A–57.11 (1) (f) It is the intent of this subsection that each living unit needs only one means of exit from within the unit and that the entire building be provided with no less than 2 exits.

A–59.14 (2) (c) EXIT DISTANCE. See the information and illustration contained in A–54.02 (4).

A–60.19 (4) The standard is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

A–60.35 Class A fires are fires in ordinary combustible materials such as wood, cloth, paper, rubber, and many plastics. Class B fires are fires in flammable liquids, gases and greases

A–60.36 (1) (a) See A–60.19 (4).

A–62.25 (1) CLEARANCE LIMITATIONS. The intent is to require the minimum 7 feet 0 inches clearance only in traffic lanes and in all areas normally used by the public to leave from and return to their vehicles.

A–62.50 FIRE EXTINGUISHERS. See A–51.22 for related information.

Wisconsin
Department of Commerce

CHAPTERS ILHR 63 & 64 PLAN CHECK WORKSHEETS

SECTION I. ENERGY/HVAC FORM INDEX

SECTION II. BUILDING ENVELOPE

SECTION III. LIGHTING

SECTION IV. HVAC

SBD-10373 (R.11/96)

INDEX I-1

Wisconsin Department of Commerce

Project Plan #	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

All constructions or installations under s. ILHR 50.07 (2) and (3) shall be supervised by a Wisconsin registered architect or engineer, except that a Wisconsin registered HVAC designer may supervise the installation of heating, ventilating and air conditioning systems, and a registered electrical designer may supervise the installation of illumination systems. The plans, specifications, and calculations require the signature and seal or stamp of the appropriate professional listed above. ILHR 50.08.

The Division of Safety & Buildings was associated with the Department of Industry, Labor and Human Relations (DILHR). As of July 1, 1996, the Division has been relocated to the Department of Commerce (COMM). Code References involving the prefix ILHR will be changed to COMM upon approval of the Revisors Office. An exact date for this change to occur has not yet been established.

SAMPLE

Registration Stamp & Signature

ENERGY EFFICIENCY PLAN CHECK WORKSHEETS

I. ENERGY/HVAC FORM INDEX	Check below if included with submittal
I-1: Index	✓
II. BUILDING ENVELOPE PLAN CHECK WORKSHEETS	
E-1: Building Envelope Summary	
E-2: Fenestration Worksheet	
E-3: Opaque Surfaces Worksheet	
E-4: Skylight Exemption Worksheet	
E-5: Opaque Trade-Off Worksheet	
III. LIGHTING PLAN CHECK WORKSHEETS	
L-1: Lighting Summary	
L-2: Exterior Lighting Power Worksheet	
L-3: Installed Interior Lighting Power Worksheet	
L-4: Complete Building/Area Category Methods Worksheet	
L-5: Activity Method Worksheet	
IV. HVAC PLAN CHECK WORKSHEETS	
H-1: HVAC Summary	
H-2: HVAC Prescriptive Worksheet	
H-3: HVAC Equipment Summary	

The information you provide may be used by other agency programs [Privacy Law, s. 15.04 (1)(m)]. SBD-10512 (N.11/96)

II. BUILDING ENVELOPE PLAN CHECK DOCUMENTS

This section describes the forms and procedures for documenting compliance with the building envelope energy efficiency requirements of the code. It does not describe the details of the requirements; these are presented in the code. Determination of code compliance will be based on the actual code section. The following discussion is addressed to the designer preparing construction documents and compliance statements and to the plan reviewers who are examining those documents for compliance with the code.

The use of each form is briefly described below. The complete instructions for each form are presented in the following subsections.

E-1: Building Envelope Summary.

This information is required for every project involving the building envelope.

E-2: Fenestration Worksheet.

Used only for the Component Standards and System Standards methods. This worksheet produces area-weighted average values for the Fenestration U-Value and Shading noefficient (SC_x). For the System Standards method of s. ILHR 63.16, one of these worksheets should be completed for each orientation. (It is not necessary to fill this out if there is only one Fenestration U-Value and Shading Coefficient for the entire project.)

E-3: Opaque Surfaces Worksheet.

This worksheet is used only for the Component Standards method and System Standards method. This worksheet produces the area-weighted average values for the U-values of roof, walls (including opaque doors), and floor assemblies. For the System Standards method, one of these worksheets should be completed for each orientation.

E-4: Skylight Exemption Worksheet.

This information will only be required when skylights are to be exempt from the roof area thermal performance calculation.

E-5: Opaque Trade-Off Worksheet.

This information will only be required when opaque trade-offs are used per the requirements of ILHR 63.15 (3) & (4).

SBD-10373 (R.11/96)

BUILDING ENVELOPE SUMMARY E-1

This worksheet is applicable to all projects involving the building envelope.

Project Information

This information asks for the project name and address and those people responsible for the building design and compliance forms.

Compliance Approach

Check one of the three boxes:

Component Standards: If this box is checked, provide the number of the region in which the building is located from Figure 63.15-2 of the code and the Alternate Component Package (ACP) Table letter.

System Standards: If this box is checked, provide the computer printout or other documentation of envelope compliance and E-1 form, or or appropriate thermal performance calculations for factories and warehouses as listed in ILHR 63.14 (2)(3).

System Analysis Design: If the project is demonstrating compliance through the System Analysis Design method, check this box. A complete analysis must be provided.

Basic Requirements

Fill the boxes in this column with either a check mark or "X" to indicate a positive response or "N/A" to indicate a negative response. If the skylight exemption is marked (see "Special Considerations"), attach the Skylight Exemption Worksheet (E-4).

Prescriptive/Performance Requirements

If the project is demonstrating compliance through the Component Standards method, all of these items must be completed. The area-weighted properties such as components U-values and fenestration SC_x are obtained from the Fenestration Worksheet (E-2) and Opaque Surfaces Worksheet (E-3). The items under "Requirements" are obtained from the ACP Table.

If the System Standards method is used (e.g., ASHRAE's ENVSTD Program), only the items in the "Design" column need to be completed. Where there is more than one of a particular assembly, enter all of the values.

If the Opaque Trade-Off is used, provide the design information and demonstrate that the Total Design U•Area is equal to or less than the Total Required U•Area.

If the System Analysis Design method (e.g., ASHRAE's Energy Cost Budget method) is used, the items in the design column should be filled in, where applicable, to speed the plan review.

This column serves as a reference for additional building envelope forms and calculations. If Worksheets E-2 through E-5 are submitted, it should be indicated on Form I-1. Boxes are provided for other submittal data. An additional blank is provided to indicate attached calculations such as calculation of mass wall heat capacity or interpolations of tables.

FENESTRATION WORKSHEET E-2

This worksheet is applicable to projects that demonstrate compliance through the Component Standards method or the System Standards method. It is not applicable to projects that demonstrate compliance through the System Analysis Design method.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Basic Project Information section of the Building Envelope Summary (E-1) form.

Area-Weighted Properties

Assembly ID:	Insert a descriptor of the particular assembly. A separate ID must be supplied for each group of assemblies that have unique U-values or shading coefficients.
Area:	Enter the Total Area (in ft^2) for that fenestration assembly (glazing and frame) on a project-wide basis. For the System Standards method, this would be the area for that assembly on an orientation basis. The values from all entries in this column should be summed into the box marked "Total Area" at the bottom of the column.
U-Value (or shading coefficient, SC_x):	Enter the appropriate property for each fenestration assembly (glazing and frame).
U (or SC_x) •Area:	This column is the product of the assembly area (second column) by the fenestration U-value (or SC_x from the third column). The values from all entries in this column should be summed into the box marked "Total U•Area" at the bottom of the column. The area-weighted U-value (or SC_x) is calculated by dividing the value in "Total U•Area" by the value in "Total Area."

OPAQUE SURFACES WORKSHEET E-3

This worksheet is applicable to projects that demonstrate compliance through either the Component Standards method or System Standards method. It is not applicable to projects that demonstrate compliance through the System Analysis Design method.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Basic Project Information section of the Building Envelope Summary (E-1) form.

Assembly ID: Insert a descriptor of the particular assembly. This may be a descriptor or number from the appropriate schedule in the plans. A separate item must be supplied for each group of assemblies that have unique U-values.

Area: Enter the Total area (in ft^2) for that assembly (roof, wall, or floor) on a project-wide basis. For the System Standards method, this would be the area for that assembly on an orientation basis. The values from all entries in this column should be summed into the box marked "Total Area" at the bottom of the column.

U-Value: Enter the appropriate property for each assembly. Overall thermal transmittance of assemblies must be calculated in accordance with s. ILHR 63.18. The calculation procedure must consider the effect of framing.

If skylights are installed, they must be included in the overall U-value calculation of the roof unless an exemption is obtained under s. ILHR 63.12. A skylight exemption worksheet (E-4) must be included.

U•Area: This column is the product of the assembly area (second column) by the assembly U-value. The values from all entries in this column should be summed into the box marked "Total U•Area" by the value in "Total Area."

The area-weighted U-value is calculated by dividing the value in "Total U•Area" by the value in "Total Area."

SKYLIGHT EXEMPTION WORKSHEET E-4

This worksheet is applicable when skylights are exempt from the roof area overall U-value calculation per the requirements of ILHR 63.12. It may be used with any method of compliance.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Basic Project Information section of the Building Envelope Summary (E-1) form.

Skylight Exemption Worksheet

All of the boxes except the item marked "Special Consideration" (50% shading device credit) must be filled in with a check or "X" to indicate affirmation. The 50% shading device credit box must be filled in with either a check, "X," or "N/A."

All of the "Design" and "Requirement" information must be completed. The skylight-to-roof ratio requirement is the maximum percent of skylight area taken from ASHRAE 90.1, Tables 8-3a and 8-3b of Table A63.12. the maximum area will depend on the visible light transmittance (VLT) and whether or not shading is provided for the skylight.

The lighting power density may be taken from the allowed lighting power density from s. ILHR 63.47, 63.48, or 63.49, or the actual installed lighting power density adjusted for controls under s. ILHR 63.45 (2) may be used.

The design lighting level, in foot-candles, is the judgment of the designer, but should be in general agreement with the recommendations of the Illuminating Engineering Society. (Refer to the IES Lighting Handbook, application volume, 1987.) The designer should choose the lighting level in the table closest to the condition in the proposed building. Interpolation or extrapolation for lighting level is not permitted.

OPAQUE TRADE-OFF WORKSHEET E-5

This worksheet is applicable to projects that demonstrate compliance through Opaque Trade-Offs as used with the requirements of ILHR 63.15 (3) & (4).

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Basic Project Information section of the Building Envelope Summary (E-1) form.

Assembly ID: Insert a descriptor of the particular assembly. This may be a descriptor or number from the appropriate schedule in the plans. A separate item must be supplied for each group of assemblies that have unique U-values.

Area: Enter the Total area (in ft^2) for that assembly (roof, wall, or floor) on a project-wide basis. For the System Standards method, this would be the area for that assembly on an orientation basis. The values from all entries in this column should be summed into the box marked "Total Area" at the bottom of the column.

U-Value: Enter the appropriate property for each assembly. Overall thermal transmittance of assemblies must be calculated in accordance with s. ILHR 63.18. The calculation procedure must consider the effect of framing.

If skylights are installed, they must be included in the overall U-value calculation of the roof unless an exemption is obtained under s. ILHR 63.12. A skylight exemption worksheet (E-4) must be included.

U•Area: This column is the product of the assembly area (second column) by the assembly U-value.

Total Design U•Area: Add all U•Area values associated with the Design column. The U•Area values are to be derived from the designed roofs, walls adjacent to unconditioned spaces, above grade exterior walls, and floors over unconditioned spaces.

Total Required U•Area: Add all U•Area values associated with the Requirement column. The U•Area values are to be derived from code required roofs, walls adjacent to unconditioned spaces, above grade exterior walls, and floors over unconditioned spaces

Compliance is shown when the "Total Design U•Area" is less than or equal to the "Total Required U•Area."

BUILDING ENVELOPE SUMMARY E-1

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

Compliance Approach ☐ Component Standards (See ILHR 63.15) ☐ System Standards (See ILHR 63.16) ☐ System Analysis Design (See ILHR 63.70-72)

Region_____ ACP Table _____
(See Fig. 63.15-2)

Fenestration

Basic Requirements

- ☐ U-values reported on this form are area-weighted averages. ILHR 63.18 (1)
- ☐ Windows and doors meet the air infiltration requirements. ILHR 63.11
- ☐ Fenestration U-values are certified by NFRC or from Table 63.18-3. ILHR 63.18 (2)(b)
- ☐ Fenestration shading coefficients are obtained from either the 1989 ASHRAE Handbook of Fundamentals or manufacturer's data. ILHR 63.18 (4)
- ☐ Exterior joints, cracks, and holes in the building envelope are caulked, gasketed, weather stripped, or otherwise sealed. ILHR 63.11
- ☐ Double entry vestibule? (Optional--check if provided)
- ☐ Windows with reflective glazing? (Optional---check if provided)

Prescriptive/Performance Requirements

Fenestration Properties	Design	Requirement If using Component Standards, see ACP Table Fig. 63.15-2
Window Area (WA) ILHR 63.05 (79)	_____	
Gross Wall Area (GWA) ILHR 63.05 (27) ILHR 63.18 (2)(b) & (3)	_____	
Window-Wall Ratio (WA/GWA) ILHR 63.05 (80)	_____	≤_____
Window U-value ILHR 63.18 (2)(b)	_____	
Window SCx ILHR 63.18 (4)	_____	
Skylights Installed	____ Yes	____ No

Additional Data

- Fenestration Worksheet (E-2)
- Opaque Surfaces Worksheet (E-3)
- Skylight Exemption Worksheet (E-4)
- Opaque Trade-off Worksheet (E-5)
- ☐ Marked Up ACP Table Included?
- ☐ Marked Up COMCheck-EZ Prescriptive Table Included?

Exterior Opaque Surfaces

Basic Requirements

- ☐ U-values reported on this form are area-weighted averages. ILHR 63.18 (1)
- ☐ An approved method which accounts for the thermal bridging of framing is used to calculate U-values for envelope assemblies. ILHR 63.18 (2)
- ☐ Exterior joints, cracks, and holes in the building envelope are caulked, gasketed, weather stripped, or otherwise sealed. ILHR 63.11
- ☐ Vapor barriers are installed to prevent deterioration of insulation performance. ILHR 63.11 (4)
- ☐ **Special Consideration** The skylight exemption is applied. ILHR 63.12
  (Attach Skylight Exemption Worksheet E-4)

Prescriptive/Performance Requirements

Wall Design	Design	Requirement
U-value ILHR 63.18 (2)(a)	_____	
Heat Capacity (HC) ILHR 63.05 (34) Appendix A63.15 (3)(b)	_____	
Insulation position (interior or exterior) ILHR 63.05 (44)	_____	

U-Values	Design	Requirement
Roof ILHR 63.18 (2)(a)	_____	≤_____
Walls adjacent to unconditioned space ILHR 63.18 (2)(d)	_____	≤_____
Floors over unconditioned space ILHR 63.18 (2)(a)	_____	≤_____

Additional Data

- ☐ COMCheck-EZ Report Included?
- ☐ ENVSTD Output Included?
- ☐ _____

Below Grade

Basic Requirements

- ☐ R-values reported on this form for slab-on-grade floors and walls below grade include only the insulating material. ILHR 63.15 (5) and (6)
- ☐ Insulation continuity is maintained. ILHR 63.15 (5)

Prescriptive/Performance Requirements

R-Values	Design	Requirement
Walls below grade ILHR 63.18 (2)(a)	_____	≥_____
Slab-on-grade ILHR 63.18 (2)(a)	_____	≥_____

The information you provide may be used by other agency programs [Privacy Law, s. 15.04 (1)(m)]. SBD-10373 (R.11/96)

FENESTRATION WORKSHEET E-2

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

Fenestration Orientation: _____
For System Standards Method

Area-Weighted Properties - ILHR 63.18

Fenestration **U-Value** (U_{of}) see ILHR 63.18 (2)(b)

Assembly ID	Area		U-Value		U•Area
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Total Area→			Total U•Area→		

$$\frac{\text{Total U•Area}}{\text{Total Area}} = \boxed{}$$

Fenestration **Shading Coefficient** (SC_x) see ILHR 63.18(4)

Assembly ID	Area		SC_x		SC_x•Area
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Total Area→			Total SC_x•Area→		

$$\frac{\text{Total } SC_x\text{•Area}}{\text{Total Area}} = \boxed{}$$

OPAQUE SURFACES WORKSHEET E-3

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

Exterior Wall Orientation: _____
For System Standards Method

Area-Weighted Properties - ILHR 63.18

Roofs see ILHR 63.18 (2)(a)

Assembly ID	Area		U-Value		U•Area
		X		=	
		X		=	
		X		=	
		X		=	
Total Area→		Total U•Area→			

$\frac{\text{Total U•Area}}{\text{Total Area}} =$

Walls Adjacent to Unconditioned Spaces see ILHR 63.18 (2)(a)

Assembly ID	Area		U-Value		U•Area
		X		=	
		X		=	
		X		=	
		X		=	
Total Area→		Total U•Area→			

$\frac{\text{Total U•Area}}{\text{Total Area}} =$

Above Grade Exterior Walls see ILHR 63.18 (2)(a)

Assembly ID	Area		U-Value		U•Area
		X		=	
		X		=	
		X		=	
		X		=	
Total Area→		Total U•Area→			

$\frac{\text{Total U•Area}}{\text{Total Area}} =$

Floors Over Unconditioned Spaces see ILHR 63.18 (2)(a)

Assembly ID	Area		U-Value		U•Area
		X		=	
		X		=	
		X		=	
		X		=	
Total Area→		Total U•Area→			

$\frac{\text{Total U•Area}}{\text{Total Area}} =$

SKYLIGHT EXEMPTION WORKSHEET E-4

Wisconsin
Department of Commerce

Project Plan #	Submitter's Name
Owner's Name SAMPLE	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

Skylight Exemption Requirements see ILHR 63.12	Skylight Design Data	Design	Requirement	Additional Data
☐ U-values of skylight curbs are less than 0.21 Btu/hr•ft²•°F.				☐ ENVSTD output
☐ Overall thermal transmittance of skylight assemblies is less than 0.70 Btu/hr•ft²•°F.	Skylight Area (SA)	____		☐ Calculation of allowed skylight percent.
	Gross Roof Area (GRA)	____		
	Skylight-to-Roof Ratio (SA/GRA)	____	≤____	
☐ Air leakage is less than 0.5 cfm/ft² of skylight.				☐ Sketch of shading devices.
☐ Automatic daylighting controls installed to reduce electric lighting by 50%.	Skylight U-value	____		
	Skylight VLT	____		
Special Consideration ☐ Shading devices used to block 50% of the solar gain during peak cooling conditions.	Lighting Power Density (LPD)/ft²	____		
	Design lighting level (fc)	____		

OPAQUE ASSEMBLY TRADE-OFF WORKSHEET E-5

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

DESIGN

Design - Roofs See ILHR 63.18 (2)(a)

Assembly ID	Area	U-Value	U•Area
	X	=	
	X	=	
	X	=	
	X	=	
Total Area→			

REQUIREMENT

Required - Roofs See ILHR 63.15 (4)

Total Area	Required U-Value	U•Area
X	=	

Design - Above Grade Exterior Walls
See ILHR 63.18 (2)(a)

Assembly ID	Area	U-Value	U•Area
	X	=	
	X	=	
	X	=	
	X	=	
Total Area→			

Required - Above Grade Exterior Walls
See ILHR 63.15 (4)

Total Area	Required U-Value	U•Area
X	=	

Design - Walls Adjacent to Unconditioned Space
See ILHR 63.18 (2)(a)

Assembly ID	Area	U-Value	U•Area
	X	=	
	X	=	
	X	=	
	X	=	
Total Area→			

Required - Walls Adjacent to Unconditioned Space See ILHR 63.15 (4)

Total Area	Required U-Value	U•Area
X	=	

Design - Floors Over Unconditioned Space
See ILHR 63.18 (2)(a)

Assembly ID	Area	U-Value	U•Area
	X	=	
	X	=	
	X	=	
	X	=	
Total Area→			

Required - Floors Over Unconditioned Space
See ILHR 63.15 (4)

Total Area	Required U-Value	U•Area
X	=	

∑ Total Design U•Area ☐ ≤ **∑ Total Required U•Area** ☐

The Total Design U•Area must be less than or equal to the Total Required U•Area

III. LIGHTING PLAN CHECK DOCUMENTS

This section describes the forms and procedures for documenting compliance with the lighting energy efficiency requirements of the code. It does not describe the details of the requirements; these are presented in the code. The following discussion is addressed to the designer preparing construction documents and compliance statements and to the plan reviewers who are examining those documents for compliance with the code.

The use of each form is briefly described below. The complete instructions for each form are presented in the following subsections.

L-1: Lighting Summary.

This information is required for every project involving lighting and lighting controls.

L-2: Exterior Lighting Power Worksheet.

This information is also required for every project involving lighting and lighting controls.

L-3: Installed Interior Lighting Power Worksheet.

This information is also required for every project involving lighting and lighting controls.

L-4: Complete Building/Area Category Methods Worksheet

This information will only be required when calculating the Interior Lighting Power Allowance using either the Complete Building Method or the Area Category Method.

L-5: Activity Method Worksheet.

This information will only be required when calculating the Interior Lighting Power Allowance using the activity method.

SBD-10377 (R.11/96)

LIGHTING SUMMARY L-1

The Lighting Summary (L-1) form is in four parts. A copy of these forms must be submitted to the Division along with the rest of the compliance submittal at the time of building plan review.

A. Lighting Summary (L-1) Part 1

Project Information

Part 1 of the Lighting Summary form asks for the project name and address and those people responsible for the lighting design and compliance forms. The project name and address should be the same as on the Building Envelope forms for the project.

Method of Interior Lighting Compliance

Check one of the four boxes:

Complete Building: If this box is checked, the Complete Building/Area Category Methods Worksheet (L-4) must be provided.

Area Category: If this box is checked, the Complete Building/Area Category Methods Worksheet (L-4) must be provided.

Activity: If this box is checked, the Activity Method Worksheet (L-5) must be provided.

Other: If compliance for the project is demonstrated through the System Analysis Design method of ss. ILHR 63.70-72 where all energy-using systems are considered together, check this box. A complete analysis must be provided.

Basic Requirements

All of the boxes in this column must be filled with either a check or "X" to indicate affirmation or "N/A" to indicate not applicable. For exterior lighting, enter the Exterior Lighting Power (ELP) and the Exterior Lighting Power Allowance (ELPA). These are obtained from the Exterior Lighting Power Worksheet (L-2).

Prescriptive/Performance Requirements

Enter the Installed Interior Lighting Power (ILP) and the Interior Lighting Power Allowance (ILPA). The ILP is obtained from the Interior Lighting Power Allowance Worksheet (L-3). The ILPA is obtained from the Complete Building/Area Category Methods Worksheet (L-4) if either the Complete Building Method or the Area Category Method is used. The ILPA is obtained from the Activity Method Worksheet (L-5) if the if the Activity Method is used. The lighting power control credits box is filled with a check or "X" when control credits are taken, otherwise enter "N/A."

Worksheets

Indicate which worksheets are attached.

B. Lighting Summary (L-1) Parts 2 to 4

Parts 2 to 4 of the Lighting Summary should be used to describe the installed lighting schedule, and the control devices associated with the building design. If necessary, make extra copies of the forms. The information on the L-1 parts 2 to 4 forms may be incorporated into equipment schedules on the plans along with light fixture information, rather than presented on the forms. If this is done, however, the same information should be included in one schedule and in a similar format as the forms.

Lighting Summary (L-1) Part 2

Luminaire Name: Record the description by name or type.

Lamp Type: Record the type of lamp (Incandescent, Fluorescent or High-Intensity discharge).

Watts/Lamp: Record the listed watts per lamp. For track and incandescent medium base socket fixture, see s. ILHR 63.45 (4) for how to determine the watts of these types of luminaires. If track lighting is used and the fixtures are not shown on the Installed Lighting Schedule, 45 watts per foot of track is entered in this column.

Ballasts Type: Record the ballast type -- Standard Energy-Saving Magnetic (S), Electronic High Frequency* (E) or Other* (O). If Electronic High Frequency or Other ballast types are used, the exact ballast type and model number should be specified.

Number/Luminaire: Record the number of ballasts installed in each Luminaire.

Mandatory Automatic Controls (L-1) Part 3

The Mandatory Automatic Controls portion is where those devices to meet the mandatory control requirements are listed. This would include devices for building shut-off, individual room control, and control of exterior lights. If some mandatory controls meet the requirements of s. ILHR 63.45 (2), the information should also be recorded on Part 4, Controls for Credit, if control credits are taken in the ILP calculation.

Control Location: Record the location of the control on the plans.

Control Identification: Record the symbol of the control on the plans.

Control Type: Record the type of certified control device used to meet the mandatory automatic control requirement.

Space Controlled: Record the location of controlled lights.

Typical controls may be covered by general notation.

Controls for Credit (L-1) Part 4

The Control for Credit portion is similar to the Mandatory Automatic Controls portion. The only difference is the last column.

Luminaires Controlled: Record the luminaire type and quantity controlled for credit.

Type: Record the same name as on the plans.

Number of Luminaires: Record the number of luminaires of that type that are controlled by the control type.

Typical controls may be covered by general notation.

Reviewer Notes

This space is used by the Department Plan Examiner during review of the submitted information.

EXTERIOR LIGHTING POWER WORKSHEET L-2

This worksheet is applicable to all projects.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Project Information section of the Lighting Summary (L-1) form.

Exterior Lighting Power Allowance -- ELPA

Area Description: This is a descriptor of each line. These descriptors match those in ILHR Table 63.43.

Allowance: This is the allowance in either W/ft^2 or watts of lineal feet. These allowances match those in ILHR Table 63.43.

Area or Lineal Feet in Proposed Design: Record the area (ft^2) or lineal footage (lf) as appropriate. These values should be project-wide values.

ELPA: Multiply the allowance from Column B by the area (or lineal footage) from Column C. Record the resultant ELPA in Column D. The values should be summed into the box marked "Total ELPA" at the bottom of the column.

Installed Exterior Lighting Power

Do not include luminaires that are exempted under s. ILHR 63.42.

Fixture Type: Record the description of the luminaires that are included.

Number of Luminaires: Record the total number of similar luminaires in the project.

Watts per Luminaire: Record the input wattage for each luminaire, including the ballast.

Installed Wattage: Multiply the number of luminaires from Column B by the wattage per luminaire from Column C. Enter the resultant installed wattage in Column D. The values from all entries in the column should be summed into the box marked "Total ELP" at the bottom of the column.

INSTALLED INTERIOR LIGHTING POWER WORKSHEET L-3

The Installed Interior Lighting Power Worksheet (L-3) will be completed and submitted with all applications. Either the Complete Building/Area Category Method Worksheet (L-4), the Activity Method Worksheet (L-5), or System Analysis Design documentation will be included with L-3, depending on the ILPA calculation method chosen.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Project Information section of the Lighting Summary (L-1) form.

Installed Interior Lighting Power

The calculated interior lighting power to be installed is determined by completing this form. Do not include luminaires that are exempted under s. ILHR 63.45. If necessary, make extra copies of this form. Use as many sheets as needed for the project.

Luminaire Name or ID No.: Record the name or symbol. It should be consistent with what is used in the lighting schedule.

Description: Record a short list of the technical features (i.e., luminaire size and type, lamp type and number, ballast type, lens/louver type).

Number of Luminaires: Record the quantity of each fixture type in the building. If track lighting is used and the fixtures are not shown on the plans, the length of the track is entered in this column.

(Tip: If control credits are to be used and all of any type of luminaires are not controlled or used with the same control, split the luminaries up over several lines, one for each control type.)

Watts per Luminaire: Record the total wattage of each luminaire type (including ballasts for fluorescent or high intensity discharge fixtures). For track and incandescent medium base socket fixtures, see s. ILHR 63.45 (4) for how to determine the watts of these types of luminaires. If track lighting is used and the fixtures are not shown on the Installed Lighting Schedule, 45 watts per foot of track is entered in this column. The wattage may be a standard value from the data in Table A63.45. Nonstandard values not from Table A63.45 must be substantiated with manufacturer's data sheets.

Total Watts: Record the product of the quantity of each luminaire listed times its watts per luminaire. If credit for automatic lighting controls is not sought, the interior lighting power is the sum of this Column E.

LPAF for Automatic Controls: If lighting power control credits are used, enter the appropriate lighting power adjustment factor from Table 63.45. If this credit is not used, leave Columns F, G, and H blank.

Control Credit: Multiply the total watts of luminaires associated with the control of Column E by the LPAF of Column F. Record the resultant control credit in Column G.

Adjusted Watts: Subtract the control credit of Column G from the total watts of Column E. Record the remainder in Column H.

The sum of Column E (or Column H if control credits are used) is the calculated interior lighting power for the building. If more than one sheet is used, enter the total for all sheets. This total cannot be greater than the Interior Lighting Power Allowance calculated on worksheet L-4 or L-5.

COMPLETE BUILDING/AREA CATEGORY METHODS WORKSHEET L-4

This worksheet will be attached to L-3 whenever the Complete Building Method or the Area Catgegory Method is used to calculate the Interior Lighting Power Allowance.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Project Information section of the Lighting Summary (L-1) form.

Interior Lighting Power Allowance

The Interior Lighting Power Allowance (ILPA) is determined by calculating the maximum total watts of lighting that may be installed. As noted on the Lighting Summary, L-1, there are four different methods that may be used. These methods may not be mixed in the same building permit application. This form is used when the ILPA is calculated by the Complete Building or Area Category Method.

Complete Building Method

This method may only be used when plans and specifications for the entire building are included in the application.

Building Type of Use: This is taken from Table 63.47 for the type of use of the building. If the building has a mixture of uses, the major use must be at least 80 percent of the conditioned floor area. If there is no major use, this method may not be used.

Watts per Square Foot: Record the allowed lighting power density in watts per square foot for this building type taken from ILHR Table 63.47.

Complete Building Area: Record the conditioned floor area of the entire building, including the conditioned floor area of minor occupancies. See 63.05 (6) for the definition of conditioned floor area.

Allowed Watts: Record the product of the watts per square foot times the complete building area. This becomes the Interior Lighting Power Allowance for the building.

Area Category Method

This method may be used when different primary function areas of a building are included in the application.

Primary Function: This is taken from ILHR Table 63.48 for the primary function of the area. If the building has a mixture of functions, each function area must be listed separately.

Watts per Square Foot: Record the allowed lighting power density watts per square foot for this building type taken from ILHR Table 63.48.

Area: Record the conditioned floor area (in square feet) of the primary function area measured from the inside of partitions.

Allowed Watts: Record the product of the watts per square foot times the primary function area. This becomes the allowed lighting power for the area.

The sum of the allowed lighting power for each primary function area is the Interior Lighting Power Allowance for the building.

ACTIVITY METHOD WORKSHEET L-5

This worksheet is applicable to all projects including those that use the Activity Method of s. ILHR 63.49. If necessary, make extra copies of this form. Use as many sheets as needed for the project.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Project Information section of the Lighting Summary (L-1) form.

Interior Lighting Power Allowance -- ILPA

Column A: Record the room number or room name. A range of similar rooms may also be entered.

Column B: Record the average ceiling height of the room in feet.

Column C: Record a description of each line item. The description shall match the appropriate description from Table 63.49.

Column D: Record the appropriate unit lighting power density (UPD) from Table 63.49.

Column E: Record the floor area of the room (inside wall to inside wall, ft^2). Where multiple rooms are included in single line, this is the average area of each type of room and not the total area of all rooms.

Column F: Record the area factor from either s. ILHR 63.49, Figure 63.49, or an applicable footnote from Table 63.49.

Column G: Record the number of similar spaces.

Column H: Multiply the UPD from Column D by the floor Column E by the area factor from Column F by the number of similar rooms from Column G. Record the resultant lighting power budget in Column H. The values from all entries in this column should be summed into the box marked "ILPA" at the bottom of the column.

LIGHTING SUMMARY L-1 Part 1 of 4

Wisconsin
Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

Method of Interior Lighting Compliance (check one)

- ☐ Complete Building s. ILHR 63.47
- ☐ Area Category s. ILHR 63.48
- ☐ Activity s. ILHR 63.49
- ☐ Other s. ILHR 63.70-72

Basic Requirements	Prescriptive/Performance	Additional Data
☐ Exterior lighting not intended for 24-hour use controlled by photocell. ILHR 63.50 (6)	Installed ELP ≤ ELPA ILHR 63.43	Exterior Lighting Power Worksheet (L-2)
☐ Shut-off control in each space enclosed by ceiling-high partitions. ILHR 63.50 (1) ☐ Controls to reduce lighting by 50%. ILHR 63.50 (2) ☐ Controls to reduce lighting in daylit areas. ILHR 63.50 (3) ☐ Shut-off controls. ILHR 63.50 (4) ☐ Display lighting separately switched on circuits ≤ 20 amps. ILHR 63.50 (5) ☐ Hotel/motel guest rooms have master switches at the main door to turn off lights and receptacles. ILHR 63.50 (7)		
☐ Exit signs have installed wattage of 20 watts or less. ILHR 63.52 ☐ Fluorescent lamps use multiple lamp ballasts with tandem wiring as required. ILHR 63.53	ILP ≤ ILPA ILHR 63.47, 63.48, or 63.49 ☐ Lighting Power Control Credits Applied. ILHR 63.45 ☐ Daylight Sensing Controls ☐ Occupancy Sensors ☐ Programmable Timing Controls ☐ Lumen Maintenance Controls	Interior Lighting Power Worksheet (L-3) Interior Lighting Power Allowance Worksheet (L-4) Activity Method Worksheet (L-5)

The information you provide may be used by other agency programs [Privacy Law, s. 15.04 (1)(m)]. SBD-10377 (R.11/96)

LIGHTING SUMMARY L-1 Part 2 of 4

Wisconsin Department of Commerce

SAMPLE

Project Plan #
Owner's Name
Building Location (Number & Street)
Submitter's Name
Date
☐ City ☐ Village ☐ Township of

INSTALLED LIGHTING SCHEDULE

Luminaire Name or ID Number (e.g., Type 1, Type 2, etc.)	Lamps					Ballasts				Note to Field
	Type			No. of Lamps	Watts/Lamp	Type			No./Luminaire	
	I	F	H			S	E*	O*		
	☐	☐	☐			☐	☐	☐		
	☐	☐	☐			☐	☐	☐		
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	☐	☐	☐			☐	☐	☐		

* Provide Supporting Documentation for total watts for lamp and ballast.

REVIEWER NOTES - For Department Use Only

LIGHTING SUMMARY L-1 Part 3 of 4

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

MANDATORY AUTOMATIC CONTROLS

(Optional if included on plans - Use as many sheets as necessary)

Control Location (Room #)	Control Identification	Control Type (Occupancy Sens., Daylight, etc.)	Space Controlled	Note to Field

REVIEWER NOTES - For Department Use Only

LIGHTING SUMMARY L-1 Part 4 of 4

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Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

CONTROLS FOR CREDIT

(Optional if included on plans - Use as many sheets as necessary)

Control Location (Room # or Dwg.#)	Control Identification	Control Type (Occupant, Daylight, Dimming, etc.)	Luminaires Controlled		Note to Field
			Type	# of Lumin.	

REVIEWER NOTES - For Department Use Only

EXTERIOR LIGHTING POWER WORKSHEET L-2

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

EXTERIOR LIGHTING POWER ALLOWANCE - ELPA (s. ILHR 63.43)

A	B	C	D
Area Description	Allowance (Table 6-1)	Area or Lineal Feet in Proposed Design	ELPA (B•C)
Exit (with or without canopy)	25 W/lf of door opening		
Entrance (without canopy)	30 W/lf of door opening		
High Traffic Entrance (with canopy)	10 W/ft^2 of canopied area		
Light Traffic Entrance (with canopy)	4 W/ft^2 of canopied area		
Loading Area	0.40 W/ft^2		
Loading Door	20 W/lf of door opening		
Building Exterior Surfaces or Facades	0.25 W/ft^2 of illuminated surface		
Storage and Nonmanufacturing Work	0.20 W/ft^2		
Casual Use Areas (gardens, etc.)	0.10 W/ft^2		
Private Driveways or Walkways	0.10 W/ft^2		
Public Driveways or Walkways	0.15 W/ft^2		
Private Parking Lots	0.12 W/ft^2		
Public Parking Lots	0.18 W/ft^2		
		Total ELPA →	

INSTALLED EXTERIOR LIGHTING POWER - ELP (s. ILHR 63.42)

A	B	C	D
Fixture Type	Number of Luminaires Installed	Watts per Luminaire (including ballast)	Installed Watts (B•C)
		Total Installed ELP →	

INSTALLED INTERIOR LIGHTING POWER WORKSHEET L-3

Wisconsin Department of Commerce

Project Plan #	Submitter's Name
Owner's Name SAMPLE	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

INSTALLED INTERIOR LIGHTING POWER (s. ILHR 63.45)

(Use as many sheets as necessary)

A Luminaire Name or ID No.	B Luminaire Description	C Number of Luminaires	D Watts per Luminaire	E Total Watts (C•D)	F LPFA for Auto Controls	G Control Credit (E•F)*	H Adjusted Watts (E-G)
			Total for this Sheet →		Total for this Sheet →		
			Total for all Sheets → (if control credits not taken)		Total for all Sheets → (Adjusted with control credits)		

*Note: If control credits are taken, Form L-1, Part 3 must be completed or controls must be indicated on the plans.

COMPLETE BUILDING/AREA CATEGORY METHOD WORKSHEET L-4

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

INTERIOR LIGHTING POWER ALLOWANCE (ILPA) (s.ILHR 63.47 or 63.48)

(Choose *one* method or use the Activity Method and Form L-5)

Complete Building Method

Building Type of Use From Table 63.47	Watts/ft²	Complete Bldg. Area	Allowed Watts

Area Category Method

Primary Function From Table 63.48	Watts/ft²	Area (ft sq.)	Allowed Watts
Totals →			
		ft² Area	Watts

ACTIVITY METHOD WORKSHEET L-5

Wisconsin Department of Commerce

Project Plan #	Submitter's Name
Owner's Name SAMPLE	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

INTERIOR LIGHTING POWER ALLOWANCE (ILPA) (s. ILHR 63.49)

(Use as many sheets as necessary)

A	B	C	D	E	F	G	H	I
Room Number or Name	Ceiling Height (ft)	Area/Activity Description (Table 63.49)	Note	UPD (W/ft²)	Floor Area (ft²)	Area Factor*	# of Identical Spaces	LPB (W) (E•F•G•H)

* Note b: Office Categories 2 & 3 AF shall not exceed 1.00
Note d: Office Category 1 AF shall not exceed 1.55
Area Factors less than 1.0, equal 1.0
Area Factors greater than 1.8 shall equal 1.8

Sheet Total ILPA → ____

Total ILPA from all sheets → ____

IV. HVAC SYSTEMS PLAN CHECK DOCUMENTS

This section describes the forms and procedures for documenting compliance of Heating, Ventilation and Air Conditioning (HVAC) systems with the energy efficiency requirements of the code. It does not describe the details of the requirements; these are presented in the code. Determination of compliance will be based on the actual code section. The following discussion is addressed to the designer preparing construction documents and compliance statements, and to the plan reviewers who examine those documents for compliance with the code.

Note: These forms cannot be used to demonstrate compliance with the Ch. ILHR 64 ventilation requirements. That information must be provided separately.

The use of each form is briefly described below. The complete instructions for each form are presented in the following subsections.

H-1: HVAC Systems Summary.

This information is required for every project involving heating, ventilation and air conditioning equipment & systems.

H-2: HVAC Prescriptive Worksheet.

This information is applicable to projects that demonstrate compliance through a prescriptive means by following the requirements of Subchapter IV. It is not applicable to projects that demonstrate compliance through the System Analysis Design method of ss. ILHR 63.70-72.

H-3: HVAC Equipment Summary.

This information is required for every project.

SBD-10375 (R.11/96)

HVAC SYSTEMS SUMMARY H-1

This worksheet is applicable to all projects

Project Information

This information asks for the project name and address and those people responsible for the HVAC design and compliance forms. The project name and address must match the information given on the building envelope forms. Check the box as indicated if the System Analysis Design method will be used to show compliance.

Basic Requirements Check List

All of the boxes in this column must be filled with either a check or "X" to indicate affirmation or "N/A" to indicate that the item or issue is not applicable.

Worksheet

If using the System Analysis Design method, the HVAC Prescriptive worksheet (H-2) does not need to be completed. Fill in the box with a check or "X" if it is included.

Special Considerations

Fill in these boxes with a check or "X" where applicable.

HVAC PRESCRIPTIVE WORKSHEET H-2

This worksheet provides detailed information on zone controls and economizer controls. It is not required if the System Analysis Design method is used.

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Basic Project Information section of the HVAC Systems Summary (H-1) form.

Prescriptive Requirements

Each of the requirements is organized in a similar fashion. A major check box certifies compliance with each requirement. Each one of these is followed by a series of minor check boxes that are used to identify exceptions to that requirement. All of the major check boxes must be filled in with either a check, "X," or "N/A." In addition, a check or "X" should be placed in each applicable exception box. On the line adjacent to these exception descriptions, identify the systems or equipment to which the exception applies.

HVAC EQUIPMENT SUMMARY H-3

Project Information

A box for basic project information and identification of the document author is provided in the upper part of this form. This should match the information contained in the Basic Project Information section of the HVAC Equipment Summary (H-1) form.

Equipment Efficiency Information

Each piece of HVAC equipment that has efficiency requirements under ASHARE 90.1 should be listed here. See Code Appendix A63.20 for reprinted standards.

System ID Number:	List the system identification number or zone identification number or other descriptor.
Unit Type and Category:	List the unit type and category from the appropriate table.
Table Number:	Give the table number, Table A63.20-1 through A63.20-15 of the Code Appendix, on which the equipment and its required efficiency are listed.
Rated Output (Btu/h):	This is the unit capacity (heating or cooling as appropriate) at rated conditions. The rating conditions should match those from the reference column of the corresponding table.
Unit Efficiency:	For each unit, list the efficiency of the selected unit at rated conditions on the left and the required minimum efficiency from the corresponding table on the right. Under "Rating Units" place "EER," "IPLV," "ET," etc., as applicable.

HVAC SYSTEMS WORKSHEET H-1

Wisconsin Department of Commerce

Project Plan # SAMPLE	Submitter's Name
Owner's Name	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

☐ Check here if using System Analysis Design (see ILHR 63.70-72)

	Basic Requirements Checklist	Additional Data
Design	☐ Load calculations using htg/clg outside design temperatures given in code or no lower/greater than ASHRAE's 99%/2.5% values or annualized 0.2%/0.5% values. ILHR 63.23 (3)	HVAC Prescriptive Worksheet (H-2)
Design	☐ Cooling pull-down/heating pick-up loads were either calculated or did not exceed 10%/30% of design load. ILHR 63.23 (7)	
Design	☐ Equipment is properly sized. ILHR 63.24	
Design	☐ Process loads are served by separate systems from comfort conditioning loads. ILHR 63.25	
Design	☐ HVAC fan and pumping system motors meet efficiency standards. ILHR 63.32	
Controls	☐ Temperature controls are provided as required: one for each HVAC system and individual controls for each thermal zone. ILHR 63.26	
Controls	☐ Thermostatic controls meet the setpoint adjustment requirements: heating down to 55°F, cooling setpoints up to 85°F, and deadbands of 5°F minimum. ILHR 63.26	
Controls	☐ Systems do not reheat, recool or mix air. ILHR 63.27*	
Controls	☐ Variable volume systems have minimum stops adjusted as required. ILHR 63.27*	
Controls	☐ Each system that does not need to operate continuously is provided with either automatic time or setback/setup controls. ILHR 63.27 (3)	
Controls	☐ Ventilation supply systems and exhaust systems are provided with either gravity or motorized dampers as required to limit infiltration during off hours. ILHR 64.19 (5)	
Controls	☐ Combustion air dampers provided per ILHR 64.09 (2).	
Controls	☐ A humidistat shall be provided if a system is equipped with a means for adding moisture to maintain specific humidity levels in a zone or zones. ILHR 63.28	
Controls	☐ Fan cooling systems employ air or water economizer controls. ILHR 63.31*	
Controls	☐ Heat pumps with supplementary heaters have controls to prevent heater operation when heating load can be met by heat pump. ILHR 63.22	
Completion & Construction	☐ Pipe insulation meets the requirements of ILHR Table 63.29-1. Duct insulation meets the requirements of Table 63.29-2. ILHR 63.29	
Completion & Construction	☐ The plans or specifications state the requirements for duct sealing. ILHR 64.34	
Completion & Construction	☐ Low and medium pressure supply ductwork which is located outside of the conditioned space is sealed in accordance with SMACNA Seal Class C. ILHR 64.34	
Completion & Construction	☐ Complying air and water system balancing procedures are spelled out on the plans or in the specifications. ILHR 64.53	
Completion & Construction	☐ Testing, adjusting and calibration of control systems is spelled out on the plans or in the specifications. ILHR 64.43 and ILHR 64.53	
Completion & Construction	☐ Plans or specifications require that equipment is provided with operation and maintenance manuals and system schematics. ILHR 64.52	

Special Considerations: ☐ Heat recovery utilized ☐ Continuous system operation required

* If the ASHRAE 90.1 Energy Cost Budget method is used for system analysis design, these items do not have to be met prescriptively. Complete documentation must be provided.

The information you provide may be used by other agency programs [Privacy Law, s. 15.04 (1)(m)]. SBD-10375 (R.11/96)

HVAC PRESCRIPTIVE WORKSHEET H-2

Wisconsin Department of Commerce

Project Plan #	Submitter's Name
Owner's Name SAMPLE	Date
Building Location (Number & Street)	☐ City ☐ Village ☐ Township of

Zone Controls - Constant Volume Systems ILHR 63.27

☐ Systems have controls which prevent simultaneous heating and cooling including: reheat, recool, mixing of heated and cooled airstreams, and simultaneous heating and cooling by separate systems within a zone.

System or Zone Number or ID

Exceptions

☐ 75% of reheat energy is from site-recovered or solar energy (provide documentation).

☐ System serves zones with process-driven humidity requirements.

☐ Multiple reheat systems serving multiple zones with controls or dual duct and multizone systems with controls to reset supply temperatures per Paragraphs (f), (g), or (n).

☐ Zones with a peak supply of 150 cfm or less or multizone systems with reheating or recooling limited to 5,000 cfm or 20%, whichever is less.

Zone Controls - Variable Volume Systems ILHR 63.27

☐ Before reheating or mixing of airstreams, zone controls reduce air supply to a minimum which is no larger than all of the following: 30% of the peak zone airflow, 0.4 cfm/ft^2, or minimum ventilation flow requirements of ILHR 64.05

System or Zone Number or ID

Exceptions

☐ There is no reheating or mixing of airstreams in these zones.

☐ Pressurization requirements prevent such reduction of airflow (provide documentation).

☐ 75% of reheat energy is from site-recovered or solar energy (provide documentation).

☐ System serves zones with process-driven humidity requirements.

☐ Zones with a peak supply of 150 cfm or less or multizone systems with reheating or recooling limited to 5,000 cfm or 20%, whichever is less.

Economizer Controls ILHR 63.31

☐ Fan-cooling systems are equipped with complying air or water economizers.

System Number or ID

Exceptions

☐ System capacity is less than either 2,000 cfm or 62,000 Btuh total cooling for a split system or less than 55,000 Btuh for all other types.

☐ Economizers would not save energy (provide documentation).

☐ Benefit of air economizer would be offset by increased energy use for humidity control.

HVAC EQUIPMENT SUMMARY H-3

Wisconsin
Department of Commerce

Project Plan #
SAMPLE
Owner's Name
Building Location (Number & Street)
Submitter's Name
Date
☐ City ☐ Village ☐ Township of

System ID Number	Unit Type and Category From Tables A63.20-1 to 15 of Ch. 63 Appendix	Table Number	Rated Output (Btu/hr)	Unit Efficiency		
				Rating Units	Rated	Min Required
						≥
						≥
						≥
						≥
						≥
						≥
						≥
						≥
						≥
						≥
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						≥
						≥
						≥
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						≥
						≥
						≥
						≥
						≥
						≥
						≥
						≥
						≥

Note: Where more than one requirement is made for a single piece of equipment (such as full-load and part-load ratings), provide information on subsequent lines.

Table A63.45–6

Typical Lighting Power for High–Intensity Discharge Lamps

Lamp Watts	Ballast Watts	Fixture Input Watts
Mercury Vapor Lamps		
75	15	90
100	18	118
175	25	200
250	35	285
400	50	450
1,000	75	1,075
Metal Halide Lamps		
32	6	38
50	13	63
70	18	88
100	25	125
175	35	210
250	42	292
400	55	455
1,000	70	1,070
High Pressure Sodium Lamps		
35	8	43
50	13	63
70	18	88
100	30	130
150	38	188
250	50	300
400	65	465
1,000	90	1,090

Notes: Source: Pacific Gas & Electric

Figures listed represent average values taken from Osram–Sylvania, Philips, and General Electric lamp catalogs.

Next page is numbered 387