

104 年下半年度「車輛安全檢測基準」部分條文修正草案討論（五）

會議紀錄

- 一、 開會時間：中華民國 105 年 4 月 20 日星期三下午 1 時 30 分
- 二、 開會地點：本中心 A103 會議室
- 三、 會議主席：許志成 處長
- 四、 會議記錄：黃聖智
- 五、 出席人員：如簽到表
- 六、 會議結論：

（一） 本次會議主要係討論對應 UN R46 04-S2 版本所增訂之基準「二十三之二、間接視野裝置安裝規定(草案)」及「二十七之一、間接視野裝置(草案)」。

（二） 基準「二十三之二、間接視野裝置安裝規定(草案)」綜合修訂意見如下：

1. 考量本次內容為新增使用攝影機-顯示器相關規定，為利爾後實驗室認可作業，爰建請中心考量新增基準版次，若擬新增基準版次，則併請妥適增修條文。
2. 原「1.2...非屬基準「間接視野裝置安裝規定」表一之前方近接視野裝置及/或乘客側視野裝置。」
修訂為「1.2...非屬基準「間接視野裝置安裝規定」表一之前方及/或乘客側之鄰近視野之裝置。」
3. 原「2.1 間接視野裝置...此裝置可為視鏡、視訊裝置」
修訂為「2.1 間接視野裝置...此裝置可為視鏡、攝影機-顯示器裝置」
4. 原「2.10 視野範圍...此視野範圍係以地面為準並由一個...」
修訂為「2.10 視野範圍...此視野範圍係以地面為基準並由一個...」
5. 原「4.1 最少強制間接視野...視鏡或攝影機-監視裝置...」
修訂為「4.1 最少強制間接視野...視鏡或攝影機-顯示器裝置...」
6. 原「4.2 攝影機...此螢幕之使用模式經認可後，可使用或顯示多影像。」

修訂為「4.2 攝影機...此顯示器之使用模式應經認證後，方可使用或顯示多重影像(Multiple images)。」

7. 原「5.1.2 II 至 VII 類裝置應可...」

修訂為「5.1.2 II 至 VII 類視鏡應可...」

8. 原「5.1.2.1 車輛乘客側的 II 至 VII 類裝置及駕駛側選配的 II 至 VII 類裝置。」

修訂為「5.1.2.1 車輛乘客側的 II 至 VII 類視鏡及駕駛側選配的 II 至 VII 類視鏡。」

9. 原「5.1.2.2 VI 類車前視野裝置。」

修訂為「5.1.2.2 VI 類車前視野視鏡。」

10. 原「5.1.4 ...中心面與通過後視鏡中心...」

修訂為「5.1.4 ...中心面與通過後視鏡或顯示器中心...」

11. 原「7. 車輛視野裝置：」

修訂為「7. 車輛視野：」

12. 原「7.8 VII 類主要後視鏡」

修訂為「7.8 VII 類主要後方視鏡」

13. 原「7.10 遮避區域」

修訂為「7.10 遮蔽區域」

14. 原「7.10.2 II、III、IV、V 及 VI 類之間接視野裝置及 VII 類後視鏡...」

修訂為「7.10.2 II、III、IV、V 及 VI 類之間接視野裝置及 VII 類視鏡...」

15. 原「8.1.1 預期用途...除了本基準 4.2...CMS 系統應至少保留作動...」

修訂為「8.1.1 預期用途...除了本基準 4.2...CMS 系統應至少維持作動...」

16. 原「8.1.1.1 預設視野...具視鏡及攝影機-螢幕之雙重功能 I 類系統，其攝影機-螢幕系統模式設定應由駕駛設定。」

修訂為「8.1.1.1 預設視野...具 I 類視鏡及攝影機-顯示器雙重功能系統者，其攝影機-顯示器系統模式設定應由駕駛設定。」

17. 8.1.3.2 圖片文字原「螢幕定義垂直尺寸」

修訂為「顯示器既定垂直尺寸」

18. 8.1.3.2 圖片文字原「螢幕定義水平尺寸」

修訂為「顯示器既定水平尺寸」

19. 原「9.3 監看裝置安裝要求...」

修訂為「9.3 顯示器裝置安裝要求...」

20. 原「10.1 攝影機-顯示器...位於監看裝置中心位置...(TOD)測試辨視。監看裝置上其餘視區之最小可見視標」

修訂為「10.1 攝影機-顯示器...位於觀看系統中心位置...(TOD)測試辨視。觀看系統上其餘視區之最小可見視標」

21. 原「表一 視鏡安裝數量一覽表」

修訂為「表一 安裝數量一覽表」

22. 本次所討論之基準項目，條文中所有「螢幕(Monitor)」修訂為「顯示器」。

23. 本次所討論之基準項目，條文中所有「因子」修訂為「係數」。

24. 本次所討論之基準項目，條文中所有「解析度」修訂為「解像度」。

25. 本次所討論之基準項目，條文中所有「放大率」修訂為「放大倍率」。

26. 本次所討論之基準項目，條文中所有「縱橫比」修訂為「長寬比」。

(三) 基準「二十七之一、間接視野裝置(草案)」綜合修訂意見如下：

1. 考量本次內容為新增使用攝影機-顯示器相關規定，為利爾後實驗室認可作業，爰建請中心考量新增基準版次，若擬新增基準版次，則併請妥適增修條文。

2. 原「2.24 視野範圍...此視野範圍係以地面為準並由一個...」

修訂為「2.24 視野範圍...此視野範圍係以地面為基準並由一個...」

3. 原「8.2.4.2.1 衝擊方向應對準攝影機鏡頭之正面一次。」
修訂為「8.2.4.3.1 衝擊方向應對準攝影機鏡頭之正面一次。」
4. 原「8.2.4.2.2 攝影機鏡頭之背面一次。」
修訂為「8.2.4.3.2 攝影機鏡頭之背面一次。」
5. 原「10.2.3.3.2.1 晝間條件...對於漫射照明燈(Diffuse illuminator)照度值...對於漫射照明燈之照度值，可於申請者要求下透過下列圖示求得(如圖四):」
修訂為「10.2.3.3.2.1 晝間條件...對於漫射照明燈(Diffuse illuminator)亮度值...對於漫射照明燈之亮度值，可於申請者要求下透過下列圖示求得:」
6. 原「圖四：漫射照明燈之照度值」
修訂為「圖四：漫射照明燈之亮度值」
7. 原「10.2.3.3.3...灰度級數試驗方法應依據本基準段落 12.1.4 之規定。」
修訂為「10.2.3.3.3...灰階級數試驗方法應依據本基準 12.1.4 之規定。」
8. 原「10.2.3.3.4 演色性... (e) 從白色...色塊的著色距離 (對於 i=紅、綠、藍、黃)，相對於白色 (i=白色)。」
修訂為「10.2.3.3.4 演色性... (e) 從白色...色塊相對於白色 (i=白色) 之顏色距離 (對於 i=紅、綠、藍、黃)。」
9. 原「10.2.3.3.5 偽像...操作說明書應有偽像可能性...」
修訂為「10.2.3.3.5 偽像...使用說明書應有偽像可能性...」
10. 原「10.2.3.3.5.1 漏光(Smear)
漏光應為透明且發生漏光效果而顯示眩光源的亮度等級之最大亮度值不超出百分之一 0。」
修訂為「10.2.3.3.5.1 漏光(Smear)
漏光應為透明，且不應超出造成漏光之眩光來源顯示亮度等級之最高亮度值百分之一 0。」

11. 原「10.2.3.3.5.2 泛光與鏡頭光暈...」
修訂為「10.2.3.3.5.2 高光溢出與耀光...」
12. 原「10.2.3.3.5.3 點光源...若系統點光源，非上述所描述的模式，
相關資訊應詳述於使用操作說明書指示駕駛。」
修訂為「10.2.3.3.5.3 點光源...若點光源於系統之模式，未能使點
光源如上述呈現，則其相關資訊應詳述於使用說明書提醒駕駛。」
13. 原「10.2.3.3.6.1 清晰度...(a)點 1 解析度(一〇公尺為代表點位於
無窮遠)和點 2 解析度(代表點位於距離六公尺的中心)」
修訂為「10.2.3.3.6.1 清晰度...(a)點 1 解像度(一〇公尺為代表無
窮遠之點)和點 2 解像度(代表點位於六公尺距離之中心)」
14. 原「10.2.3.3.7 幾何扭曲(Geometric distortion)」
修訂為「10.2.3.3.7 幾何變形(Geometric distortion)」
15. 原「10.2.3.5 品質與進一步人體工程要求」
修訂為「10.2.3.5 品質與人體工程要求」
16. 原「12.1.1 一般規範...試驗方法應經由審驗機構同意之下，檢測
機構以認可的試驗方法...」
修訂為「12.1.1 一般規範...應由檢測機構以認可的試驗方法...」
17. 原「12.1.2.2 確定能量工作量(Eobs)每一次頻率觀察到的能量小於
一二〇赫茲：」
修訂為「12.1.2.2 決定小於一二〇赫茲之每一頻率之觀察能量
(Eobs)：」
18. 原「12.1.3 點光源試驗方法...LV,mas：...」
修訂為「12.1.3 點光源試驗方法...LV,max：...」
19. 原「12.1.4.灰度級數試驗方法...灰度級數圖上每個色塊尺寸應為
五〇乘五〇公釐。色塊與色塊之間的距離應為五〇公釐。」
修訂為「12.1.4.灰階級數試驗方法...灰階級數圖上每個色塊尺寸
應為五〇乘五〇公釐。色塊與色塊之間的距離應為五公釐。」
20. 原「12.2.1 一般規定...該資料應顯示該系統於正常和故障情況...」

修訂為「12.2.1 一般規定...該資料應包含該系統於正常和故障情況...」

21. 原「12.2.2.1. 攝影機-螢幕系統...藉以電子影像捕捉...由一部攝影機，通常被安裝在車輛的車身及一部螢幕，通常放置在車輛內所構成。」

修訂為「12.2.2.1. 攝影機-顯示器系統...藉由電子影像捕捉...由一部通常安裝於車輛車身之攝影機，及一部通常放置在車輛內之顯示器所構成。」

22. 原「12.2.2.2. 攝影機(Camera) 攝影機係將是捕捉到彩色影像的具體視野之裝置。主要係由影像和鏡頭所構成。」

修訂為「12.2.2.2. 攝影機(Camera) 攝影機係捕捉特定視野彩色影像之裝置。主要係由成像元件(Imager)和鏡頭所構成。」

23. 原「12.2.3.4 申請者的安全概念...」

修訂為「12.2.3.4 申請者宣告之產品安全概念...」

24. 原「12.2.4.1 攝影機...(c) 光學構件散焦，可見視標解析度降低...」

修訂為「12.2.4.1 攝影機...(c)光學構件失焦(Defocus)，可見視標解像度降低...」

25. 原「12.2.5.2 應依據 12.2.4...且其應整體效應之水平確保具適當之安全概念與呈現。」

修訂為「12.2.5.2 應依據 12.2.4...且其整體效應之水平應確保具適當之安全概念與呈現。」

26. 原「圖七：點光源試驗配置圖...2：待測攝影機」

修訂為「圖七：點光源試驗配置圖...2：受驗攝影機」

27. 原「圖七：點光源試驗配置圖...3：待測螢幕」

修訂為「圖七：點光源試驗配置圖...3：受驗顯示器」

28. 本次所討論之基準項目，條文中所有「螢幕(Monitor)」修訂為「顯示器」。

29. 本次所討論之基準項目，條文中所有「灰度級數」修訂為「灰階

級數」。

30. 本次所討論之基準項目，條文中所有「因子」修訂為「係數」。

31. 本次所討論之基準項目，條文中所有「解析度」修訂為「解像度」。

32. 本次所討論之基準項目，條文中所有「放大率」修訂為「放大倍率」。

33. 本次所討論之基準項目，條文中所有「能量工作量」修訂為「觀察能量」。

34. 條文 5.1.1~5.1.3 所列公式經確認，其與 UN 原文僅單位不同，不影響其算式，爰不予調整。

(四) 關於檢測能量，基準「二十三之二、間接視野裝置安裝規定(草案)」國內檢測機構已具備檢測能量；基準「二十七之一、間接視野裝置(草案)」國內目前無對應之檢測能量，然因國內車輛並無採用攝影機-顯示器間接視野裝置，故規定之制訂不與業界現況造成影響，且為使國外製造該等裝置可符合國內規定與導入使用，爰建議仍與 UN 調和。

(五) 與會代表對相關草案內容認有需再潤飾者，再請檢視妥適後於會後 1 週內提供本中心參辦。

七、 散會(下午 16 時 20 分)

項次	法規名稱	修訂法規內容	新增之法規項目	頁碼	UN 版本別	內容摘要
1	二十三之二、間接視野裝置安裝規定(草案)		◎	P.1	UN R46 04-S2 (draft)	1.考量本次 UN R46 04-S2 內容為新增使用攝影機-顯示器相關規定，為利爾後實驗室認可作業，爰新增本基準版次。 2.以基準「二十七、間接視野裝置」條文為基礎。與其差異主要為： (1)增訂以攝影機-顯示器系統(CMS)替代後視鏡之功能且提供表一相同之間接視野，並排除至少安裝高度規定及不得超過表一視鏡數量相關規定。 (2)增訂 I 至 IV 類攝影機-顯示器裝置相關規定。 (3) II 類及 III 類將原「主要車外視鏡」調整為「主要後視野裝置」。 (4) IV 類將原「廣角車外視鏡」調整為「廣角視野裝置」。 (5) V 類將原「外部近側視鏡」調整為「近側視野裝置」。 (6) VI 類將原「車前視鏡」調整為「車前視野裝置」。 (7) VII 類將原「具車身之 L 類車輛之視鏡」調整為「具車身之 L 類車輛之主要後方視野視鏡」。 (8) I 類將原「車內視鏡」調整為「後視野裝置」。 (9)將原「提供間接視野之非視鏡類裝置」調整為「V 及 VI 類攝影機-顯示器裝置」。

項次	法規名稱	修訂法規內容	新增之法規項目	頁碼	UN 版本別	內容摘要
						(10)將原「攝影/監看裝置之偵測距離的計算」調整為「V 及 VI 類攝影機-顯示器裝置之偵測距離」。

UN R46 REAR-VIEW MIRRORS 04-S2 (draft) 間接視野裝置

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
04-S2			1050201 交通部公告版
1. Scope 1.1. This Regulation applies: (a) To compulsory and optional devices for indirect vision, set out in the table under paragraph 15.2.1.1.1. of this Regulation for vehicles of category M and N and to compulsory and optional devices for indirect vision mentioned in paragraphs 15.2.1.1.3. and 15.2.1.1.4. of this Regulation for vehicles of category L with bodywork at least partly enclosing the driver; (b) To the installation of devices for indirect visions on vehicles of categories M and N and on vehicles of category L ¹ with bodywork at least partly enclosing the driver. 1.2. This Regulation does not apply to devices other than those prescribed under paragraph 1.1.(a) and their	1. Scope This Regulation applies: (a) To compulsory and optional devices for indirect vision, set out in the table under paragraph 15.2.1.1.1. of this Regulation for vehicles of category M and N ¹ and to compulsory and optional devices for indirect vision mentioned in paragraphs 15.2.1.1.3. and 15.2.1.1.4. of this Regulation for vehicles of category L ¹ with bodywork at least partly enclosing the driver; (b) To the installation of devices for indirect visions on vehicles of categories M and N and on vehicles of category L ¹ with bodywork at least partly enclosing the driver.	<u>二十三之二、間接視野裝置安裝規定(草案)</u> 1. 實施時間及適用範圍： 1.1 中華民國一〇七年一月一日起， <u>新各型式 M、N 及 L 類車輛，其間接視野裝置安裝應符合本項規定，且除 VI-A 類外應使用符合本基準規定之間接視野裝置。</u> 1.1.1 <u>已符合本基準項次「二十三之一」規定之既有型式 M、N 及 L 類車輛且未設置攝影機-顯示器系統(CMS)裝置者，亦視同符合本項規定。</u> 1.2 <u>本項法規不適用於 M1、M2、M3、N1 類車輛，以及總重小於 7.5 噸之 N2 類車輛上設置非屬基準「間接視野裝置安裝規定」表一之前方及/或乘客側之鄰近視野之裝置。</u>	實施時間及適用範圍調整說明： 依 4/20 會議結論，業者提出本次版本是否考量實驗室認可作業，爰建請中心考量新增基準版次，若擬新增基準版次，則併請妥適增修條文。 基準規定之間接視野裝置。 1.1.1 已符合本基準項次「二十三」規定之既有型式 M、N1 及 L 類車輛，亦視同符合本項規定。 1.2 中華民國一〇六年一月一日起， <u>新型式之 N2 及 N3 類車輛，其間接視野裝置安裝應符合本項規定，且應使用符合本基準規定之間接視野裝置；中華民國一〇七年一月一日起，已符合本基準項次「二十三」規定之既有型式 N2 及 N3 類車輛，另應符合 7.5.6 至 7.5.12 之規定。</u>

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installation, for observing the vision area(s) immediately adjacent to the front and/or the passenger's side of vehicles of category M ₁ , M ₂ , M ₃ , N ₁ and N ₂ ≤ 7.5 t.			
2. Definitions ... 2.1. "Devices for indirect vision" means devices intended to give a clear view of the rear, side or front of the vehicle within the fields of vision defined in paragraph 15.2.4. These can be conventional mirrors, camera-monitors or other devices able to present information about the indirect field of vision to the driver.	2. Definitions ... 2.1. "Devices for indirect vision" means devices to observe the traffic area adjacent to the vehicle which cannot be observed by direct vision. These can be conventional mirrors, camera-monitors or other devices able to present information about the indirect field of vision to the driver.	2. 名詞釋義： 2.1 間接視野裝置(<u>Devices for indirect vision</u>)：指裝置目的可提供車輛後面、側邊或前面視野範圍內之清晰視野。此裝置可為視鏡、攝影機-顯示器裝置或其他可提供駕駛人間接視野資訊之裝置。L類車輛則係使用視鏡(照後鏡)提供視野。	2. 名詞釋義： 2.1 間接視野裝置：指任何一種可提供觀察車輛週遭交通狀況(無法以目視方式直接觀察時)之裝置。此裝置可為視鏡、視訊裝置或其他可提供駕駛人間接視野資訊之裝置。L類車輛則係使用視鏡(照後鏡)提供視野。
2.1.1. "Mirror" means any device, excluding devices such as periscopes, intended to give a clear view to the rear, side or front of the vehicle within the fields of vision defined in paragraph 15.2.4. by means of a reflective surface.	2.1.1. "Mirror" means any device, excluding devices such as periscopes, intended to give a clear view to the rear, side or front of the vehicle within the fields of vision defined in paragraph 15.2.4. of this Regulation.	2.1.1 視鏡(<u>Mirror</u>)：指任何一種裝置，藉由表面反射可提供車輛後面、側邊(通常由照後鏡提供此功能)或前面(通常由前照鏡提供此功能，L類車輛除外)清晰之視線；但不包括複雜之光學系統，如潛望鏡。	2.1.1 視鏡：指任何一種裝置，可提供車輛後面、側邊(通常由照後鏡提供此功能)或前面(通常由前照鏡提供此功能，L類車輛除外)清晰之視線；但不包括複雜之光學系統，如潛望鏡。
2.1.1.1. "Interior mirror" means a device as defined in paragraph 2.1.1. above, which can be fitted in the passenger compartment of a vehicle.	2.1.1.1. "Interior mirror" means a device as defined in paragraph 2.1. above, which can be fitted in the passenger compartment of a vehicle.	<u>2.1.1.1</u> 車內視鏡：指安裝於車輛之乘室內。	<u>2.1.2</u> 車內視鏡：指安裝於車輛之乘室內。
2.1.1.2. "Exterior mirror" means a device as defined in paragraph 2.1.1. above, which can be mounted on the	2.1.1.2. "Exterior mirror" means a device as defined in paragraph 2.1. above, which can be mounted on the	<u>2.1.1.2</u> 車外視鏡：指安裝於車輛乘室外。	<u>2.1.3</u> 車外視鏡：指安裝於車輛乘室外。

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external surface of a vehicle.	the external surface of a vehicle.		
		2.1.2 L類車輛之 <u>視野視鏡</u> ：指任何一種視鏡裝置，可提供L類車輛後面與側邊清晰之視線；但不包括複雜之光學系統，如潛望鏡。	2.1.4 L類車輛之 <u>照後鏡</u> ：指任何一種視鏡裝置，可提供L類車輛後面與側邊清晰之視線；但不包括複雜之光學系統，如潛望鏡。
2.4. "Class of device for indirect vision" means all devices having one or more common characteristics or functions. They are classified as follows: 2.4.1. Class I: " Rear-view device ", giving the field of vision defined in paragraph 15.2.4.1. 2.4.2. Class II and III: " Main rear-view device ", giving the fields of vision defined in paragraphs 15.2.4.2. and 15.2.4.3. 2.4.3. Class IV: " Wide-angle view device ", giving the field of vision defined in paragraph 15.2.4.4. 2.4.4. Class V: " Close-proximity view device ", giving the field of vision defined in paragraph 15.2.4.5. 2.4.5. Class VI: " Front-view device ", giving the field of vision defined in paragraph 15.2.4.6. 2.4.6. Class VII: Main rear-view mirrors	2.1.1.13. "Class of mirror" means all devices having one or more common characteristics or functions. They are classified as follows: (a) Class I: " Interior rear-view mirror ", giving the field of vision defined in paragraph 15.2.4.1. of this Regulation; (b) Classes II and III: " Main exterior rear-view mirror ", giving the fields of vision defined in paragraphs 15.2.4.2. and 15.2.4.3. of this Regulation; (c) Class IV: " Wide-angle exterior mirror ", giving the field of vision defined I paragraph 15.2.4.4. of this Regulation; (d) Class V: " Close-proximity exterior mirror ", giving the field of vision defined I paragraph 15.2.4.5. of this Regulation; (e) Class VI: " Front mirror ", giving the field of vision defined in paragraph 15.2.4.6. of this Regulation; (f) Class VII: Mirrors intended for L	2.1.3 <u>間接視野裝置</u> 類型係指具有一或多個共同特徵或功能之所有裝置，其分類如下： (a) I類： <u>後方視野裝置</u> ，係指能提供7.1所規範之視野者。 (b) II及III類： <u>主要後方視野裝置</u> ，係指能提供7.2及7.3所規範之視野者。 (c) IV類： <u>廣角視野裝置</u> ，係指能提供7.4所規範之視野者。 (d) V類： <u>近側視野裝置</u> ，係指能提供7.5所規範之視野者。 (e) VI類： <u>車前視野裝置</u> ，係指能提供7.6所規範之視野者。 (f) VII類：具車身之L類車輛之 <u>主要後</u>	2.1.5 <u>視鏡</u> 類型係指具有一或多個共同特徵或功能之所有裝置，其分類如下： (a) I類： <u>車內視鏡</u> ，係指能提供7.1所規範之視野者。 (b) II及III類： <u>主要車外視鏡</u> ，係指能提供7.2及7.3所規範之視野者。 (c) IV類： <u>廣角車外視鏡</u> ，係指能提供7.4所規範之視野者。 (d) V類： <u>外部近側視鏡</u> ，係指能提供7.5所規範之視野者。 (e) VI類： <u>車前視鏡</u> ，係指能提供7.6所規範之視野者。 (f) VII類：具車身之L類車輛之 <u>視鏡</u> ，

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intended for L category vehicles with bodywork giving the field of vision defined in paragraph 15.2.4.7.	category vehicles with bodywork, giving the field of vision defined in paragraph 15.2.4.7. of this Regulation.	<u>方視野視鏡</u> ，係指能提供7.8所規範之視野者。	係指能提供7.8所規範之視野者。
2.1.4. "Vision support system" means a system to enable the driver to detect and/or see object in the area adjacent to the vehicle.	2.1.1.4. "Vision support system" means a system to enable the driver to detect and/or see objects in the area adjacent to the vehicle.	2.4 視野輔助系統 (Vision support system)：指一個能使駕駛者發覺及/或看見車旁物體的系統。	2.4 視野輔助系統 (Vision support system)：指一個能使駕駛者發覺及/或看見車旁物體的系統。
2.1.2. "Camera-monitor system (CMS)" means a device for indirect vision as defined in paragraph 2.1., where the field of vision is obtained by means of a camera-monitor combination as defined in paragraphs 2.1.2.1. and 2.1.2.2. below.	2.1.2. "Camera-monitor device for indirect vision" means a device as defined in paragraph 2.1., where the field of vision is obtained by means of a camera-monitor combination as defined in paragraphs 2.1.2.1. and 2.1.2.2. below.	2.5 攝影機 - <u>顯示器系統 (Camera-monitor system (CMS))</u> ：意指2.1所定義之裝置，其視野範圍係依據2.6及2.7定義之攝影機及 <u>顯示器</u> 結合而獲得。	2.5 <u>可提供間接視野之攝影機-螢幕裝置</u> ：意指2.1所定義之裝置，其視野範圍係依據2.6及2.7定義之攝影機及 <u>螢幕裝置</u> 結合而獲得。
2.1.2.1. "Camera" means a device that renders an image of the outside world and then converts this image into a signal (e.g. video signal).	2.1.2.1. "Camera" means a device that renders an image of the outside world and then converts this image into a signal (e.g. video signal).	2.6 攝影機(<u>Camera</u>)：意指一能提供外部影像及將此影像轉換為訊號之裝置(例：視頻訊號)。	2.6 攝影機：意指一能提供外部影像及將此影像轉換為訊號之裝置(例：視頻訊號)。
2.1.2.2. "Monitor" means a device that converts a signal into images that are rendered into the visual spectrum.	2.1.2.2. "Monitor" means a device that converts a signal into images that are rendered into the visual spectrum.	2.7 <u>顯示器 (Monitor)</u> ：意指一個能將訊號轉換並投射至可視影像之裝置。	2.7 <u>螢幕</u> ：意指一個能將訊號轉換並投射至可視影像之裝置。
2.1.7. "Critical object" means a cylindrical object with a height of 0.50 m and a diameter of 0.30 m.	2.1.2.6. "Critical object" means a cylindrical object with a height of 0.50 m and a diameter of 0.30 m.	2.8 臨界物體(Critical object)：係指高度為0·五公尺且直徑為0·三公 尺之圓柱型物體。	2.8 臨界物體(Critical object)：係指高度為0·五公尺且直徑為0·三公 尺之圓柱型物體。
2.1.8. "Critical perception" means the level of perception that can just be obtained under critical conditions	2.1.2.7. "Critical perception" means the level of perception that can just be obtained under critical	2.9 臨界視覺(Critical perception)：係指藉由監看裝置於臨界情況下所獲得之視覺程度。於此狀態，臨界物	2.9 臨界視覺(Critical perception)：係指藉由監看裝置於臨界情況下所獲得之視覺程度。於此狀態，臨界物

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via the viewing system used. This corresponds to the situation in which the representative scale of the critical object is multiple times larger than the smallest detail that can be perceived via the viewing system.	conditions via the viewing system used. This corresponds to the situation in which the representative scale of the critical object is multiple times larger than the smallest detail that can be perceived via the viewing system.	體之代表尺度數倍大於由監看裝置所能觀測之最小可見視標。	體之代表尺度數倍大於由監看裝置所能觀測之最小可見視標。
2.1.9. "Field of vision" means the section of the tri-dimensional space which is monitored with the help of a device for indirect vision. Unless otherwise stated, this is based on the view on ground level offered by a device and/or devices other than mirrors. This may be limited by the relevant detection distance corresponding to the critical object.	2.1.2.8. "Field of vision" means the section of the tri-dimensional space which is monitored with the help of a device for indirect vision. Unless otherwise stated, this is based on the view on ground level offered by a device and/or devices other than mirrors. This may be limited by the relevant detection distance corresponding to the critical object.	2.10 視野範圍(Field of vision):係指藉由間接視野裝置所幫助觀看之三維空間區域。除非另有聲明,此視野範圍係以地面為基準並由一個及/或數個非視鏡裝置所提供。此可因應臨界物體的相關偵測距離而受到限制。	
2.1.10. "Detection distance" means the distance measured from the centre of the lens of the camera to the point at which a critical object can just be perceived (as defined by the critical perception).	2.1.2.3. "Detection" means the ability to distinguish an object from its background/surroundings at certain distance.	2.11 偵測距離 (Detection distance):係指從攝影鏡頭中心至可觀測到臨界物體之位置 (如臨界視覺之定義)。	2.10 偵測距離:係指從攝影鏡頭中心至可感測到臨界物體之位置間之距離。
2.1.11. "Visual spectrum" means light with a wavelength within the range of the perceptual limits of the human eyes: 380-780 nm.	2.1.2.12. "Visual spectrum" means light with a wavelength within the range of the perceptual limits of the human eyes: 380-780 nm.	2.12 視覺光譜(Visual spectrum):係指波長位於人眼視覺限制範圍內之光,該波長為三八〇至七八〇奈米(nm)。	
2.1.12. "Smear" is a bright line displayed on the monitor while sun	2.1.2.14. "Smear" is a vertical bright bar displayed on the monitor while	2.13 漏光(Smear):係指當太陽或其他光源的光直接照射於攝影裝置鏡頭	2.11 漏光(Smear):係指當太陽或其他光源的光直接照射於攝影裝置鏡頭

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light or light from other bright light sources is directly hitting into the lens of the camera.	sun light or light from other bright light sources is directly hitting into the lens of the camera. Smear is an optical artefact.	時，顯示於顯示器上的一條亮光。	時，顯示於螢幕上的垂直光帶。漏光為一種光學假象。
12.6. "Ocular reference point" means the middle point between the driver's ocular points.		2.14 駕駛參考眼點(Ocular reference point):係指駕駛眼點中心位置。	
2.2. "Type of device for indirect vision" means devices that do not differ on the following essential characteristics: (a) Design of the device inclusive, if pertinent, the attachment to the bodywork; (b) In the case of mirrors, the class, the shape, the dimensions and radius of curvature of the mirror's reflecting surface; (c) In the case of camera-monitor systems, the class, the field of view, the magnification and resolution.	2.1.4. "Type of device for indirect vision" means devices that do not differ on the following essential characteristics: (a) Design of the device inclusive, if pertinent, the attachment to the bodywork; (b) In case of mirrors the class, the shape, the dimensions and radius of curvature of the mirror's reflecting surface; (c) In case of camera-monitor devices the detection distance and the range of vision.	3.間接視野裝置安裝之適用型式及其範圍認定原則： 3.1 車種代號相同。 3.2 廠牌及車輛型式系列相同。 3.3 底盤車廠牌相同。 3.4 底盤車製造廠宣告之底盤車型式系列相同。 3.5 若以底盤車代替完成車執行本項全部或部分檢測時，其適用型式及其範圍認定原則： 3.5.1 底盤車廠牌相同。 3.5.2 底盤車製造廠宣告之底盤車型式系列相同。 3.6 間接視野裝置種類相同(視鏡或非視鏡)。	3.間接視野裝置安裝之適用型式及其範圍認定原則： 3.1 車種代號相同。 3.2 廠牌及車輛型式系列相同。 3.3 底盤車廠牌相同。 3.4 底盤車製造廠宣告之底盤車型式系列相同。 3.5 若以底盤車代替完成車執行本項全部或部分檢測時，其適用型式及其範圍認定原則： 3.5.1 底盤車廠牌相同。 3.5.2 底盤車製造廠宣告之底盤車型式系列相同。
15.2. Devices for indirect vision 15.2.1. Number 15.2.1.1. Minimum number of compulsory devices for indirect vision 15.2.1.1.1. The fields of vision prescribed in paragraph 15.2.4. below shall be obtained from the minimum number of mandatory mirrors or	15.2. Mirrors 15.2.1. Number 15.2.1.1. Minimum number of compulsory mirrors 15.2.1.1.1. The fields of vision prescribed in paragraph 15.2.4. below shall be obtained from the minimum number on mandatory	4. 間接視野裝置安裝數量： 4.1 最少強制間接視野裝置數如表一所示，其視野需符合 7.之要求。視鏡或攝影機-顯示器裝置的安裝數量不應低於基本安裝數。 【請參考下列表格】	4. 視鏡安裝數量： 4.1 最少強制視鏡數如表一所示，其視野需符合 7.之要求。視鏡的安裝數量不應低於基本安裝數，其它任何顯示間接視野之裝置不得列入基本安裝數內。 【請參考下列表格】

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camera-monitor devices set out in the following table. 【請參考下列表格】 A minimum number of camera-monitor systems is undefined, but they shall provide the same field of vision as given in the table below and the provision on the minimum mounting height does not apply. In the case of camera-monitor systems, the maximum number of monitors shall not exceed the corresponding number of mirrors. 15.2.1.1.2. In the case a camera-monitor system is used for rendering (the) field(s) of vision, the relevant field(s) of vision shall be permanently visible to the driver when the ignition is on or the vehicle master control switch is activated (whichever is applicable). However, when the vehicle is moving forward at a speed above 10 km/h or backwards, the monitor or the part of the monitor intended for rendering the Class VI field of vision may be used for other information. Multiple images may be used or displayed provided that the monitor has been approved in this mode.	mirrors set out in the following table. Where the presence of a mirror is not requested on a mandatory base, this means that no other system for indirect vision can be requested on a mandatory base. 【請參考下列表格】 15.2.1.1.2. In case the described field of vision of a front mirror prescribed in paragraph 15.2.4.6. below and/or a close proximity mirror described in paragraph 15.2.4.5. below can be obtained by another device for indirect vision that is approved according to paragraph 6.2. of this Regulation and that is installed according to paragraph 15. above, this device can be used instead of the relevant mirror or mirrors. In case a camera/monitor device is used, the monitor shall exclusively show: (a) The field of vision prescribed in paragraph 15.2.4.5. below when the	<u>攝影機-顯示器系統並無最少安裝數量，惟應能提供與表一之各間接視野裝置相同的車輛視鏡視野，並排除至少安裝高度之規定。</u> <u>以攝影機-顯示器系統情況，其顯示器之最大數量不應超過表一視鏡數量。</u> 4.2 <u>攝影機-顯示器系統是用以顯示視野區域，當點火開關處於" ON "的位置或車輛主要控制開關作動時(視情況而定)，其相關視覺區域應永久顯示提供駕駛。當車輛向前行駛速度逾每小時一〇公里時，或其倒車行駛時，顯示器或可用呈現 VI 類視野區域之顯示器部分可供顯示其他資訊。此顯示器之使用模式應經認證後，方可使用或顯示多重影像(Multiple images)。</u>	4.2 <u>車前視鏡及/或近側視鏡之視野，可用其他間接視野裝置替代相關視鏡。若使用攝影/監看裝置，該裝置應能完全顯示以下視野：</u> <u>(a)所替代近側視鏡之規範 7.5 視野。</u> <u>(b)當車輛以未逾每小時一〇公里速度向前行駛時之所替代車前視鏡規範 7.6 視野，或</u> <u>(c)所同時替代近側視鏡及車前視鏡之規範 7.5 視野及 7.6 視野。當車輛向前行駛速度逾每小時一〇公里時，或其倒車行駛時，在永久顯示規範 7.5 視野之下，監看裝置可供顯示其他資訊。</u>

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	close proximity mirror has been substituted; (b) The field of vision prescribed in paragraph 15.2.4.6. below when the front mirror has been substituted while the vehicle is moving forward with a speed of up to 10 km/h; or (c) Simultaneously the fields of vision prescribed in paragraphs 15.2.4.5. and 15.2.4.6. below when the close proximity mirror and the front mirror have been substituted. In the case where the vehicle is moving forward at a higher speed than 10 km/h or moving backwards, the monitor may be used for other information, provided that the field of vision prescribed in paragraph 15.2.4.5. below is permanently displayed.		
15.2.1.1.3. Rear-view mirrors required for L-category vehicles with body work 【請參考下列表格】 15.2.2. Position 15.2.2.1. Devices for indirect vision shall be so placed that the driver, when sitting on the driving seat in a normal driving position, has a clear view of the road to the rear, side(s) or front of the vehicle.	15.2.1.1.3. Rear view mirrors required for L-category vehicles with body work 【請參考下列表格】 15.2.2. Position 15.2.2.1. Mirrors shall be so placed that the driver, when sitting on the driving seat in a normal driving position, has a clear view of the road to the rear, side(s) or front of the vehicle.	4.3 對於L1、L2、L3及L5類車輛，必需於車輛左、右側各安裝一支L類車輛照後鏡。 【請參考下列表格】 5. <u>間接視野裝置</u>安裝位置： 5.1 M、N 類車輛<u>及具車身之 L 類車輛</u>： 5.1.1 <u>間接視野裝置</u>之位置應使駕駛者在正常駕駛操作位置下，具有良好之車後及車側方向視野。 5.1.2 <u>II 至 VII 類視鏡</u>應可經由側窗或	4.3 對於 L1、L2、L3 及 L5 類車輛，必需於車輛左、右側各安裝一支 L 類車輛照後鏡。 【請參考下列表格】 5. <u>視鏡</u>安裝位置： 5.1 M 及 N 類車輛： 5.1.1 <u>視鏡</u>之位置應使駕駛者在正常駕駛操作位置下，具有良好之車後及車側方向視野。 5.1.2 <u>車外視鏡</u>應可經由側窗或雨刷掃掠擋風玻璃之區域看到。然而，

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15.2.2.2. Class II to VII mirrors shall be visible through the side windows or through the portion of the windscreen that is swept by the windscreen wiper. Nevertheless, for design reasons, this last provision (i.e. the provisions relating the cleaned part of the windscreen) shall not apply to: (a) Class II to VII mirrors on the passenger side and optional exterior mirrors on the driver side of vehicles of categories M2 and M3; (b) Class VI front-view mirrors. 15.2.2.3. In the case of any vehicle, which is in chassis/cab form when the field of vision is measured, the minimum and maximum body widths shall be stated by the manufacturer and, if necessary, simulated by dummy headboards. All vehicles and devices for indirect vision configurations taken into consideration during the tests shall be shown on the type-approval certificate for a vehicle with regard to the installation of devices for indirect vision (see Annex 4). 15.2.2.4. The prescribed Class II, III, IV and VII mirror or monitor on the	15.2.2.2. Exterior mirrors shall be visible through the side windows or through the portion of the windscreen that is swept by the windscreen wiper. Nevertheless, for design reasons, this last provision (i.e. the provisions relating the cleaned part of the windscreen) shall not apply to: (a) Exterior mirrors on the passenger side and optional exterior mirrors on the driver side of vehicles of categories M2 and M3; (b) Class VI mirrors. 15.2.2.3. In the case of any vehicle, which is in chassis/cab form when the field of vision is measured, the minimum and maximum body widths shall be stated by the manufacturer and, if necessary, simulated by dummy headboards. All vehicles and mirror configurations taken into consideration during the tests shall be shown on the type approval certificate for a vehicle with regard to the installation of mirrors (see Annex 4). 15.2.2.4. The prescribed exterior mirror on the driver's side of the	雨刷掃掠擋風玻璃之區域看到。然而，基於設計理由，前述之掃掠區域應不適用於： 5.1.2.1 車輛乘客側的 <u>II 至 VII 類視鏡</u> 及駕駛側選配的 <u>II 至 VII 類視鏡</u>。 5.1.2.2 <u>VI 類車前視野視鏡</u>。 5.1.3 以底盤車量測視野時，製造者應陳述其最小與最大車身寬度，必要時並以虛擬板模擬。所有在試驗中考慮到車輛與 <u>間接視野裝置</u> 搭配應載明於檢測結果中。 5.1.4 車輛駕駛側之 <u>II、III、IV 及 VII 類視鏡或顯示器</u> 裝置，應使車輛縱	基於設計理由，前述之掃掠區域應不適用於： 5.1.2.1 <u>M2 及 M3 類車輛</u> 乘客側的 <u>車外視鏡</u> 及駕駛側選配的 <u>車外視鏡</u>。 5.1.2.2 <u>VI 類</u> 視鏡。 5.1.3 以底盤車量測視野時，製造者應陳述其最小與最大車身寬度，必要時並以虛擬板模擬。所有在試驗中考慮到車輛與 <u>視鏡</u> 搭配應載明於檢測結果中。 5.1.4 車輛駕駛側之 <u>車外照後鏡</u> 裝置，應使車輛縱向中心面與通過後

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driver's side of the vehicle shall be so located that an angle of not more than 55 deg. is formed between the vertical longitudinal median plane of the vehicle and the vertical plane passing through the centre of the mirror or monitor and through the centre of the straight line 65 mm long which joins the driver's two ocular points.	vehicle shall be so located that an angle of not more than 55 deg. is formed between the vertical longitudinal median plane of the vehicle and the vertical plane passing through the centre of the mirror and through the centre of the straight line 65 mm long which joins the driver's two ocular points.	向中心面與通過後視鏡或顯示器中心，及連接兩眼點六五公釐線段中心之垂直面夾角應不大於五五度(如圖一所示)。	視鏡中心，及連接兩眼點六五公釐線段中心之垂直面夾角應不大於五五度(如圖一所示)。
15.2.2.5. Devices for indirect vision shall not project beyond the external bodywork of the vehicle substantially more than is necessary to comply with the requirements concerning fields of vision laid down in paragraph 15.2.4. below.	15.2.2.5. Mirrors shall not project beyond the external bodywork of the vehicle substantially more than is necessary to comply with the requirements concerning fields of vision laid down in paragraph 15.2.4. below.	5.1.5 間接視野裝置 不應在非法規必要視野需求下明顯突出車身之外。	5.1.5 視鏡 不應在非法規必要視野需求下明顯突出車身之外。
15.2.2.6. Where the lower edge of a Class II to VII mirror is less than 2 m above the ground when the vehicle is loaded to its technically permissible maximum laden mass, this mirror shall not project more than 250 mm beyond the overall width of the vehicle measured without mirrors.	15.2.2.6. Where the lower edge of an exterior mirror is less than 2 m above the ground when the vehicle is loaded to its technically permissible maximum laden mass, this mirror shall not project more than 250 mm beyond the overall width of the vehicle measured without mirrors.	5.1.6 車輛於全負載時，若 II 至 VII 類視鏡 底端距地高小於二公尺，則其不應突出全寬處二百五十公釐以上；惟 M2 及 M3 類車輛所安裝之 VI-A 類視鏡，其視鏡下緣距地高小於一·八公尺者，其視鏡外緣應不得超出車身全寬，配有碰撞緩衝設計者（使其具有內縮或上仰之機能），其視鏡外緣不應超出車身五公分。	5.1.6 車輛於全負載時，若 車外視鏡 底端距地高小於二公尺，則其不應突出全寬處二百五十公釐以上；惟 M2 及 M3 類車輛所安裝之 VI-A 類視鏡，其視鏡下緣距地高小於一·八公尺者，其視鏡外緣應不得超出車身全寬，配有碰撞緩衝設計者（使其具有內縮或上仰之機能），其視鏡外緣不應超出車身五公分。
15.2.2.7. Class V and Class VI mirrors shall be mounted on vehicles in such a way that, regardless of their position after adjustment, no part of these	15.2.2.7. Class V and Class VI mirrors shall be mounted on vehicles in such a way that, regardless of their position after adjustment, no part of	5.1.7 車輛全負載時，所容許安裝之 V 類視鏡及 VI 類視鏡，不論其調整後之位置為何，其距地高度應不小於二公尺。提供間接視野的其他裝置	5.1.7 車輛全負載時，所容許安裝之 V 類視鏡及 VI 類視鏡，不論其調整後之位置為何，其距地高度應不小於二公尺。提供間接視野的其他裝置不包含在此範圍。

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mirrors or their holders is less than 2 m from the ground when the vehicle is under a load corresponding to its technically permissible maximum laden mass. These mirrors shall not, however, be mounted on vehicles the cab height of which is such as to prevent compliance with this requirement. In this case another device for indirect vision is not mandatory. 15.2.2.8. Subject to the requirements of paragraphs 15.2.2.5., 15.2.2.6. and 15.2.2.7. above, devices for indirect vision may project beyond the permissible maximum widths of vehicles.	these mirrors or their holders is less than 2 m from the ground when the vehicle is under a load corresponding to its technically permissible maximum laden mass. These mirrors shall not, however, be mounted on vehicles the cab height of which is such as to prevent compliance with this requirement. In this case an other device for indirect vision is not requested. 15.2.2.8. Subject to the requirements of paragraphs 15.2.2.5., 15.2.2.6. and 15.2.2.7. above, mirrors may project beyond the permissible maximum widths of vehicles.	不包含在此範圍。 5.1.8 對應5.1.5、5.1.6及5.1.7之要求， <u>間接視野裝置</u> 可突出車輛容許最大寬度之外。	5.1.8 對應 5.1.5、5.1.6 及 5.1.7 之要求， 視鏡 可突出車輛容許最大寬度之外。
15.2.2.9. All Class VII mirrors shall be attached in such a way that they remain in a stable position under normal vehicle driving conditions.	15.2.2.9. All Class VII mirrors shall be attached in such a way that they remain in a stable position under normal vehicle driving conditions.	<u>5.1.9</u> 所有VII類外部視鏡在正常使用狀態下，其固定必須維持牢固。	<u>5.2 L類車輛：</u> <u>5.2.1</u> 照後鏡之位置必須安裝或經由調整使得於水平面量測時，其反射面中心點距離通過車輛轉向把手中心之縱向垂直面至少二八〇公釐；轉向把手必須固定於朝正前方之方向，且照後鏡必須調整到其正常位置。
16.3. Site (UN R81) 16.3.1. Rear-view mirrors must be mounted or adjusted in such a way that the distance of the centre of the reflective surface, as measured in a horizontal plane, is at least 280 mm outward from the longitudinal vertical plane passing through the centre of the steering head of the vehicle.	16.3.1. Rear-view mirrors must be mounted or adjusted in such a way that the distance of the centre of the reflective surface, as measured in a horizontal plane, is at least 280 mm outward from the longitudinal vertical plane passing through the centre of the steering head of the vehicle. Before the measurement, the	<u>5.2 L類車輛之</u> 照後鏡之位置必須安裝或經由調整使得於水平面量測時，其反射面中心點距離通過車輛轉向把手中心之縱向垂直面至少二八〇公釐；轉向把手必須固定於朝正前方之方向，且照後鏡必須調整到其正常位置。	<u>5.2.2</u> 所有 VII 類外部視鏡在正常使用狀態下，其固定必須維持牢固。

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Before the measurement, the handlebar shall be placed in the straight ahead position and the mirror(s) shall be adjusted to its (their) normal position. 【UNR81 16.3.法規內容】	handlebar shall be placed in the straight ahead position and the mirror(s) shall be adjusted to its (their) normal position.		
15.2.3. Adjustment 15.2.3.1. If a Class I mirror is fitted, it shall be capable of being adjusted by the driver from the driving position. 15.2.3.2. If a Class II, III, IV or VII mirror is fitted on the driver's side, it shall be capable of being adjusted from inside the vehicle while the door is closed, although the window may be open. The mirror may, however, be locked in position from the outside. 15.2.3.3. The requirements of paragraph 15.2.3.2. above do not apply to mirrors which, after having been knocked out of alignment, can be returned to their former position without the need for adjustment.	15.2.3. Adjustment 15.2.3.1. The interior mirror shall be capable of being adjusted by the driver from his driving position. 15.2.3.2. The exterior mirror situated on the driver's side shall be capable of being adjusted from inside the vehicle while the door is closed, although the window may be open. The mirror may, however, be locked in position from the outside. 15.2.3.3. The requirements of paragraph 15.2.3.2. above do not apply to exterior mirrors which, after having been knocked out of alignment, can be returned to their former position without the need for adjustment.	6 間接視野裝置在一般使用狀態下，其固定必須維持穩固。 6.1 若安裝M及N類車輛 I 類視鏡，調整裝置應使駕駛者於正常駕駛位置即可調整，而若駕駛側安裝 II、III、IV 或 VII 類視鏡，則其調整裝置應使駕駛者於駕駛室即可調整(車門關閉，車窗可開)但可於車外將其鎖住定位。前述之要求不適用於被撞歪後不需調整即可回復至原始位置之視鏡。	6 視鏡在一般使用狀態下，其固定必須維持穩固。且： 6.1 M及N類車輛車內視鏡調整裝置應使駕駛者於正常駕駛位置即可調整，而駕駛側之車外視鏡調整裝置應使駕駛者於駕駛室即可調整(車門關閉，車窗可開)但可於車外將其鎖住定位。前述之要求不適用於被撞歪後不需調整即可回復至原始位置之視鏡。
15.2.4. Fields of vision 15.2.4.1. Class I rear-view device The field of vision shall be such that the driver can see at least a 20 m wide, flat, horizontal portion of the road centred on the vertical longitudinal	15.2.4. Fields of vision 15.2.4.1. Interior rear-view mirror (Class I) The field of vision shall be such that the driver can see at least a 20 m wide, flat, horizontal portion of the	7. 車輛視野裝置： 7.1 I 類後方視野裝置： 駕駛者借助後方視野裝置，應能在水平路面上看見一段寬度至少為二〇公尺之視野區域，其中心平面為汽車縱向基準面，並從駕駛者眼點後	7. 車輛視鏡視野： 7.1 車內視鏡(I 類)： 駕駛者借助車內視鏡，應能在水平路面上看見一段寬度至少為二〇公尺之視野區域，其中心平面為汽車縱向基準面，並從駕駛者眼點後方六

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median plane of the vehicle and extending from 60 m behind the driver's ocular points (Figure 4) to the horizon. 【請參考下列表格】	road centred on the vertical longitudinal median plane of the vehicle and extending from 60 m behind the driver's ocular points (Figure 4) to the horizon. 【請參考下列表格】	方六〇公尺處往後延伸（如圖二所示）。 【請參考下列表格】	〇公尺處往後延伸（如圖二所示）。 【請參考下列表格】
15.2.4.2. Class II main rear-view device 15.2.4.2.1. Main rear-view device on the driver's side The field of vision shall be such that the driver can see at least a 5 m wide, flat, horizontal portion of the road, which is bounded by a plane which is parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle on the driver's side of the vehicle and extends from 30 m behind the driver's ocular points to the horizon. In addition, the road shall be visible to the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points (see Figure 5).	15.2.4.2. Main exterior rear-view mirrors Class II 15.2.4.2.1. Exterior rear-view mirror on the driver's side The field of vision shall be such that the driver can see at least a 5 m wide, flat, horizontal portion of the road, which is bounded by a plane which is parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle on the driver's side of the vehicle and extends from 30 m behind the driver's ocular points to the horizon. In addition, the road shall be visible to the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points (see Figure 5). 15.2.4.2.2. Exterior rear-view mirror	7.2 <u>II 類主要後方視野裝置</u> ： 7.2.1 駕駛側 <u>主要後方視野裝置</u> ：駕駛必須能看到至少五公尺寬的水平路面視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方三十公尺處往後延伸。而且，駕駛須可看到一公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸。（參見圖三）。 7.2.2 前乘客座側 <u>主要後方視野裝置</u>	7.2 <u>主要外部視鏡(II 類)</u> ： 7.2.1 駕駛側 <u>車外視鏡(II 類)</u> ：駕駛必須能看到至少五公尺寬的水平路面視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方三十公尺處往後延伸。而且，駕駛須可看到一公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸。（參見圖三）。 7.2.2 前乘客座側 <u>車外視鏡(II 類)</u> ：駕

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15.2.4.2.2. Main rear-view device on the passenger's side The field of vision shall be such that the driver can see at least a 5 m wide, flat, horizontal portion of the road, which is bounded on the passenger's side by a plane parallel to the median longitudinal vertical plane of the vehicle and passing through the outermost point of the vehicle on the passenger's side and which extends from 30 m behind the driver's ocular points to the horizon. In addition, the road shall be visible to the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points (see Figure 5). 【請參考下列表格】	on the passenger's side The field of vision shall be such that the driver can see at least a 5 m wide, flat, horizontal portion of the road, which is bounded on the passenger's side by a plane parallel to the median longitudinal vertical plane of the vehicle and passing through the outermost point of the vehicle on the passenger's side and which extends from 30 m behind the driver's ocular points to the horizon. In addition, the road shall be visible to the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points (see Figure 5). 【請參考下列表格】	<u>置</u>：駕駛必須能看到至少五公尺寬的水平路面視野，該視野區域與車輛縱向中心面平行且與車輛乘客側最外側相切之平面為邊界，並從駕駛者眼點後方三〇公尺處往後延伸。而且，須可看到一公尺寬之道路視野，該視野區域與車輛縱向中心面平行且與車輛乘客側最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸(參見圖三)。 【請參考下列表格】	駛必須能看到至少五公尺寬的水平路面視野，該視野區域與車輛縱向中心面平行且與車輛乘客側最外側相切之平面為邊界，並從駕駛者眼點後方三〇公尺處往後延伸。而且，須可看到一公尺寬之道路視野，該視野區域與車輛縱向中心面平行且與車輛乘客側最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸(參見圖三)。 【請參考下列表格】
15.2.4.3. Class III main rear-view device 15.2.4.3.1. Main rear-view device on the driver's side The field of vision shall be such that the driver can see at least a 4 m wide, flat, horizontal portion of the road, which	15.2.4.3. Main exterior rear-view mirrors Class III 15.2.4.3.1. Exterior rear-view mirror on the driver's side The field of vision shall be such that the driver can see at least a 4 m wide, flat, horizontal portion of the road,	7.3 <u>III 類主要後方視野裝置</u>： 7.3.1 駕駛側<u>主要後方視野裝置</u>，應能在水平路面上看見車輛駕駛側一段寬度至少為四公尺寬之視野區域，該視野區域邊界與車輛縱向中心面平行，且與車輛駕駛側最外側點相	7.3 <u>主要車外視鏡(III 類)</u>： 7.3.1 駕駛側<u>車外視鏡 III 類</u>，應能在水平路面上看見車輛駕駛側一段寬度至少為四公尺寬之視野區域，該視野區域邊界與車輛縱向中心面平行，且與車輛駕駛側最外側點相

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is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle on the driver's side of the vehicle and extends from 20 m behind the driver's ocular points to the horizon (see Figure 6). In addition, the road shall be visible to the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points. 15.2.4.3.2. Main rear-view device on the passenger's side The field of vision shall be such that the driver can see at least a 4 m wide flat, horizontal portion of the road which is bounded by a plane parallel to the median longitudinal vertical plane passing through the outermost point of the vehicle on the passenger's side and which extends from 20 m behind the driver's ocular points to the horizon (see Figure 6). In addition, the road shall be visible to	which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle on the driver's side of the vehicle and extends from 20 m behind the driver's ocular points to the horizon (see Figure 6). In addition, the road shall be visible to the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points. 15.2.4.3.2. Exterior rear-view mirror on the passenger's side The field of vision shall be such that the driver can see at least a 4 m wide flat, horizontal portion of the road which is bounded by a plane parallel to the median longitudinal vertical plane passing through the outermost point of the vehicle on the passenger's side and which extends from 20 m behind the driver's ocular points to the horizon (see Figure 6). In addition, the road shall be visible to	切，並從駕駛者眼點後方二〇公尺處往後延伸。而且，需可看到一公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸(參見圖四)。 7.3.2 前乘客側主要後方視野裝置，應能在水平路面上看見車輛前乘客側一段寬度至少為四公尺寬之視野區域，該視野區域邊界與車輛縱中心面平行，且與車輛前乘客側最外側點相切，並從駕駛者眼點後方二〇公尺處往後延伸。而且，需可看到一公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛前乘客側最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸(參見圖四)。 【請參考下列表格】	切，並從駕駛者眼點後方二〇公尺處往後延伸。而且，需可看到一公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸(參見圖四)。 7.3.2 前乘客側車外視鏡(III類)，應能在水平路面上看見車輛前乘客側一段寬度至少為四公尺寬之視野區域，該視野區域邊界與車輛縱中心面平行，且與車輛前乘客側最外側點相切，並從駕駛者眼點後方二〇公尺處往後延伸。而且，需可看到一公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛前乘客側最外側相切之平面為邊界，並從駕駛者眼點後方四公尺處往後延伸(參見圖四)。

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the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points. 【請參考下列表格】	the driver over a width of 1 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points. 【請參考下列表格】		【請參考下列表格】
15.2.4.4. Class IV wide-angle view device 15.2.4.4.1. Wide-angle view device on the driver's side The field of vision shall be such that the driver can see at least a 15 m wide, flat, horizontal portion of the road, which is bounded by a plane parallel to the median longitudinal vertical plane of the vehicle and passing through the outermost point of the vehicle on the driver's side and which extends from at least 10 m to 25 m behind the driver's ocular points. In addition, the road shall be visible to the driver over a width of 4.5 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting	15.2.4.4. "Wide-angle" exterior mirror (Class IV) 15.2.4.4.1. "Wide-angle" exterior mirror on the driver's side The field of vision shall be such that the driver can see at least a 15 m wide, flat, horizontal portion of the road, which is bounded by a plane parallel to the median longitudinal vertical plane of the vehicle and passing through the outermost point of the vehicle on the driver's side and which extends from at least 10 m to 25 m behind the driver's ocular points. In addition, the road shall be visible to the driver over a width of 4.5 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle	7.4 <u>IV類廣角視野裝置</u> ： 7.4.1 駕駛可由駕駛側之 <u>廣角視野裝置</u> 看到至少一五公尺寬的水平路面視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方至少十公尺處往後延伸到二五公尺處。而且，駕駛須可看到四.五公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方一.五公尺處往後延伸(參見圖五)。	7.4 <u>廣角車外視鏡(IV類)</u> ： 7.4.1 駕駛可由駕駛側之 <u>車外廣角視鏡</u> 看到至少一五公尺寬的水平路面視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方至少十公尺處往後延伸到二五公尺處。而且，駕駛須可看到四.五公尺寬之道路視野，該視野區域以與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方一.五公尺處往後延伸(參見圖五)。

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from a point 1.5 m behind the vertical plane passing through the driver's ocular points (see Figure 7). 15.2.4.4.2. Wide-angle view device on the passenger's side The field of vision shall be such that the driver can see at least a 15 m wide, flat horizontal portion of the road, which is bounded by a plane parallel to the median longitudinal vertical plane of the vehicle and passing through the outermost point of the vehicle on the passenger's side and which extends from at least 10 m to 25 m behind the driver's ocular points. In addition, the road shall be visible to the driver over a width of 4.5 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 1.5 m behind the vertical plane passing through the driver's ocular points (see Figure 7). 【請參考下列表格】	starting from a point 1.5 m behind the vertical plane passing through the driver's ocular points (see Figure 7). 15.2.4.4.2. "Wide-angle" exterior mirror on the passenger's side The field of vision shall be such that the driver can see at least a 15 m wide, flat, horizontal portion of the road, which is bounded by a plane parallel to the median longitudinal vertical plane of the vehicle and passing through the outermost point of the vehicle on the passenger's side and which extends from at least 10 m to 25 m behind the driver's ocular points. In addition, the road shall be visible to the driver over a width of 4.5 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 1.5 m behind the vertical plane passing through the driver's ocular points (see Figure 7). 【請參考下列表格】	7.4.2 駕駛可由前乘客側之廣角視野裝置看到至少一五公尺寬的水平路面視野，該視野區域以與車輛縱向中心面平行且與車輛前乘客側最外側相切之平面為邊界，並從駕駛者眼點後方至少十公尺處往後延伸到二五公尺處。而且，駕駛須可看到四.五公尺寬之道路視野，該視野區域與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方一.五公尺處往後延伸(參見圖五)。 【請參考下列表格】	7.4.2 駕駛可由前乘客側之車外廣角視鏡看到至少一五公尺寬的水平路面視野，該視野區域以與車輛縱向中心面平行且與車輛前乘客側最外側相切之平面為邊界，並從駕駛者眼點後方至少十公尺處往後延伸到二五公尺處。而且，駕駛須可看到四.五公尺寬之道路視野，該視野區域與車輛縱向中心面平行且與車輛駕駛側最外側相切之平面為邊界，並從駕駛者眼點後方一.五公尺處往後延伸(參見圖五)。 【請參考下列表格】
15.2.4.5. Class V close-proximity view device The field of vision shall be such that the driver can see a flat horizontal portion	15.2.4.5. "Close-proximity" exterior mirror (Class V) The field of vision shall be such that the driver can see a flat horizontal	7.5 V類近側視野裝置： 其視野必須使駕駛沿車外側看見由下列垂直面所構成範圍的水平路面(圖六A、B)：	7.5 外部近側視鏡(V類)： 其視野必須使駕駛沿車外側看見由下列垂直面所構成範圍的水平路面(圖六A、B)：

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of the road along the side of the vehicle, bounded by the following vertical planes (see Figures 8a and 8b): 15.2.4.5.1. The plane parallel to the median longitudinal vertical plane of the vehicle which passes through the outermost point of the vehicle cab on the passenger's side; 15.2.4.5.2. In the transverse direction, the parallel plane passing at a distance of 2 m in front of the plane mentioned in paragraph 15.2.4.5.1. above. 15.2.4.5.3. To the rear, the plane parallel to the vertical plane passing through the driver's ocular points and situated at a distance of 1.75 m behind that plane; 15.2.4.5.4. To the front, the plane parallel to the vertical plane passing through the driver's ocular points and situated at a distance of 1 m in front of that plane. If the vertical transverse plane passing through the leading edge of the vehicle bumper is less than 1 m in front of the vertical plane passing through the driver's ocular points, the field of vision shall be limited to that plane.	portion of the road along the side of the vehicle, bounded by the following vertical planes (see Figures 8a and 8b): 15.2.4.5.1. The plane parallel to the median longitudinal vertical plane of the vehicle which passes through the outermost point of the vehicle cab on the passenger's side; 15.2.4.5.2. In the transverse direction, the parallel plane passing at a distance of 2 m in front of the plane mentioned in paragraph 15.2.4.5.1. above. 15.2.4.5.3. To the rear, the plane parallel to the vertical plane passing through the driver's ocular points and situated at a distance of 1.75 m behind that plane; 15.2.4.5.4. To the front, the plane parallel to the vertical plane passing through the driver's ocular points and situated at a distance of 1 m in front of that plane. If the vertical transverse plane passing through the leading edge of the vehicle bumper is less than 1 m in front of the vertical plane passing through the driver's ocular points, the field of vision shall be limited to that plane.	7.5.1 平行於車輛縱向中心面且通過前乘客座側駕駛艙車身最外點之平面。 7.5.2 平行於7.5.1所述平面且與之橫向距離二公尺之平面； 7.5.3 與通過駕駛者眼點的垂直面平行之平面，此平面位於該垂直面後方一·七五公尺處。 7.5.4 與通過駕駛者眼點垂直面平行之平面，此平面位於該垂直面前方一公尺處。若通過車輛保險桿前緣之垂直橫向面，與通過駕駛者眼點之垂直面間距離小於一公尺，則視野以該保險桿前緣之平面為極限處。	7.5.1 平行於車輛縱向中心面且通過前乘客座側駕駛艙車身最外點之平面。 7.5.2 平行於7.5.1所述平面且與之橫向距離二公尺之平面； 7.5.3 與通過駕駛者眼點的垂直面平行之平面，此平面位於該垂直面後方一·七五公尺處。 7.5.4 與通過駕駛者眼點垂直面平行之平面，此平面位於該垂直面前方一公尺處。若通過車輛保險桿前緣之垂直橫向面，與通過駕駛者眼點之垂直面間距離小於一公尺，則視野以該保險桿前緣之平面為極限處。

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15.2.4.5.5. In the case the field of vision described in Figures 8a and 8b can be perceived through the combination of the field of vision from a Class IV wide-angle view device and that of a Class VI front-view device , the installation of a Class V close-proximity view device is not compulsory. 【請參考下列表格】	15.2.4.5.5. In case the field of vision described in Figures 8a and 8b can be perceived through the combination of the field of vision from a Class IV wide-angle mirror and that of a Class VI front mirror , the installation of a Class V close proximity mirror is not compulsory. 【請參考下列表格】	7.5.5 若可由IV類廣角 <u>視野裝置</u> 及VI類車前 <u>視野裝置</u> 組合看見圖六A、B所示之視野範圍，則V類近側 <u>視野裝置</u> 不須強制安裝。 【請參考下列表格】	7.5.5 若可由IV類廣角 <u>視鏡</u> 及VI類車前 <u>視鏡</u> 組合看見圖六A、B所示之視野範圍，則V類近側 <u>車外視鏡</u> 不須強制安裝。 【請參考下列表格】
15.2.4.5.6. On the passenger side only, the field of vision shall also be such that the driver can see a flat horizontal portion of the road along the side of the vehicle which is outside the field defined in paragraphs 15.2.4.5.1. to 15.2.4.5.4. above but within the field bounded by the following vertical planes; the front of this field of vision may be rounded off with a radius of 2,000 mm (see Figures 8c and 8d): 【請參考下列表格】	15.2.4.5.6. On the passenger side only, the field of vision shall also be such that the driver can see a flat horizontal portion of the road along the side of the vehicle which is outside the field defined in paragraphs 15.2.4.5.1. to 15.2.4.5.4. above but within the field bounded by the following vertical planes; the front of this field of vision may be rounded off with a radius of 2,000 mm (see Figures 8c and 8d): 【請參考下列表格】	7.5.6 其於乘客側所提供之視野範圍，亦應包括可使駕駛看見位於7.5.1至7.5.4所述視野範圍外且與下述垂直平面所構成區域之車輛側邊平坦水平路面；此區域之前緣可為半徑二000公釐之弧角(如圖六C、D)。 【請參考下列表格】	7.5.6 其於乘客側所提供之視野範圍，亦應包括可使駕駛看見位於7.5.1至7.5.4所述視野範圍外且與下述垂直平面所構成區域之車輛側邊平坦水平路面；此區域之前緣可為半徑二000公釐之弧角(如圖六C、D)。 【請參考下列表格】
15.2.4.5.7. In the transverse direction, the parallel plane passing at a distance of 4.5 m in front of the plane mentioned in paragraph 15.2.4.5.1. above.	15.2.4.5.7. In the transverse direction, the parallel plane passing at a distance of 4.5 m in front of the plane mentioned in paragraph 15.2.4.5.1. above.	7.5.7 橫向：與7.5.1所述平面平行且相距四·五公尺之平面。	7.5.7 橫向：與7.5.1所述平面平行且相距四·五公尺之平面。
15.2.4.5.8. To the rear, the plane parallel to the vertical plane passing through	15.2.4.5.8. To the rear, the plane parallel to the vertical plane passing	7.5.8 後方：與通過駕駛眼點的垂直面平行且位於該垂直面後方一·七五	7.5.8 後方：與通過駕駛眼點的垂直面平行且位於該垂直面後方一·七五

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the driver's ocular points and situated at a distance of 1.75 m behind that plane. 15.2.4.5.9. To the front, the plane parallel to the vertical plane passing through the driver's ocular points and situated at a distance of 3 m in front of that plane. This field of vision may be partially provided by a front-view device (Class VI) . 15.2.4.5.10. The field of vision prescribed in paragraphs 15.2.4.5.6. to 15.2.4.5.9. above may be partially provided by a wide-angle view device (Class IV) or a combination of a closeproximity view device (Class V) and a front-view device (Class VI) .	through the driver's ocular points and situated at a distance of 1.75 m behind that plane. 15.2.4.5.9. To the front, the plane parallel to the vertical plane passing through the driver's ocular points and situated at a distance of 3 m in front of that plane. This field of vision may be partially provided by a front mirror (Class VI) . 15.2.4.5.10. The field of vision prescribed in paragraphs 15.2.4.5.6. to 15.2.4.5.9. above may be partially provided by a "wide-angle" exterior mirror (Class IV) or a combination of a close-proximity exterior mirror (Class V) and a front mirror (Class VI) .	公尺處之平面。 7.5.9 前方：與通過駕駛眼點垂直面平行且位於該垂直面前方三公尺處之平面。此視野範圍可部份地由車前 <u>視野裝置</u> (VI類)提供。 7.5.10 上述7.5.6至7.5.9規範之視野範圍，其可部份地由廣角 <u>視野裝置</u> (IV類)提供，或由近側 <u>視野裝置</u> (V類)與車前 <u>視野裝置</u> (VI)組合提供。	公尺處之平面。 7.5.9 前方：與通過駕駛眼點垂直面平行且位於該垂直面前方三公尺處之平面。此視野範圍可部份地由車前 <u>視鏡</u> (VI類)提供。 7.5.10 上述 7.5.6 至 7.5.9 規範之視野範圍，其可部份地由廣角 <u>車外視鏡</u> (IV類)提供，或由近側 <u>車外視鏡</u> (V類)與車前 <u>視鏡</u> (VI)組合提供。
15.2.4.5.12. The field of vision prescribed in paragraphs 15.2.4.5.1. to 15.2.4.5.4. may be viewed using a combination of a close-proximity view device (Class V) and a wide-angle view device (Class IV) . In such cases the close-proximity view mirror (Class V) shall provide at least 90 per cent of the field of vision prescribed in paragraphs 15.2.4.5.1 to 15.2.4.5.4. and the Class IV mirror shall be adjusted in a way that it	15.2.4.5.12. The field of vision prescribed in paragraphs 15.2.4.5.1. to 15.2.4.5.4. may be viewed using a combination of a close-proximity exterior mirror (Class V) and a "wide-angle" exterior mirror (Class IV) . In such cases the close-proximity exterior mirror (Class V) shall provide at least 90 per cent of the field of vision prescribed in paragraphs 15.2.4.5.1 to 15.2.4.5.4.	7.5.12 上述 7.5.1 至 7.5.4 規定之視野範圍，可藉由 <u>近側視野裝置</u> (V類)及廣角 <u>視野裝置</u> (IV類)之組合使用來獲得。 於上述情況下， <u>近側視野裝置</u> (V類)應提供上述 7.5.1 至 7.5.4 所規定視野範圍至少百分之九〇，且 IV 類視鏡應能同時提供 7.4.2 所述之視野。	7.5.12 上述 7.5.1 至 7.5.4 規定之視野範圍，可藉由 <u>外部近側視鏡</u> (V類)及廣角 <u>車外視鏡</u> (IV類)之組合使用來獲得。 於上述情況下， <u>外部近側視鏡</u> (V類)應提供上述 7.5.1 至 7.5.4 所規定視野範圍至少百分之九〇，且 IV 類視鏡應能同時提供 7.4.2 所述之視野。

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simultaneously provides the field of vision prescribed in paragraph 15.2.4.4.2.	and the Class IV mirror shall be adjusted in a way that it simultaneously provides the field of vision prescribed in paragraph 15.2.4.4.2..		
15.2.4.6. Class VI front-view device 15.2.4.6.1. The field of vision shall be such that the driver can see at least a flat horizontal portion of the road, which is bounded by: (a) A transverse vertical plane through the outermost point of the front of the vehicle; (b) A transverse vertical plane 2,000 mm in front of the plane defined in (a); (c) A longitudinal vertical plane parallel to the longitudinal vertical median plane going through the outermost side of the vehicle at the driver's side; and (d) A longitudinal vertical plane parallel to the longitudinal vertical median plane 2,000 mm outside the outermost side of the vehicle opposite to the driver's side. The front of this field of vision opposite to the driver's side may be rounded off with a radius of 2,000 mm (see Figure	15.2.4.6. Front mirror (Class VI) 15.2.4.6.1. The field of vision shall be such that the driver can see at least a flat horizontal portion of the road, which is bounded by: (a) A transverse vertical plane through the outermost point of the front of the vehicle; (b) A transverse vertical plane 2,000 mm in front of the plane defined in (a); (c) A longitudinal vertical plane parallel to the longitudinal vertical median plane going through the outermost side of the vehicle at the driver's side; and (d) A longitudinal vertical plane parallel to the longitudinal vertical median plane 2,000 mm outside the outermost side of the vehicle opposite to the driver's side. The front of this field of vision opposite to the driver's side may be	7.6 <u>VI 類車前視野裝置</u> 7.6.1 視野區域須為駕駛者應至少可看到以下範圍水平路面： (a) 通過車輛前緣最外點的橫向垂直平面， (b) 於車輛前方距上述平面二 0 0 0 公釐之橫向垂直平面， (c) 與車輛縱向中心面平行且通過駕駛側車身最外側的平面， (d) 平行於車輛縱向中心面且與前乘客座側車身最外側距離二 0 0 0 公釐之平面。 與駕駛側相反處的視野前緣，可為半徑二 0 0 0 公釐之弧角(如圖七)。 【請參考下列表格】	7.6 <u>車前視鏡(VI 類)</u> 7.6.1 視野區域須為駕駛者應至少可看到以下範圍水平路面： (a) 通過車輛前緣最外點的橫向垂直平面， (b) 於車輛前方距上述平面二 0 0 0 公釐之橫向垂直平面， (c) 與車輛縱向中心面平行且通過駕駛側車身最外側的平面， (d) 平行於車輛縱向中心面且與前乘客座側車身最外側距離二 0 0 0 公釐之平面。 與駕駛側相反處的視野前緣，可為半徑二 0 0 0 公釐之弧角(如圖七)。 【請參考下列表格】

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9). 【請參考下列表格】 For the defined field of vision, see also paragraph 15.2.4.9.2. below. The provisions for Class VI front-view devices are compulsory for forward controlled (as defined in paragraph 12.5. of this Regulation) vehicles of categories N2 > 7.5 t and N3. If vehicles of these categories cannot fulfil the requirements by using a front-view device, a vision support system shall be used. In the case of a vision support system this device shall be able to detect an object of 50 cm height and with a diameter of 30 cm within the field defined in Figure 9. 15.2.4.6.2. However, if the driver can see, taking into account the obstructions by the A-pillars, a straight line 300 mm in front of the vehicle at a height of 1,200 mm above the road surface and which is situated between a longitudinal vertical plane parallel to the longitudinal vertical median plane going through the outermost side of the vehicle at the driver's side and a longitudinal	rounded off with a radius of 2,000 mm (see Figure 9). 【請參考下列表格】 For the defined field of vision, see also paragraph 15.2.4.9.2. below. The provisions for front mirrors are compulsory for forward controlled (as defined in paragraph 12.5. of this Regulation) vehicles of categories N2 > 7.5 t and N3. If vehicles of these categories cannot fulfil the requirements by using a front mirror or a camera/monitor device, a vision support system shall be used. In the case of a vision support system this device shall be able to detect an object of 50 cm height and with a diameter of 30 cm within the field defined in Figure 9. 15.2.4.6.2. However, if the driver can see, taking into account the obstructions by the A-pillars, a straight line 300 mm in front of the vehicle at a height of 1,200 mm above the road surface and which is situated between a longitudinal vertical plane parallel to the longitudinal vertical median plane going through the outermost side of the vehicle at the driver's side and a	大於七點五噸之 N2 類及 N3 類之突頭車輛須符合車前視野裝置之要求。 如上述車輛種類車前視野裝置無法符合視野規範，應使用視野輔助系統；此系統應能使於圖七視野區域內必須能看見高五 0 公分、直徑三 0 公分的物體。 突頭車輛是指引擎的長度有一半以上超過擋風玻璃的前緣且方向盤中心超過於往前方向車輛長度的四分之一。 7.6.2 在 A 柱造成的視野障礙之下，駕駛若能看見下列邊界區域內位於車前三 0 0 公釐及距地一二 0 0 公釐處之直線，則無須強制安裝 VI 類車前視野裝置： (1)與垂直縱向中心面平行且通過車輛駕駛側最外側點之縱向垂直面。 (2)與垂直縱向中心面平行且距離車輛前乘客座側最外側點九 0 0 公釐之平面。	大於七點五噸之 N2 類及 N3 類之突頭車輛須符合車前視鏡之要求。 如上述車輛種類車前視鏡或攝影/監看裝置無法符合視野規範，應使用視野輔助系統；此系統應能使於圖七視野區域內必須能看見高五 0 公分、直徑三 0 公分的物體。 突頭車輛是指引擎的長度有一半以上超過擋風玻璃的前緣且方向盤中心超過於往前方向車輛長度的四分之一。 7.6.2 在 A 柱造成的視野障礙之下，駕駛若能看見下列邊界區域內位於車前三 0 0 公釐及距地一二 0 0 公釐處之直線，則無須強制安裝車前視鏡(VI 類)： (1)與垂直縱向中心面平行且通過車輛駕駛側最外側點之縱向垂直面。 (2)與垂直縱向中心面平行且距離車輛前乘客座側最外側點九 0 0 公釐之平面。

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vertical plane parallel to the longitudinal vertical media plane 900 mm outside the outermost side of the vehicle opposite to the driver's side, a Class VI device for indirect vision is not mandatory.	longitudinal vertical plane parallel to the longitudinal vertical median plane 900 mm outside the outermost side of the vehicle opposite to the driver's side, a front mirror of Class VI is not mandatory.		
15.2.4.7. Class VII main rear-view mirror 15.2.4.7.1. Main rear-view mirror on the driver's side The field of vision shall be such that the driver can see at least a 2.50 m wide, flat, horizontal portion of the road, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle on the driver's side of the vehicle and extends from 10 m behind the driver's ocular points to the horizon (see Figure 10). 15.2.4.7.2. Main rear-view mirror on the passenger's side The field of vision shall be such that the driver can see at least a 4 m wide flat, horizontal portion of the road which is bounded by a plane parallel to the median longitudinal vertical plane passing through the outermost point of the vehicle on the passenger's side	15.2.4.7. L-category mirror (Class VII) . 15.2.4.7.1. Exterior rear-view mirror on the driver's side The field of vision shall be such that the driver can see at least a 2.50 m wide, flat, horizontal portion of the road, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle on the driver's side of the vehicle and extends from 10 m behind the driver's ocular points to the horizon (see Figure 10). 15.2.4.7.2. Exterior rear-view mirror on the passenger's side The field of vision shall be such that the driver can see at least a 4 m wide flat, horizontal portion of the road which is bounded by a plane parallel to the median longitudinal vertical plane passing through the outermost point of the vehicle on the	7.8 VII類主要後方視鏡 ：(參見圖八) 7.8.1 裝設於駕駛側者 應能在水平路面上看見車輛駕駛側一段寬度至少為二·五公尺寬之視野區域，該視野區域邊界與車輛縱向中心面平行，且與車輛駕駛側最外側點相切，並從駕駛者眼點後方一〇公尺處往後延伸。 7.8.2 裝設於乘客側者 應能在水平路面上看見車輛乘客側一段寬度至少為四公尺寬之視野區域，該視野區域邊界與車輛縱中心面平行，且與車輛乘客側最外側點相切，並從駕駛者眼點後方二〇公尺處往後延伸。 【請參考下列表格】	7.8 具車身之L類車輛之視鏡(VII類) ：(參見圖八) 7.8.1 裝設於駕駛側者 應能在水平路面上看見車輛駕駛側一段寬度至少為二·五公尺寬之視野區域，該視野區域邊界與車輛縱向中心面平行，且與車輛駕駛側最外側點相切，並從駕駛者眼點後方一〇公尺處往後延伸。 7.8.2 裝設於乘客側者 應能在水平路面上看見車輛乘客側一段寬度至少為四公尺寬之視野區域，該視野區域邊界與車輛縱中心面平行，且與車輛乘客側最外側點相切，並從駕駛者眼點後方二〇公尺處往後延伸。 【請參考下列表格】

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and which extends from 20 m behind the driver's ocular points to the horizon (see Figure 10). 【請參考下列表格】	passenger's side and which extends from 20 m behind the driver's ocular points to the horizon (see Figure 10). 【請參考下列表格】		
15.2.4.9. Obstructions 15.2.4.9.1. Class I rear-view devices The field of vision may be reduced by the presence of devices such as sun visors, windscreen wipers, heating elements and stop lamp of category S3, provided that all these devices together do not obscure more than 15 per cent of the prescribed field of vision. Headrests or framework or bodywork such as window columns of rear split doors, rear window frame shall be excluded from the calculation. This requirement shall be tested by projection on to a vertical plane at right angles to the longitudinal centre plane of the vehicle. The degree of obstruction shall be measured with the sun visors folded back.	15.2.4.9. Obstructions 15.2.4.9.1. Interior rear-view mirror (Class I) The field of vision may be reduced by the presence of devices such as sun visors, windscreen wipers, heating elements and stop lamp of category S3, provided that all these devices together do not obscure more than 15 per cent of the prescribed field of vision. Headrests or framework or bodywork such as window columns of rear split doors, rear window frame shall be excluded from the calculation. This requirement shall be tested by projection on to a vertical plane at right angles to the longitudinal centreplane of the vehicle. The degree of obstruction shall be measured with the sun visors folded back.	7.10 遮蔽區域： 7.10.1 <u>I類後視野裝置</u> ：視野有可能因設備影響而降低，如遮陽板、後檔雨刷、除霧元件（Heating elements），這些設備不應遮住規定視野百分之一五以上，頭枕、車架或車體結構(如尾門窗柱與後車窗框架)不納入計算。此規範應從垂直於車輛縱向中心線之投影上進行量測，量測阻擋程度時應將遮陽板調回至原始位置。	7.10 遮避區域： 7.10.1 <u>車內視鏡(I類)</u> ：視野有可能因設備影響而降低，如遮陽板、後檔雨刷、除霧元件（Heating elements），這些設備不應遮住規定視野百分之一五以上，頭枕、車架或車體結構(如尾門窗柱與後車窗框架)不納入計算。此規範應從垂直於車輛縱向中心線之投影上進行量測，量測阻擋程度時應將遮陽板調回至原始位置。
15.2.4.9.2. Classes II, III, IV, V, and VI devices for indirect vision and Class VII mirrors In the fields of vision specified above, obstruction due to the bodywork and	15.2.4.9.2. Exterior mirrors (Classes II, III, IV, V, VI and VII) In the fields of vision specified above, obstruction due to the bodywork and its components, such as other cab	7.10.2 <u>II、III、IV、V及VI類之間接視野裝置及VII類後視鏡</u> ：車體或其他裝置如駕駛室其他的 <u>間接視野裝置</u> 、門把、輪廓標識燈、方向燈及前、後保險桿，反射面清潔裝置遮	7.10.2 <u>車外視鏡(II、III、IV、V、VI及VII類)</u> ：車體或其他裝置如駕駛室其他的 <u>視鏡</u> 、門把、輪廓標識燈、方向燈及前、後保險桿，反射面清潔裝置遮蔽視野時，其所遮蔽之視

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its components, such as other cab devices for indirect vision, door handles, outline marker lights, direction indicators and front and rear bumpers, as well as reflective-surface cleaning components, shall not be taken into account if they are responsible for a total obstruction of less than 10 per cent of the specified field of vision. In the case of a vehicle designed and constructed for special purposes where, due to its special features, it is not possible to meet this requirement, the obstruction of the required field of vision of a Class VI mirror caused by the special features may be more than 10 per cent but not more than necessary for its special function.	mirrors, door handles, outline marker lights, direction indicators and front and rear bumpers, as well as reflective-surface cleaning components, shall not be taken into account if they are responsible for a total obstruction of less than 10 per cent of the specified field of vision. In the case of a vehicle designed and constructed for special purposes where, due to its special features, it is not possible to meet this requirement, the obstruction of the required field of vision of a Class VI mirror caused by the special features may be more than 10 per cent but not more than necessary for its special function.	蔽視野時，其所遮蔽之視野如不超過規定視野之百分之一〇，則應不列入考慮。 就VI類視鏡而言，車輛可能為了其特殊功能而有特別的設計，使其無法符合視野規定，所造成VI類視野的遮蔽可超過百分之一〇，但不應超過其特殊功能設計之必要區域。	野如不超過規定視野之百分之一〇，則應不列入考慮。 就VI類視鏡而言，車輛可能為了其特殊功能而有特別的設計，使其無法符合視野規定，所造成VI類視野的遮蔽可超過百分之一〇，但不應超過其特殊功能設計之必要區域。
16. Requirements for devices for indirect vision other than mirrors 16.1. Class I to IV camera-monitor devices (see Annex 12) Unless otherwise provided in this Regulation, the definitions and symbols used in paragraph 16.1. are in accordance with ISO 16505:2015, Chapters 3 and 4. Unless otherwise provided in this Regulation, the requirements given in		8. I至IV類攝影機-顯示器裝置 8.1 除非另有規定，本節定義及使用符號應依據ISO16505:2015第三章節及第四章節之規定。 除非另有規定，本節試驗要求應依據ISO16505:2015第七章節試驗方法中適用規範進行驗證。	

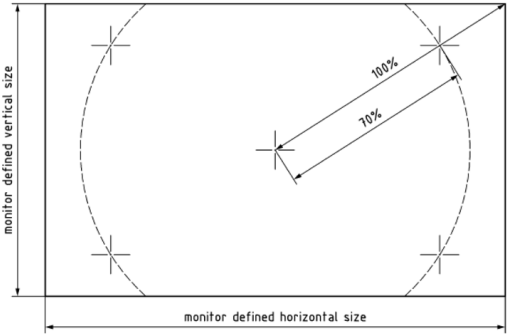
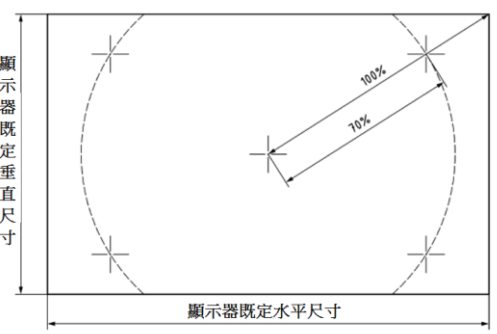
增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
paragraph 16.1. shall be verified according to the test procedures given in ISO 16505:2015, Chapter 7, where available.			
16.1.1. Intended use, activation and deactivation The intended use shall be mentioned within the operator's manual. The procedure for activation and deactivation of the CMS of Classes II and III shall allow a safe use of the vehicle. The CMS shall be activated when the vehicle is opened (e.g. unlocking of the doors, opening of a front door or any other means by the choice of the manufacturer). In addition to the requirements mentioned in paragraph 15.2.1.1.2., after each engine switch-off the system shall remain operational for a period of at least $T1 = 120$ s. After $T1$ period and for a period of at least $T2 = (420 - T1)$ seconds the system shall be able to be reactivated such that the required field of vision is made available within 1 second by manoeuvring any front door opening automatically and, if available, manually by the driver. After $T2$		8.1.1 預期用途(Intended use)、開啟(Activation)及關閉(Deactivation) <u>使用說明書內容應包含預期用途說明。II及III類攝影機-顯示器系統之開啟及關閉程序應確保車輛之安全使用。</u> <u>當車門開啟時(如車門鎖定解除、前車門開啟或由申請者指定之任何其他方式),其攝影機-顯示器系統應被開啟。</u> <u>除了本基準4.2之規定要求,每一次關閉引擎開關後,CMS系統應至少維持作動一二〇秒(T1)。</u> <u>經過T1時間之後,於至少T2(即四二〇-T1)期間內,應能夠透過任何前門開啟方式,自動於一秒之內再啟動系統提供要求之視野,可亦另提供駕駛手動操作。</u> <u>T2時間後,攝影機-顯示器系統應能夠(例如啟始車輛任何前門開啟過程)於七秒之內再啟動。</u>	

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period the system shall be able to be reactivated within 7 seconds (e.g. by initiating any front door opening process). Notwithstanding the provisions above, any other concept to activate or deactivate the system shall be demonstrated to the satisfaction of the Technical Service within the safety concept that is provided according to the provisions in Annex 12, paragraph 2.		<u>若為上述規定以外之任何其他開啟或關閉設計概念，則應依據本基準「間接視野裝置」規定之項次12.2，提供檢測機構接受之攝影機-顯示器系統安全概念證明。</u>	
16.1.1.1. Default view In default view the CMS shall show the field of view at least as defined in paragraph 15.2.4., with at least the required magnification and resolution as defined in paragraph 16.1.3. In the case of mirror and CMS dual function system of Class I, the CMS mode shall be set by the driver. Activation and deactivation device shall be located directly on the mirror and CMS dual function system.		<u>8.1.1.1 預設視野</u> <u>攝影機-顯示器系統預設視野，應至少顯示本項規定7之視野；應至少符合本項規定8.1.3之放大倍率及解像度。</u> <u>具I類視鏡及攝影機-顯示器雙重功能系統者，其攝影機-顯示器系統模式設定應由駕駛設定。啟用與關閉裝置應直接位於該視鏡及攝影機-顯示器雙重功能系統上。</u>	
16.1.1.2. Luminance and contrast adjustment If manual adjustment is provided, the operator's manual shall provide information on how to change the luminance/contrast.		<u>8.1.1.2 亮度和對比調整</u> <u>若可手動調整亮度和對比，使用說明書應提供如何改變亮度/對比之相關資訊。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
16.1.1.3. Overlay requirements within the minimum required field of vision. Overlays shall display only rearward driving-related visual information. Only temporary overlays are allowed. All overlays shall be considered as an obstruction regardless of their transparency. Each overlay shall not exceed 2.5 per cent of the required field of view displayed surface of the corresponding class. The total surface of all obstructions shall not exceed the provision of paragraph 15.2.4.9.1. or 15.2.4.9.2. at the same time. Overlay and any other obstruction surface shall be determined (for example on screenshots) taking into account the worst case(s).		<u>8.1.1.3 最小要求視野畫面內之顯像共用區(Overlay)規範</u> <u>顯像共用區範圍內僅可顯示朝後方行駛有關之視覺資訊。</u> <u>僅允許暫時之顯像共用區。</u> <u>不論其透明與否，所有顯像共用區應視為視野遮蔽區。</u> <u>顯像共用區不應超過該視野類型顯像視野畫面之百分之二·五。</u> <u>同一時間內所有遮蔽之視野總面積不應超過本項之7.10.1或7.10.2規定。</u> <u>應以最嚴苛情況(例如螢幕截圖)確認顯像共用區及任何其他遮蔽視野表面。</u>	
16.1.2. Operating readiness (System availability) Non-operation of the system shall be recognizable to the driver is*/ (e.g. CMS failure by, i.e.*/ warning indication, display information, absence of status indicator). The information for the driver shall be explained in the operator's manual.		<u>8.1.2 系統作動狀態就緒（系統可用性）</u> <u>若系統無法作動（例如CMS失效），則應提供警告指示、顯示器顯示資訊及/或狀態指示燈熄滅等予駕駛，且於其使用說明書上載明。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
16.1.3. Magnification and resolution 16.1.3.1. Magnification factor The minimum and the average magnification factors of the CMS, in both horizontal and vertical directions shall not be lower than the minimum average magnification factor indicated below. The minimum magnification factor shall not be less than: (a) for Class I: 0.31; (b) for Class II (driver's side): 0.26; (c) for Class III (driver's side): 0.29; (d) for Class IV (driver's side): 0.054; (e) for Class II (passenger's side): 0.13; (f) for Class III (passenger's side): 0.19; (g) for Class IV (passenger's side): 0.016. The average magnification factor shall not be less than: (h) for Class I: 0.33; (i) for Class II (driver's side): 0.31; (j) for Class III (driver's side): 0.31; (k) for Class IV (driver's side): 0.091; (l) for Class II (passenger's side): 0.16; (m) for Class III (passenger's side): 0.20;		8.1.3 放大倍率及解像度 8.1.3.1 放大倍率係數 <u>CMS之最小及平均放大倍率係數，於水平和垂直兩個方向上不應低於下列所述之最小及平均放大倍率係數。</u> <u>最小放大倍率係數不應小於下列所述：</u> (a) <u>I類：0.31；</u> (b) <u>II類（駕駛側）：0.26；</u> (c) <u>III類（駕駛側）：0.29；</u> (d) <u>IV類（駕駛側）：0.054；</u> (e) <u>II類（乘客側）：0.13；</u> (f) <u>III類（乘客側）：0.19；</u> (g) <u>IV類（乘客側）：0.016；</u> <u>平均放大倍率係數不應小於下列所述：</u> (h) <u>I類：0.33；</u> (i) <u>II類（駕駛側）：0.31；</u> (j) <u>III類（駕駛側）：0.31；</u> (k) <u>IV類（駕駛側）：0.091；</u> (l) <u>II類（乘客側）：0.16；</u> (m) <u>III類（乘客側）：0.20；</u> (n) <u>IV類（乘客側）：0.046。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
(n) for Class IV (passenger's side): 0.046.			
16.1.3.2. Resolution (MTF) The resolution (MTF) defines the minimum distinguishable details observable in an image as is represented by the MTF10. For reasons of simplicity the requirement is defined assuming an aspect ratio of 1:1. Resolution MTF10, at the centre of the monitor defined size shall fulfil the following requirements: $MTF10_{(1:1) / hor} \geq MTF10_{MIN(1:1) / hor}$ in horizontal direction, $MTF10_{(1:1) / ver} \geq MTF10_{MIN(1:1) / ver}$ in vertical direction. Resolution MTF10, at the corner measurement points as illustrated in the figure below shall fulfil the following requirements: $MTF10_{(1:1) / hor} \geq \frac{1}{2} MTF10_{MIN(1:1) / hor}$ in horizontal direction, $MTF10_{(1:1) / ver} \geq \frac{1}{2} MTF10_{MIN(1:1) / ver}$ in vertical direction,		8.1.3.2 解像度(MTF) <u>解像度以MTF10為表示，代表影像中可觀察到之最小可見視標。</u> <u>為簡化而將長寬比(Aspect ratio)假設為1:1。</u> <u>顯示器(既定尺寸)中心位置之解像度MTF10，應符合下述公式要求：</u> <u>水平方向：</u> $MTF10_{(1:1) / hor} \geq MTF10_{MIN(1:1) / hor}$ <u>垂直方向：</u> $MTF10_{(1:1) / ver} \geq MTF10_{MIN(1:1) / ver}$ <u>下圖所示轉角測量點(Corner measurement point)之解像度MTF10應符合下述公式要求：</u> <u>水平方向：</u> $MTF10_{(1:1) / hor} \geq \frac{1}{2} MTF10_{MIN(1:1) / hor}$ <u>垂直方向：</u> $MTF10_{(1:1) / ver} \geq \frac{1}{2} MTF10_{MIN(1:1) / ver}$	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
			
16.1.4. Magnification aspect ratio In the required field of view, the difference between the average magnification factor for horizontal and vertical direction of a CMS shall satisfy the following equations depending on the individual mirror classes. For devices Class I the acceptable range shall be: $-0.34 \leq 1 - \frac{M_{system/hor/avg}}{M_{system/ver/avg}} \leq 0.25$ For devices Class II the acceptable range shall be: $-0.42 \leq 1 - \frac{M_{system/hor/avg}}{M_{system/ver/avg}} \leq 0.3$ For devices Class III the acceptable		8.1.4 放大倍率長寬比 於要求之視野範圍內，一部攝影機-顯示器系統於水平及垂直方向平均放大倍率係數之差值，應符合下述各視野類型對應之公式要求： <u>I類視野裝置之可接受範圍：</u> $-0.34 \leq 1 - \frac{M_{system/hor/avg}}{M_{system/ver/avg}} \leq 0.25$ <u>II類視野裝置之可接受範圍：</u> $-0.42 \leq 1 - \frac{M_{system/hor/avg}}{M_{system/ver/avg}} \leq 0.3$ <u>III類視野裝置之可接受範圍：</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
range shall be: $-0.34 \leq 1 - \frac{M_{system/hor/avg}}{M_{system/ver/avg}} \leq 0.25$ For devices Class IV no restriction in magnification ratio is required.		$-0.34 \leq 1 - \frac{M_{system/hor/avg}}{M_{system/ver/avg}} \leq 0.25$ IV類視野裝置之放大倍率比並無要求。	
16.1.5. Monitor inside the vehicle 16.1.5.1. The centre of the monitor(s) shall not be below a plane passing through the driver's ocular points, as defined in paragraph 12.1., and declined 30 deg. below. 16.1.5.2. The arrangement of the monitor(s) inside the vehicle shall be convenient to the driver. Thus, the image of the right side field of view shall be presented to the right of the longitudinal vertical plane through the ocular reference point, defined in paragraph 12.6. The image of the left side field of view shall be presented to the left of the longitudinal vertical plane through the ocular reference point. If the CMS shows more than one field of vision on one display, non-continuous images shall be clearly separated from each other. Provided that the required field of vision of different classes of devices		8.1.5 車輛內部之顯示器 8.1.5.1 各螢幕中心不應位於駕駛眼點(參考基準2.2定義)平面下傾三〇度以下。 8.1.5.2 車輛內部之各螢幕裝置位置應利於駕駛方便操作。 因此，右側視野之影像應呈現於駕駛參考眼點縱向垂直平面(參考基準2.14定義)之右側。 左側視野之影像應呈現於駕駛參考眼點縱向垂直平面(參考基準2.14定義)之左側。 若攝影機-顯示器系統之一個顯示幕顯示超過一種視野類型畫面，非連續之圖像應可彼此清楚地區別。若為不同視野類型間接視野裝置要求之視野顯示於顯示器，則於未隱藏各視野類型要求視野任何部分之下，允許無明確區別之連續圖像組	

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for indirect vision are shown on the monitor(s) without hiding any part of the required field of vision, a combined continuous image without clear separation is allowed. 16.1.5.3. The monitor defined size shall be visible without any obstruction from the ocular reference point. A virtual testing is acceptable.		<u>合。</u> 8.1.5.3 從駕駛參考眼點看到之既定尺寸螢幕應無任何遮蔽。可接受模擬試驗(Virtual testing)。	
16.1.6. Obstruction of the driver's direct view caused by the installation of a device for indirect vision shall be restricted to a minimum.		8.1.6 間接視野裝置本身所造成之駕駛直接視野遮蔽應減至最小。	
16.1.7. Decreasing accommodation The installation of the monitor inside the vehicle should follow the needs of the intended user group. The operator's manual shall provide information on the decreasing capacity of the human being to accommodate and shall recommend suitable assistance for the user's needs.		8.1.7 視覺調節的緩衝 (Decreasing accommodation) 車輛內部之顯示器安裝應考量預期客戶群之需求。使用說明書應能提供使用者關於視覺調節緩衝之資訊，及給予使用者必要協助之建議。	
16.1.8. Safety of electronic systems for indirect vision The requirements to be applied to the safety aspects of electronic systems for indirect vision are given in Annex 12, paragraph 2.		8.1.8 間接視野裝置之微電子系統安全 應符合本基準中「間接視野裝置」規定之項次12.2.。	
16.2. Class V and VI camera-monitor	15.3. Devices for indirect vision other	9. V 及 VI 類攝影機-顯示器裝置	8. 提供間接視野之非視鏡類裝置

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
devices 16.2.1. A device for indirect vision shall give such performances that a critical object can be observed by the driver over the entire required field of vision, taking into account the critical perception according the procedure of Annex 10. Alternatively, the determination of the displayed object size shall be performed according to Annex 11. 16.2.2. Obstruction of the driver's direct view caused by the installation of a device for indirect vision shall be restricted to a minimum. 16.2.3. Installation requirements for the monitor The viewing direction of the monitor shall roughly be the same direction as the one for the main mirror. 16.2.4. Vehicles may be equipped with additional devices for indirect vision. 16.2.5. The provisions of this Regulation do not apply to the surveillance camera-monitorrecording devices defined in paragraph 2.3. of this Regulation. Exterior surveillance cameras either shall be mounted at least 2 m above the ground when the	than mirrors 15.3.1. A device for indirect vision shall give such performances that a critical object can be observed by the driver over the entire required field of vision, taking into account the critical perception according the procedure of Annex 10. Alternatively, the determination of the displayed object size shall be performed according to Annex 11. 15.3.2. Obstruction of the driver's direct view caused by the installation of a device for indirect vision shall be restricted to a minimum. 15.3.3. (Reserved) 15.3.4. Installation requirements for the monitor The viewing direction of the monitor shall roughly be the same direction as the one for the main mirror. 15.3.5. Vehicles may be equipped with additional devices for indirect vision. 15.3.6. The provisions of this Regulation do not apply to the surveillance camera-monitorrecording devices defined in paragraph 2.1.2.13. of this Regulation. Exterior surveillance cameras either shall be mounted at	9.1 為能有敏銳察覺，間接視野裝置應能由駕駛者觀測到所規定視野範圍內之臨界物體，此應依 9.所述確認。或亦可選擇以基準項次「間接視野裝置」11.所述程序確認其所顯示物體尺寸。 9.2 安裝間接視野裝置，所造成遮蔽駕駛者之直接視野應減至最小。 9.3 顯示器裝置安裝要求：顯示器顯示的方向應約略地和主要視鏡相同。 9.4 車輛允許裝設額外的間接視野裝置。 9.5 此「間接視野裝置安裝規定」不適用於本基準項目「間接視野裝置」項次2.12所定義之監視攝影機-監視-記錄裝置。外部監視攝影機應裝設在距地高二公尺以上之位置(當車輛處於宣告總重量時)；或若該監視攝影機之下緣距地高小於二公尺，則此監視攝影機不得超出車輛在無	8.1 為能有敏銳察覺，間接視野裝置應能由駕駛者觀測到所規定視野範圍內之臨界物體，此應依 9.所述確認。或亦可選擇以基準項次「間接視野裝置」11.所述程序確認其所顯示物體尺寸。 8.2 安裝間接視野裝置，所造成遮蔽駕駛者之直接視野應減至最小。 8.3 監看裝置安裝要求：螢幕顯示的方向應約略地和主要視鏡相同。 8.4 車輛允許裝設額外的間接視野裝置。 8.5 此「間接視野裝置安裝規定」不適用於本基準項目「間接視野裝置」項次 2.12 所定義之監視攝影機-螢幕-記錄裝置。外部監視攝影機應裝設在距地高二公尺以上之位置(當車輛處於宣告總重量時)；或若該監視攝影機之下緣距地高小於二公

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
vehicle is under a load corresponding to its maximum technical permissible mass, or, if their lower edge is less than 2 m from the ground, shall not project more than 50 mm beyond the overall width of the vehicle measured without this device and have a radii of curvature of not less than 2.5 mm.	least 2 m above the ground when the vehicle is under a load corresponding to its maximum technical permissible mass, or, if their lower edge is less than 2 m from the ground, shall not project more than 50 mm beyond the overall width of the vehicle measured without this device and have a radii of curvature of not less than 2.5 mm.	此攝影機時所測得之車輛全寬五〇公釐，且其邊緣曲率半徑不得小於二・五公釐。	尺，則此監視攝影機不得超出車輛在無此攝影機時所測得之車輛全寬五〇公釐，且其邊緣曲率半徑不得小於二・五公釐。
Annex 10 Calculation of the detection distance for CMS of Classes V and VI 1. Camera monitor device for indirect vision 1.1. Determination of the smallest discernable detail The smallest discernable detail of the naked eye shall be defined according to standard ophthalmologic tests like the Landolt C test or the Triangle Orientation Discrimination (TOD) test. The smallest discernable detail at the centre of the viewing system can be determined using the Landolt C test or the TOD test. In the rest of the viewing area the smallest discernable detail may be estimated from the centrally determined smallest discernable detail and the local image	Annex 10 Calculation of the detection distance 1. Camera monitor device for indirect vision 1.1. Determination of the smallest discernable detail The smallest discernable detail of the naked eye shall be defined according to standard ophthalmologic tests like the Landolt C test or the Triangle Orientation Discrimination (TOD) test. The smallest discernable detail at the centre of the viewing system can be determined using the Landolt C test or the TOD test. In the rest of the viewing area the smallest discernable detail may be estimated from the centrally determined smallest discernable detail and the	10. V及VI類攝影機-顯示器裝置之偵測距離計算 10.1 攝影機-顯示器間接視野裝置之最小可見視標 (Smallest discernable detail)應依標準眼科光學測試決定裸眼視力下最小可見視標，如藍道爾氏C字視力表(Landolt C test)或三角方位識別(TOD)測試。 位於觀看系統中心位置之最小可見視標，可經由藍道爾氏C字視力表或三角方位識別(TOD)測試辨視。觀看系統上其餘視區之最小可見視標，可由中心位置之最小可見視標與原始圖像的變形進行估算。例如，數位攝影裝置顯示器上任一像素位置之最小可見視標，與該像素所形成的三維空間角度(Solid angle)成反比。	9. 攝影/監看裝置之偵測距離的計算 9.1 最小可見視標 (Smallest discernable detail)應依標準眼科光學測試決定裸眼視力下最小可見視標，如藍道爾氏C字視力表(Landolt C test)或三角方位識別(TOD)測試。 位於監看裝置中心位置之最小可見視標，可經由藍道爾氏C字視力表或三角方位識別(TOD)測試辨視。監看裝置上其餘視區之最小可見視標，可由中心位置之最小可見視標與原始圖像的變形進行估算。例如，數位攝影裝置螢幕上任一像素位置之最小可見視標，與該像素所形成的三維空間角度(Solid angle)成反比。

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
deformation. For instance, in the case of a digital camera the smallest discernable detail at a given pixel location (in the monitor) scales inversely with the solid angle of the pixel.	local image deformation. For instance, in the case of a digital camera the smallest discernable detail at a given pixel location (in the monitor) scales inversely with the solid angle of the pixel.		

15.2.1.1.1 修訂後

Vehicle category	Rear-view Class I	Main rear-view Class II	Main rear-view Class III
M ₁	Compulsory Unless the vehicle is fitted with anything other than safety glazing material in the field of vision prescribed in paragraph 15.2.4.1.	Optional	Compulsory 1 on the driver's side and 1 on the passenger's side Class II mirrors may be fitted as an alternative.
M ₂	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted
M ₃	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted

15.2.1.1.1 修訂前

Vehicle category	Interior mirror	Exterior mirrors	
	Interior mirror Class I	Main mirror (large) Class II	Main mirror (small) Class III
M ₁	Compulsory Unless the vehicle is fitted with anything other than safety glazing material in the field of vision prescribed in paragraph 15.2.4.1.	Optional	Compulsory 1 on the driver's side and 1 on the passenger's side Class II mirrors may be fitted as an alternative.
M ₂	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted
M ₃	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted
N ₁	Compulsory Unless the vehicle is fitted with anything other than safety glazing material in the field of vision prescribed in paragraph 15.2.4.1.	Optional	Compulsory 1 on the driver's side and 1 on the passenger's side Class II mirrors may be fitted as an alternative.
N ₂ ≤ 7,5 t	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted
N ₂ > 7,5 t	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted
N ₃	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted

Vehicle category	Rear-view Class I	Main rear-view Class II	Main rear-view Class III
N ₁	Compulsory Unless the vehicle is fitted with anything other than safety glazing material in the field of vision prescribed in paragraph 15.2.4.1.	Optional	Compulsory 1 on the driver's side and 1 on the passenger's side Class II mirrors may be fitted as an alternative.
N ₂ ≤ 7.5 t	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted
N ₂ > 7.5 t	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted
N ₃	Optional (no requirements for the field of view)	Compulsory 1 on the driver's side and 1 on the passenger's side	Not permitted

Vehicle category	Wide-angle view Class IV	Close-proximity view Class V	Front-view Class VI
M ₁	Optional 1 on the driver's side and/or 1 on the passenger's side	Optional 1 on the driver's side and 1 on the passenger's side (both shall be fitted at least 2 m above the ground)	Optional (shall be fitted at least 2 m above the ground)
M ₂	Optional 1 on the driver's side and/or 1 on the passenger's side	Optional 1 on the driver's side and 1 on the passenger's side (both shall be fitted at least 2 m above the ground)	Optional (shall be fitted at least 2 m above the ground)
M ₃	Optional 1 on the driver's side and/or 1 on the passenger's side	Optional 1 on the driver's side and 1 on the passenger's side (both shall be fitted at least 2 m above the ground)	Optional (shall be fitted at least 2 m above the ground)

Vehicle category	Exterior mirrors		
	Wide-angle mirror Class IV	Close-proximity mirror Class V	Front mirror Class VI
M ₁	Optional 1 on the driver's side and/or 1 on the passenger's side	Optional 1 on the driver's side and 1 on the passenger's side (both shall be fitted at least 2 m above the ground)	Optional (shall be fitted at least 2 m above the ground)
M ₂	Optional 1 on the driver's side and/or 1 on the passenger's side	Optional 1 on the driver's side and 1 on the passenger's side (both shall be fitted at least 2 m above the ground)	Optional (shall be fitted at least 2 m above the ground)
M ₃	Optional 1 on the driver's side and/or 1 on the passenger's side	Optional 1 on the driver's side and 1 on the passenger's side (both shall be fitted at least 2 m above the ground)	Optional (shall be fitted at least 2 m above the ground)
N ₁	Optional 1 on the driver's side and/or 1 on the passenger's side	Optional 1 on the driver's side and 1 on the passenger's side (both shall be fitted at least 2 m above the ground)	Optional (shall be fitted at least 2 m above the ground)

Vehicle category	Wide-angle view Class IV	Close-proximity view Class V	Front-view Class VI
N ₃	Compulsory 1 on the driver's side and 1 on the passenger's side In addition according to paragraphs 15.2.4.5.6. to 15.2.4.5.11. for vehicles with a mounting height of the Class V mirror of not less than 2.4 m (see paragraph 15.2.4.5.12.): the required field of vision (paragraphs 15.2.4.5.6. to 15.2.4.5.9.) may be viewed using a combination of direct view and indirect vision devices (of Classes IV, V, VI).	Compulsory (see paragraph 15.2.2.7. and 15.2.4.5.5) 1 on the passenger's side Optional 1 on driver's side (both shall be fitted at least 2 m above the ground) In addition according to paragraphs 15.2.4.5.6. to 15.2.4.5.11. for vehicles with a mounting height of the Class V mirror of not less than 2.4 m (see paragraph 15.2.4.5.12.): the required field of vision (paragraphs 15.2.4.5.6. to 15.2.4.5.9.) may be viewed using a combination of direct view and indirect vision devices (of Classes IV, V, VI).	Compulsory (see paragraph 15.2.1.1.2) 1. front mirror (shall be fitted at least 2 m above the ground) In addition according to paragraphs 15.2.4.5.6. to 15.2.4.5.11. for vehicles with a mounting height of the Class V mirror of not less than 2.4 m (see paragraph 15.2.4.5.12.): the required field of vision (paragraphs 15.2.4.5.6. to 15.2.4.5.9.) may be viewed using a combination of direct view and indirect vision devices (of Classes IV, V, VI).

Note:

1. Class V and Class VI mirrors shall be mounted on vehicles in such a way that, regardless of their position after adjustment, no part of these mirrors or their holders is less than 2 m from the ground when the vehicle is under a load corresponding to its technically permissible maximum laden mass. These mirrors shall not, however, be mounted on vehicles the cab height of which is such as to prevent compliance with this requirement. In this case an other device for indirect vision is not requested.(UN R46 15.2.2.7).
2. In the case the field of vision described in Figures 6a and 6b can be perceived through the combination of the field of vision from a **Class IV wide-angle view device** and that of a **Class VI front-view device**, the installation of a **Class V close-proximity view device** is not compulsory (UN R46 15.2.4.5.5).
3. Optional, no requirements for the field of vision.

Note:

1. Class V and Class VI mirrors shall be mounted on vehicles in such a way that, regardless of their position after adjustment, no part of these mirrors or their holders is less than 2 m from the ground when the vehicle is under a load corresponding to its technically permissible maximum laden mass. These mirrors shall not, however, be mounted on vehicles the cab height of which is such as to prevent compliance with this requirement. In this case an other device for indirect vision is not requested.(UN R46 15.2.2.7).
2. In case the field of vision described in Figures 6a and 6b can be perceived through th combination of the field of vision from a **Class IV wide-angle mirror** and that of a **Class VI front mirror**, the installation of a **Class V close proximity mirror** is not compulsory. (UN R46 15.2.4.5.5).
3. Optional, no requirements for the field of vision.

VSTD 表一修訂後

表一 視鏡安裝數量一覽表

車輛總類	I類後方視野 (Rear-view Class I)	II類主要後方視野 (大)(Main rear-view Class II (large) class II)	III類主要後方視野(小) (Main rear-view Class III (small) class III)	IV類廣角視野(Wide-angle view Class IV)	V類近側視野 (Close-proximity view Class V)	VI類車前視野 (Front-view Class VI)	VI-A類平頭車輛車前照鏡
M1	強制 (Compulsory): 除非在 7.1 規定的視野內裝設有非安全玻璃者	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個及乘客側 1 個，II 類可做為擇選的裝置	選配 (Optional): 駕駛側 1 個及 (或)乘客側 1 個	選配(Optional): 駕駛側 1 個及乘客側 1 個 (兩者皆應距地高至少 2 公尺)	選配(Optional): (應距地高至少 2 公尺)	選配： 前照鏡 1 個； 裝設有符合 VI 類前視鏡者得免本項
M2	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個及乘客側 1 個	不允許(Not permitted)	選配 (Optional): 駕駛側 1 個及 (或)乘客側 1 個	選配(Optional): 駕駛側 1 個及乘客側 1 個 (兩者皆應距地高至少 2 公尺)	選配(Optional): (應距地高至少 2 公尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡者得免本項
M3	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個及乘客側 1 個	不允許(Not permitted)	選配 (Optional): 駕駛側 1 個及 (或)乘客側 1 個	選配(Optional): 駕駛側 1 個及乘客側 1 個 (兩者皆應距地高至少 2 公尺)	選配(Optional): (應距地高至少 2 公尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡者得免本項
N1	強制 (Compulsory): 除非在 7.1 規定的視野內裝設有非安全玻璃者	選配 (Optional)	強制 (Compulsory): 駕駛側 1 個及乘客側 1 個，II 類可做為擇選的裝置	選配 (Optional): 駕駛側 1 個及 (或)乘客側 1 個	選配(Optional): 駕駛側 1 個及乘客側 1 個 (兩者皆應距地高至少 2 公尺)	選配(Optional): (應距地高至少 2 公尺)	選配： 前照鏡 1 個； 裝設有符合 VI 類前視鏡者得免本項

N2 ≤ 7.5 t	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個及 乘客側 1 個	不允許(Not permitted)	強制 (Compulsory): 若能安裝 V 類 視鏡，則兩側 皆應裝設 選配 (Optional): 若無安裝 V 類 視鏡，則兩側 可選配	強制(Compulsory): (依備註 規定)乘客側 1 個 選配(Optional): 駕駛側 1 個 (皆應距地高 至少 2 公尺)。誤差可為+ 10 公分	選配(Optional): 車前視鏡 1 個(應距地 高至少 2 公尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡 者得免本項
N2 > 7.5 t	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個及 乘客側 1 個	不允許(Not permitted)	強制 (Compulsory): 駕駛側 1 個及 乘客側 1 個	強制(Compulsory): (依備註規定)乘客側 1 個 選配(Optional): 駕駛側 1 個(皆應距地高至 少 2 公尺)	強制(Compulsory): 車前視鏡 1 個(應距地 高至少 2 公尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡 者得免本項
N3	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個及 乘客側 1 個	不允許(Not permitted)	強制 (Compulsory): 駕駛側 1 個及 乘客側 1 個	強制(Compulsory): (依備註規定)乘客側 1 個 選配(Optional): 駕駛側 1 個(皆應距地高至 少 2 公尺)	強制(Compulsory): 車前視鏡 1 個(應距地 高至少 2 公尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡 者得免本項

備註：

- 1.車輛全負載時，所容許安裝之 V 類視鏡及 VI 類視鏡，不論其調整後之位置為何，其距地高度應不小於二公尺。若駕駛艙本身高度即無法符合此要求，則不需強制安裝。
- 2.若能由 IV 類廣角視野裝置及 VI 類車前視野裝置組合看見圖六 A、B 所示之視野範圍，則 V 類近側視野裝置不須強制安裝。
- 3.選配者，無視野區域要求。

VSTD 表一修訂前

表一 視鏡 安裝數量一覽表

車	車內視鏡	車外視鏡
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輜 總 類		<u>I 類車內視鏡(Interior mirror class I)</u>	<u>II 類主視鏡(大)(Main mirror(large) class II)</u>	<u>III 類主視鏡(小)(Main mirror(small) class III)</u>	<u>IV 類廣角視鏡(Wide-angle mirror class IV)</u>	<u>V 類近側視鏡(Close-proximity mirror class V)</u>	<u>VI 類前視鏡(Front mirror class VI)</u>	VI-A 類平頭車輛車前照鏡
	M1	強制(Compulsory): 除非在 7.1 規定的視野內裝設有非安全玻璃者	選配(Optional):	強制(Compulsory): 駕駛側 1 個及乘客側 1 個, II 類可做為擇選的裝置	選配(Optional): 駕駛側 1 個及(或)乘客側 1 個	選配(Optional): 駕駛側 1 個及乘客側 1 個(兩者皆應距地高至少 2 公尺)	選配(Optional): (應距地高至少 2 公尺)	選配: 前照鏡 1 個; 裝設有符合 VI 類前視鏡者得免本項
	M2	選配(Optional):	強制(Compulsory): 駕駛側 1 個及乘客側 1 個	不允許(Not permitted)	選配(Optional): 駕駛側 1 個及(或)乘客側 1 個	選配(Optional): 駕駛側 1 個及乘客側 1 個(兩者皆應距地高至少 2 公尺)	選配(Optional): (應距地高至少 2 公尺)	強制: 前照鏡 1 個; 裝設有符合 VI 類前視鏡者得免本項
	M3	選配(Optional):	強制(Compulsory): 駕駛側 1 個及乘客側 1 個	不允許(Not permitted)	選配(Optional): 駕駛側 1 個及(或)乘客側 1 個	選配(Optional): 駕駛側 1 個及乘客側 1 個(兩者皆應距地高至少 2 公尺)	選配(Optional): (應距地高至少 2 公尺)	強制: 前照鏡 1 個; 裝設有符合 VI 類前視鏡者得免本項
	N1	強制(Compulsory): 除非在 7.1	選配(Optional)	強制(Compulsory): 駕駛側 1 個	選配(Optional): 駕駛側 1 個及(或)乘客	選配(Optional): 駕駛側 1 個及乘客側 1	選配(Optional): (應距地高至少 2 公	選配: 前照鏡 1 個; 裝設有符合 VI 類前視鏡

		規定的視野 內裝設有非 安全玻璃者		及乘客側 1 個，II 類可 做為擇選的 裝置	側 1 個	個(兩者皆 應距地高至 少 2 公尺)	尺)	者得免本項	
	N2 ≤ 7.5t	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個 及乘客側 1 個	不允許(Not permitted)	強制 (Compulsory):若能安裝 V 類視鏡， 則兩側皆應 裝設 選配 (Optional): 若無安裝 V 類視鏡，則 兩側可選配	強制 (Compulsory): (依備註規 定)乘客側 1 個 選配 (Optional): 駕駛側 1 個 (皆應距地 高至少 2 公 尺)。誤差可 為+ 10 公分	選配 (Optional): 車前視鏡 1 個(應距地 高至少 2 公 尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡 者得免本項	
	N2 > 7.5t	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個 及乘客側 1 個	不允許(Not permitted)	強制 (Compulsory): 駕駛側 1 個 及乘客側 1 個	強制 (Compulsory): (依備註規 定)乘客側 1 個 選配 (Optional): 駕駛側 1 個 (皆應距地 高至少 2 公 尺)	強制 (Compulsory): 車前視鏡 1 個(應距地 高至少 2 公 尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡 者得免本項	

N3	選配 (Optional):	強制 (Compulsory): 駕駛側 1 個 及乘客側 1 個	不允許(Not permitted)	強制 (Compulsory): 駕駛側 1 個 及乘客側 1 個	強制 (Compulsory): (依備註規定)乘客側 1 個 選配 (Optional): 駕駛側 1 個 (皆應距地 高至少 2 公尺)	強制 (Compulsory): 車前視鏡 1 個(應距地 高至少 2 公尺)	強制： 前照鏡 1 個； 裝設有符合 VI 類前視鏡 者得免本項
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備註：

- 1.車輛全負載時，所容許安裝之 V 類視鏡及 VI 類視鏡，不論其調整後之位置為何，其距地高度應不小於二公尺。若駕駛艙本身高度即無法符合此要求，則不需強制安裝。
- 2.若能由 IV 類廣角視鏡及 VI 類車前視鏡組合看見圖六 A、B 所示之視野範圍，則 V 類近側車外視鏡不須強制安裝。
- 3.選配者，無視野區域要求。

15.2.1.1.3 修訂後

Category of vehicle	Rear-view Class I	Main rear-view Classes III and VII
L category motor vehicles fitted with bodywork which partly or wholly encloses the driver	1 ¹	1, if there is a Class I rear-view mirror; 2, if there is not a Class I rear-view mirror

¹ No rear-view mirror Class I is required if the visibility conditions referred to in paragraph 15.2.5.4.1. below cannot be met. In this case two Class III or VII rear-view mirrors are required, one giving the view on the left and one giving the view on the right hand side of the vehicle.

VSTD 4.3 修訂後

15.2.1.1.3 修訂前

Category of vehicle	Interior mirror (Class I)	Main exterior mirror(s) (Classes III and VII)
L category motor vehicles fitted with bodywork which partly or wholly encloses the driver	1 ¹	1, if there is an interior mirror; 2, if there is not an interior mirror

¹ No interior rear-view mirror is required if the visibility conditions referred to in paragraph 15.2.5.4.1. below cannot be met. In this case two exterior rear-view mirrors are required, one on the left and one on the right hand side of the vehicle.

VSTD 4.3 修訂前

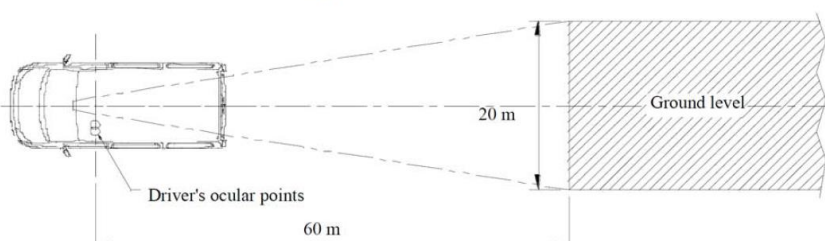
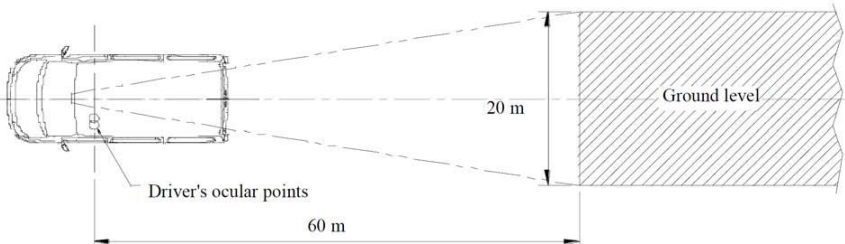
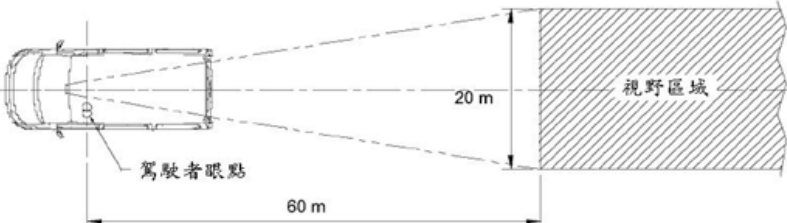
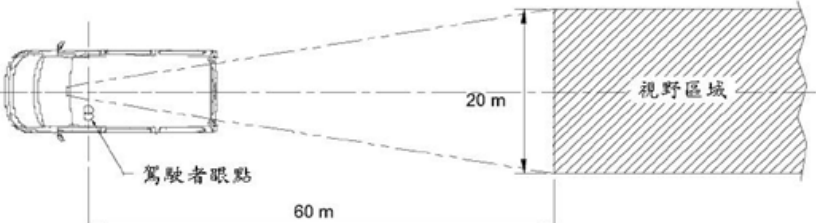
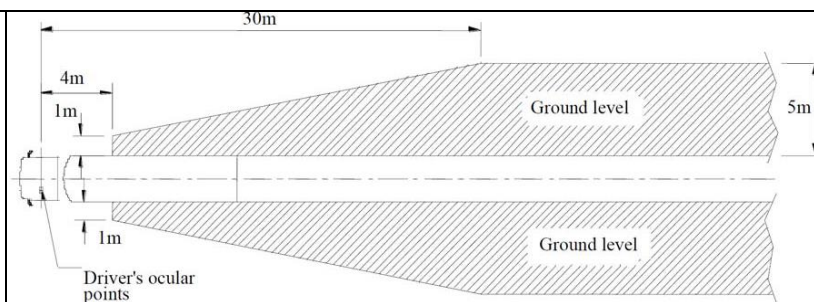
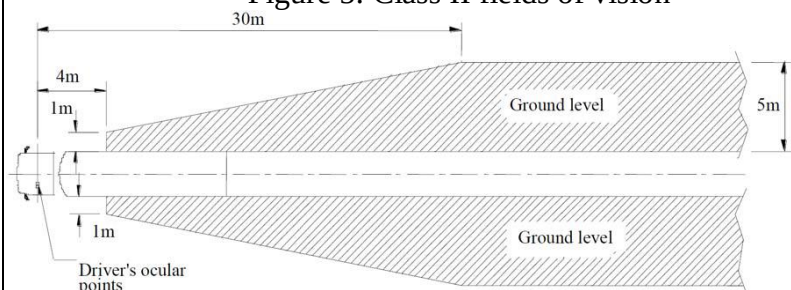
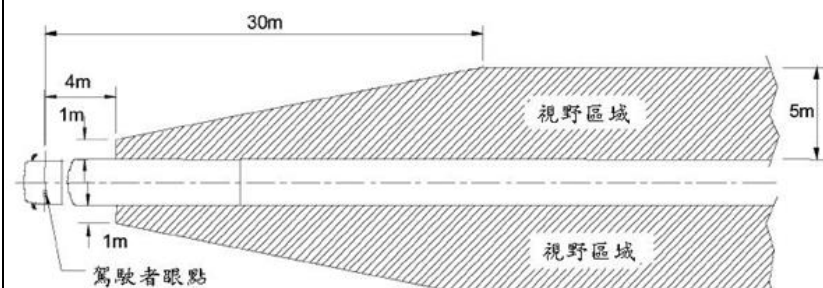
<table><tr><th>車種</th><th><u>I類後方視野</u></th><th><u>III及VII類主要後方視野</u></th></tr><tr><td>L類車輛有部份或全部車身遮蔽駕駛者</td><td>1^{1/}</td><td>1，若有裝設一<u>I類後方視野視鏡</u>者； 2，若未裝設<u>I類後方視野視鏡</u>者</td></tr></table>	車種	<u>I類後方視野</u>	<u>III及VII類主要後方視野</u>	L類車輛有部份或全部車身遮蔽駕駛者	1 ^{1/}	1，若有裝設一 <u>I類後方視野視鏡</u> 者； 2，若未裝設 <u>I類後方視野視鏡</u> 者	<table><tr><th>車種</th><th><u>內部視鏡(I類)</u></th><th><u>主外部視鏡(III及VII類)</u></th></tr><tr><td>L類車輛有部份或全部車身遮蔽駕駛者</td><td>1^{1/}</td><td>1，若有裝設一<u>內部視鏡</u>者 2，若未裝設<u>內部視鏡</u>者</td></tr></table>	車種	<u>內部視鏡(I類)</u>	<u>主外部視鏡(III及VII類)</u>	L類車輛有部份或全部車身遮蔽駕駛者	1 ^{1/}	1，若有裝設一 <u>內部視鏡</u> 者 2，若未裝設 <u>內部視鏡</u> 者
車種	<u>I類後方視野</u>	<u>III及VII類主要後方視野</u>											
L類車輛有部份或全部車身遮蔽駕駛者	1 ^{1/}	1，若有裝設一 <u>I類後方視野視鏡</u> 者； 2，若未裝設 <u>I類後方視野視鏡</u> 者											
車種	<u>內部視鏡(I類)</u>	<u>主外部視鏡(III及VII類)</u>											
L類車輛有部份或全部車身遮蔽駕駛者	1 ^{1/}	1，若有裝設一 <u>內部視鏡</u> 者 2，若未裝設 <u>內部視鏡</u> 者											
1/若下述 7.1 所述視野狀態無法符合時，無需裝設 <u>I類後方視野視鏡</u>。 若規定裝設兩個 <u>III 或 VII 類後方視野視鏡</u>，則個別裝於車輛兩側。		1/若下述 7.1 所述視野狀態無法符合時，無需裝設<u>內部後視鏡</u>。 若規定裝設兩個<u>外部後視鏡</u>，則個別裝於車輛兩側。											
15.2.4.1 修訂後	Figure 4: Class I field of vision 												
15.2.4.1 修訂前	Figure 4: Field of vision of Class I mirror 												
VSTD 7.1 修訂後	 圖二 <u>I類後方視野裝置</u>之地面視野區域												
VSTD 7.1 修訂前	 圖二 <u>車內照後鏡 (I類)</u>之地面視野區域												
15.2.4.2 修訂後	15.2.4.2 修訂前												
		Figure 5: Field of vision of Class II mirrors											

Figure 5: Class II fields of vision

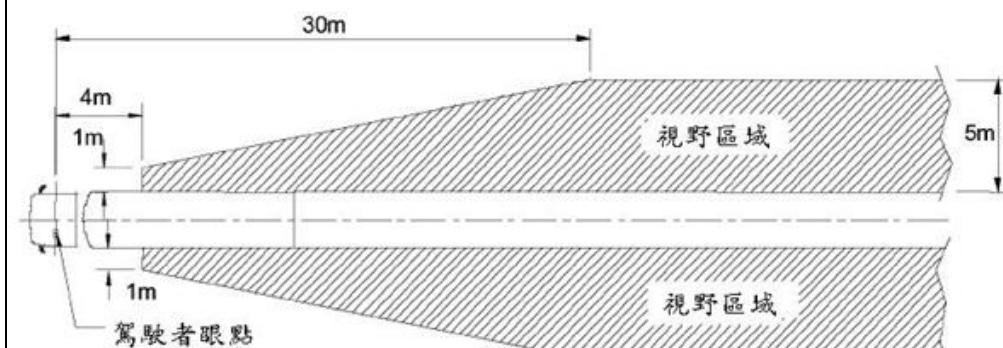


VSTD 7.2 修訂後



圖三 II類主要後方視野裝置之地面視野區域

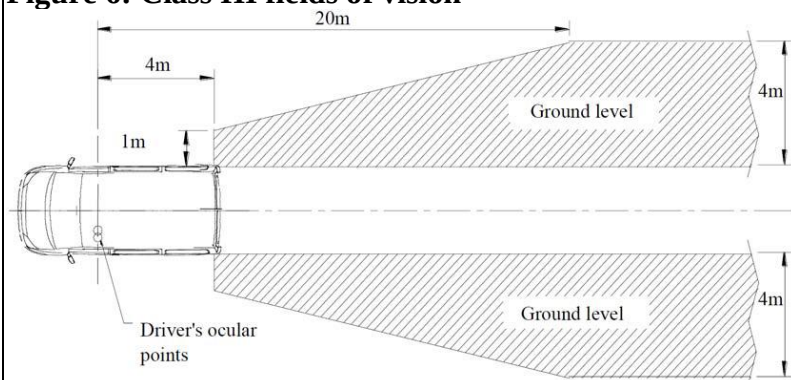
VSTD 7.2 修訂前



圖三 車外照後鏡(II類)之地面視野區域

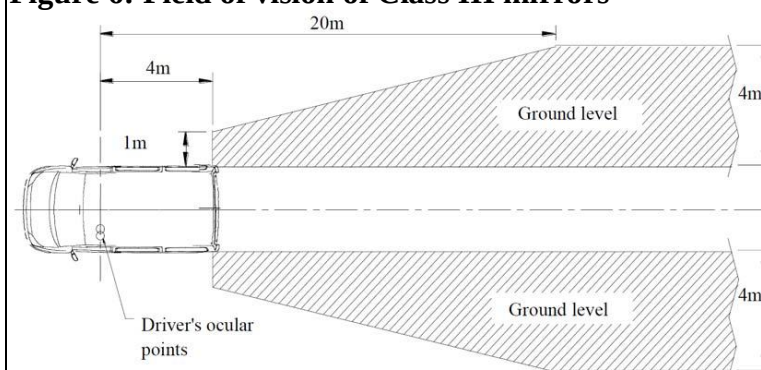
15.2.4.3 修訂後

Figure 6: Class III fields of vision

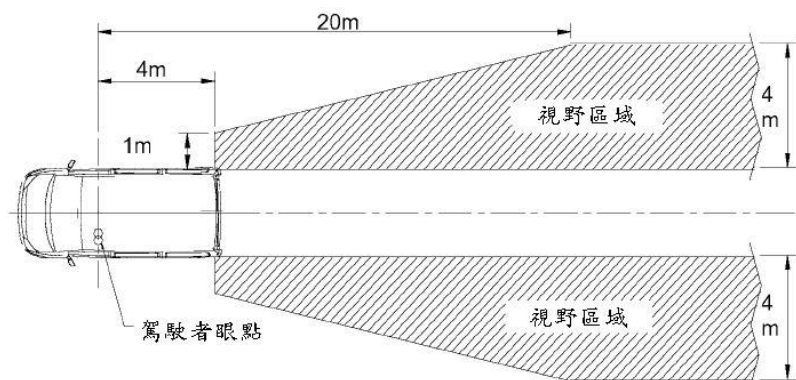


15.2.4.3 修訂前

Figure 6: Field of vision of Class III mirrors

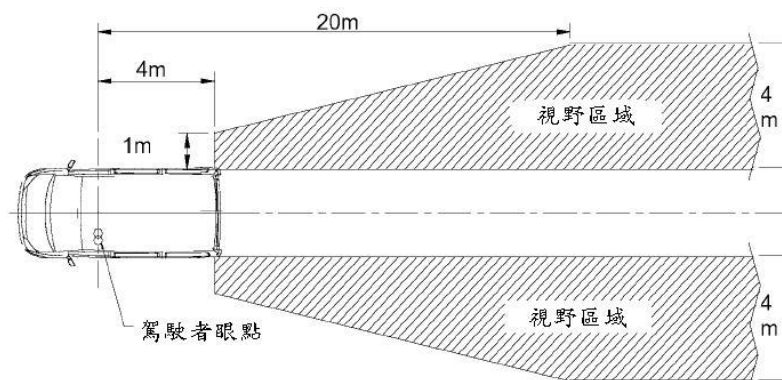


VSTD 7.3 修訂後



圖四 III類主要後方視野裝置之地面視野區域

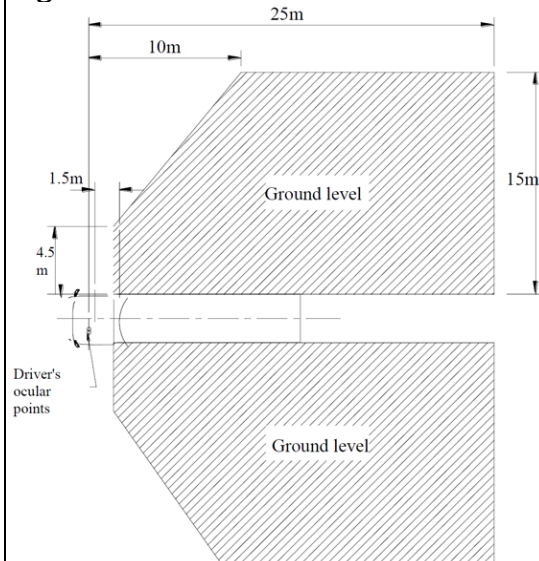
VSTD 7.3 修訂前



圖四 車外照後鏡 (III類)之地面視野區域

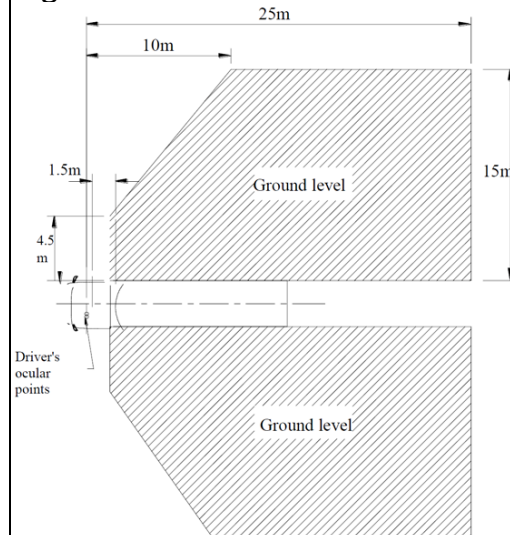
15.2.4.4 修訂後

Figure 7: Class IV fields of vision



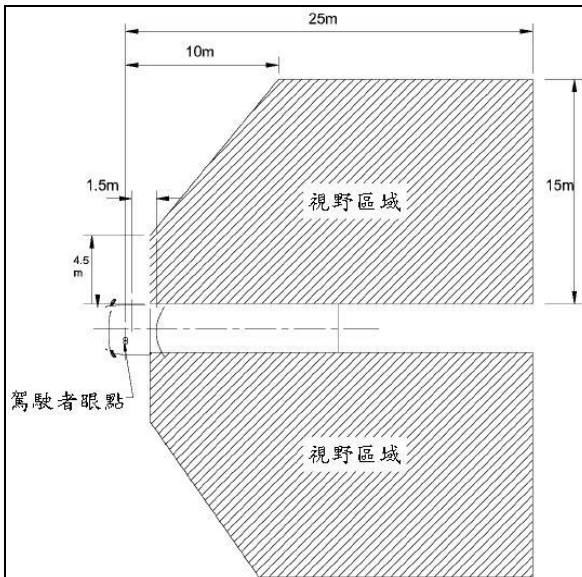
15.2.4.4 修訂前

Figure 7: Field of vision of Class IV wide-angle mirrors

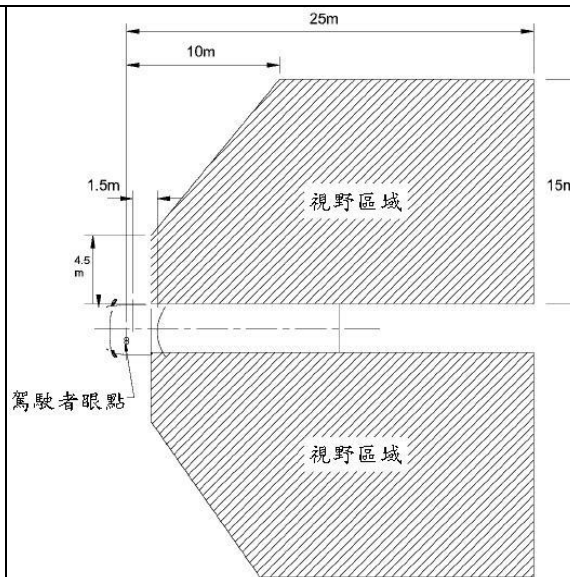


VSTD 7.4 修訂後

VSTD 7.4 修訂前



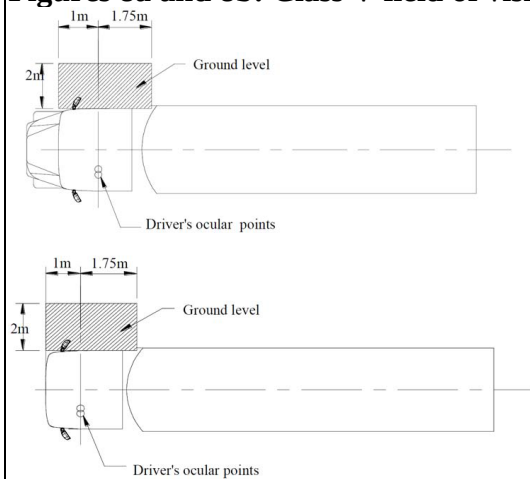
圖五 IV類廣角視野裝置之地面視野示意圖



圖五 廣角車外視鏡 (IV類)之地面視野示意圖

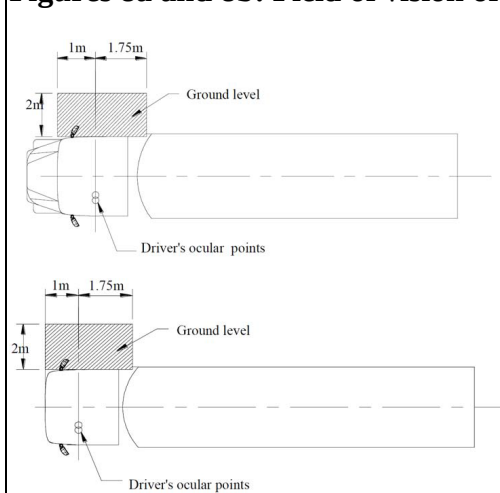
15.2.4.5 修訂後

Figures 8a and 8b: Class V field of vision

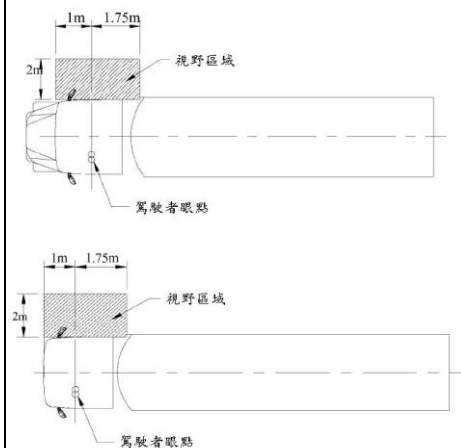


15.2.4.5 修訂前

Figures 8a and 8b: Field of vision of Class V close-proximity mirror

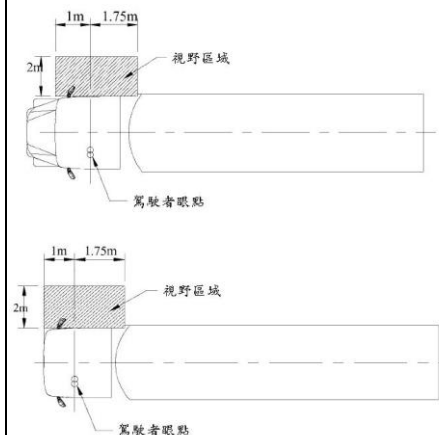


VSTD 7.5 修訂後



圖六 V類 A、B 近側視野裝置之地面視野區域

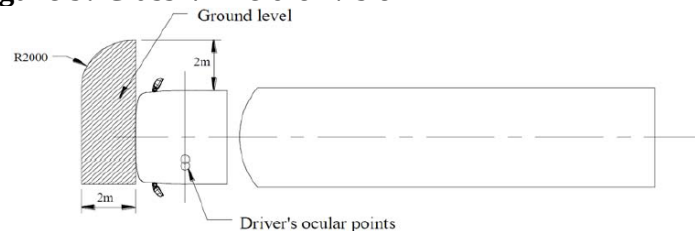
VSTD 7.5 修訂前



圖六 A、B 近側車外視鏡 (V類)之地面視野區域

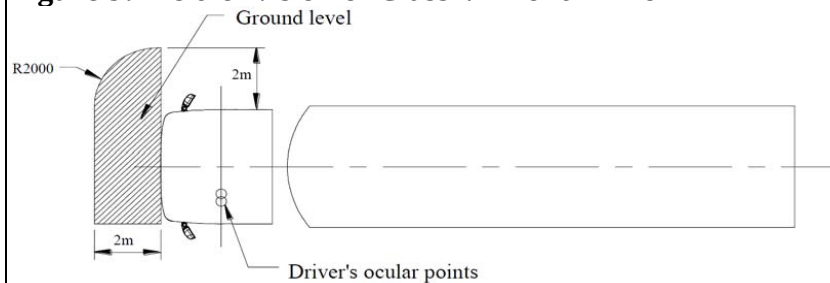
15.2.4.6 修訂後

Figure 9: Class VI field of vision

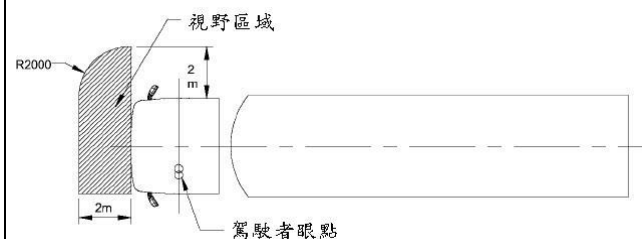


15.2.4.6 修訂前

Figure 9: Field of vision of Class VI front mirror

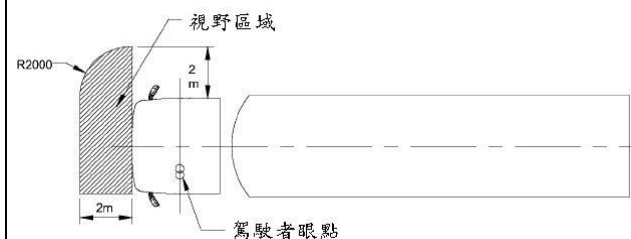


VSTD 7.6 修訂後



圖七 VI類車前視野裝置之地面視野區域

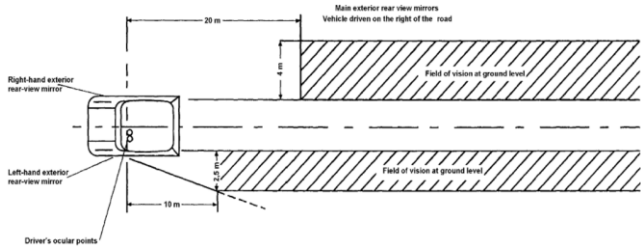
VSTD 7.6 修訂前



圖七 車前視鏡 (VI類)之地面視野區域

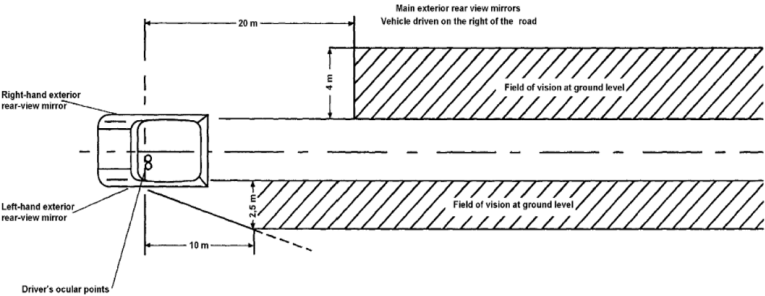
15.2.4.7 修訂後

Figure 10: Class VII fields of vision

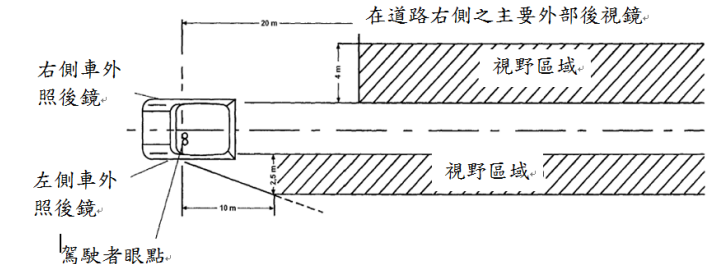


15.2.4.7 修訂前

Figure 10: Field of vision of Class VII mirrors

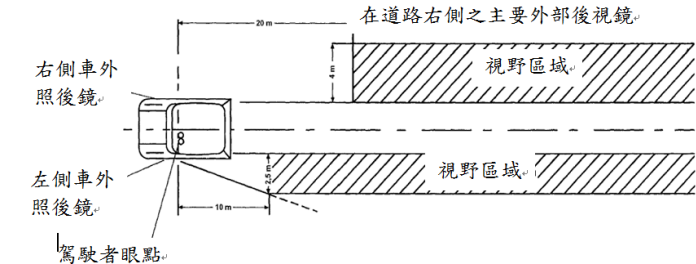


VSTD 7.7 修訂後



圖八：VII類主要後方視鏡之地面視野區域

VSTD 7.7 修訂前



圖八：車外照後鏡（VII類）之地面視野區域

項次	法規名稱	修訂法規內容	新增之法規項目	頁碼	UN 版本別	內容摘要
1	二十七之一、間接視野裝置(草案)		◎	P.1	UN R46 04-S2 (draft)	1.考量本次 UN R46 04-S2 內容為新增使用攝影機-顯示器相關規定，為利爾後實驗室認可作業，爰新增本基準版次。 2.以基準「二十七、間接視野裝置」條文為基礎。與其差異主要為： (1)增訂 M、N1 及小於七·五公噸 N2 類車類，I 至 VI 類攝影機-顯示器裝置之功能規範、I 至 VI 類攝影機-顯示器系統(CMS)之試驗方法和安全規定及適用於攝影機-顯示器系統間接視野安全方面之特殊要求。 (2)修訂 I 至 VI 類增訂間接視野裝置安裝規定等相關名詞釋義。 (3)修訂間接視野裝置之適用型式及其範圍認定原則。 (4)增訂攝影機-顯示器裝置衝擊試驗等相關規定。 (5)修訂非視鏡之間接視野裝置等相關規定。

UN R46 REAR-VIEW MIRRORS 04-S2 (draft) 間接視野裝置

增/修內容	原內容	修訂國內法規條文案草案	實施時間及適用範圍調整說明：
04-S2			依 4/20 會議結論，業者提出本次版本是否考量實驗室認可作業，爰建請中心考量新增基準版次，若擬新增基準版次，則併請妥適增修條文。
1. Scope 1.1. This Regulation applies: (a) To compulsory and optional devices for indirect vision, set out in the table under	1. Scope This Regulation applies: (a) To compulsory and optional devices for indirect vision, set out in the table under	二十七之一、間接視野裝置(草案) 1. 實施時間及適用範圍： 1.1 中華民國 <u>一〇七年一月一</u> 日起，使用於M、N及L類車輛之各型式間	使用於L1及L3類車輛之新型式間接

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
paragraph 15.2.1.1.1. of this Regulation for vehicles of category M and N and to compulsory and optional devices for indirect vision mentioned in paragraphs 15.2.1.1.3. and 15.2.1.1.4. of this Regulation for vehicles of category L with bodywork at least partly enclosing the driver; (b) To the installation of devices for indirect visions on vehicles of categories M and N and on vehicles of category L¹ with bodywork at least partly enclosing the driver. 1.2. This Regulation does not apply to devices other than those prescribed under paragraph 1.1.(a) and their installation, for observing the vision area(s) immediately adjacent to the front and/or the passenger's side of vehicles of category M₁, M₂, M₃, N₁ and N₂ < 7.5 t. 【此規定增訂於基準232】	paragraph 15.2.1.1.1. of this Regulation for vehicles of category M and N¹ and to compulsory and optional devices for indirect vision mentioned in paragraphs 15.2.1.1.3. and 15.2.1.1.4. of this Regulation for vehicles of category L¹ with bodywork at least partly enclosing the driver; (b) To the installation of devices for indirect visions on vehicles of categories M and N and on vehicles of category L¹ with bodywork at least partly enclosing the driver.	接視野裝置，應符合本項規定。 <u>1.1.1已符合本基準項次「二十七」規定之既有型式間接視野裝置且未設置攝影機-螢幕系統(CMS)者，亦視同符合本項規定。</u> 1.2 除大客車及幼童專用車以外之車輛，申請少量車型安全審驗者，得免符合本項「間接視野裝置」規定。 1.3 申請逐車少量車型安全審驗之車輛，得免符合本項「間接視野裝置」規定。	視野裝置 (照後鏡)及中華民國<u>九十七年七月一日起，使用於L1、L2、L3及L5類車輛之各型式間接視野裝置(照後鏡)</u>，應符合本項規定。 1.2 中華民國一〇〇年一月一日起，<u>使用於M及N類車輛之新型式間接視野裝置 及中華民國一〇二年一月一日起，使用於M及N類車輛之各型式間接視野裝置，應符合本項規定。</u> 1.3 除大客車及幼童專用車以外之車輛，申請少量車型安全審驗者，得免符合本項「間接視野裝置」規定。 1.4 申請逐車少量車型安全審驗之車輛，得免符合本項「間接視野裝置」規定。
2. Definitions ... 2.1. "Devices for indirect vision" means devices intended to give a clear view of the rear, side or front of the vehicle within the fields of vision defined in paragraph 15.2.4. These can be conventional mirrors, camera-monitors or other devices able to present information about the indirect field	2. Definitions ... 2.1. "Devices for indirect vision" means devices to observe the traffic area adjacent to the vehicle which cannot be observed by direct vision. These can be conventional mirrors, camera-monitors or other devices able to present information about the indirect field of vision to the driver.	2. 名詞釋義： 2.1 間接視野裝置(Devices for indirect vision)：<u>指可達到提供車輛後面、側邊或前面視野範圍內清晰視野目的之裝置。</u>此裝置可為視鏡、視訊裝置或其他可提供駕駛人間接視野資訊之裝置。L類車輛則係使用視鏡(照後鏡)提供視野。	2. 名詞釋義： 2.1 間接視野裝置：<u>指任何一種可提供觀察車輛週遭交通狀況(無法以目視方式直接觀察時)之裝置。</u>此裝置可為視鏡、視訊裝置或其他可提供駕駛人間接視野資訊之裝置。L類車輛則係使用視鏡(照後鏡)提供視野。

增/修內容	原內容	修訂國內法規條文案草案	對應國內法規條文
of vision to the driver.			
2.1.1. "Mirror" means any device, excluding devices such as periscopes, intended to give a clear view to the rear, side or front of the vehicle within the fields of vision defined in paragraph 15.2.4. by means of a reflective surface.	2.1.1. "Mirror" means any device, excluding devices such as periscopes, intended to give a clear view to the rear, side or front of the vehicle within the fields of vision defined in paragraph 15.2.4. of this Regulation.	2.1.1 視鏡(Mirror)：指任何一種裝置，藉由表面反射可提供車輛後面、側邊(通常由照後鏡提供此功能)或前面(通常由前照鏡提供此功能，L類車輛除外)清晰之視線，符合本基準中「間接視野裝置安裝規定」7規定之車輛視野；但不包括複雜之光學系統，如潛望鏡。	2.1.1 視鏡：指任何一種裝置，可提供車輛後面、側邊(通常由照後鏡提供此功能)或前面(通常由前照鏡提供此功能，L類車輛除外)清晰之視線；但不包括複雜之光學系統，如潛望鏡。
2.1.1.1. "Interior mirror" means a device as defined in paragraph 2.1.1. above, which can be fitted in the passenger compartment of a vehicle.	2.1.1.1. "Interior mirror" means a device as defined in paragraph 2.1. above, which can be fitted in the passenger compartment of a vehicle.	2.1.1.1 車內視鏡：指安裝於車輛之乘室內。	2.1.2 車內視鏡：指安裝於車輛之乘室內。
2.1.1.2. "Exterior mirror" means a device as defined in paragraph 2.1.1. above, which can be mounted on the external surface of a vehicle.	2.1.1.2. "Exterior mirror" means a device as defined in paragraph 2.1. above, which can be mounted on the external surface of a vehicle.	2.1.1.2 車外視鏡：指安裝於車輛乘室外。	2.1.3 車外視鏡：指安裝於車輛乘室外。
2.1.1.3. "Surveillance mirror" means a mirror other than the ones defined in paragraph 2.1.1. above which can be fitted to the inside or outside of the vehicle in order to provide fields of vision other than those specified in paragraph 15.2.4. of this Regulation.	2.1.1.3. "Surveillance mirror" means a mirror other than the ones defined in paragraph 2.1.1. above which can be fitted to the inside or outside of the vehicle in order to provide fields of vision other than those specified in paragraph 15.2.4. of this Regulation.	2.1.1.3 監視視鏡 (Surveillance mirror)：不同於間接視野裝置，且可安裝於車輛內部或外部，以提供非本基準中「間接視野裝置安裝規定」7規定車輛視野之視鏡。	
2.1.4. "Vision support system" means a system to enable the driver to detect and/or see object in the area adjacent to the vehicle.	2.1.1.4. "Vision support system" means a system to enable the driver to detect and/or see objects in the area adjacent to the vehicle.	2.2 視野輔助系統 (Vision support system)：指一個能使駕駛者發覺及/或看見車旁物體的系統。	2.2 視野輔助系統 (Vision support system)：指一個能使駕駛者發覺及/或看見車旁物體的系統。
2.1.1.4. "r" means the average of the radii of curvature measured over the reflecting	2.1.1.5. "r" means the average of the radii of curvature measured over the reflecting	2.3 r：指反射面之平均曲率半徑。	2.3 r：指反射面之平均曲率半徑。

增/修內容	原內容	修訂國內法規條文案草案	對應國內法規條文
surface, in accordance with the method described in Annex 7.	surface, in accordance with the method described in Annex 7.		
2.1.1.5. "The principal radii of curvature at one point on the reflecting surface (ri)" means the values obtained with the apparatus defined in Annex 7, measured on the arc of the reflecting surface passing through the centre of this surface parallel to the segment b, as defined in paragraph 6.1.2.1.2.1. of this Regulation and on the arc perpendicular to this segment.	2.1.1.6. "The principal radii of curvature at one point on the reflecting surface (ri)" means the values obtained with the apparatus defined in Annex 7, measured on the arc of the reflecting surface passing through the centre of this surface parallel to the segment b, as defined in paragraph 6.1.2.1.2.1. of this Regulation and on the arc perpendicular to this segment.	2.4 ri：通過鏡面中心且平行於線段 b 之反射面圓弧半徑，以及垂直於此線段之圓弧半徑。	2.4 ri：通過鏡面中心且平行於線段 b 之反射面圓弧半徑，以及垂直於此線段之圓弧半徑。
2.1.1.6. "The radius of curvature at one point on the reflecting surface (rp)" means the arithmetical average of the principal radii of curvature ri and r'i, i.e.: $r_p = \frac{r_i + r'_i}{2}$	2.1.1.7. "The radius of curvature at one point on the reflecting surface (rp)" means the arithmetical average of the principal radii of curvature ri and ri i.e.: $r_p = \frac{r_i + r'_i}{2}$	2.5 rp：理論曲率半徑ri及r'i之算術平均，計算方法如下： $rp = \frac{ri + r'i}{2}$	2.5 rp：理論曲率半徑ri及r'i之算術平均，計算方法如下： $rp = \frac{ri + r'i}{2}$
2.1.2. "Camera-monitor system (CMS)" means a device for indirect vision as defined in paragraph 2.1., where the field of vision is obtained by means of a camera-monitor combination as defined in paragraphs 2.1.2.1. and 2.1.2.2. below.	2.1.2. "Camera-monitor device for indirect vision" means a device as defined in paragraph 2.1., where the field of vision is obtained by means of a camera-monitor combination as defined in paragraphs 2.1.2.1. and 2.1.2.2. below.	2.9 攝影機 - 顯示器系統 (Camera-monitor system (CMS))：意指2.1所定義之裝置，其視野範圍係依據2.15及2.16定義之攝影機及顯示器裝置結合而獲得。	2.9 可提供間接視野之攝影機-螢幕裝置：意指2.1所定義之裝置，其視野範圍係依據2.10及2.11定義之攝影機及螢幕裝置結合而獲得。
2.1.2.1. "Camera" means a device that renders an image of the outside world and then converts this image into a signal (e.g. video signal).	2.1.2.1. "Camera" means a device that renders an image of the outside world and then converts this image into a signal (e.g. video signal).	2.10 攝影機(Camera)：意指一能提供外部影像及將此影像轉換為訊號之裝置(例：視頻訊號)。	2.10 攝影機：意指一能提供外部影像及將此影像轉換為訊號之裝置(例：視頻訊號)。
2.1.2.2. "Monitor" means a device that converts a signal into images that are	2.1.2.2. "Monitor" means a device that converts a signal into images that are	2.11 顯示器(Monitor)：意指一個能將訊號轉換並投射至可視影像之裝	2.11 螢幕：意指一個能將訊號轉換並投射至可視影像之裝置。

增/修內容	原內容	修訂國內法規條文案草案	對應國內法規條文
rendered into the visual spectrum.	rendered into the visual spectrum.	置。	
2.3. "Surveillance camera-monitor-recording device" means a camera and either a monitor or recording equipment other than the camera-monitor system defined in paragraph 2.1.2. above which can be fitted to the inside or outside of the vehicle in order to provide fields of vision other than those specified in paragraph 15.2.4. of this Regulation or to provide a security system within or around the vehicle.	2.1.2.13. "Surveillance camera-monitor-recording device" means a camera and either a monitor or recording equipment other than the camera-monitor device defined in paragraph 2.1.2. above which can be fitted to the inside or outside of the vehicle in order to provide fields of vision other than those specified in paragraph 15.2.4. of this Regulation or to provide a security system within or around the vehicle.	2.12 監視攝影機- <u>顯示器</u> -記錄裝置 (<u>Surveillance camera-monitor-recording device</u>): 意指攝影機及 <u>顯示器</u> 或記錄裝置, 其有別於前述2.9所定義之可提供間接視野之攝影機- <u>顯示器</u> 裝置, 而係安裝於車內或車外以用來提供本基準「間接視野裝置安裝規定」項次7.所規定視野範圍以外之視野, 或用來提供車內或車輛週遭安全系統之用。	2.12 監視攝影機- <u>螢幕</u> -記錄裝置: 意指攝影機及 <u>螢幕</u> 或記錄裝置, 其有別於前述2.9所定義之可提供間接視野之攝影機- <u>螢幕</u> 裝置, 而係安裝於車內或車外以用來提供本基準「間接視野裝置安裝規定」項次7.所規定視野範圍以外之視野, 或用來提供車內或車輛週遭安全系統之用。
2.1.1.7. "Spherical surface" means a surface, which has a constant and equal radius in all directions.	2.1.1.8. "Spherical surface" means a surface, which has a constant and equal radius in all directions	2.13 <u>球面(Spherical surface): 係指各方向半徑為常數且相等的表面。</u>	
2.1.1.8. "Aspherical surface" means a surface, which has only in one plane a constant radius.	2.1.1.9. "Aspherical surface" means a surface, which has only in one plane a constant radius.	2.14 <u>非球面(Aspherical surface): 係指在一個平面僅有一個固定半徑的表面。</u>	
2.1.1.9. "Aspherical mirror" means a mirror composed of a spherical and an aspherical part, in which the transition of the reflecting surface from the spherical to the aspherical part has to be marked. The curvature of the main axis of the mirror is defined in the x/y coordinate system defined by the radius of the spherical primary calotte with:	2.1.1.10. "Aspherical mirror" means a mirror composed of a spherical and an aspherical part, in which the transition of the reflecting surface from the spherical to the aspherical part has to be marked. The curvature of the main axis of the mirror is defined in the x/y coordinate system defined by the radius of the spherical primary calotte with:	2.15 <u>非球面視鏡(Aspherical mirror): 係指由球面及非球面部件所組成之視鏡, 且反射面在球面至非球面部件之轉變處應有標示。在x/y座標系統中, 反射視鏡之主軸曲率與其主半球形半徑之關係式如下:</u> $y = R - \sqrt{(R^2 - x^2) + k(x - a)^3}$	

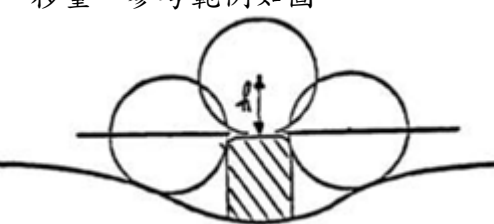
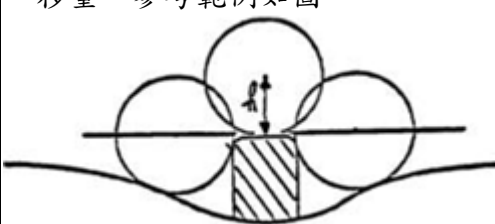
增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
$y = R - \sqrt{(R^2 - x^2)} + k(x - a)^3$ Where: R: nominal radius in the spherical part k: constant for the change of curvature a: constant for the spherical size of the spherical primary calotte	$y = R - \sqrt{(R^2 - x^2)} + k(x - a)^3$ R: nominal radius in the spherical part k: constant for the change of curvature a: constant for the spherical size of the spherical primary calotte	<u>R:球面部件之標稱半徑。</u> <u>k:曲率變化常數</u> <u>a:主要半球形所形成之球面尺寸常數</u>	
2.1.1.10. "Centre of the reflecting surface" means the centre of the visible area of the reflecting surface.	2.1.1.11. "Centre of the reflecting surface" means the centre of the visible area of the reflecting surface.	2.16 反射面中心 (Centre of the reflecting surface):係指反射面可見區域中心。	
2.1.1.11. "The radius of curvature of the constituent parts of the mirror" means the radius "c" of the arc of the circle which most closely approximates to the curved form of the part in question.	2.1.1.12. "The radius of curvature of the constituent parts of the mirror" means the radius "c" of the arc of the circle which most closely approximates to the curved form of the part in question.	2.17 視鏡組成部件之曲率半徑(The radius of curvature of the constituent parts of the mirror):係指最接近視鏡組成部件彎曲結構之圓弧半徑"c"。	
2.1.3. "Other devices for indirect vision" means devices as defined in paragraph 2.1. above, where the field of vision is not obtained by means of a mirror or a camera-monitor device.	2.1.3. "Other devices for indirect vision" means devices as defined in paragraph 2.1. above, where the field of vision is not obtained by means of a mirror or a camera-monitor type device for indirect vision.	2.18 其他間接視野裝置 (Other devices for indirect vision) :係指透過非視鏡或非攝影機-顯示器裝置獲得視野之裝置。	
2.1.4. "Vision support system" means a system to enable the driver to detect and/or see object in the area adjacent to the vehicle.	2.1.1.4. "Vision support system" means a system to enable the driver to detect and/or see objects in the area adjacent to the vehicle.	2.19 視野輔助系統 (Vision support system) :指一個能使駕駛者發覺及/或看見車旁物體的系統。	
2.1.5. "Luminance contrast" means the brightness ratio between an object and its immediate background/surrounding that allows the object to be distinguished from	2.1.2.4. "Luminance contrast" means the brightness ratio between an object and its immediate background/surrounding that allows the object to be distinguished from	2.20 亮度對比 (Luminance contrast) :係指依照 ISO 9241-302:2008, 允許物體從相連背景/環境識別區分之下, 物體與相連背景/	

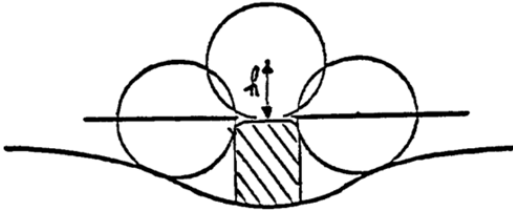
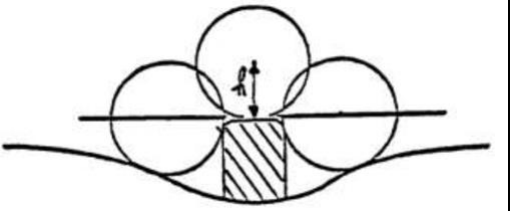
增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
its background/ surroundings. The definition is in accordance with the definition given in ISO 9241- 302:2008.	its background/surroundings.	<u>環境間之亮度比。</u>	
2.1.6. "Resolution" means the smallest detail that can be discerned with a perceptual system, i.e. perceived as separate from the larger whole. The resolution of the human eye is indicated as "visual acuity".	2.1.2.5. "Resolution" means the smallest detail that can be discerned with a perceptual system, i.e. perceived as separate from the larger whole. The resolution of the human eye is indicated as "visual acuity".	2.21 <u>解像度(Resolution)：係指透過分辨系統(Perceptual system)能夠分辨之最小可見視標 (Smallest detail)，即能夠從較大範圍中分辨出之最小部分，人眼的解像度以“視力”(Visual acuity)表示。</u>	
2.1.7. "Critical object" means a cylindrical object with a height of 0.50 m and a diameter of 0.30 m.	2.1.2.6. "Critical object" means a cylindrical object with a height of 0.50 m and a diameter of 0.30 m.	2.22 <u>臨界物體(Critical object)：係指高度為0.50公尺且直徑為0.30公尺之圓柱型物體。</u>	
2.1.8. "Critical perception" means the level of perception that can just be obtained under critical conditions via the viewing system used. This corresponds to the situation in which the representative scale of the critical object is multiple times larger than the smallest detail that can be perceived via the viewing system.	2.1.2.7. "Critical perception" means the level of perception that can just be obtained under critical conditions via the viewing system used. This corresponds to the situation in which the representative scale of the critical object is multiple times larger than the smallest detail that can be perceived via the viewing system.	2.23 <u>臨界視覺(Critical perception)：係指藉由觀看系統而可於臨界情況下所擷取之視覺程度。於此狀態，臨界物體之代表尺度數倍大於由觀看系統所能觀看之最小可見視標。</u>	
2.1.9. "Field of vision" means the section of the tri-dimensional space which is monitored with the help of a device for indirect vision. Unless otherwise stated, this is based on the view on ground level offered by a device and/or devices other than mirrors. This may be limited by the relevant detection distance corresponding to the critical object.	2.1.2.8. "Field of vision" means the section of the tri-dimensional space which is monitored with the help of a device for indirect vision. Unless otherwise stated, this is based on the view on ground level offered by a device and/or devices other than mirrors. This may be limited by the relevant detection distance corresponding to the critical object.	2.24 <u>視野範圍(Field of vision)：係指藉由間接視野裝置所幫助觀看之三維空間區域。除非另有聲明，此視野範圍係以地面為基準並由一個及/或數個非視鏡裝置所提供。此可因應臨界物體的相關偵測距離而受到限制。</u>	
2.1.10. "Detection distance" means the	2.1.2.3. "Detection" means the ability to	2.25 <u>偵測距離 (Detection distance)：</u>	

增/修內容	原內容	修訂國內法規條文案草案	對應國內法規條文
distance measured from the centre of the lens of the camera to the point at which a critical object can just be perceived (as defined by the critical perception).	distinguish an object from its background/surroundings at certain distance.	<u>係指從攝影鏡頭中心至臨界物體可被觀看到位置(依臨界視覺之定義)之距離。</u>	
2.1.11. "Visual spectrum" means light with a wavelength within the range of the perceptual limits of the human eyes: 380-780 nm.	2.1.2.12. "Visual spectrum" means light with a wavelength within the range of the perceptual limits of the human eyes: 380-780 nm.	2.26 視覺光譜(Visual spectrum)：係指波長位於人眼視覺限制範圍內之光，該波長為三八〇至七八〇奈米(nm)。	
2.1.12. "Smear" is a bright line displayed on the monitor while sun light or light from other bright light sources is directly hitting into the lens of the camera.	2.1.2.14. "Smear" is a vertical bright bar displayed on the monitor while sun light or light from other bright light sources is directly hitting into the lens of the camera. Smear is an optical artefact.	2.27 漏光(Smear):係指當陽光或其他光源發出光線直接照射於攝影裝置鏡頭時，顯示於顯示器上之一條亮光。	
2.1.13. Mirror and CMS dual function system" means a CMS of Class I in which a monitor complying with this regulation is placed behind a semi-transparent mirror complying with this regulation. The monitor is visible in the CMS mode.		2.28 視鏡與攝影機-顯示器系統之雙重功能系統(Mirror and CMS dual function system): 係指符合規定之I類攝影機-顯示器系統之顯示器，放置於符合規定之半透明視鏡後方。於攝影機-顯示器系統運作模式下，可看見顯示器。	
2.5. "Point light source detection factor - PLSDF" means the level of distinctness of a pair of point light sources, based on luminance intensities and horizontal and vertical dimension of the rendition on the monitor.		2.29 點光源偵測係數(PLSDF)(Point light source detection factor)：係指依據成對之點光源顯示於顯示器上之光度、水平及垂直尺寸而得之分辨等級。	
2.6. "Point light source contrast factor - PLSCF" means the level of distinctness of a pair of point light sources, based on luminance differences between the		2.30 點光源對比係數(PLSCF)(Point light source contrast factor)：係指依據成對之點光源於水平方向之最大光度分佈(LH,max)內最大值，與最	

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maximum luminance of the luminance profile LH,max and the minimum luminance of the luminance profile LH,min in the horizontal direction (see Figure 3 of Annex 12).		<u>小光度分佈(LH,min) 內最小值間之光度差(如圖九) 而得之分辨等級。</u>	
2.2. "Type of device for indirect vision" means devices that do not differ on the following essential characteristics: (a) Design of the device inclusive, if pertinent, the attachment to the bodywork; (b) In the case of mirrors, the class, the shape, the dimensions and radius of curvature of the mirror's reflecting surface; (c) In the case of camera-monitor systems, the class, the field of view, the magnification and resolution.	2.1.4. "Type of device for indirect vision" means devices that do not differ on the following essential characteristics: (a) Design of the device inclusive, if pertinent, the attachment to the bodywork; (b) In case of mirrors the class, the shape, the dimensions and radius of curvature of the mirror's reflecting surface; (c) In case of camera-monitor devices the detection distance and the range of vision.	3. <u>間接視野裝置</u> 之適用型式及其範圍認定原則： 3.1 M及N類車輛： 3.1.1 廠牌 <u>及型式系列相同</u> 。 3.1.2 視鏡反射面之曲率半徑與尺寸 <u>相同</u> 。 3.1.3 視鏡之設計、形狀及材料 <u>相同</u> 。 3.1.4 攝影機- <u>顯示器系統之類型、視野範圍、放大倍率及解像度相同</u> 。 3.2 L 類車輛： 3.2.1 廠牌 <u>及型式系列相同</u> 3.2.2 視鏡反射面之曲率半徑與尺寸 <u>相同</u> 。 3.2.3 視鏡之設計、形狀及材料，包括與車輛連接的方式 <u>相同</u> 。	3. <u>視鏡</u> 之適用型式及其範圍認定原則： 3.1 M 及 N 類車輛： 3.1.1 廠牌。 3.1.2 視鏡反射面之曲率半徑與尺寸。 3.1.3 視鏡之設計、形狀及材料。 3.1.4 攝影機- <u>螢幕裝置之探測距離及視野範圍</u> 。 3.2 L 類車輛： 3.2.1 廠牌 3.2.2 視鏡反射面之曲率半徑與尺寸。 3.2.3 視鏡之設計、形狀及材料，包括與車輛連接的方式。
6. Requirements ... 6.1.1.2. (a) <u>Rear-view mirrors</u> (Classes II to VII) The edge of the reflecting surface shall be enclosed in a protective housing (holder, etc.) which, on its perimeter, shall have a value "c" greater than or equal to 2.5 mm at all points and in all directions. If the reflecting surface projects beyond the	6. Requirements ... 6.1.1.2. (a) <u>Exterior rear-view mirrors</u> (Classes II to VII) The edge of the reflecting surface shall be enclosed in a protective housing (holder, etc.) which, on its perimeter, shall have a value "c" greater than or equal to 2.5 mm at all points and in all directions. If the reflecting surface projects beyond the	4. 一般規範 4.1 視鏡周圍 (a) <u>後方視野視鏡</u> (II類至VII類) 反射面之邊緣必須為防護殼體(如支架...等)所包覆，其周圍之所有方向和各點的c值必須≥二·五公釐。若反射面突出於防護殼體外，則突出部份之邊緣的曲率半徑c值亦不應小於二·五公釐，並且於幾乎平行車輛縱向中心面之水平方向，相對	4. 一般規範 4.1 視鏡周圍 (a) <u>車外視鏡</u> (II類至VII類) 反射面之邊緣必須為防護殼體(如支架...等)所包覆，其周圍之所有方向和各點的c值必須≥二·五公釐。若反射面突出於防護殼體外，則突出部份之邊緣的曲率半徑c值亦不應小於二·五公釐，並且於幾乎平行車輛縱向中心面之水平方向，相對

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protective housing, the radius of curvature "c" on the edge of the projecting part shall be not less than 2.5 mm and the reflecting surface shall return into the protective housing under a force of 50 N applied to the point of greatest projection, relative to the protective housing, in a horizontal direction, approximately parallel to the longitudinal median plane of the vehicle. (b) Rear-view mirrors (Class I) In cases, where the edge of the reflecting surface is enclosed in a protective housing (holder, etc.), the radius of curvature "c" on its perimeter shall be not less than 2.5 mm at all points and in all directions. In cases, where the edge of the reflecting surface projects beyond the protective housing, this requirement shall apply to the edge of the projecting part.	protective housing, the radius of curvature "c" on the edge of the projecting part shall be not less than 2.5 mm and the reflecting surface shall return into the protective housing under a force of 50 N applied to the point of greatest projection, relative to the protective housing, in a horizontal direction, approximately parallel to the longitudinal median plane of the vehicle. (b) Interior rear-view mirrors (Class I) In cases, where the edge of the reflecting surface is enclosed in a protective housing (holder, etc.), the radius of curvature "c" on its perimeter shall be not less than 2.5 mm at all points and in all directions. In cases, where the edge of the reflecting surface projects beyond the protective housing, this requirement shall apply to the edge of the projecting part.	於固定架之最大突出部位施以五〇牛頓之力，其必須回復到防護殼體內。 (b)後方視野視鏡(I 類) 反射面之邊緣為防護殼體(如支架…等)所包覆者，其周圍之各點和所有方向之曲率c值不應小於二·五公釐。反射面之邊緣突出於防護殼體外者，其突出部位之邊緣亦應符合此要求。	於固定架之最大突出部位施以五〇牛頓之力，其必須回復到防護殼體內。 (b)車內視鏡(I 類) 反射面之邊緣為防護殼體(如支架…等)所包覆者，其周圍之各點和所有方向之曲率 c 值不應小於二·五公釐。反射面之邊緣突出於防護殼體外者，其突出部位之邊緣亦應符合此要求。
6.1.1.3. When the mirror is mounted on a plane surface, all parts, irrespective of the adjustment position of the device, including those parts remaining attached to the support after the test provided for in paragraph 6.3.2. below, which are in potential, static contact with a sphere either 165 mm in diameter in the case of a Class I mirror or 100 mm in diameter in the case of a Class II to VII mirror, shall have a radius of curvature 'c' of not less than 2.5 mm.	6.1.1.3. When the mirror is mounted on a plane surface, all parts, irrespective of the adjustment position of the device, including those parts remaining attached to the support after the test provided for in paragraph 6.1.3.2. below, which are in potential, static contact with a sphere either 165 mm in diameter in the case of an interior mirror or 100 mm in diameter in the case of an exterior mirror, shall have a radius of curvature 'c' of not less than 2.5	4.2 當視鏡安裝於一平面上，在此裝置之任一調整位置，對I類視鏡而言，能與直徑一六五公釐的圓球維持靜態接觸 (Potential static contact)；對II類至VII類視鏡而言，則為直徑一〇〇公釐之圓球的所有零件曲率半徑 c 值不得小於二.五公釐，包括執行衝擊試驗後仍能附著於固定架。	4.2 當視鏡安裝於一平面上，在此裝置之任一調整位置，對車內視鏡而言，能與直徑一六五公釐的圓球維持靜態接觸 (Potential static contact)；對車外視鏡而言，則為直徑一〇〇公釐之圓球的所有零件曲率半徑 c 值不得小於二.五公釐，包括執行衝擊試驗後仍能附著於固定架。

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	mm.		
6.1.1.4. The requirements in paragraphs 6.1.1.2. and 6.1.1.3. above shall not apply to parts of the external surface which protrude less than 5 mm, but the outward facing angles of such parts shall be blunted, save where such parts protrude less than 1.5 mm. For determining the dimension of the projection, the following method shall apply: 6.1.1.4.1. The dimension of the projection of a component which is mounted on a convex surface may be determined either directly or by reference to a drawing of an appropriate section of this component in its installed condition. 6.1.1.4.2. If the dimension of the projection of a component which is mounted on a surface other than convex cannot be determined by simple measurement, it shall be determined by the maximum variation of the distance of the centre of a 100 mm diameter sphere from the nominal line of the panel when the sphere is moved over and is in constant contact with that component. Figure 1 shows an example of the use of this procedure. Figure 1: Example for the measurement by maximum variation	6.1.1.4. The requirements in paragraphs 6.1.1.2. and 6.1.1.3. above shall not apply to parts of the external surface which protrude less than 5 mm, but the outward facing angles of such parts shall be blunted, save where such parts protrude less than 1.5 mm. For determining the dimension of the projection, the following method shall apply: 6.1.1.4.1. The dimension of the projection of a component which is mounted on a convex surface may be determined either directly or by reference to a drawing of an appropriate section of this component in its installed condition. 6.1.1.4.2. If the dimension of the projection of a component which is mounted on a surface other than convex cannot be determined by simple measurement, it shall be determined by the maximum variation of the distance of the centre of a 100 mm diameter sphere from the nominal line of the panel when the sphere is moved over and is in constant contact with that component. Figure 1 shows an example of the use of this procedure. Figure 1	4.3 本項 4.1 及 4.2 之規定不適用於突出小於五公釐之外表面部分，惟除突出小於一·五公釐者以外此類外表面之朝外角度應為鈍形 (Blunted)。應依下列方法進行量測： 4.3.1 安裝於凸面表面者之投影尺寸，可直接取用或參照該部分實際安裝狀態之圖面確認。 4.3.2 安裝於非為凸面表面者之投影尺寸，若無法直接以簡單之量測方式取得，則應以一 0 0 公釐直徑球體自該位置面板(Panel)之標稱輪廓線(Nominal line)向該突出元件移動且持續接觸掠過該突出元件，量測球體中心點於此移掠過程之最大位移量。參考範例如圖一。  圖一 最大位移量量測參考範例	4.3 本項 4.1 及 4.2 之規定不適用於突出小於五公釐之外表面部分，惟除突出小於一·五公釐者以外此類外表面之朝外角度應為鈍形 (Blunted)。應依下列方法進行量測： 4.3.1 安裝於凸面表面者之投影尺寸，可直接取用或參照該部分實際安裝狀態之圖面確認。 4.3.2 安裝於非為凸面表面者之投影尺寸，若無法直接以簡單之量測方式取得，則應以一 0 0 公釐直徑球體自該位置面板(Panel)之標稱輪廓線(Nominal line)向該突出元件移動且持續接觸掠過該突出元件，量測球體中心點於此移掠過程之最大位移量。參考範例如圖一。  圖一

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6.1.1.7. The parts of Class II to VII mirrors referred to in paragraphs 6.1.1.2. and 6.1.1.3. above which are made of a material with a Shore A hardness not exceeding 60 are exempt from the relevant provisions.	6.1.1.7. The parts of exterior mirrors referred to in paragraphs 6.1.1.2. and 6.1.1.3. above which are made of a material with a Shore A hardness not exceeding 60 are exempt from the relevant provisions.	4.6 II類至 VII類 視鏡的元件以硬度不大於 Shore A 60 之材料製成者，可免除 4.1 及 4.2 之要求。	4.6 車外 視鏡的元件以硬度不大於 Shore A 60 之材料製成者，可免除 4.1 及 4.2 之要求。
6.1.1.8. In the case of those parts of Class I mirrors which are made of a material with a Shore A hardness of less than 50 and which are mounted on a rigid support, the requirements of paragraphs 6.1.1.2. and 6.1.1.3. above shall only apply to the support.	6.1.1.8. In the case of those parts of interior mirrors which are made of a material with a Shore A hardness of less than 50 and which are mounted on a rigid support, the requirements of paragraphs 6.1.1.2. and 6.1.1.3. above shall only apply to the support.	4.7 I類 視鏡的元件以硬度小於 Shore A 50 之材料製成且架設在剛性固定架者，4.1 和 4.2 規範，僅適用於該固定架。	4.7 車內 視鏡的元件以硬度小於 Shore A 50 之材料製成且架設在剛性固定架者，4.1 和 4.2 規範，僅適用於該固定架。
6.1.2.1. Dimensions 6.1.2.1.1. Rear-view mirrors (Class I) The dimensions of the reflecting surface shall be such that it is possible to inscribe thereon a rectangle one side of which is 40 mm and the other 'a' mm in length, where $a = 150 \times \frac{1}{1 + \frac{1000}{r}} \text{ mm}$ and "r" is the radius of curvature.	6.1.2.1. Dimensions 6.1.2.1.1. Interior rear-view mirrors (Class I) The dimensions of the reflecting surface shall be such that it is possible to inscribe thereon a rectangle one side of which is 40 mm and the other 'a' mm in length, where $a = 150 \times \frac{1}{1 + \frac{1000}{r}} \text{ mm}$ and "r" is the radius of curvature.	5. 尺寸大小： 5.1 M及N類車輛視鏡： 5.1.1 後方視野視鏡 (I類)：應能在其反射面上繪出一個矩形，其矩形之高度為四公分，長邊為 a。a 之尺寸計算方法如下： $a = 15\text{cm} \times \frac{1}{1 + \frac{1000}{r}}$	5. 尺寸大小： 5.1 M及N類車輛視鏡： 5.1.1 車內視鏡 (I類)：應能在其反射面上繪出一個矩形，其矩形之高度為四公分，長邊為 a。a 之尺寸計算方法如下： $a = 15\text{cm} \times \frac{1}{1 + \frac{1000}{r}}$
6.1.2.1.2. Main rear-view mirrors (Classes II	6.1.2.1.2. Main exterior rear-view mirrors	5.1.2 主要後方視野視鏡 (II類)：應能	5.1.2 車外視鏡 (II類)：應能在其反射

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and III) 6.1.2.1.2.1. The dimensions of the reflecting surface shall be such that it is possible to inscribe therein: (a) A rectangle 40 mm high the base length of which, measured in millimetres, has the value "a"; (b) A segment which is parallel to the height of the rectangle and the length of which, expressed in millimetres, has the value "b". 6.1.2.1.2.2. The minimum values of "a" and "b" are given in the table below:	(Classes II and III) 6.1.2.1.2.1. The dimensions of the reflecting surface shall be such that it is possible to inscribe therein: (a) A rectangle 40 mm high the base length of which, measured in millimetres, has the value "a"; (b) A segment which is parallel to the height of the rectangle and the length of which, expressed in millimetres, has the value "b". 6.1.2.1.2.2. The minimum values of "a" and "b" are given in the table below:	在其反射面上繪出一個矩形，和與該矩形之高平行之b線段。矩形之高度為四公分，長邊為a，計算方法如下： $a = \frac{17cm}{1 + \frac{1000}{r}}$ ，b=二〇公分。 5.1.3 <u>主要後方視野視鏡</u> (Ⅲ類)：應能在其反射面上繪出一個矩形，和與該矩形之高平行之b線段。矩形之高度為四公分，長邊為a計算方法如下： $a = 13cm \times \frac{1}{1 + \frac{1000}{r}}$ ，b=七公分。	面上繪出一個矩形，和與該矩形之高平行之b線段。矩形之高度為四公分，長邊為a，計算方法如下： $a = \frac{17cm}{1 + \frac{1000}{r}}$ ，b=二〇公分。 5.1.3 <u>車外視鏡</u> (Ⅲ類)：應能在其反射面上繪出一個矩形，和與該矩形之高平行之b線段。矩形之高度為四公分，長邊為a計算方法如下： $a = 13cm \times \frac{1}{1 + \frac{1000}{r}}$ ，b=七公分。
6.1.2.1.3. " <u>Wide-angle</u> " view mirrors (Class IV) The contours of the reflecting surface shall be of simple geometric form and its dimensions such that it provides, if necessary in conjunction with a Class II exterior mirror, the field of vision specified in paragraph 15.2.4.4. of this Regulation.	6.1.2.1.3. " <u>Wide-angle</u> " exterior mirrors (Class IV) The contours of the reflecting surface shall be of simple geometric form and its dimensions such that it provides, if necessary in conjunction with a Class II exterior mirror, the field of vision specified in paragraph 15.2.4.4. of this Regulation.	5.1.4 <u>廣角視野視鏡</u> (Ⅳ類)： <u>反射面外形須為簡單幾何形狀，且</u> 如需與Ⅱ類 <u>主要後方視野視鏡</u> 結合， <u>其尺寸應能提供廣角視鏡</u> (Ⅳ類)之視野。	5.1.4 <u>廣角車外視鏡</u> (Ⅳ類)：如需與Ⅱ類 <u>車外視鏡</u> 結合其尺寸應能提供 <u>廣角車外視鏡</u> (Ⅳ類)之視野。
6.1.2.1.4. " <u>Close-proximity</u> " view mirrors (Class V) The contours of the reflecting surface shall be of simple geometric form and its dimensions such that the mirror provides the field of vision specified in paragraph	6.1.2.1.4. " <u>Close-proximity</u> " exterior mirrors (Class V) The contours of the reflecting surface shall be of simple geometric form and its dimensions such that the mirror provides the field of vision specified in paragraph	5.1.5 <u>近側視野視鏡</u> (Ⅴ類)：反射面外形須為簡單幾何形狀且其尺寸應能提供 <u>近側視野視鏡</u> (Ⅴ類)之視野。	5.1.5 <u>近側車外視鏡</u> (Ⅴ類)：反射面外形須為簡單幾何形狀且其尺寸應能提供 <u>近側車外視鏡</u> (Ⅴ類)之視野。

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15.2.4.5. of this Regulation.	15.2.4.5. of this Regulation.		
6.1.2.1.5. Front-view mirrors (Class VI) The contours of the reflecting surface shall be of simple geometric form and its dimensions such that the mirror provides the field of vision specified in paragraph 15.2.4.6. of this Regulation.	6.1.2.1.5. Front mirrors (Class VI) The contours of the reflecting surface shall be of simple geometric form and its dimensions such that the mirror provides the field of vision specified in paragraph 15.2.4.6. of this Regulation.	5.1.6 <u>車前視野視鏡</u> (VI類): 反射面外形須為簡單幾何形狀且其尺寸應能提供 <u>車前視野視鏡</u> (VI類)之視野。	5.1.6 <u>車前視鏡</u> (VI類): 反射面外形須為簡單幾何形狀且其尺寸應能提供 <u>車前視鏡</u> (VI類)之視野。
6.1.2.1.6. Mirrors for category L vehicles with bodywork (Class VII) 6.1.2.1.6.1. " Main " rear-view mirrors (Class VII) The minimum dimensions of the reflecting surface shall be such that: (a) Its area shall not be less than 6,900 mm ² ; (b) The diameter of circular mirrors shall not be less than 94 mm; (c) Where rear-view mirrors are not circular, their dimensions shall enable a 78 mmdiameter circle to be prescribed on their reflecting surface. The maximum dimensions of the reflecting surface shall be such that: (a) The diameter of any circular rear-view mirror shall not be greater than 150 mm; (b) The reflecting surface of any non-circular rear-view mirror shall lie within a rectangle measuring 120 mm x 200 mm.	6.1.2.1.6. Mirrors for category L vehicles with bodywork (Class VII) 6.1.2.1.6.1. " Main " exterior mirrors (Class VII) The minimum dimensions of the reflecting surface shall be such that: (a) Its area shall not be less than 6, 900 mm ² ; (b) The diameter of circular mirrors shall not be less than 94 mm; (c) Where rear view mirrors are not circular, their dimensions shall enable a 78 mmdiameter circle to be prescribed on their reflecting surface. The maximum dimensions of the reflecting surface shall be such that: (a) The diameter of any circular rear view mirror shall not be greater than 150 mm; (b) The reflecting surface of any non-circular rear view mirror shall lie within a rectangle measuring 120 mm x 200 mm.	5.2 <u>具車身之 L 類車輛之主要後方視野視鏡(VII 類)</u> : 5.2.1 反射面最小尺寸要求如下: 5.2.1.1 面積不得小於六九平方公分。 5.2.1.2 圓形鏡之直徑不得小於九四公釐。 5.2.1.3 非圓形鏡, 其尺寸需允許直徑七八公釐的圓能鑲入反射面。 5.2.2 反射面最大尺寸要求如下: 5.2.2.1 圓形鏡之直徑不得大於一五〇公釐。 5.2.2.2 非圓形鏡, 其反射面必須能裝入一二〇公釐乘二〇〇公釐之矩形中。	5.2 <u>L類車輛視鏡</u> : 5.2.1 反射面最小尺寸要求如下: 5.2.1.1 面積不得小於六九平方公分。 5.2.1.2 圓形鏡之直徑不得小於九四公釐。 5.2.1.3 非圓形鏡, 其尺寸需允許直徑七八公釐的圓能鑲入反射面。 5.2.2 反射面最大尺寸要求如下: 5.2.2.1 圓形鏡之直徑不得大於一五〇公釐。 5.2.2.2 非圓形鏡, 其反射面必須能裝入一二〇公釐乘二〇〇公釐之矩形中。
		6. 反射面曲率半徑(r)值: ... 6.2 M及N類車輛視鏡:	6. 反射面曲率半徑(r)值: ... 6.2 M及N類車輛視鏡:

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
6.1.2.2.4.1. 1,200 mm for rear-view mirrors (Class I); 6.1.2.2.4.2. 1,200 mm for Class II and III main rear-view mirrors; 6.1.2.2.4.3. 300 mm for "wide-angle" mirrors (Class IV) and "close-proximity" mirrors (Class V); 6.1.2.2.4.4. 200 mm for front mirrors (Class VI). 6.1.2.2.4.5. 1,000 mm or more than 1,500 mm for Class VII main rear-view mirrors.	6.1.2.2.4.1. 1,200 mm for interior rear-view mirrors (Class I); 6.1.2.2.4.2. 1,200 mm for Class II and III main exterior rear-view mirrors; 6.1.2.2.4.3. 300 mm for "wide-angle" exterior mirrors (Class IV) and "close-proximity" exterior mirrors (Class V); 6.1.2.2.4.4. 200 mm for front mirrors (Class VI). 6.1.2.2.4.5. 1,000 mm or more than 1,500 mm in the case of Class VII mirrors	6.2.1 I類後方視野視鏡其反射面之曲率半徑 $r \geq 1200$ 公釐。 6.2.2 II類及III類主要後方視野視鏡其反射面之曲率半徑 $r \geq 1200$ 公釐。 6.2.3 IV類廣角視野視鏡和V類近側視野視鏡其反射面之曲率半徑 $r \geq 300$ 公釐。 6.2.4 VI類車前視野視鏡其反射面之曲率半徑 $r \geq 200$ 公釐。 6.2.5 VII類主要後方視野視鏡其反射面之曲率半徑 r 於一000公釐及一五00公釐之間。	6.2.1 I類其反射面之曲率半徑 $r \geq 1200$ 公釐。 6.2.2 II類及III類其反射面之曲率半徑 $r \geq 1200$ 公釐。 6.2.3 IV類和V類其反射面之曲率半徑 $r \geq 300$ 公釐。 6.2.4 車前視鏡(VI類)其反射面之曲率半徑 $r \geq 200$ 公釐。 6.2.5 VII類其反射面之曲率半徑 r 於一000公釐及一五00公釐之間。
6.3. Test The requirements of paragraph 6.3. shall be considered to be satisfied in the case of monitors of a vehicle fulfilling the provisions of Regulation No. 21.	6.1.3. Test	8. 衝擊試驗： 車輛裝配之螢幕應依本基準「車室內裝配置」規定。 【目前尚無「車室內裝配置」檢測能量】	8. 衝擊試驗：
6.3.1. Devices for indirect vision in Classes I to VI and Class VII mirrors (having fitments identical to Class III) shall be subjected to the tests described in paragraphs 6.3.2.1. and 6.3.2.2. below. Class VII mirrors with a stem, shall be	6.1.3.1. Mirrors in Classes I to VI and Class VII (having fitments identical to Class III) shall be subjected to the tests described in paragraphs 6.1.3.2.1. and 6.1.3.2.2. below. Class VII mirrors with a stem, shall be subjected to the tests described in paragraph 6.1.3.2.3. below.	8.1 I至VI類之間接視野裝置及VII類視鏡(具有與III類相同安裝方式者)應符合8.之規定。另有托柄(Stem)之VII類視鏡，則應符合9.之規定。	8.1 I至VI類，及VII類視鏡(具有與III類相同安裝方式者)應符合8.之規定。另有托柄(Stem)之VII類視鏡，則應符合9.之規定。

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
subjected to the tests described in paragraph 6.3.2.3. below. 6.3.1.1. The test provided for in paragraph 6.3.2. below shall not be required in the case of any Class II to IV exterior device for indirect vision of which no part is less than 2 m from the ground, regardless of the adjustment position, when the vehicle is under a load corresponding to its maximum technically permissible mass. This derogation also applies to the attachments of devices for indirect vision (attachment plates, arms, swivel joints, etc.) which are situated less than 2 m from the ground and which do not project beyond the overall width of the vehicle, measured in the transverse plane passing through the lowest mirror attachments or any other point forward of this plane if this configuration produces a greater overall width. In such cases, a description specifying that the device for indirect vision shall be mounted so as to conform to the above-mentioned conditions for the positioning of its attachments on the vehicle shall be provided. Where advantage is taken of this derogation, the arm shall be indelibly marked with the symbol	6.1.3.1.1. The test provided for in paragraph 6.1.3.2. below shall not be required in the case of any exterior mirror of which no part is less than 2 m from the ground, regardless of the adjustment position, when the vehicle is under a load corresponding to its maximum technically permissible mass. This derogation also applies to the attachments of mirrors (attachment plates, arms, swivel joints, etc.) which are situated less than 2 m from the ground and which do not project beyond the overall width of the vehicle, measured in the transverse plane passing through the lowest mirror attachments or any other point forward of this plane if this configuration produces a greater overall width. In such cases, a description specifying that the mirror shall be mounted so as to conform to the above-mentioned conditions for the positioning of its attachments on the vehicle shall be provided. Where advantage is taken of this derogation, the arm shall be indelibly marked with the symbol 	8.1.1 車輛允許之最大負載下，在任何調整位置，<u>外部間接視野裝置 (II至IV類)</u>之零件離地面高於二公尺者，不需執行衝擊試驗。若是<u>間接視野裝置</u>之附件(附屬件板、支臂、旋轉接頭等等)離地面低於二公尺，但未突出於全寬，亦不需執行衝擊試驗。 上述<u>間接視野裝置</u>之附屬件須提供車輛安裝位置之詳細說明。符合本要求須於<u>間接視野裝置</u>支臂上標有不可抹滅之Δ2m標記。	8.1.1 車輛允許之最大負載下，在任何調整位置，<u>車外視鏡</u>之零件離地面高於二公尺者，不需執行衝擊試驗。若是<u>視鏡</u>附件(附屬件板、支臂、旋轉接頭等等)離地面低於二公尺，但未突出於全寬，亦不需執行衝擊試驗。 上述<u>視鏡</u>之附屬件須提供車輛安裝位置之詳細說明。符合本要求須於<u>視鏡</u>支臂上標有不可抹滅之Δ2m標記。

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
 and the type approval certificate shall be endorsed to this effect.	and the type approval certificate shall be endorsed to this effect.		
6.3.2.2.7. The devices for indirect vision are subjected to impact under the following different conditions: 6.3.2.2.7.1. Class I rear-view mirrors (a) Test 1: The points of impact shall be as defined in paragraph 6.3.2.2.3. above. The impact shall be such that the hammer strikes the mirror on the reflecting surface side. (b) Test 2: Point of impact on the edge of the protective housing, such that the impact produced makes an angle of 45 deg. with the plane of the reflecting surface and is situated in the horizontal plane passing through the centre of that surface. The impact shall occur on the reflecting surface side. 6.3.2.2.7.2. Class II to VII mirrors (a) Test 1: The point of impact shall be as defined in paragraphs 6.3.2.2.3. or 6.3.2.2.5. above. The impact shall be such that the hammer strikes the mirror on the reflecting surface side. (b) Test 2: The point of impact shall be as defined in paragraphs 6.3.2.2.3. or 6.3.2.2.5. above. The impact shall be such	6.1.3.2.2.6. The mirrors are subjected to impact under the following different conditions: 6.1.3.2.2.6.1. Interior mirrors (a) Test 1: The points of impact shall be as defined in paragraph 6.1.3.2.2.3. above. The impact shall be such that the hammer strikes the mirror on the reflecting surface side. (b) Test 2: Point of impact on the edge of the protective housing, such that the impact produced makes an angle of 45 deg. with the plane of the reflecting surface and is situated in the horizontal plane passing through the centre of that surface. The impact shall occur on the reflecting surface side. 6.1.3.2.2.6.2. Exterior mirrors (a) Test 1: The point of impact shall be as defined in paragraph 6.1.3.2.2.3. or 6.1.3.2.2.4. above. The impact shall be such that the hammer strikes the mirror on the reflecting surface side. (b) Test 2: The point of impact shall be as defined in paragraph 6.1.3.2.2.3. or 6.1.3.2.2.4. above. The impact shall be such	8.2.4 衝擊點： 8.2.4.1 I 類後方視野視鏡應進行下述衝擊： 8.2.4.1.1 球狀模型衝擊反射面正面一次。 8.2.4.1.2 衝擊固定件邊緣，衝擊力與照後鏡平面成四五度夾角，且通過照後鏡反射面中心之水平面，衝擊方向應對準反射面。 8.2.4.2 II 類至 VII 類視鏡應進行下述衝擊： 8.2.4.2.1 反射面正面一次。 8.2.4.2.2 反射面背面一次。	8.2.4 衝擊點： 8.2.4.1 車內視鏡應進行下述衝擊： 8.2.4.1.1 球狀模型衝擊反射面正面一次。 8.2.4.1.2 衝擊固定件邊緣，衝擊力與照後鏡平面成四五度夾角，且通過照後鏡反射面中心之水平面，衝擊方向應對準反射面。 8.2.4.2 車外視鏡應進行下述衝擊： 8.2.4.2.1 反射面正面一次。 8.2.4.2.2 反射面背面一次。

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that the hammer strikes the mirror on the side opposite to the reflecting surface. Where Class II or III rear-view mirrors are fixed to the same mounting as Class IV rear-view mirrors, the above-mentioned tests shall be executed on the lower mirror. Nevertheless, the Technical Service responsible for testing may repeat one or both of these tests on the upper mirror if this is less than 2 m from the ground. 6.3.2.2.7.3. Camera-Monitor Systems (a) Test 1: The point of impact shall be as defined in paragraphs 6.3.2.2.4. or 6.3.2.2.5. The impact shall be such that the hammer strikes the camera on the lens side. (b) Test 2: The point of impact shall be as defined in paragraphs 6.3.2.2.4. or 6.3.2.2.5. The impact shall be such that the hammer strikes the camera on the side opposite to the lens. Where more than one camera is fixed to the same mounting, the above-mentioned tests shall be executed on the lower camera. Nevertheless, the Technical Service responsible for testing may repeat one or both of these tests on the upper camera if this is less than 2 m from the ground.	that the hammer strikes the mirror on the side opposite to the reflecting surface. Where Class II or III rear-view mirrors are fixed to the same mounting as Class IV rearview mirrors, the above-mentioned tests shall be executed on the lower mirror. Nevertheless, the Technical Service responsible for testing may repeat one or both of these tests on the upper mirror if this is less than 2 m from the ground.	8.2.4.3 攝影機-顯示器系統應進行下述衝擊： 8.2.4.3.1 衝擊方向應對準攝影機鏡頭之正面一次。 8.2.4.3.2 攝影機鏡頭之背面一次。 若有一個以上之攝影機安裝於同一位置，則應以安裝位置較低之攝影機進行上述試驗。惟若攝影機鏡頭距地高小於二公尺，則檢測機構可要求於較高安裝位置之攝影機執行上述試驗之一或全部試驗。	
6.3.3. Results of the tests 6.3.3.1. In the tests described in paragraph 6.3.2. above, the pendulum shall continue	6.1.3.3. Results of the tests 6.1.3.3.1. In the tests described in paragraph 6.1.3.2. above, the pendulum shall continue	8.3 檢測標準： 8.3.1 衝擊後擺臂角度至少為二〇度，其角度量測值之準確度為正負	8.3 檢測標準： 8.3.1 衝擊後擺臂角度至少為二〇度；此要求不適用支撐件黏附於前

增/修內容	原內容	修訂國內法規條文案草案	對應國內法規條文
to swing after impact in such a way that the projection of the position assumed by the arm on the plane of release makes an angle of at least 20 deg. with the vertical. The accuracy of measurement of the angle shall be within +/-1 deg. 6.3.3.1.1. In the case of mirrors, this requirement is not applicable to mirrors stuck to the windscreen, in respect of which the requirement stipulated in paragraph 6.3.3.2. shall apply after the test. 6.3.3.1.2. The required angle to the vertical is reduced from 20 deg. to 10 deg. for all Class II and Class IV devices for indirect vision and for Class III devices for indirect vision which are attached to the same mounting as Class IV devices for indirect vision. 6.3.3.2. In the case of mirrors, should the mounting of the mirror break during the tests described in paragraph 6.3.2. above for mirrors stuck to the windscreen, the part remaining shall not project beyond the base by more than 10 mm and the configuration remaining after the test shall satisfy the conditions laid down in paragraph 6.1.3. of this Regulation. 【6.1.3係為JASIC誤植，正確為6.1.1.3】 6.3.3.3. The reflecting surface shall not break during the tests described in paragraph	to swing after impact in such a way that the projection of the position assumed by the arm on the plane of release makes an angle of at least 20 deg. with the vertical. The accuracy of measurement of the angle shall be within +/-1 deg. 6.1.3.3.1.1. This requirement is not applicable to mirrors stuck to the windscreen, in respect of which the requirement stipulated in paragraph 6.1.3.3.2. shall apply after the test. 6.1.3.3.1.2. The required angle to the vertical is reduced from 20 deg. to 10 deg. for all Class II and Class IV rear-view mirrors and for Class III rear-view mirrors which are attached to the same mounting as Class IV mirrors. 6.1.3.3.2. Should the mounting of the mirror break during the tests described in paragraph 6.1.3.2. above for mirrors stuck to the windscreen, the part remaining shall not project beyond the base by more than 10 mm and the configuration remaining after the test shall satisfy the conditions laid down in paragraph 6.1.1.3. of this Regulation. 6.1.3.3.3. The reflecting surface shall not	<u>一度</u>；此要求不適用支撐件黏附於前擋風玻璃之<u>視鏡</u>，惟應符合 8.3.3 要求。 8.3.2 所有 II 類和 IV 類<u>間接視野裝置</u>，及與 IV 類<u>共用固定座</u>之 III 類<u>間接視野裝置</u>，衝擊後擺臂回覆角度至少為一 0 度。 8.3.3 支撐件黏附於前擋風玻璃之<u>視鏡</u>，<u>視鏡支撐件若於試驗中斷裂損壞</u>，其<u>殘餘部分不應突出底座逾一公分</u>，且試驗後之殘餘部分應符合本基準 4.2 之要求。 8.3.4 反射鏡面不得破碎，但下列情形	擋風玻璃之<u>車內視鏡</u>。 8.3.2 所有 II 類和 IV 類<u>視鏡</u>及與 IV 類<u>固定座方式相同</u>之 III 類<u>視鏡</u>，衝擊後擺臂回覆角度至少為一 0 度。 8.3.3 支撐件黏附於前擋風玻璃之<u>車內視鏡</u>，<u>衝擊後視鏡支撐件若斷裂損壞</u>，其<u>突出底座之殘餘部分不得大於一公分</u>。 8.3.4 反射鏡面不得破碎，但下列情形

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
6.3.2. However, breakage of the reflecting surface will be allowed if one of the following conditions is fulfilled. 6.3.3.3.1. The fragments of glass still adhere to the back of the housing or to a surface firmly attached to the housing; partial separation of the glass from its backing is admissible provided that this does not exceed 2.5 mm on either side of the cracks. It is permissible for small splinters to become detached from the surface of the glass at the point of impact; 6.3.3.3.2. The reflecting surface is made of safety glass.	break during the tests described in paragraph 6.1.3.2. However, breakage of the reflecting surface will be allowed if one of the following conditions is fulfilled: 6.1.3.3.3.1. The fragments of glass still adhere to the back of the housing or to a surface firmly attached to the housing; partial separation of the glass from its backing is admissible provided that this does not exceed 2.5 mm on either side of the cracks. It is permissible for small splinters to become detached from the surface of the glass at the point of impact; 6.1.3.3.3.2. The reflecting surface is made of safety glass.	除外： 8.3.4.1 玻璃破片仍黏附於支撐件上，或黏附在與支撐件相連之物體上，允許任一邊長小於二・五公釐的玻璃碎片從前述部位上脫離。 8.3.4.2 反射面用安全玻璃之材質製成。	除外： 8.3.4.1 玻璃破片仍黏附於支撐件上，或黏附在與支撐件相連之物體上，允許任一邊長小於二・五公釐的玻璃碎片從前述部位上脫離。 8.3.4.2 反射面用安全玻璃之材質製成。
6.3.2.3. Bending test on the protective housing attached to the stem (Class VII) 6.3.2.3.1. Description of test The protective housing is placed horizontally in a device in such a way that it is possible to lock the attachment support adjusters firmly. In the direction of the largest dimension of the housing, the end closest to the point of attachment on the adjuster for the support shall be immobilized by a 15 mm-wide rigid stop covering the entire width of the housing. At the other end, a stop identical to the one described above is placed on the housing so	6.1.3.2.3. Bending test on the protective housing attached to the stem (Class VII) 6.1.3.2.3.1. Description of test The protective housing is placed horizontally in a device in such a way that it is possible to lock the attachment support adjusters firmly. In the direction of the largest dimension of the housing, the end closest to the point of attachment on the adjuster for the support shall be immobilized by a 15 mm-wide rigid stop covering the entire width of the housing. At the other end, a stop identical to the one described above is placed on the housing so	9. 撓曲試驗： 9.1 檢測方法： 9.1.1 M 類及 N 類車輛之視鏡無須進行撓曲試驗。 9.1.2 支撐件水平置於試驗台上，並夾緊調整件。在支撐件的最大尺寸方向且距調整件固定點最近的一端，用一五公釐寬的固定擋塊覆蓋在支撐件整個寬度上，使其不轉動。在另一端，應在支撐件上放置一塊前述作用相同之擋塊後，施加試驗負荷(如圖二)。 與施力點相對之外殼背面末端可以如圖二所示鎖定方式替代支撐方式固	9. 撓曲試驗： 9.1 檢測方法： 9.1.1 M 類及 N 類車輛之視鏡無須進行撓曲試驗。 9.1.2 支撐件水平置於試驗台上，並夾緊調整件。在支撐件的最大尺寸方向且距調整件固定點最近的一端，用一五公釐寬的固定擋塊覆蓋在支撐件整個寬度上，使其不轉動。在另一端，應在支撐件上放置一塊前述作用相同之擋塊後，施加試驗負荷(如圖二)。 與施力點相對之外殼背面末端可以如圖二所示鎖定方式替代支撐方式固

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
that the specified test load can be applied to it (Figure 2). The end of the housing opposite to that where the force is exerted may be locked rather than held in position as shown in Figure 2. 【請參考下列表格】 6.3.2.3.2. The test loading shall be 25 kilograms and shall be maintained for one minute.	that the specified test load can be applied to it (Figure 2). The end of the housing opposite to that where the force is exerted may be locked rather than held in position as shown in Figure 2. 【請參考下列表格】 6.1.3.2.3.2. The test loading shall be 25 kilograms and shall be maintained for one minute.	定。 9.1.3 測試負荷：二五公斤、負荷時間：一分鐘。 9.2 檢測標準：反射鏡面不得破碎，但下列情形除外： 9.2.1 玻璃破片仍黏附於支撐件上，或黏附在與支撐件相連之物體上，允許任一邊長小於二・五公釐的玻璃碎片從前述部位上脫離。 9.2.2 反射面用安全玻璃之材質製成。	定。 9.1.3 測試負荷：二五公斤、負荷時間：一分鐘。 9.2 檢測標準：反射鏡面不得破碎，但下列情形除外： 9.2.1 玻璃破片仍黏附於支撐件上，或黏附在與支撐件相連之物體上，允許任一邊長小於二・五公釐的玻璃碎片從前述部位上脫離。 9.2.2 反射面用安全玻璃之材質製成。
6.2. Devices for indirect vision other than mirrors 6.2.1. General requirements 6.2.1.1. If adjustment by the user is needed, the device for indirect vision shall be adjustable without the use of tools. 6.2.1.2. If a device for indirect vision can only render the total prescribed field of vision by scanning the field of vision, the total process of scanning, rendering and reset to its initial position together shall not take more than 2 seconds. 6.2.1.3. The effectiveness of the CMS of Classes I to IV shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by compliance with the technical requirements and transitional provisions of Regulation No. 10, 04 series of amendments or any later series of amendments.	6.2. Devices for indirect vision other than mirrors 6.2.1. General requirements 6.2.1.1. If adjustment by the user is needed, the device for indirect vision shall be adjustable without the use of tools. 6.2.1.2. If a device for indirect vision can only render the total prescribed field of vision by scanning the field of vision, the total process of scanning, rendering and reset to its initial position together shall not take more than 2 seconds.	10. 非視鏡之間接視野裝置 10.1 一般規範 10.1.1 若需要調整，使用者不需使用工具即可調整間接視野裝置。 10.1.2 如一間接視野裝置須經由掃瞄視野而提供完整視野，則掃瞄解讀和回覆至初始位置的全部過程不可超過 2 秒。 10.1.3 I 類至 IV 類攝影機-顯示器系統之有效性，不應受磁場或電場等之不利影響，且應符合本基準中「電磁相容性」規定。	10. 非視鏡之間接視野裝置 10.1 一般規範 10.1.1 若需要調整，使用者不需使用工具即可調整間接視野裝置。 10.1.2 如一間接視野裝置須經由掃瞄視野而提供完整視野，則掃瞄解讀和回覆至初始位置的全部過程不可超過 2 秒。

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
6.2.2. Camera-monitor systems The requirements of paragraph 6.2.2.1. shall be considered to be satisfied in the case of monitors of a vehicle that fulfills the provisions of Regulation No. 21.	6.2.2. Camera-monitor devices for indirect vision	10.2 攝影機-顯示器系統 車輛裝配之攝影機-螢幕系統應依本基準「車室內裝配置」規定。 【目前尚無「車室內裝配置」檢測能量】	10.2 間接視野-攝影監看裝置
6.2.2.1. General requirements 6.2.2.1.1. When the devices of the camera-monitor system are mounted in the position recommended by the manufacturer for normal driving, all parts, irrespective of the adjustment position of the device which are in potential, static contact with a sphere either 165 mm in diameter in the case of a CMS or parts of CMS installed inside the vehicle or 100 mm in diameter in the case of a CMS or parts of CMS installed outside the vehicle, shall have a radius of curvature "c" of not less than 2.5 mm.	6.2.2.1. General requirements 6.2.2.1.1. When the camera-monitor device for indirect vision is mounted on a plane surface, all parts, irrespective of the adjustment position of the device which are in potential, static contact with a sphere either 165 mm in diameter in the case of a monitor or 100 mm in diameter in the case of a camera, shall have a radius of curvature "c" of not less than 2.5 mm.	10.2.1 一般規範 10.2.1.1 當攝影機-顯示器系統所屬裝置裝設於申請者宣告之正常駕駛位置上，在任一調整位置，能與直徑一六五公釐之圓球靜態接觸(裝設於車輛內部之攝影機-顯示器系統或其任何部件)，或以一〇〇公釐圓球靜態接觸(裝設於車輛外部之攝影機-顯示器系統其任何部件)，其所有零件曲率半徑"c"不應小於二・五公釐。	10.2.1 一般規範 10.2.1.1 當攝影監看裝置裝設於一平面上，在任一調整位置，能與直徑一六五公釐之圓球靜態接觸(監看器部位)，或以一〇〇公釐圓球接觸(攝影機部位)所有零件，其曲率半徑"c"不得小於二・五公釐。
6.2.2.2. Functional requirements for camera-monitor devices of Classes V and VI 6.2.2.2.1. The camera shall function well in conditions in which sunlight falls on the camera. The saturated area, defined as the area in which the luminance contrast ratio ($C=L_w/L_b$) of a high contrast pattern falls	6.2.2.2. Functional requirements 6.2.2.2.1. The camera shall function well in conditions in which sunlight falls on the camera. The saturated area, defined as the area in which the luminance contrast ratio ($C=L_w/L_b$) of a high contrast pattern falls	10.2.2 V類及VI類攝影機-顯示器裝置之功能規範 10.2.2.1 攝影裝置在陽光照射於攝影機時應作動良好。飽和區域意指高對比圖像之亮度對比(Luminance contrast ratio)($C=L_w/L_b$)小於2者；在10.2.2.1.1至10.2.2.1.4所述條件	10.2.2 功能規範 10.2.2.1 攝影裝置在陽光照射於攝影機時應作動良好。飽和區域意指高對比圖像之亮度對比(Luminance contrast ratio)($C=L_w/L_b$)小於2者；在10.2.2.1.1至10.2.2.1.4所述條件

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below 2.0, shall not cover more than 15 per cent of the displayed image under the conditions of paragraphs 6.2.2.2.1.1. to 6.2.2.2.1.4. below. In the case the camera system shows dynamical changes in the blooming area during the test the maximum blooming area shall fulfill the requirements. 6.2.2.2.1.1. A black and white test pattern, having a minimum contrast ratio of 20 shall be positioned in front of the camera. The test pattern shall be evenly illuminated at an illumination of 3,000 +/- 300 lx. The test pattern shall be medium gray on average and cover the complete area viewed by the camera; the camera shall view no other objects than the test pattern. 6.2.2.2.1.2. The camera shall be hit by a (simulated sun) light of 40 klx, spanning an angle between 0.6 and 0.9 deg. with an elevation angle of 10 deg. (directly or indirectly via a mirror) removed from the optical axis of the sensor. The light source shall: (a) Have a spectrum D65 with a tolerance of +/-1,500 K; (b) Be homogeneous in space and time within a tolerance of 2 klx. The emission of the light source in infrared shall be negligible.	below 2.0, shall not cover more than 15 per cent of the displayed image under the conditions of paragraphs 6.2.2.2.1.1. to 6.2.2.2.1.4. below. In case the camera system shows dynamical changes in the blooming area during the test the maximum blooming area should fulfill the requirement. 6.2.2.2.1.1. A black and white test pattern, having a minimum contrast ratio of 20 shall be positioned in front of the camera. The test pattern shall be evenly illuminated at an illumination of 3,000 +/- 300 Lx. The test pattern shall be medium gray on average and cover the complete area viewed by the camera; the camera shall view no other objects than the test pattern. 6.2.2.2.1.2. The camera shall be hit by a (simulated sun) light of 40 kLx, spanning an angle between 0.6 and 0.9 degrees with an elevation angle of 10 degrees (directly or indirectly via a mirror) removed from the optical axis of the sensor. The light source shall: (a) Have a spectrum D65 with a tolerance of +/-1,500K; (b) Be homogeneous in space and time within a tolerance of 2 kLx. The emission of the light source in infrared shall be negligible.	下，顯示圖像區域上之飽和區域應不逾百分之一五。若攝影裝置之輝散區域(Blooming area)於測試時有動態變化，則其最大輝散區域應符合要求。 10.2.2.1.1 應放置最小對比為二〇之黑/白測試圖像於攝影裝置前面。測試圖像應在光源強度為三〇〇〇(正負三〇〇)lux 下均勻受光。該測試圖像應涵蓋攝影裝置之整個觀測區域，且測試圖像之顏色應為趨近中灰色。攝影裝置之觀測應僅有該測試圖像。 10.2.2.1.2 以四〇〇〇〇 lux，從感測器之感光軸正視角(Elevation angle)一〇度(直接或間接視鏡裝置)、〇・六度至〇・九度範圍之模擬陽光投射攝影裝置。 光源應符合以下要求： (a)使用 D65 光源其誤差應在正負一五〇〇K 範圍內。 (b)在誤差二〇〇〇 lux 內均勻分布於空間及時間。 紅外線光源所散發之光譜應忽略不計。 10.2.2.1.3 在測試過程中，顯示器應無	下，顯示圖像區域上之飽和區域應不逾百分之一五。若攝影裝置之輝散區域(Blooming area)於測試時有動態變化，則其最大輝散區域應符合要求。 10.2.2.1.1 應放置最小對比為二〇之黑/白測試圖像於攝影裝置前面。測試圖像應在光源強度為三〇〇〇(正負三〇〇)lux 下均勻受光。該測試圖像應涵蓋攝影裝置之整個觀測區域，且測試圖像之顏色應為趨近中灰色。攝影裝置之觀測應僅有該測試圖像。 10.2.2.1.2 以四〇〇〇〇 lux，從感測器之感光軸正視角(Elevation angle)一〇度(直接或間接視鏡裝置)、〇・六度至〇・九度範圍之模擬陽光投射攝影裝置。 光源應符合以下要求： (a)使用 D65 光源其誤差應在正負一五〇〇K 範圍內。 (b)在誤差二〇〇〇 lux 內均勻分布於空間及時間。 紅外線光源所散發之光譜應忽略不計。 10.2.2.1.3 在測試過程中，螢幕應無其

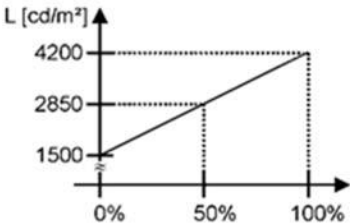
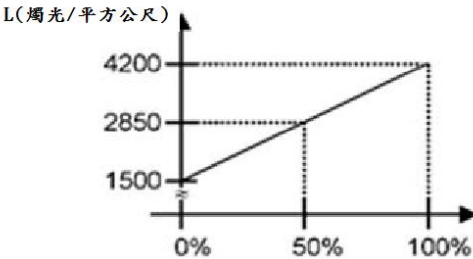
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6.2.2.2.1.3. There shall be no ambient illumination of the monitor during the test. 6.2.2.2.1.4. An example of the set-up is given in the Figure A below. 【請參考下列表格】	6.2.2.2.1.3. There shall be no ambient illumination of the monitor during the test. 6.2.2.2.1.4. An example of the set-up is given in the Figure A below. 【請參考下列表格】	其他環境光源照射。 10.2.2.1.4 輝散區域測試示意圖(如圖三所示)。	他環境光源照射。 10.2.2.1.4 輝散區域測試示意圖(如圖三所示)。
6.2.2.2.2. The monitor shall render a minimum contrast under various light conditions as specified by ISO 15008:2003. 6.2.2.2.3. It shall be possible to adjust the average luminance of the monitor either manually or automatically to the ambient conditions. 6.2.2.2.4. The measurements for the luminance contrast of the monitor shall be carried out according to ISO 15008:2009.	6.2.2.2.2. The monitor shall render a minimum contrast under various light conditions as specified by ISO 15008:2003. 6.2.2.2.3. It shall be possible to adjust the average luminance of the monitor either manually or automatically to the ambient conditions. 6.2.2.2.4. The measurements for the luminance contrast of the monitor shall be carried out according to ISO 15008:2009.	10.2.2.2 在國際標準 ISO 15008:2003 所述不同亮度下，<u>顯示器</u>裝置應給予最小的對比。 10.2.2.3 應可手動或自動對應環境條件地調整<u>顯示器</u>裝置之平均亮度。 10.2.2.4 依照ISO 15008:2009測量<u>顯示器</u>裝置亮度對比。	10.2.2.2 在國際標準 ISO 15008:2003 所述不同亮度下<u>監看</u>裝置應給予最小的對比。 10.2.2.3 應可手動或自動對應環境條件地調整<u>監看</u>裝置的平均亮度。 10.2.2.4 依照 ISO 15008:2009 測量<u>監看</u>裝置亮度對比。
6.2.2.3. Functional requirements for camera-monitor devices of Classes I to IV (see Annex 12). Unless otherwise specified in this Regulation, the definitions and symbols used in paragraph 6.2.2.3. are in accordance with ISO 16505:2015, Chapters 3 and 4. Unless otherwise specified in this Regulation, the requirements given in paragraph 6.2.2.3. shall be verified according to the test procedures given in ISO 16505:2015, Chapter 7, where available. 6.2.2.3.1. Luminance adjustment		<u>10.2.3 I類至IV類攝影機-顯示器裝置之功能規範</u> <u>除非另有規定，本節相關名詞之定義及符號應依據ISO16505:2015第三章節及第四章節之規定。</u> <u>除非另有規定，本節試驗要求應依據ISO16505:2015第七章節試驗方法中適用規範進行驗證。</u> <u>10.2.3.1亮度調整</u>	

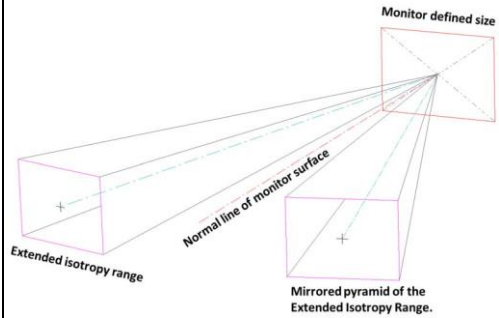
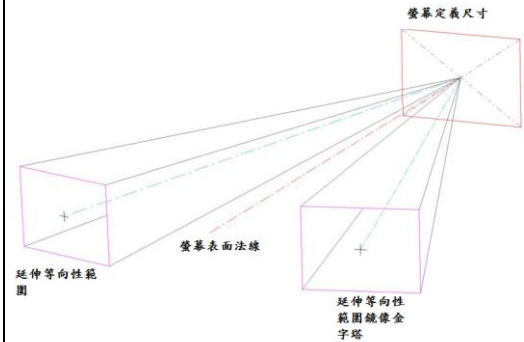
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It shall be possible to adjust the average luminance of the monitor either manually or automatically to the ambient conditions. 6.2.2.3.2. Operating readiness (System availability) If the system is not operational (e.g. CMS failure), it shall be indicated to the driver by i.e.*/ warning indication, display information, absence of status indicator. The operator's manual shall explain the information indicated.		<u>應可手動或自動以對應環境條件而調整顯示器之平均亮度。</u> <u>10.2.3.2 系統作動狀態就緒（系統可用性）</u> <u>若系統無法作動（例如CMS失效），則應提供警告指示、顯示器顯示資訊及/或狀態指示燈熄滅等予駕駛，且於其使用說明書上載明。</u>	
6.2.2.3.3. Image quality 6.2.2.3.3.1. Monitor isotropy The monitor shall conform to optical requirements over the range of viewing directions that is specified in the following paragraphs. 6.2.2.3.3.1.1. Directional uniformity When driven by an artificial 70 per cent grey-scale image, the deviation of the monitor luminance from the luminance white level with specific viewing direction $(\theta, \phi) = (\theta_{\text{monitor}}/D, \phi_{\text{monitor}}/D)$ shall be such that the ratio relative to the luminance white level for the same specific viewing direction $L(\theta_{\text{monitor}}/D, \phi_{\text{monitor}}/D)$ does not exceed 35 per cent of the luminance white level for the monitor standard isotropy range and shall not exceed 50 per cent of		<u>10.2.3.3 影像品質(Image quality)</u> <u>10.2.3.3.1顯示器等向性(Isotropy)</u> <u>於觀看方向之下述範圍，顯示器應符合對應之光學要求。</u> <u>10.2.3.3.1.1 特定方向均一性(Directional uniformity)</u> <u>若以百分之七0之灰階影像模擬驅動，則特定方向(即$(\theta, \phi) = (\theta_{\text{顯示器}}/D, \phi_{\text{顯示器}}/D)$)之顯示器亮度與白色亮度位準(Luminance white level)間之偏差值，相對於同特定方向之白色亮度位準間之比值，不應超過百分之三五(於顯示器之標準等向性範圍內)，及不應超過百分之五0(於顯示器之延伸等向性範圍內)。</u>	

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the luminance white level for the monitor extended isotropy range. For the standard isotropy range: $\frac{\max \{L_i - L(\Theta_{\text{monitor}^i D}, \Phi_{\text{monitor}^i D})\}}{L(\Theta_{\text{monitor}^i D}, \Phi_{\text{monitor}^i D})} < 35\%,$ for points i = 1, 2, 3, 4, 5, 6, 7, 8, 9 as defined in Table 1 below. Table 1: Measurement directions for standard isotropy range <table><tr><th>Direction i</th><th>horizontal/degree</th><th>vertical/degree</th></tr><tr><td></td><td>-7</td><td>+6</td></tr><tr><td>2</td><td>0</td><td>+6</td></tr><tr><td>3</td><td>+7</td><td>+6</td></tr><tr><td>4</td><td>-7</td><td>0</td></tr><tr><td>5</td><td>N/A</td><td>N/A</td></tr><tr><td>6</td><td>+7</td><td>0</td></tr><tr><td>7</td><td>-7</td><td>-6</td></tr><tr><td>8</td><td>0</td><td>-6</td></tr><tr><td>9</td><td>+7</td><td>-6</td></tr></table>	Direction i	horizontal/degree	vertical/degree		-7	+6	2	0	+6	3	+7	+6	4	-7	0	5	N/A	N/A	6	+7	0	7	-7	-6	8	0	-6	9	+7	-6		於標準等向性範圍內： $\frac{\max \{L_i - L(\Theta_{\text{顯示器}^i D}, \Phi_{\text{顯示器}^i D})\}}{L(\Theta_{\text{顯示器}^i D}, \Phi_{\text{顯示器}^i D})} < 35\%,$ 各點i (1、2、3、4、5、6、7、8、9) 對應之量測方向，如下表一所示。 表一：標準等向性範圍之量測方向 <table><tr><th>方向點 i</th><th>水平方 向/角度</th><th>垂直方 向/角度</th></tr><tr><td>1</td><td>-7</td><td>+6</td></tr><tr><td>2</td><td>0</td><td>+6</td></tr><tr><td>3</td><td>+7</td><td>+6</td></tr><tr><td>4</td><td>-7</td><td>0</td></tr><tr><td>5</td><td>N/A</td><td>N/A</td></tr><tr><td>6</td><td>+7</td><td>0</td></tr><tr><td>7</td><td>-7</td><td>-6</td></tr><tr><td>8</td><td>0</td><td>-6</td></tr><tr><td>9</td><td>+7</td><td>-6</td></tr></table>	方向點 i	水平方 向/角度	垂直方 向/角度	1	-7	+6	2	0	+6	3	+7	+6	4	-7	0	5	N/A	N/A	6	+7	0	7	-7	-6	8	0	-6	9	+7	-6	
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For the extended isotropy range: $\frac{\max \{L_{i'} - L(\Theta_{\text{monitor}^{i'} D}, \Phi_{\text{monitor}^{i'} D})\}}{L(\Theta_{\text{monitor}^{i'} D}, \Phi_{\text{monitor}^{i'} D})} < 50\%,$ for points i' = 1, 2, 3, 4, 5, 6, 7, 8, 9 as defined in Table 2 below.		於延伸等向性範圍內： $\frac{\max \{L_{i'} - L(\Theta_{\text{顯示器}^{i'} D}, \Phi_{\text{顯示器}^{i'} D})\}}{L(\Theta_{\text{顯示器}^{i'} D}, \Phi_{\text{顯示器}^{i'} D})} < 50\%,$ 各點i (1、2、3、4、5、6、7、8、9) 對應之量測方向，如下表二所示。 表二：延伸等向性範圍之量測方向 <table><tr><th>方向點 i'</th><th>水平方 向/角度</th><th>垂直方 向/角度</th></tr></table>	方向點 i'	水平方 向/角度	垂直方 向/角度																																																										
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Table 2: Measurement directions for extended isotropy range <table><tr><th>Direction i</th><th>horizontal/degree</th><th>vertical/degree</th></tr><tr><td>1</td><td>-12</td><td>+11</td></tr><tr><td>2</td><td>0</td><td>+11</td></tr><tr><td>3</td><td>+12</td><td>+11</td></tr><tr><td>4</td><td>-12</td><td>0</td></tr><tr><td>5</td><td>N/A</td><td>N/A</td></tr><tr><td>6</td><td>+12</td><td>0</td></tr><tr><td>7</td><td>-12</td><td>-11</td></tr><tr><td>8</td><td>0</td><td>-11</td></tr><tr><td>9</td><td>+12</td><td>-11</td></tr></table> 6.2.2.3.3.1.2. Lateral uniformity The luminance white lateral dependency shall satisfy: $\frac{\max \{ \{ L_{j/white}(\Theta, \Phi) \} - \min \{ \{ L_{j/white}(\Theta, \Phi) \} \}}{\max \{ \{ L_{j/white}(\Theta, \Phi) \} \}} < 35\% ,$ for points j = 1, 2, 3, 4, 5, 6, 7, 8, 9 as defined in Table 3 below, where (theta, phi) = (0, 0). Table 3: Measurement points for the lateral uniformity <table><tr><th>Point j</th><th>Percentage of W_{monitor}/horizontal from top left corner</th><th>Percentage of H_{monitor}/horizontal from top left corner</th></tr><tr><td>1</td><td>20</td><td>20</td></tr><tr><td>2</td><td>50</td><td>20</td></tr><tr><td>3</td><td>80</td><td>20</td></tr><tr><td>4</td><td>20</td><td>50</td></tr><tr><td>5</td><td>50</td><td>50</td></tr><tr><td>6</td><td>80</td><td>50</td></tr><tr><td>7</td><td>20</td><td>80</td></tr><tr><td>8</td><td>50</td><td>80</td></tr><tr><td>9</td><td>80</td><td>80</td></tr></table>	Direction i	horizontal/degree	vertical/degree	1	-12	+11	2	0	+11	3	+12	+11	4	-12	0	5	N/A	N/A	6	+12	0	7	-12	-11	8	0	-11	9	+12	-11	Point j	Percentage of W _{monitor} /horizontal from top left corner	Percentage of H _{monitor} /horizontal from top left corner	1	20	20	2	50	20	3	80	20	4	20	50	5	50	50	6	80	50	7	20	80	8	50	80	9	80	80		<table><tr><td><u>1</u></td><td><u>-12</u></td><td><u>+11</u></td></tr><tr><td><u>2</u></td><td><u>0</u></td><td><u>+11</u></td></tr><tr><td><u>3</u></td><td><u>+12</u></td><td><u>+11</u></td></tr><tr><td><u>4</u></td><td><u>-12</u></td><td><u>0</u></td></tr><tr><td><u>5</u></td><td><u>N/A</u></td><td><u>N/A</u></td></tr><tr><td><u>6</u></td><td><u>+12</u></td><td><u>0</u></td></tr><tr><td><u>7</u></td><td><u>-12</u></td><td><u>-11</u></td></tr><tr><td><u>8</u></td><td><u>0</u></td><td><u>-11</u></td></tr><tr><td><u>9</u></td><td><u>+12</u></td><td><u>-11</u></td></tr></table> 10.2.3.3.1.2 <u>橫向均一性 (Lateral uniformity)</u> <u>亮度白色橫向相依性 (Lateral dependency)應符合下列公式:</u> $\frac{\max \{ \{ L_{j, \text{白}}(\Theta, \Phi) \} - \min \{ \{ L_{j, \text{白}}(\Theta, \Phi) \} \}}{\max \{ \{ L_{j, \text{白}}(\Theta, \Phi) \} \}} < 35\% .$ <u>各點i (1、2、3、4、5、6、7、8、9)對應之量測方向，如下表三所示。</u> <u>(theta, phi) = (0,0)。</u> <u>表三: 橫向均一性之量測點</u> <table><tr><td><u>方向點</u> <u>i</u></td><td><u>W_{顯示器/水平}</u> <u>距離左</u> <u>上角之</u> <u>百分比</u></td><td><u>H_{顯示器/水平}</u> <u>距離左</u> <u>上角之</u> <u>百分比</u></td></tr><tr><td><u>1</u></td><td><u>20</u></td><td><u>20</u></td></tr></table>	<u>1</u>	<u>-12</u>	<u>+11</u>	<u>2</u>	<u>0</u>	<u>+11</u>	<u>3</u>	<u>+12</u>	<u>+11</u>	<u>4</u>	<u>-12</u>	<u>0</u>	<u>5</u>	<u>N/A</u>	<u>N/A</u>	<u>6</u>	<u>+12</u>	<u>0</u>	<u>7</u>	<u>-12</u>	<u>-11</u>	<u>8</u>	<u>0</u>	<u>-11</u>	<u>9</u>	<u>+12</u>	<u>-11</u>	<u>方向點</u> <u>i</u>	<u>W_{顯示器/水平}</u> <u>距離左</u> <u>上角之</u> <u>百分比</u>	<u>H_{顯示器/水平}</u> <u>距離左</u> <u>上角之</u> <u>百分比</u>	<u>1</u>	<u>20</u>	<u>20</u>	
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6.2.2.3.3.2. Luminance and contrast rendering For luminance and contrast rendering the following requirements shall apply: (a) The minimum luminance contrast at the monitor (including any screen protector) reproducing a high contrast pattern shall be: (i) For direct sunlight condition: 2:1; (ii) For day condition with diffuse ambient light: 3:1; (iii) For sunset condition: 2:1; (iv) For night condition: 10:1 except in the case of Mirror and CMS dual function system of class I: 5:1. (b) The night condition for the camera's field of view is replicated in a dark environment such that the maximum illuminance on the objects to be measured shall not exceed 2.0 lx; (c) The background luminance of the monitor shall be limited under the night condition. The maximum background luminance under the night condition shall be less than 2.0 cd/m ² ; (d) The instructions for use shall contain a note that sunlight or light from other intense light source upon the monitor		10.2.3.3.2亮度和對比顯像 亮度和對比顯像應符合下述要求: (a) <u>重現高對比模式之顯示器最低亮度對比(包含任何螢幕保護)應符合下述要求:</u> (i) <u>日光直射條件下為2:1。</u> (ii) <u>晝間漫射環境光條件下為3:1。</u> (iii) <u>傍晚條件下為2:1。</u> (v) <u>夜間條件下為10:1,惟視鏡和攝影機-顯示器雙重功能系統為5:1。</u> (b) <u>於夜間條件之黑暗環境中,其攝影機視野範圍內量測物體上之最大照度不應超過二・0 lux。</u> (c) <u>應限制夜間條件下之顯示器背景亮度。夜間條件下之最大背景亮度應小於二・0燭光/平方公尺。</u> (d) <u>使用說明書應包括說明投射於螢顯示器上之日光或其他強烈光</u>																									

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reduces the luminance contrast which may require the driver to be particularly alert and attentive.		<u>源，可能需要駕駛特別警戒與留意以減少亮度對比。</u>	
6.2.2.3.3.2.1. Day condition with diffuse sky-light exposure test For the day condition with diffuse sky-light exposure, the test method given in ISO 16505:2015, subclause 7.8.2., Test 2 shall be applied, but a value of 4,000 to 4,200 cd/ m² for luminance diffuse illuminator shall be used. At the request of the manufacturer, the value for luminance diffuse illuminator may be determined by using the diagram of figure below. Luminance of the diffuse illuminator  Ratio of the projected area leaving the vehicle Ratio of projected area vs. luminance of the diffuse illuminator Procedure for determining the ration of the projected area leaving the vehicle: (a) Determine the projected area in the vehicle that represents the mirror reflected direction from the monitor extended isotropy range. (b) Evaluation shall be made in the centre of		10.2.3.3.2.1 <u>晝間條件下之天光擴散曝光試驗 (Diffuse sky-light exposure test)</u> <u>關於晝間條件下之天光擴散曝光，試驗方法應依據 ISO16505:2015 內 7.8.2 子項目試驗 2 之規範。對於漫射照明燈 (Diffuse illuminator) 亮度值，應為四 0 0 0 至四二 0 0 燭光/平方公尺。</u> <u>對於漫射照明燈之亮度值，可於申請者要求下透過下列圖示求得(如圖四)：</u>  <u>遠離車輛之投影面積比率</u> <u>圖四：漫射照明燈之亮度值</u> <u>投影面積比率與漫射照明燈的亮度</u> <u>遠離車輛之投影面積比率之決定程序：</u>	

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the monitor defined size, under consideration of the monitor design viewing direction (see figure below).  This projected area represents the 100 per cent of the surface to be considered. Based on virtual testing, evaluate the ratio of the projected area that leaves the vehicle openings (e.g. through a side door window, rear window or sunroof; however, for example a sunroof having an opaque shutter shall not be considered an opening). Case when the orientation of the mirror and CMS dual function system of Class I is adjustable: Based on virtual testing, if the applicant demonstrates that the Mirror and CMS dual function system of Class I adjustment range permits a driver to avoid any incident specular light from the vehicle opening while a driver's eye is within any fixed position of the standard isotropy range, then the value for luminance diffuse illuminator shall be the one of ISO		(a)從顯示器延伸等向性範圍決定代表視鏡反射方向之車輛內投影面積。 (b)考慮顯示器之設計觀看方向（如圖五），應於顯示器既定尺寸(Monitor defined size) 中心位置進行評估。  圖五 此投影面積代表百分之百之確認表面。 利用模擬試驗，評估遠離車輛開口(Opening)之投影面積比率（例如經由一個側窗，後窗或天窗;若天窗具有不透明之遮板(Shutter)，則其不應被視為一個開口）。 若I類視鏡和攝影機-顯示器雙重功能系統之朝向為可調整者： 利用模擬試驗，若申請者提出佐證文件說明，當駕駛眼睛於標準等向性	

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
16505:2015 subclause 7.8.2., Test 2: 1,300 to 1,500 cd/m ² .		<u>範圍內之任何固定位置，其I類視鏡和攝影機-顯示器雙重功能系統之調整範圍允許駕駛避開任何從車輛開口處而來之鏡面反射光線(Specular light)，則對於漫射照明燈之亮度值應為依據ISO 16505:2015 7.8.2子項目試驗2之規範值，為一三〇〇至一五〇〇燭光/平方公尺。</u>	
6.2.2.3.3.3. Grey scale rendering A CMS shall have a sufficient grey scale rendering. CMS shall display a tonal range of at least eight distinguishable different grey tonal steps on the monitor. For the grey scale rendering, the test method of paragraph 1.4. of Annex 12 shall be applied. 6.2.2.3.3.4. Colour rendering For colour rendering, the hue angle of reproduced colour of the chart patches on the monitor shall satisfy the following requirements. The colour coordinates are described based in the CIE 1976 uniform colour space: (a) Red colour coordinates shall not exceed the range of (0 deg., 44.8 deg.) or (332.2 deg., 360 deg.); (b) Green colour coordinates shall not exceed the range of (96.6 deg., 179.9 deg.); (c) Blue colour coordinates shall not exceed		<u>10.2.3.3.3 灰階級數 (Grey scale rendering)</u> <u>一個攝影機-顯示器系統應具有足夠的灰階級數。攝影機-顯示器系統其顯示器應至少顯示八個可分辨不同灰階色調等級範圍。</u> <u>灰階級數試驗方法應依據本基準段落12.1.4之規定。</u> <u>10.2.3.3.4 演色性 (Colour rendering)</u> <u>有關演色性，其顯示器圖表色塊(Chart patches)重現顏色的色調角度，應滿足以下要求。顏色座標應依據CIE 1976 顏色空間一致性 (Uniform colour space)之規定。</u> <u>(a) 紅色座標不得超出0度至四四·八度或三三二·二度至三六0度範圍。</u> <u>(b) 綠色座標不得超出九六·六度至一七九·九度範圍。</u> <u>(c) 藍色座標不得超出二〇九·九度至三〇二·二度範圍。</u>	

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the range of (209.9 deg., 302.2 deg.); (d) Yellow colour coordinates shall not exceed the range of (44.8 deg., 96.6 deg.); (e) To distinguish from the white colour, define distance from white as $R_i > 0.02$, where R_i is the chromatic distance of each colour patch ($i = \text{Red, Green, Blue, Yellow}$), relative to white ($i = \text{White}$). Figure B shows an illustrative tolerance range described on CIE 1976 uniform colour space. 【請參考下列表格】 Amber, blue and red light signals shall be distinguishable from each other. 6.2.2.3.3.5. Artefacts The operator's manual shall refer to possible artefacts and their impact on the partial occlusion of the field of view and of the objects which may require the driver to be particularly alert and attentive. 6.2.2.3.3.5.1. Smear Smear shall be transparent and not be more than 10 per cent of the maximum luminance value of the displayed glare source luminance level, which causes smear effect. 6.2.2.3.3.5.2. Blooming and lens flare The total area of disturbing blooming and lens flare areas shall not cover more than 25 per cent of the displayed camera image. 6.2.2.3.3.5.3. Point light sources The CMS shall have an operation mode in		(d) <u>黃色座標不得超出四四・八度至九六・六度範圍。</u> (e) <u>從白色區分，白色距離R_i大於0・0二，其中R_i是每個色塊相對於白色（$i=\text{白色}$）之顏色距離（對於$i=\text{紅、綠、藍、黃}$）。</u> <u>描述CIE 1976顏色空間一致性之容許誤差範圍(如圖六)。</u> 【請參考下列表格】 <u>應可辨別琥珀色，藍色和紅色燈光訊號。</u> <u>10.2.3.3.5 偽像(Artefacts)</u> <u>使用說明書應有偽像可能性與需要駕駛特別警覺及留意物體部分會被視野遮蔽的影響。</u> <u>10.2.3.3.5.1 漏光(Smear)</u> <u>漏光應為透明，且不應超出造成漏光之眩光來源顯示亮度等級之最高亮度值百分之一0。</u> <u>10.2.3.3.5.2 高光溢出與耀光(Blooming and lens flare)</u> <u>泛光與鏡頭光暈的總面積覆蓋分布，應不得超過攝影機影像顯示的百分之二五。</u> <u>10.2.3.3.5.3 點光源(Point light sources)</u> <u>配備攝影機-顯示器系統之車輛，其應</u>	

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which the driver of the vehicle equipped with CMS can recognize two point light sources (e.g. passing beam headlights) rendered as two distinguishable separate point light sources. In this operation mode, a set of two point light sources corresponding to a vehicle passing beam headlamp each having a reference luminous intensity 1,750 cd and being separated each other laterally by 1.3 m and located at a distance of 250 m away from the CMS shall be distinguishable as two point light source. This requirement is applicable to Class I, Class II and Class III devices for indirect vision. The point light source detection factor (PLSDF) shall be at least 2.7 or the point light source contrast factor (PLSCF) shall be at least 0.12, whichever is satisfied by the CMS test under the conditions and the test procedure described in Annex 12, paragraph 1.3. If the system is in a mode where point light sources are not rendered as described above, this shall be indicated to the driver. The information indicated shall be explained in the operator's manual.		<u>有一操作模式可將二點光源 (如近光頭燈 (Passing beam headlights)) 顯示為可分辨的兩種不同點光源，以供駕駛識別。</u> <u>在此操作模式中，對應車輛近光頭燈組有兩個點光源且從距離二五〇公尺處，其每個參考發光強度為一七五〇燭光及彼此橫向距離為一・三公尺，其攝影機-顯示器系統應可分辨兩點光源。本項法規要求適用於I類、II類及III類之間接視野裝置。</u> <u>點光源偵測係數(PLSDF)應至少為二・七或點光源對比係數(PLSCF)應至少為〇・一二，應依據本基準12.1.3之規定符合CMS試驗條件及試驗方法。</u> <u>若點光源於系統之模式，未能使點光源如上述呈現，則其相關資訊應詳述於使用說明書提醒駕駛。</u>	
6.2.2.3.3.6. Sharpness and depth of field 6.2.2.3.3.6.1. Sharpness The sharpness is represented by the $MTF50_{(1:1)}$ and it shall satisfy: (a) Horizontal and vertical $MTF50_{(1:1)}$ at center $MTF50_{(1:1)} \geq \frac{1}{2} MTF10_{MN(1:1)} \langle LW / PH \rangle$		<u>10.2.3.3.6 清晰度與景深 (Sharpness and depth of field)</u> <u>10.2.3.3.6.1 清晰度</u> <u>清晰度以$MTF50_{(1:1)}$代表且應符合下列要求：</u> $MTF50_{(1:1)} \geq \frac{1}{2} MTF10_{MN(1:1)} \langle LW / PH \rangle$ <u>在角落(影像高度百分之七〇)水平和</u>	

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(b) Horizontal and vertical MTF50_(1:1) at corners (70 per cent of image height) $MTF50_{(1:1)} \geq \frac{1}{2} \cdot \frac{1}{2} (MTF10_{MIN(1:1)}) \langle LW / PH \rangle$ 6.2.2.3.3.6.2. Depth of field The CMS shall enable the driver to observe the occupied space by the object and perceive the content shown within the range of interest with detailed resolution. The MTF10_(1:1), when measured at different distances to the object, shall satisfy at least the minimum resolution for the following points: (a) Resolution at point 1 (10 m as representative point for infinity) and point 2 (middle distance at 6 m) $MTF10_{(1:1)} \geq 0,9 \cdot MTF10_{MIN(1:1)} \langle LW / PH \rangle$ (b) Resolution at point 3 (Close distance at 4 meters) $MTF10_{(1:1)} \geq \frac{1}{2} MTF10_{MIN(1:1)} \langle LW / PH \rangle$ 6.2.2.3.3.7. Geometric distortion For CMS of Classes I, II and III the maximum distortion within the minimum required field of view shall not exceed 20 per cent relative to recto-linear or pinhole projection. This performance shall be tested according to the method given in ISO 16505:2015, Annex G.3. 6.2.2.3.3.8. Further image quality		<u>垂直方向其MTF50_(1:1)</u> $MTF50_{(1:1)} \geq \frac{1}{2} \cdot \frac{1}{2} (MTF10_{MIN(1:1)}) \langle LW / PH \rangle$ <u>10.2.3.3.6.2 景深</u> <u>攝影機-顯示器系統應能使駕駛者觀察物體所在的空間及顯示其空間範圍內目標物的細節。</u> <u>當量測不同物體的距離時，其MTF10_(1:1)應符合下列各點最小解像度要求：</u> <u>(a)點1解像度(一〇公尺為代表無窮遠之點)和點2解像度(代表點位於六公尺距離之中心)</u> $MTF10_{(1:1)} \geq 0,9 \cdot MTF10_{MIN(1:1)} \langle LW / PH \rangle$ <u>(b)點3解像度(代表點位於距離接近四公尺處)</u> $MTF10_{(1:1)} \geq \frac{1}{2} MTF10_{MIN(1:1)} \langle LW / PH \rangle$ <u>10.2.3.3.7 幾何變形 (Geometric distortion)</u> <u>I類、II類及III類之攝影機-顯示器系統要求有關正面線性或針孔投影最大扭曲應不超過最小視野範圍百分之二〇。</u> <u>性能試驗應依據ISO 16505:2015 附錄G3試驗方法進行測試。</u> <u>10.2.3.3.8 進一步影像品質要求 (Further image quality requirements)</u>	

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requirements 6.2.2.3.3.8.1. Flicker The entire image area of the monitor shall be free of flicker according to the test method of Annex 12, paragraph 1.2. 6.2.2.3.4. Time behaviour 6.2.2.3.4.1. Frame rate Movements of objects in front of the camera shall be rendered smooth and fluid. The minimum frame rate of the system (update rate of the image information) shall be at least 30 Hz. At low light conditions or while maneuvering at low speed, the minimum frame rate of the system (i.e. update rate of the image information) shall be at least 15 Hz. 6.2.2.3.4.2. Image formation time The image formation time of the monitor shall be less than 55 ms at a temperature of 22 deg. C +/-5 deg. C. This performance shall be tested according to the method given in ISO 9241-305:2008. 6.2.2.3.4.3. System latency A CMS shall have a sufficient short latency to render the scenery nearly at the same time. The latency shall be lower than 200 ms at room temperature 22 deg. C +/-5 deg. C. 6.2.2.3.5. Quality and further ergonomic requirements 6.2.2.3.5.1. Glare due to high luminance of the monitor In order to avoid glare from a high luminance of the monitor, the		<u>10.2.3.3.8.1 閃爍(Flicker)</u> <u>顯示器的整體影像區域無閃爍，試驗方法應依據本基準12.1.2之規定。</u> <u>10.2.3.4 時間特性(Time behaviour)</u> <u>10.2.3.4.1影像更新率(Frame rate)</u> <u>在攝影機前面的物體動作顯示應為平順流暢。系統影像更新頻率(影像資訊更新率)應至少為三〇赫茲。在低光條件或同時以低速操縱時，系統影像更新頻率(影像資訊更新率)應為至少一五赫茲。</u> <u>10.2.3.4.2 影像形成時間(Image formation time)</u> <u>顯示器的影像形成時間應於環境溫度攝氏二二度正負五度條件下，小於五五毫秒。</u> <u>性能試驗應依據9241-305:2008試驗方法進行測試。</u> <u>10.2.3.4.3 系統延遲(System latency)</u> <u>攝影機-顯示器系統的延遲時間應儘可能短暫以使影像之變換近乎同一時間。延遲時間於環境溫度攝氏二二度正負五度條件之下，應小於二〇〇毫秒。</u> <u>10.2.3.5 品質與進一步人體工程要求(Quality and further ergonomic requirements)</u> <u>10.2.3.5.1由於顯示器的高亮度造成所謂眩光，為了避免顯示器的高亮度</u>	

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luminance shall be dimmable in the night condition either manually or automatically.		<u>所造成眩光現象，在夜間條件下其亮度應可手動或自動調整。</u>	
6.2.3. Other devices for indirect vision It has to be proved that the device meets the following requirements: 6.2.3.1. The device shall perceive the visual spectrum and shall always render this image without the need for interpretation into the visual spectrum. 6.2.3.2. The functionality shall be guaranteed under the circumstances of use in which the system shall be put into service. Depending on the technology used in obtaining images and presenting them paragraph 6.2.2.2. above shall be entirely or partly applicable. In other cases this can be achieved by establishing and demonstrating by means of system sensitivity analogous to paragraph 6.2.2.2. above that a function is ensured that is comparable to or better than what is required for and by demonstrating that a functionality is guaranteed that is equivalent or better than that required for	6.2.3. Other devices for indirect vision It has to be proved that the device meets the following requirements: 6.2.3.1. The device shall perceive the visual spectrum and shall always render this image without the need for interpretation into the visual spectrum. 6.2.3.2. The functionality shall be guaranteed under the circumstances of use in which the system shall be put into service. Depending on the technology used in obtaining images and presenting them paragraph 6.2.2.2. above shall be entirely or partly applicable. In other cases this can be achieved by establishing and demonstrating by means of system sensitivity analogous to paragraph 6.2.2.2. above that a function is ensured that is comparable to or better than what is required for and by demonstrating that a functionality is guaranteed that is equivalent or better than that required for	<u>10.3</u>在國際標準ISO 15008:2003所述不同亮度下監看裝置應給予最小的對比。 <u>10.3.1</u> 應可手動或自動對應環境條件地調整監看裝置的平均亮度。 <u>10.3.2</u> 依照 ISO 15008:2009 測量監看裝置亮度對比。 <u>10.4</u> 間接視野-其他裝置 必須證明裝置符合以下要求： <u>10.4.1</u> 此裝置應解讀其視覺光譜，且即提供影像而不需再去解讀視覺光譜。 <u>10.4.2</u> 需保證系統在使用環境下的功能性。依照取得圖像與呈現所使用的科技，依 10.2.2 的要求來考量整個或部分適用。 亦可運用類似於10.2.2的系統敏感度方式，建立和展示其功能，確保比所要求的相當或更佳，證明其與視鏡或產生間接視野之攝影監看裝置之功能性能相當或更佳。	<u>10.2.2.2</u> 在國際標準 ISO 15008:2003 所述不同亮度下監看裝置應給予最小的對比。 <u>10.2.2.3</u> 應可手動或自動對應環境條件地調整監看裝置的平均亮度。 <u>10.2.2.4</u> 依照 ISO 15008:2009 測量監看裝置亮度對比。 <u>10.2.3</u> 間接視野-其他裝置 必須證明裝置符合以下要求： <u>10.2.3.1</u> 此裝置應解讀其視覺光譜，且即提供影像而不需再去解讀視覺光譜。 <u>10.2.3.2</u> 需保證系統在使用環境下的功能性。依照取得圖像與呈現所使用的科技，依 10.2.2 的要求來考量整個或部分適用。 亦可運用類似於 10.2.2 的系統敏感度方式，建立和展示其功能，確保比所要求的相當或更佳，證明其與視鏡或產生間接視野之攝影監看裝置之功能性能相當或更佳。

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mirror- or camera-monitor type devices for indirect vision.	mirror- or camera-monitor type devices for indirect vision.		
1.4. Data supplied by the instructions for use In case of Classes V and VI camera monitor devices the instructions for use shall include a table that shows the minimum and maximum mounting height of the camera above ground under consideration of different viewing distances. The camera shall be mounted within the applicable height range. The viewing distances shall be selected from the intended context of use. The following table shows an example.	1.4. Data supplied by the instructions for use In case of Classes V and VI camera monitor devices the instructions for use shall include a table that shows the minimum and maximum mounting height of the camera above ground under consideration of different viewing distances. The camera shall be mounted within the applicable height range. The viewing distances shall be selected from the intended context of use. The following table shows an example.	11.1.4 使用指南應記載之資料 對於類型V(外部近側視鏡)與類型VI(車前視鏡)之攝影/監看裝置，其使用指南內應包含一列表，標示出各種觀測距離條件下，鏡頭之最小及最大距地高度。鏡頭應裝設在其適用之高度範圍內，從使用需求選擇觀測距離。列表範例如下表四所示：	11.1.4 使用指南應記載之資料 對於類型V(外部近側視鏡)與類型VI(車前視鏡)之攝影/監看裝置，其使用指南內應包含一列表，標示出各種觀測距離條件下，鏡頭之最小及最大距地高度。鏡頭應裝設在其適用之高度範圍內，從使用需求選擇觀測距離。列表範例如下表一所示：
Annex 12 Test methods and safety provisions for CMS of Class I to IV 1. Test methods 1.1. General specifications The Technical Service shall use recognized test methods to check compliance with the requirements defined above in the Regulation. These test methods shall be agreed upon by the Type Approval Authority. 1.2. Flicker test The entire image area of the monitor shall be free of flicker for at least 90 per cent of the user population. The flicker evaluation uses the determination given in Annex B of		12. I至IV類攝影機-顯示器系統之試驗方法和安全規定 12.1 試驗方法 12.1.1 一般規範 試驗方法應經由審驗機構同意之下， <u>檢測機構以認可的試驗方法，檢查是否符合上述法規要求。</u> 12.1.2 閃爍測試 <u>至少百分之九0用戶群其顯示器的整個影像區域並無閃爍。閃爍的評估，應依據ISO13406-2：2001 附件B之規定。</u>	

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ISO13406-2: 2001. The following measurement procedure applies: 1.2.1. Position the camera of the CMS in front of a still scene (e.g. chessboard chart). Use a scene illumination of about 500 lx. Measure the time resolved luminance value of a portion of the monitor that displays a white patch of the chessboard chart. The measurement location shall be near the centre of the monitor defined size and the measurement direction is perpendicular onto the monitor. Perform a Fourier transform of the luminance-time function for determination of the amount of energy Eobs at various frequencies up to 120 Hz. These numbers are then compared to the amounts of energies that people will detect as flicker, the predicted flicker threshold Epred. If Eobs < Epred at every frequency < 120 Hz then it is likely that people will not see flicker. If Eobs > Epred at any frequency < 120 Hz then it is likely that people will see flicker.		測量程序應符合下列規範： <u>12.1.2.1攝影機-顯示器系統之攝影機位於靜止的畫面前（如棋盤圖（Chessboard chart））。</u> <u>使用場景照度約五〇〇 lux。</u> <u>顯示棋盤圖的白色色塊以測量顯示器部分時間的分辨亮度值。測量位置應靠近顯示器定義尺寸中心位置，測量方向為垂直該顯示器。執行各種頻率傅立葉轉換（Fourier transform）的亮度-時間函數的觀察能量(Eobs)高達一二〇赫茲。以能量數之數字進行比較，將此檢測得到結果作為閃爍，預估閃爍次數限值(Epred)。</u> <u>若觀察能量(Eobs)<在每一次頻率預估閃爍次數限值(Epred)<一二〇赫茲，則很可能看不到閃爍現象。</u> <u>若觀察能量(Eobs)>在每一次頻率預估閃爍次數限值(Epred)>一二〇赫茲，則很可能看到閃爍現象。</u>	
1.2.2. Determination of Eobs, which is the observed energy at every frequency < 120 Hz: $E_{obs}, n = DC * AMP_n = A * c_0 * AMP_n = b_0 * L_t^{b_1} * c_0 * AMP_n$		<u>12.1.2.2 決定小於一二〇赫茲之每一頻率之觀察能量(Eobs)：</u> <u>$E_{obs}, n = DC * AMP_n = A * c_0 * AMP_n = b_0 * L_t^{b_1} * c_0 * AMP_n$</u> <u>$b_0 = 12.45184$</u>	

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where: $b_0 = 12.45184$ $b_1 = -0.16032$ For L_t, which is the adaption luminance: Use $L_t = L_{\text{monitor/ chart/ white/ ambient}}$ from ISO 16505:2015 (subclause 7.8.2: Test 2: Day condition with diffuse sky-light exposure). For c_0, which is the zero Fourier coefficient, and is the dark-room luminance averaged over time. Use $c_0 = L_{\text{monitor/ chart/ white}}$ from ISO 16505:2015 (see ISO 16505:2015, subclause 7.8.2.: Test 2: Day condition with diffuse sky-light exposure with the diffuse light source switched off). For AMP_n: $AMP_n = \frac{2 * c_n }{c_0}$ For c_n, which is the n^{th} Fourier coefficient. Take the n^{th} Fourier coefficient from the Fourier transform.		$b_1 = -0.16032$ L_t：適應亮度： 依據ISO 16505:2015(7.8.2子項目試驗2:晝間條件天光擴散曝光之規範) $L_t = L_{\text{monitor/ chart/ white/ ambient}}$ c_0:零傅立葉係數且是暗室亮度平均時間 依據ISO 16505:2015(7.8.2子項目試驗2:晝間條件天光擴散曝光之規範中，漫射光源關閉) $c_0 = L_{\text{monitor/ chart/ white}}$ AMP_n: $AMP_n = \frac{2 * c_n }{c_0}$ c_n：第n^{th}個傅立葉係數。從傅立葉轉換取第n^{th}個傅立葉係數。	
1.2.3. Determination of E_{pred}, which is the predicted energy at every frequency < 120 Hz: $E_{\text{pred},n} = a * e^{b * f^n}$ The variables a and b depend on the monitor diagonal as seen from the driver's ocular reference point and is measured in degree (see Table B.1 in the standard ISO 13406-		12.1.2.3 確定小於一二〇赫茲之每一頻率下之預估能量值 (E_{pred}): $E_{\text{pred},n} = a * e^{b * f^n}$ 從駕駛眼點位置觀看顯示器對角線所得之a和b變化量(單位為度)(依據ISO 13406- 2:2001 表B.1)。 顯示器對角線$\alpha_{\text{monitor/ Diagonal}}$ 小於二〇度者；	

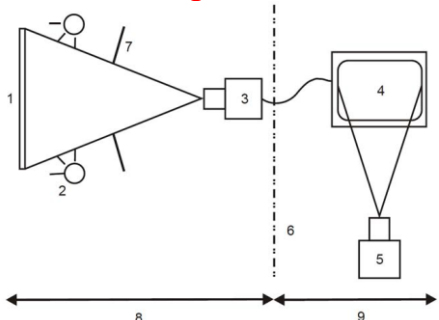
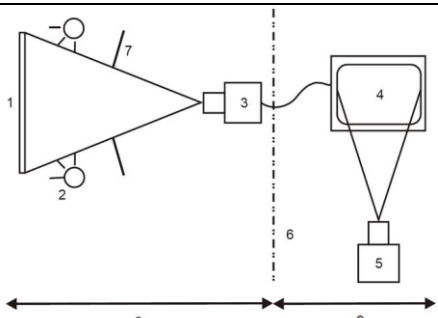
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2:2001). For a monitor diagonal $\alpha_{\text{monitor/ Diagonal}}$ of less than 20 deg., variables a and b equals to a = 0.1276 and b = 0.1424. The monitor diagonal $\alpha_{\text{monitor/ Diagonal}}$ is given by the following equation: $\alpha_{\text{monitor/ Diagonal}} = 2 * \arctan \frac{\text{Diagonal}}{2 * a_{\text{monitor/ D}}}$ Where: Diagonal: diagonal of the monitor, measured in metres $\alpha_{\text{monitor/ D}}$: Distance of the ORP to the centre of the monitor coordinate system. 1.2.4. For every frequency < 120 Hz compare the observed energy Eobs with the predicted energy Epred and report the result value for passed or failed. 1.3. Point light sources test method Figure 1 shows the test arrangement for the point light source test. 【請參考下列表格】 The point light source lab model is an emulation of a set of vehicle passing beam headlamps at a distance of 250 m with luminous intensity of 1,750 cd, in accordance to the maximum allowance of luminous intensity of a vehicle passing-beam headlamp at point "BR" described in Regulation No. 112, 01 series of amendments. The test is performed		<u>a = 0.1276 ;</u> <u>b = 0.1424.</u> <u>以下述公式取得顯示器對角線</u> <u>$\alpha_{\text{monitor/ Diagonal}}$:</u> <u>$\alpha_{\text{monitor/ Diagonal}} = 2 * \arctan \frac{\text{Diagonal}}{2 * a_{\text{monitor/ D}}}$</u> <u>其中，</u> <u>”Diagonal”：顯示器對角線(單位:公尺)；</u> <u>$\alpha_{\text{monitor/ D}}$：ORP至顯示器座標系統中心之距離。</u> <u>12.1.2.4 對於小於一二〇赫茲之每一個頻率，比較預估能量(Epred)及觀察能量(Eobs)，記錄其合格或不合格於試驗報告。</u> <u>12.1.3 點光源試驗方法</u> <u>【請參考下列表格】</u> <u>點光源實驗室模型是模擬車輛近光燈組於距離二五〇公尺處，發光強度為一七五〇燭光，依據本基準「非氣體放電式頭燈」所述BR點最大容許強度。使用一組直徑寬〇・〇九公尺燈具，其燈具間距離為一・三公尺以進行試驗。其亮度達到二七五〇〇〇燭光/平方公尺。為達實驗室評估之目的，光源應使用恆定電</u>	

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considering a set of lamps with 0.09 m diameter and separated by 1.3 m. This results in a luminance of 275,000 cd/m². For laboratory evaluation purposes the light sources shall be adjusted to have a luminance within the range of 250,000 to 300,000 cd/ m² by using a constant current source. For laboratory evaluation purpose a shorter distance than 250 m can be used. The distance a_{PLS} from the camera entrance pupil to the point light source lab model shall be within the depth of field of the camera. The point light source lab model shall be adjusted to the measuring distance a_{PLS} in terms of lamp size d_{PLS} and distance SD_{PLS}. The value for d_{PLS} and SD_{PLS} shall be rounded to the nearest 0.1 mm. A typical white LED having a correlated colour temperature of 6,500 K with a tolerance of +/- 1,500 K is used for this evaluation. The emitting surface of the LED shall keep an even luminance or it shall be diffused using an optional diffuser as shown in Figure 1. The angular size corresponding to the headlamp of 0.09 m diameter and the angular orientation of the two point light source separated by 1.3 m of each other, at		<u>流且調節維持二五〇〇〇〇至三〇〇〇〇燭光/平方公尺範圍內之亮度。</u> <u>為達實驗室評估之目的，可使用比二五〇公尺更短之距離。a_{PLS}距離為從攝影機入射瞳(Camera entrance pupil)到點光源之實驗室模型之距離，應於攝影機景深(Depth of field)範圍內。點光源之實驗室模型應考量燈具尺寸(d_{PLS})及距離(SD_{PLS})以調整至量測距離(a_{PLS})。d_{PLS}和SD_{PLS}兩數值應以四捨五入計算方式至最接近之0.1公釐。</u> <u>評估係使用色溫具有六五〇〇K(容許誤差為正負一五〇〇K)之典型白色LED。LED的發光面應保持均勻亮度或應另外選用散光器(如圖七)。</u> <u>距離二五〇公尺處，直徑寬0.09公尺之頭燈所對應角度規格，及二個相距一.三公尺之點光源所對應角度規格，依下述方式計算：</u> $\alpha_{LampDia} = 2 \times \arctan \frac{(0.09/2)}{250} = 2 \times \arctan \frac{(d_{PLS}/2)}{a_{PLS}} = 1.24'$	

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250 m distance, are calculated as: $\alpha_{LampDia} = 2 \times \arctan \frac{(0.09/2)}{250} = 2 \times \arctan \frac{(d_{PLS}/2)}{a_{PLS}} = 1.24'$ and $\alpha_{PLS} = 2 \times \arctan \frac{(1.3/2)}{250} = 2 \times \arctan \frac{(SD_{PLS}/2)}{a_{PLS}} = 17.9'$ For example, at 6 m distance from CMS to this emulated LED, the corresponding aperture opening of the LED shall be $d_{PLS} = 2.2$ mm in diameter and separated by $SD_{PLS} = 31.2$ mm to emulate the set of passing beam headlamps located 250 m from the CMS. Ambient illumination at the point light source lab model and at the monitor-side shall be less than 2 lx. The luminance of the LED shall be measured at the same angular direction of the CMS to confirm that light emitted from the aperture delivers the correct luminance. The luminance of the rendered point light sources on the monitor is measured by using a reference (luminance) camera according to ISO 16505:2015 providing a sufficient spatial resolution, or equivalent. For the evaluation, the CMS shall be switched to the operation mode intended to observe the point light sources. Position the camera of the CMS such that its optical axis is aligned to the perpendicular orientation of the point light source lab model (Figure 1). Target the CMS camera		及 $\alpha_{PLS} = 2 \times \arctan \frac{(1.3/2)}{250} = 2 \times \arctan \frac{(SD_{PLS}/2)}{a_{PLS}} = 17.9'$ 例如，從攝影機-顯示器系統至LED模擬間之距離為六公尺，其LED之相對應光圈孔徑應為$d_{PLS} = 2.2$公釐，且距離攝影機-顯示器系統距離二五〇公尺處之車輛近光燈模擬組之間距應為$SD_{PLS} = 31.2$公釐。 點光源之實驗室模型所在位置及顯示器所在位置之周圍環境照度應小於二 lux。 LED亮度應於攝影機-顯示器系統相同角度方向進行測量，以確認該光圈孔提供正確亮度。 顯示器上顯示之點光源亮度之量測，應使用ISO 16505:2015規範之參考攝影機或等效者，其提供足夠之空間解像度。 為進行評估，攝影機-顯示器系統應被切換到觀察點光源之作動模式。 定位攝影機-顯示器系統之攝影機，使其光軸對準點光源實驗室模型之垂	

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to display the point light sources in the middle of the monitor defined size. The distance from the camera entrance pupil to the point light source lab model shall be set to a_{PLS}. For determination of the point light source detection factor PLSDF evaluate the luminance profile in horizontal and vertical direction (Figure 2). 【請參考下列表格】 The point light source detection factor - PLSDF is determined by the following equation: $PLSDF = \frac{S_H \times L_{H,max}}{S_V \times L_{V,max}}$ Where: S_H full width at half maximum of the luminance profile in horizontal direction at the vertical centre $L_{H,max}$ maximum luminance of the luminance profile in horizontal direction at the vertical centre S_V full width at half maximum of the luminance profile in vertical direction at hourglass point $L_{V,max}$ maximum luminance of the luminance profile in vertical direction at hourglass point Verify the consistency of the result with slightly shifted position of the point light source lab model. For determination of the point light source		<u>直方向(如圖七)。調整攝影機-顯示器系統之攝影機位置以於顯示器既定尺寸中間顯示點光源。攝影機入射瞳(Camera entrance pupil)至點光源實驗室模型之距離應設定在a_{PLS}。</u> <u>評估水平和垂直方向的亮度分佈(如圖八)，以決定得點光源偵測係數(PLSDF)。</u> <u>【請參考下列表格】</u> <u>依下列公式計算點光源偵測係數:</u> $PLSDF = \frac{S_H \times L_{H,max}}{S_V \times L_{V,max}}$ <u>S_H：於垂直中心位置之水平方向其最大值一半之全寬亮度分佈。</u> <u>$L_{H,max}$：於垂直中心位置之水平方向其亮度分佈之最大亮度。</u> <u>S_V：於沙漏點垂直方向上其最大值一半之全寬亮度分佈。</u> <u>$L_{V,max}$：於沙漏點垂直方向上其亮度分佈之最大亮度。</u> <u>稍微移動點光源實驗室模型位置以驗證結果之一致性。</u> <u>評估垂直中心位置之水平方向之亮度分佈(如圖九)，以決定點光源對</u>	

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contrast factor PLSCF, evaluate the luminance profile in horizontal direction (Figure 3) at the vertical centre. 【請參考下列表格】 The point light source contrast factor PLSCF is determined by the following equation: $PLSCF = \left(1 - \frac{L_{H,min}}{L_{H,max}} \right)$ Where: $L_{H,max}$ maximum luminance of the luminance profile in horizontal direction $L_{H,min}$ luminance value at saddle point of the luminance profile, which is equivalent to the minimum luminance value between the two luminance peaks (see Figure 3) Verify the consistency of the result with slightly shifted position of the point light source lab model. 1.4. Grey scale rendering test method The grey scale rendering test shall verify that CMS are capable of displaying at least 8 tonal grey steps distinguishable within the darkest and brightest output range from the reproduced chart on the CMS monitor. The grey scale rendering test is evaluated using a 20:1 low contrast grey scale chart as described in ISO 14524:2009, Table A.1, under 500 lx illuminated scene environment. The distinguishable tonal difference described herein is defined as an display output signal whose lightness difference between two different tonal input through the CMS satisfy at least $\Delta L^* > 3.0$,		<u>比係數(PLSCF)。</u> 【請參考下列表格】 <u>依下列公式計算點光源對比係數:</u> $PLSCF = \left(1 - \frac{L_{H,min}}{L_{H,max}} \right)$ <u>$L_{H,max}$: 於水平方向其亮度分佈之最大亮度。</u> <u>$L_{H,min}$: 於亮度分佈之鞍點(Saddle point)亮度值, 其相當於兩個亮度波峰值間最小亮度(如圖九)。</u> <u>稍微移動點光源實驗室模型位置以驗證其結果之一致性。</u> <u>12.1.4.灰階級數試驗方法</u> <u>灰階級數試驗應驗證攝影機-顯示器系統, 從攝影機-顯示器系統之顯示器上複製圖中最暗和最亮輸出範圍內應至少顯示八個可分辨不同灰階色調等級。灰階級數試驗評估使用二〇比一之低對比灰階圖(依據ISO 14524:2009, 表格 A.1), 所在場所環境照度為五〇〇 lux。</u> <u>可分辨不同色調係指一種顯示輸出訊號, 其通過攝影機-顯示器系統之兩種不同色調輸入間之亮度差, 至少滿足($\Delta L^* > 3.0$)。</u> <u>L^*: 為依據CIE 1976 $L^*a^*b^*$色彩空間規定之亮度。</u>	

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with L^* defined as lightness according to the definition in CIE 1976 $L^*a^*b^*$ colour space. Figure 4 shows the test arrangement for the grey scale rendering test. Figure 4: Test arrangement for the grey scale rendering test  1: Test chart (grey scale rendering chart) 2: Illumination for test chart 3: Camera being tested 4: Monitor being tested 5: Reference camera 6: Optical or spatial isolation between camera and monitor display environment 7: Optical isolation barrier to avoid direct light into lens 8: Camera-side 9: Monitor-side Figure 5 shows an example of a grey scale rendering chart to be used in this measurement. The grey scale rendering chart shall consists of 12 different tonal		 圖一〇：灰階級數試驗之配置圖 1：試驗圖像（灰階級數圖） 2：試驗圖之照明 3：受驗攝影機 4：受驗顯示器 5：參考攝影機 6：攝影機和顯示器顯示環境間之光學或空間隔離(Spatial isolation) 7：避免光線直射鏡頭之光學隔離屏障 8：攝影機端 9：顯示器端 圖一一為該量測中使用灰階級數圖之範例。灰階級數圖應包含一二個不同灰色色調密度區塊。 密度值 D_i 之定義依照 ISO 14524:2009。其值應依據 ISO 14524:2009之表 A.1內關於低對比二〇比一之數值。 色塊背景應覆蓋著一張 D_i 密度值為 0.5 正負 0.05 之中性灰色。	

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density grey patches. The density value D_i shall follow the values as defined by ISO 14524:2009 Table A.1 for low contrast 20:1. The definition of D_i is given in the ISO 14524:2009. The background of the patches shall be covered with a neutral grey colour having a density value D_i of 0.54 $\pm$ 0.05. Both reflective and transmissive charts with Lambertian characteristics can be used. The whole camera image area shall be covered by the chart image. The grey scale rendering chart shall be placed in such a way so that the grey patches are visible in the centre of the monitor defined size. Adjust the distance between the camera under test and the test chart to have individual patches of the chart displayed by at least 50 x 50 pixels on the monitor under test, whenever possible. For Class IV devices exhibiting high distortion and/or optical vignetting, a reduced size area may also be used to minimize the vignette effect on the measurement results. The illumination shall be similar to the CIE D65 standard illuminant and have a correlated colour temperature of $T = 6,500$ K with a tolerance of $\pm 1,500$ K. The test is performed with a scene illumination of 500 lx (this test condition is		<u>可以使用具有朗伯特性(Lambertian characteristics)的反射和透射圖(Transmissive chart)。</u> <u>整個攝影機影像區域應為圖像所覆蓋。灰階級數圖之放置應使得灰色色塊均可見於顯示器既定尺寸中心。</u> <u>應盡量調整受驗攝影機與試驗圖像間之距離，使顯示於受驗顯示器上之圖像各別色塊其畫素至少五〇乘五〇。對於IV類裝置呈現高失真及/或光學漸暈之情形，也可使用縮小尺寸區域。以盡量減少測量結果有漸暈效應。</u> <u>該照明應類似於CIE D65標準光源且色溫具有六五〇〇K容許誤差正負一五〇〇K。</u> <u>執行試驗使用場景照度約五〇〇 lux(該試驗條件相當於如ISO16505:2015 7.8.3規定定義之演色性試驗條件)且室溫為攝氏二二度正負五度。</u> <u>在顯示器端周圍照度應小於一〇 lux，且應避免眩光光源直接照射到</u>	

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equivalent to test condition for colour rendering as defined in ISO 16505:2015 clause 7.8.3), and at room temperature 22 deg. C +/-5 deg. C. Ambient illumination at the monitor-side shall be < 10 lx, and glare light source to the monitor shall be avoided. Figure 5: Example of the grey scale rendering chart  Each patch on the grey scale rendering chart shall have a size of 50 x 50 mm. The distance between the patches shall be 5 mm. Table 1 shows density value D_i of the 12 different grey patches as well D_i of the background.		<u>顯示器。</u>  <u>圖一一：灰階級數圖範例</u> <u>灰階級數圖上每個色塊尺寸應為五〇乘五〇公釐。色塊與色塊之間的距離應為五公釐。</u> <u>下列為一二個不同的灰色色塊之D_i密度值，以及D_i的背景(如表五)。</u> <u>表五:D_i密度值</u> <table><tr><th>灰色色塊編號</th><th>D_i 密度</th></tr><tr><td>1</td><td>1.40</td></tr><tr><td>2</td><td>1.21</td></tr><tr><td>3</td><td>1.05</td></tr><tr><td>4</td><td>0.90</td></tr><tr><td>5</td><td>0.77</td></tr><tr><td>6</td><td>0.65</td></tr><tr><td>7</td><td>0.54</td></tr><tr><td>8</td><td>0.44</td></tr><tr><td>9</td><td>0.35</td></tr><tr><td>10</td><td>0.26</td></tr><tr><td>11</td><td>0.18</td></tr><tr><td>12</td><td>0.10</td></tr><tr><td>背景</td><td>0.54 +/-0.05</td></tr></table> <u>使用參考攝影機以每個灰色色塊(i值從1至12)量測Y_i亮度。然後計算每</u>	灰色色塊編號	D_i 密度	1	1.40	2	1.21	3	1.05	4	0.90	5	0.77	6	0.65	7	0.54	8	0.44	9	0.35	10	0.26	11	0.18	12	0.10	背景	0.54 +/-0.05	
灰色色塊編號	D_i 密度																														
1	1.40																														
2	1.21																														
3	1.05																														
4	0.90																														
5	0.77																														
6	0.65																														
7	0.54																														
8	0.44																														
9	0.35																														
10	0.26																														
11	0.18																														
12	0.10																														
背景	0.54 +/-0.05																														

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Table 1: Density values D_i <table><tr><th>Grey patch No.</th><th>Density D_i</th></tr><tr><td>1</td><td>1.40</td></tr><tr><td>2</td><td>1.21</td></tr><tr><td>3</td><td>1.05</td></tr><tr><td>4</td><td>0.90</td></tr><tr><td>5</td><td>0.77</td></tr><tr><td>6</td><td>0.65</td></tr><tr><td>7</td><td>0.54</td></tr><tr><td>8</td><td>0.44</td></tr><tr><td>9</td><td>0.35</td></tr><tr><td>10</td><td>0.26</td></tr><tr><td>11</td><td>0.18</td></tr><tr><td>12</td><td>0.10</td></tr><tr><td>Background</td><td>0.54 +/-0.05</td></tr></table> Measure the luminance Y_i of each grey patch $i = 1...12$ by using the reference camera. Then, calculate the lightness of each grey patch: $L_i^* = 116 \times \left(\frac{Y_i}{Y_{12}}\right)^{1/3} - 16, \text{ when } Y_i/Y_{12} > 0.008856$ $L_i^* = 903,3 \times \left(\frac{Y_i}{Y_{12}}\right), \text{ when } Y_i/Y_{12} \leq 0.008856$ Calculate the lightness difference between each grey patch: $\Delta L^* = L_{i+1}^* - L_i^*$ and compare the result with the requirement.	Grey patch No.	Density D_i	1	1.40	2	1.21	3	1.05	4	0.90	5	0.77	6	0.65	7	0.54	8	0.44	9	0.35	10	0.26	11	0.18	12	0.10	Background	0.54 +/-0.05		<u>個灰色色塊亮度值:</u> $L_i^* = 116 \times \left(\frac{Y_i}{Y_{12}}\right)^{1/3} - 16, \text{ when } Y_i/Y_{12} > 0.008856$ $L_i^* = 903,3 \times \left(\frac{Y_i}{Y_{12}}\right), \text{ when } Y_i/Y_{12} \leq 0.008856$ <u>計算每個灰色色塊之間亮度差值:</u> $\Delta L^* = L_{i+1}^* - L_i^*$ <u>並比較上述要求的結果。</u>	
Grey patch No.	Density D_i																														
1	1.40																														
2	1.21																														
3	1.05																														
4	0.90																														
5	0.77																														
6	0.65																														
7	0.54																														
8	0.44																														
9	0.35																														
10	0.26																														
11	0.18																														
12	0.10																														
Background	0.54 +/-0.05																														
2. Special requirements to be applied to the safety aspects of camera monitor systems for indirect vision 2.1. General The purpose of this paragraph is to specify the requirements for documentation and verification for CMS for indirect vision of		<u>12.2 適用於攝影機-顯示器系統間接視野安全方面之特殊要求</u> <u>12.2.1 一般規定</u> <u>此項目的為針對替代強制裝設視鏡之I至IV類間接視野之攝影機-顯示器系統，規範所應檢附文件和符合之</u>																													

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
Classes I to IV to replace mandatory rearview mirrors for road vehicles. "The System", referred to herein, is the one for which type approval is being sought. This paragraph 2. does not specify the performance criteria for "The System" but covers the methodology applied to the design process and the information which shall be disclosed to the Technical Service, for type approval purposes. This information shall show that "The System" respects, under normal and fault conditions, all the appropriate performance requirements specified elsewhere in this Regulation.		<u>驗證要求。</u> <u>此處所提系統(System)，係指欲申請型式認證之系統。</u> <u>本基準 12.2，並非規定系統(The System)性能準則，惟係規範應提供設計過程及資料予檢測機構以進行檢驗。</u> <u>該資料應包含該系統於正常和故障情況，符合所有對應本項規定內其他規範之性能要求。</u>	
2.2. Definitions 2.2.1. Camera Monitor System (CMS) A CMS is used in road vehicles to present the required outside information of a specific field of view to the driver. It replaces a conventional legally prescribed mirror system on the vehicle by means of electronic image capture and display systems. It consists of a camera that is usually installed at the bodywork of a vehicle and a monitor that is usually placed inside the vehicle. 2.2.2. Camera A camera is a device to capture colour		<u>12.2.2 名詞釋義：</u> <u>12.2.2.1. 攝影機-顯示器系統(CMS)</u> <u>一部攝影機-顯示器系統在道路車輛使用以提供駕駛所需外面資訊具體視野。</u> <u>藉由電子影像捕捉和顯示系統的裝置代替在車輛上傳統法規規定視鏡系統。</u> <u>由一部通常安裝於車輛車身之攝影機，及一部通常放置在車輛內之顯示器所構成。</u> <u>12.2.2.2. 攝影機(Camera)</u> <u>攝影機係捕捉特定視野彩色影像之裝</u>	

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
images of a specific field of view. It mainly consists of two relevant items: imager and lens. 2.2.3. Monitor A monitor is a device for displaying images. It either consists of a matrix of active areas that radiate light of different wavelengths or is a (usually diffuse) reflector that is illuminated in different wavelengths and in a matrix of specific points by a projector. 2.2.4. Control unit A control unit is a component which controls communication and coordination between electronic components, e.g. a camera and a monitor. 2.2.5. Safety concept A safety concept is a description of the measures designed into the system, for example within the electronic units, so as to address system integrity and thereby ensure safe operation even in the event of a system or electrical failure. 2.2.6. "Boundary of functional operation" "Boundary of functional operation" defines the boundaries of the external physical limits within which the system is able to maintain functionality.		<u>置。主要係由<u>成像元件(Imager)</u>和<u>鏡頭</u>所構成。</u> <u>12.2.2.3. <u>顯示器(Monitor)</u>:</u> <u>顯示器係用於顯示影像之裝置。</u> <u>係由不同波長輻射之活動區域矩陣組成，或者一種承接不同波長照射且為特定投影點矩陣之反射器（通常是漫射）。</u> <u>12.2.2.4. <u>控制單元(Control unit)</u>:控制單元是控制微電子組件(例如攝影機和顯示器)之間溝通和協調之組件。</u> <u>12.2.2.5. <u>安全概念(Safety concept)</u>:安全概念是系統內部設計方法之描述，例如微電子單元內部，藉以確保系統或電氣故障情況下之系統完整性及安全作動。</u> <u>12.2.2.6. <u>功能作動之外在限制(Boundary of functional operation)</u>:</u> <u>係指系統能夠維持功能之外在實際極限。</u>	
2.3. Documentation 2.3.1. The vehicle manufacturer shall provide the following documentation:		<u>12.2.3 <u>檢附文件</u></u> <u>12.2.3.1申請者應檢附下列文件：</u> <u>(a) <u>攝影機-顯示器系統主要功能描</u></u>	

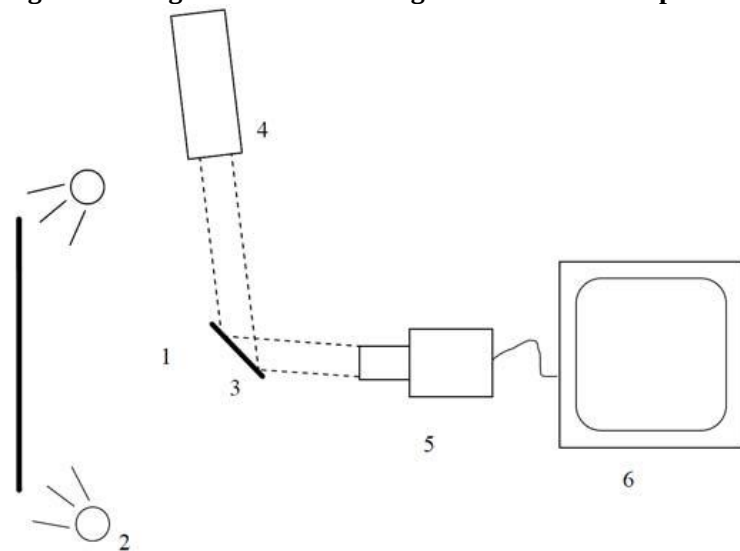
增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
(a) A description of the camera monitor system which gives an explanation of the main function of the system, incl. drawings, pictures, block diagrams, etc. (b) A description of the location of the camera and the monitor in the vehicle (system overview). (c) Name of manufacturer of camera, monitor and electronic control units. (d) Type of camera and monitor. Each unit shall be clearly and unambiguously identifiable (e.g. by marking for hardware and marking or software output for software content) to provide corresponding hardware and documentation association. (e) Explanation of the warning strategy and the safety concept, as defined by the manufacturer, covering at least the list of failures of paragraph 2.4.		<u>述，其中包含圖示、照片及方塊圖等說明。</u> (b) <u>該車輛內之攝影機和顯示器位置描述（系統概要）。</u> (c) <u>攝影機、顯示器及微電子控制單元之廠牌。</u> (d) <u>攝影機和顯示器之型式系列。應可清晰辨識每個單元（例如，透過硬體標示，及軟體標示或軟體內容輸出），以提供硬體與文件之相對應關聯性。</u> (e) <u>申請者宣告之警示策略和安全概念說明，其至少涵蓋本基準12.2.4故障清單之規定。</u>	
2.3.2. For periodic technical inspections, the documentation shall describe how the current operational status of "The System" can be verified. 2.3.3. The limits for the boundary of functional operation (e.g. environmental parameters) shall be stated where appropriate to the system performance. 2.3.4. Safety concept of the manufacturer The manufacturer shall provide a statement which affirms that the strategy chosen		<u>12.2.3.2 對於定期技術檢查，文件應描述“系統”作動狀態之驗證方式。</u> <u>12.2.3.3 應說明系統性能相關之功能作動之外在限制條件（例如環境參數）。</u> <u>12.2.3.4 申請者宣告之產品安全概念</u> <u>申請者應提供聲明文件，其說明內容係確保“系統”的選擇策略允許安全作動。</u>	

增/修內容	原內容	修訂國內法規條文案	對應國內法規條文
allows a safe operation of "The System". In the case of a failure, the driver shall be informed for example by a clear and visible warning signal or message display. When the system is activated, the warning shall be present as long as the fault condition persists. The fault conditions shall be established and maintained by the manufacturer and shall be made open for inspection by the Technical Service at the time of the type approval. 2.3.5. The chosen analytical approach(es) shall be established and maintained by the manufacturer and shall be made open for inspection by the Technical Service at the time of the type approval.		<u>故障發生之情況下，應告知駕駛，例如透過清晰且可見之警告訊號或訊息顯示。當系統作動，若故障狀態存在，則該警告應持續保留。</u> <u>申請者應建立與維護故障條件資料，並提供檢測機構進行檢驗。</u> <u>12.2.3.5 申請者應建立與維護選定之分析方法資料，並提供檢測機構進行檢驗。</u>	
2.4. List of failures 2.4.1. Camera (a) Failure of the camera; (b) Electronic noise, reduced detail resolution; (c) Defocus of the optics, reduced detail resolution. 2.4.2. Monitor (a) Failure of monitor display, no image content is displayed; (b) Freeze of displayed monitor content, image content is not refreshed; (c) Enlarged image formation time, changing		<u>12.2.4 故障清單</u> <u>12.2.4.1 攝影機</u> (a) <u>攝影機故障</u> (b) <u>電子雜訊，可見視標解像度降低</u> (c) <u>光學構件失焦(Defocus)，可見視標解像度降低</u> <u>12.2.4.2 顯示器</u> (a) <u>顯示器顯示故障，無影像顯示；</u> (b) <u>顯示器影像凍結，影像無刷新；</u> (c) <u>影像放大之形成時間，導致變換影像模糊。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
image content is blurred. 2.4.3. Control unit (a) Failure of the control unit; (b) Failure in the communication between camera and control unit; (c) Failure in the communication between control unit and monitor.		<u>12.2.4.3 控制單元</u> (a) <u>控制單元故障；</u> (b) <u>攝影機和控制單元之間通訊故障；</u> (c) <u>顯示器和控制單元之間通訊故障。</u>	
2.5. Verification 2.5.1. Verification of the performance of the camera monitor system under no-fault and fault conditions shall be conducted against the manufacturer's specification. 2.5.2. The verification of the safety concept of the reaction of the camera monitor system shall, at the discretion of the Type Approval Authority, be verified according to the influence of failures in paragraph 2.4. The verification results shall correspond with the documented summary of the failure analysis in paragraph 2.4., to a level of overall effect such that the safety concept and execution are confirmed as being adequate.		<u>12.2.5 驗證</u> <u>12.2.5.1 應依照申請者提供之規格，針對無故障及故障情況，進行攝影機-顯示器系統性能驗證。</u> <u>12.2.5.2 應依據12.2.4之規定，進行攝影機-顯示器系統反應之安全概念驗證。應搭配12.2.4之故障分析摘要文件列出驗證結果，且其應整體效應之水平應確保具適當之安全概念與呈現。</u>	

6.2.2.2.1.4. 修正後

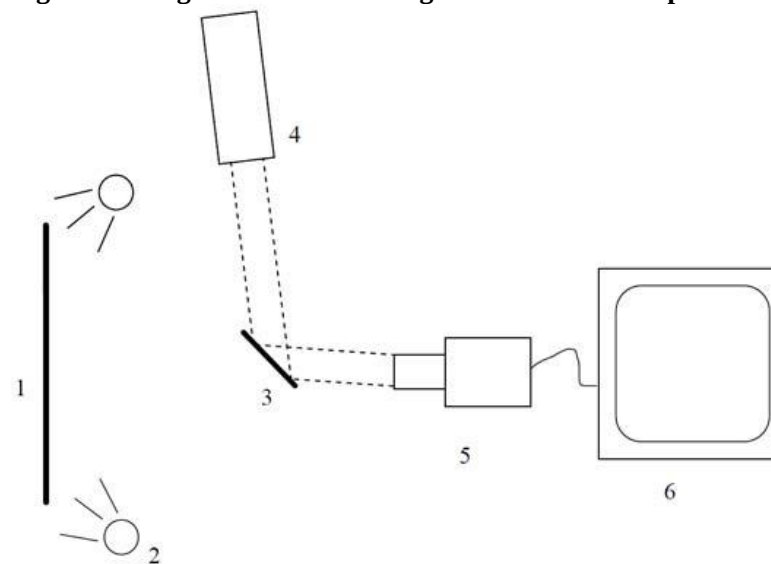
Figure A: Diagram of the blooming measurement set-up



- 1: Black and white test pattern.
- 2: Lamps to make the test pattern evenly illuminated.
- 3: Mirror.
- 4: High intensity light.
- 5: Camera.
- 6: Monitor.

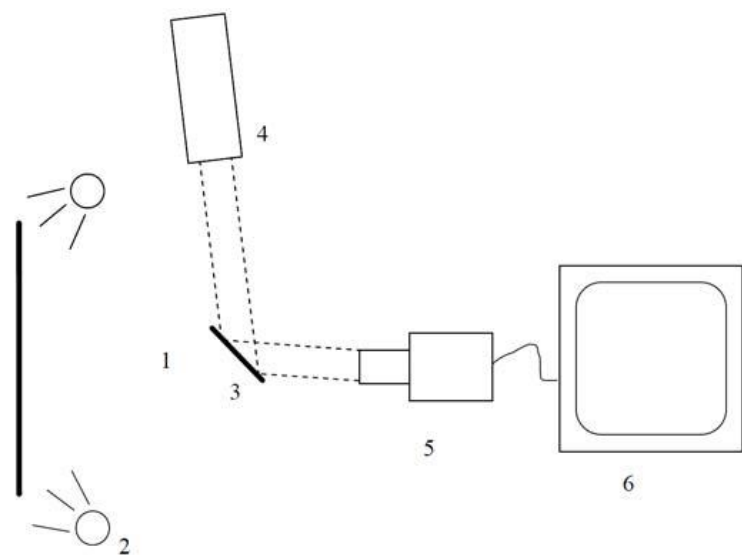
6.2.2.2.1.4. 修正前

Figure A: Diagram of the blooming measurement set-up



- 1: Black and white test pattern.
- 2: Lamps to make the test pattern evenly illuminated.
- 3: Mirror.
- 4: High intensity light.
- 5: Camera.
- 6: Monitor.

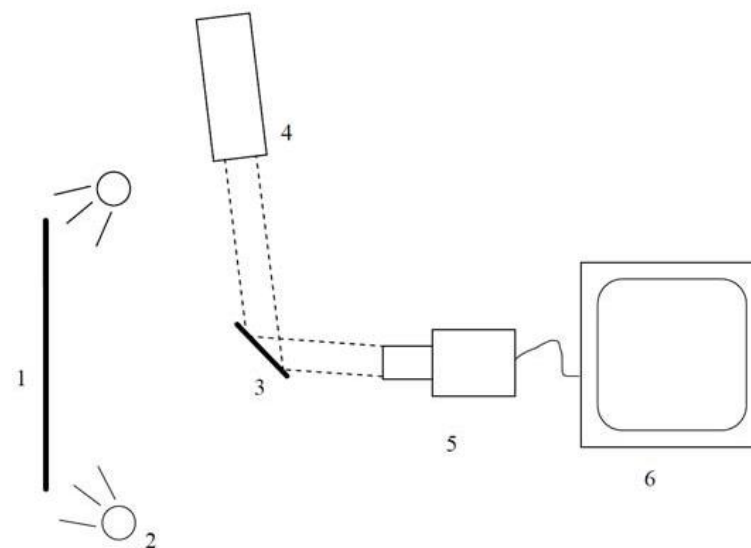
修正後



1. 黑/白試驗圖像。
2. 使試驗圖像均勻受光之模擬光源。
3. 視鏡。
4. 高強度光源。
5. 攝影裝置。
6. 顯示器裝置。

圖三：輝散區域試驗示意圖

修正前

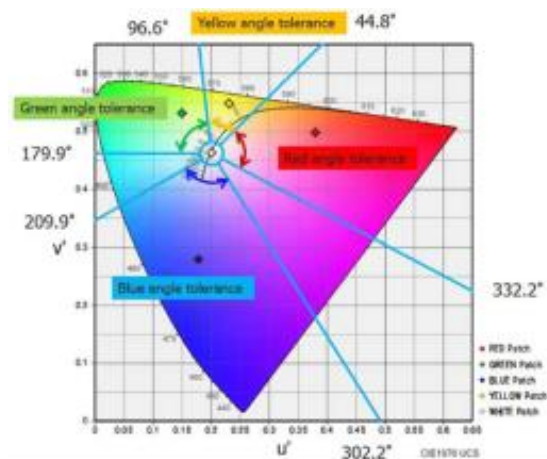


1. 黑/白測試圖像。
2. 使測試圖像均勻受光之模擬光源。
3. 視鏡。
4. 高強度光源。
5. 攝影裝置。
6. 監看裝置。

圖三：輝散區域測試示意圖

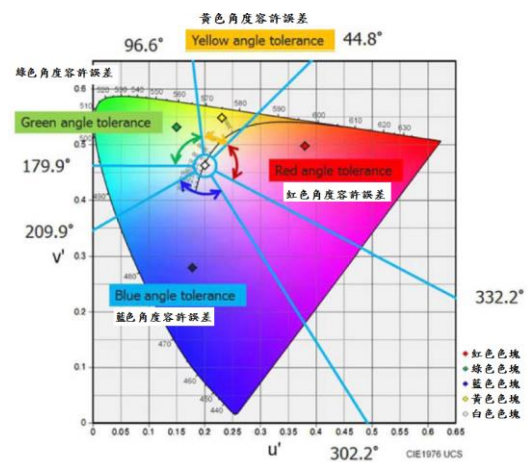
UN 6.2.2.3.3.4.

Figure B



無

VSTD 10.2.3.3.4

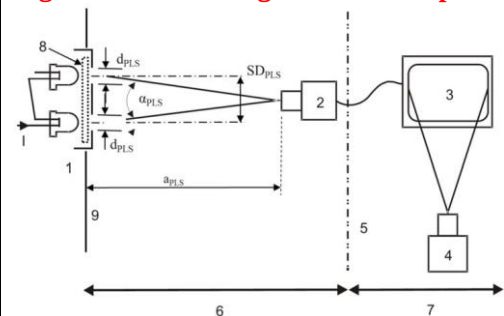


圖六：描述 CIE 1976 顏色空間一致性之容許誤差範圍

無

UN Annex 12 1.3

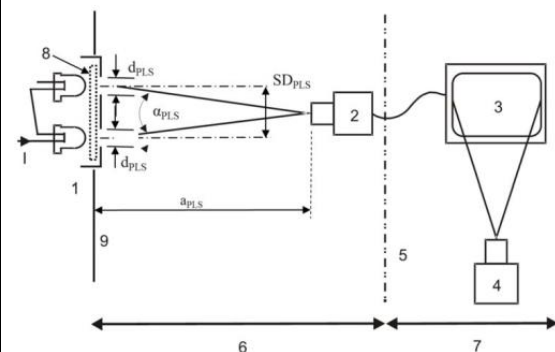
Figure 1: Test arrangement for the point light source test



- 1: Point light source lab model to emulate passing beam headlamp at 250 m
- 2: Camera being tested
- 3: Monitor being tested
- 4: Reference camera
- 5: Optical or spatial isolation between camera and monitor display environment
- 6: Camera-side dark environment
- 7: Monitor-side dark room environment
- 8: LED light diffuser/aligner, according to necessity
- 9: Neutral black background

無

VSTD 12.1.3



圖七：點光源試驗配置圖

1：模擬近光燈距離二五〇公尺處其點光源實驗室模型

2：受驗攝影機

3：受驗顯示器

無

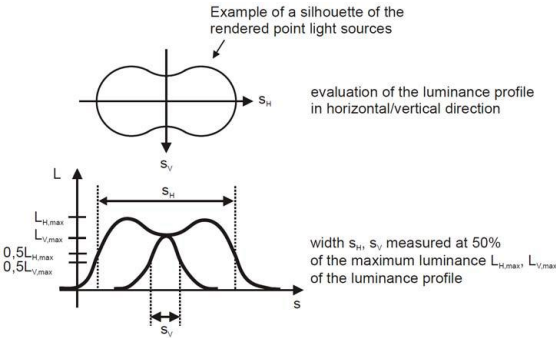
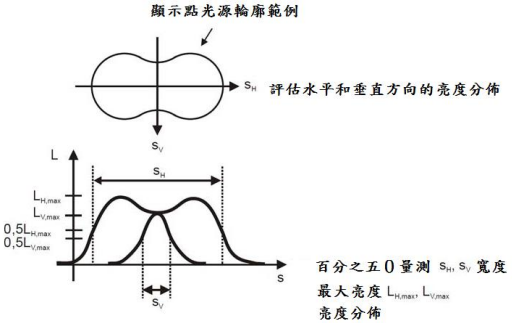
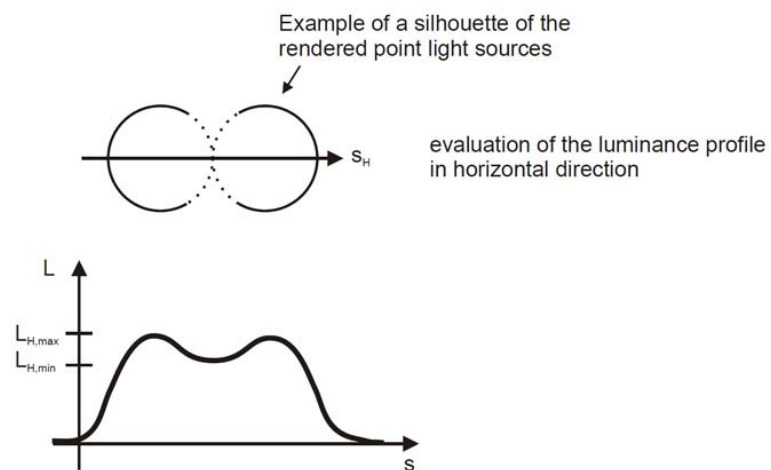
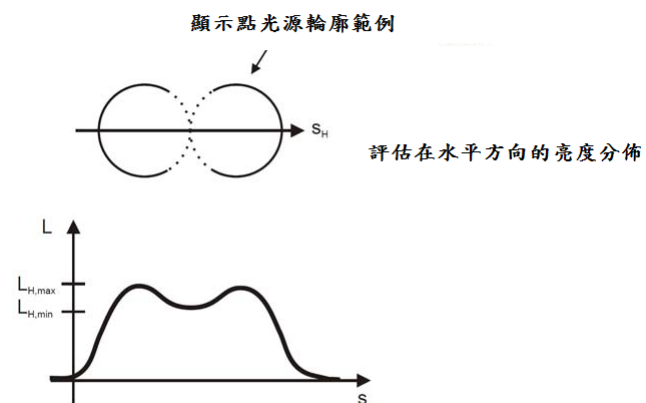
4：參考攝影機 5：攝影機和顯示器顯示環境之間的光學或空間隔離(Spatial isolation) 6：攝影機端偏暗的環境 7：顯示器端的暗室環境 8：LED 光源散光器/校準器(若必要) 9：黑色背景	
UN Annex 12 1.3 Figure 2: Luminance profile of the rendered point light sources for the determination of PLSDF 	無
VSTD 12.1.3  圖八：用於確定點光源偵測係數(PLSDF)之亮度分佈	無

Figure 3: Luminance profile of the rendered point light sources for the determination of the PLSCF



無



無

圖九：用於確定點光源對比係數(PLCSF) 亮度分佈