7373 Gateway Blvd, Newark, CA 94560

Office
650 802 8181

Application for Certification
2023 Model Year

Test Group: PLMUV00.0ZA2

Durability Group: PLMUEEVNNZA2

Evaporative Families: Not Applicable

Test Group Description: Battery Electric Vehicle

OBD Group: Not Applicable

Carlines Covered:
Lucid Air Grand Touring XR w/19" wheels
Lucid Air Grand Touring XR w/20" wheels
Lucid Air Grand Touring XR w/21" wheels
Lucid Air Grand Touring Performance w/21" wheels
Lucid Air Touring w/19" wheels
Lucid Air Touring w/20" wheels
Lucid Air Touring w/21" wheels
Lucid Air Pure w/19" wheels
Lucid Air Pure w/20" wheels
Lucid Air Pure w/21" wheels

Vehicle Category: Light-duty vehicle

Applicable standards: FEDERAL Tier 3 BIN 0 &
CALIFORNIA LEV 3 - ZEV

EPA Response Requested By: 1st November 2022

For Application related Questions, Contact: Nitin Rana (510) 284-5049
nitinrana@lucidmotors.com

Table of Contents

.04.00	Description of Controller/Inverter
.05.00	Description of Transmission
.06.00	Description of Climate Control System
.07.00	Description of Regenerative Braking System
.08.00	Description of Charger
.01	Proper Recharging Procedures
.02	Power requirements necessary to recharge vehicle
.09.00	Other Unique Features (e.g. solar panels)
.10.00	Description of Warning System(s) for maintenance / malfunction
.01	Cut-off terminal voltages for prevention of battery damage
09.00.00	(Reserved)
10.00.00	(Reserved)
11.00.00	Starting and Shifting schedules
12.00.00	Vehicle Description
.01.00	Motor & Battery description
13.00.00	Projected Sales
14.00.00	Request for Certificate
15.00.00	Fee filing details
16.00.00	(Reserved)
17.00.00	California requirements

01.00.00 Communications

01.01.00 **Mailing Information**

01.01.01 **Certification Information**

Lucid USA, Inc.
7373 Gateway Blvd
Newark CA 94560

01.01.02 **Responsible Official**

Primary Contact
Wulfer de Bruijn
Senior Technical Specialist, Efficiency & Systems
Lucid USA Inc.
7373 Gateway Blvd
Newark, CA 94560
(650) 336-4520
Email: wulferdebruijn@lucidmotors.com

Secondary Contact
Gareth Jones
Senior Manager, Homologation
Lucid USA Inc.
7373 Gateway Blvd
Newark, CA 94560
(510) 284-5266
Email: garethjones@lucidmotors.com

Additional Contacts
Nitin Rana
Senior Environmental Engineer, Homologation
Lucid USA Inc.
7373 Gateway Blvd
Newark, CA 94560
(510) 284-5049
Email: nitinrana@lucidmotors.com

Kevin Vincent
Associate General Counsel
Lucid USA Inc.
7373 Gateway Blvd
Newark, CA 94560
(703) 822-3390
Email: kevinvincent@lucidmotors.com

02.00.00 Confidential Information

02.01.00 Statement of Confidentiality

According to Class determination 3-78, the following sections in the below listed Applications are determined by Lucid to be kept as confidential.

08.00.00 General technical description
13.00.00 Projected Sales
15.00.00 Fee Filing Details

02.02.00 Test Vehicle Selection

All variants were tested

03.00.00 Facilities, equipment, and test procedure

03.00.01 Test Procedure

Testing was conducted at a third-party facility – per SAE J1634 procedure (as Revised 2012) Steady State at 55 mph

03.02.00 Battery Pre-conditioning Procedures

Cell manufacturer cycles the lithium ion battery cells before they are assembled into battery modules and then battery packs. No further pre-conditioning needed.

04.00.00 (Reserved)

05.00.00 (Reserved)

06.00.00 Maintenance

Will be provided in Owner's Manual

06.01.00 **Test Vehicle Scheduled Maintenance**

NA

06.02.00 **Recommended Customer Maintenance Schedule**

Will be provided in Owner's Manual

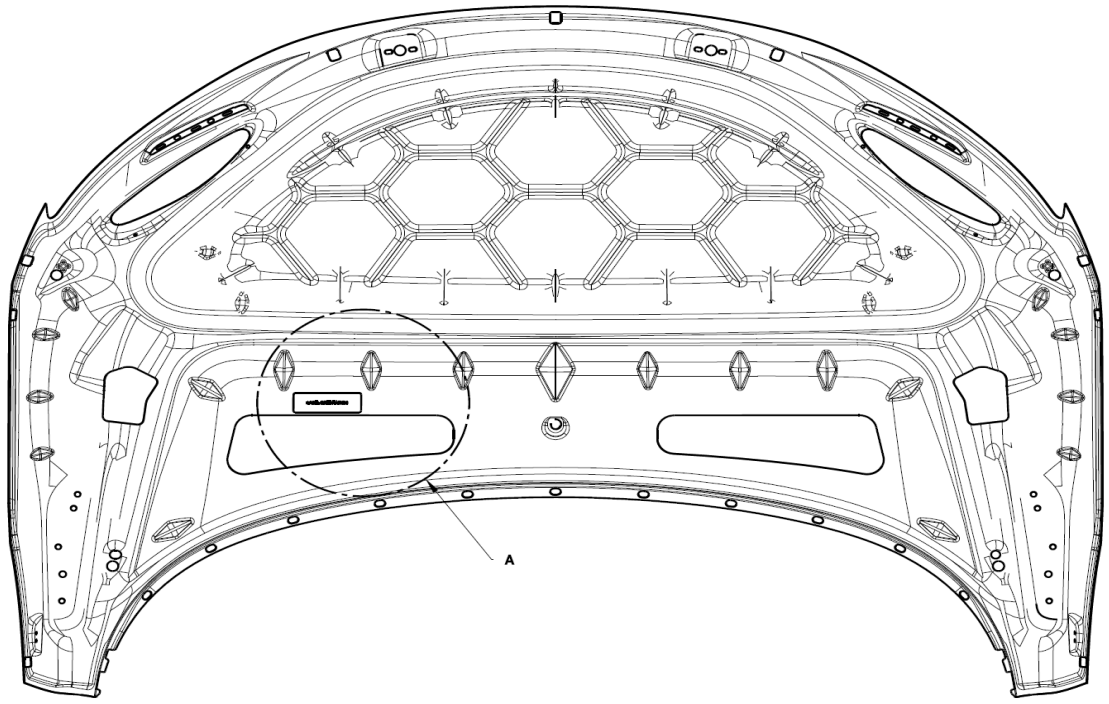
06.03.00 **Lubricants and Heater Fuels, if any**

Capacity (Front/Rear)	2600 ml/3000 ml
Make	Mobil1
Trade Name	Mobil1 EV Cooldrive 303(previously known as Mobil 1 LV HP)
Type	Synthetic
Viscosity @ -40C	8000 mPa-s (millipascal-seconds)
Viscosity @ 100C	5.7 cst (centistokes)

07.00.00 **Vehicle Emission Control Information (VECI) and Environmental Performance (EP) Labels**

07.01.00 **VECI & Monroney Label locations**

VECI label is located under the frunk



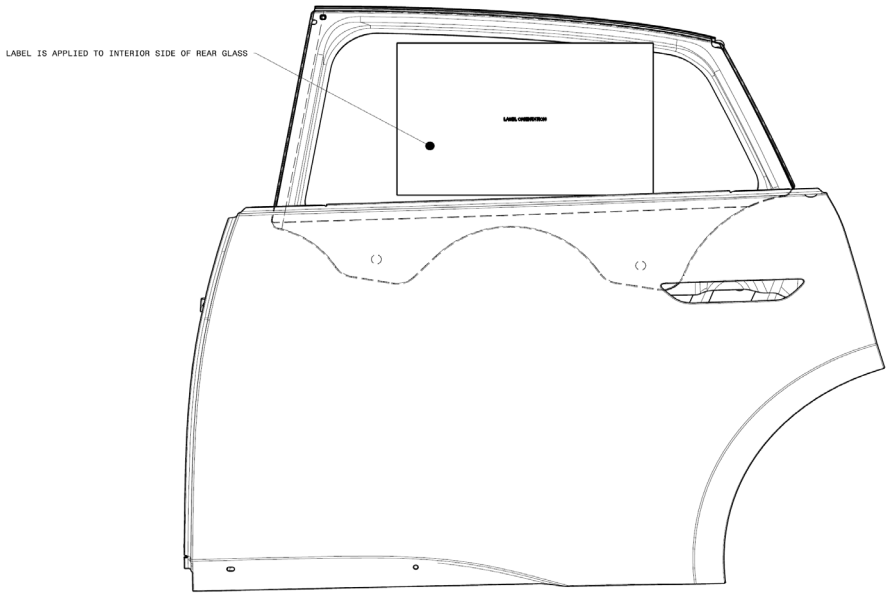
VECI Label Sample

VEHICLE EMISSION CONTROL INFORMATION /
INFORMATIONS SUR LE CONTRÔLE DES ÉMISSIONS DU VÉHICULE

THIS VEHICLE CONFORMS TO U.S. EPA REGULATIONS APPLICABLE TO 2023 MODEL YEAR NEW TIER 3 BIN 0 LIGHT DUTY VEHICLES AND TO CALIFORNIA REGULATIONS APPLICABLE TO 2023 MODEL YEAR NEW ZEV PASSENGER CARS.
CE VÉHICULE EST CONFORME AUX NORMES DE L'USEPA APPLICABLES AUX VÉHICULES LÉGERS TIER 3 BIN 0 DE L'ANNÉE-MODÈLE 2023 ET AUX NORMES CALIFORNIENNES APPLICABLES AUX VÉHICULES À ZÉRO ÉMISSIONS DE L'ANNÉE-MODÈLE 2023.

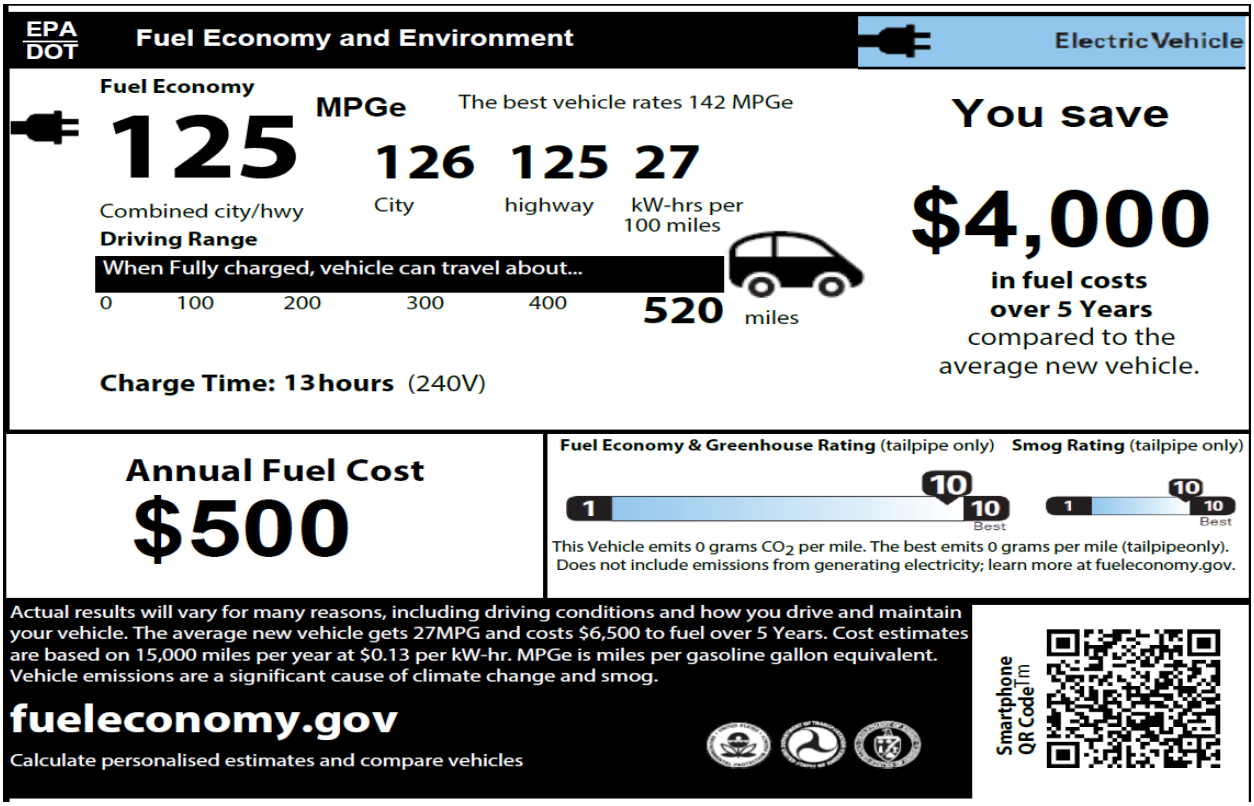
MODEL / MODÈLE:	**2023 LUCID AIR**
MOTOR / MOTEUR:	**3 PHASE AC**
TEST GROUP / GROUPE D'ESSAI:	**PLMUV00.0ZA2**

LUCID USA, INC.



Monroney Label is located on the left rear window of the vehicle

07.02.00 **Sample EP label**



07.03.00 **Statement of Compliance**

All vehicle within the test group conforms to US EPA Federal Tier 3 Bin 0 and State of California regulations applicable to 2023 Model Year new ZEV Light- duty vehicles.

08.08.00 **Description of Charger**

The Lucid Air can accept energy either from a permanent charging station or an outlet installed at the owner's residence or from various available power outlets while at work or other public locations. The Lucid Air can also send/receive energy from another Lucid vehicle (V2V), along with sending energy back to the home (V2H) and/or grid (V2G).

A charging cord will come included with the purchase of a Lucid Air, inclusive of adapters to charge off NEMA 5-15 and 14-50 outlets. These are swappable adapters with the vehicle-side plug being fixed as the SAE J1772 connector. Using the 5-15 outlet, the car can charge up to 3kW and with the 14-50 outlet, 9.6kW. This product communicates with the Lucid vehicle to ensure it's only delivering the appropriate available power and ensuring safe conditions to allow charging to occur.

In addition, Lucid will offer a more permanent, , the Lucid Connected Home Charging Station, that can be purchased separately from the vehicle and a licensed electrician will provide guidance on the power level it can be set to, based upon available power at the location of install. This charging station can supply current up to 80A @ 240V, or 19.2kW, and must be hardwired into the location's electrical panel. The unit will also be able to communicate directly with the vehicle to advise on available power to charge and discharge.

Beyond the Lucid Connected Home Charging Station, Lucid will also be selling an accessory product to support customers with NEMA 14-30 outlets, which is to be used with the Lucid Mobile Charging Cable that comes with the vehicle upon delivery. Lucid will also be selling a vehicle to vehicle (V2V) adapter accessory that will also leverage the Lucid Mobile Charging Cable to support discharging energy from a Lucid Air into another electric vehicle.

For vehicle trims of the Lucid Air equipped with the 22-module battery pack, the car can accept DC current up to 500A and ~900V from an off-board charging system/station. For vehicle trims of the Lucid Air that are equipped with the 18-module pack, the car can accept DC current up to 450A and ~750V from an off-board charging system/station.

08.08.01 **Proper Charging Procedures**

The charging system adjusts automatically to the available AC line voltage, frequency and current, within set parameters. The charging system in the vehicle works in conjunction with either of the three external charging stations; the wall-mounted charging station, permanently installed DC fast charging stations, or the included-with-purchase portable charging cord.

Anytime the charge port door is opened, the vehicle will prepare to enter the CHARGE state. Once the user connects either supply cable to the vehicle, the charging system signals to the vehicle that it is ready to deliver the charge. The vehicle locks the cable onto the vehicle and then indicates that it is ready to accept energy and charging will commence. Failure of any of these steps will result in fault condition and lack of charge.

CHARGING EXPERIENCE

Cable Communicating

Pulsing White Light

CHARGING EXPERIENCE

Charging

0% - 24%

25% - 49%

50% - 74%

75% - 99%

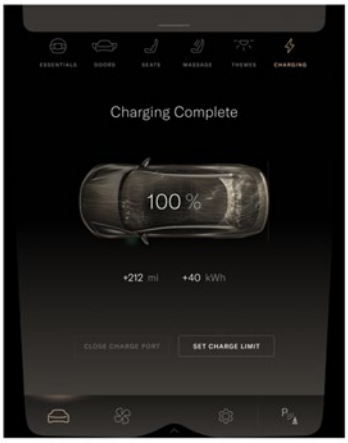
Pulsing Green Light

Battery Level Progression Animation

CHARGING EXPERIENCE

Charging Complete

Solid Green Light



CHARGING EXPERIENCE

Error State

Check HMI or mobile app for more info

Solid Red Light

If the battery temperature is near or below freezing temperatures, normal charging will not occur. The vehicle will identify this condition and will begin heating the battery coolant and circulating the coolant to raise the battery temperature to enable charge. When the pack temperature rises to a temperature within the allowable charging range, heating will reduce or stop, and charging will commence. The vehicle may also pull power from the source to heat the coolant without adding charge to the vehicle's battery itself.

08.08.02 **Power requirements necessary to recharge vehicle**

The Lucid Air comes with one on-board charger that is capable of a maximum of 80A, or 19.2kW.

08.09.00 **Other Unique Features**

The Lucid Air can additionally support charging in forms of Vehicle to Vehicle (V2V), Vehicle to Home/Building (V2H), and Vehicle to Grid (V2G).

08.10.00 **Description of Warning System(s) for Maintenance/Malfunction**

The Lucid Air is equipped with a LED bar next to the charging port to advise on issues and/or errors during the charging session, as well as charging progress. Additional details on the specific issues can be found within the owner's manual for the vehicle.

08.10.01 **Cut-off terminal voltages for prevention of battery damage**

The Battery Management System (BMS) monitors battery pack voltage by way of voltage sensors on each of the battery modules within the pack. It monitors these voltages continually to ensure the safe limits of operation of the battery cells. In the event of other systems in the Powertrain exhibiting a spike in voltage or current, the battery will self-protect by opening contactors and disabling the entire high voltage system in the vehicle.

09.00.00 (Reserved)

10.00.00 (Reserved)

11.00.00 Starting and Shifting Schedules

Starting: The vehicle does not require a key to be turned or a button to be pressed to start it. If a paired key fob, NFC card or phone is recognized when the driver’s door is
opened, the Cockpit and Pilot panels will power on indicating the vehicle is ready to operate.

Drive mode: While seating in the driver’s seat, press the brake pedal to put the car in Drive mode. The vehicle will search for a recognized keyfob, NFC card or phone. If a known device is detected, the vehicle can start. If no known device is detected, a message will be displayed on the instrument cluster “Keyfob not detected”

The display on the instrument cluster will change to show the Speedometer, Power meter and the PRND display. The indicator lights will briefly illuminate as a system check and then extinguish unless applicable.

The drive mode enabled indicator (telltale) will be displayed on the instrument cluster.
Selecting a Gear:

With the vehicle in Drive mode, move the right steering column lever up or down to select a gear. The instrument cluster will show the currently selected gear.

To select a gear when the vehicle is in P (Park), you must also press the brake pedal.
Note: If you try to select a gear when the current vehicle speed prohibits a gear change, a chime will sound, and a message will be displayed on the instrument cluster.
R (Reverse)
Push the lever up and release to select R. R can only be selected when the vehicle is stationary, or its forward speed is less than 5 mph (8 km/h).

N (Neutral)
Allows the vehicle to roll freely unless the brakes are applied. Push the lever up or down from the currently selected gear and release to select N.
Note: You must apply the brake pedal before D or R can be selected.

D (Drive)
Push the lever down and release to select D. You can only select D when the vehicle is stationary, or its speed is less than 5 mph (8 km/h) in reverse.

P (Park)
When P is selected, the parking brake is automatically applied.

With the vehicle stationary, you should press the end of the gear selector to select P.

Note: P is automatically engaged whenever you connect a charging cable to the charging port. This is to prevent the vehicle being moved while still connected.

Note: If the vehicle is in D or R, P will automatically be selected if you open the driver's door and get up from the driver's seat.

12.00.00 Vehicle Description

Carline	ETW (lbs.)	Tire Sizes	F0 [lbf]	F1 [lbf/(mph)]	F2 [lbf/(mph)^2]	TRL50	N/V	Axle Ratio
Air G Touring XR AWD w/19" wheels	5500	245/45R19 (F) 245/45R19 (R)	32.398	0.15113	0.01171	9.3	86.7	7.06:1
Air G Touring XR AWD w/20" wheels	5500	245/40R20 (F) 265/40R20 (R)	39.364	0.13153	0.01261	10.3	85.5	7.06:1
Air G Touring XR AWD w/21" wheels	5500	HL245/35R21 (F) HL265/35R21 (R)	39.364	0.13153	0.01261	10.3	85.7	7.06:1
Air Grand Touring Performance w/21” wheels	5500	HL245/35R21 (F) HL265/35R21 (R)	39.485	0.20807	0.01247	10.8	85.7	7.06:1
Air Touring AWD w/19” wheels	5250	245/45R19 (F) 245/45R19 (R)	30.926	0.14426	0.01176	9.3	86.7	7.06:1
Air Touring AWD w/20” wheels	5250	245/40R20 (F) 265/40R20 (R)	37.580	0.1260	0.01270	10.3	85.5	7.06:1
Air Touring AWD w/21” wheels	5250	HL245/35R21 (F) HL265/35R21 (R)	37.580	0.1260	0.01270	10.8	85.7	7.06:1
Air Pure AWD w/19” wheels	5250	245/45R19 (F) 245/45R19 (R)	30.926	0.14426	0.01176	9.3	86.7	7.06:1
Air Pure AWD w/20” wheels	5250	245/40R20 (F) 265/40R20 (R)	37.580	0.1260	0.01270	10.3	85.5	7.06:1
Air Pure AWD w/21” wheels	5250	HL245/35R21 (F) HL265/35R21 (R)	37.580	0.1260	0.01270	10.8	85.7	7.06:1

12.01.00 **Motor & Battery Description**

Parameter	**Air GT XR**	**Air GTP**	**Air Touring**	**Air Pure**
Drive motor Type (Front)	Permanent Magnet AC Motor	Permanent Magnet AC Motor	Permanent Magnet AC Motor	Permanent Magnet AC Motor
Drive motor Type (Rear)	Permanent Magnet AC Motor	Permanent Magnet AC Motor	Permanent Magnet AC Motor	Permanent Magnet AC Motor
Number of Drive Motor (s)	2	2	2	2
Rated Motor Power (KW) Front / Rear	178 kW / 433 kW	350 kW / 433 kW	133 KW / 341 KW	133 KW / 341 KW
Drive type (AWD/2WD/4WD)	AWD	AWD	AWD	AWD
Regenerative Braking (Yes/No)	Yes	Yes	Yes	Yes
Driver Controlled Regen Braking (Yes/No)	Yes	Yes	Yes	Yes
Rated Horsepower (hp)	819	1050	620	480
Number of Battery Modules	22	22	18	18
Total number of Cells	6600	6600	5400	5400
Nominal Battery Energy Capacity (kWh)	112	118	92	92
Nominal voltage (V)	800	800	660	660

14.00.00 Request for Certificate

Mr. Jim Snyder
Compliance Division
Office of Mobile Sources
U. S. Environmental Protection Agency
2000 Traverwood Drive
Ann Arbor, MI 48105

Subject: Request for updated Certificate of Conformity – Lucid USA, Inc. 2023 Test Group PLMUV00.0ZA2

Dear Mr. Snyder,

Lucid hereby submits, with this letter, the model year 2023 running change application for updated Certificate of Conformity for the following Test Group: PLMUV00.0ZA2

EPA Standard: Tier 3 Bin 0 Federal California Standard: LEV III ZEV California

Certification Fee Filing Form Copy of the Certification Fee filing form is added in section 15 of the electronic application.

Lucid believes all vehicles within this test group comply with all applicable regulations and are in accordance with the provisions of 40 CFR 86.

Our final application is included in the electronic application.

Please review this information and reach out if you have any questions regarding the request for a Certificate of Conformity.

Sincerely,
Wulfer de Bruijn

Mr. A. Lyons, Chief
Emissions Certification and Compliance Division
Air Resources Board
9480 Telstar Avenue, Suite 4
El Monte, CA 91731

Dear Mr. Lyons:

Subject: Request for updated Executive Order – Lucid USA, Inc.
2023 Test Group PLMUV00.0ZA2

Lucid USA, Inc. requests that CARB issue an updated executive order for the PLMUV00.0ZA2 test group. Lucid requests that the CARB treat the information contained in this running change application, or information subsequently submitted for inclusion in this application, as confidential business information pursuant to the California Public Records Act and Sections 91000-91022 of Title 17 of the California Code of Regulations.

The new EPA certificate of conformity for this test group will be submitted to e-FILE when it becomes available.

Please review this information and reach out if you have any questions regarding the request for an executive order.

Sincerely,
Wulfer De Bruijn

16.00.00 (Reserved)

17.00.00 CALIFORNIA REQUIREMENTS

Statement of Compliance

Lucid states, this Test Group containing All Electric Vehicles in this application, tailpipe emissions of regulated pollutants from which are deemed to be zero with reference to 40 CFR 86.1829-15(f), based on our engineering judgement, comply with all the requirements of 40 CFR Part 86 Subpart S instead of submitting test data as allowed by § 86.1829-01(b)(4) and 40 CFR 86.1829-15(f).

This vehicle conforms to US EPA Federal Tier 3 Bin 0 and State of California regulations applicable to 2023 Model Year new ZEV Light-duty Vehicles.

Test Group: PLMUV00.0ZA2

Information provided in Supplemental Data Sheet

VEHICLE SAFETY

All information related to the safe operation of the vehicle can be found in Vehicle Owner's Manual Handbook. It will be submitted when it becomes available

SAFE HANDLING OF BATTERY SYSTEM

Handling

Pack should not be exposed to external abuse such as, but not limited to mechanical compression, puncturing, external short circuit, overcharge or over discharge. They should be kept within normal operating temperature, i.e. -30 to + 60°C.

The pack is protected from external mechanical aggression by a robust casing which is isolated from the High Voltage traction chain. The pack enclosure should not be opened since it would expose live high voltage parts.

The cells contained within the pack are hermetically sealed and will not expose electrolyte or electrode material.

Storage

Battery packs should be stored in their packaging or in appropriate racks designed for that purpose. The packs should not be exposed to heat source or direct sunlight for long period of time. They should also be protected from rain or snowfall by being stored indoors.

Battery crates should not be stacked by more than 2 packages high. To preserve the battery life cycle, storage at SOC higher than 50% and temperature higher than 60°C is not recommended.

Transport

Lithium ion batteries are regulated as Class 9 Miscellaneous dangerous goods (also known as “hazardous materials”) pursuant to the International Civil Aviation Organization. (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air, International Air Transport Association (IATA) Dangerous Goods Regulations, the International Maritime Dangerous Goods (IMDG) Code, European Agreements concerning the International Carriage of Dangerous Goods by Rail (RID) and Road (ADR), and applicable national regulations such as the USA’s hazardous materials regulations (see 49 CFR 173.185).

Supplemental Data

Please refer to E-cert and CBI application

Certification Summary Information Report

Manufacturer	Lucid USA, Inc.	**Manufacturer Code**	LMU
Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--
Certificate Number	--	**CARB Executive Order #**	--
Certificate Issue Date	--	**Certificate Revision Date**	--
Certificate Effective Date	--	**Conditional Certificate**	--
CSI Revision #	--	**CSI Submission/Revision Date**	10/24/2022 05:46:27 AM
Model Year	2023		

Test Group Information

CSI Type	Running Change	**Running Change Reference Number**	01
GHG Exempt Status	Not Exempt		

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Electricity	--	--

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Rechargeable Energy Storage System Indicator**	Yes
Multiple Fuel Combustion	--	**Off-board Charge Capable Indicator**	Yes
Fuel Cell Indicator	No	**EPA Vehicle Class**	LDV
Federal Clean Fuel Vehicle	Yes	**Federal Clean Fuel Vehicle Standard**	ZEV
Federal Clean Fuel Vehicle ILEV	Yes	**California Partial Zero Emissions Vehicle Indicator**	--
Durability Group Name	PLMUEEVNNZA2	**Durability Group Equivalency Factor**	1
Reduced Fee Test Group	No	**Certification Region Code(s)**	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	10/01/2022	**CAP2000 Conditional Certificate?**	N/A
Independent Commercial Importer?	--	**Alternative Fuel Converter Certificate?**	--
SFTP Federal Composite Compliance Identifier	Tier 3	**SFTP Tier 2 Composite CO Option**	--
SFTP LEV-III Composite Compliance Indicator	Yes		
OBD Compliance Type	CARB	**OBD Demonstration Vehicle Test Group**	PLMUV00.0ZA2
Test Group OBD Compliance Level	Full - no deficiencies	**Number of Test Group OBD Deficiencies**	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	Evaporative/Refueling Family	--

Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Lucid USA, Inc.	2 - Lucid USA Inc.	10 - Air Touring AWD w/19" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	5 - Air G Touring XR AWD w/19" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	14 - Air Pure AWD w/20" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	6 - Air G Touring XR AWD w/21" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	11 - Air Touring AWD w/20" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	6 - Air G Touring XR AWD w/21" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	8 - Air GT P AWD w/21" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	9 - Air G Touring XR AWD w/20" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	5 - Air G Touring XR AWD w/19" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	12 - Air Touring AWD w/21" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	10 - Air Touring AWD w/19" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	11 - Air Touring AWD w/20" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	13 - Air Pure AWD w/19" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	15 - Air Pure AWD w/21" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	8 - Air GT P AWD w/21" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	12 - Air Touring AWD w/21" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	15 - Air Pure AWD w/21" wheels	Federal	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	13 - Air Pure AWD w/19" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Lucid USA, Inc.	2 - Lucid USA Inc.	9 - Air G Touring XR AWD w/20" wheels	Federal	All Wheel Drive	Automatic	1	No

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	Evaporative/Refueling Family	--

Lucid USA, Inc.	2 - Lucid USA Inc.	14 - Air Pure AWD w/20" wheels	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No

Engine Description

Hybrid Type	--	**Hybrid Description**	--
Engine Type	--	**Mfr Engine Description**	--
Engine Block Arrangement	--	**Mfr Engine Block Arrangement Description**	--
Camless Valvetrain Indicator	--	**Oil Viscosity/Classification**	
Number of Cylinders/Rotors	--	**Mechanically Variable Compression Ratio Indicator**	--

After Treatment Device(s) (ATD)

Mfr After Treatment Device (ATD) Comments	--
Direct Ozone Reduction (DOR) Device	--
Mfr Emission Control Device Comments	--

Official Test Numbers

Test Group Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity	--	--	--	--	--	--	--	--	--	--

Hybrid Electric Vehicle And Fuel Cell Information

Rechargable Energy Storage System	Battery(s)	**Rechargable Energy Storage System, if Other**	--
Battery Type	Lithium Ion	**Number of Battery Packs**	1
Total Voltage of Battery Packs	800	**Battery Energy Capacity**	150
Battery Specific Energy	171	**Battery Charger Type**	Both
Number of Capacitors	--	**Capacitor Rating (In Farads)**	--
Mfr Capacitor Comments	--		
Hydraulic System Description	--		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Both	**Driver Controlled Regenerative Braking**	Yes
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	2		
Motor/Generator Type 1	Permanent Magnet AC Motor	**Rated Motor/Generator Power**	370
Motor/Generator Type 2	Permanent Magnet AC Motor	**Rated Motor/Generator Power**	459
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	**Usable H2 Fill Capacity (kg)**	--
Mfr Hybrid Electric/ Electric Vehicle Comments	--		

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Emission Data Vehicle Information

Vehicle ID / Configuration	2022111 / 1	**Manufacturer Vehicle Configuration Number**	1
Original Test Group Name	NLMUV00.0ZA2	**Original Evaporative/Refueling Family**	--
Original Test Vehicle Model Year	2022		

Vehicle Model

Represented Test Vehicle Make	2022	**Represented Test Vehicle Model**	Lucid Air Dream P

Leak Family Details

Leak Family Identifier	--	**Leak Family Name**	--

Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	Yes		
Odometer Correction -- Initial	1	**Odometer Correction Factor**	1
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	ZA2	**Rated Horsepower**	1111
Displacement (liters)	0.001		
Air Aspiration Method	Naturally Aspirated	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	--	**Air Aspiration Device Configuration**	--
Charge Air Cooler Type	--	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	5203	**Equivalent Test Weight (pounds)**	5500
GVWR (lbs)	6283	**N/V Ratio**	85.7
Axle Ratio	7.06		
Transmission Type	Automatic	**# of Transmission Gears**	1
Transmission Lockup	No	**Creeper Gear**	No

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	Evaporative/Refueling Family	--

Dynamometer Coefficients:

Coefficient Category	Target Coefficients A (lbf)	Target Coefficients B (lbf/mph)	Target Coefficients C (lbf/mph**2)	Set Coefficients A (lbf)	Set Coefficients B (lbf/mph)	Set Coefficients C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap	39.49	0.2081	0.01247	-8.19	0.0525	0.01107	10.8
Cold CO	43.43	0.2289	0.01372	-17.59	-0.0773	0.01242	N/A
US06	39.49	0.2081	0.01247	-8.19	0.0525	0.01107	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments --

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**NLMU10071374**	**Test Procedure**	**2 - CVS 75 and later (w/o can. load)**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	04/28/2021	**Fuel**	Electricity
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	2988	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.56645	--
DT-EER (Drive Trace Energy Economy Rating)	-0.63448	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.06844	--
MFR FE (Manufacturer Fuel Economy)	23.427	143.851112

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	0

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments 5-cycle test data vehicle MY22 Air Dream P w 21" wheels: CVS75 and Later Ac wh/mi Bag1FE: 234.27 Ac wh/mi Bag2FE: 205.69 Ac wh/mi Bag3FE: 219.93 Ac wh/mi Bag4FE: 200.30

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	Evaporative/Refueling Family	--

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	--	1	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	--	1	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	--	1	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	--	1	0	--	--

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Test #	**NLMU10071375**	**Test Procedure**	**3 - HWFE**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	04/24/2021	**Fuel**	N/A
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	2988	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.06203	--
DT-EER (Drive Trace Energy Economy Rating)	-0.43928	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.85724	--
MFR FE (Manufacturer Fuel Economy)	20.064	167.9625199

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	0

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments 5-cycle test data vehicle MY22 Dream P w 21" wheels Ac wh/mi Bag1FE: 200.64 Ac wh/mi Bag2FE: 195.73

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**NLMU10071376**	**Test Procedure**	**90 - US06**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	04/24/2021	**Fuel**	N/A
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	2988	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.74668	--
DT-EER (Drive Trace Energy Economy Rating)	-0.66751	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.48552	--
MFR FE (Manufacturer Fuel Economy)	29.715	113.4107353
NOX (Nitrogen Oxide)	0	--
NMOG (Non-methane organic gases)	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments 5-cycle test data vehicle MY22 Dream P w 21" wheels: US06 Combo Ac wh/mi City Bag1FE: 297.15 Ac wh/mi HWY Bag2FE: 247.52 Ac wh/mi City Bag3FE: 297.55 Ac wh/mi HWY Bag4FE: 246.92

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**NLMU10071377**	**Test Procedure**	**95 - SC03**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	04/24/2021	**Fuel**	N/A
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3039	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.32709	--
DT-EER (Drive Trace Energy Economy Rating)	-0.6989	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.71917	--
MFR FE (Manufacturer Fuel Economy)	24.429	137.9507962
NOX (Nitrogen Oxide)	0	--
NMOG (Non-methane organic gases)	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments 5-cycle test data vehicle MY22 Dream P w 21" wheels: SC03 Wh/mi FE: 244.29

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**NLMU10071372**	**Test Procedure**	**81 - Charge Depleting UDDS**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	04/28/2021	**Fuel**	N/A
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	2113	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	137.312
Charge Depleting Range (Calculated miles)	598.31	**Charge Depleting Range (Actual miles)**	598.31
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	598.31		
Number of Charge Depleting Bags/Phases Conducted	4	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon Monoxide	0
2	Carbon dioxide	0
3	Carbon-Related Exhaust Emissions	0
4	Drive Trace Absolute Speed Change Rating	0.2178
5	Drive Trace Energy Economy Rating	0.6936
6	Drive Trace Inertia Work Ratio Rating	0.547
7	Manufacturer Fuel Economy	146.86

Manufacturer Test Comments --

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**NLMU10071373**	**Test Procedure**	**84 - Charge Depleting Highway**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	04/28/2021	**Fuel**	Electricity
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	2113	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	137.312
Charge Depleting Range (Calculated miles)	604.37	**Charge Depleting Range (Actual miles)**	604.37
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	604.37		
Number of Charge Depleting Bags/Phases Conducted	2	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon Monoxide	0
2	Carbon dioxide	0
3	Carbon-Related Exhaust Emissions	0
4	Drive Trace Absolute Speed Change Rating	3.2176
5	Drive Trace Energy Economy Rating	2.1546
6	Drive Trace Inertia Work Ratio Rating	3.1396
7	Manufacturer Fuel Economy	148.35

Manufacturer Test Comments --

Certification Summary Information Report

Test Group PLMUV00.0ZA2 **Evaporative/Refueling Family** --

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**NLMU10071415**	**Test Procedure**	**86 - Charge Depleting 20 Degree F FTP**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	05/25/2021	**Fuel**	N/A
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3046	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	112.445
Charge Depleting Range (Calculated miles)	305.5	**Charge Depleting Range (Actual miles)**	305.5
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	305.5		
Number of Charge Depleting Bags/Phases Conducted	41	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon Monoxide	0
2	Carbon dioxide	0
3	Carbon-Related Exhaust Emissions	0
4	Drive Trace Absolute Speed Change Rating	0.94857
5	Drive Trace Energy Economy Rating	0.54785
6	Drive Trace Inertia Work Ratio Rating	1.15876
7	Manufacturer Fuel Economy	29.037
8	System End State of Charge Watt-hours	88.69862
9	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Recharge Event Energy energy is an estimated value generated from cold 20 Degree FTP test and the energy efficiency from MCT test. Detailed Charge Depleting 20 Degree F FTP test data has already been submitted to EPA

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Emission Data Vehicle Information

Vehicle ID / Configuration	202214319 / 1	**Manufacturer Vehicle Configuration Number**	1
Original Test Group Name	NLMUV00.0ZA2	**Original Evaporative/Refueling Family**	--
Original Test Vehicle Model Year	2022		

Vehicle Model

Represented Test Vehicle Make	2022	**Represented Test Vehicle Model**	Lucid Air Grand Touring

Leak Family Details

Leak Family Identifier	--	**Leak Family Name**	--

Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	Yes		
Odometer Correction -- Initial	1	**Odometer Correction Factor**	1
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	ZA2	**Rated Horsepower**	819
Displacement (liters)	0.001		
Air Aspiration Method	Naturally Aspirated	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	--	**Air Aspiration Device Configuration**	--
Charge Air Cooler Type	--	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	5203	**Equivalent Test Weight (pounds)**	5500
GVWR (lbs)	6283	**N/V Ratio**	85.7
Axle Ratio	7.06		
Transmission Type	Automatic	**# of Transmission Gears**	1
Transmission Lockup	No	**Creeper Gear**	No

Dynamometer Coefficients:

	Target Coefficients			Set Coefficients			
Coefficient Category	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients**
City/Highway/Evap	39.36	0.1315	0.01261	-4.35	-0.078	0.01136	10.3
US06	39.36	0.1315	0.01261	-4.35	-0.078	0.01136	N/A

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Emission Control Device Comments	--
Manufacturer Test Vehicle Comments	--

Test #	**NLMU10071458**	**Test Procedure**	**81 - Charge Depleting UDDS**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	08/27/2021	**Fuel**	N/A
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3098	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	130.3
Charge Depleting Range (Calculated miles)	622	**Charge Depleting Range (Actual miles)**	622
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	622		
Number of Charge Depleting Bags/Phases Conducted	4	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon Monoxide	0
2	Carbon dioxide	0
3	Carbon-Related Exhaust Emissions	0
4	Drive Trace Absolute Speed Change Rating	-1.8565
5	Drive Trace Energy Economy Rating	-1.3854
6	Drive Trace Inertia Work Ratio Rating	-2.0368
7	Manufacturer Fuel Economy	149.26

Manufacturer Test Comments --

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**NLMU10071460**	**Test Procedure**	**84 - Charge Depleting Highway**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	08/27/2021	**Fuel**	Electricity
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3098	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	130.3
Charge Depleting Range (Calculated miles)	630	**Charge Depleting Range (Actual miles)**	630
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	630		
Number of Charge Depleting Bags/Phases Conducted	2	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon Monoxide	0
2	Carbon dioxide	0
3	Carbon-Related Exhaust Emissions	0
4	Drive Trace Absolute Speed Change Rating	3.5555
5	Drive Trace Energy Economy Rating	1.1642
6	Drive Trace Inertia Work Ratio Rating	4.5167
7	Manufacturer Fuel Economy	151.21

Manufacturer Test Comments --

Certification Summary Information Report

Test Group PLMUV00.0ZA2 **Evaporative/Refueling Family** --

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Emission Data Vehicle Information

Vehicle ID / Configuration	2023252121 / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	PLMUV00.0ZA2	**Original Evaporative/Refueling Family**	--
Original Test Vehicle Model Year	2023		

Vehicle Model

Represented Test Vehicle Make	2023	**Represented Test Vehicle Model**	Lucid Air Touring

Leak Family Details

Leak Family Identifier	--	**Leak Family Name**	--

Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	Yes		
Odometer Correction -- Initial	1	**Odometer Correction Factor**	1
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	ZA2	**Rated Horsepower**	620
Displacement (liters)	0.001		
Air Aspiration Method	Naturally Aspirated	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	--	**Air Aspiration Device Configuration**	--
Charge Air Cooler Type	--	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4987	**Equivalent Test Weight (pounds)**	5250
GVWR (lbs)	6283	**N/V Ratio**	86.7
Axle Ratio	7.06		
Transmission Type	Automatic	**# of Transmission Gears**	1
Transmission Lockup	No	**Creeper Gear**	No

Dynamometer Coefficients:

	Target Coefficients			Set Coefficients			
Coefficient Category	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients**
City/Highway/Evap	37.58	0.126	0.0127	-5.17	-0.209	0.01338	10.1
US06	37.58	0.126	0.0127	-5.17	-0.209	0.01338	N/A

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Emission Control Device Comments	--
Manufacturer Test Vehicle Comments	--

Test #	**PLMU10077304**	**Test Procedure**	**81 - Charge Depleting UDDS**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	09/19/2022	**Fuel**	N/A
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3736	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	107.062
Charge Depleting Range (Calculated miles)	515	**Charge Depleting Range (Actual miles)**	515
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	515		
Number of Charge Depleting Bags/Phases Conducted	4	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon Monoxide	0
2	Carbon dioxide	0
3	Carbon-Related Exhaust Emissions	0
4	Drive Trace Absolute Speed Change Rating	0.2178
5	Drive Trace Energy Economy Rating	0.6936
6	Drive Trace Inertia Work Ratio Rating	0.547
7	Manufacturer Fuel Economy	138.48

Manufacturer Test Comments --

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Test #	**PLMU10077305**	**Test Procedure**	**84 - Charge Depleting Highway**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	62 - Electricity
Test Date	09/19/2022	**Fuel**	Electricity
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Assigned
Verify Test Lab ID	FEV North America Inc. Vehicle Development Center		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3736	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	240	**Recharge Event Energy (kiloWatt-hours)**	107.062
Charge Depleting Range (Calculated miles)	510	**Charge Depleting Range (Actual miles)**	510
All Electric Range Unadjusted (miles)	--	**Derived 5-Cycle Coefficient Model Year**	--
Equivalent All Electric Range (miles)	510		
Number of Charge Depleting Bags/Phases Conducted	4	**Transition Bag/Phase Number**	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon Monoxide	0
2	Carbon dioxide	0
3	Carbon-Related Exhaust Emissions	0
4	Drive Trace Absolute Speed Change Rating	0.2178
5	Drive Trace Energy Economy Rating	0.6936
6	Drive Trace Inertia Work Ratio Rating	0.547
7	Manufacturer Fuel Economy	140.96

Manufacturer Test Comments --

Certification Summary Information Report

Test Group PLMUV00.0ZA2 **Evaporative/Refueling Family** --

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Fuel Properties

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Consolidated List of Standards

Exhaust Standards

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California ZEV
Fuel	Electricity	**Test Procedure**	CVS 75 and later (w/o can. load)

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	1	--	0
150,000 miles	CO-COMP	--	--	--	--	--	1	--	0
150,000 miles	CREE	--	--	--	--	--	1	--	0
150,000 miles	NMOG	--	--	--	--	--	1	--	0
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	1	--	0
150,000 miles	NOX	--	--	--	--	--	1	--	0

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California ZEV
Fuel	Electricity	**Test Procedure**	Charge Depleting Highway

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--
Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 3 Bin 0
Fuel	Electricity	**Test Procedure**	CVS 75 and later (w/o can. load)

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	1	--	0
150,000 miles	CO-COMP	--	--	--	--	--	1	--	0
150,000 miles	CREE	--	--	--	--	--	1	--	0
150,000 miles	NMOG	--	--	--	--	--	1	--	0
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	1	--	0
150,000 miles	NOX	--	--	--	--	--	1	--	0

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 3 Bin 0
Fuel	Electricity	**Test Procedure**	Charge Depleting Highway

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Glossary

Useful Life

4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		

Emission Name

HC-TOTAL	Total Hydrocarbon	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gases	CO2 BAG 4	Bag 4 Carbon Dioxide
HCHO	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
H3C2HO	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
HC	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only

Certification Region

CA	California + CAA Section 177 states	FA	Federal

Exhaust Emission Standard Level

B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50
OT	Other	T3B30	Federal Tier 3 Bin 30
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0

Transmission Type Code			
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)

Drive System Code			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

Certification Summary Information Report

Test Group	PLMUV00.0ZA2	**Evaporative/Refueling Family**	--

Additional Terms and Acronyms

AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission