



COMcheck Software Version 4.0.2.0

Interior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
Project Title: Apartments
Project Type: New Construction

Construction Site:
89 Anderson Street
Portland, ME 04101

Owner/Agent:
Redfern LWS
PO BOX 8816
Portland, ME 04101

Designer/Contractor:
Ryan Senatore
Ryan Senatore Architecture
565 Congress St
Portland, ME 04038

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)
Multifamily	46250	0.7	32375
Total Allowed Watts =			32375

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)
Multifamily (46250 sq.ft.)				
LED 1: LED Other Fixture Unit 13W:	1	70	12	840
LED 2: LED Other Fixture Unit 6.5W:	1	50	5	250
LED 3: LED MR 4W:	3	234	13	3042
LED 4: LED Linear 22W:	1	16	28	448
LED 5: LED Linear 33W:	1	26	41	1066
LED 6: LED A Lamp 9W:	1	63	9.5	598.5
LED 7: LED A Lamp 3.2W:	2	70	9	630
LED 8: LED A Lamp 9W:	2	73	19	1387
LED 9: LED A Lamp 9W:	1	108	9.5	1026
LED 10: LED Other Fixture Unit 28W:	1	15	27	405
Linear Fluorescent 1: 22" T5 14W: Electronic:	1	54	14	756
Total Proposed Watts =				10449

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 68% better than code.

Lighting Wattage:

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

Allowed Watts	Proposed Watts	Complies
32375	10449	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 4.0.2.0 and to comply with the mandatory requirements in the Requirements Checklist.

Erik Bjorkdahl
Name - Title

Erik Bjorkdahl
Signature

10/22/15
Date



COMcheck Software Version 4.0.2.0

Exterior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
 Project Title: Apartments
 Project Type: New Construction
 Exterior Lighting Zone: 2 (Neighborhood business district)

Construction Site:
 89 Anderson Street
 Portland, ME 04101

Owner/Agent:
 Redfern LWS
 PO BOX 8816
 Portland, ME 04101

Designer/Contractor:
 Ryan Senatore
 Ryan Senatore Architecture
 565 Congress St
 Portland, ME 04038

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
Parking area	19500 ft2	0.06	Yes	1170	1031
Main entry	10 ft of door width	20	Yes	200	12
Entry canopy	65 ft2	0.25	Yes	16	54
Other door (not main entry)	8 ft of door width	20	Yes	160	12
Walkway >= 10 feet wide	3000 ft2	0.14	Yes	420	39
Total Tradable Watts* =				1966	1148
Total Allowed Watts =				1966	
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)
Parking area (19500 ft2): Tradable Wattage				
LED 3: LED Roadway-Parking Unit 42W:	1	18	42	756
LED 5: LED Other Fixture Unit 28W:	1	1	27	27
LED 7: LED Other Fixture Unit 13W:	1	4	12	48
LED 8: LED Roadway-Parking Unit 54W:	1	4	50	200
Main entry (10 ft of door width): Tradable Wattage				
LED 1: LED Other Fixture Unit 6.5W:	1	2	6	12
Entry canopy (65 ft2): Tradable Wattage				
LED 4: LED Other Fixture Unit 28W:	1	2	27	54
Other door (not main entry) (8 ft of door width): Tradable Wattage				
LED 2: LED Other Fixture Unit 6.5W:	1	2	6	12
Walkway >= 10 feet wide (3000 ft2): Tradable Wattage				
LED 6: LED Other Fixture Unit 13W:	1	3	13	39
Total Tradable Proposed Watts =				1148

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

Erik Bjorkdahl
Name - Title

Em Bjork
Signature

10/22/15
Date