
USACE / NAVFAC / AFCEA / NASA UFGS-26 09 23.00 40 (January 2007)

Preparing Activity: NASA Superseding
 UFGS-26 09 23.00 40 (June 2006)
 NASA-16529S (December 2005)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 9 October 2006

Latest change indicated by CHG tags

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SECTION 26 09 23.00 40

LIGHTING CONTROL DEVICES
01/07

NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This section covers photoconductive-lighting control devices for use with outdoor lighting systems.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's

Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA)

IES LM-48 (2001) Guide for Calibration of Photoelectric Control Devices

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C136.10 (1996) American National Standard for Roadway Lighting Equipment-Locking-Type Photocontrol Devices and Mating Receptacles - Physical and Electrical Interchangeability and Testing

UNDERWRITERS LABORATORIES (UL)

UL 773 (2002e4) Standard for Plug-In, Locking Type Photocontrols for Use With Area Lighting

1.2 GENERAL REQUIREMENTS

NOTE: If Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS is not included in the project specification, applicable requirements therefrom should be inserted and the following paragraph deleted.

Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS applies to work specified in this section.

Installation Drawings shall be submitted for light-sensitive control devices in accordance with the manufacturer's recommended instructions for installation.

1.3 SUBMITTALS

NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Manufacturer's catalog data shall be submitted for [Photoconductive Control Devices](#).

[Installation Drawings](#) shall be submitted for [Light-Sensitive Control Devices](#) in accordance with paragraph entitled, "General Requirements," of this section.

SD-06 Test Reports

Test reports shall be submitted for [System Operation Tests](#) in the presence of the Contracting Officer.

SD-08 Manufacturer's Instructions

Operational instructions shall be submitted for [Light-Sensitive Control Devices](#) consisting of the manufacturer's recommended procedures for operation.

PART 2 PRODUCTS

2.1 PHOTOCONDUCTIVE CONTROL DEVICES

Photoelectric control devices shall be in accordance with [IEEE C136.10 and] UL 773.

Photoconductive control devices for natural daylight and darkness control of incandescent, fluorescent, and mercury-vapor outdoor lighting luminaires shall include a photoconductive cell, thermal actuator, snap-action switch in a weatherproof housing.

Switch mechanism shall consist of a heavy-duty general-purpose precision snap-acting switch. Switch shall be single-pole, single-throw, with a minimum rating of 1,000-watts incandescent-lamp load and 1,200-volt-amperes reactive for vapor-lamp load at rated voltage and frequency.

Time delay in excess of 5 seconds shall be an available option.

Housing for light-sensitive control devices shall be molded from translucent butyrate or acrylic plastic materials and shall be fastened to the base with screws.

Control device, when attached to its mounting, shall be weatherproof and constructed to exclude beating rain, snow, dust, and insects and shall be capable of withstanding 96 percent relative humidity at 50 degrees C 122 degrees F for 48 hours under operating conditions.

Light-sensitive control devices shall be physically and electrically interchangeable with three-pole, 3-wire locking plug and receptacle connections to the line, load, and neutral conductors of the lighting circuit.

Device shall turn on within the limits of plus 100 to minus 50 percent of its setting, over a range of input voltage from 105 to 130 volts at rated frequency and ambient temperature, and at rated voltage and frequency over a range of temperature from minus 29 to 50 degrees C 85 to 122 degrees F, with relative humidities up to 96-percent throughout the temperature range.

Device shall be adjusted to operate within the limits of 9 to 13 lux 0.8 to 1.2 foot-candles, but shall be capable of calibration of the turn-on light level over a minimum range from 5 to 32 lux 0.5 to 3.0 foot-candles, and shall be adaptable for calibration up to 108 lux. 10 foot-candles. Ratio of turn-off light level to turn-on light level shall not exceed 5.

Instrument accuracy shall be maintained by proper calibration in accordance with IES LM-48.

Devices shall be rated at 120 or 277 volts, 60 hertz. Rated ambient temperature shall be 25 plus or minus 5 degrees C.

PART 3 EXECUTION

3.1 INSTALLATION

Photoconductive control devices shall be installed in accordance with the manufacturer's installation instructions.

3.2 FIELD TESTING

Photoconductive control devices shall be demonstrated to operate satisfactorily in the presence of the Contracting Officer.

[System Operation Tests](#) shall be performed in accordance with referenced standards in this section.

-- End of Section --