =				2766	
Total Allowed Supplemental Watts** =				600	

* Wattage tradeoffs are only allowed between tradable areas/surfaces.

** A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Front entrance canopy (Entry canopy 946 ft2): Tradable Wattage				
R4: R4: 4" Square LED Downlight: Other:	1	13	23	299
Total Pedestrian walks (Walkway < 10 feet wide 533 ft of walkway length): Tradable Wattage				
W1: W1: LED Full Cutoff Wall Pack: Other:	1	2	50	100
SL3: SL3: LED Bollard: Other:	1	7	15	105
SL4: SL4: LED Bollard: Other:	1	7	7	49
Total other entries (Other door (not main entry) 12 ft of door width): Tradable Wattage				
W1: W1: LED Full Cutoff Wall Pack: Other:	1	4	50	200
Entrance Drive (Driveway 6816 ft2): Tradable Wattage				
SL1: SL1: LED Full Cutoff Pole Light: Other:	1	1	129	129
SL2: SL2: LED Full Cutoff Pole Light: Other:	1	1	129	129
Parking (Parking area 25132 ft2): Tradable Wattage				
SL1: SL1: LED Full Cutoff Pole Light: Other:	1	4	129	516
SL2: SL2: LED Full Cutoff Pole Light: Other:	1	1	129	129
Total Tradable Proposed Watts =				1656

Section 4: Requirements Checklist

Lighting Wattage:

1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.

Compliance: Passes.

Controls, Switching, and Wiring:

2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.
3. Lighting not designated for dusk-to-dawn operation is controlled by either a photosensor (with time switch), or an astronomical time switch.
4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor.
5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.

Exterior Lighting Efficacy:

6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.

Exceptions:

- Lighting that has been claimed as exempt and is identified as such in Section 3 table above.
- Lighting that is specifically designated as required by a health or life safety statute, ordinance, or regulation.
- Emergency lighting that is automatically off during normal building operation.
- Lighting that is controlled by motion sensor.

Section 5: Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 4.0.2.2 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title

Signature

Date