Record of Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: Korea
Global Technical Committee: FPD Metrology
TC Chapter Cochairs: Jongseo Lee/ Dell, Il-Ho Kim/ LMS
Standards Staff: Natalie Shim

	Scheduled in Background Statement	Actual
Date	**08/25/2017**	**08/25/2017**
Location	**SEMI Korea Office**	**SEMI Korea Office**
Reason for Change of Date and/or Location (if changed)		

Note: See *Regulations* ¶ 9.5 Exception for allowable reason to change.

I. Document Number and Title

Document Number	Document Title
5633F	**New Standard, Test Method for Viewing Angle Characteristic Using Reference Color on Visual Displays**

II. Tally

Standards staff to fill in.

Voting Tally: As-cast tally after close of voting period

Note: A minimum of 60% of the Voting Interests that have TC Members within the global technical committee that issued the Letter Ballot must return Votes. (*Regulations* ¶ 9.7.1.1)

Voting Tally (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	**21**	÷	**33**	=	**63.6%**	≥60%
Intercommittee Ballot	**1**					
Voting Interest Reject(s)	**2**		**Total Voters with Rejects**		**2**	
Voting Interest Accept(s)	**20**					

Note: See *Regulations* § 3.2.1 for definition of Voting Interest.

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III. Rejects

Voting Interest Reject 1 (Voting Interest Name: Otsuka)
Voter Reject 1 (Voter: Akira Kawaguchi / Otsuka)
Negative 1

<table>
<tr>
<td rowspan="4">Negative</td>
<td rowspan="2">Referenced Section/ Paragraph</td>
<td colspan="3">*TF/TC Chapter to fill in, including text in the ballot if necessary.</td>
</tr>
<tr>
<td colspan="3">5.2.2.1</td>
</tr>
<tr>
<td rowspan="2">Negative Text</td>
<td colspan="3">*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.</td>
</tr>
<tr>
<td colspan="3">When measuring under the following conditions, the measurement diameter exceeds the window area .It should make FOV a small angle.Measuring distance：3 times of the screen height (4.2.4)
FOV：2 degree (5.2.2.1)
Horizontal　viewing directions (θH)：60° (5.2.3.2)
Window Size：1/9H (Fig.4 a)</td>
</tr>
<tr>
<td colspan="2">TF input (optional)</td>
<td colspan="3"></td>
</tr>
<tr>
<td colspan="2" rowspan="2">Withdrawal (check one)</td>
<td>X</td>
<td>No Negative withdrawal made by Voter.</td>
<td>GO TO "Related" subsection</td>
</tr>
<tr>
<td></td>
<td>Withdrawal document received by Standards staff on MM/DD/YYYY.</td>
<td>GO TO "Final" subsection → (A)</td>
</tr>
<tr>
<td rowspan="3">Related</td>
<td rowspan="3">Motion and Reason (check one)</td>
<td>X</td>
<td>'Related' is mutually agreed upon. (Needs no motion.)</td>
<td>GO TO "Persuasive" subsection</td>
</tr>
<tr>
<td></td>
<td colspan="2">Negative is not related. (Needs ≥2/3 votes to pass.)</td>
</tr>
<tr>
<td>■</td>
<td>Reason</td>
<td></td>
</tr>
<tr>
<td rowspan="5">Persuasive</td>
<td rowspan="3">Motion and Reason (check one)</td>
<td></td>
<td colspan="2">Negative is related and persuasive. (Needs >1/3 votes to pass.)</td>
</tr>
<tr>
<td>X</td>
<td colspan="2">Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)</td>
</tr>
<tr>
<td>■</td>
<td>Reason</td>
<td>It is just recommended in initial measurement condition which is in normal direction.

Generally, the measurement condition might treat in initial condition such as vantage point measurement condition for uniformity. Because FOV under 2 degree is no problem, the number pixel unchanged regardless of viewing angle is no problem although FOV can be under 2 degree at 60° viewing angle.</td>
</tr>
<tr>
<td colspan="2">Motion by/ 2nd by</td>
<td colspan="3">Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)</td>
</tr>
<tr>
<td colspan="2">Discussion</td>
<td colspan="3">None</td>
</tr>
</table>

	Result of Vote **(check one)**	4 **Y**-0 **N**; Motion passed.					
			[Negative is related and persuasive.] > 1/3	**Is a technical change recommended?** **(check one)**		**Y**	**GO TO "Address by Technical Change Option" subsection**
			[Negative is related and not persuasive.] < 2/3		**X**	**N**	**GO TO "Final" subsection → (E)**
			2/3 ≤ [Negative is related and not persuasive.] < 90%	**GO TO "Final" subsection → (C)**			
		X	90% ≤ [Negative is related and not persuasive.]	**GO TO "Not Significant Finding Option" subsection**			
Not Significant Finding Option	**This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (*Regulations* ¶ 9.6.4.4.2)**						
	Use of "Not significant finding option" **(check one)**	**X**	It is mutually agreed upon to term the Negative "not significant".	**GO TO "Final" subsection → (D)**			
			It is mutually agreed upon to term the Negative "significant".	**GO TO "Final" subsection → (C)**			
			Whether or not the Negative is "not significant" is decided by a vote.				
	Motion	The Negative is "not significant".					
	Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)					
	Vote	**X**	4 **Y**-0 **N**; Motion passed with simple majority	**GO TO "Final" subsection → (D)**			
			XX **Y**-XX **N**; Motion failed with simple majority	**GO TO "Final" subsection → (C)**			
Final	**(check if applicable)**		**(A)**	Withdrawn **(counted under h in disposition)**			
			(B)	Not related **(counted under i in disposition)**			
			(C)	Related and not persuasive (significant)			
		X	**(D)**	Not significant **(counted under j in disposition)**			
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**		
			(F)	Addressed by technical change **(counted under k disposition)**			
	(check if applicable)		Comment generated. **See Section V-(ii) Comment #** .				

Negative 2

Negative	**Referenced Section/ Paragraph**	***TF/TC Chapter to fill in, including text in the ballot if necessary.**
		5.2.4.2
	Negative Text	***Original complete Negative text (e.g., issue, justification, suggestion) should be copied.**
		It is inappropriate to express colorrimetric accuracy with Δxy. For example, it should be written as follows. "chromaticity accuracy of 0.002 for xy"
TF input (optional)		

Withdrawal (check one)		X	No Negative withdrawal made by Voter.				GO TO "Related" subsection
			Withdrawal document received by Standards staff on MM/DD/YYYY.				GO TO "Final" subsection → (A)
Related	**Motion and Reason (check one)**	X	'Related' is mutually agreed upon. **(Needs no motion.)**				GO TO "Persuasive" subsection
			Negative is not related. **(Needs ≥2/3 votes to pass.)**				
		■	Reason	XXXX			
	Motion by/ 2nd by	Name (Company)/Name (Company)					
	Discussion	XXXX					
	Result of Vote (check one)	XX **Y**-XX **N**; Motion passed/failed.					
			[Negative is not related.] < 2/3				GO TO "Persuasive" subsection
			2/3 ≤ [Negative is not related.]				GO TO "Final" subsection → (B)
Persuasive	**Motion and Reason (check one)**	X	Negative is related and persuasive. **(Needs >1/3 votes to pass.)**				
			Negative is related and not persuasive. **(Needs ≥2/3 votes to pass.)**				
		■	Reason	XXXX			
	Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)					
	Discussion	None					
	Result of Vote (check one)	4 **Y**-0 **N**; Motion passed.					
		X	[Negative is related and persuasive.] > 1/3	**Is a technical change recommended? (check one)**	X	Y	GO TO "Address by Technical Change Option" subsection
			[Negative is related and not persuasive.] < 2/3			N	GO TO "Final" subsection → (E)
			2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)			
			90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection			

Address by Technical Change	**Technical Change Recommendations**
	Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.

Technical Changes	1	**FROM: Section/Paragraph 5.2.2.1** 5.2.2.1 It requires the photometric accuracy of the LMD within ±2% and colorimetric accuracy within ±0.002 in Δxy.

		TO: Section/Paragraph **5.2.2.1**

	5.2.2.1 It requires the photometric accuracy of the LMD within ±2% and <u>chromaticity</u> accuracy within ±0.002 <u>for x, y</u>.
	Justification (If necessary)
	This is not a technical modification but expression changing which is widely using for LMD specification in accuracy evaluation. In section 5.2.4.2, "colorimetric" has general meaning for metrology of color, whereas "chromaticity" means a specific term for the hue and saturation of color. And, "for x, y" is a general expression of LMD while "in Δxy" is a calculated value for the evaluation of color accuracy rather than LMD's specification

Motion	Negative is addressed by the technical change(s).
Motion by/2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)
Discussion	None

Result of Vote (check one)	4 **Y**-0 **N**; Motion passed.	
	X	2/3 ≤ [Negative is addressed by the technical change(s).]	**GO TO "Incorporation of the Technical Change" subsection**
		[Negative is not addressed by the technical change(s).] < 2/3	**GO TO "Final" subsection → (E)**

Incorporation of the Technical Change

Motion	To incorporate the technical change(s).
Motion by/2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)
Discussion	None

Result of Vote (check one)	4 **Y**-0 **N**; Motion passed.	
	X	90% ≤ [Agree to incorporate.]	**GO TO "Final" subsection → (F)**
		[Disagree to incorporate.]>10%	**GO TO "Final" subsection → (E)**

Not Significant Finding Option

This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (*Regulations* ¶ 9.6.4.4.2)

Use of "Not significant finding option" (check one)		It is mutually agreed upon to term the Negative "not significant".	**GO TO "Final" subsection → (D)**
		It is mutually agreed upon to term the Negative "significant".	**GO TO "Final" subsection → (C)**
		Whether or not the Negative is "not significant" is decided by a vote.	

Motion	The Negative is "not significant".
Motion by/ 2nd by	Name (Company)/Name (Company)

Vote		XX **Y**-XX **N**; Motion passed with simple majority	**GO TO "Final" subsection → (D)**
		XX **Y**-XX **N**; Motion failed with simple majority	**GO TO "Final" subsection → (C)**

Final

(check if applicable)		**(A)**	Withdrawn **(counted under h in disposition)**
		(B)	Not related **(counted under i in disposition)**
		(C)	Related and not persuasive (significant)
		(D)	Not significant **(counted under j in disposition)**

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		(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**
	X	**(F)**	Addressed by technical change **(counted under k disposition)**	
(check if applicable)		Comment generated. **See Section V-(ii) Comment #** X.		

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

2	Original number (#) of Negatives		**(g)**	
0	Number of Negatives withdrawn		**(h)**	
0	Number of Negatives found not related		**(i)**	
1	Number of Negatives found not significant		**(j)**	
1	Number of Negatives addressed by technical change **(Negative becomes not significant)**		**(k)**	
Final	X	**g - (h + i +j + k) = 0**	**Reject is Not Valid and is not included in the denominator of § VI.** *Approval Conditions Check*	
		g - (h + i +j + k) >0	**Reject is included in the denominator of § VI.** *Approval Conditions Check*	
		Reject without a Negative	**Not Valid**	

Note: If all of the Negatives included with a Reject Vote are withdrawn, determined to be not related, or determined to be not significant, the Reject Vote is not valid. (*Regulations* ¶ 9.4.3.3)
Note: A Negative addressed by a technical change is automatically considered to be not significant. (*Regulations* ¶ 9.6.4.4.2)

<table>
<tr><td rowspan="4">Negative</td><td>Referenced Section/ Paragraph</td><td colspan="4">*TF/TC Chapter to fill in, including text in the ballot if necessary.</td></tr>
<tr><td></td><td colspan="4">4.2.4</td></tr>
<tr><td rowspan="2">Negative Text</td><td colspan="4">*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.</td></tr>
<tr><td colspan="4">This section is a terminology chapter. Recommendation is not suitable for this chapter.

Suggestion)
Delete following sentence. "In this measurement, it is recommended as 3 times of the screen height."</td></tr>
</table>

TF input (optional)	

Withdrawal (check one)	X	No Negative withdrawal made by Voter.	GO TO "Related" subsection
		Withdrawal document received by Standards staff on MM/DD/YYYY.	GO TO "Final" subsection → (A)

Related	**Motion and Reason (check one)**	X	'Related' is mutually agreed upon. **(Needs no motion.)**	GO TO "Persuasive" subsection
			Negative is not related. **(Needs ≥2/3 votes to pass.)**	
			Reason	

<table>
<tr>
<td rowspan="9">Persuasive</td>
<td rowspan="3">Motion and Reason (check one)</td>
<td></td>
<td colspan="5">Negative is related and persuasive. (Needs >1/3 votes to pass.)</td>
</tr>
<tr>
<td>X</td>
<td colspan="5">Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)</td>
</tr>
<tr>
<td></td>
<td>Reason</td>
<td colspan="4">The distance of 3 times of the screen height is just specified to describe for this document.</td>
</tr>
<tr>
<td>Motion by/ 2nd by</td>
<td colspan="6">Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)</td>
</tr>
<tr>
<td>Discussion</td>
<td colspan="6">None</td>
</tr>
<tr>
<td rowspan="5">Result of Vote (check one)</td>
<td colspan="6">4 Y-0 N; Motion passed</td>
</tr>
<tr>
<td></td>
<td>[Negative is related and persuasive.] > 1/3</td>
<td rowspan="2">Is a technical change recommended? (check one)</td>
<td></td>
<td>Y</td>
<td>GO TO "Address by Technical Change Option" subsection</td>
</tr>
<tr>
<td></td>
<td>[Negative is related and not persuasive.] < 2/3</td>
<td>X</td>
<td>N</td>
<td>GO TO "Final" subsection → (E)</td>
</tr>
<tr>
<td></td>
<td>2/3 ≤ [Negative is related and not persuasive.] < 90%</td>
<td colspan="3">GO TO "Final" subsection → (C)</td>
</tr>
<tr>
<td>X</td>
<td>90% ≤ [Negative is related and not persuasive.]</td>
<td colspan="3">GO TO "Not Significant Finding Option" subsection</td>
</tr>
</table>

Not Sign	This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (*Regulations* ¶ 9.6.4.4.2)

Use of "Not significant finding option" (check one)	X	It is mutually agreed upon to term the Negative "not significant".	**GO TO "Final" subsection → (D)**
		It is mutually agreed upon to term the Negative "significant".	**GO TO "Final" subsection → (C)**
		Whether or not the Negative is "not significant" is decided by a vote.	
Motion	The Negative is "not significant".		
Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)		
Vote	X	4 **Y**-0 **N**; Motion passed with simple majority	**GO TO "Final" subsection → (D)**
		XX **Y**-XX **N**; Motion failed with simple majority	**GO TO "Final" subsection → (C)**

Final					
	(check if applicable)		**(A)**	Withdrawn **(counted under h in disposition)**	
			(B)	Not related **(counted under i in disposition)**	
			(C)	Related and not persuasive (significant)	
		X	**(D)**	Not significant **(counted under j in disposition)**	
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**
			(F)	Addressed by technical change **(counted under k disposition)**	
	(check if applicable)		Comment generated. **See Section V-(ii) Comment # .**		

Negative 2

Negative			
	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.	
		5.2.2.1	
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.	
		2 Degree of FOV is not correct. Please see ICDM Annex 1 Fig. 1. Suggestion) Please change: the distance can be calculated and set that an LMD should include over 500 pixels of display at measurement Field. And Measurement Field Angle shall be less than 2 degrees.	
TF input (optional)			
	Withdrawal (check one)	X	No Negative withdrawal made by Voter.	**GO TO "Related" subsection**
			Withdrawal document received by Standards staff on MM/DD/YYYY.	**GO TO "Final" subsection → (A)**
Related	**Motion and Reason (check one)**	X	'Related' is mutually agreed upon. **(Needs no motion.)**	**GO TO "Persuasive" subsection**
			Negative is not related. **(Needs ≥2/3 votes to pass.)**	
			Reason	
	Motion and Reason		Negative is related and persuasive. **(Needs >1/3 votes to pass.)**	

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Persuasive	(check one)	X	Negative is related and not persuasive. **(Needs ≥2/3 votes to pass.)**				
			Reason	It is describe for the number of pixel at the condition of 2 degree FOV.			
	Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)					
	Discussion	None					
	Result of Vote (check one)	4 **Y**-0 **N**; Motion passed					
			[Negative is related and persuasive.] > 1/3	**Is a technical change recommended?** (check one)		**Y**	**GO TO "Address by Technical Change Option" subsection**
			[Negative is related and not persuasive.] < 2/3		X	**N**	**GO TO "Final" subsection → (E)**
			2/3 ≤ [Negative is related and not persuasive.] < 90%	**GO TO "Final" subsection → (C)**			
		X	90% ≤ [Negative is related and not persuasive.]	**GO TO "Not Significant Finding Option" subsection**			
Not Significant Finding Option	**This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (Regulations ¶ 9.6.4.4.2)**						
	Use of "Not significant finding option" (check one)	X	It is mutually agreed upon to term the Negative "not significant".		**GO TO "Final" subsection → (D)**		
			It is mutually agreed upon to term the Negative "significant".		**GO TO "Final" subsection → (C)**		
			Whether or not the Negative is "not significant" is decided by a vote.				
	Motion	The Negative is "not significant".					
	Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)					
	Vote	X	4 **Y**-0 **N**; Motion passed with simple majority		**GO TO "Final" subsection → (D)**		
			XX **Y**-XX **N**; Motion failed with simple majority		**GO TO "Final" subsection → (C)**		
Final	(check if applicable)		**(A)**	Withdrawn **(counted under h in disposition)**			
			(B)	Not related **(counted under i in disposition)**			
			(C)	Related and not persuasive (significant)			
		X	**(D)**	Not significant **(counted under j in disposition)**			
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**		
			(F)	Addressed by technical change **(counted under k disposition)**			
	(check if applicable)		Comment generated. **See Section V-(ii) Comment # .**				

Negative 3

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.
		5.2.4.2

		Original complete Negative text (e.g., issue, justification, suggestion) should be copied.
	Negative Text	"The photometric accuracy of the LMD within ±2% and colorimetric accuracy within ±0.002 in Δxy".This requirement is ambiguous. Because LMD's accuracy depend on the DUT's color. Generally speaking the accuracy is worse in primary color measurement. Please define the measurement error of viewing angle. After that clarify the LMD requirement. Suggestion) Please describes the LMD's accuracy requirement: In a case of measuring White & Primary color For. ex. ▪ Lv ±2% @A Light Source ▪ ±3% @White of s-RGB DUT 100nit xy ▪ ±0.002 @A Light Source ▪ ±0.003 @White of s-RGB DUT 100 nit ▪ ±0.005@Primary of s-RGB DUT 100 nit And it is better to describe the requirement at lower luminance. etc.

TF input (optional)	

	Withdrawal (check one)	X	No Negative withdrawal made by Voter.	**GO TO "Related" subsection**
			Withdrawal document received by Standards staff on MM/DD/YYYY.	**GO TO "Final" subsection → (A)**
Related	**Motion and Reason (check one)**	X	'Related' is mutually agreed upon. **(Needs no motion.)**	**GO TO "Persuasive" subsection**
			Negative is not related. **(Needs ≥2/3 votes to pass.)**	
		■	Reason	

Persuasive	**Motion and Reason (check one)**		Negative is related and persuasive. **(Needs >1/3 votes to pass.)**				
		X	Negative is related and not persuasive. **(Needs ≥2/3 votes to pass.)**				
		■	Reason	It is for LMD's accuracy to a standard DUT and the patterns in this measurement.			
	Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)					
	Discussion	None					
	Result of Vote (check one)	4 **Y**-0 **N**; Motion passed					
			[Negative is related and persuasive.] > 1/3	**Is a technical change recommended? (check one)**		Y	**GO TO "Address by Technical Change Option" subsection**
			[Negative is related and not persuasive.] < 2/3		X	N	**GO TO "Final" subsection → (E)**
			2/3 ≤ [Negative is related and not persuasive.] < 90%	**GO TO "Final" subsection → (C)**			
		X	90% ≤ [Negative is related and not persuasive.]	**GO TO "Not Significant Finding Option" subsection**			

Not Significant Finding Option	This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (*Regulations* ¶ 9.6.4.4.2)				
	Use of "Not significant finding option" (check one)	X	It is mutually agreed upon to term the Negative "not significant".		**GO TO "Final" subsection → (D)**
			It is mutually agreed upon to term the Negative "significant".		**GO TO "Final" subsection → (C)**
			Whether or not the Negative is "not significant" is decided by a vote.		
	Motion	The Negative is "not significant".			
	Motion by/ 2ⁿᵈ by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)			
	Vote	X	4 **Y**-0 **N**; Motion passed with simple majority		**GO TO "Final" subsection → (D)**
			XX **Y**-XX **N**; Motion failed with simple majority		**GO TO "Final" subsection → (C)**
Final	**(check if applicable)**		**(A)**	Withdrawn **(counted under h in disposition)**	
			(B)	Not related **(counted under i in disposition)**	
			(C)	Related and not persuasive (significant)	
		X	**(D)**	Not significant **(counted under j in disposition)**	
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**
			(F)	Addressed by technical change **(counted under k disposition)**	
	(check if applicable)		Comment generated. **See Section V-(ii) Comment #** .		

Negative 4

Negative	**Referenced Section/ Paragraph**	***TF/TC Chapter to fill in, including text in the ballot if necessary.***			
		7.1.3			
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.*			
		Xn, Yn, Zn should not be measured at each viewing Angle. Xn, Yn, Zn is a reference value, reference value should be same value during this method. Please refer to IEC PT 62977-3-1. Suggestion) Please change following sentence. ▪ From: white patch those are measured at each viewing angle. ▪ To: white patch those are measured at θH =0 φV=0. Or Reference Color Space's value such as BT 2020 or sRGB NTSC so on.			
	TF input (optional)				
	Withdrawal (check one)	X	No Negative withdrawal made by Voter.		**GO TO "Related" subsection**
			Withdrawal document received by Standards staff on MM/DD/YYYY.		**GO TO "Final" subsection → (A)**
Rel	**Motion and Reason**	X	'Related' is mutually agreed upon. **(Needs no motion.)**		**GO TO "Persuasive" subsection**

Persuasive	**(check one)**		Negative is not related. **(Needs ≥2/3 votes to pass.)**			
		(black)	Reason			
	Motion and Reason (check one)		Negative is related and persuasive. **(Needs >1/3 votes to pass.)**			
		X	Negative is related and not persuasive. **(Needs ≥2/3 votes to pass.)**			
		(black)	Reason	Xn, Yn, Zn are the base tri-stimulus values at a certain condition. When the condition such as viewing direction is changed, the white criteria is also changed. IEC PT 62977-3-1 will be changed according to the discussion in LA meeting, May, 2017.		
	Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)				
	Discussion	None				
	Result of Vote (check one)	4 **Y**-0 **N**; Motion passed				
			[Negative is related and persuasive.] > 1/3	**Is a technical change recommended? (check one)**	Y	**GO TO "Address by Technical Change Option" subsection**
			[Negative is related and not persuasive.] < 2/3		X	N	**GO TO "Final" subsection → (E)**
			2/3 ≤ [Negative is related and not persuasive.] < 90%	**GO TO "Final" subsection → (C)**		
		X	90% ≤ [Negative is related and not persuasive.]	**GO TO "Not Significant Finding Option" subsection**		
Not Significant Finding Option	**This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (*Regulations* ¶ 9.6.4.4.2)**					
	Use of "Not significant finding option" (check one)	X	It is mutually agreed upon to term the Negative "not significant".	**GO TO "Final" subsection → (D)**		
			It is mutually agreed upon to term the Negative "significant".	**GO TO "Final" subsection → (C)**		
			Whether or not the Negative is "not significant" is decided by a vote.			
	Motion	The Negative is "not significant".				
	Motion by/ 2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)				
	Vote	X	4 **Y**-0 **N**; Motion passed with simple majority	**GO TO "Final" subsection → (D)**		
			XX **Y**-XX **N**; Motion failed with simple majority	**GO TO "Final" subsection → (C)**		
Final	**(check if applicable)**		**(A)**	Withdrawn **(counted under h in disposition)**		
			(B)	Not related **(counted under i in disposition)**		
			(C)	Related and not persuasive (significant)		
		X	**(D)**	Not significant **(counted under j in disposition)**		
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**	
			(F)	Addressed by technical change **(counted under k disposition)**		

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	(check if applicable)		Comment generated. **See Section V-(ii) Comment #** .

Negative 5

<table>
<tr><td rowspan="4">Negative</td><td rowspan="2">Referenced Section/ Paragraph</td><td colspan="4">*TF/TC Chapter to fill in, including text in the ballot if necessary.</td></tr>
<tr><td colspan="4">Table 3</td></tr>
<tr><td rowspan="2">Negative Text</td><td colspan="4">*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.</td></tr>
<tr><td colspan="4">I cannot understand the physical meaning of Average <i>ΔE00</i> by viewing angle. Please explain it.</td></tr>
<tr><td colspan="2">TF input (optional)</td><td colspan="4"></td></tr>
<tr><td colspan="2" rowspan="2">Withdrawal (check one)</td><td>X</td><td colspan="2">No Negative withdrawal made by Voter.</td><td>GO TO "Related" subsection</td></tr>
<tr><td></td><td colspan="2">Withdrawal document received by Standards staff on MM/DD/YYYY.</td><td>GO TO "Final" subsection → (A)</td></tr>
<tr><td rowspan="3">Related</td><td rowspan="3">Motion and Reason (check one)</td><td>X</td><td colspan="2">'Related' is mutually agreed upon. (Needs no motion.)</td><td>GO TO "Persuasive" subsection</td></tr>
<tr><td></td><td colspan="2">Negative is not related. (Needs ≥2/3 votes to pass.)</td><td></td></tr>
<tr><td></td><td>Reason</td><td></td><td></td></tr>
<tr><td rowspan="10">Persuasive</td><td rowspan="3">Motion and Reason (check one)</td><td></td><td colspan="2">Negative is related and persuasive. (Needs >1/3 votes to pass.)</td><td></td></tr>
<tr><td>X</td><td colspan="2">Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)</td><td></td></tr>
<tr><td></td><td>Reason</td><td colspan="2">Average <i>ΔE00</i> means the arithmetic mean of all <i>ΔE00</i> in Table 2 or Table 3.</td></tr>
<tr><td>Motion by/ 2nd by</td><td colspan="4">Kyungjin Kang (LG Electronics)/ Jae Hong Kim (LG Display)</td></tr>
<tr><td>Discussion</td><td colspan="4">None</td></tr>
<tr><td rowspan="5">Result of Vote (check one)</td><td colspan="4">4 Y-0 N; Motion passed</td></tr>
</table>

4 **Y**-0 **N**; Motion passed

		Is a technical change recommended? (check one)			
	[Negative is related and persuasive.] > 1/3	**Is a technical change recommended?** **(check one)**		Y	**GO TO "Address by Technical Change Option" subsection**
	[Negative is related and not persuasive.] < 2/3		X	N	**GO TO "Final" subsection → (E)**
	2/3 ≤ [Negative is related and not persuasive.] < 90%	**GO TO "Final" subsection → (C)**			
X	90% ≤ [Negative is related and not persuasive.]	**GO TO "Not Significant Finding Option" subsection**			

Not Significant	**This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (*Regulations* ¶ 9.6.4.4.2)**		
	X	It is mutually agreed upon to term the Negative "not significant".	**GO TO "Final" subsection → (D)**

	Use of "Not significant finding option" (check one)		It is mutually agreed upon to term the Negative "significant".		**GO TO "Final" subsection → (C)**
			Whether or not the Negative is "not significant" is decided by a vote.		
	Motion		The Negative is "not significant".		
	Motion by/ 2nd by		Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)		
	Vote	X	4 **Y**-0 **N**; Motion passed with simple majority		**GO TO "Final" subsection → (D)**
			XX **Y**-XX **N**; Motion failed with simple majority		**GO TO "Final" subsection → (C)**
Final	**(check if applicable)**		**(A)**	Withdrawn **(counted under h in disposition)**	
			(B)	Not related **(counted under i in disposition)**	

Disposition of Voting Interest Reject 2

Check only when the Document has not been failed.

5	Original number (#) of Negatives		**(g)**	
0	Number of Negatives withdrawn		**(h)**	
0	Number of Negatives found not related		**(i)**	
5	Number of Negatives found not significant		**(j)**	
0	Number of Negatives addressed by technical change **(Negative becomes not significant)**		**(k)**	
Final	X	$g - (h + i + j + k) = 0$	**Reject is Not Valid and is not included in the denominator of § VI. *Approval Conditions Check***	
		$g - (h + i + j + k) > 0$	**Reject is included in the denominator of § VI. *Approval Conditions Check***	
		Reject without a Negative	**Not Valid**	

Note: If all of the Negatives included with a Reject Vote are withdrawn, determined to be not related, or determined to be not significant, the Reject Vote is not valid. (*Regulations* ¶ 9.4.3.3)
Note: A Negative addressed by a technical change is automatically considered to be not significant. (*Regulations* ¶ 9.6.4.4.2)

IV. Other Technical Issues

<table>
<tr><td rowspan="3">Technical Issue</td><td>Origin</td><td colspan="2">*TF/TC Chapter to choose
Comment from Jongseo Lee(Dell) during the TC chapter meeting on August 25, 2017</td></tr>
<tr><td>Referenced Section/ Paragraph</td><td colspan="2">*TF/TC Chapter to fill in including text in the ballot as appropriate.
5.2.2.1</td></tr>
<tr><td>Reason</td><td colspan="2">*Original Comment text, if applicable, and problem statement, including justification and suggestion, should be copied.

In section 5.2.2.1, "at 2 degree" was to provide a fixed and convenient measuring distance regardless of various size of displays. However, the ranged measuring distance for the situation of setup as long as within 2 degree FOV in normal direction can help avoiding confusion in the measuring distance.</td></tr>
</table>

Handle technical issue identified above as a Negative.

Related	**Motion and Reason (check one)**	X	'Related' is mutually agreed upon. **(Needs no motion.)**	**GO TO "Persuasive" subsection**
		☐	Negative is not related and assigned to TF. **(Needs ≥2/3 votes to pass.)**	
		☐	Negative is not related and placed on agenda of current TC Chapter meeting as new business. **(Needs ≥2/3 votes to pass.)**	
		■	Reason	
	Motion by/ 2nd by		Name (Company)/Name (Company)	
	Discussion		XXXX	
	Result of Vote (check one)		XX **Y**-XX **N**	
		☐	[Negative is not related.] <2/3	**GO TO "Persuasive" subsection**
		☐	2/3 ≤ [Negative is not related] and assigned to TF.	**GO TO "Final" subsection → (B)**
		☐	2/3 ≤ [Negative is not related] and placed on agenda of current TC Chapter meeting as new business.	
Persuasive	**Motion and Reason (check one)**	X	Negative is related and persuasive. **(Needs >1/3 votes to pass.)**	
		☐	Negative is related and not persuasive. **(Needs ≥2/3 votes to pass.)**	
		■	Reason	
	Motion by/ 2nd by		Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)	
	Discussion		None	
			4 **Y**-0 **N**; Motion passed	

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Address by Technical Change Option	**Result of Vote (check one)**		X	[Negative is related and persuasive.] > 1/3	**Is a technical change recommended? (check one)**	X	Y	GO TO "Address by Technical Change Option" subsection
				[Negative is related and not persuasive.] < 2/3			N	GO TO "Final" subsection → (E)
				2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)			

Technical Change Recommendations

Technical Changes	1	**FROM: Section/Paragraph 5.2.2.1** 5.2.2.1 It is recommended that the measuring distance of LMD is set to include over 500 pixels of display at 2 degree FOV.
		TO: Section/Paragraph 5.2.2.1 5.2.2.1 It is recommended that the measuring distance of LMD is set to include over 500 pixels of display within 2 degree FOV in normal direction.
		Justification (If necessary) This modification is for giving an additional expansion for the measurement setup which is to avoid confusion in the measuring distance. In section 5.2.2.1, "at 2 degree" was to provide a fixed and convenient measuring distance regardless of various size of displays. But the measuring distance can have a range for the situation of setup as long as within 2 degree FOV in normal direction.

Motion	Negative is addressed by the technical change(s).		
Motion by/2ⁿᵈ by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)		
Discussion	None		
Result of Vote (check one)	4 **Y**-0 **N**; Motion passed.		
	X	2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO "Incorporation of the Technical Change" subsection
		[Negative is not addressed by the technical change(s).] < 2/3	GO TO "Final" subsection → (E)

Incorporation of the Technical Change	**Motion**	To incorporate the technical change(s).		
	Motion by/2ⁿᵈ by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)		
	Discussion	None		
	Result of Vote (check one)	4 **Y**-0 **N**; Motion passed.		
		X	90% ≤ [Agree to incorporate.]	GO TO "Final" subsection → (F)
			[Disagree to incorporate.] >10%	GO TO "Final" subsection → (E)

Final	**(check one)**		**(B)**	Not related		
			(C)	Related and not persuasive		
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**	
		X	**(F)**	Addressed by technical change		
	(check if applicable)			Comment generated. See Section V-(ii) Comment # .		

V. Comments
None

VI. Editorial Changes Other than Those Voted on in § V

Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.

None

VII. Approval Conditions Check

VII. - (i). Approval Rate

APPROVAL CONDITION 1: All Negatives have been discussed and were withdrawn, found not related, found not persuasive, or addressed by a technical change. (*Regulations* ¶ 9.7.1.2)

APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations* ¶ 9.7.1.3)

Note: If both approval conditions are not satisfied, the Document fails.

		Accepts	(Accepts + Valid Rejects)			
Approval Rate	=	**20**	/	**22**	=	**90.9%**	**≥90%**

VII. – (ii) Approval Level (check one)

Note: See *Regulations* § 9.7.2 for further information.

	Globally Approved (No Ratification Ballot needed): The Letter Ballot meets the Letter Ballot approval conditions for the global technical committee.
X	**Need a Ratification Ballot:** The Letter Ballot meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

VIII. Safety Check

Note: See *Regulations* § 15 for further information.

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Motion	X	**This is not a Safety Document**, when all safety-related information is removed, the Document is still technically sound and complete. (*Regulations* ¶ 8.7.1)
		This is a Safety Document, when all safety-related information is removed, the Document is not technically sound and complete. (*Regulations* ¶ 8.7.2)
	■	Safety Checklist (*Regulations* ¶ 15.3) is complete and has been included with the Document throughout the balloting process. (*Regulations* ¶ 15.1.2)

Motion by/2nd by	Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)
Discussion	None
Vote	4**Y**-0 **N**; Motion passed.

IX. Intellectual Property (IP) Check

Note: This Letter Ballot may cover all or part of a Standard or Safety Guideline. This IP check applies to the entire Standard or Safety Guideline. See *Regulations* § 16 for further information.

X	The TC Chapter meeting chair asked those participating, if they were aware of any potentially material patented technology or copyrighted items* in the Standard or Guideline. (*Regulations* ¶ 8.8.1)		
	X	No potentially material patented technology or reproduction of copyrighted items is known.	**GO TO SECTION X.**
		Potentially material patented technology or reproduction of copyrighted items is known, but a Letter of Assurance (LOA) or copyright release letter for such items has been obtained or presented to the TC Chapter.	**GO TO SECTION X.**
		Potentially material patented technology or reproduction of copyrighted items is known and use of such materials is technically justified by the TC Chapter, but an LOA or copyright release letter for some of the item(s) has NOT been obtained or presented to the TC Chapter.	
Motion		Ask ISC for special permission to publish.	
		Quit activity.	
		Wait for LOA for patented technology or release of copyrighted items.	
Motion by/2nd by		Name (Company)/Name (Company)	
Discussion		XXXX	
Vote		XX **Y**-XX **N**	
Final Action		Motion passed	
		Motion failed	

* Note: Such potentially material patented technology or copyrighted items might have become known since the Standard or Safety Guideline was last reviewed, or might become relevant due to this Letter Ballot.

X. Action for This Document

Motion		This Document passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.
		This Document passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.

	X	This Document passed TC Chapter review with technical changes and with or without editorial changes and will be forwarded to the ISC A&R SC for procedural review. A Ratification Ballot will be issued to verify the technical changes.
		This Document failed TC Chapter review and will be returned to the TF for rework.
		This Document failed TC Chapter review and work will be discontinued.
Motion by/ 2nd by		Kyungjin Kang (LG Electronics)/ Jongho Chong (Samsung Display)
Discussion		None
Vote		4 Y-0 N
Final Action	X	Motion passed
		Motion failed

Standards staff to record the result of the A&R procedural review here:

A&R		**Approved for publication**
		Approved pending acceptance of the Ratification Ballot
		Not approved
	Reason:	