



Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: QT# 0183
Project Type: New Construction

Construction Site:
1001 SW BLUE PARKWAY
LEE'S SUMMIT, Missouri 64063

Owner/Agent:
QuikTrip Corporation
Tulsa, Oklahoma

Designer/Contractor:
Architect (Envelope)
Hoss & Brown Engineers, Inc.
(Lighting & Mechanical)

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Lighting Power, 1.0 credit

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts
1-Singles Cooler (Common Space Types:Storage)	346	0.57	197
2-Freezer (Common Space Types:Storage)	47	0.57	27
3-Tea & Fountain Area (Common Space Types:Electrical/Mechanical)	130	0.39	51
4-Women's (Common Space Types:Restrooms)	174	0.77	134
5-Men's (Common Space Types:Restrooms)	191	0.77	147
6-Sales Floor (Retail:Sales Area)	2456	1.10	2702
7-Janitor Closet (Common Space Types:Electrical/Mechanical)	19	0.39	7
8-Take Home Cooler (Common Space Types:Storage)	410	0.57	234
9-Plumbing Room (Common Space Types:Electrical/Mechanical)	66	0.39	26
10-Workroom (Common Space Types>Loading Dock)	667	0.52	347
11-Utility Closet (Common Space Types:Electrical/Mechanical)	9	0.39	4
12-Service Counter (Common Space Types:Food Preparation)	365	0.95	347
Total Allowed Watts =			4221

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
<u>1-Singles Cooler (Common Space Types:Storage)</u> LED Surface: QF1/QF1EL: Surface MTD in Coolers: Other:	1	5	33	165
<u>2-Freezer (Common Space Types:Storage)</u> LED Surface: QK: Surface MTD in Freezer: Other:	1	1	26	26
<u>3-Tea & Fountain Area (Common Space Types:Electrical/Mechanical)</u> 4' LED: QL/QLEL: Recessed in Sales: Other:	1	2	29	58
<u>4-Women's (Common Space Types:Restrooms)</u> LED Can: LEDI/LEDL: Recessed in Restrooms & Sales: Other:	1	11	18	198
<u>5-Men's (Common Space Types:Restrooms)</u> LED Can: LEDI/LEDL: Recessed in Restrooms & Sales: Other:	1	12	18	216

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
<u>6-Sales Floor (Retail:Sales Area)</u>				
Exit Light: EXIT: Exit Light: Other: Exemption:Exit signs	1	3	3	Exempt
Sales Recessed Directional: J: Flood Lights: Other:	1	11	40	440
Sales Recessed Directional: T: Flood Lights: Other:	1	12	33	396
4' LED: QL/QLEL: Recessed in Sales: Other:	1	56	29	1624
LED Can: LEDI/LEDL: Recessed in Restrooms & Sales: Other:	1	3	18	54
<u>7-Janitor Closet (Common Space Types:Electrical/Mechanical)</u>				
LED Can: LEDI/LEDL: Recessed in Restrooms & Sales: Other:	1	1	18	18
<u>8-Take Home Cooler (Common Space Types:Storage)</u>				
LED Surface: QF1/QF1EL: Surface MTD in Coolers: Other:	1	7	33	231
<u>9-Plumbing Room (Common Space Types:Electrical/Mechanical)</u>				
LED Surface: QF1/QF1EL: Surface MTD in Coolers: Other:	1	1	33	33
<u>10-Workroom (Common Space Types>Loading Dock)</u>				
LED Panel: A/A-EL: Recessed in Utility Rooms: Other:	1	6	45	270
<u>11-Utility Closet (Common Space Types:Electrical/Mechanical)</u>				
LED Can: LEDI/LEDL: Recessed in Restrooms & Sales: Other:	1	1	18	18
<u>12-Service Counter (Common Space Types:Food Preparation)</u>				
LED Can: LEDI/LEDL: Recessed in Restrooms & Sales: Other:	1	20	18	360
LED Can: L: Recessed in Sales: Other:	1	5	12	60
LED Strip: UC-34: Under Cabinet Light: Other:	1	1	14	Exempt
Exemption:Furniture-mounted supplemental task lighting				
Total Proposed Watts =				4167

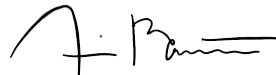
Interior Lighting PASSES: Design 1% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Neil Bartley, P.E.

Name - Title



Signature

11/25/2024

Date



Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: QT# 0183
Project Type: New Construction
Exterior Lighting Zone 2 (Neighborhood business district (LZ2))

Construction Site:
1001 SW BLUE PARKWAY
LEE'S SUMMIT, Missouri 64063

Owner/Agent:
QuikTrip Corporation
Tulsa, Oklahoma

Designer/Contractor:
Architect (Envelope)
Hoss & Brown Engineers, Inc.
(Lighting & Mechanical)

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Illuminated area of facade wall or surface	5542 ft2	0.07	No	416
Free standing/attached sales canopy	7287 ft2	0.4	Yes	2915
Pedestrian and vehicular entrances and exits	6 ft of door	14	Yes	84
Parking area	9998 ft2	0.04	Yes	400
Parking near 24-hour retail entrance	2 main	400	No	800
Entry canopy	215 ft2	0.25	Yes	54
Driveway	35703 ft2	0.04	Yes	1428
Total Tradable Watts (a) =				5149
Total Allowed Watts =				6365
Total Allowed Supplemental Watts (b) =				400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.

(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
<u>Walkway >= 10 feet wide (2098 ft2): Tradable Wattage</u>				
<u>Walkway < 10 feet wide (117 ft of walkway length): Tradable Wattage</u>				
<u>Illuminated area of facade wall or surface (5542 ft2): Non-tradable Wattage</u>				
LED: DL: LED Down Lighting: Other:	1	335	10	Exempt
Exemption: Lighting approved for safety considerations				
<u>Free standing/attached sales canopy (7287 ft2): Tradable Wattage</u>				
Recessed LED: E: Gas Canopy LED Lights: Other:	1	32	84	2688
<u>Pedestrian and vehicular entrances and exits (6 ft of door width): Tradable Wattage</u>				
LED Emergency Light: LDEM: Emergency Light: Other:	1	2	10	Exempt
Exemption: Emergency lighting automatically off during normal business operation				
LED Emergency Light: D-1: Emergency Light: Other:	1	2	12	Exempt
Exemption: Emergency lighting automatically off during normal business operation				

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast		B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
<u>Parking area (9998 ft2): Tradable Wattage</u>					
LED Site: A, B, C, D: LED Pole Lights: Other:		1	7	94	658
<u>Parking near 24-hour retail entrance (2 main entrys): Non-tradable Wattage</u>					
LED Site: A, B, C, D: LED Pole Lights: Other:		1	4	94	376
<u>Entry canopy (215 ft2): Tradable Wattage</u>					
LED Soffit: SOFF: Building LED Canopy Lights: Other:		1	5	49	245
LED: LEDO: Awning LED: Other:		1	16	14	224
<u>Driveway (35703 ft2): Tradable Wattage</u>					
LED Site: A, B, C, D: LED Pole Lights: Other:		1	7	94	658
Total Tradable Proposed Watts =					4473

Exterior Lighting PASSES: Design 19% better than code

Exterior Lighting 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 exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Neil Bartley, P.E.
Name - Title

Signature

11/25/2024
Date



COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: QT# 0183
Location: Lees Summit, Missouri
Climate Zone: 4a
Project Type: New Construction

Construction Site:
1001 SW BLUE PARKWAY
LEE'S SUMMIT, Missouri 64063

Owner/Agent:
QuikTrip Corporation
Tulsa, Oklahoma

Designer/Contractor:
Architect (Envelope)
Hoss & Brown Engineers, Inc.
(Lighting & Mechanical)

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Lighting Power, 1.0 credit

Mechanical Systems List

Quantity System Type & Description

- 1 HVAC System RTU-1 AAON (Single Zone):
Cooling: 1 each - Single Package DX Unit, Capacity = 157 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 11.90 EER, Required Efficiency = 11.00 EER
Proposed Part Load Efficiency = 14.90 IEER, Required Part Load Efficiency = 12.40 IEER
Fan System: FAN SYSTEM 1 AAON | Sales -- Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 1 Supply, Single-Zone VAV, 4200 CFM, 3.0 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP
- 1 HVAC System RTU-2 AAON (Single Zone):
Cooling: 1 each - Single Package DX Unit, Capacity = 157 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 11.90 EER, Required Efficiency = 11.00 EER
Proposed Part Load Efficiency = 14.90 IEER, Required Part Load Efficiency = 12.40 IEER
Fan System: FAN SYSTEM 1 AAON | Sales -- Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 1 Supply, Single-Zone VAV, 4200 CFM, 3.0 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP
- 1 HVAC System RTU-3 AAON (Single Zone):
Cooling: 1 each - Single Package DX Unit, Capacity = 157 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 11.90 EER, Required Efficiency = 11.00 EER
Proposed Part Load Efficiency = 14.90 IEER, Required Part Load Efficiency = 12.40 IEER
Fan System: FAN SYSTEM 1 AAON | Sales -- Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 1 Supply, Single-Zone VAV, 4200 CFM, 3.0 motor nameplate hp, 0.0 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP
- 1 Water Heater:
Electric Storage Water Heater, Capacity: 85 gallons w/ Circulation Pump
No minimum efficiency requirement applies

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Neil Bartley, P.E.
Name - Title


Signature

11/25/2024
Date