

# FograCert Softproofing System

## Prior Scrutiny „PreCert“ – Monitor Uniformity\*

Driving

Measurand

Computed

Evaluated

1)

RGB = 255



5x5 CIEXYZ

5x5 CIELAB

Maximum

$\Delta E_{00} \leq 4$

Field 13 =  $L^*a^*b^*_{Ref}$

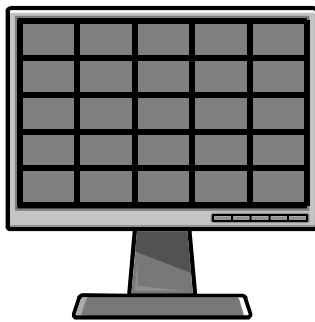
Field 1-12, 14-25:

$L^*a^*b^*_{Sample}$

$\Rightarrow 24 \Delta E_{00}$

2)

RGB = 127



5x5 CIEXYZ

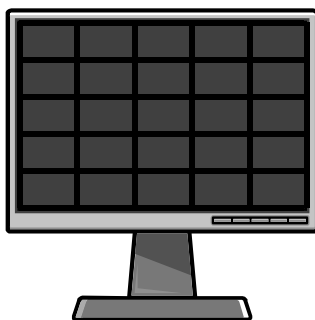
5x5 CIELAB

$\Delta E_{00} \leq 4$

$\Rightarrow 24 \Delta E_{00}$

3)

RGB = 63



5x5 CIEXYZ

5x5 CIELAB

$\Delta E_{00} \leq 4$

$\Rightarrow 24 \Delta E_{00}$

4)

Tone Reproduction  
@ RGB127:

5x5  $Y_{normalized}$

$$Y_{norm.} = \frac{Y_{RGB127}}{Y_{RGB255}}$$

$\Delta Y_{norm.} \leq 10\%$

Field 13 =  $Y_{Ref}$

Field 1-12, 14-25:

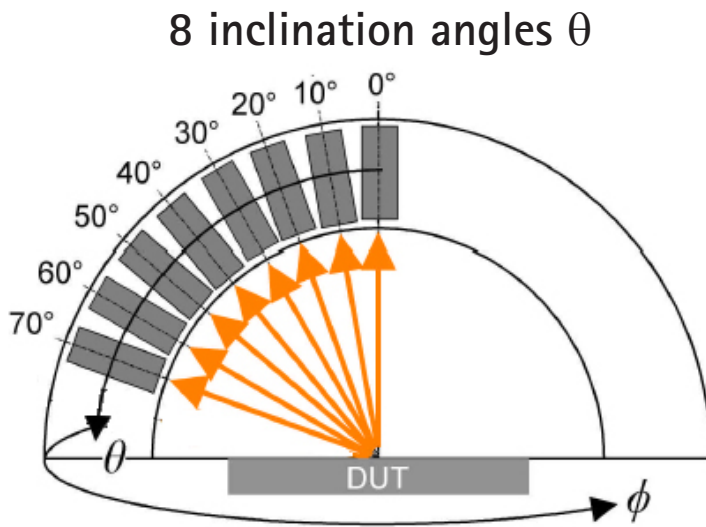
$Y_{Sample}$

$\Rightarrow 24 \Delta Y$

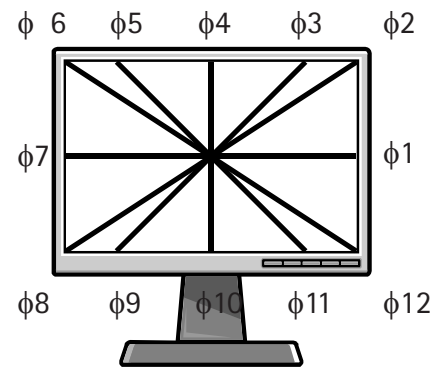
\* Uniformity criteria are also assessed „On Site“ at vendors place

# FograCert Softproofing System

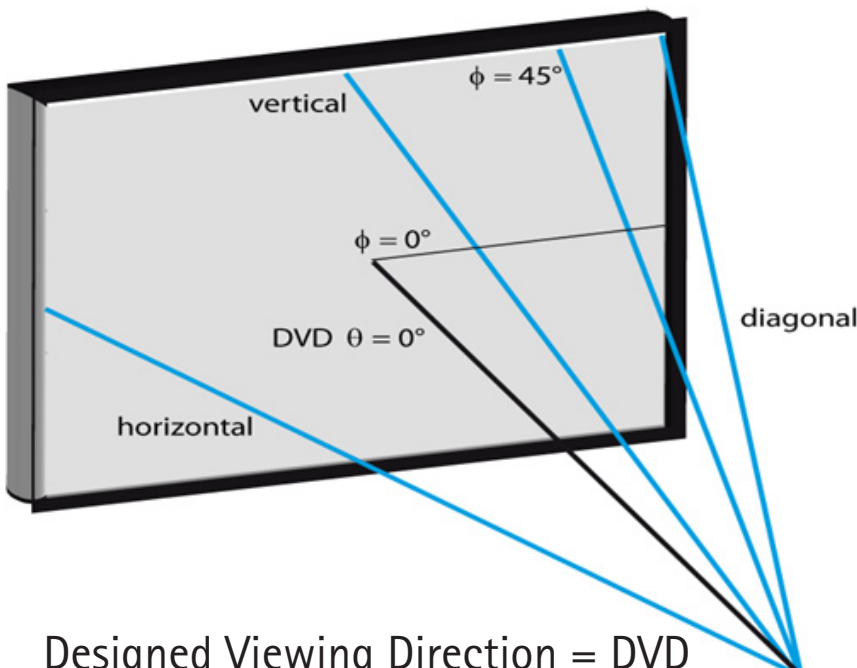
## Prior Scrutiny „PreCert“ – Viewing Cone Analysis



12 azimuth angles  $\phi$

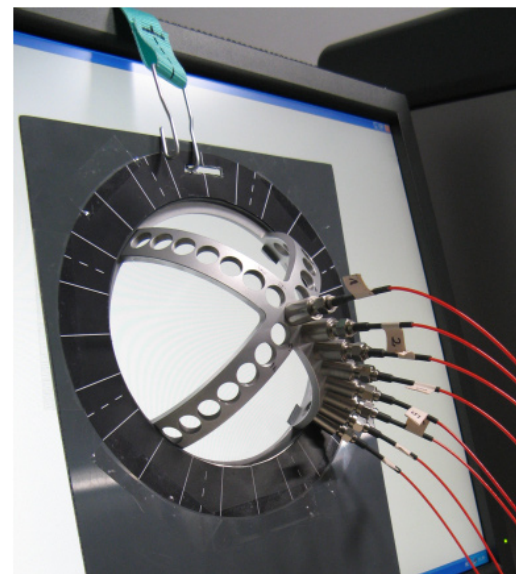


Maximum viewing angle  $\theta_{max}$  must be calculated for each azimuth angle for given monitor size, aspect ratio and viewing distance (500mm for desktop applications)



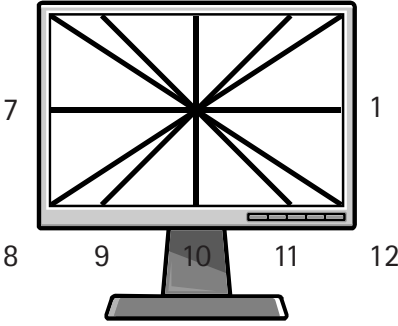
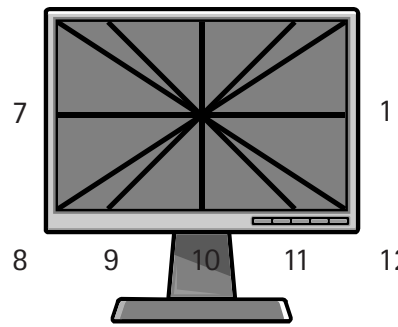
Designed Viewing Direction = DVD  
 $= \theta_{0^\circ} \Rightarrow L^*a^*b^*_{Ref}$  or  $Y_{Ref}$

Spectroradiometer  
 MS-8 DisplayDome  
 Measurement



# FograCert Softproofing System

## Prior Scrutiny „PreCert“ – Viewing Cone Analysis

Driving	Measurand	Computed	Evaluated
<p>1) RGB = 255</p> 	<p>12x8 CIEXYZ  <math>\Rightarrow 12 Y @ \theta_{max}</math>  <math>\Rightarrow 1 Y @ DVD</math></p>	<p>12x8 CIELAB  <math>\Rightarrow 12 CIELAB @ \theta_{max}</math>  <math>\Rightarrow 1 CIELAB @ DVD</math></p>	<p>Maximum</p> <p><math>\Delta E_c \leq 6</math>  <math>\Delta Y \leq 35\%</math>  <math>\Rightarrow 12 \Delta E_c</math>  <math>\Rightarrow 12 \Delta Y</math></p>
<p>2) RGB = 127</p> 	<p>12x8 CIEXYZ  <math>\Rightarrow 12 Y @ \theta_{max}</math>  <math>\Rightarrow 1 Y @ DVD</math></p>	<p>12x8 CIELAB  <math>\Rightarrow 12 CIELAB @ \theta_{max}</math>  <math>\Rightarrow 1 CIELAB @ DVD</math></p>	<p><math>\Delta E_c \leq 6</math>  <math>\Delta Y \leq 35\%</math>  <math>\Rightarrow 12 \Delta E_c</math>  <math>\Rightarrow 12 \Delta Y</math></p>
<p>3)</p>		<p>Tone Reproduction  @ RGB127:  12x8 <math>Y_{normalized}</math>  <math>\Rightarrow 12 CIEY @ \theta_{max}</math>  <math>\Rightarrow 1 CIEY @ DVD</math></p> $Y_{norm.} = \frac{Y_{RGB127}}{Y_{RGB255}}$	<p><math>\Delta Y_{norm.} \leq 10\%</math>  <math>\Rightarrow 12 \Delta Y</math></p>

Designed Viewing Direction = DVD =  $\theta_{0^\circ} \Rightarrow L^*a^*b^*_{Ref}$  or  $Y_{Ref}$   
 compared to 12 measurements @  $\theta_{max}$

$$\Delta E_c = (\Delta a^{*2} + \Delta b^{*2})^{1/2}$$