TUB registration: 20241001-hec3/hec3l0np.pdf /.ps
application for evaluation and measurement of display or print output

TUB material: code=rha4ta

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%********************************************
/proc05_gammaL_xyreh {%BEG proc05_gammaL_xyreh
%BEG Local (L) gamma and calculation of xyreh_1024        %BEG proc05_gammaL_xyreh
/gammaLi 21 array def
/gammaLi %rel. gamma according to ISO 9241-306:2018
%0    1    2    3     4     5     6     7
[0.475 0.550 0.625 0.700 0.775 0.849 0.924 1.000
%8    9    10   11    12    13    14    15
 1.000 1.081 1.176 1.290 1.428 1.600 1.818 2.105
%16   17   18   19    20
 2.000 0.500 1.500 0.666 1.000] def

/gamma gammaLi indexFi get def
/xrehj 1024 array def /yrehj 1024 array def
/xinhj 1024 array def /yinhj 1024 array def

%calculation of the table xyreh_1024 (h=hex) of real values (reh) with gamma
0 1 1023 {/j exch def %j=0,1023
        xrehj j j                          put
        yrehj j j 1023 div gamma exp 1023 mul cvi put
        } for %j=0,1023
/proc06_FF_LM_FLVLF {%BEG proc06_FF_LM_FLVLF           %BEG proc06_FF_LM_FLVLF
        /yed exch def
        /yeh yed 1023 mul cvi def
        /xinh yrehj yeh get def
        xinh 1023 div
        } def %END proc06_FF_LM_FLVLF          %END proc06_FF_LM_FLVLF
} def %END proc05_gammaL_xyreh              %END proc05_gammaL_xyreh
%********************************************
/proc00_1MR_FLVLF {%BEG proc00_1MR_FLVLF              %BEG proc00_FF_LM_FLVLF
%main procedure Fast Linear Visual Local File (FLVLF)

/FF_LM_setgrayFLVLF0 {setgray} bind def
/FF_LM_setrgbcolorFLVLF0 {setrgbcolor} bind def
/FF_LM_setcmykcolorFLVLF0 {setcmykcolor} bind def
/FF_LM_transferFLVLF0 {settransfer} bind def
/FF_LM_colortransferFLVLF0 {setcolortransfer} bind def

/setgray {%BEG procedure setgrayFLVLF           setgray -> FF_LM_setrgbcolorG
        dup dup FF_LM_setrgbcolorFLVLF
        } def %END procedure setgrayFLVLF

/setcmykcolor {%BEG procedure setcmykcolorFLVLF   setcmykcolor -> FF_LM_setrgbcolorG
/FF_LM_kFLVLF exch def /FF_LM_yFLVLF exch def
/FF_LM_mFLVLF exch def /FF_LM_cFLVLF exch def
FF_LM_kFLVLF 0 eq {1 FF_LM_cFLVLF sub 1 FF_LM_mFLVLF sub
              1 FF_LM_yFLVLF sub FF_LM_setrgbcolorFLVLF}
              {1 FF_LM_kFLVLF sub dup dup
               FF_LM_setrgbcolorFLVLF} ifelse
} def %END procedure setcmykcolorFLVLF

/setrgbcolor {%BEG procedure setrgbcolorFLVLF      setrgbcolor -> FF_LM_setrgbcolorG
/FF_LM_bFLVLF exch def /FF_LM_gFLVLF exch def
/FF_LM_rFLVLF exch def
FF_LM_rFLVLF FF_LM_gFLVLF FF_LM_bFLVLF
FF_LM_setrgbcolorFLVLF
} def %BEG procedure setrgbcolorFLVLF

/FF_LM_setrgbcolorFLVLF {%BEG FF_LM_setrgbcolorFLVLF   FF_LM_setrgbcolorG -> FF_LM_setrgbcolorG0
/FF_LM_b0FLVLF exch def /FF_LM_g0FLVLF exch def
/FF_LM_r0FLVLF exch def
FF_LM_r0FLVLF 0 le {/FF_LM_r0FLVLF 0.0001 def} if
FF_LM_g0FLVLF 0 le {/FF_LM_g0FLVLF 0.0001 def} if
FF_LM_b0FLVLF 0 le {/FF_LM_b0FLVLF 0.0001 def} if
/FF_LM_r1FLVLF FF_LM_r0FLVLF proc06_FF_LM_FLVLF def
/FF_LM_g1FLVLF FF_LM_g0FLVLF proc06_FF_LM_FLVLF def
/FF_LM_b1FLVLF FF_LM_b0FLVLF proc06_FF_LM_FLVLF def
FF_LM_r1FLVLF FF_LM_g1FLVLF FF_LM_b1FLVLF
FF_LM_setrgbcolorFLVLF0} def %END FF_LM_setrgbcolorFLVLF

/FF_LM_transferFLVLF {%BEG FF_LM_transferFLVLF        settransferG -> FF_LM_settransferG0
{proc06_FF_LM_FLVLF}
FF_LM_transferFLVLF0} def %END FF_LM_transferFLVLF
/settransfer {FF_LM_transferFLVLF} def

/FF_LM_colortransferFLVLF {%BEG FF_LM_colortransferFLVLF  setcolortransferG->FF_LM_setcolortransferG0
{proc06_FF_LM_FLVLF} {proc06_FF_LM_FLVLF}
{proc06_FF_LM_FLVLF}
FF_LM_colortransferFLVLF0} def
/setcolortransfer {FF_LM_colortransferFLVLF} def
} def %END proc00_1MR_FLVLF                  %END proc00_FF_LM_FLVLF
%********************************************
/indexFi 07 def %default for gammaL=1.000
/iproc1MR 1 def %optional application example
iproc1MR 1 eq {%main Frame_File_Linearisation_Method (FF_LM) %Example: combined procedure
         proc00_1MR_FLVLF proc05_gammaL_xyreh} if
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%********************************************
/proc00_7data_FLVLF {%BEG proc00_7data_FLVLF
%The procedure proc01_7data_FLVLF is used only once in Local File    %BEG proc01_7data_FLVLF
/VisexLi 09 array def %for the one real data of visual evaluation
/VisexLx 54 array def %for 6 different example data of visual evaluation
%0    1    2    3     4     5     6     7     %Fi j
/VisexLx [0.000 0.015 0.062 0.140 0.250 0.390 0.562 0.765 1.000 %16 08 gamma=2,0
         0.000 0.353 0.500 0.612 0.707 0.790 0.866 0.935 1.000 %17 17 gamma=0,5
         0.000 0.044 0.125 0.229 0.353 0.494 0.649 0.818 1.000 %18 26 gamma=1,5
         0.000 0.250 0.397 0.520 0.630 0.731 0.825 0.915 1.000 %19 35 gamma=0,6667
         0.000 0.125 0.250 0.375 0.500 0.625 0.750 0.875 1.000 %20 44 gamma=1,0
         0.000 0.125 0.250 0.375 0.500 0.625 0.750 0.875 1.000 %21 53 experimental
         ] def %5 53
% the last line shall be replaced by the experimetal data, if available

0 1 8 {/j exch def %j=0,8
        VisexLi j VisexLx indexLi 16 sub 9 mul j add get put
        } for %j=0,8
} def %END proc01_7data_FLVLF                  %END proc01_7data_FLVLF
%********************************************
/proc02_Visev_FLVLF {%BEG proc02_Visev_FLVLF          %BEG proc02_Visev_FLVLF
%for visual data with Fast Linear Visual Local File (FLVLF)
%The procedure proc01_7data_FLVLF is used only once in Local File
/xreh8 10 array def /yreh8 10 array def %re=real,   j=0,8
/xinh8 10 array def /yinh8 10 array def %in=invers, j=0,8
/xrehj 1025 array def /yrehj 1025 array def
/xinhj 1025 array def /yinhj 1025 array def

/xred8 10 array def /yred8 10 array def %re=real,   j=0,8
/xind8 10 array def /yind8 10 array def %in=invers, j=0,8
/xredj 1025 array def /yredj 1025 array def
/xindj 1025 array def /yindj 1025 array def

0 1 8 {/j exch def %j=0,8
        xred8 j j 0.125 mul   put
        yred8 j VisexLi j get put
        xind8 j yred8 j get   put
        yind8 j xred8 j get   put

        xreh8 j xred8 j get 255 mul put
        yreh8 j yred8 j get 255 mul put
        xinh8 j yreh8 j get put
        yinh8 j xreh8 j get put
        } for %j=0,8

xred8 9   1 put yred8 9   1 put
xind8 9   1 put yind8 9   1 put
xreh8 9 255 put yreh8 9 255 put
xind8 9 255 put yind8 9 255 put

%j=0,1023
0 1 7   {/k exch def %k=0,8
0 1 127 {/n exch def %n=0,127
        /j k 128 mul n add def
        xredj j j 1023 div put
        yredj j yred8 k 1 add get yred8 k get sub
              n 128 div mul     yred8 k get add put
        xindj j yredj j get put
        yindj j xredj j get put
        } for %n=0,127
        } for %k=1,8

0 1 1023 {/j exch def %j=0,1023
        xrehj j xredj j get 1023 mul put
        yrehj j yredj j get 1023 mul put
        xinhj j yredj j get put
        yinhj j xredj j get put
        } for %j=0,1023
xredj 1024    1 put yredj 1024    1 put
xindj 1024    1 put yindj 1024    1 put
xrehj 1024 1023 put yrehj 1024 1023 put
xinhj 1024 1023 put yinhj 1024 1023 put
} def %END proc01_Visev_FLVLF                  %END proc02_Visev_FLVLF
%********************************************
/proc00_FF_LM_FLVLF {%BEG proc00_FF_LM_FLVLF          %BEG proc00_FF_LM_FLVLF
%This procedure is used for any rgb data in proc00_1MR_FLVLF
              /yed exch def
              /yeh yed 1023 mul cvi def
              /xinh yrehj yeh get def
              xinh 1023 div
              } def
%END proc00_FF_LM_FLVLF                        %END proc00_FF_LM_FLVLF
%********************************************
/indexLi 20 def %default for gammaL=1.000
/iproc1MR 1 def %optional application example
iproc1MR 1 eq {%main program Frame_File_Linearisation_Method (FF_LM)  %Example: combined procedure
         proc00_1MR_FLVLF proc01_7data_FLVLF proc02_Visev_FLVLF} if
%********************************************
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