



*AUTOMOTIVE MANUFACTURERS EQUIPMENT  
COMPLIANCE AGENCY, INC.*

## *AMECA NOTICE OF EQUIPMENT COMPLIANCE™*

*This notice verifies that the item described below has been tested by an accredited laboratory and has been found to be in compliance with the jurisdictional standard(s) listed below where applicable. The issuance of this AMECA Notice of Equipment Compliance™ does not denote or imply any endorsement or recommendation of the item described below.*

*Notification Number: 181613*

*Test Report Date: October 15, 2018*

*Expiration Date: January 1, 2022*

*Item: "11-CV005/11-CV006" - Combination Stop, Tail, Turn Signal, And Backup Lamp - Red And White In Color*

*Use: On 2016-2018 Model Years Chevrolet Camaro Motor Vehicles*

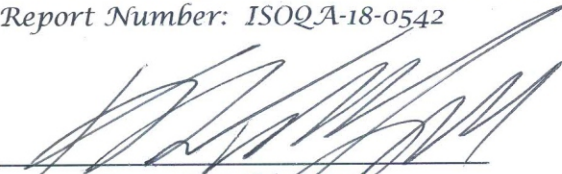
*Jurisdictional Compliance Standard(S)*

*Identical To: United States FMVSS 571.108 Photometric Only*

*Item Markings: Lens: DOT SAE (3)I(3)S(3)TR 16 11-CV005 (or 11-CV006)  
Housing: 12V*

*Lightsource: Stop Lamp: 37 LED'S, 12.8V  
Turn Signal Lamp: 37 LED'S, 12.8V  
Tail Lamp: 37 LED's, 12.8V  
Backup Lamp: 3 LED's, 12.8V*

*Test Lab: ISOQA Technical Service Co., Ltd.  
Report Number: ISOQA-18-0542*

  
*Executive Director*



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**Report No. : ISOQA-18-0542**

*Test Component* : R : 11-CV005 / L : 11-CV006

*Applicant* : Morimoto Lighting



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## **SAFETY COMPLIANCE TESTING FOR FMVSS 108**

Lamps, Reflective Devices, and Associated Equipment

\* \* \* \* \*

### **ISOQA Technical Service Co., Ltd.**

60, Yong Long Road,  
Da-Li, Taichung, 41257  
Taiwan

## **TEST REPORT**

*Arthur Chang*



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Signature of Responsible Laboratory Official  
Title: Laboratory Manager

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Approval Date

**Report No. : ISOQA-18-0542**

*Test Component* : R : 11-CV005 / L : 11-CV006

*Applicant* : Morimoto Lighting

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Report      Prepared By      :      Lisa Liu  
                 Review By         :      J.Y Pan  
                 Approval By        :      Arthur Chang



**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting



## TURN SIGNAL LAMP TEST REPORT

Test Component	R : 11-CV005 / L : 11-CV006
Applicant	Morimoto Lighting
Test Laboratory	ISOQA Technical Service Co., Ltd.
Test Date	2018/9/13
Report Number	ISOQA-18-0542
Number of devices tested	See below
Light source Designation	LED × 37

### SUMMARY

Test Description	Test Results	
	Number Passed	Number Failed
- Physical Inspection	2	-
- Photometry Test	2	-
- Color Test	2	-

Remarks : \_\_\_\_\_

Signature of Responsible Laboratory Official

Title : Laboratory Manager

Date: : October 15, 2018



**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting

**PHYSICAL INSPECTION**

Inspection Performed by : Bo Yang Lee Date : 2018/9/13

Marking on Lens	DOT SAE (3)I(3)S(3)TR 16 11-CV005 (or 11-CV006)		
Marking on Housing	12 V		
Lens Material	CHIMEI Corporation ACRYREX CM-205 POLYMETHYL METHACRYLATE S-001 Smoke		
Coating of External Lens	-		
Light Sources Used	Trade No/ Designation	LED	
	Quantity	37	
	Rated Voltage	12 V	

Remarks : \_\_\_\_\_

**EFFECTIVE PROJECTED LUMINOUS LENS AREA**

Test Performed by : Bo Yang Lee Date : 2018/9/13

Vehicle Type	Passenger cars, multipurpose passenger vehicles, trucks, trailers, and buses of less than 2032 mm in overall width		
Method of determination	Projected		
Effective projected illuminated area of lens (mm <sup>2</sup> )	Requirement	Value	Result
	5000	10700	PASSED

Remarks : \_\_\_\_\_

**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting

**PHOTOMETRY TEST**

Test Performed by : Bo Yang Lee                      Date : 2018/9/13  
 Test distance(m) : 3.167 m                      Light Source Designation : LED × 37  
 Tested Voltage : 12.8 V                      Lighted Sections : 3

Steady Burning at H-V (according to SAE J1889)	Sample 1			Sample 2		
	1 min.	Steady	Ratio	1 min.	Steady	Ratio
	177	144.1	1.23	173.6	138.2	1.26

Test Points	Zone	Rto.	Minimum (cd)	Maximum (cd)	Sample 1		Sample 2	
		Tail Lamp			Rto	Measured <sup>(1)</sup>	Rto	Measured <sup>(1)</sup>
5U - 20L	1	3	15	420	17.3	60.20	16.8	22.59
5D - 20L	1	3	15	420	16.6	67.75	16.5	25.23
10U - 5L	1	3	22	420	17.9	89.00	17.2	94.50
10D - 5L	1	3	22	420	16.5	119.10	16.2	99.50
5U - 10L	2	3	40	420	17.3	101.40	16.9	87.80
H - 10L	2	3	55	420	17.1	117.80	16.7	93.60
5D - 10L	2	3	40	420	16.6	117.10	16.4	90.30
5U - V	3	5	95	420	17.3	126.50	16.9	130.40
H - 5L	3	5	110	420	17.0	137.30	16.6	126.30
H - V	3	5	110	420	15.5	144.10	15.3	138.20
H - 5R	3	5	110	420	16.9	141.70	16.4	140.70
5D - V	3	3	95	420	16.6	146.50	16.2	136.20
5U - 10R	4	3	40	420	17.5	109.30	16.9	125.80
H - 10R	4	3	55	420	16.9	123.80	16.3	134.30
5D - 10R	4	3	40	420	16.7	127.30	16.2	127.10
10U - 5R	5	3	22	420	17.7	93.80	17.1	111.90
10D - 5R	5	3	22	420	16.4	129.20	16.0	113.70
5U - 20R	5	3	15	420	17.8	51.20	17.0	88.80
5D - 20R	5	3	15	420	17.1	61.38	16.3	81.90
Visibility			0.3	420	-	(0.39) 148.29	-	(0.49) 141.71

**Zone Total Luminous Intensity**

Zone	Minimum (cd)	Sample 1	Sample 2
1	70	336.05	241.82
2	135	336.30	271.70
3	520	696.10	671.80
4	135	360.40	387.20
5	70	335.58	396.30

(1) The measured values at each individual test point shall not be less than 60% of the required minimum value shown for that individual test point location. The sum of the luminous intensity measurements at each test point within a zone shall not be less than the Zone Total Luminous Intensity shown.

**Report No. : ISOQA-18-0542**

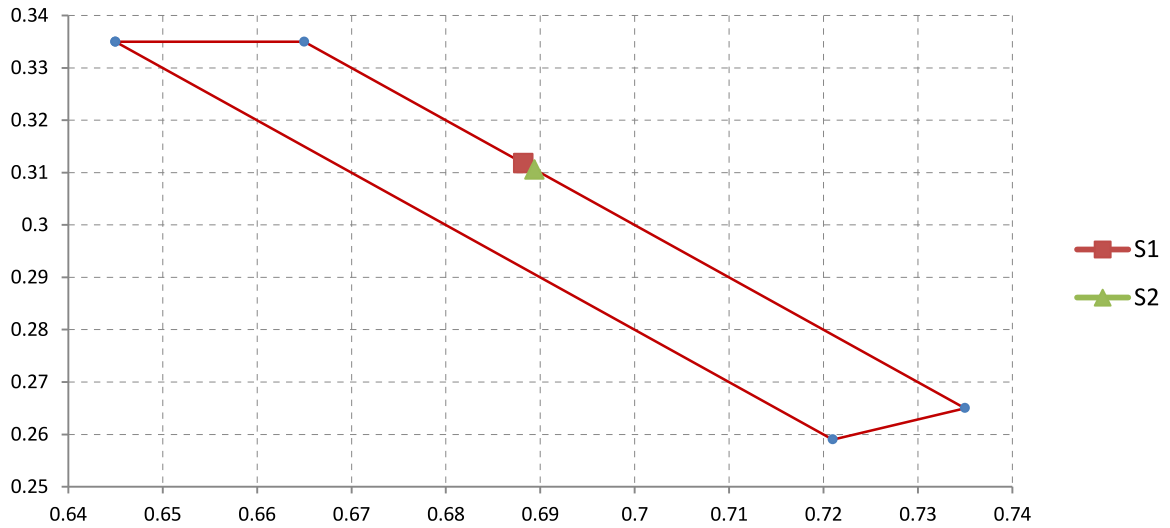
Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting

**COLOR TEST**

Test Performed by : Bo Yang Lee                      Date : 2018/9/13  
Test distance(m) : 3.073 m                      Light Source Designation : LED × 37  
Color of Light Emitted : Red

Color emitted from HV point		Sample 1	Sample 2
	x=	0.6882	0.6894
y=	0.3118	0.3106	



Remarks : \_\_\_\_\_



**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting



## TAIL LAMP TEST REPORT

Test Component	R : 11-CV005 / L : 11-CV006
Applicant	Morimoto Lighting
Test Laboratory	ISOQA Technical Service Co., Ltd.
Test Date	2018/9/13
Report Number	ISOQA-18-0542
Number of devices tested	See below
Light source Designation	LED × 37

### SUMMARY

Test Description	Test Results	
	Number Passed	Number Failed
- Physical Inspection	2	-
- Photometry Test	2	-
- Color Test	2	-

Remarks : \_\_\_\_\_

Signature of Responsible Laboratory Official

Title : Laboratory Manager

Date: : October 15, 2018

**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting



**PHYSICAL INSPECTION**

Inspection Performed by : Bo Yang Lee Date : 2018/9/13

Marking on Lens	DOT SAE (3)I(3)S(3)TR 16 11-CV005 (or 11-CV006)	
Marking on Housing	12 V	
Lens Material	CHIMEI Corporation ACRYREX CM-205 POLYMETHYL METHACRYLATE S-001 Smoke	
Coating of External Lens	-	
Light Sources Used	Trade No/ Designation	LED
	Quantity	37
	Rated Voltage	12 V

Remarks : \_\_\_\_\_

**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting

**PHOTOMETRY TEST**

Test Performed by : Bo Yang Lee Date : 2018/9/13  
 Test distance(m) : 3.167 m Light Source Designation : LED × 37  
 Tested Voltage : 12.8 V Lighted Sections : 3

Steady Burning at H-V (according to SAE J1889)	Sample 1			Sample 2		
	1 min.	Steady	Ratio	1 min.	Steady	Ratio
	10.3	9.27	1.11	10.16	9.05	1.12

Test Points	Zone	Minimum (cd)	Maximum (cd)	Sample 1	Sample 2
				Measured <sup>(1)</sup>	Measured <sup>(1)</sup>
5U - 20L	1	0.7	25	3.47	1.35
5D - 20L	1	0.7	-	4.08	1.53
10U - 5L	1	1	25	4.96	5.49
10D - 5L	1	1	-	7.23	6.15
5U - 10L	2	2	25	5.86	5.20
H - 10L	2	2	25	6.88	5.60
5D - 10L	2	2	-	7.05	5.52
5U - V	3	4.5	25	7.30	7.74
H - 5L	3	5	25	8.07	7.62
H - V	3	5	25	9.27	9.05
H - 5R	3	5	25	8.40	8.57
5D - V	3	4.5	-	8.81	8.39
5U - 10R	4	2	25	6.26	7.44
H - 10R	4	2	25	7.35	8.23
5D - 10R	4	2	-	7.63	7.83
10U - 5R	5	1	25	5.31	6.54
10D - 5R	5	1	-	7.88	7.11
5U - 20R	5	0.7	25	2.87	5.23
5D - 20R	5	0.7	-	3.60	5.03
Visibility below HH		0.05	-	(0.06)	(0.06)
Visibility on or above HH		0.05	25	(0.06) 9.18	(0.06) 9.03

**Zone Total Luminous Intensity**

Zone	Minimum (cd)	Sample 1	Sample 2
1	3.5	19.74	14.51
2	6	19.79	16.33
3	24	41.85	41.37
4	6	21.24	23.50
5	3.5	19.66	23.91

(1) The measured values at each individual test point shall not be less than 60% of the required minimum value shown for that individual test point location. The sum of the luminous intensity measurements at each test point within a zone shall not be less than the Zone Total Luminous Intensity shown.

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Test Component : R : 11-CV005 / L : 11-CV006

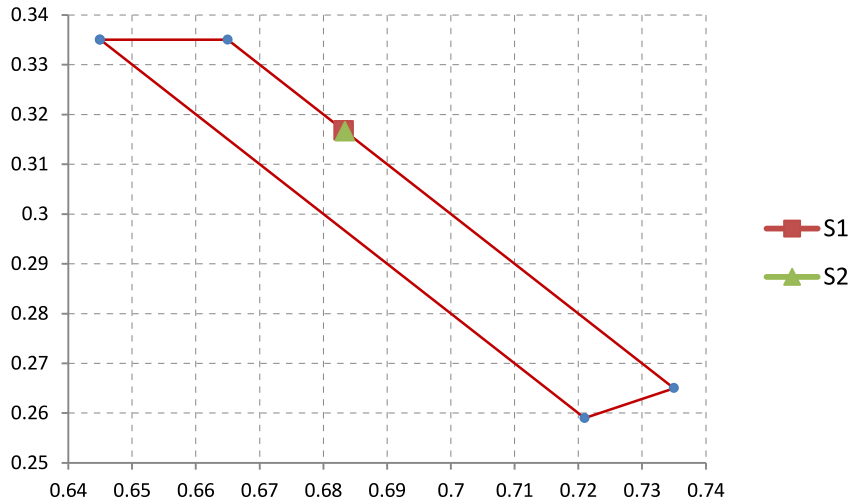
Applicant : Morimoto Lighting



COLOR TEST

Test Performed by : Bo Yang Lee                      Date : 2018/9/13  
Test distance(m) : 3.073 m                      Light Source Designation : LED × 37  
Color of Light Emitted : Red

Color emitted from HV point		Sample 1	Sample 2
	x=	0.6832	0.6834
y=	0.3168	0.3166	



Remarks : \_\_\_\_\_

**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting



## STOP LAMP TEST REPORT

Test Component	R : 11-CV005 / L : 11-CV006
Applicant	Morimoto Lighting
Test Laboratory	ISOQA Technical Service Co., Ltd.
Test Date	2018/9/13
Report Number	ISOQA-18-0542
Number of devices tested	See below
Light source Designation	LED × 37

### SUMMARY

Test Description	Test Results	
	Number Passed	Number Failed
- Physical Inspection	2	-
- Photometry Test	2	-
- Color Test	2	-

Remarks : \_\_\_\_\_

Signature of Responsible Laboratory Official

Title : Laboratory Manager

Date: : October 15, 2018

**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting

**PHYSICAL INSPECTION**

Inspection Performed by : Bo Yang Lee Date : 2018/9/13

Marking on Lens	DOT SAE (3)I(3)S(3)TR 16 11-CV005 (or 11-CV006)		
Marking on Housing	12 V		
Lens Material	CHIMEI Corporation ACRYREX CM-205 POLYMETHYL METHACRYLATE S-001 Smoke		
Coating of External Lens	-		
Light Sources Used	Trade No/ Designation	LED	
	Quantity	37	
	Rated Voltage	12 V	

Remarks : \_\_\_\_\_

**EFFECTIVE PROJECTED LUMINOUS LENS AREA**

Test Performed by : Bo Yang Lee Date : 2018/9/13

Vehicle Type	Passenger cars, multipurpose passenger vehicles, trucks, trailers, and buses of less than 2032 mm in overall width		
Method of determination	Projected		
Effective projected illuminated area of lens (mm <sup>2</sup> )	Requirement	Value	Result
	5000	10700	PASSED

Remarks : \_\_\_\_\_





**Report No. : ISOQA-18-0542**

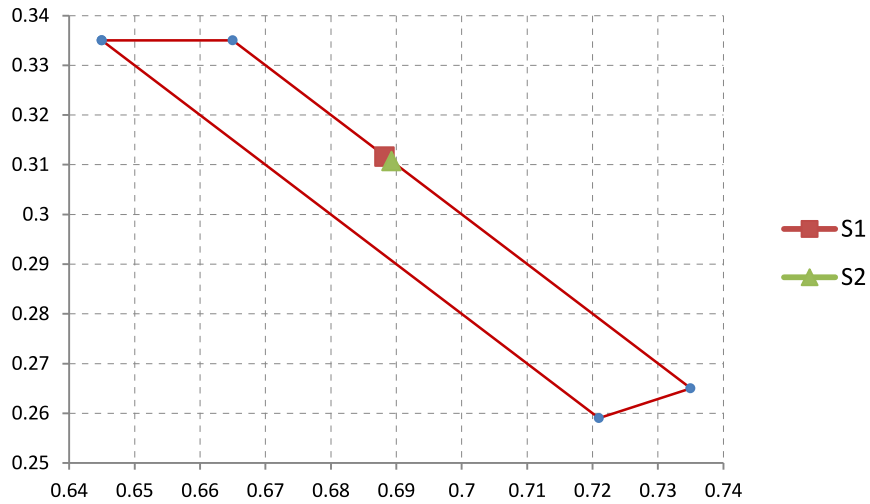
Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting

COLOR TEST

Test Performed by : Bo Yang Lee                      Date : 2018/9/13  
Test distance(m) : 3.073 m                      Light Source Designation : LED × 37  
Color of Light Emitted : Red

Color emitted from HV point		Sample 1	Sample 2
	x=	0.6882	0.6893
y=	0.3116	0.3107	



Remarks : \_\_\_\_\_

**Report No. : ISOQA-18-0542**

Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting



## BACKUP LAMP TEST REPORT

Test Component	R : 11-CV005 / L : 11-CV006
Applicant	Morimoto Lighting
Test Laboratory	ISOQA Technical Service Co., Ltd.
Test Date	2018/9/13
Report Number	ISOQA-18-0542
Number of devices tested	See below
Light source Designation	LED × 3

### SUMMARY

Test Description	Test Results	
	Number Passed	Number Failed
- Physical Inspection	2	-
- Photometry Test	2	-
- Color Test	2	-

Remarks : \_\_\_\_\_

Signature of Responsible Laboratory Official

Title : Laboratory Manager

Date: : October 15, 2018

**Report No. : ISOQA-18-0542***Test Component* : R : 11-CV005 / L : 11-CV006*Applicant* : Morimoto Lighting**PHYSICAL INSPECTION**

Inspection Performed by : Bo Yang Lee Date : 2018/9/13

Marking on Lens	DOT SAE (3)I(3)S(3)TR 16 11-CV005 (or 11-CV006)	
Marking on Housing	12 V	
Lens Material	CHIMEI Corporation ACRYREX CM-205 POLYMETHYL METHACRYLATE S-001 Smoke	
Coating of External Lens	-	
Light Sources Used	Trade No/ Designation	LED
	Quantity	3
	Rated Voltage	12 V

Remarks : \_\_\_\_\_



**Report No. : ISOQA-18-0542**

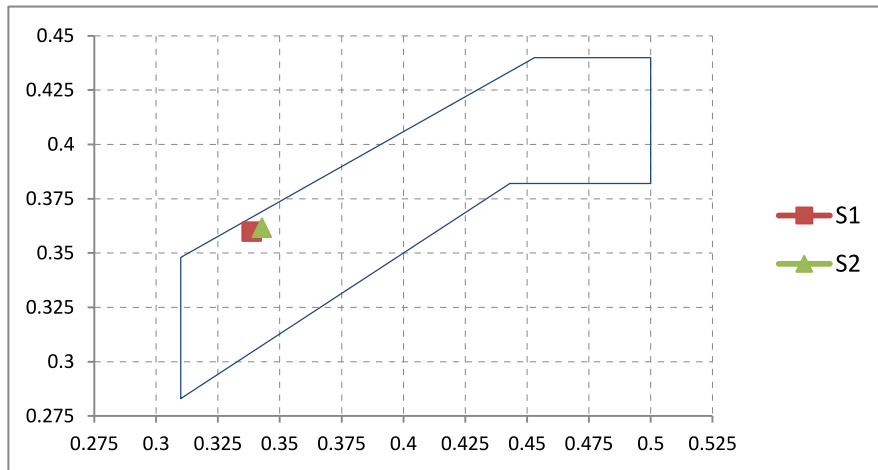
Test Component : R : 11-CV005 / L : 11-CV006

Applicant : Morimoto Lighting

**COLOR TEST**

Test Performed by : Bo Yang Lee                      Date : 2018/9/13  
Test distance(m) : 3.073 m                      Light Source Designation : LED × 3  
Color of Light Emitted : White

Color emitted from HV point		Sample 1	Sample 2
	x=	0.3388	0.3429
y=	0.3598	0.3616	



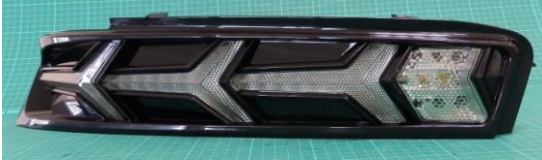
Remarks : \_\_\_\_\_



**Report No. : ISOQA-18-0542**

*Test Component* : R : 11-CV005 / L : 11-CV006

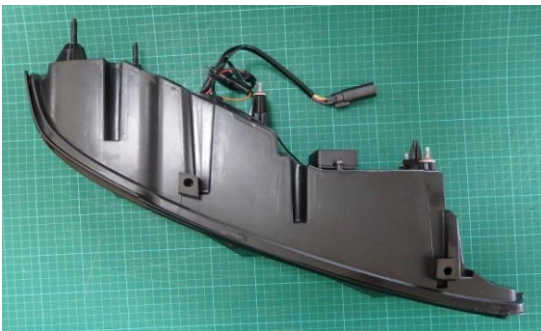
*Applicant* : Morimoto Lighting



Front View



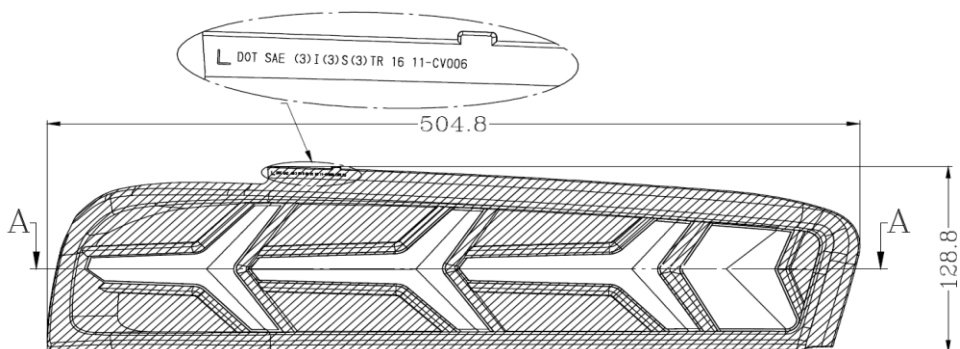
Side View



Top View



Rear View



DOT SAE (3)I(3)S(3)TR 16 11-CV005 (or 11-CV006)

**Marking**