

COMcheck Software Version 4.1.1.0
Interior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: 2012 North Carolina Energy Conservation Code
 Project Title: Manufacturing Facility High Bay (2-25 ft Floor to Ceiling)
 Project Type: New Construction
 Construction Site: _____ Owner/Agent: _____ Designer/Contractor: _____

Section 2: Interior Lighting and Power Calculation

Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B x C)
Manufacturing Facility High Bay (2-25 ft Floor to Ceiling)	1500	1.34	1991
Other	344	1.14	391
Total Allowed Watts =			2382

Section 3: Interior Lighting Fixture Schedule

Fixture ID / Description / Lamp / Wattage Per Lamp / Ballast	B Lamp Fixture	C # of Fixtures	D Fixture Watt	E Total (B x C x D)
Manufacturing Facility High Bay (2-25 ft Floor to Ceiling) (9000 sq ft)	1	10	430	4300
A: Other	1	50	48	2400
B: Other	1	6	57	342
C: Other	1	1	24	24
D: Other	1	1	24	24
Total Proposed Watts =				9166

Section 4: Requirements Checklist

Lighting Wattage:

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

Allowed Watts	Proposed Watts	Complies
2382	9166	YES

Controls, Switching, and Wiring:

- 2. Supplemental lighting controls are provided for display/cabinet lighting, case lighting, lighting for nonvisual applications (e.g., such as plant growth and food assembly), lighting equipment that is for sale, or for demonstrations in lighting education.
 - 3. Hotel and motel guest rooms and guest suites have a master control device at the main room entry that controls all permanently installed lamping and auxiliary receptacles.
 - 4. Supplemental task lighting has a control device integral to the luminaire or is controlled by a wall-mounted control device provided the control device is readily accessible and located so that the occupant can see the controlled lighting.
 - 5. Independent controls for each space (switch occupancy sensor).
- Exemptions:
 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.

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- 6. Individual dwelling units separately metered.
 - 7. Medical task lighting or ambulatory display lighting designed to be exempt from compliance has a control device independent of the control of the nonmedical 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 pairs of luminaires, alternate luminaires, or alternate lamps, switching the whole lamp bank/area independently of other lamps, or switching each luminaire or each lamp.
- Exemptions:
 Only one luminaire in space.
 An occupant-sensing device controls the area.
 The area is a corridor, stairway, restrooms, public lobby or sleeping unit.
 Areas that use less than 0.6 Watts/ft².
 Automatic lighting control in buildings larger than 5,000 sq ft.

9. Automatic lighting control in buildings larger than 5,000 sq ft.
 Exemptions:
 Sleeping units, patient care areas, and spaces where automatic shutoff would endanger safety or security.
 Photocopy/printing areas with automatic time switch on exterior light.

Exemptions:
 Lighting intended for 24-hour use.
 Transition view-on-sunrise and view-at-sunset ballasted luminaires (No sleep-lamp ballasts).

Exemptions:
 Electronic high-frequency ballasts; luminaires on emergency circuits or with no available pair.
 Lighting controls are tested to ensure that control devices, components, equipment, and systems are calibrated, adjusted and operate in accordance with approved plans and specifications. Sequences of operation must be functionally tested to ensure they operate in accordance with approved plans and specifications.

Additional Efficiency Package Requirements:

- 1. The reduced interior lighting power density has been selected on the additional efficiency package required by this energy code. Requirements for this package are applied in the interior lighting allowance calculations. Full compliance with the efficiency option requires inspection and verification that the interior lighting allowances and fixture schedule are compliant and tested to pass.

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 the permit application. The proposed lighting system has been designed to meet the 2012 North Carolina Energy Conservation Code requirements in COMcheck Version 4.1.1.0 and to comply with the mandatory requirements in the Requirements Checklist.

Name: _____ Title: _____ Signature: _____ Date: _____

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Exterior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: 2012 North Carolina Energy Conservation Code
 Project Title: Manufacturing Facility High Bay (2-25 ft Floor to Ceiling)
 Project Type: New Construction
 Exterior Lighting Zone: 3 (Other)
 Construction Site: _____ Owner/Agent: _____ Designer/Contractor: _____

Section 2: Exterior Lighting Area/Surface Power Calculation

Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Total Watts	E Allowed Watts (B x C)	F Proposed Watts
Entry canopy	1500/12	0.4	600	600	712
Total Allowed Watts =			600	600	712

* Watts tradeoffs are only allowed between tradeable areas/surfaces.
 ** A supplemental allowance equal to 750 watts may be applied toward compliance of both non-tradeable and tradeable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

Fixture ID / Description / Lamp / Wattage Per Lamp / Ballast	B Lamp Fixture	C # of Fixtures	D Fixture Watt	E Total (B x C x D)
Entry canopy (1000/12): Tradeable Wattage	1	5	300	300
D: Other	1	4	112	448
Total Proposed Watts =				748

Section 4: Requirements Checklist

Lighting Wattage:

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

Compliance: Persons using supplemental allowance watts.

Controls, Switching, and Wiring:

- 2. All emergency lighting systems independent of the operation of the non-emergency lighting.
- 3. Lighting not designated break-to-down operation controlled by a photocell sensor (with time switch), or an automatic time switch.
- 4. Lighting designed to break-to-down operation controlled by an automatic time switch or photocell sensor.
- 5. All time switches are capable of making emergency and fire alarm signaling base of power for a period of at least 10 hours.
- 6. Lighting controls are tested to ensure that control devices, components, equipment, and systems are calibrated, adjusted and operate in accordance with approved plans and specifications. Sequences of operation must be functionally tested to ensure they operate in accordance with approved plans and specifications.

Exterior Lighting Efficiency and Application:

- 7. All exterior lighting systems with luminaires that are greater than 100W have minimum efficacy of 80 lumens/watt.

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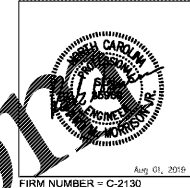
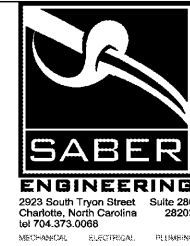
- Exemptions:
 Lighting that has been claimed as exempt and is identified as such in Section 3 table above.
 Lighting that is specifically designated as required by a health or life safety statute, ordinance, or regulation.
 Emergency lighting that is automatically off during normal building operation.
 Lighting that is controlled by motion sensor.
8. Exterior lighting fixtures are fully shielded fixtures unless a lighting plan is submitted showing that the use of non-shielded fixtures provide greater energy efficiency.
- Exemptions:
 Luminaires with an output of 150 Watts or less, or the equivalent light output.
 Luminaires intended to illuminate the facade of buildings or to illuminate objects including, but not limited to, fountains, landscaping and water features, statuary and works of art.
 Luminaires for historic lighting on the premises of an historic building as determined by a historic preservation office district.
 Outdoor sports facility lighting of the participant sport area.
 Emergency exit discharge lighting.
 Sign illumination, feature lighting, and stage lighting.
 Temporary lighting for emergency, repair, construction, special events or similar activities.

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 the permit application. The proposed exterior lighting system has been designed to meet the 2012 North Carolina Energy Conservation Code requirements in COMcheck Version 4.1.1.0 and to comply with the mandatory requirements in the Requirements Checklist.

Name: _____ Title: _____ Signature: _____ Date: _____

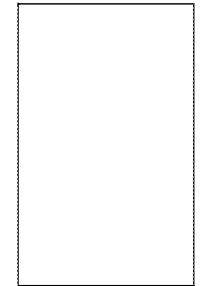
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Aug 01, 2019
 FIRM NUMBER = C-2130



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REVISIONS

NO.	DATE	DESCRIPTION

DATE: AUGUST 2, 2019

PROJECT NUMBER: 9217-000

SHEET TITLE
 ELECTRICAL
 COMCHECK

SHEET NUMBER

E5