UN No. 53

NTSEL
National Traffic Safety
and Environment Laboratory

KENICHI YAMAMOTO

Test vehicle

- Conditions of test vehicle

		Condition
Unladen vehicle	Passenger	none
	Load	only spare wheel and tools normally carried
	Oil	full supply or specified amount
Tire	Tire pressure	specified value
Movable part	Movable component	normal condition of use
Seat	Seat position	normal condition of use (design standard position)

▪ Verification of identity between Lamp Device

Device	Type
Headlamp	***
...	***
...	***
...	***
Front fog lamp	***
Side direction-indicator lamp	***
...	***

Device	Type
Rear fog lamp	***
...	***
...	***
...	***
Rear retro-reflector	***
...	***
...	***

▪ Verification of lamp type and approval mark
(If no approval mark, approval certificate or application form is verified.)

Certificate of test facility

1. List of facilities (example)

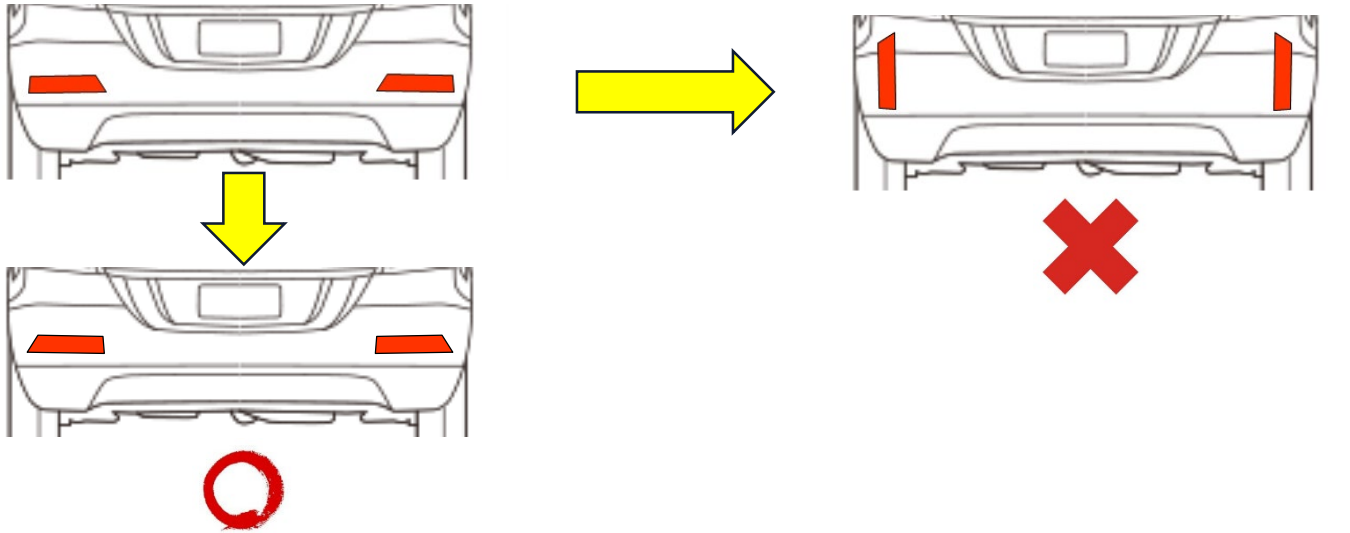
Measurement device name	Type	Serial No.	Make	Calibration date	Calibration cycle
Illuminometer	IM-600M	1123*****	TOPCON CORPORATION	2016/2/6	2 years
…	…	…	…	…	…

2. Calibration certificate

Certificate of test facility used for test is verified before test.

5.3.Axis direction of the signal lamps

注意点
1．左右方向のある（非対称）灯火器の逆の取付け
　例）後部反射器の取付け方向



但し、妨害申請時を除く

5.9. No red light shall be visible towards the front and no white light shall be visible towards the rear. Compliance with this requirement shall be verified as shown here under (seedrawing in Annex 4):

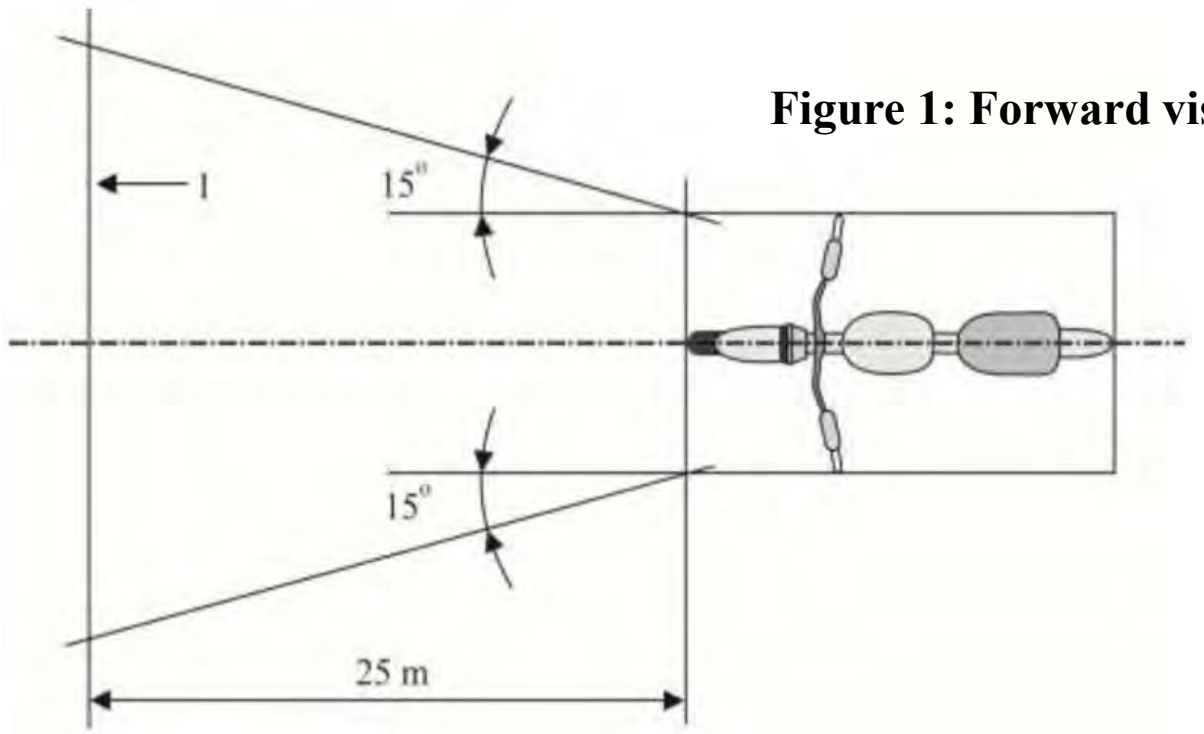
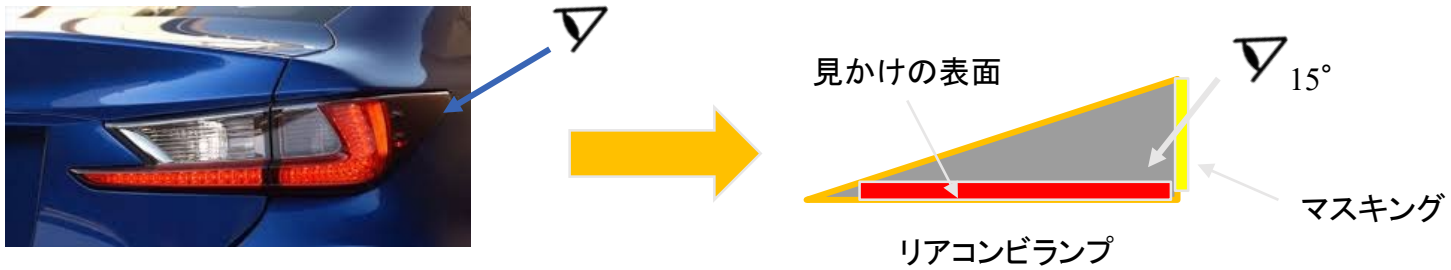
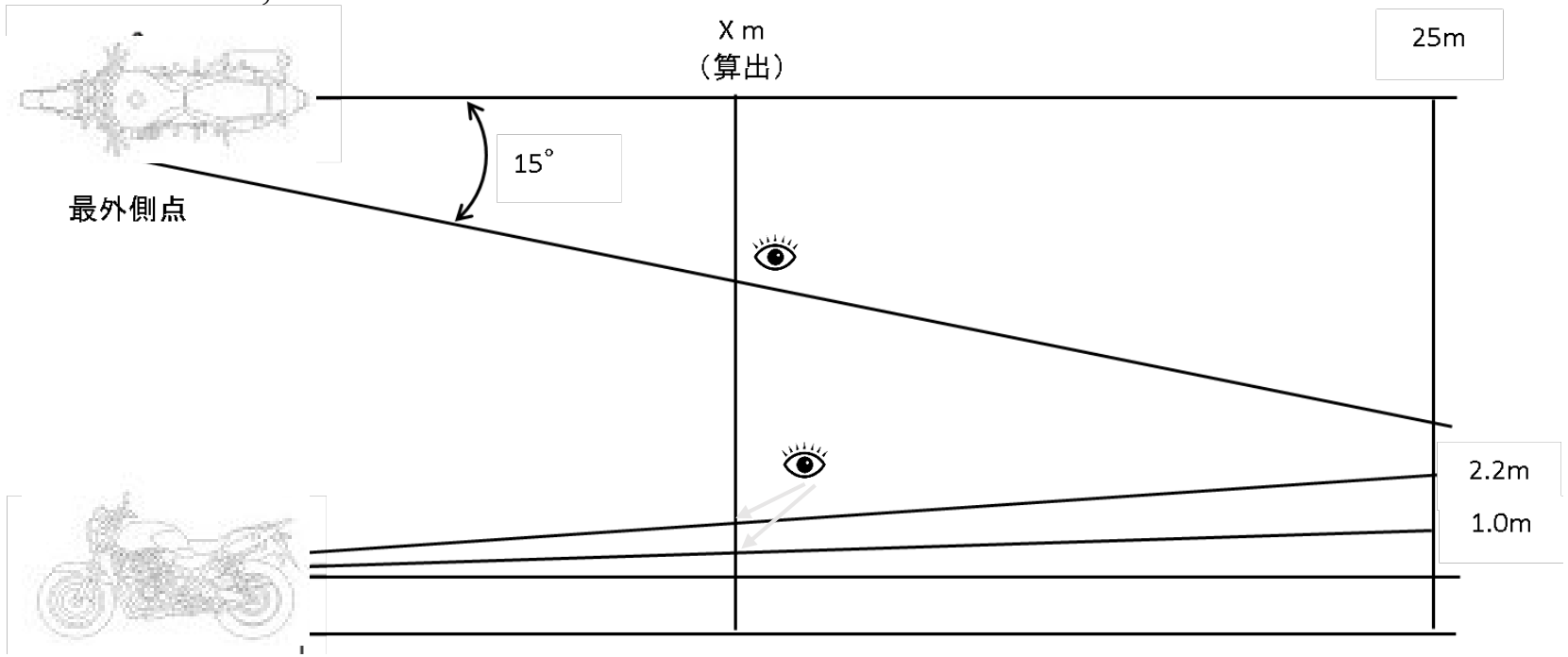


Figure 1: Forward visibility of a red lamp



5.9.1. Visibility of red light towards the front: a red lamp must not be directly visible to an observer moving in zone 1 of a transverse plane situated 25 m forward of the foremost point on the vehicle;

5.9.2. Visibility of white light towards the rear: a white lamp must not be directly visible to an observer moving in zone 2 of a transverse plane situated 25 m rearward of the rearmost point on the vehicle;



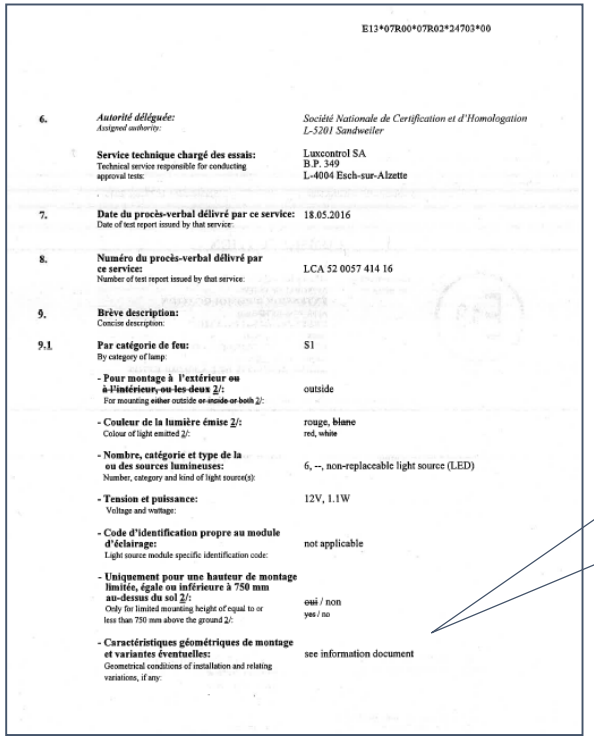
5.9.3. In their respective planes, the zones 1 and 2 explored by the eye of the observer are bound:

5.9.3.1. In height, by two horizontal planes 1 m and 2.2 m respectively above the ground;

5.9.3.2. In width, by two vertical planes which, forming to the front and the rear respectively an angle of 15 deg. outwards from the vehicle's median longitudinal plane, pass through the point or points of contact of vertical planes parallel to the vehicle's median longitudinal plane and delimiting the vehicle's over-all width; if there are several points of contact, the foremost shall correspond to the forward plane and the rearmost to the rearward plane.

5.20. General provisions relating to geometric visibility

5.20.1. There shall be no obstacle on the inside of the angles of geometric visibility to the propagation of light from any part of the apparent surface of the lamp observed from infinity. However, no account is taken of obstacles, if they were already presented when the lamp was type-approved.



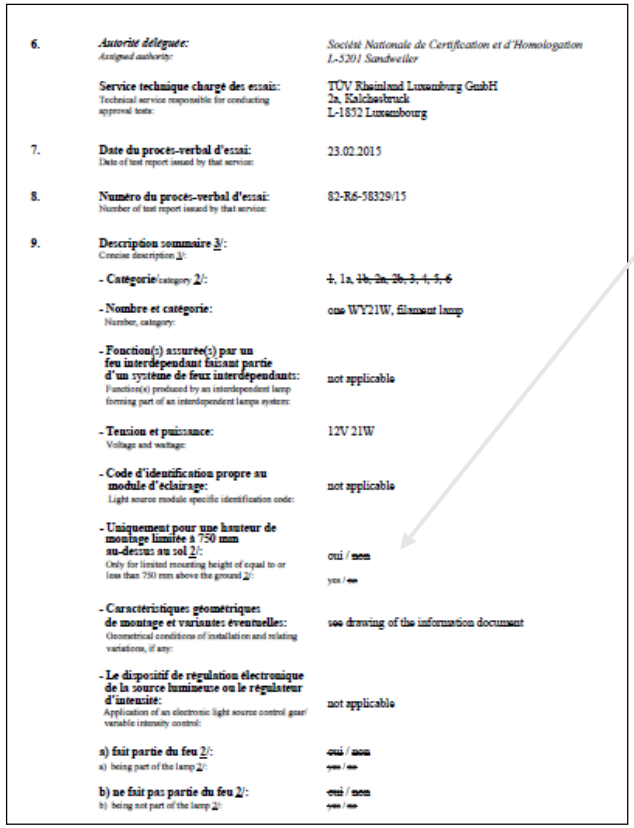
E13*07R00*07R02*24703*00

6.	**Autorité déléguée:** *Assigned authority:*	*Société Nationale de Certification et d'Homologation L-5201 Sandweiler*
	Service technique chargé des essais: Technical service responsible for conducting approval tests:	Luxcontrol SA B.P. 349 L-4004 Esch-sur-Alzette
7.	**Date du procès-verbal délivré par ce service:** Date of test report issued by that service:	18.05.2016
8.	**Numéro du procès-verbal délivré par ce service:** Number of test report issued by that service:	LCA 52 0057 414 16
9.	**Brève description:** Concise description:	
9.1	**Par catégorie de feu:** By category of lamp:	S1
	- Pour montage à l'extérieur ou ~~à l'intérieur, ou les deux~~ 2/: For mounting either outside ~~or inside or both~~ 2/:	outside
	- Couleur de la lumière émise 2/: Colour of light emitted 2/:	rouge, ~~blanc~~ red, ~~white~~
	- Nombre, catégorie et type de la ou des sources lumineuses: Number, category and kind of light source(s):	6, --, non-replaceable light source (LED)
	- Tension et puissance: Voltage and wattage:	12V, 1.1W
	- Code d'identification propre au module d'éclairage: Light source module specific identification code:	not applicable
	- Uniquement pour une hauteur de montage limitée, égale ou inférieure à 750 mm au-dessus du sol 2/: Only for limited mounting height of equal to or less than 750 mm above the ground 2/:	~~oui~~ / non yes / no
	- Caractéristiques géométriques de montage et variantes éventuelles: Geometrical conditions of installation and relating variations, if any:	see information document

- Caractéristiques géométriques de montage et variantes éventuelles: see information document
Geometrical conditions of installation and relating variations, if any:

If verification with certificate is not possible, test report or application form is used to verify application for obstacles.

5.20.4. When the vertical angle of geometric visibility below the horizontal may be reduced to 5 degrees (lamp at less than 750 mm above the ground, measured according to the provisions of paragraph 5.7.) the photometric field of measurements of the installed optical unit may be reduced to 5 degrees below the horizontal



6.	***Autorité déléguée:*** *Assigned authority:*	*Société Nationale de Certification et d'Homologation* *L-5201 Sandweiler*
	Service technique chargé des essais: Technical service responsible for conducting approval tests:	TÜV Rheinland Luxemburg GmbH 2a, Kalchesbruck L-1852 Luxembourg
7.	**Date du procès-verbal d'essai:** Date of test report issued by that service:	23.02.2015
8.	**Numéro du procès-verbal d'essai:** Number of test report issued by that service:	82-R6-58329/15
9.	**Description sommaire 3/:** Concise description 2/:	
	- Catégorie/category 2/:	~~+~~, 1a, ~~1b, 2a, 2b, 3, 4, 5, 6~~
	- Nombre et catégorie: Number, category:	one WY21W, filament lamp
	- Fonction(s) assurée(s) par un feu interdépendant faisant partie d'un système de feux interdépendants: Function(s) produced by an interdependent lamp forming part of an interdependent lamps system:	not applicable
	- Tension et puissance: Voltage and wattage:	12V 21W
	- Code d'identification propre au module d'éclairage: Light source module specific identification code:	not applicable
	- Uniquement pour une hauteur de montage limitée à 750 mm au-dessus au sol 2/: Only for limited mounting height of equal to or less than 750 mm above the ground 2/:	oui / ~~non~~ yes / ~~no~~
	- Caractéristiques géométriques de montage et variantes éventuelles: Geometrical conditions of installation and relating variations, if any:	see drawing of the information document
	- Le dispositif de régulation électronique de la source lumineuse ou le régulateur d'intensité: Application of an electronic light source control gear/ variable intensity control:	not applicable
	a) fait partie du feu 2/: a) being part of the lamp 2/:	~~oui~~ / ~~non~~ ~~yes~~ / ~~no~~
	b) ne fait pas partie du feu 2/: b) being not part of the lamp 2/:	~~oui~~ / ~~non~~ ~~yes~~ / ~~no~~

- **Uniquement pour une hauteur de montage limitée à 750 mm au-dessus au sol 2/:**
  Only for limited mounting height of equal to or less than 750 mm above the ground 2/:

oui / ~~non~~

yes / ~~no~~

If approval is granted under relaxed 750mm requirement, installation height of 750mm or less is verified.

6.Individual specifications

- Presence
- Number
- Arrangement
- Position
- Geometric visibility
- Orientation
- Electrical connections
- Tell-tale
- Other requirements

2. 個別規定
Individual

項番号 Operation No.	項目 Item	装備 Equipped	取付位置及び個数 Installation position and number of lights	幾何学的視認角 Geometric visibility	方向 Direction	電気結線 Electrical connections	点灯操作状態表示装置 又は 点灯作動状態表示装置 Tell-Tail		その他の要件 Other requirements	備考 Remarks
4.1	走行用前照灯 Headlamps (main-beam)		適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail		適・否 Pass・Fail	適・否 Pass・Fail	
4.2	すれ違い用前照灯 Headlamps(dipped-beam)		適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	有・無 Y / N	適・否 Pass・Fail	適・否 Pass・Fail	
4.3	前部霧灯 Front fog lamps	有・無 Y / N	適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail		適・否 Pass・Fail	適・否 Pass・Fail	
4.4	側方照射灯 Cornering lamps	有・無 Y / N	適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	—	—	適・否 Pass・Fail	
4.5	後退灯 Reversing lamps		適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	適・否 Pass・Fail	有・無 Y / N	適・否 Pass・Fail	—	
4.6	方向指示器 Direction		適・否 Pass・Fail	適・否 Pass・Fail	—	適・否 Pass・Fail		適・否 Pass・Fail	適・否 Pass・Fail	

■ESS Dynamic test check sheet

Test pattern	①		②	③	④	⑤
	Check activation	Check deactivation	Check non-operation	Check non-operation	Check deactivation	Check activation
Initial braking speed	over 50km/m	—	over 50km/m	less than 50km/m	over 50km/m	over 50km/m
Deceleration	braking at over 6m/s2	after ESS activation, deactivation by reducing deceleration	braking at less than 6m/s2	braking at over 60m/s2	braking at over 6m/s2	braking at over 6m/s2
Others	—		—	—	hazard ON during EE activation	direction indicator ON
Checking of ESS activation	activated at over 6m/s2 and over 50km/h	deactivated before 2.5m/s2	non-operational at less than 6m/s2 (vehicle speed over 50km/h)	non-operational at 50km/h or less (over 6m/s2)	switched to hazard	ESS activated even when direction indicator is ON
Judgment	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail
Frequency of illumination	Frequency 4.0±1.0Hz (3.0 – 4.0Hz for filament light source)					
Judgment	Pass/Fail					

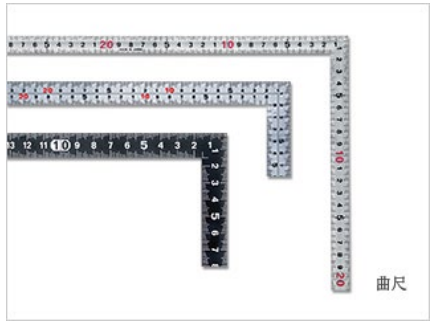
■Checking installation position

- ○ Vehicle is placed on surface plate.
- ○ Each measurement point is marked on the surface plate using weight, etc.
- ○ Each marking is measured with set squares and various scales

Marking of each measurement point

Checking of headlight installation height

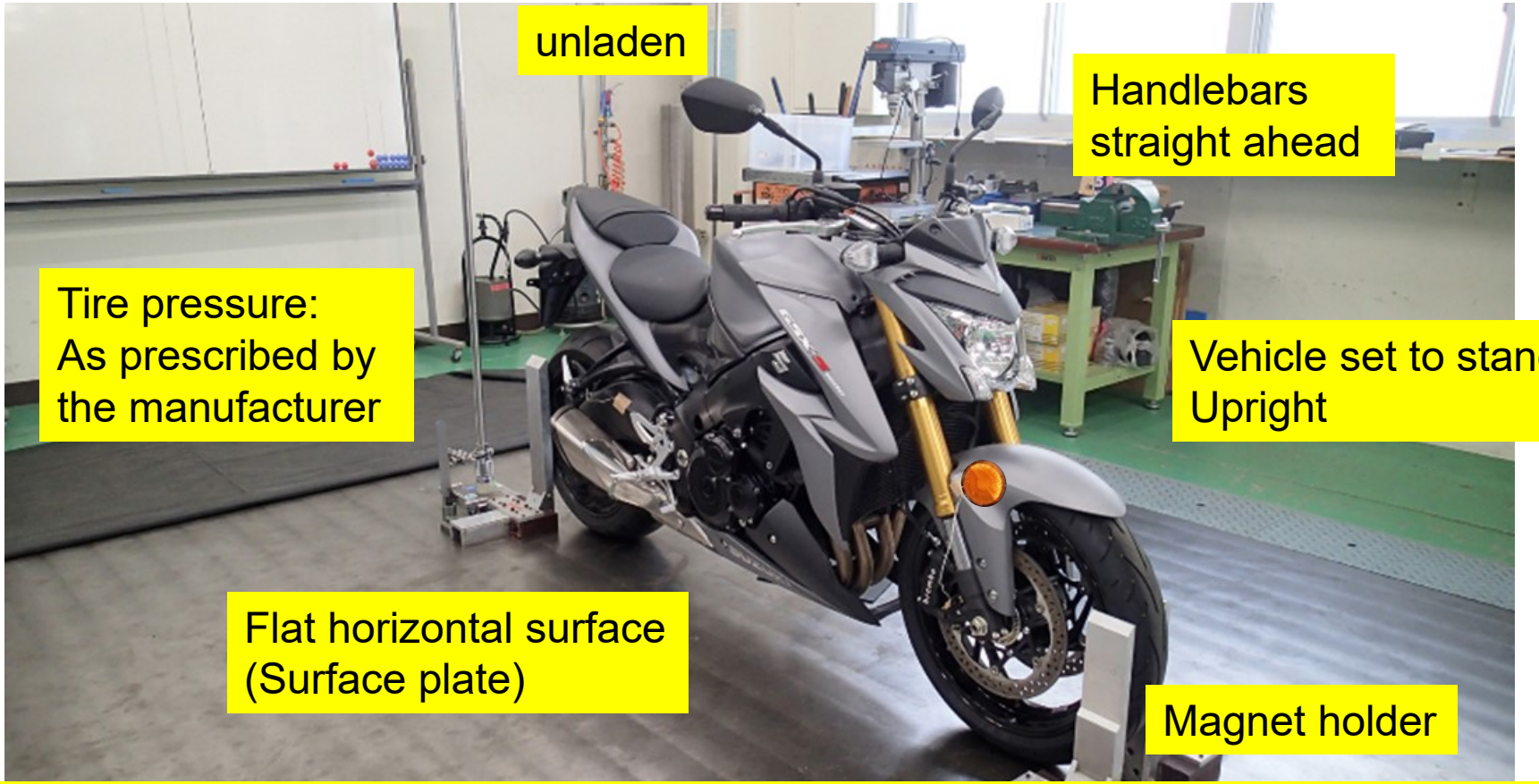
■Main equipment used for checking installation position



Next is Test on a real vehicle (example).

Test on a real vehicle(example).

General requirements

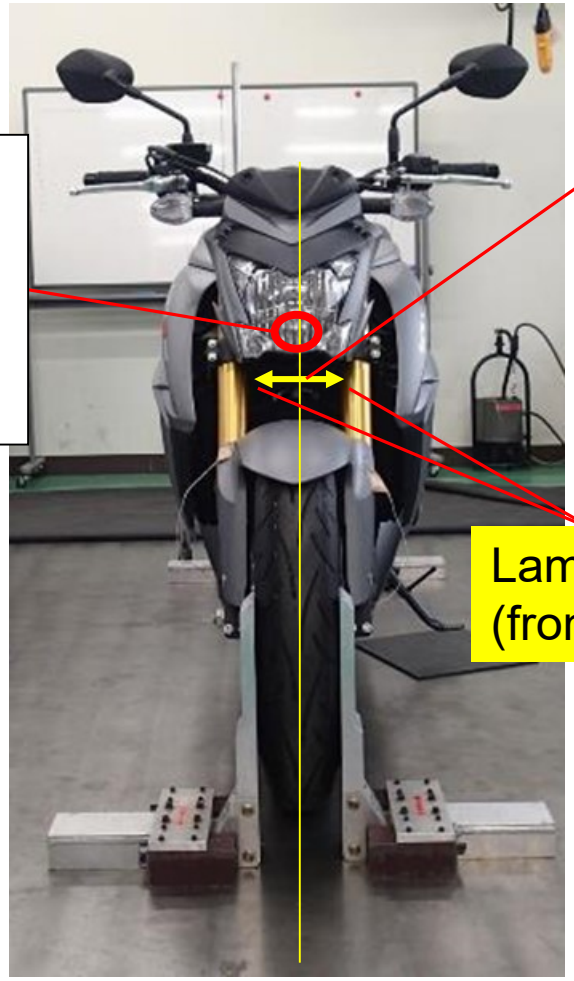


5.1. Under normal conditions of use, lighting devices must be installed to retain their characteristics and comply with the requirements.

5.2. Alignment of illuminating lamp shall be easily set correctly.

50R-00 <- -> Exx xxxxx
10 PL WC/R-DS 01

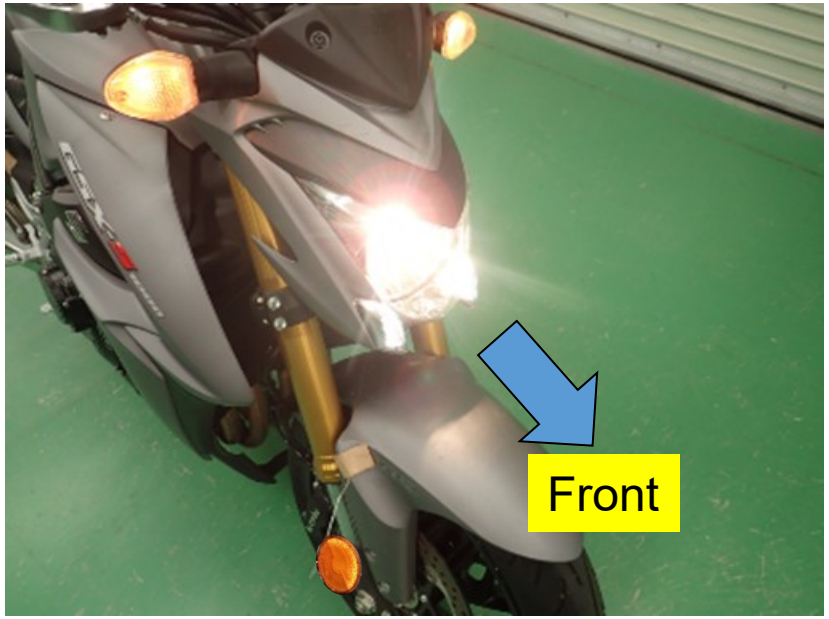
All components shall bear component approval marking



symmetrical

Lamps constituting a pair (front position lamps)

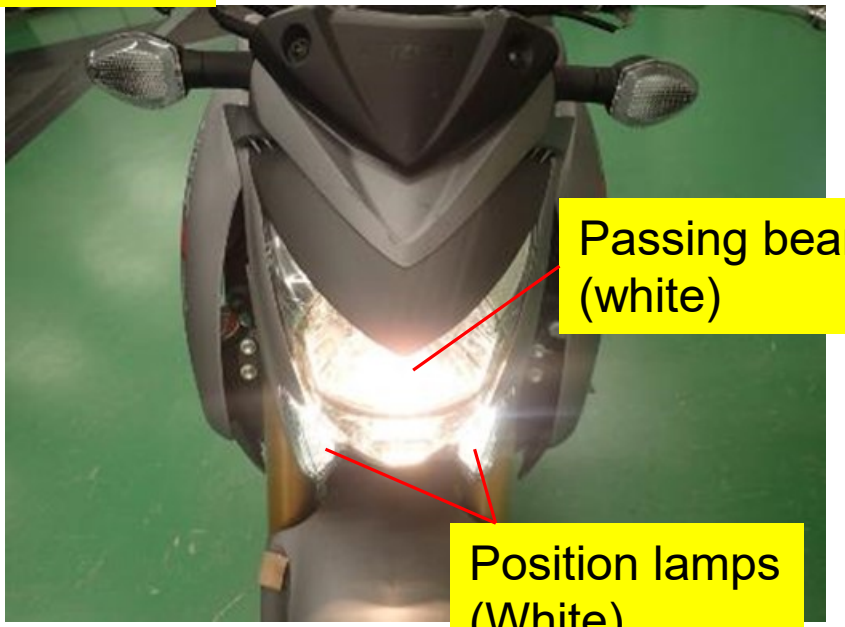
5.5.2. Lamps constituting a pair must be installed symmetrically to the center of the vehicle.



5.9.
No red light which could give rise to confusion shall be emitted towards the front.
No white light which could give rise to confusion shall be emitted towards to the rear.

Rear-registration plate illuminating device(white)

Rear position lamp(red)



Passing beam (white)

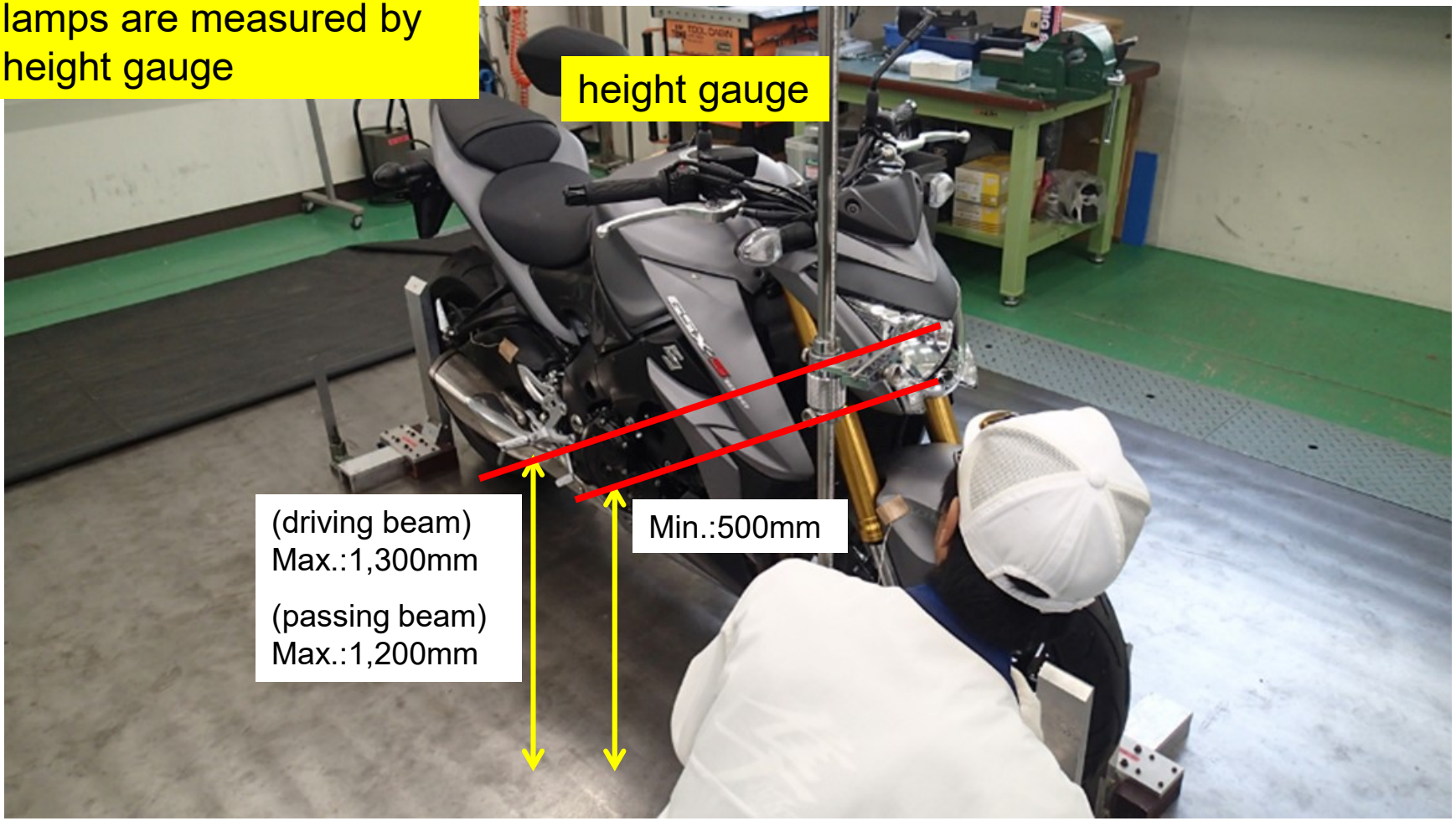
Position lamps (White)

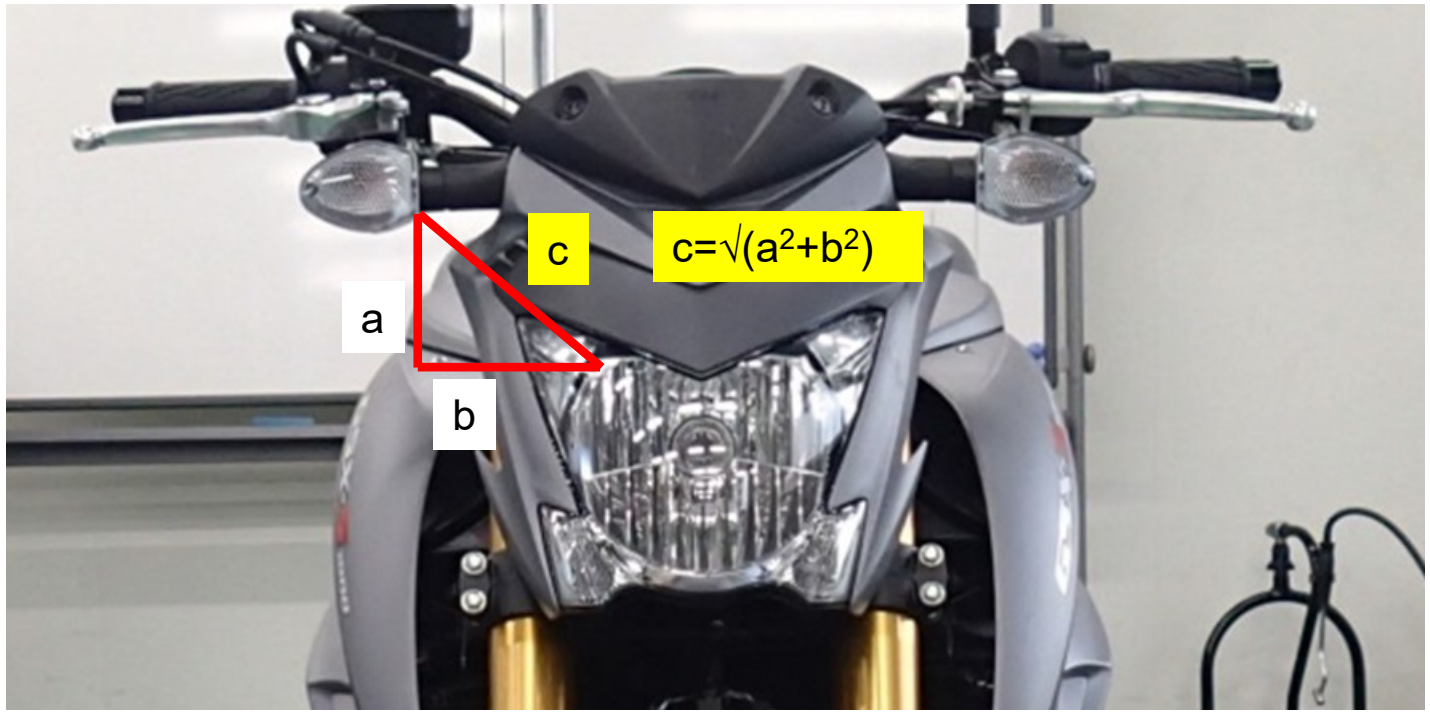
5.10. Electrical connection:
Front position lamp or the passing beam headlamp, rear position lamp and the rear-registration plate illuminating device shall be switched ON/OFF Simultaneously.

5.13. Color of lights :
Part of the colors shown in picture.

5.12.1 Every tell-tale lamp shall be readily visible to a driver in the normal driving position.

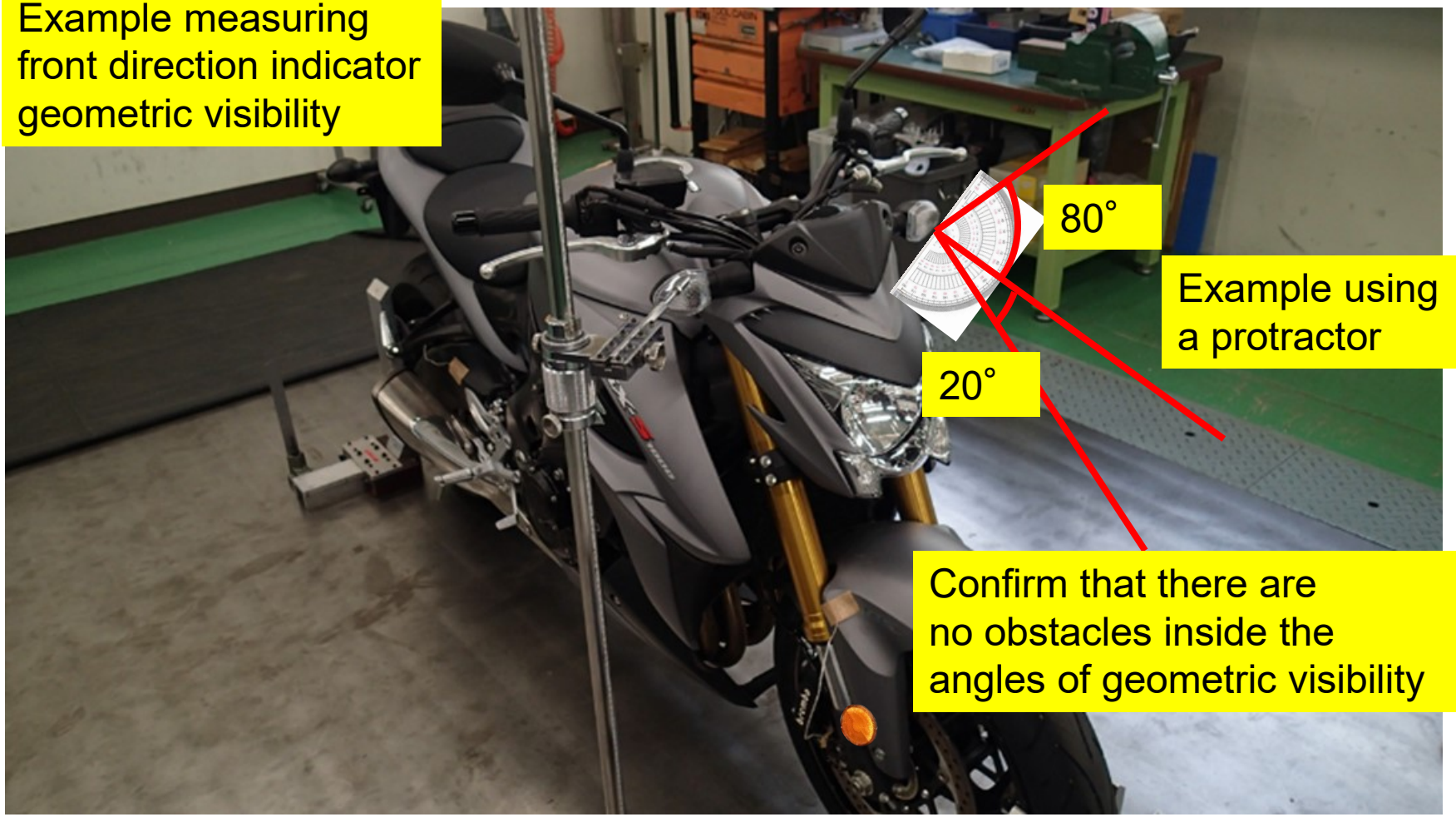
Height and position of the lamps are measured by height gauge





There shall be a minimum separation(distance) between the illuminating surface of the indicators and headlamp.
Minimum indicator intensity ≧90cd, Minimum separation : C ≧75mm
Minimum indicator intensity ≧175cd, Minimum separation : C ≧40mm
Minimum indicator intensity ≧250cd, Minimum separation : C ≧20mm
Minimum indicator intensity ≧400cd, Minimum separation : C ≦20mm

Example measuring front direction indicator geometric visibility



Test on a real vehicle(example).

Vertical inclination of the passing beam

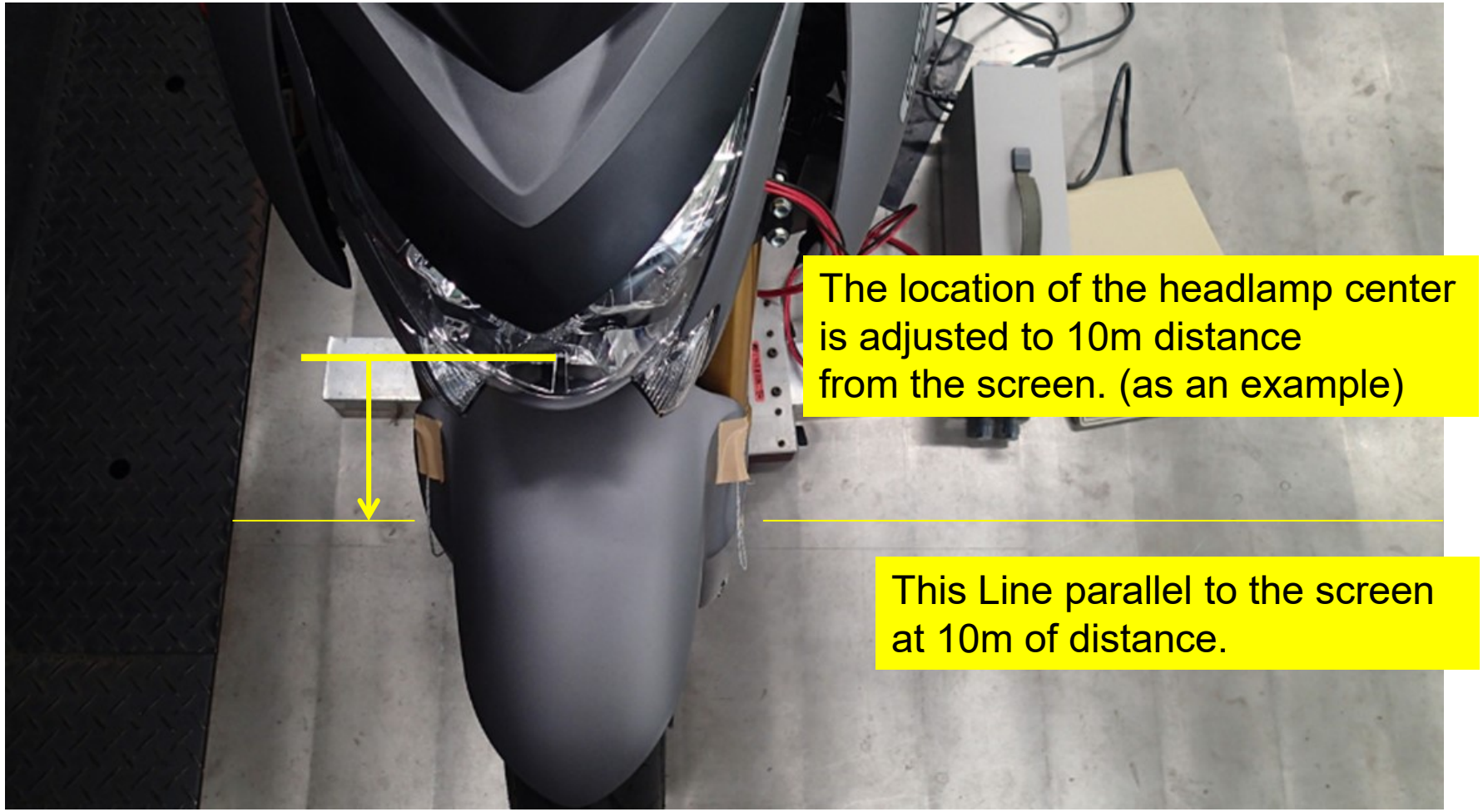
The test is conducted when external adjusting device is not present.
In the case of the vehicle shown, external adjusting device is present,
thus not required to test the vertical inclination. This is for explanation purpose only.

Test on a real vehicle(example).

Vertical inclination of the passing beam

Test on a real vehicle(example).

Vertical inclination of the passing beam

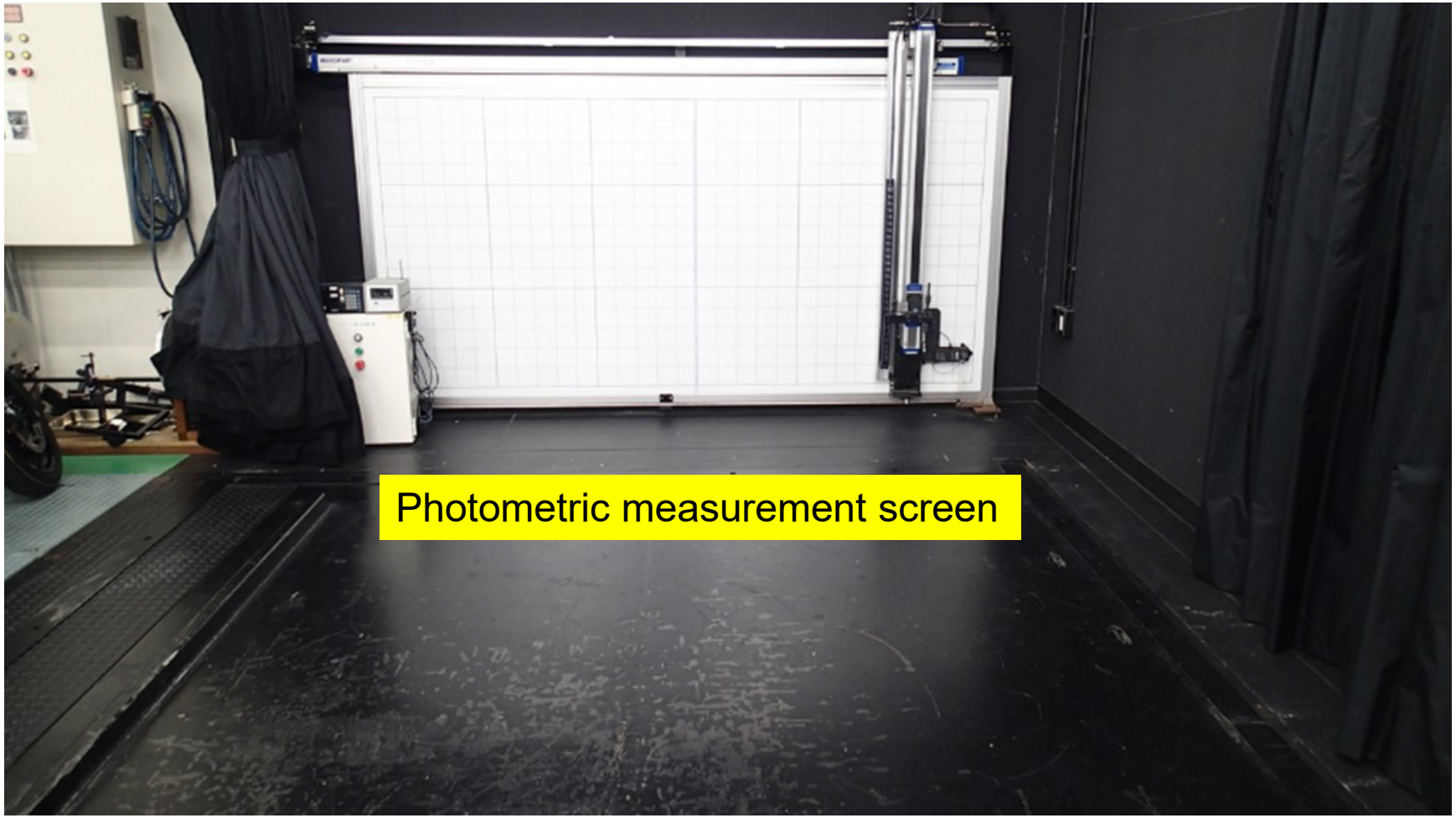


Test on a real vehicle(example).

Vertical inclination of the passing beam

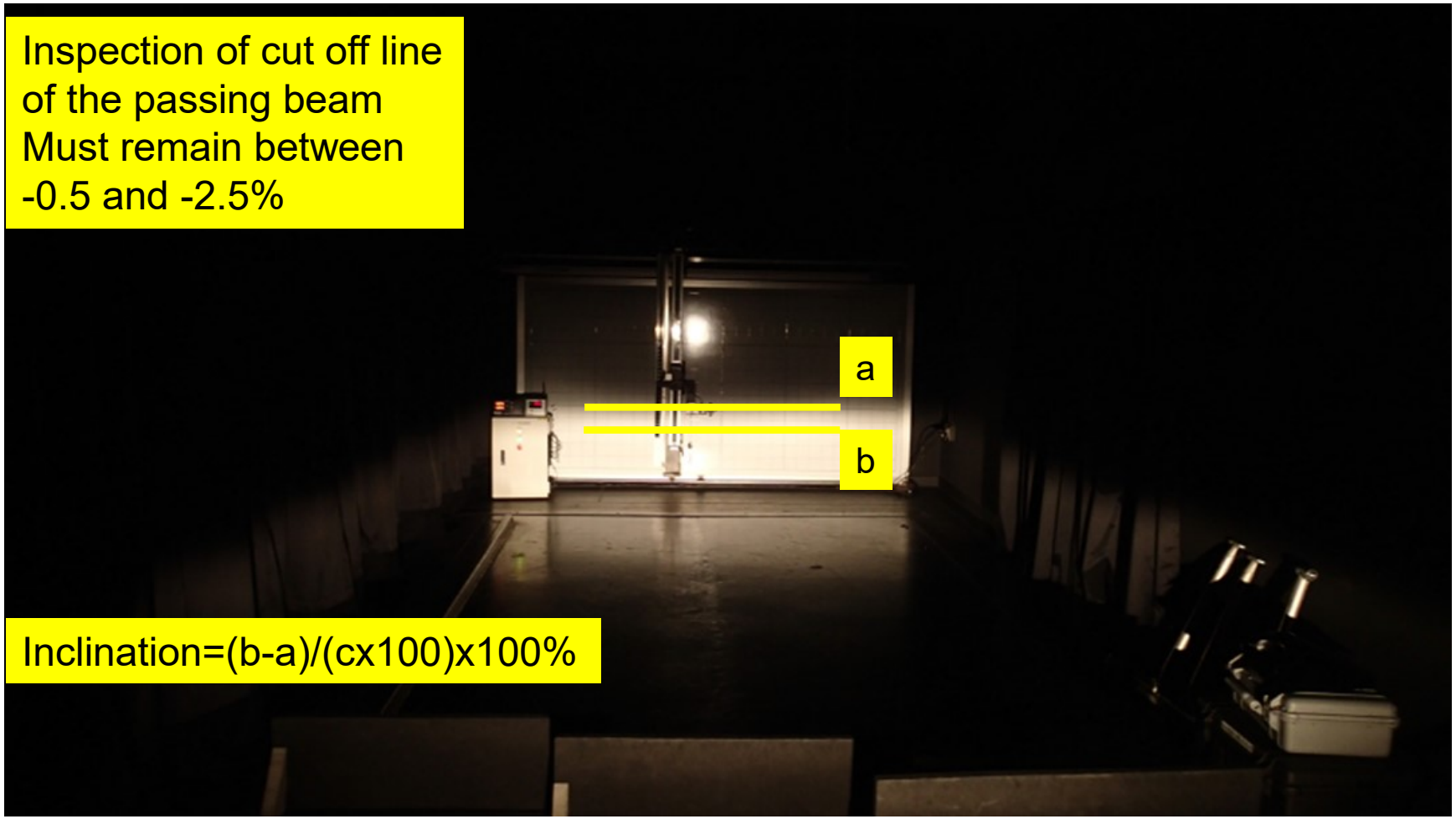
Test on a real vehicle(example).

Vertical inclination of the passing beam



Test on a real vehicle(example).

Vertical inclination of the passing beam



a: Height of the passing beam headlamp (mm)
b: Height of the cut off line on the screen (mm)
c: Distance between headlamp and screen (m)

The light flashing frequency of direction indicator

Ex. Count flash times for 10sec
and multiply the value by 6

6.3.9.1. The light flashing frequency shall be 90+/-30 times per minute

6.14. Emergency stop signal

6.14.1. Presence
Optional.
The emergency stop signal shall be given by the simultaneous operation of all the stop or direction indicator lamps fitted as described in paragraph 6.14.7.

6.14.2. Number
As specified in paragraph 6.3.1. or 6.4.1.

6.14.3. Arrangement
As specified in paragraph 6.3.2. or 6.4.2.

6.14.4. Position
As specified in paragraph 6.3.3. or 6.4.3.

6.14.5. Geometric visibility
As specified in paragraph 6.3.4. or 6.4.4.

6.14.6. Orientation
As specified in paragraph 6.3.5. or 6.4.5.

6.3. Direction-indicator lamp

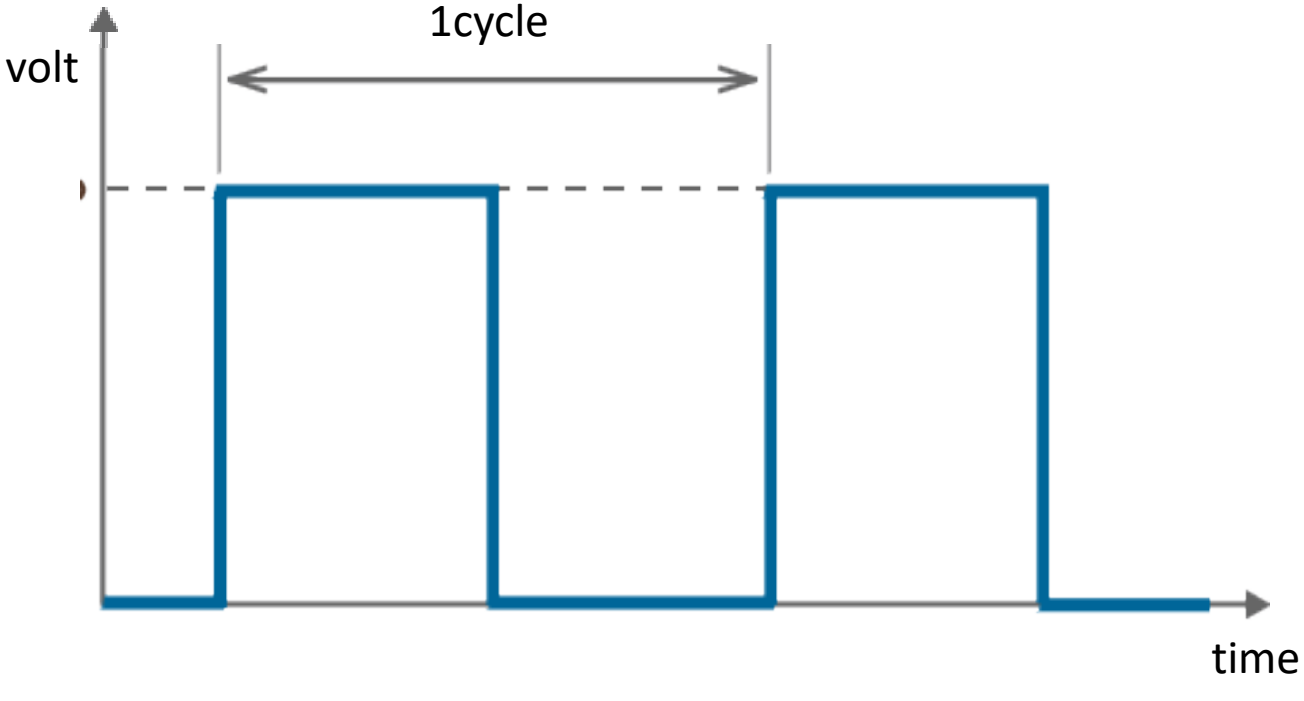
or

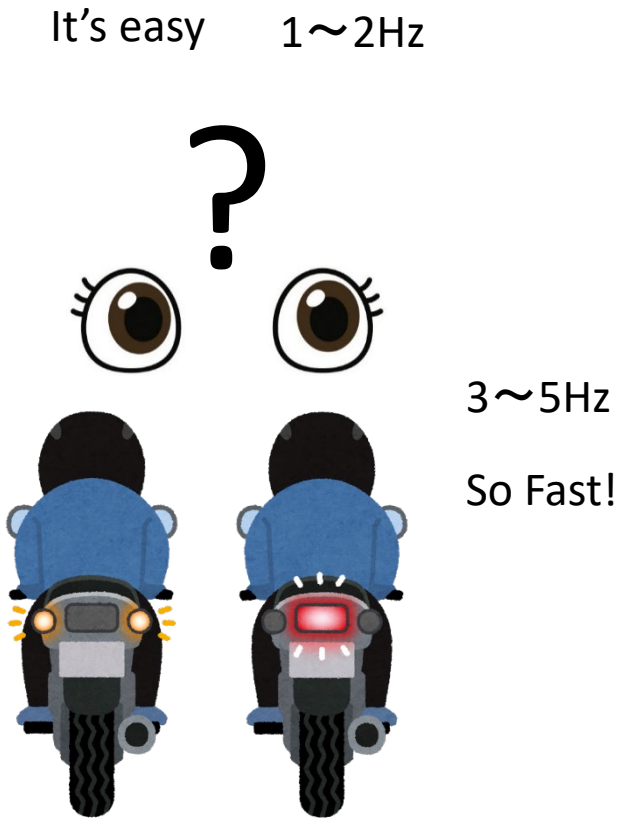
6.4. Stop lamp

6.14.7. Electrical connections

6.14.7.1. All the lamps of the emergency stop signal shall flash in phase at a frequency of 4.0 +/-1.0 Hz.

6.14.7.1.1. However, if any of the lamps of the emergency stop signal to the rear of the vehicle use filament light sources the frequency shall be 4.0 +0.0/-1.0 Hz.



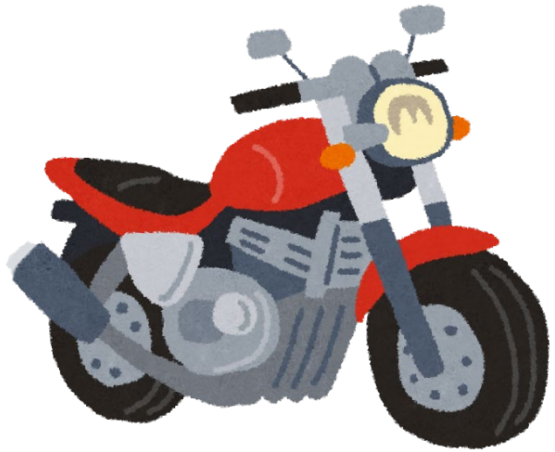


6.14.7.2. The emergency stop signal shall operate independently of other lamps.

6.14.7.3. The emergency stop signal shall be activated and deactivated automatically.

6.14.7.3.1. The emergency stop signal shall be activated only when the vehicle speed is above 50km/h and the braking system is providing the emergency braking logic signal defined in Regulation No. 78.

6.14.7.3.2. The emergency stop signal shall be automatically deactivated if the emergency braking logic signal as defined in Regulation No. 78 is no longer provided or if the vehiclehazard warning signal is activated.



R78

2.23. "*Emergency braking signal*": logic signal indicating emergency braking as specified in paragraph 5.2.23. of this Regulation.

5.2.23. When a vehicle is equipped with the means to indicate emergency braking, activation and de-activation of the emergency braking signal shall only be generated by the application of the service braking system when the following conditions are fulfilled: 7

5.2.23.1. The signal shall not be activated when the vehicle deceleration is below 6 m/s^2 but it may be generated at any deceleration at or above this value, the actual value being defined by the vehicle manufacturer.
The signal shall be de-activated at the latest when the deceleration has fallen below 2.5 m/s^2.

5.2.23.2. The following conditions may also be used:
(a) The signal may be generated from a prediction of the vehicle deceleration resulting from the braking demand respecting the activation and de-activation thresholds defined in paragraph 5.2.23.1. above;
or
(b) The signal may be activated at a speed above 50 km/h when the antilock system is fully cycling (as defined in paragraph 2. of Annex 6).
The signal shall be deactivated when the antilock system is no longer fully cycling.

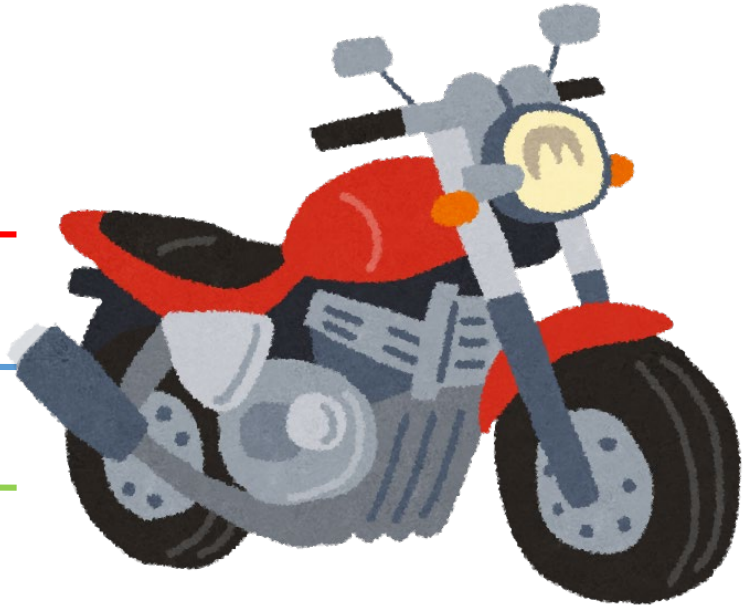
■ESS Dynamic test check sheet

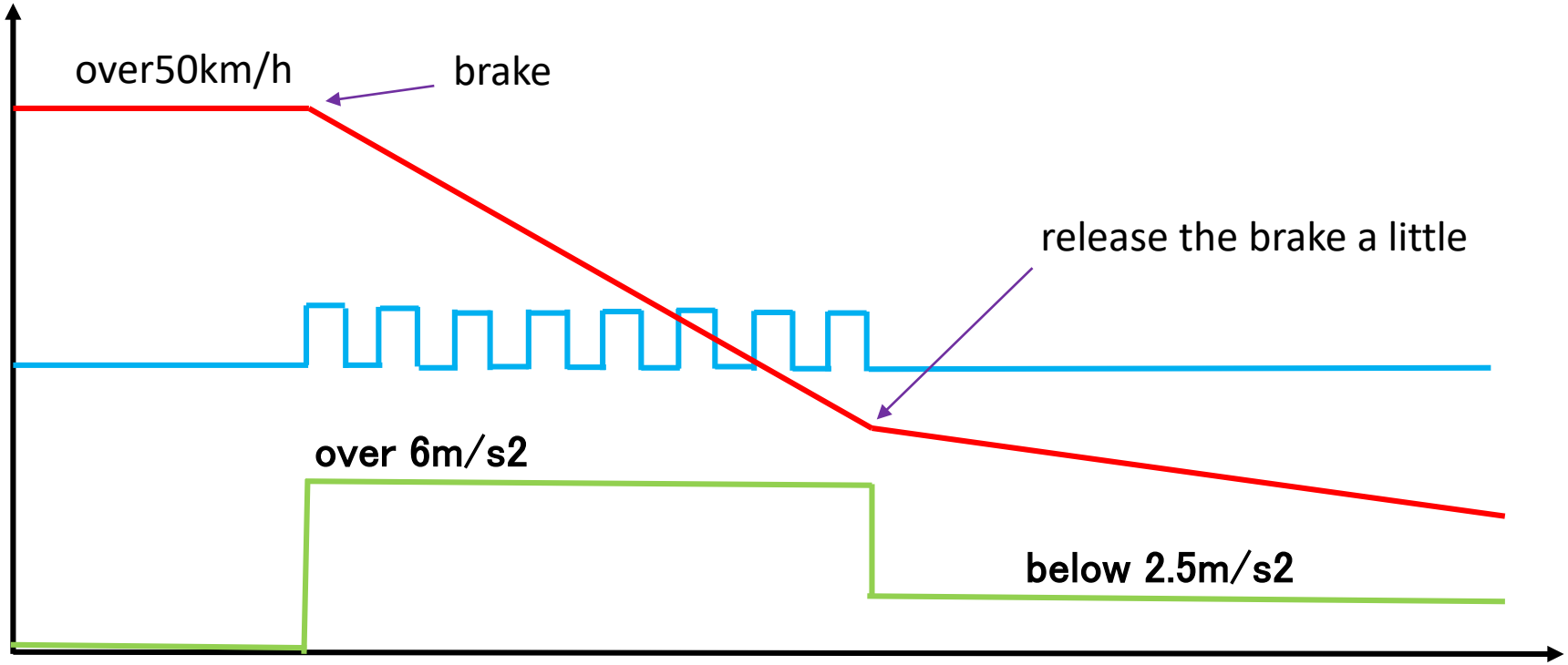
Test pattern	①		②	③	④	⑤
	Check activation	Check deactivation	Check non-operation	Check non-operation	Check deactivation	Check activation
Initial braking speed	over 50km/m	—	over 50km/m	less than 50km/m	over 50km/m	over 50km/m
Deceleration	braking at over 6m/s2	after ESS activation, deactivation by reducing deceleration	braking at less than 6m/s2	braking at over 6m/s2	braking at over 6m/s2	braking at over 6m/s2
Others	—		—	—	hazard ON during ESS activation	direction indicator ON
Checking of ESS activation	activated at over 6m/s2 and over 50km/h	deactivated below 2.5m/s2	non-operational at less than 6m/s2 (vehicle speed over 50km/h)	non-operational at 50km/h or less (over 6m/s2)	switched to hazard	ESS activated even when direction indicator is ON
Judgment	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail
Frequency of illumination	Frequency 4.0±1.0Hz (3.0 – 4.0Hz for filament light source)					
Judgment	Pass/Fail					

vehicle speed

stop or hazard signal

Deceleration





2.30. "*Bend lighting*" means a lighting function to provide enhanced illumination in bends.

6.2.5.7. Additional light source(s) or additional lighting unit(s) may be activated only in conjunction with the principal passing-beam or the driving-beam to produce bend lighting.

The illumination provided by the bend lighting shall not extend above the horizontal plane that is parallel with the ground and containing the reference axis of the headlamp producing the principal passing-beam for all bank angles as specified by the manufacturer during type approval of the device according to Regulation No. 113.

Ninja H2 SX SE


OFF
OFF
OFF
ON
ON
ON

6.2.5.8. The requirement in paragraph 6.2.5.7. above shall be tested as follows:
The test vehicle shall be set as specified in paragraph 5.4. of this Regulation.

Measure the bank angles on both sides of the vehicle under every condition where the bend lighting is activated.

The bank angles to measure are the bank angles specified by the manufacturer during type approval of the device according to Regulation No. 113.

The handlebar may be fixed in the straight ahead position so as not to move during the vehicle inclination.

For the test, the bend lighting may be activated by means of a signal generator provided by the manufacturer.

The system is considered to satisfy the requirements of paragraph 6.2.5.7. above, if all measured bank angles on both sides of the vehicle are greater than or equal to the minimum bank angles given in the communication form for the type approval of the device according to Regulation No. 113.

Conformity to paragraph 6.2.5.7. above may be demonstrated by the manufacturer using other means accepted by the Type Approval Authority responsible for type approval.

治具上のIMUを傾斜させて、車両のバンク角度を擬似的に与える。

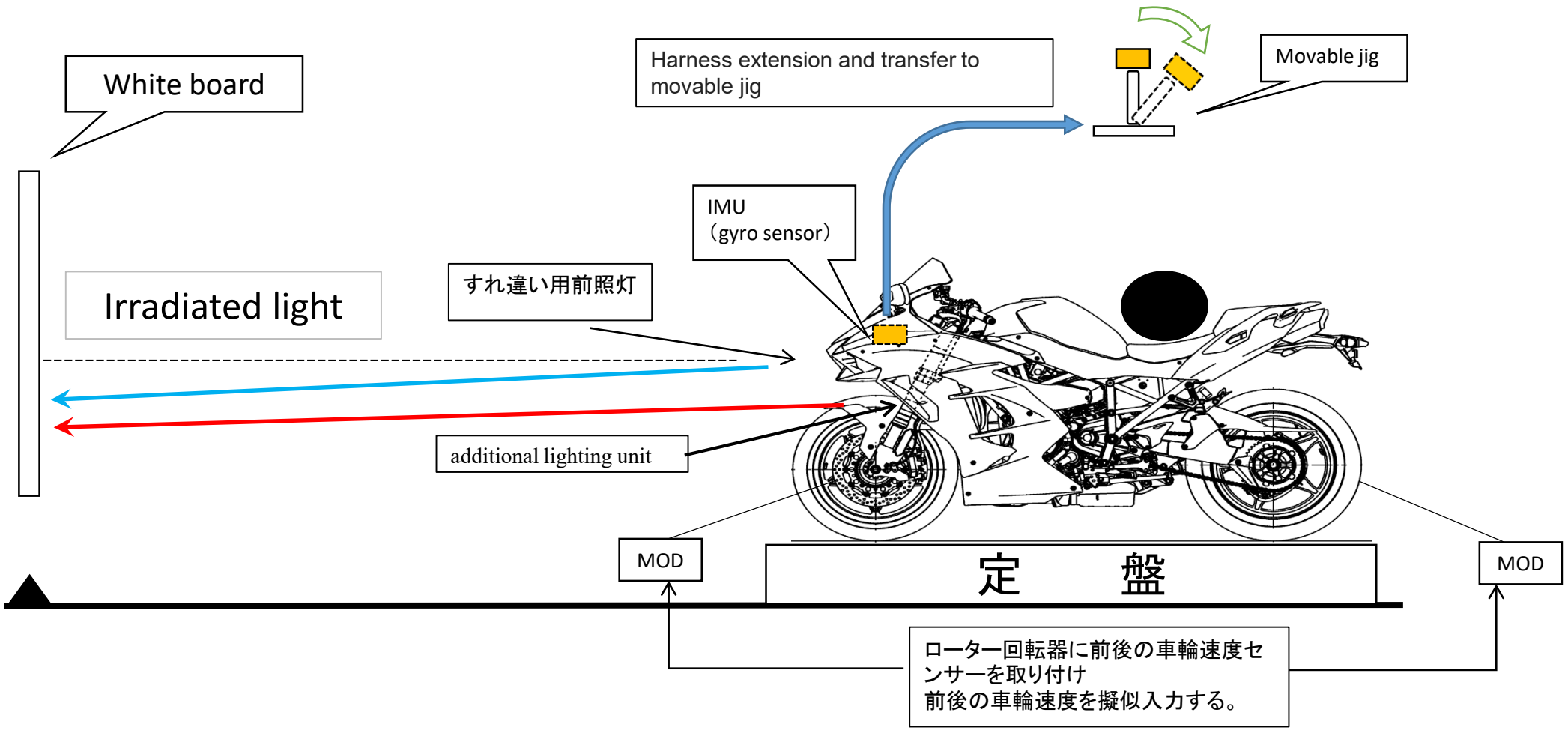
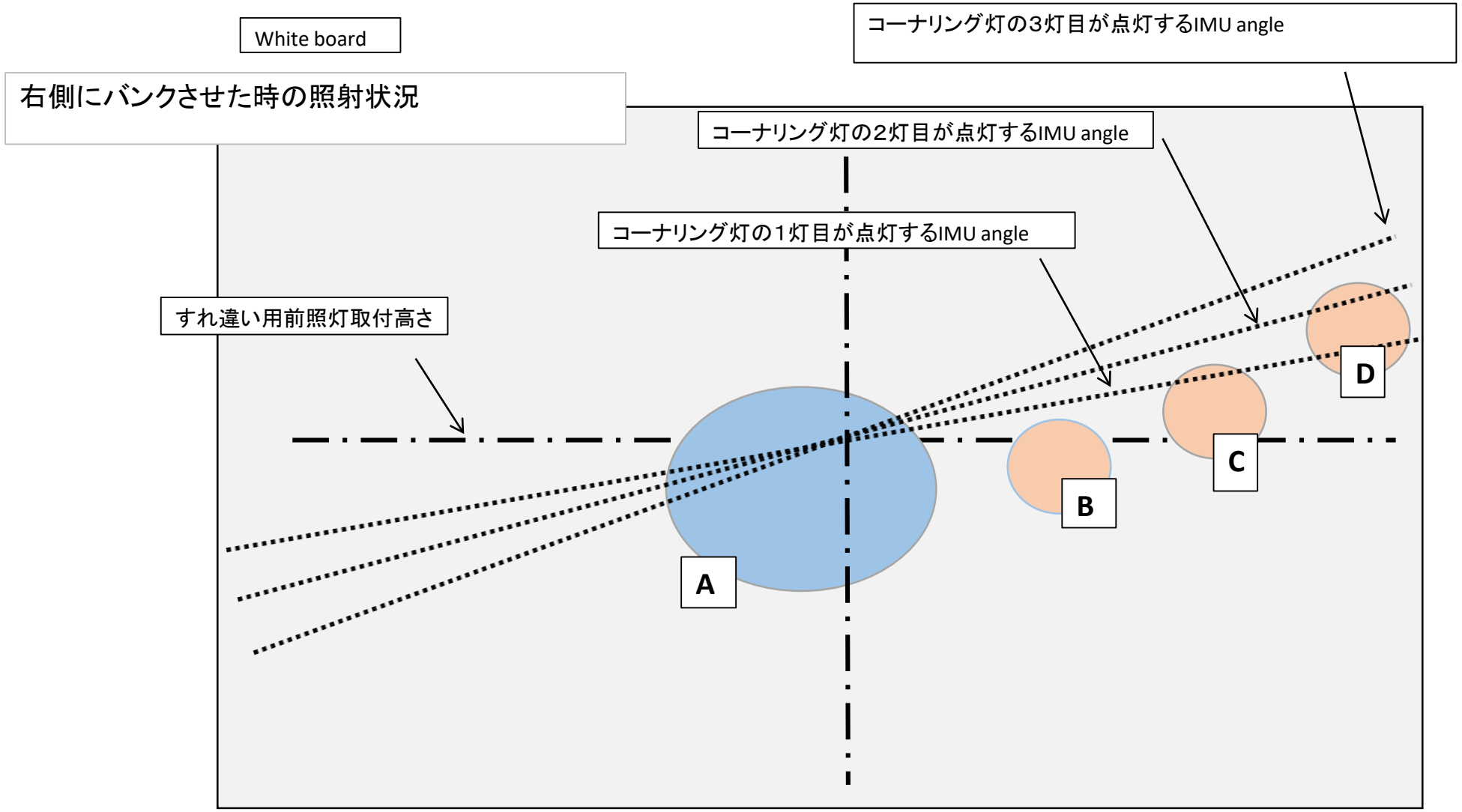


Image of irradiation range



A : passing-beam irradiation range

B : 1st irradiation range

C : 2nd irradiation range

D: 3rd irradiation range

END