



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

GROTE INDUSTRIES LLC
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Madison, IN 47250
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MECHANICAL

Valid To: November 30, 2023

Certificate Number: 5396.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following types of tests on Incandescent light assemblies, LED light assemblies, Wiring harness assemblies, Strobe lights, Para-distribution modules, Plastic, Polycarbonate, Acrylic, PC/ABS, Chrome plating, Electrical encapsulate, Rubber gaskets, Adhesives, Circuits boards, Electrical components, Metal fasteners:

Test Type/Test Equipment Parameters¹

Test Method(s)

Photometry

Photometer range: (0.00001 to 500,000) lx
Goniometer positioning resolution of 0.01°
Spectral range of (350 to 1,000) nm
Luminance measuring range of (0.1 to 5,000) cd/m²
Illuminance measuring range of (5 to 20,000) lx

FMVSS 108 (49 C.F.R. 571.108);
UNECE Regs. 3, 4, 6, 7, 19, 23, 38, 77, 87,
91, 112, 113, 119, 148, 149 (excludes
Adaptive Lighting Systems and Gas
Discharge Lighting). 150 (includes only
reflex reflector types IA, 1B, IIIA, IIIB and
IVA); GB 18408-2015, 11564-2008,
17509-2008, 5920-2008; VSCC 20, 29, 30,
31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,
52, 53, 56, 69, 73, 74; ADR 6/00, 45/01,
49/00, 1/00, 47/00, 74/00, 74/01, 48/00,
46/00

Environmental Tests

Temperature ranges from (-40 to 100) °C;

FMVSS 108 14.6.6; ECE Reg. 3 Annex
10, ECE Reg. 148 Annex 6, ECE Reg.
150 Annex 6

Temperature and Humidity: (33 to 95) %RH;
(10 to 90) %RH @ 50°C

SAE J1455 Sec. 4.2

Thermal Cycling: (-40 to 100) °C

SAE J1455 Sec. 4.1.3.1

Thermal Shock: (-40 to 100) °C

SAE J1455 Sec. 4.1.3.2 figure 2C

Corrosion

ASTM B117; FMVSS 108 14.5.4,
108 14.6.3

(A2LA Cert. No. 5396.01) 11/08/2021

Page 1 of 2

Test Type/Test Equipment Parameters¹

Test Method(s)

Dust

FMVSS 108 14.5.3

Vibration

Sine Sweep:
(15 to 2000) Hz; 50 g acceleration @ 5 ms duration;
4000 lbs. force 2” peak to peak displacement

SAE J560 2009 (sine)

Random:
(4 to 2000) Hz; 6 GRMS; 4000 lbs. force 2” peak to
peak displacement

ISO-16750-3 2012 (random)

Combined: Environments, Random and Sine with
Temperatures ranges: Temperature: (-50 to 100) ° C

Vibration (SAE J577 machine)

FMVSS 108 14.5.1, 108 14.6.8

Chemical / Fluid Resistance

FMVSS 108 14.6.2

Leak

Rain spray simulation

FMVSS 108 14.5.2

Electrical

Voltage Regulation Tolerance Testing

SAE J2139 Sec. 4.8/5.8,
J1455 Sec. 4.13.1 Aug. 2012

Mechanical Testing

Mechanical shock handling shock

SAE J1455 Aug 2012 4.11.3.1

Transit drop

SAE J1455 Aug 2012 4.11.3.2

¹In addition, customer-supplied test specifications and industry-accepted specifications may be used in conjunction with all the associated procedures.





Accredited Laboratory

A2LA has accredited

GROTE INDUSTRIES LLC

Madison, IN

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 8th day of November 2021

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5396.01
Valid to November 30, 2023

For the types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.