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# Interior Lighting Compliance Certificate

## Section 1: Project Information

Energy Code: **2009 IECC**

Project Title: Buc-ee's - Benton, AR

Project Type: New Construction

Construction Site:

Interstate Highway 30 & State Highway 229  
Benton, Arkansas 72019

Owner/Agent:

Scott Ray  
Buc-ee's Benton, LLC  
327 FM 2004  
Lake Jackson, Texas 77566  
979-238-6367

Designer/Contractor:

HENDERSON ENGINEERS  
8345 LENEXA DRIVE, SUITE 300  
LENEXA, Kansas 66214  
913-742-5000

## Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B x C)
Retail Store (Retail)	74000	1.5	111000
Total Allowed Watts =			111000

## 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)
Retail Store (Retail, 74000 sq.ft.)				
LED: A/A2: 4' LED STRIP GASKETED: Other:	1	109	36	3924
LED: FA: 2X4 RECESSED LED TROFFER 6000LU: Other:	1	190	40	7600
LED: FA1: 2X4 RECESSED LED TROFFER 9000LU: Other:	1	374	73	27302
LED: FB: 2X2 RECESSED LED TROFFER: Other:	1	56	30	1680
LED: FC: 4' RECESSED WALLWASH LED STRIP: Other:	1	238	34	8092
LED: FC2: 4' RECESSED WALLWASH LED STRIP: Other:	1	8	18	144
LED: FC3: 4' RECESSED WALLWASH LED STRIP: Other:	1	16	34	544
LED: FD: 2X4 RECESSED LED TROFFER: Other:	1	126	69	8694
Total Proposed Watts =				57980

## Section 4: Requirements Checklist

**Interior Lighting PASSES:** Design 48% better than code.

### Lighting Wattage:

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

Allowed Watts	Proposed Watts	Complies
111000	57980	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:*

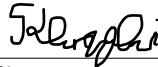
- ☐ Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

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

Karol Kluczynski - Electrical Designer

Name - Title



Signature

4-23-2025

Date



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# Exterior Lighting Compliance Certificate

## Section 1: Project Information

Energy Code: **2009 IECC**

Project Title: Buc-ee's - Benton, AR

Project Type: New Construction

Exterior Lighting Zone: 3 (Other (LZ3))

Construction Site:

Interstate Highway 30 & State Highway 229  
Benton, Arkansas 72019

Owner/Agent:

Scott Ray  
Buc-ee's Benton, LLC  
327 FM 2004  
Lake Jackson, Texas 77566  
979-238-6367

Designer/Contractor:

HENDERSON ENGINEERS  
8345 LENEXA DRIVE, SUITE 300  
LENEXA, Kansas 66214  
913-742-5000

## 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
Walk Way Around Building (Walkway >= 10 feet wide)	6305 ft2	0.16	Yes	1009	1344
Parking Area (Entry canopy)	12908 ft2	0.4	Yes	5163	5256
Fueling Canopy (Free standing/attached sales canopy)	61380 ft2	0.8	Yes	49104	18240
Parking Area (Parking area)	676830 ft2	0.1	Yes	67683	51924
Total Tradable Watts* =				122959	76764
Total Allowed Watts =				122959	
Total Allowed Supplemental Watts** =				750	

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

\*\* A supplemental allowance equal to 750 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 (Parking area, 676830 ft2): Tradable Wattage				
LED: PC: Wall Mounted Exterior Led: Other:	1	6	64	384
LED: PC2/PC3: Wall Mounted Exterior Led: Other:	1	9	32	288
LED: PC4: Wall Mounted Exterior Led: Other:	1	16	32	512
LED: PD: LED Pole Fixture: Other:	1	19	1152	21888
LED: PF: LED Pole Fixture: Other:	1	14	576	8064
LED: P01: LED Pole Fixture: Other:	1	21	696	14616
LED: P02: LED Pole Fixture: Other:	1	7	696	4872
LED: PG1: LED Pole Fixture: Other:	1	4	260	1040
LED: PG2: LED Pole Fixture: Other:	1	1	260	260
Fueling Canopy (Free standing/attached sales canopy, 61380 ft2): Tradable Wattage				
LED: PA: FUEL CANOPY LED: Other:	1	120	152	18240
Parking Area (Entry canopy, 12908 ft2): Tradable Wattage				
LED: PB: LED Pole Fixture: Other:	1	6	576	3456
LED: LA: Canopy Led: Other:	1	30	60	1800
Walk Way Around Building (Walkway >= 10 feet wide, 6305 ft2): Tradable Wattage				
LED: PC: Wall Mounted Exterior Led: Other:	1	2	64	128
LED: PC4: Wall Mounted Exterior Led: Other:	1	2	32	64
LED: PB: LED Pole Fixture: Other:	1	2	576	1152

## 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.

**Exterior Lighting PASSES:** Design 38% better than code.

## 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.

Karol Kluczynski - Electrical Designer

Name - Title



Signature

4-23-2025

Date