

Testing Services Price List

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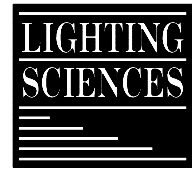
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Indoor Luminaires

Standard Test Report Includes:

- Intensity (candlepower) table for five planes
Separate tabulations provided for beam side and opposite-to-beam side, if different.
- Intensity (candlepower) polar graph for 0, 45 and 90 degree planes
For axially symmetric luminaires, mean intensity (candlepower) tables and graphs are provided.
- Output lumens
- Zonal lumens and percentages
- Efficiency
- Paint reflectance (if applicable)
- Spacing criteria, spacing to mounting height ratio
- Luminance table and summary
For axially symmetric luminaires, mean luminance tables and summaries are provided.
- Coefficients of utilization
- IES file
- "LSI Tested" service mark
- Luminaire description and diagram
- Operating watts at nominal volts (fluorescent, incandescent and LEDs)
- Lamp watts, nominal (HID)

Note: Test reports are available also in CIE format; please request details.



Indoor Luminaire Testing Prices:

| | |
|--|----------|
| Incandescent | \$395 |
| Each Additional Lamp in Luminaire | \$45 |
| Straight fluorescent with downlight only or uplight only: | |
| Up to four straight lamps | \$395 |
| More than four straight lamps | \$90 |
| HID and Compact Fluorescent: | |
| One lamp in luminaire | \$395 |
| Each additional lamp in luminaire | \$90 |
| Luminaires with both downlight and uplight: | |
| Add to above prices | \$90 |
| LED/SSL Luminaires (Absolute Testing; for more information see page 7) | \$395 |
| Additional Measurements/Reports: | |
| Visual Comfort Probability (VCP), with or without uplight, for any illuminance level | \$55 |
| Cone of light tabulation | \$50 |
| Wall and ceiling exitance coefficients | \$50 |
| Lighting design tables - number of luminaires for various illuminance levels in room sizes 20 x 20 ft. to 100 x 100 ft. | \$65 |
| Isolux diagram (zero room reflectances) | \$100 |
| Wall wash vertical illumination table | \$80 |
| Minimum bulb wall temperature | \$60 |
| Ballast case temperature | \$150 |
| Ballast installation charge | \$75 |
| Ballast factor measurements | \$100 |
| Non-quadrilaterally symmetric | \$75 |
| Additional test on same luminaire not requiring remounting or recalibration | Less 10% |

Outdoor Luminaires (excluding Floodlights)

Standard Test Report Includes:

- Cutoff classification
- IESNA Classification (Type I-IV, short, medium, long) and associated graph showing maximum and 50% maximum isocandela.
- Intensity (candlepower) summary table, with vertical and horizontal angles of maximum intensity identified
- Graph and table of intensity (candlepower) in the plane of maximum intensity (non-axially symmetric luminaires only)
- Graph and table of mean intensity (candlepower) in the vertical plane (axially symmetric luminaires only)
- Graph and table of intensity (candlepower) in the cone of the maximum intensity (non-axially symmetric luminaires only)
- Percentage output: Front (street) side and rear (house) side, downlight and uplight
- Efficiency: Downlight, Uplight and Total



- Utilization Factor (Coefficient of Utilization) graph and table for front (street) and rear (house) sides
- Iso-illuminance graph with mounting height conversion table (footcandles or lux)
- Illuminance table for a single luminaire

Note: Test reports are available also in CIE format; please request details.

Outdoor Luminaire (excluding Floodlights) Testing Prices:

| | |
|---|-------|
| Luminaires with downlight only or uplight only, single lamp: | |
| Axially symmetric distributions (Type V) | \$505 |
| Other distributions (measurements in 58 lateral planes) | \$590 |
| Luminaires with both downlight and uplight: | |
| Add to above prices | \$90 |
| Additional measurements/reports: | |
| Each additional lamp in luminaire | \$90 |
| Isocandela diagram (rectilinear or "Onion" diagram) | \$100 |
| Tilted luminaire report, available without re-testing luminaire | \$190 |
| Complete report including Isolux | \$200 |
| Isolux and utilization only | \$140 |

Floodlights

Standard Test Report Includes:

- IES/NEMA classification
- Maximum intensity (candlepower), vertical and horizontal location of maximum
- Field angle, field lumens and efficiency
- Beam angle, beam lumens and efficiency
- Total lumens and efficiency
- Spill light lumens
- Intensity table and graph through origin
- Isocandela diagram
- Table of zone center intensities and zonal lumens
- IES file
- "LSI Tested" service mark
- Luminaire description and diagram
- Operating watts at nominal volts (fluorescent, incandescent and LEDs)
- Lamp watts, nominal (HID)



Floodlight Testing Prices:

| | |
|---|-------|
| Axially symmetric distributions | \$490 |
| Other distributions, including totally asymmetric | \$670 |
| Additional measurements/reports: | |
| Iso-illuminance diagram | \$100 |

Spotlights and Tracklights

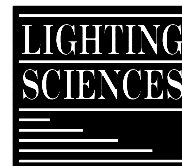
Note: All testing is performed assuming axial symmetry; for non-symmetrical distributions, see Floodlights above.

Standard Test Report Includes:

- Maximum intensity (candlepower)
- Beam center intensity (candlepower)
- Field angle, field lumens and efficiency
- Beam angle, beam lumens and efficiency
- Total lumens and efficiency
- Graph of intensity (candlepower) through origin
- Tabulation of intensity (candlepower) through origin vs. angle and cosine
- Cone of light tabulation – distance vs. beam center illuminance, beam diameter and beam edge illuminance
- Tabulation of distance versus illuminance, beam diameter and field diameter
- Lighting design tables – distance versus beam center illuminance, illuminated (beam) width, illuminated (beam) length, and spacing for aiming angles of 0, 30, 45 and 60 degrees
- IES file
- "LSI Tested" service mark
- Luminaire description and diagram
- Operating watts at nominal volts (fluorescent, incandescent and LEDs)
- Lamp watts, nominal (HID)

Spotlight and Tracklight Testing Prices:

| | |
|--|--------------|
| Lamp types other than double-ended HID | \$395 |
| Double-ended HID | Upon request |



Flashlights and Portable Lighting

Testing is performed in accordance with ANSI/NEMA standard FL1-2009. More extensive photometric testing is also available for the full beam distribution.

ANSI/NEMA FL1-2009 Testing

Three samples are required to be tested for compliance. *The below pricing includes three samples:*

| | |
|---|--------------|
| Photometric testing and report of Maximum Beam Distance and Peak Beam Intensity | \$450 |
| Run time on batteries | \$510 |
| Light output (total lumens) | \$590 |
| Impact resistance | \$150 |
| Water penetration rating: | |
| Water resistant | \$450 |
| Waterproof | \$420 |
| Submersible | Upon request |

Measurement of Entire Beam Report includes:

- Maximum intensity (candlepower)
- Beam center intensity (candlepower)
- Field angle, field lumens and efficiency
- Beam angle, beam lumens and efficiency
- Graph of intensity (candlepower) through origin
- Tabulation of intensity (candlepower) through origin vs. angle and cosine
- Cone of light tabulation – distance vs. beam center illuminance, beam diameter and beam edge illuminance
- Tabulation of distance versus field average illuminance, beam diameter and field diameter
- Field average illuminance
- Field uniformity (average/minimum illuminance)
- Bare lamp lumens and efficacy (incandescent lamps only)

Per sample \$395

Bare Lamps

Goniophotometer test and report includes:

- Intensity (candlepower) distribution table and graphs
- Zonal lumens
- Electrical: Volts, Amps, Watts
- Efficacy
- IES file \$325

Note: All bare lamp photometry is performed using a commercial ballast. For reference ballast, add \$125 per lamp.

For spectral testing, see next section.

Sphere Testing - Lumen Output, Electrical and Spectral Data

Applicable to luminaires or bare lamps. For Solid State Lighting (LEDs), see next section.

Option 1. Lumen Output and Electrical Data:

- Absolute lumen output
- Electrical: Volts, Amps, Watts
- Efficacy \$195

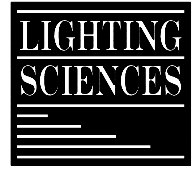
Option 2. Spectral Data:

- Spectral Power Distribution table and graph
- Correlated Color Temperature (CCT)
- Color Rendering Index (CRI)
- Chromaticity Coordinates (x, y, u', v')
- CIE Chromaticity Diagram \$225

Option 3. Combined Lumen Output, Electrical Data and Spectral Testing

- Combination of Options 1 and 2 above, performed at same time \$315

Note: Additional samples of the same product when tested at the same time may be offered at reduced cost; please request quotation.



Solid State Lighting Products

LED Lamps and Luminaires:

Testing services for Energy Star for SSL and the Quality Advocates Lighting Facts label include all required LM-79 services.

Please call for pricing.

Ultra-Violet Testing

New facilities have been installed for UV testing of lamps and luminaires, including total UV output, UV angular distribution and actinic spectrum computations.

More Testing Services

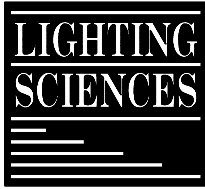
- Automotive lighting devices (Headlamps, Taillamps, Retroreflection, Motorcycle, etc.) -- Testing conducted to FMVSS-108, SAE, ECE, EEC and JIS (Japan).
- Aviation lighting devices (flashing and non-flashing sources) - Testing conducted to FAA and ICAO standards.
- Traffic signals (LED & Incandescent) - Conducted to ITE specifications
- Reflectance measurements (total, specular, diffuse)
- Electrical testing (ballasts, load controllers) conducted to IEC, ANSI, NEMA, etc.

Volume discounts are available – please inquire

Lighting Sciences Inc.

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www.lightingsciences.com



Testing Services Test Request Form

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480.991.9260

www.lightingsciences.com

Contact Information:

Company: _____

Name: _____

Address: _____

Title: _____

Phone: _____

Fax: _____

Purchase Order #: _____

Email: _____

Subscribe to mailing list

Luminaire Information:

Catalog Number: _____

Luminaire Type/Description: _____

Lamp Information:

We have many common lamps on hand & pre-seasoned. Please specify lamp(s) to be used:

Ballast:

For HID lamps we have ballasts in stock (no need to send).

HID – Use stock ballast

For fluorescent lamps the fixture must come with the ballast installed.

Fluorescent – Ballast installed

Fixture operating power:

Please specify the Volts or Amps AC/DC to be used: _____

Test Type:

Relative - for fixtures with incandescent, fluorescent, and HID Lamps

Absolute - for LED, induction and HID with electronic ballasts

Test Report:

Indoor Flood Spot

Roadway/Area with mounting height _____ feet (for isoilluminance graph)

Format: IES CIE

Options:

VCP Cone of light Bulb wall temp Ballast case temp

Special Instructions: _____
