

City of Houston Energy Code Compliance Form*

Person completing this form:

Name: _____ Phone: () _____

Job Address: _____

Residential Commercial
 A-1
 A-2

Method of Compliance: (check one)

Ch. 4 - systems analysis Ch. 7 - ASHRAE 90.1
 Ch. 5 Ch. 8
 502.2.1
 502.2.2
 502.2.3
 502.2.4
 Ch. 6 - simplified
 IRC - chapter 11

T302.1 Exterior Design Conditions	
Condition	Value
Winter, Design Dry Bulb	28
Summer, Design Dry Bulb	96
Summer, Design Wet Bulb	80
Degree days heating	1599
Degree days cooling	3058
Climate zone	4

Name of Software (if used - include output summary)

Total bldg.sq.ft. _____ Total glazing area _____
 Total wall area _____ Total skylight area _____
 Total roof area _____ % skylight area _____
 Total floor area _____ % window area _____

Complete Either Prescriptive or Systems Analysis Column

Prescriptive	Systems Analysis																																																									
Insulation: Ceiling-Attic: _____ Ceiling-Roof: _____ Walls: _____ Floors: _____ Basement Walls _____ Crawlspace: _____ Glazing: <input type="checkbox"/> All windows meet minimums U-factor _____ SHGC _____ Projection factors _____ <input type="checkbox"/> Windows Vary (see weighted avg. listing below) Lighting: (commercial) Total Watts Per Sq. Ft. _____	<table border="1" style="width: 100%;"> <thead> <tr> <th></th> <th style="text-align: center;">Standard Design</th> <th style="text-align: center;">Proposed Design</th> </tr> </thead> <tbody> <tr> <td>Orientation:</td> <td style="text-align: center;">equal</td> <td></td> </tr> <tr> <td>Exterior Shading:</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>SHGC:(residential)</td> <td style="text-align: center;">0.4</td> <td></td> </tr> <tr> <td>SHGC: (commercial)</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">0.7 summer</td> <td style="text-align: center;">0.7 summer</td> </tr> <tr> <td></td> <td style="text-align: center;">0.9 winter</td> <td style="text-align: center;">0.9 winter</td> </tr> <tr> <td>Interior Shading</td> <td></td> <td></td> </tr> <tr> <td>Heating and cooling controls:</td> <td></td> <td></td> </tr> <tr> <td>Heating</td> <td style="text-align: center;">70°F</td> <td style="text-align: center;">70°F</td> </tr> <tr> <td>Cooling</td> <td style="text-align: center;">75°F</td> <td style="text-align: center;">75°F</td> </tr> <tr> <td>Set back/set-up</td> <td style="text-align: center;">5°F</td> <td style="text-align: center;">5°F</td> </tr> <tr> <td>Set back/set-up duration</td> <td style="text-align: center;">6 hours per day</td> <td style="text-align: center;">6 hours per day</td> </tr> <tr> <td># set-back/set-up periods</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> </tr> <tr> <td># zones per dwelling unit</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2</td> </tr> <tr> <td># thermostats per zone</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Lighting: (commercial) Total Watts Per Sq. Ft.</td> <td></td> <td></td> </tr> <tr> <td>Plumbing: (commercial) Service water heating</td> <td></td> <td></td> </tr> </tbody> </table>			Standard Design	Proposed Design	Orientation:	equal		Exterior Shading:	0		SHGC:(residential)	0.4		SHGC: (commercial)				0.7 summer	0.7 summer		0.9 winter	0.9 winter	Interior Shading			Heating and cooling controls:			Heating	70°F	70°F	Cooling	75°F	75°F	Set back/set-up	5°F	5°F	Set back/set-up duration	6 hours per day	6 hours per day	# set-back/set-up periods	1	1	# zones per dwelling unit	2	2	# thermostats per zone	1	1	Lighting: (commercial) Total Watts Per Sq. Ft.			Plumbing: (commercial) Service water heating				
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HVAC (for both prescriptive and systems analysis list each piece of equipment & attach additional listings if needed)

EQUIPMENT TYPE	SIZE CATEGORY	SUBCATEGORY OR RATING	MINIMUM EFFICIENCY	BTU/h / sq. ft. (systems analysis)	BTU/h / sq. ft. (systems analysis)

WEIGHTED AVERAGE CALCULATION

Envelope Assembly: _____

Component Description	U-factor (1/ R-value)	Area	U-factor x Area (UA)
		Total Area =	Total UA =

(repeat calculation as needed on attached sheets)

TOTAL ANNUAL ENERGY USE

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Architect or Engineer Seal

*The information requested is the minimum for energy code analysis. Additional information may be needed for approval.

INTERIOR LIGHTING POWER FOR COMMERCIAL BUILDINGS (805.4.2)

A	B	C	D	E	F
BUILDING OR AREA TYPE	Entire building (W/ft²)	Tenant area or portion of building (W/ft²)	Area of building or space (sq. ft.)	Allowed watts (B or C x D)	Actual Watts^e
Auditorium	NA	1.6			
Bank/financial institution ^a	NA	2.0			
Classroom/lecture hall ^o	NA	1.6			
Convention, conference or meeting center ^a	NA	1.5			
Corridor, restroom, support area	NA	0.8			
Dining ^a	NA	1.4			
Exercise center ^a	1.4	1.1			
Exhibition hall	NA	3.3			
Grocery store ^c	1.9	2.1			
Gymnasium playing surface	NA	1.9			
Hotel function ^a	NA	2.4			
Industrial work, < 20 ft ceiling height	NA	2.1			
Industrial work, ≥ 20 ft ceiling height	NA	3.0			
Kitchen	NA	2.2			
Library ^a	1.5	1.8			
Lobby-hotel ^a	NA	1.9			
Lobby-other ^a	NA	1.0			
Mall, arcade or atrium	NA	1.4			
Medical and clinical care ^{b, o}	1.6	1.6			
Museum ^o	1.6	1.6			
Office ^o	1.3	1.5			
Religious worship ^a	2.2	3.2			
Restaurant ^a	1.7	1.7			
Retail sales, wholesale showroom ^o	1.9	2.1			
School	1.5	NA			
Storage, industrial and commercial	0.6	1.0			
Theater-motion picture	1.1	1.0			
Theater-performance ^a	1.4	1.5			
All others	0.6	1.0			
				TOTAL ALLOWED WATTS	TOTAL ACTUAL^f WATTS

For SI: 1 foot = 304.8 mm, 1 W/ft² = W/0.0929 m².

NA = Not Applicable

a. Where lighting equipment is specified to be installed for decorative appearances in addition to lighting equipment specified for general lighting and is switched or dimmed on circuits different from the circuits for general lighting, the smaller of the actual wattage of the decorative lighting equipment or 1.0 W/ft² times the area of the space that the decorative lighting equipment is in shall be added to the interior lighting power determined in accordance with this line item.

b. Where lighting equipment is specified to be installed to meet requirements of visual display terminals as the primary viewing task, the smaller of the actual wattage of the lighting equipment or 0.35 W/ft² times the area of the space that the lighting equipment is in shall be added to the interior lighting power determined in accordance with this line item.

c. Where lighting equipment is specified to be installed to highlight specific merchandise in addition to lighting equipment specified for general lighting and is switched or dimmed on circuits different from the circuits for general lighting, the smaller of the actual wattage of the lighting equipment installed specifically for merchandise, or 1.6 W/ft² times the area of the specific display, or 3.9 W/ft² times the actual case or shelf area for displaying and selling fine merchandise such as jewelry, fine apparel and accessories, or china and silver, shall be added to the interior lighting power determined in accordance with this line item.

d. Where lighting equipment is specified to be installed, the smaller of the actual wattage of the lighting equipment, or 1.0 W/ft² times the area of the emergency, recovery medical supply and pharmacy space shall be added to the interior lighting power determined in accordance with this line item.

e. Actual watts = Number of fixtures x Watts per fixture

f. Project compliance = Total Actual Watts must be less-than-or-equal-to Total Allowed Watts.