



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, 2021

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 test 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 Parameters**<sup>1</sup>

**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/m<sup>2</sup>  
Illuminance measuring range of (5 to 20,000) lx

FMVSS 108 (49 C.F.R. 571.108);  
UNECE Regs. 4, 6, 7, 19, 23, 38, 87, 91,  
112 & 113; 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

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

Dust

FMVSS 108 14.5.3

**Test Type/Test Equipment Parameters**<sup>1</sup>

**Test Method(s)**

**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

<sup>1</sup>In 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 20<sup>th</sup> day of November 2019

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, 2021

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