



COMcheck Software Version 3.9.2

Interior Lighting Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**

Project Title : The Bay House

Construction Site:
Middle St
Portland, ME 04101

Owner/Agent:

Designer/Contractor:

Lawrence Bartlett
Bartlett Design
942 Washington St
Bath, ME 04530
207-443-5447
bartlettdesigninc@comcast.net

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
94 unit building with parking and retail areas (Multifamily)	162253	0.7	113577
Total Allowed Watts =			113577

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)
94 unit building with parking and retail areas (Multifamily 162253 sq.ft.)				
Compact Fluorescent 1: FR1: Triple 4-pin 26W: Electronic:	1	170	28	4760
Compact Fluorescent 2: FR2: Triple 4-pin 26W: Electronic:	1	200	28	5600
Compact Fluorescent 3: FR3: Triple 4-pin 26W: Electronic:	1	764	28	21392
Compact Fluorescent 5: FR5: Triple 4-pin 26W: Electronic:	1	147	28	4116
Compact Fluorescent 6: FR6: Triple 4-pin 13W: Electronic:	1	90	16	1440
Compact Fluorescent 7: FS1: Triple 4-pin 13W: Electronic:	2	94	29	2726
Linear Fluorescent 1: FS2: 24" T8 17W: Electronic:	2	102	32	3264
Linear Fluorescent 2: FS3: 24" T8 17W: Electronic:	2	94	32	3008
Linear Fluorescent 3: FS4: 24" T8 17W: Electronic:	2	2	32	64
Linear Fluorescent 4: FS5: 48" T8 32W: Electronic:	2	97	59	5723
Linear Fluorescent 5: FS6: 48" T8 32W: Magnetic:	2	44	59	2596
Compact Fluorescent 8: FS7: Quad 4-pin 13W: Electronic:	3	36	45	1620
Compact Fluorescent 9: FW1: Spiral 13W: Electronic:	1	216	16	3456
Compact Fluorescent 11: FW4: Triple 4-pin 26W: Electronic:	1	36	28	1008
LED 1: UC: LED Undercabinet Unit 4W:	1	474	3	1422
Total Proposed Watts =			62195	

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 45% better than code.

Lighting Wattage:

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

Allowed Watts	Proposed Watts	Complies
113577	62195	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 3.9.2 and to comply with the mandatory requirements in the Requirements Checklist.

Lawrence Bartlett

Lawrence E. Bartlett

03/06/13

Name - Title

Signature

Date



Exterior Lighting Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**

Project Title : The Bay House

Exterior Lighting Zone: **2 (Residential mixed use area)**

Construction Site:
Middle St
Portland, ME 04101

Owner/Agent:

Designer/Contractor:

Lawrence Bartlett
Bartlett Design
942 Washington St
Bath, ME 04530
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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
Plaza area	2889 ft2	0.14	Yes	404	990
Exterior Stair (Stairway)	124 ft2	1	Yes	124	108
Door into Stair #1 (Other door (not main entry))	3 ft of door width	20	Yes	60	54
Door into Stair #2 (Other door (not main entry))	3 ft of door width	20	Yes	60	54
Main Entry Bldg 1 (Main entry)	3 ft of door width	20	Yes	60	54
Main Entry Bldg 2 (Main entry)	3 ft of door width	20	Yes	60	54
Door into Trash Rm (Other door (not main entry))	6 ft of door width	20	Yes	120	54
Door into Stair #4 (Other door (not main entry))	3 ft of door width	20	Yes	60	54
Main Entry Retail 1 (Main entry)	3 ft of door width	20	Yes	60	54
Main Entry Retail 2 (Main entry)	3 ft of door width	20	Yes	60	54
Main Entry Retail 3 (Main entry)	3 ft of door width	20	Yes	60	54
Main Entry Retail 4 (Main entry)	3 ft of door width	20	Yes	60	54
Main Entry Retail 5 (Main entry)	3 ft of door width	20	Yes	60	54
Main Entry Retail 6 (Main entry)	3 ft of door width	20	Yes	60	54
Door into Stair #3 (Other door (not main entry))	3 ft of door width	20	Yes	60	54
Total Tradable Watts* =				1368	1800
Total Allowed Watts =				1368	
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)
Plaza area (2889 ft2): Tradable Wattage				
HID 1: MS1: Metal Halide: Standard:	1	9	110	990
Exterior Stair (Stairway 124 ft2): Tradable Wattage				
Compact Fluorescent 1: FW5: Triple 4-pin 26W: Electronic:	2	2	54	108
Door into Stair #1 (Other door (not main entry) 3 ft of door width): Tradable Wattage				

Compact Fluorescent 2: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Door into Stair #2 (Other door (not main entry) 3 ft of door width): Tradable Wattage				
Compact Fluorescent 3: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Bldg 1 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 4: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Bldg 2 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 5: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Door into Trash Rm (Other door (not main entry) 6 ft of door width): Tradable Wattage				
Compact Fluorescent 6: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Door into Stair #4 (Other door (not main entry) 3 ft of door width): Tradable Wattage				
Compact Fluorescent 7: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Retail 1 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 8: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Retail 2 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 9: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Retail 3 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 10: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Retail 4 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 11: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Retail 5 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 12: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Main Entry Retail 6 (Main entry 3 ft of door width): Tradable Wattage				
Compact Fluorescent 13: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Door into Stair #3 (Other door (not main entry) 3 ft of door width): Tradable Wattage				
Compact Fluorescent 14: FW5: Triple 4-pin 26W: Electronic:	2	1	54	54
Total Tradable Proposed Watts =				1800

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 using supplemental allowance watts.

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 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 3.9.2 and to comply with the mandatory requirements in the Requirements Checklist.

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