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Interior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**

Project Title: Salvation Army ARC

Project Type: Addition

Construction Site:

Cumberland Avenue
 Portland, Maine

Owner/Agent:

Salvation Army ARC Dining Hall

Designer/Contractor:

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)
Dining Room, Kitchen (Dining: Cafeteria/Fast Food)	3780	1.4	5292
Conference Room, Corridor (Office)	705	1	705
Apartment (Dormitory)	950	1	950
Total Allowed Watts =			6947

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)
Dining Room, Kitchen (Dining: Cafeteria/Fast Food, 3780 sq.ft.)				
LED: Type N: Linear Pendant: LED Linear 33W:	1	8	60	480
LED: Type J: Ceiling Pendant: LED MR 10W:	1	10	17	170
LED: Type A2: 2x2 Troffer: LED Panel Unit 19W:	1	10	35.4	354
LED: Type L: Wall Sconce: LED A Lamp 25W:	1	8	26	208
LED: Type M: Ceiling Recessed: LED MR 10W:	1	37	18	666
LED: Type P: Ceiling Pendant: LED MR 10W:	1	4	20	80
Conference Room, Corridor (Office, 705 sq.ft.)				
LED: Type A: 2x2 Troffer: LED Panel Unit 19W:	1	14	19.6	274.4
Apartment (Dormitory, 950 sq.ft.)				
LED: Type B: Ceiling Surface: LED A Lamp 25W:	1	4	22.6	90.4
LED: Types C & K: Track: LED PAR 10W:	1	7	10	70
LED: Type D: Ceiling Recessed: LED MR 10W:	1	1	10	10
LED: Type H: Closet: LED Undercabinet Unit 11.4W:	1	3	17	51
Total Proposed Watts =				2454

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 65% better than code.

Lighting Wattage:

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

Allowed Watts	Proposed Watts	Complies
6947	2454	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.

N/A
N/A
N/A

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.

N/A

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.

N/A

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-Web and to comply with the mandatory requirements in the Requirements Checklist.

Evan Carroll Principal

Name - Title

Evan Carroll

Signature

1/24/17

Date



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Exterior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
Project Title: Salvation Army ARC
Project Type: Addition
Exterior Lighting Zone: 2 (Neighborhood business district)

Construction Site: Cumberland Avenue
Portland, Maine
Owner/Agent: Salvation Army ARC Dining Hall
Designer/Contractor:

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
Entry canopy	50 ft2	0.25	Yes	12	33
Walkway >= 10 feet wide	600 ft2	0.14	Yes	84	54
Total Tradable Watts* =				97	87
Total Allowed Watts =				97	
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)
Entry canopy (50 ft2): Tradable Wattage				
LED: Type AA: Wall Pack: LED MR 10W:	1	1	10	10
LED: Type DD: Linear: LED Linear 22W:	1	1	23	23
Walkway >= 10 feet wide (600 ft2): Tradable Wattage				
LED: Type BB: Wall Sconce: LED A Lamp 6W:	1	9	6	54
Total Tradable Proposed Watts =				87

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-Web and to comply with the mandatory requirements in the Requirements Checklist.

Evan Carroll
Name - Title

Sean Carroll
Signature

1/24/17
Date