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Open Source Face Image Quality (OFIQ)

Conformance Tests

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Authors

Benjamin Tams, Maxim Schaubert, Jonas Dehen, Johannes Merkle

secunet Security Networks AG,
Kurfürstenstr. 58, 45138 Essen, Germany

Federal Office for Information Security
P.O. Box 20 03 63
53133 Bonn
E-Mail: OFIQ@bsi.bund.de
Internet: <https://www.bsi.bund.de>
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Table of Contents

1	Introduction	5
2	Evaluation Platforms	6
3	Test Images	7
4	Results of Conformance Tests	8
4.1	Native quality measure values	8
4.1.1	Unified quality score	8
4.1.2	Background Uniformity	10
4.1.3	Illumination Uniformity	11
4.1.4	Luminance Mean	13
4.1.5	Luminance Variance	15
4.1.6	Under-Exposure Prevention	17
4.1.7	Over-Exposure Prevention	18
4.1.8	Dynamic Range	20
4.1.9	Sharpness	22
4.1.10	No Compression Artefacts	23
4.1.11	Natural Colour	25
4.1.12	Single Face Present	26
4.1.13	Eyes Open	28
4.1.14	Mouth Closed	29
4.1.15	Eyes Visible	31
4.1.16	Mouth Occlusion Prevention	33
4.1.17	Inter-Eye Distance	34
4.1.18	Head-Size	36
4.1.19	Leftward Crop of the Face Image	38
4.1.20	Rightward Crop of the Face Image	39
4.1.21	Margin above of the Face Image	41
4.1.22	Margin below of the Face Image	43
4.1.23	Head Pose Yaw Angle	45
4.1.24	Head Pose Pitch Angle	47
4.1.25	Head Pose Roll Angle	49
4.1.26	Expression Neutrality	50
4.1.27	No Head Covering	52
4.2	Quality component values	54
4.2.1	Unified quality score	54
4.2.2	Background Uniformity	55
4.2.3	Illumination Uniformity	57

4.2.4	Luminance Mean	58
4.2.5	Luminance Variance.....	59
4.2.6	Under-Exposure Prevention.....	61
4.2.7	Over-Exposure Prevention.....	62
4.2.8	Dynamic Range.....	64
4.2.9	Sharpness	65
4.2.10	No Compression Artefacts.....	66
4.2.11	Natural Colour	68
4.2.12	Single Face Present.....	69
4.2.13	Eyes Open	71
4.2.14	Mouth Closed	72
4.2.15	Eyes Visible.....	73
4.2.16	Mouth Occlusion Prevention	75
4.2.17	Inter-Eye Distance	76
4.2.18	Head-Size	78
4.2.19	Leftward Crop of the Face Image.....	79
4.2.20	Rightward Crop of the Face Image.....	80
4.2.21	Margin above of the Face Image	82
4.2.22	Margin below of the Face Image	83
4.2.23	Head Pose Yaw Angle	85
4.2.24	Head Pose Pitch Angle.....	86
4.2.25	Head Pose Roll Angle	87
4.2.26	Expression Neutrality.....	89
4.2.27	No Head Covering	90

1 Introduction

In this document, results of the conformance tests of OFIQ are reported for compilations for different platforms. To this end, the OFIQ 1.0.0-rc.2 has been used.

2 Evaluation Platforms

OFIQ has been compiled and evaluated for different platforms as summarized in the following table.





























Table 1 Platforms on which the OFIQ 1.0.0-rc.2 source code has been compiled and evaluated

Platform	Compiler	Remarks
Windows 10 Professional (win64)	Visual Studio 2019/2022	The dependency onnxruntime has to be compiled with Visual Studio 2022
Windows 10 Professional (win32)	Visual Studio 2019/2022	The dependency onnxruntime has to be compiled with Visual Studio 2022
Ubuntu 22.04 (x86_64)	g++ 11.4.0	-
Ubuntu 24.04 (x86_64)	g++ 13.2.0	-
MacOS (arm64)	clang 15.0.0	-
Android	clang 12.0.8	Not supported by OFIQ's building scripts
iOS	clang 15.0.0	Not supported by OFIQ's building scripts

3 Test Images

For evaluation and conformance testing, a set of 28 face images has been collected. We refer to them as *conformance test images*. The original conformance test images of full quality can be downloaded from <https://standards.iso.org/iso-iec/29794/-5/ed-1/en/OFIQ-IMAGES.zip>. The following table gives an overview of the conformance test images.

Table 2 Overview of the conformance test images

b-01-smile	b-02-rolled	b-03-headcovered	b-04-headcovered	b-05-scarf	b-06-mask	b-07-glasses	b-08-sunglasses	b-09-background
								
c-01-frontal	c-02-headcovered-mouthopen	c-03-headcovered	c-04-headcovered	c-05-scarf	c-06-glasses	c-07-twofaces	c-08-sunglasses	c-09-mask
								
c-10-background	r-01-frontal	r-02-rolled	r-03-mouthopen	r-04-headcovered-eyeclosed	r-05-headcovered	r-06-pitch	r-07-scarf	r-08-mask
								
r-09-background								
								

4 Results of Conformance Tests

Compilations for different platforms have been applied to the conformance test images described in Section 3. For each of the 27 quality measures implemented in OFIQ, the *native quality values* and the *quality component values* (i.e., mappings of the native quality values into [0,100]) have been acquired.

For each measure, the native quality values for each platform and each conformance test image, are depicted in the tables of Section 4.1 (Table 3 to Table 29). Likewise, for each measure the quality component values for each platform and each conformance test image, are depicted in the tables of Section 4.2 (Table 30 to Table 56).

Among the different platforms, with the exception of the expression neutrality measure (see Table 28 in Section 4.1.26), no native quality values differ by more than 1e-3. Furthermore, for each platform, for all conformance test images, the exact native quality scores are reproduced.

4.1 Native quality measure values

4.1.1 Unified quality score

Table 3 Unified quality score – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-01-smile	24.32998 5	24.32998 8	24.32998 7	24.32998 5	24.32998 5	24.32998 4664916992	24.32998 4664916992
b-02-rolled	24.69875 3	24.69875 1	24.69875 5	24.69875 3	24.69875 1	24.69875 144958496	24.69875 144958496
b-03-headcovered	16.14276 5	16.14276 5	16.14276 5	16.14276 5	16.14276 5	16.1427650451660 16	16.1427650451660 16
b-04-headcovered	18.81104 7	18.81104 7	18.81104 3	18.81104 7	18.81104 5	18.8110446929931 64	18.8110446929931 64
b-05-scarf	17.19182 8	17.19183 0	17.19183 0	17.19182 8	17.19182 8	17.1918277740478 5	17.1918277740478 5
b-06-mask	14.26226 2	14.26226 1	14.26226 4	14.26226 2	14.26226 1	14.2622613906860 35	14.2622613906860 35
b-07-glasses	21.13428 5	21.13428 9	21.13428 5	21.13428 5	21.13428 7	21.1342868804931 64	21.1342868804931 64
b-08-sunglasses	18.32542 4	18.32542 2	18.32542 4	18.32542 4	18.32542 2	18.3254222869873 05	18.3254222869873 05
b-09-background	24.75286 3	24.75285 9	24.75286 3	24.75286 3	24.75286 1	24.7528610229492 2	24.7528610229492 2
c-01-frontal	26.44930 6	26.44931 0	26.44930 6	26.44930 6	26.44930 8	26.4493083953857 42	26.4493083953857 42
c-02-headcovered-mouthopen	14.14964 6	14.14964 4	14.14964 8	14.14964 6	14.14964 6	14.1496458053588 87	14.1496458053588 87

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
c-03- headcovered	13.334490	13.334488	13.334489	13.334490	13.334487	13.334486961364746	13.334486961364746
c-04- headcovered	17.668522	17.668522	17.668522	17.668522	17.668520	17.668519973754883	17.668519973754883
c-05-scarf	17.155811	17.155813	17.155813	17.155811	17.155809	17.15580940246582	17.15580940246582
c-06-glasses	23.296429	23.296425	23.296429	23.296429	23.296427	23.29642677307129	23.29642677307129
c-07- twofaces	26.875198	26.875195	26.875196	26.875198	26.875193	26.875192642211914	26.875192642211914
c-08- sunglasses	22.899508	22.899509	22.899506	22.899508	22.899504	22.899503707885742	22.899503707885742
c-09-mask	18.188141	18.188143	18.188143	18.188141	18.188143	18.188142776489258	18.188142776489258
c-10- background	27.733389	27.733381	27.733383	27.733389	27.733389	27.733388900756836	27.733388900756836
r-01-frontal	26.390884	26.390884	26.390882	26.390884	26.390882	26.39088249206543	26.39088249206543
r-02-rolled	25.763580	25.763582	25.763582	25.763580	25.763580	25.763580322265625	25.763580322265625
r-03- mouthopen	26.416000	26.416004	26.416004	26.416000	26.416004	26.416004180908203	26.416004180908203
r-04- headcovered- eyeclosed	20.354622	20.354626	20.354628	20.354622	20.354626	20.354625701904297	20.354625701904297
r-05- headcovered	18.509974	18.509970	18.509974	18.509974	18.509972	18.509971618652344	18.509971618652344
r-06-pitch	25.199898	25.199900	25.199898	25.199898	25.199896	25.19989585876465	25.19989585876465
r-07-scarf	23.497959	23.497959	23.497959	23.497959	23.497959	23.49795913696289	23.49795913696289
r-08-mask	16.549667	16.549661	16.549669	16.549667	16.549669	16.54966926574707	16.54966926574707
r-09- background	27.223253	27.223257	27.223249	27.223253	27.223255	27.223255157470703	27.223255157470703

4.1.2 Background Uniformity

Table 4 Background uniformity – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-01-smile	71.777120	71.777120	71.777120	71.777120	71.777120	71.77711989181003	71.77711989181003
b-02-rolled	66.769635	66.769635	66.769635	66.769635	66.769635	66.76963483228094	66.76963483228094
b-03-headcover	41.745187	41.745187	41.745187	41.745187	41.745187	41.745186604325994	41.745186604325994
b-04-headcover	66.071552	66.071552	66.071552	66.071552	66.071552	66.07155166523347	66.07155166523347
b-05-scarf	82.221345	82.221345	82.221345	82.221345	82.221345	82.2213453614161	82.2213453614161
b-06-mask	38.975958	38.975958	38.975958	38.975958	38.975958	38.9759583972669	38.9759583972669
b-07-glasses	66.565980	66.565980	66.565980	66.565980	66.565980	66.5659798488189	66.5659798488189
b-08-sunglasses	79.097756	79.097756	79.097756	79.097756	79.097756	79.09775578315005	79.09775578315005
b-09-background	242.789467	242.789467	242.789467	242.789467	242.789467	242.78946671870415	242.78946671870415
c-01-frontal	61.625131	61.625131	61.625131	61.625131	61.625131	61.625131160923424	61.625131160923424
c-02-headcover	52.290763	52.290763	52.290763	52.290763	52.290763	52.29076294622442	52.29076294622442
c-03-headcover	49.233287	49.233287	49.233287	49.233287	49.233287	49.23328734414471	49.23328734414471
c-04-headcover	61.194849	61.194849	61.194849	61.194849	61.194849	61.19484942573711	61.19484942573711
c-05-scarf	69.987374	69.987374	69.987374	69.987374	69.987374	69.98737361935622	69.98737361935622
c-06-glasses	68.311044	68.311044	68.311044	68.311044	68.311044	68.31104401969029	68.31104401969029

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
c-07-twofaces	87.475872	87.475872	87.475872	87.475872	87.475872	87.47587213602039	87.47587213602039
c-08-sunglasses	43.206580	43.206580	43.206580	43.206580	43.206580	43.20658015555172	43.20658015555172
c-09-mask	35.980417	35.980417	35.980417	35.980417	35.980417	35.98041723330903	35.98041723330903
c-10-background	232.178789	232.178789	232.178789	232.178789	232.178789	232.1787894198005	232.1787894198005
r-01-frontal	48.120312	48.120312	48.120312	48.120312	48.120312	48.12031184720842	48.12031184720842
r-02-rolled	92.862484	92.862484	92.862484	92.862484	92.862484	92.86248362277898	92.86248362277898
r-03-mouthopen	48.339777	48.339777	48.339777	48.339777	48.339777	48.339776678156966	48.339776678156966
r-04-headcoverd-eyeclosed	46.267522	46.267522	46.267522	46.267522	46.267522	46.26752155657725	46.26752155657725
r-05-headcoverd	41.910229	41.910229	41.910229	41.910229	41.910229	41.910229082443315	41.910229082443315
r-06-pitch	55.484277	55.484277	55.484277	55.484277	55.484277	55.48427705773062	55.48427705773062
r-07-scarf	44.647808	44.647808	44.647808	44.647808	44.647808	44.64780774573804	44.64780774573804
r-08-mask	67.653893	67.653893	67.653893	67.653893	67.653893	67.65389279989509	67.65389279989509
r-09-background	187.407600	187.407600	187.407600	187.407600	187.407600	187.4076004358298	187.4076004358298

4.1.3 Illumination Uniformity

Table 5 Illumination uniformity – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-01-smile	0.141003	0.141003	0.141003	0.141003	0.141003	0.1410034637665376	0.1410034637665376
b-02-rolled	0.166955	0.166955	0.166955	0.166955	0.166955	0.1669550216756761	0.1669550216756761

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-03-headcovered	0.117539	0.117539	0.117539	0.117539	0.117539	0.11753902601776645	0.11753902601776645
b-04-headcovered	0.098776	0.098776	0.098776	0.098776	0.098776	0.09877550887176767	0.09877550887176767
b-05-scarf	0.498270	0.498270	0.498270	0.498270	0.498270	0.49826990836299956	0.49826990836299956
b-06-mask	0.018166	0.018166	0.018166	0.018166	0.018166	0.01816609053639695	0.01816609053639695
b-07-glasses	0.106939	0.106939	0.106939	0.106939	0.106939	0.10693877446465194	0.10693877446465194
b-08-sunglasses	0.149691	0.149691	0.149691	0.149691	0.149691	0.14969135913997889	0.14969135913997889
b-09-background	0.030277	0.030277	0.030277	0.030277	0.030277	0.030276817444246262	0.030276817444246262
c-01-frontal	0.320816	0.320816	0.320816	0.320816	0.320816	0.32081632304470986	0.32081632304470986
c-02-headcovered-mouthopen	0.842057	0.842057	0.842057	0.842057	0.842057	0.8420569266891107	0.8420569266891107
c-03-headcovered	0.838384	0.838384	0.838384	0.838384	0.838384	0.8383838273002766	0.8383838273002766
c-04-headcovered	0.283747	0.283747	0.283747	0.283747	0.283747	0.28374655212974176	0.28374655212974176
c-05-scarf	0.385813	0.385813	0.385813	0.385813	0.385813	0.3858131603919901	0.3858131603919901
c-06-glasses	0.202938	0.202938	0.202938	0.202938	0.202938	0.20293847401626408	0.20293847401626408
c-07-twofaces	0.274221	0.274221	0.274221	0.274221	0.274221	0.2742214609752409	0.2742214609752409
c-08-sunglasses	0.267747	0.267747	0.267747	0.267747	0.267747	0.2677469151094556	0.2677469151094556
c-09-mask	0.012111	0.012111	0.012111	0.012111	0.012111	0.012110727024264634	0.012110727024264634
c-10-background	0.280277	0.280277	0.280277	0.280277	0.280277	0.2802768239052966	0.2802768239052966
r-01-frontal	0.196759	0.196759	0.196759	0.196759	0.196759	0.19675926165655255	0.19675926165655255
r-02-rolled	0.207347	0.207347	0.207347	0.207347	0.207347	0.2073469374445267	0.2073469374445267

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
r-03-mouthopen	0.192130	0.192130	0.192130	0.192130	0.192130	0.1921296315267682	0.1921296315267682
r-04-headcovered-eyeclosed	0.202160	0.202160	0.202160	0.202160	0.202160	0.2021604967303574	0.2021604967303574
r-05-headcovered	0.208163	0.208163	0.208163	0.208163	0.208163	0.20816326374188066	0.20816326374188066
r-06-pitch	0.229167	0.229167	0.229167	0.229167	0.229167	0.22916666558012366	0.22916666558012366
r-07-scarf	0.114969	0.114969	0.114969	0.114969	0.114969	0.11496913759037852	0.11496913759037852
r-08-mask	0.388504	0.388504	0.388504	0.388504	0.388504	0.3885041424073279	0.3885041424073279
r-09-background	0.020062	0.020062	0.020062	0.020062	0.020062	0.020061728544533253	0.020061728544533253

4.1.4 Luminance Mean

Table 6 Luminance mean – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-01-smile	0.296285	0.296285	0.296285	0.296285	0.296285	0.29628454438937435	0.29628454438937435
b-02-rolled	0.298599	0.298599	0.298599	0.298599	0.298599	0.2985985904225825	0.2985985904225825
b-03-headcovered	0.322942	0.322942	0.322942	0.322942	0.322942	0.3229416585623233	0.3229416585623233
b-04-headcovered	0.303360	0.303360	0.303360	0.303360	0.303360	0.3033598877275355	0.3033598877275355
b-05-scarf	0.298608	0.298608	0.298608	0.298608	0.298608	0.2986082560858719	0.2986082560858719
b-06-mask	0.497561	0.497561	0.497561	0.497561	0.497561	0.4975614775746021	0.4975614775746021
b-07-glasses	0.318891	0.318891	0.318891	0.318891	0.318891	0.3188909652805832	0.3188909652805832
b-08-sunglasses	0.286100	0.286100	0.286100	0.286100	0.286100	0.2861003964298089	0.2861003964298089

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-09-background	0.250153	0.250153	0.250153	0.250153	0.250153	0.25015290361112497	0.25015290361112497
c-01-frontal	0.282818	0.282818	0.282818	0.282818	0.282818	0.28281751684111883	0.28281751684111883
c-02-headcovered-mouthopen	0.316663	0.316663	0.316663	0.316663	0.316663	0.31666257520361485	0.31666257520361485
c-03-headcovered	0.340252	0.340252	0.340252	0.340252	0.340252	0.3402524278895799	0.3402524278895799
c-04-headcovered	0.277023	0.277023	0.277023	0.277023	0.277023	0.2770226797379732	0.2770226797379732
c-05-scarf	0.189517	0.189517	0.189517	0.189517	0.189517	0.1895170242580421	0.1895170242580421
c-06-glasses	0.248062	0.248062	0.248062	0.248062	0.248062	0.24806157945236293	0.24806157945236293
c-07-twofaces	0.295112	0.295112	0.295112	0.295112	0.295112	0.2951115414060825	0.2951115414060825
c-08-sunglasses	0.271406	0.271406	0.271406	0.271406	0.271406	0.27140618716562037	0.27140618716562037
c-09-mask	0.443931	0.443931	0.443931	0.443931	0.443931	0.4439313033969467	0.4439313033969467
c-10-background	0.240043	0.240043	0.240043	0.240043	0.240043	0.24004280897915664	0.24004280897915664
r-01-frontal	0.190488	0.190488	0.190488	0.190488	0.190488	0.1904880033857756	0.1904880033857756
r-02-rolled	0.190441	0.190441	0.190441	0.190441	0.190441	0.19044068735954575	0.19044068735954575
r-03-mouthopen	0.186920	0.186920	0.186920	0.186920	0.186920	0.1869201013841639	0.1869201013841639
r-04-headcovered-eyeclosed	0.225396	0.225396	0.225396	0.225396	0.225396	0.22539626245829736	0.22539626245829736
r-05-headcovered	0.198766	0.198766	0.198766	0.198766	0.198766	0.19876567897177555	0.19876567897177555
r-06-pitch	0.177005	0.177005	0.177005	0.177005	0.177005	0.17700513360513132	0.17700513360513132
r-07-scarf	0.258515	0.258515	0.258515	0.258515	0.258515	0.258514863507726	0.258514863507726

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
r-08-mask	0.103719	0.103719	0.103719	0.103719	0.103719	0.10371891701154301	0.10371891701154301
r-09-background	0.225448	0.225448	0.225448	0.225448	0.225448	0.2254483146216907	0.2254483146216907

4.1.5 Luminance Variance

Table 7 Luminance variance - native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-01-smile	0.014954	0.014954	0.014954	0.014954	0.014954	0.014953527165698501	0.014953527165698501
b-02-rolled	0.014252	0.014252	0.014252	0.014252	0.014252	0.014251996988793142	0.014251996988793142
b-03-headcovered	0.040050	0.040050	0.040050	0.040050	0.040050	0.04004969003182234	0.04004969003182234
b-04-headcovered	0.019721	0.019721	0.019721	0.019721	0.019721	0.019720920023279864	0.019720920023279864
b-05-scarf	0.014500	0.014500	0.014500	0.014500	0.014500	0.014500151953283318	0.014500151953283318
b-06-mask	0.059659	0.059659	0.059659	0.059659	0.059659	0.05965876573026521	0.05965876573026521
b-07-glasses	0.014461	0.014461	0.014461	0.014461	0.014461	0.014461038832322012	0.014461038832322012
b-08-sunglasses	0.024641	0.024641	0.024641	0.024641	0.024641	0.024640600106961192	0.024640600106961192
b-09-background	0.028186	0.028186	0.028186	0.028186	0.028186	0.028185826402116202	0.028185826402116202
c-01-frontal	0.007320	0.007320	0.007320	0.007320	0.007320	0.007320435149433987	0.007320435149433987
c-02-headcovered-mouthopen	0.047588	0.047588	0.047588	0.047588	0.047588	0.04758838891611052	0.04758838891611052
c-03-headcovered	0.054218	0.054218	0.054218	0.054218	0.054218	0.05421828983746158	0.05421828983746158
c-04-headcovered	0.017250	0.017250	0.017250	0.017250	0.017250	0.017250091363588082	0.017250091363588082

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
c-05-scarf	0.010255	0.010255	0.010255	0.010255	0.010255	0.01025492285207019	0.01025492285207019
c-06-glasses	0.012939	0.012939	0.012939	0.012939	0.012939	0.012938703382184133	0.012938703382184133
c-07-twofaces	0.015774	0.015774	0.015774	0.015774	0.015774	0.015774411994707156	0.015774411994707156
c-08-sunglasses	0.021515	0.021515	0.021515	0.021515	0.021515	0.021514565574996328	0.021514565574996328
c-09-mask	0.067912	0.067912	0.067912	0.067912	0.067912	0.06791196400422295	0.06791196400422295
c-10-background	0.021413	0.021413	0.021413	0.021413	0.021413	0.02141321347959594	0.02141321347959594
r-01-frontal	0.009668	0.009668	0.009668	0.009668	0.009668	0.00966846544690057	0.00966846544690057
r-02-rolled	0.008405	0.008405	0.008405	0.008405	0.008405	0.008404888544114981	0.008404888544114981
r-03-mouthopen	0.008630	0.008630	0.008630	0.008630	0.008630	0.008629993514947911	0.008629993514947911
r-04-headcovered-eyeclosed	0.007762	0.007762	0.007762	0.007762	0.007762	0.007761927513305778	0.007761927513305778
r-05-headcovered	0.022266	0.022266	0.022266	0.022266	0.022266	0.02226621376837503	0.02226621376837503
r-06-pitch	0.008720	0.008720	0.008720	0.008720	0.008720	0.00872038203656871	0.00872038203656871
r-07-scarf	0.013047	0.013047	0.013047	0.013047	0.013047	0.013047405819588654	0.013047405819588654
r-08-mask	0.022853	0.022853	0.022853	0.022853	0.022853	0.022852842680816464	0.022852842680816464
r-09-background	0.030372	0.030372	0.030372	0.030372	0.030372	0.03037221286190853	0.03037221286190853

4.1.6 Under-Exposure Prevention

Table 8 Under-exposure prevention – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-01-smile	0.049163	0.049163	0.049163	0.049163	0.049163	0.049162881739229586	0.049162881739229586
b-02-rolled	0.055943	0.055943	0.055943	0.055943	0.055943	0.05594273161124157	0.05594273161124157
b-03-headcovered	0.102210	0.102210	0.102210	0.102210	0.102210	0.10220982142857142	0.10220982142857142
b-04-headcovered	0.027474	0.027474	0.027474	0.027474	0.027474	0.027474395478305214	0.027474395478305214
b-05-scarf	0.023528	0.023528	0.023528	0.023528	0.023528	0.023528416063645214	0.023528416063645214
b-06-mask	0.131261	0.131261	0.131261	0.131261	0.131261	0.13126131563065782	0.13126131563065782
b-07-glasses	0.017577	0.017577	0.017577	0.017577	0.017577	0.017577333110734814	0.017577333110734814
b-08-sunglasses	0.044249	0.044249	0.044249	0.044249	0.044249	0.04424883183083966	0.04424883183083966
b-09-background	0.173227	0.173227	0.173227	0.173227	0.173227	0.17322653505102895	0.17322653505102895
c-01-frontal	0.025700	0.025700	0.025700	0.025700	0.025700	0.02569993588373584	0.02569993588373584
c-02-headcovered-mouthopen	0.135860	0.135860	0.135860	0.135860	0.135860	0.13585984983911334	0.13585984983911334
c-03-headcovered	0.141956	0.141956	0.141956	0.141956	0.141956	0.14195593399421982	0.14195593399421982
c-04-headcovered	0.013022	0.013022	0.013022	0.013022	0.013022	0.013022146820120133	0.013022146820120133
c-05-scarf	0.070675	0.070675	0.070675	0.070675	0.070675	0.0706752333616196	0.0706752333616196
c-06-glasses	0.042300	0.042300	0.042300	0.042300	0.042300	0.042299841233839876	0.042299841233839876
c-07-twofaces	0.037523	0.037523	0.037523	0.037523	0.037523	0.037522648015741594	0.037522648015741594
c-08-sunglasses	0.021937	0.021937	0.021937	0.021937	0.021937	0.021937487866433705	0.021937487866433705

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
c-09-mask	0.241559	0.241559	0.241559	0.241559	0.241559	0.24155878820232216	0.24155878820232216
c-10-background	0.118626	0.118626	0.118626	0.118626	0.118626	0.11862623529853832	0.11862623529853832
r-01-frontal	0.105363	0.105363	0.105363	0.105363	0.105363	0.10536289971246841	0.10536289971246841
r-02-rolled	0.082671	0.082671	0.082671	0.082671	0.082671	0.08267097469036079	0.08267097469036079
r-03-mouthopen	0.094275	0.094275	0.094275	0.094275	0.094275	0.09427507186525771	0.09427507186525771
r-04-headcovered-eyeclosed	0.032277	0.032277	0.032277	0.032277	0.032277	0.03227695847714674	0.03227695847714674
r-05-headcovered	0.239812	0.239812	0.239812	0.239812	0.239812	0.23981223682091163	0.23981223682091163
r-06-pitch	0.103467	0.103467	0.103467	0.103467	0.103467	0.10346715782661721	0.10346715782661721
r-07-scarf	0.024735	0.024735	0.024735	0.024735	0.024735	0.02473468705607086	0.02473468705607086
r-08-mask	0.087205	0.087205	0.087205	0.087205	0.087205	0.08720470712215686	0.08720470712215686
r-09-background	0.351883	0.351883	0.351883	0.351883	0.351883	0.3518828724954859	0.3518828724954859

4.1.7 Over-Exposure Prevention

Table 9 Over-exposure prevention – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-01-smile	0	0	0	0	0	0.0	0.0
b-02-rolled	0	0	0	0	0	0.0	0.0
b-03-headcovered	0	0	0	0	0	0.0	0.0
b-04-headcovered	0	0	0	0	0	0.0	0.0

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
b-05-scarf	0	0	0	0	0	0.0	0.0
b-06-mask	0	0	0	0	0	0.0	0.0
b-07-glasses	0	0	0	0	0	0.0	0.0
b-08-sunglasses	0	0	0	0	0	0.0	0.0
b-09-background	0	0	0	0	0	0.0	0.0
c-01-frontal	0	0	0	0	0	0.0	0.0
c-02-headcover d-mouthopen	0	0	0	0	0	0.0	0.0
c-03-headcover d	0	0	0	0	0	0.0	0.0
c-04-headcover d	0	0	0	0	0	0.0	0.0
c-05-scarf	0	0	0	0	0	0.0	0.0
c-06-glasses	0	0	0	0	0	0.0	0.0
c-07-twofaces	0	0	0	0	0	0.0	0.0
c-08-sunglasses	0	0	0	0	0	0.0	0.0
c-09-mask	0	0	0	0	0	0.0	0.0
c-10-background	0	0	0	0	0	0.0	0.0
r-01-frontal	0	0	0	0	0	0.0	0.0
r-02-rolled	0	0	0	0	0	0.0	0.0
r-03-mouthopen	0	0	0	0	0	0.0	0.0
r-04-headcover d-eyeclosed	0	0	0	0	0	0.0	0.0
r-05-headcover d	0	0	0	0	0	0.0	0.0

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android 13	iOS
r-06-pitch	0	0	0	0	0	0.0	0.0
r-07-scarf	0	0	0	0	0	0.0	0.0
r-08-mask	0	0	0	0	0	0.0	0.0
r-09-background	0.000065	0.000065	0.000065	0.000065	0.000065	0.00006526421128200666	0.00006526421128200666

4.1.8 Dynamic Range

Table 10 Dynamic range – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	6.9104999	6.910499	6.910499	6.910499	6.910499	6.910499089256507	6.910499089256507
b-02-rolled	6.8882233	6.888223	6.888223	6.888223	6.888223	6.888222653984815	6.888222653984814
b-03-headcovered	7.4381066	7.438106	7.438106	7.438106	7.438106	7.438106224392446	7.438106224392446
b-04-headcovered	6.8804144	6.880414	6.880414	6.880414	6.880414	6.88041446196416	6.8804144619641585
b-05-scarf	6.9325588	6.932558	6.932558	6.932558	6.932558	6.932558224836205	6.932558224836206
b-06-mask	7.6098022	7.609802	7.609802	7.609802	7.609802	7.609802360110692	7.6098023601106926
b-07-glasses	6.8692077	6.869207	6.869207	6.869207	6.869207	6.869207385594116	6.869207385594116
b-08-sunglasses	6.9936522	6.993652	6.993652	6.993652	6.993652	6.99365221065076	6.993652210650761
b-09-background	7.0255788	7.025578	7.025578	7.025578	7.025578	7.025577551787114	7.025577551787115
c-01-frontal	6.4519866	6.451986	6.451986	6.451986	6.451986	6.451985880949453	6.4519858809494535
c-02-headcovered-mouthopen	7.4171177	7.417117	7.417117	7.417117	7.417117	7.41711746346127	7.4171174634612695
c-03-headcovered	7.5049033	7.504903	7.504903	7.504903	7.504903	7.504903066172608	7.5049030661726075

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04- headcovered	6.566232	6.566232	6.566232	6.566232	6.566232	6.566232219396832	6.5662322193968325
c-05-scarf	6.549825	6.549825	6.549825	6.549825	6.549825	6.54982478967333	6.549824789673332
c-06-glasses	6.849478	6.849478	6.849478	6.849478	6.849478	6.849478111412089	6.849478111412088
c-07- twofaces	6.981078	6.981078	6.981078	6.981078	6.981078	6.981077779394288	6.981077779394288
c-08- sunglasses	6.847849	6.847849	6.847849	6.847849	6.847849	6.847848771677979	6.847848771677979
c-09-mask	7.459769	7.459769	7.459769	7.459769	7.459769	7.459769251559758	7.459769251559758
c-10- background	6.931612	6.931612	6.931612	6.931612	6.931612	6.931611722592288	6.931611722592288
r-01-frontal	6.433408	6.433408	6.433408	6.433408	6.433408	6.433408211892295	6.433408211892295
r-02-rolled	6.314165	6.314165	6.314165	6.314165	6.314165	6.314164585384626	6.314164585384627
r-03- mouthopen	6.252619	6.252619	6.252619	6.252619	6.252619	6.252619325022724	6.2526193250227236
r-04- headcovered- eyeclosed	6.338847	6.338847	6.338847	6.338847	6.338847	6.3388468103954985	6.3388468103954985
r-05- headcovered	6.712063	6.712063	6.712063	6.712063	6.712063	6.712063048051904	6.712063048051904
r-06-pitch	6.209496	6.209496	6.209496	6.209496	6.209496	6.2094959768472275	6.209495976847225
r-07-scarf	6.729036	6.729036	6.729036	6.729036	6.729036	6.729035959093297	6.729035959093297
r-08-mask	5.558990	5.558990	5.558990	5.558990	5.558990	5.55899007522493	5.55899007522493
r-09- background	7.006914	7.006914	7.006914	7.006914	7.006914	7.006914066242556	7.006914066242556

4.1.9 Sharpness

Table 11 Sharpness – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	44	44	44	44	44	44.0	44.0
b-02-rolled	50	50	50	50	50	50.0	50.0
b-03-headcovered	50	50	50	50	50	50.0	50.0
b-04-headcovered	47	47	47	47	47	47.0	47.0
b-05-scarf	45	45	45	45	45	45.0	45.0
b-06-mask	50	50	50	50	50	50.0	50.0
b-07-glasses	38	38	38	38	38	38.0	38.0
b-08-sunglasses	47	47	47	47	47	47.0	47.0
b-09-background	47	47	47	47	47	47.0	47.0
c-01-frontal	49	49	49	49	49	49.0	49.0
c-02-headcovered-mouthopen	48	48	48	48	48	48.0	48.0
c-03-headcovered	48	48	48	48	48	48.0	48.0
c-04-headcovered	45	45	45	45	45	45.0	45.0
c-05-scarf	44	44	44	44	44	44.0	44.0
c-06-glasses	46	46	46	46	46	46.0	46.0
c-07-twofaces	47	47	47	47	47	47.0	47.0
c-08-sunglasses	40	40	40	40	40	40.0	40.0
c-09-mask	48	48	48	48	48	48.0	48.0
c-10-background	49	49	49	49	49	49.0	49.0
r-01-frontal	49	49	49	49	49	49.0	49.0
r-02-rolled	48	48	48	48	48	48.0	48.0
r-03-mouthopen	45	45	45	45	45	45.0	45.0

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-04-headcovered-eyeclosed	48	48	48	48	48	48.0	48.0
r-05-headcovered	49	49	49	49	49	49.0	49.0
r-06-pitch	44	44	44	44	44	44.0	44.0
r-07-scarf	48	48	48	48	48	48.0	48.0
r-08-mask	41	41	41	41	41	41.0	41.0
r-09-background	47	47	47	47	47	47.0	47.0

4.1.10 No Compression Artefacts

Table 12 No compression artefacts – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0.947065	0.947065	0.947065	0.947065	0.947065	0.9470651149749756	0.9470651149749756
b-02-rolled	0.944888	0.944888	0.944888	0.944888	0.944888	0.9448884725570679	0.9448884725570679
b-03-headcovered	0.966070	0.966070	0.966070	0.966070	0.966070	0.9660701751708984	0.9660701751708984
b-04-headcovered	0.978856	0.978856	0.978856	0.978856	0.978856	0.978856086730957	0.9788559675216675
b-05-scarf	0.886013	0.886013	0.886013	0.886013	0.886013	0.8860130906105042	0.8860130310058594
b-06-mask	0.938479	0.938479	0.938479	0.938479	0.938479	0.9384788274765015	0.9384788274765015
b-07-glasses	0.960998	0.960998	0.960998	0.960998	0.960998	0.9609975814819336	0.9609975814819336
b-08-sunglasses	0.944594	0.944594	0.944594	0.944594	0.944594	0.9445937275886536	0.9445938467979431
b-09-background	0.953989	0.953989	0.953989	0.953989	0.953989	0.9539888501167297	0.9539888501167297
c-01-frontal	0.955245	0.955245	0.955245	0.955245	0.955245	0.9552453756332397	0.9552453756332397

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-02- headcovered- mouthopen	0.9784999	0.978499	0.978499	0.978499	0.978499	0.978499174118042	0.978499174118042
c-03- headcovered	0.9640311	0.964031	0.964031	0.964031	0.964031	0.9640308618545532	0.9640308618545532
c-04- headcovered	0.9736244	0.973624	0.973624	0.973624	0.973624	0.973624050617218	0.9736239910125732
c-05-scarf	0.9023077	0.902307	0.902307	0.902307	0.902307	0.9023072123527527	0.9023072123527527
c-06-glasses	0.9723488	0.972348	0.972348	0.972348	0.972348	0.9723476767539978	0.9723476767539978
c-07- twofaces	0.9562233	0.956223	0.956223	0.956223	0.956223	0.9562227129936218	0.956222653388977
c-08- sunglasses	0.9614011	0.961401	0.961401	0.961401	0.961401	0.9614013433456421	0.9614013433456421
c-09-mask	0.9543544	0.954354	0.954355	0.954354	0.954354	0.954354465007782	0.954354465007782
c-10- background	0.9743999	0.974399	0.974399	0.974399	0.974399	0.9743986129760742	0.9743985533714294
r-01-frontal	0.9616911	0.961691	0.961691	0.961691	0.961691	0.96169114112854	0.96169114112854
r-02-rolled	0.9652044	0.965204	0.965204	0.965204	0.965204	0.9652040004730225	0.9652040004730225
r-03- mouthopen	0.9730722	0.973072	0.973072	0.973072	0.973072	0.9730719327926636	0.9730719923973083
r-04- headcovered- eyeclosed	0.9659577	0.965957	0.965957	0.965957	0.965957	0.9659566283226013	0.9659566283226013
r-05- headcovered	0.9687233	0.968723	0.968723	0.968723	0.968723	0.9687228202819824	0.9687227606773376
r-06-pitch	0.9688355	0.968835	0.968835	0.968835	0.968835	0.968835175037384	0.968835175037384
r-07-scarf	0.9763544	0.976354	0.976354	0.976354	0.976354	0.9763540625572205	0.9763540625572205
r-08-mask	0.9433644	0.943364	0.943364	0.943364	0.943364	0.9433638453483582	0.9433637857437134
r-09- background	0.9705600	0.970560	0.970560	0.970560	0.970560	0.9705604314804077	0.9705604314804077

4.1.11 Natural Colour

Table 13 Natural colour – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0	0	0	0	0	0.0	0.0
b-02-rolled	0.171868	0.171868	0.171868	0.171868	0.171868	0.171867636202105	0.171867636202105
b-03-headcovered	0	0	0	0	0	0.0	0.0
b-04-headcovered	0.516643	0.516643	0.516643	0.516643	0.516643	0.5166434206907091	0.5166434206907091
b-05-scarf	3.350.172	3.350.172	3.350.172	3.350.172	3.350.172	33.501.717.563.809.800	33.501.717.563.809.800
b-06-mask	4.805.962	4.805.962	4.805.962	4.805.962	4.805.962	4.805.961.986.648.610	4.805.961.986.648.610
b-07-glasses	0.948361	0.948361	0.948361	0.948361	0.948361	0.9483609747605541	0.9483609747605541
b-08-sunglasses	0	0	0	0	0	0.0	0.0
b-09-background	0	0	0	0	0	0.0	0.0
c-01-frontal	0	0	0	0	0	0.0	0.0
c-02-headcovered-mouthopen	0	0	0	0	0	0.0	0.0
c-03-headcovered	0	0	0	0	0	0.0	0.0
c-04-headcovered	0	0	0	0	0	0.0	0.0
c-05-scarf	100	100	100	100	100	100.0	100.0
c-06-glasses	0	0	0	0	0	0.0	0.0
c-07-twofaces	0	0	0	0	0	0.0	0.0
c-08-sunglasses	0	0	0	0	0	0.0	0.0
c-09-mask	4.726.742	4.726.742	4.726.742	4.726.742	4.726.742	4.726.742.394.113.770	4.726.742.394.113.760
c-10-background	0	0	0	0	0	0.0	0.0

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-01-frontal	0	0	0	0	0	0.0	0.0
r-02-rolled	0	0	0	0	0	0.0	0.0
r-03-mouthopen	0	0	0	0	0	0.0	0.0
r-04-headcovered-eyeclosed	0	0	0	0	0	0.0	0.0
r-05-headcovered	0	0	0	0	0	0.0	0.0
r-06-pitch	0	0	0	0	0	0.0	0.0
r-07-scarf	0	0	0	0	0	0.0	0.0
r-08-mask	100	100	100	100	100	100.0	100.0
r-09-background	0	0	0	0	0	0.0	0.0

4.1.12 Single Face Present

Table 14 Single face – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0	0	0	0	0	0.0	0.0
b-02-rolled	0	0	0	0	0	0.0	0.0
b-03-headcovered	0	0	0	0	0	0.0	0.0
b-04-headcovered	0	0	0	0	0	0.0	0.0
b-05-scarf	0	0	0	0	0	0.0	0.0
b-06-mask	0	0	0	0	0	0.0	0.0
b-07-glasses	0	0	0	0	0	0.0	0.0
b-08-sunglasses	0	0	0	0	0	0.0	0.0
b-09-background	0	0	0	0	0	0.0	0.0
c-01-frontal	0	0	0	0	0	0.0	0.0

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-02-headcovered-mouthopen	0	0	0	0	0	0.0	0.0
c-03-headcovered	0	0	0	0	0	0.0	0.0
c-04-headcovered	0	0	0	0	0	0.0	0.0
c-05-scarf	0	0	0	0	0	0.0	0.0
c-06-glasses	0	0	0	0	0	0.0	0.0
c-07-twofaces	0.333736	0.333736	0.333736	0.333736	0.333736	0.33373555541038513	0.33373555541038513
c-08-sunglasses	0	0	0	0	0	0.0	0.0
c-09-mask	0	0	0	0	0	0.0	0.0
c-10-background	0	0	0	0	0	0.0	0.0
r-01-frontal	0	0	0	0	0	0.0	0.0
r-02-rolled	0	0	0	0	0	0.0	0.0
r-03-mouthopen	0	0	0	0	0	0.0	0.0
r-04-headcovered-eyeclosed	0	0	0	0	0	0.0	0.0
r-05-headcovered	0	0	0	0	0	0.0	0.0
r-06-pitch	0.316289	0.316289	0.316289	0.316289	0.316289	0.31628888845443726	0.31628888845443726
r-07-scarf	0	0	0	0	0	0.0	0.0
r-08-mask	0	0	0	0	0	0.0	0.0
r-09-background	0	0	0	0	0	0.0	0.0

4.1.13 Eyes Open

Table 15 Eyes open – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0.070220	0.070220	0.070220	0.070220	0.070220	0.07021987641661764	0.07021987641661764
b-02-rolled	0.074475	0.074475	0.074475	0.074475	0.074475	0.07447495600934119	0.07447495600934119
b-03-headcovered	0.060311	0.060311	0.060311	0.060311	0.060311	0.06031065353798439	0.06031065353798439
b-04-headcovered	0.082626	0.082626	0.082626	0.082626	0.082626	0.08262580220582327	0.08262580220582327
b-05-scarf	0.089949	0.089949	0.089949	0.089949	0.089949	0.08994896344110558	0.08994896344110558
b-06-mask	0.075264	0.075264	0.075264	0.075264	0.075264	0.07526373662633386	0.07526373662633386
b-07-glasses	0.082377	0.082377	0.082377	0.082377	0.082377	0.08237673495575926	0.08237673495575926
b-08-sunglasses	0.065409	0.065409	0.065409	0.065409	0.065409	0.06540877166043206	0.06540877166043206
b-09-background	0.089511	0.089511	0.089511	0.089511	0.089511	0.08951074039112027	0.08951074039112027
c-01-frontal	0.066520	0.066520	0.066520	0.066520	0.066520	0.06652011203376634	0.06652011203376634
c-02-headcovered-mouthopen	0.059627	0.059627	0.059627	0.059627	0.059627	0.059627380661848195	0.059627380661848195
c-03-headcovered	0.061926	0.061926	0.061926	0.061926	0.061926	0.061926016318806246	0.061926016318806246
c-04-headcovered	0.067124	0.067124	0.067124	0.067124	0.067124	0.06712385349662804	0.06712385349662804
c-05-scarf	0.086950	0.086950	0.086950	0.086950	0.086950	0.08694981382870345	0.08694981382870345
c-06-glasses	0.050625	0.050625	0.050625	0.050625	0.050625	0.050625080223793605	0.050625080223793605
c-07-twofaces	0.067793	0.067793	0.067793	0.067793	0.067793	0.06779342918654373	0.06779342918654373
c-08-sunglasses	0.067954	0.067954	0.067954	0.067954	0.067954	0.06795395711757383	0.06795395711757383

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-09-mask	0.057410	0.057410	0.057410	0.057410	0.057410	0.057410353810490033	0.057410353810490033
c-10-background	0.081871	0.081871	0.081871	0.081871	0.081871	0.08187110088373427	0.08187110088373427
r-01-frontal	0.078848	0.078848	0.078848	0.078848	0.078848	0.07884825120510404	0.07884825120510404
r-02-rolled	0.060196	0.060196	0.060196	0.060196	0.060196	0.06019639566395454	0.06019639566395454
r-03-mouthopen	0.066931	0.066931	0.066931	0.066931	0.066931	0.0669309318077323	0.0669309318077323
r-04-headcovered-eyeclosed	0.023177	0.023177	0.023177	0.023177	0.023177	0.023177361425421747	0.023177361425421747
r-05-headcovered	0.059790	0.059790	0.059790	0.059790	0.059790	0.05979017145946166	0.05979017145946166
r-06-pitch	0.086448	0.086448	0.086448	0.086448	0.086448	0.08644824275301677	0.08644824275301677
r-07-scarf	0.085567	0.085567	0.085567	0.085567	0.085567	0.08556663237825876	0.08556663237825876
r-08-mask	0.111367	0.111367	0.111367	0.111367	0.111367	0.11136687739853562	0.11136687739853562
r-09-background	0.092360	0.092360	0.092360	0.092360	0.092360	0.09236039426276454	0.09236039426276454

4.1.14 Mouth Closed

Table 16 Mouth closed – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0.002466	0.002466	0.002466	0.002466	0.002466	0.002466431373112929	0.002466431373112929
b-02-rolled	0.002642	0.002642	0.002642	0.002642	0.002642	0.002641589347687775	0.002641589347687775
b-03-headcovered	0.001891	0.001891	0.001891	0.001891	0.001891	0.0018907811096414142	0.0018907811096414142

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-04-headcoverd	0.001407	0.001407	0.001407	0.001407	0.001407	0.0014071247024760895	0.0014071247024760895
b-05-scarf	0.065274	0.065274	0.065274	0.065274	0.065274	0.06527407241358102	0.06527407241358102
b-06-mask	0.027464	0.027464	0.027464	0.027464	0.027464	0.027464133189781383	0.027464133189781383
b-07-glasses	0.001374	0.001374	0.001374	0.001374	0.001374	0.0013738324331952598	0.0013738324331952598
b-08-sunglasses	0.000997	0.000997	0.000997	0.000997	0.000997	0.0009974704043395808	0.0009974704043395808
b-09-background	0.004160	0.004160	0.004160	0.004160	0.004160	0.004159963336260635	0.004159963336260635
c-01-frontal	0.003328	0.003328	0.003328	0.003328	0.003328	0.003328295588428408	0.003328295588428408
c-02-headcoverd-mouthopen	0.082712	0.082712	0.082712	0.082712	0.082712	0.08271210531193561	0.08271210531193561
c-03-headcoverd	0.004447	0.004447	0.004447	0.004447	0.004447	0.004447264816106361	0.004447264816106361
c-04-headcoverd	0.049825	0.049825	0.049825	0.049825	0.049825	0.04982460913385402	0.04982460913385402
c-05-scarf	0.040533	0.040533	0.040533	0.040533	0.040533	0.04053306196762456	0.04053306196762456
c-06-glasses	0.002157	0.002157	0.002157	0.002157	0.002157	0.002156510584987207	0.002156510584987207
c-07-twofaces	0.002632	0.002632	0.002632	0.002632	0.002632	0.002631949938809855	0.002631949938809855
c-08-sunglasses	0.005753	0.005753	0.005753	0.005753	0.005753	0.005753048362440642	0.005753048362440642
c-09-mask	0.009154	0.009154	0.009154	0.009154	0.009154	0.009153886554180516	0.009153886554180516
c-10-background	0.001497	0.001497	0.001497	0.001497	0.001497	0.0014973377564992858	0.0014973377564992858
r-01-frontal	0.006977	0.006977	0.006977	0.006977	0.006977	0.006976894063612929	0.006976894063612929

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-02-rolled	0.002228	0.002228	0.002228	0.002228	0.002228	0.002227792761699532	0.002227792761699532
r-03-mouthopen	0.080530	0.080530	0.080530	0.080530	0.080530	0.08053013699715696	0.08053013699715696
r-04-headcovered-eyeclosed	0.005358	0.005358	0.005358	0.005358	0.005358	0.005358197895003602	0.005358197895003602
r-05-headcovered	0.002813	0.002813	0.002813	0.002813	0.002813	0.0028134743426333846	0.0028134743426333846
r-06-pitch	0.003407	0.003407	0.003407	0.003407	0.003407	0.0034067957239386883	0.0034067957239386883
r-07-scarf	0.001838	0.001838	0.001838	0.001838	0.001838	0.001837750129020513	0.001837750129020513
r-08-mask	0.019661	0.019661	0.019661	0.019661	0.019661	0.01966095985349653	0.01966095985349653
r-09-background	0.003772	0.003772	0.003772	0.003772	0.003772	0.0037724609556203962	0.0037724609556203962

4.1.15 Eyes Visible

Table 17 Eyes visible – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0	0	0	0	0	0.0	0.0
b-02-rolled	0	0	0	0	0	0.0	0.0
b-03-headcovered	0.546753	0.546753	0.546753	0.546753	0.546753	0.5467525195968646	0.5467525195968646
b-04-headcovered	0.154390	0.154390	0.154390	0.154390	0.154390	0.15438950554994954	0.15438950554994954
b-05-scarf	0	0	0	0	0	0.0	0.0
b-06-mask	0.015196	0.015196	0.015196	0.015196	0.015196	0.015195791934541203	0.015195791934541203
b-07-glasses	0.380124	0.380124	0.380124	0.380124	0.380124	0.3801235261089276	0.3801235261089276

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-08-sunglasses	1	1	1	1	1	1.0	1.0
b-09-background	0	0	0	0	0	0.0	0.0
c-01-frontal	0	0	0	0	0	0.0	0.0
c-02-headcovered-mouthopen	0.999656	0.999656	0.999656	0.999656	0.999656	0.999656121045392	0.999656121045392
c-03-headcovered	1	1	1	1	1	1.0	1.0
c-04-headcovered	0.482405	0.482405	0.482405	0.482405	0.482405	0.4824050983651981	0.4824050983651981
c-05-scarf	0.000881	0.000881	0.000881	0.000881	0.000881	0.0008807985907222549	0.0008807985907222549
c-06-glasses	0.450213	0.450213	0.450213	0.450213	0.450213	0.45021337126600286	0.45021337126600286
c-07-twofaces	0	0	0	0	0	0.0	0.0
c-08-sunglasses	1	1	1	1	1	1.0	1.0
c-09-mask	0.076569	0.076569	0.076569	0.076569	0.076569	0.07656879677605066	0.07656879677605066
c-10-background	0	0	0	0	0	0.0	0.0
r-01-frontal	0	0	0	0	0	0.0	0.0
r-02-rolled	0	0	0	0	0	0.0	0.0
r-03-mouthopen	0	0	0	0	0	0.0	0.0
r-04-headcovered-eyeclosed	0	0	0	0	0	0.0	0.0
r-05-headcovered	0.189971	0.189971	0.189971	0.189971	0.189971	0.18997107039537126	0.18997107039537126
r-06-pitch	0.193437	0.193437	0.193437	0.193437	0.193437	0.19343696027633853	0.19343696027633853

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-07-scarf	0	0	0	0	0	0.0	0.0
r-08-mask	0.021734	0.021734	0.021734	0.021734	0.021734	0.021733761422573473	0.021733761422573473
r-09-background	0.079576	0.079576	0.079576	0.079576	0.079576	0.07957625030795762	0.07957625030795762

4.1.16 Mouth Occlusion Prevention

Table 18 Mouth occlusion prevention – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0	0	0	0	0	0.0	0.0
b-02-rolled	0	0	0	0	0	0.0	0.0
b-03-headcovered	0	0	0	0	0	0.0	0.0
b-04-headcovered	0	0	0	0	0	0.0	0.0
b-05-scarf	1	1	1	1	1	1.0	1.0
b-06-mask	1	1	1	1	1	1.0	1.0
b-07-glasses	0	0	0	0	0	0.0	0.0
b-08-sunglasses	0	0	0	0	0	0.0	0.0
b-09-background	0	0	0	0	0	0.0	0.0
c-01-frontal	0	0	0	0	0	0.0	0.0
c-02-headcovered-mouthopen	0	0	0	0	0	0.0	0.0
c-03-headcovered	0	0	0	0	0	0.0	0.0
c-04-headcovered	0	0	0	0	0	0.0	0.0
c-05-scarf	1	1	1	1	1	1.0	1.0
c-06-glasses	0	0	0	0	0	0.0	0.0

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-07- twofaces	0	0	0	0	0	0.0	0.0
c-08- sunglasses	0	0	0	0	0	0.0	0.0
c-09-mask	1	1	1	1	1	1.0	1.0
c-10- background	0	0	0	0	0	0.0	0.0
r-01-frontal	0	0	0	0	0	0.0	0.0
r-02-rolled	0	0	0	0	0	0.0	0.0
r-03- mouthopen	0	0	0	0	0	0.0	0.0
r-04- headcovered- eyeclosed	0	0	0	0	0	0.0	0.0
r-05- headcovered	0	0	0	0	0	0.0	0.0
r-06-pitch	0	0	0	0	0	0.0	0.0
r-07-scarf	0	0	0	0	0	0.0	0.0
r-08-mask	1	1	1	1	1	1.0	1.0
r-09- background	0	0	0	0	0	0.0	0.0

4.1.17 Inter-Eye Distance

Table 19 Inter-eye distance – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	493.5565 27	493.5565 27	493.5565 27	493.5565 27	493.5565 27	493.556527242164	493.556527242164
b-02-rolled	446.6565 52	446.6565 54	446.6565 53	446.6565 52	446.6565 54	446.656553732900 2	446.656553732900 2
b-03- headcover ed	388.9682 75	388.9682 74	388.9682 75	388.9682 75	388.9682 74	388.968274369473 6	388.968274369473 6
b-04- headcover ed	403.2571 11	403.2571 12	403.2571 11	403.2571 11	403.2571 12	403.257111617447 44	403.257111617447 44

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-05-scarf	431.6819 85	431.6819 84	431.6819 84	431.6819 85	431.6819 87	431.681987144210 15	431.681987144210 15
b-06-mask	482.8349 34	482.8349 34	482.8349 33	482.8349 34	482.8349 34	482.834934470077 37	482.834934470077 37
b-07- glasses	440.1815 12	440.1815 13	440.1815 13	440.1815 12	440.1815 13	440.181512744301	440.181512744301
b-08- sunglasses	558.8476 82	558.8476 84	558.8476 82	558.8476 82	558.8476 84	558.847684428054	558.847684428054
b-09- background	519.7669 45	519.7669 46	519.7669 45	519.7669 45	519.7669 46	519.766945946870 1	519.766945946870 1
c-01-frontal	375.0444 52	375.0444 52	375.0444 53	375.0444 52	375.0444 52	375.044452340972 6	375.044452340972 6
c-02- headcover d- mouthopen	435.8551 68	435.8551 70	435.8551 67	435.8551 68	435.8551 69	435.855168553257 67	435.855168553257 67
c-03- headcover d	429.7075 12	429.7075 11	429.7075 13	429.7075 12	429.7075 11	429.707510787502 43	429.707510787502 43
c-04- headcover d	449.0203 87	449.0203 88	449.0203 86	449.0203 87	449.0203 87	449.020387388304 8	449.020387388304 8
c-05-scarf	609.2656 18	609.2656 21	609.2656 19	609.2656 18	609.2656 21	609.265621237790 9	609.265621237790 9
c-06- glasses	590.1411 15	590.1411 17	590.1411 16	590.1411 15	590.1411 16	590.141116018630 1	590.141116018630 1
c-07- twofaces	472.7399 30	472.7399 32	472.7399 31	472.7399 30	472.7399 31	472.739931382384 4	472.739931382384 4
c-08- sunglasses	408.0843 26	408.0843 26	408.0843 26	408.0843 26	408.0843 26	408.084326335117	408.084326335117
c-09-mask	443.2307 18	443.2307 18	443.2307 19	443.2307 18	443.2307 17	443.230717451574 95	443.230717451574 95
c-10- background	374.2390 97	374.2390 98	374.2390 97	374.2390 97	374.2390 98	374.239098049606	374.239098049606
r-01-frontal	537.0776 22	537.0776 22	537.0776 22	537.0776 22	537.0776 22	537.077621981737 1	537.077621981737 1
r-02-rolled	488.5876 18	488.5876 19	488.5876 17	488.5876 18	488.5876 19	488.587618641210 1	488.587618641210 1
r-03- mouthopen	466.7561 61	466.7561 62	466.7561 62	466.7561 61	466.7561 64	466.756163819350 43	466.756163819350 43

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-04-headcovered-eyeclosed	454.949992	454.949992	454.949990	454.949992	454.949990	454.9499901774151	454.9499901774151
r-05-headcovered	428.228233	428.228232	428.228234	428.228233	428.228233	428.2282332141773	428.2282332141773
r-06-pitch	566.373838	566.373838	566.373837	566.373838	566.373838	566.3738380687621	566.3738380687621
r-07-scarf	401.527105	401.527104	401.527105	401.527105	401.527105	401.5271051977245	401.5271051977245
r-08-mask	597.589439	597.589440	597.589438	597.589439	597.589439	597.589439318267	597.589439318267
r-09-background	353.583928	353.583928	353.583928	353.583928	353.583928	353.58392761539824	353.58392761539824

4.1.18 Head-Size

Table 20 Head-size – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0.224851	0.224851	0.224851	0.224851	0.224851	0.2248513206603035	0.2248513206603035
b-02-rolled	0.209942	0.209942	0.209942	0.209942	0.209942	0.20994192456442212	0.20994192456442212
b-03-headcovered	0.185504	0.185504	0.185504	0.185504	0.185504	0.1855039747934493	0.1855039747934493
b-04-headcovered	0.176257	0.176257	0.176257	0.176257	0.176257	0.17625720917232454	0.17625720917232454
b-05-scarf	0.186220	0.186220	0.186220	0.186220	0.186220	0.18621954842219277	0.18621954842219277
b-06-mask	0.225763	0.225763	0.225763	0.225763	0.225763	0.2257634268866645	0.2257634268866645
b-07-glasses	0.180528	0.180528	0.180528	0.180528	0.180528	0.18052847423250712	0.18052847423250712
b-08-sunglasses	0.248645	0.248645	0.248645	0.248645	0.248645	0.2486448439340743	0.2486448439340743
b-09-background	0.238479	0.238479	0.238479	0.238479	0.238479	0.23847890278649708	0.23847890278649708

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-01-frontal	0.166626	0.166626	0.166626	0.166626	0.166626	0.1666259311494373	0.1666259311494373
c-02-headcovered-mouthopen	0.210091	0.210091	0.210091	0.210091	0.210091	0.2100907431708442	0.2100907431708442
c-03-headcovered	0.201075	0.201075	0.201075	0.201075	0.201075	0.20107503921266587	0.20107503921266587
c-04-headcovered	0.204089	0.204089	0.204089	0.204089	0.204089	0.20408892253088573	0.20408892253088573
c-05-scarf	0.215554	0.215554	0.215554	0.215554	0.215554	0.21555393461197142	0.21555393461197142
c-06-glasses	0.257166	0.257166	0.257166	0.257166	0.257166	0.2571656060597253	0.2571656060597253
c-07-twofaces	0.210711	0.210711	0.210711	0.210711	0.210711	0.21071082826644655	0.21071082826644655
c-08-sunglasses	0.172441	0.172441	0.172441	0.172441	0.172441	0.17244136144244482	0.17244136144244482
c-09-mask	0.197248	0.197248	0.197248	0.197248	0.197248	0.19724767170255147	0.19724767170255147
c-10-background	0.165638	0.165638	0.165638	0.165638	0.165638	0.1656378942822653	0.1656378942822653
r-01-frontal	0.224826	0.224826	0.224826	0.224826	0.224826	0.22482641916426402	0.22482641916426402
r-02-rolled	0.222656	0.222656	0.222656	0.222656	0.222656	0.22265614403618705	0.22265614403618705
r-03-mouthopen	0.215607	0.215607	0.215607	0.215607	0.215607	0.21560726468525235	0.21560726468525235
r-04-headcovered-eyeclosed	0.207003	0.207003	0.207003	0.207003	0.207003	0.20700256408207	0.20700256408207
r-05-headcovered	0.197116	0.197116	0.197116	0.197116	0.197116	0.19711583758157397	0.19711583758157397
r-06-pitch	0.230215	0.230215	0.230215	0.230215	0.230215	0.23021487584189762	0.23021487584189762
r-07-scarf	0.134956	0.134956	0.134956	0.134956	0.134956	0.1349562538994683	0.1349562538994683
r-08-mask	0.202228	0.202228	0.202228	0.202228	0.202228	0.20222801632351345	0.20222801632351345

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-09-background	0.147008	0.147008	0.147008	0.147008	0.147008	0.14700757889520555	0.14700757889520555

4.1.19 Leftward Crop of the Face Image

Table 21 Leftward crop of the face image – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	3.4289399	3.428939	3.428939	3.428939	3.428939	3.4289392737554256	3.4289392737554256
b-02-rolled	3.6104655	3.610465	3.610465	3.610465	3.610465	3.610465358144593	3.610465358144593
b-03-headcovered	4.0215800	4.021580	4.021580	4.021580	4.021580	4.021580024963961	4.021580024963961
b-04-headcovered	3.8824077	3.882407	3.882407	3.882407	3.882407	3.8824066531463575	3.8824066531463575
b-05-scarf	3.7916700	3.791670	3.791670	3.791670	3.791670	3.79167023156501	3.79167023156501
b-06-mask	3.4715877	3.471587	3.471587	3.471587	3.471587	3.471587358029892	3.471587358029892
b-07-glasses	3.7340144	3.734014	3.734014	3.734014	3.734014	3.7340137608432413	3.7340137608432413
b-08-sunglasses	3.1184100	3.118410	3.118410	3.118410	3.118410	3.1184097717570514	3.1184097717570514
b-09-background	3.5437288	3.543728	3.543728	3.543728	3.543728	3.5437280960039104	3.5437280960039104
c-01-frontal	4.5464088	4.546408	4.546408	4.546408	4.546408	4.546408033921637	4.546408033921637
c-02-headcovered-mouthopen	3.6045122	3.604512	3.604512	3.604512	3.604512	3.604511982502013	3.604511982502013
c-03-headcovered	3.7217922	3.721792	3.721792	3.721792	3.721792	3.7217917964674894	3.7217917964674894
c-04-headcovered	3.6870500	3.687050	3.687050	3.687050	3.687050	3.687049948127939	3.687049948127939
c-05-scarf	2.5609533	2.560953	2.560953	2.560953	2.560953	2.560953457850637	2.560953457850637

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-06-glasses	2.667819	2.667819	2.667819	2.667819	2.667819	2.6678194180955637	2.6678194180955637
c-07-twofaces	3.530623	3.530623	3.530623	3.530623	3.530623	3.5306229654553065	3.5306229654553065
c-08-sunglasses	4.271430	4.271430	4.271430	4.271430	4.271430	4.271430205089296	4.271430205089296
c-09-mask	3.960616	3.960616	3.960616	3.960616	3.960616	3.9606163313137555	3.9606163313137555
c-10-background	4.613603	4.613603	4.613603	4.613603	4.613603	4.613602844963876	4.613602844963876
r-01-frontal	3.093062	3.093062	3.093062	3.093062	3.093062	3.093061602777646	3.093061602777646
r-02-rolled	3.709694	3.709694	3.709694	3.709694	3.709694	3.7096940776729928	3.7096940776729928
r-03-mouthopen	3.660207	3.660207	3.660207	3.660207	3.660207	3.6602065054615336	3.6602065054615336
r-04-headcovered-eyeclosed	3.705352	3.705352	3.705352	3.705352	3.705352	3.7053515096137843	3.7053515096137843
r-05-headcovered	4.205831	4.205831	4.205831	4.205831	4.205831	4.205831213301124	4.205831213301124
r-06-pitch	3.242948	3.242948	3.242948	3.242948	3.242948	3.242947719882575	3.242947719882575
r-07-scarf	4.209005	4.209005	4.209005	4.209005	4.209005	4.209005181228056	4.209005181228056
r-08-mask	2.922283	2.922283	2.922283	2.922283	2.922283	2.9222831691928746	2.9222831691928746
r-09-background	5.153209	5.153209	5.153209	5.153209	5.153209	5.153208709113189	5.153208709113189

4.1.20 Rightward Crop of the Face Image

Table 22 Rightward crop of the face image – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	3.698472	3.698472	3.698472	3.698472	3.698472	3.6984717343993214	3.6984717343993214

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-02-rolled	4.116961	4.116961	4.116961	4.116961	4.116961	4.116961429492004	4.116961429492004
b-03-headcovered	4.768703	4.768703	4.768703	4.768703	4.768703	4.768702515187886	4.768702515187886
b-04-headcovered	4.619196	4.619196	4.619196	4.619196	4.619196	4.619195647385634	4.619195647385634
b-05-scarf	4.280541	4.280541	4.280541	4.280541	4.280541	4.280540730267717	4.280540730267717
b-06-mask	3.797178	3.797178	3.797178	3.797178	3.797178	3.797178287068538	3.797178287068538
b-07-glasses	4.134005	4.134005	4.134005	4.134005	4.134005	4.134005496636552	4.134005496636552
b-08-sunglasses	3.299421	3.299421	3.299421	3.299421	3.299421	3.299420913680880	3.299420913680880
b-09-background	3.276168	3.276168	3.276168	3.276168	3.276168	3.276167962736912	3.276167962736912
c-01-frontal	4.517076	4.517076	4.517076	4.517076	4.517076	4.517076369186658	4.517076369186658
c-02-headcovered-mouthopen	4.347023	4.347023	4.347023	4.347023	4.347023	4.34702306053017	4.34702306053017
c-03-headcovered	4.325389	4.325389	4.325389	4.325389	4.325389	4.325388587503857	4.325388587503857
c-04-headcovered	4.062004	4.062004	4.062004	4.062004	4.062004	4.062004180140949	4.062004180140949
c-05-scarf	3.411862	3.411862	3.411862	3.411862	3.411862	3.411861515504094	3.411861515504094
c-06-glasses	3.463753	3.463753	3.463753	3.463753	3.463753	3.463752819550283	3.463752819550283
c-07-twofaces	3.871613	3.871613	3.871613	3.871613	3.871613	3.871612945922195	3.871612945922195
c-08-sunglasses	4.139097	4.139097	4.139097	4.139097	4.139097	4.139096739182915	4.139096739182915
c-09-mask	3.863576	3.863576	3.863576	3.863576	3.863576	3.863575589292962	3.863575589292962
c-10-background	4.479720	4.479720	4.479720	4.479720	4.479720	4.479719999782104	4.479719999782104
r-01-frontal	3.538120	3.538120	3.538120	3.538120	3.538120	3.538119834604170	3.538119834604170

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-02-rolled	3.381765	3.381765	3.381765	3.381765	3.381765	3.3817653194256567	3.3817653194256567
r-03-mouthopen	3.845261	3.845261	3.845261	3.845261	3.845261	3.8452610377776373	3.8452610377776373
r-04-headcovered-eyeclosed	3.963403	3.963403	3.963403	3.963403	3.963403	3.963402775461887	3.963402775461887
r-05-headcovered	3.891333	3.891333	3.891333	3.891333	3.891333	3.891332673913652	3.891332673913652
r-06-pitch	3.106719	3.106719	3.106719	3.106719	3.106719	3.1067191468160402	3.1067191468160402
r-07-scarf	4.331186	4.331186	4.331186	4.331186	4.331186	4.331186018834794	4.331186018834794
r-08-mask	3.136517	3.136517	3.136517	3.136517	3.136517	3.136516986865663	3.136516986865663
r-09-background	4.398046	4.398046	4.398046	4.398046	4.398046	4.398045852179478	4.398045852179478

4.1.21 Margin above of the Face Image

Table 23 Margin above of the face image – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	2.426863	2.426863	2.426863	2.426863	2.426863	2.4268625908974104	2.4268625908974104
b-02-rolled	2.401876	2.401876	2.401876	2.401876	2.401876	2.401876151422208	2.401876151422208
b-03-headcovered	2.491129	2.491129	2.491129	2.491129	2.491129	2.4911287333080185	2.4911287333080185
b-04-headcovered	2.520487	2.520487	2.520487	2.520487	2.520487	2.5204868451363054	2.5204868451363054
b-05-scarf	1.915176	1.915176	1.915176	1.915176	1.915176	1.9151762257930751	1.9151762257930751
b-06-mask	1.741202	1.741202	1.741202	1.741202	1.741202	1.7412021803534314	1.7412021803534314
b-07-glasses	2.809487	2.809487	2.809487	2.809487	2.809487	2.8094874015121363	2.8094874015121363

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-08- sunglasses	1.548853	1.548853	1.548853	1.548853	1.548853	1.548852830764858	1.548852830764858
b-09- background	2.470235	2.470235	2.470235	2.470235	2.470235	2.470235065226923	2.470235065226923
c-01-frontal	2.200024	2.200024	2.200024	2.200024	2.200024	2.2000235665846892	2.2000235665846892
c-02- headcovered- mouthopen	1.768317	1.768317	1.768317	1.768317	1.768317	1.768316774832259	1.768316774832259
c-03- headcovered	1.979702	1.979702	1.979702	1.979702	1.979702	1.9797023515706513	1.9797023515706513
c-04- headcovered	1.928526	1.928526	1.928526	1.928526	1.928526	1.928525840466606	1.928525840466606
c-05-scarf	2.269089	2.269089	2.269089	2.269089	2.269089	2.2690887403782765	2.2690887403782765
c-06-glasses	2.140145	2.140145	2.140145	2.140145	2.140145	2.140145138202692	2.140145138202692
c-07- twofaces	2.230722	2.230722	2.230722	2.230722	2.230722	2.230722121542039	2.230722121542039
c-08- sunglasses	3.208191	3.208191	3.208191	3.208191	3.208191	3.208190680288447	3.208190680288447
c-09-mask	2.562638	2.562638	2.562638	2.562638	2.562638	2.56263825192735	2.56263825192735
c-10- background	2.307622	2.307622	2.307622	2.307622	2.307622	2.3076217789832274	2.3076217789832274
r-01-frontal	1.818983	1.818983	1.818983	1.818983	1.818983	1.8189834394550888	1.8189834394550888
r-02-rolled	2.033863	2.033863	2.033863	2.033863	2.033863	2.033863362875304	2.033863362875304
r-03- mouthopen	1.918722	1.918722	1.918722	1.918722	1.918722	1.9187223761206034	1.9187223761206034
r-04- headcovered- eyeclosed	2.392823	2.392823	2.392823	2.392823	2.392823	2.392822715145091	2.392822715145091
r-05- headcovered	2.306325	2.306325	2.306325	2.306325	2.306325	2.3063246098379837	2.3063246098379837
r-06-pitch	2.116965	2.116965	2.116965	2.116965	2.116965	2.116965312976153	2.116965312976153

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-07-scarf	2.740027	2.740027	2.740027	2.740027	2.740027	2.740026562504324	2.740026562504324
r-08-mask	1.983116	1.983116	1.983116	1.983116	1.983116	1.9831162962408517	1.9831162962408517
r-09-background	3.551485	3.551485	3.551485	3.551485	3.551485	3.5514845906422097	3.5514845906422097

4.1.22 Margin below of the Face Image

Table 24 Margin below of the face image – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	2.022937	2.022937	2.022937	2.022937	2.022937	2.022937302917214	2.022937302917214
b-02-rolled	2.364051	2.364051	2.364051	2.364051	2.364051	2.364051330139968	2.364051330139968
b-03-headcovered	2.903195	2.903195	2.903195	2.903195	2.903195	2.903195140321375	2.903195140321375
b-04-headcovered	3.156945	3.156945	3.156945	3.156945	3.156945	3.1569449758634622	3.1569449758634622
b-05-scarf	3.458512	3.458512	3.458512	3.458512	3.458512	3.4585123910459497	3.4585123910459497
b-06-mask	2.688153	2.688153	2.688153	2.688153	2.688153	2.6881525144005343	2.6881525144005343
b-07-glasses	2.729805	2.729805	2.729805	2.729805	2.729805	2.7298051182418654	2.7298051182418654
b-08-sunglasses	2.474971	2.474971	2.474971	2.474971	2.474971	2.474971018232505	2.474971018232505
b-09-background	1.725211	1.725211	1.725211	1.725211	1.725211	1.72521050469513	1.72521050469513
c-01-frontal	3.801665	3.801665	3.801665	3.801665	3.801665	3.8016645392809854	3.8016645392809854
c-02-headcovered-mouthopen	2.994444	2.994444	2.994444	2.994444	2.994444	2.9944442379424023	2.9944442379424023
c-03-headcovered	2.996707	2.996707	2.996707	2.996707	2.996707	2.9967065521281433	2.9967065521281433

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04- headcovered	2.974259	2.974259	2.974259	2.974259	2.974259	2.9742586417284476	2.9742586417284476
c-05-scarf	2.370346	2.370346	2.370346	2.370346	2.370346	2.3703462500908974	2.3703462500908974
c-06-glasses	1.750326	1.750326	1.750326	1.750326	1.750326	1.7503260958970621	1.7503260958970621
c-07- twofaces	2.518101	2.518101	2.518101	2.518101	2.518101	2.518101317770264	2.518101317770264
c-08- sunglasses	2.595051	2.595051	2.595051	2.595051	2.595051	2.5950506041094976	2.5950506041094976
c-09-mask	2.507311	2.507311	2.507311	2.507311	2.507311	2.507311420187996	2.507311420187996
c-10- background	3.734152	3.734152	3.734152	3.734152	3.734152	3.734151605991041	3.734151605991041
r-01-frontal	2.631345	2.631345	2.631345	2.631345	2.631345	2.63134497552241	2.63134497552241
r-02-rolled	2.459582	2.459582	2.459582	2.459582	2.459582	2.459581611981258	2.459581611981258
r-03- mouthopen	2.719340	2.719340	2.719340	2.719340	2.719340	2.7193403460126535	2.7193403460126535
r-04- headcovered- eyeclosed	2.440775	2.440775	2.440775	2.440775	2.440775	2.4407750741660346	2.4407750741660346
r-05- headcovered	2.766835	2.766835	2.766835	2.766835	2.766835	2.7668345973997415	2.7668345973997415
r-06-pitch	2.226854	2.226854	2.226854	2.226854	2.226854	2.2268535887642282	2.2268535887642282
r-07-scarf	4.669623	4.669623	4.669623	4.669623	4.669623	4.669622733282017	4.669622733282017
r-08-mask	2.961797	2.961797	2.961797	2.961797	2.961797	2.961797065814259	2.961797065814259
r-09- background	3.251169	3.251169	3.251169	3.251169	3.251169	3.2511690290582127	3.2511690290582127

4.1.23 Head Pose Yaw Angle

Table 25 Head pose yaw angle – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	- 1.2067600	- 1.206760	- 1.206758	- 1.206760	- 1.206761	- 1.2067612374205967	- 1.2067612374205967
b-02-rolled	- 2.582642	- 2.5826426	- 2.582642	- 2.582642	- 2.582645	- 2.582645439762106	- 2.582645439762106
b-03-headcovered	- 3.7036974	- 3.7036974	- 3.703697	- 3.703697	- 3.703695	- 3.7036948175455953	- 3.7036948175455953
b-04-headcovered	- 1.5969626	- 1.5969626	- 1.596963	- 1.596962	- 1.596964	- 1.5969642247105404	- 1.5969642247105404
b-05-scarf	- 7.9663643	- 7.9663643	- 7.966363	- 7.966364	- 7.966366	- 7.966366029291932	- 7.966366029291932
b-06-mask	- 2.9382812	- 2.9382812	- 2.938279	- 2.938281	- 2.938283	- 2.938282740349243	- 2.938282740349243
b-07-glasses	- 1.6037324	- 1.6037324	- 1.603732	- 1.603732	- 1.603733	- 1.6037333413535817	- 1.6037333413535817
b-08-sunglasses	- 3.1992758	- 3.1992758	- 3.199274	- 3.199275	- 3.199278	- 3.199278258459617	- 3.199278258459617
b-09-background	- 1.8038135	- 1.8038135	- 1.803813	- 1.803813	- 1.803816	- 1.8038156004838637	- 1.8038156004838637
c-01-frontal	- 0.6361951	- 0.6361951	- 0.636197	- 0.636195	- 0.636193	- 0.6361928469459327	- 0.6361928469459327
c-02-headcovered-mouthopen	- 3.5679572	- 3.5679572	- 3.567954	- 3.567957	- 3.567958	- 3.5679584435047413	- 3.5679584435047413
c-03-headcovered	- 3.0610796	- 3.0610796	- 3.061080	- 3.061079	- 3.061075	- 3.0610751041890083	- 3.0610751041890083
c-04-headcovered	- 3.7584103	- 3.7584103	- 3.758408	- 3.758410	- 3.758411	- 3.75841132366638	- 3.75841132366638

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-05-scarf	- 4.255126	- 4.255130	- 4.255127	- 4.255126	- 4.255131	- 4.255130714366128	- 4.255130714366128
c-06-glasses	- 3.157394	- 3.157397	- 3.157395	- 3.157394	- 3.157395	- 3.15739493213519	- 3.15739493213519
c-07-twofaces	- 2.851403	- 2.851407	- 2.851403	- 2.851403	- 2.851405	- 2.8514054140451295	- 2.8514054140451295
c-08-sunglasses	- 0.625034	- 0.625036	- 0.625034	- 0.625034	- 0.625035	- 0.6250354840196489	- 0.6250354840196489
c-09-mask	- 1.321376	- 1.321372	- 1.321378	- 1.321376	- 1.321371	- 1.321371013933147	- 1.321371013933147
c-10-background	- 3.695724	- 3.695726	- 3.695723	- 3.695724	- 3.695726	- 3.6957261626776776	- 3.6957261626776776
r-01-frontal	- 0.920045	- 0.920047	- 0.920046	- 0.920045	- 0.920045	- 0.9200449959707074	- 0.9200449959707074
r-02-rolled	- 3.016030	- 3.016031	- 3.016029	- 3.016030	- 3.016031	- 3.016031351473008	- 3.016031351473008
r-03-mouthopen	- 5.343358	- 5.343360	- 5.343360	- 5.343358	- 5.343363	- 5.343362505096448	- 5.343362505096448
r-04-headcovered-eyeclosed	- 4.733527	- 4.733527	- 4.733525	- 4.733527	- 4.733525	- 4.733524916673497	- 4.733524916673497
r-05-headcovered	- 5.747996	- 5.747995	- 5.747997	- 5.747996	- 5.747996	- 5.747996359785878	- 5.747996359785878
r-06-pitch	- 3.647577	- 3.647576	- 3.647575	- 3.647577	- 3.647577	- 3.647576950584342	- 3.647576950584342
r-07-scarf	- 2.808316	- 2.808315	- 2.808316	- 2.808316	- 2.808318	- 2.808317768488074	- 2.808317768488074
r-08-mask	- 1.106360	- 1.106366	- 1.106357	- 1.106360	- 1.106363	- 1.106363136822658	- 1.106363136822658

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-09-background	0.575067	0.575067	0.575065	0.575067	0.575065	0.5750650524501582	0.5750650524501582

4.1.24 Head Pose Pitch Angle

Table 26 Head pose pitch angle – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	8.573003	8.573003	8.573000	8.573003	8.573000	8.572999836075068	8.572999836075068
b-02-rolled	1.180704	1.180704	1.180706	1.180704	1.180706	1.1807056775119142	1.1807056775119142
b-03-headcovered	6.903509	6.903511	6.903508	6.903509	6.903510	6.903510146518585	6.903510146518585
b-04-headcovered	4.224815	4.224814	4.224814	4.224815	4.224813	4.2248132163931915	4.2248132163931915
b-05-scarf	7.258156	7.258157	7.258154	7.258156	7.258159	7.258158251376475	7.258158251376475
b-06-mask	1.624212	1.624211	1.624211	1.624212	1.624207	1.6242068618090293	1.6242068618090293
b-07-glasses	13.847975	13.847972	13.847972	13.847975	13.847976	13.847975223859104	13.847975223859104
b-08-sunglasses	-2.531154	-2.531151	-2.531152	-2.531154	-2.531154	-2.5311535613119635	-2.5311535613119625
b-09-background	13.818240	13.818240	13.818237	13.818240	13.818241	13.818240748012983	13.818240748012984
c-01-frontal	5.126308	5.126307	5.126308	5.126308	5.126308	5.1263078628854215	5.1263078628854215
c-02-headcovered-mouthopen	14.853941	14.853947	14.853946	14.853941	14.853940	14.853939106770625	14.853939106770625
c-03-headcovered	11.878896	11.878893	11.878894	11.878896	11.878891	11.878891265623952	11.878891265623954

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04-headcover ed	12.207628	12.207628	12.207630	12.207628	12.207630	12.207630362370061	12.207630362370061
c-05-scarf	16.617661	16.617661	16.617661	16.617661	16.617658	16.617658144695213	16.61765814469521
c-06-glasses	8.111413	8.111413	8.111414	8.111413	8.111413	8.111413359360272	8.111413359360272
c-07-twofaces	10.251065	10.251064	10.251068	10.251065	10.251063	10.251063418567874	10.251063418567874
c-08-sunglasses	9.825079	9.825074	9.825077	9.825079	9.825076	9.825075247123575	9.825075247123573
c-09-mask	11.545669	11.545666	11.545671	11.545669	11.545666	11.545665905942332	11.545665905942332
c-10-background	4.174950	4.174948	4.174950	4.174950	4.174949	4.174948979682846	4.174948979682846
r-01-frontal	- 0.251555	- 0.251553	- 0.251556	- 0.251555	- 0.251554	- 0.25155356457218786	- 0.25155356457218786
r-02-rolled	1.360564	1.360568	1.360565	1.360564	1.360567	1.360566637892036	1.360566637892036
r-03-mouthopen	- 0.621376	- 0.621375	- 0.621378	- 0.621376	- 0.621376	- 0.6213763747832786	- 0.6213763747832787
r-04-headcover ed-eyeclosed	3.486830	3.486828	3.486832	3.486830	3.486826	3.4868264173683454	3.4868264173683454
r-05-headcover ed	1.303665	1.303663	1.303665	1.303665	1.303666	1.3036658765098368	1.3036658765098368
r-06-pitch	10.990835	10.990835	10.990835	10.990835	10.990836	10.990836030473197	10.990836030473197
r-07-scarf	0.746840	0.746842	0.746842	0.746840	0.746842	0.7468423653313024	0.7468423653313024
r-08-mask	1.369975	1.369974	1.369972	1.369975	1.369974	1.3699737835122894	1.3699737835122894
r-09-background	5.635712	5.635712	5.635710	5.635712	5.635711	5.635711349217199	5.635711349217199

4.1.25 Head Pose Roll Angle

Table 27 Head pose roll angle – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	1.415725	1.415722	1.415725	1.415725	1.415722	1.4157221821968287	1.4157221821968289
b-02-rolled	16.291553	16.291550	16.291551	16.291553	16.291550	16.29154968704371	16.291549687043712
b-03-headcovered	0.161357	0.161358	0.161359	0.161357	0.1613562	0.1613563176355771	0.16135631763557712
b-04-headcovered	1.186767	1.186769	1.186768	1.186767	1.186767	1.1867673649084611	1.1867673649084611
b-05-scarf	1.776166	1.776167	1.776166	1.776166	1.776165	1.7761648842516582	1.7761648842516582
b-06-mask	2.442354	2.442353	2.442357	2.442354	2.442354	2.442354167134829	2.442354167134829
b-07-glasses	4.400784	4.400783	4.400786	4.400784	4.400781	4.400780849545136	4.400780849545135
b-08-sunglasses	1.624107	1.624108	1.624107	1.624107	1.624109	1.624108699357188	1.624108699357188
b-09-background	1.389120	1.389118	1.389119	1.389120	1.389118	1.3891180690492366	1.3891180690492364
c-01-frontal	1.723877	1.723875	1.723879	1.723877	1.723876	1.7238759966655364	1.7238759966655364
c-02-headcovered-mouthopen	3.603158	3.603156	3.603159	3.603158	3.603156	3.60315564331729	3.6031556433172893
c-03-headcovered	1.250443	1.250439	1.250441	1.250443	1.250442	1.250442123593232	1.250442123593232
c-04-headcovered	6.754395	6.754392	6.754396	6.754395	6.754393	6.754392654396352	6.754392654396352
c-05-scarf	6.058564	6.058565	6.058563	6.058564	6.058563	6.058563413533104	6.058563413533104
c-06-glasses	1.426863	1.426864	1.426864	1.426863	1.426866	1.4268655068732667	1.4268655068732667
c-07-twofaces	4.484339	4.484338	4.484338	4.484339	4.484339	4.484339483525449	4.484339483525449
c-08-sunglasses	3.159786	3.159785	3.159785	3.159786	3.159784	3.1597838475394346	3.1597838475394346
c-09-mask	5.036475	5.036474	5.036473	5.036475	5.036475	5.036475432692552	5.036475432692552

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-10- background	4.768653	4.768654	4.768653	4.768653	4.768654	4.768653969541933	4.768653969541933
r-01-frontal	- 1.335600	- 1.335599	- 1.335601	- 1.335600	- 1.335597	-1.335597292069409	-1.335597292069409
r-02-rolled	- 27.37334 3	- 27.37334 3	- 27.37334 3	- 27.37334 3	- 27.37334 5	-27.37334497583254	-27.37334497583254
r-03- mouthopen	- 4.113008	- 4.113006	- 4.113009	- 4.113008	- 4.113008	-4.113007937679171	-4.11300793767917
r-04- headcover d-eyeclosed	- 3.996515	- 3.996509	- 3.996513	- 3.996515	- 3.996511	-3.9965109170221815	-3.9965109170221815
r-05- headcover d	- 0.029483	- 0.029483	- 0.029483	- 0.029483	- 0.029484	-0.0294840395058364 18	-0.0294840395058364 18
r-06-pitch	1.270625	1.270623	1.270626	1.270625	1.270624	1.270623909715294	1.2706239097152938
r-07-scarf	- 1.608323	- 1.608323	- 1.608323	- 1.608323	- 1.608323	-1.6083233433578648	-1.6083233433578648
r-08-mask	3.862225	3.862223	3.862228	3.862225	3.862225	3.862224815745506	3.862224815745506
r-09- background	1.961695	1.961695	1.961694	1.961695	1.961694	1.96169400201222	1.9616940020122196

4.1.26 Expression Neutrality

Table 28 Expression neutrality – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	- 10990.883 789	- 10990.883 789	- 10996.668 945	- 10996.668 945	- 10996.957 031	- 10996.95703125	- 10990.88378906 25
b-02- rolled	10100.629 883	10088.498 047	10082.289 062	10082.289 062	10082.289 062	10082.2890625	10076.10449218 75
b-03- headcover ed	660.10614 0	653.35778 8	690.09228 5	690.09228 5	660.40020 8	660.4002075195 312	683.4704589843 75
b-04- headcover ed	- 5549.1054 69	- 5555.1293 95	- 5542.9653 32	- 5542.9653 32	- 5561.1572 27	- 5561.157226562 5	- 5549.491699218 75

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-05-scarf	- 1636.3647 46	- 1611.9101 56	- 1623.4932 86	- 1623.4932 86	- 1617.9438 48	- 1617.943847656 25	- 1624.006591796 875
b-06-mask	- 4067.6745 61	- 4073.9929 20	- 4067.8430 18	- 4067.8430 18	- 4067.6745 61	- 4067.674560546 875	- 4043.5625
b-07- glasses	8202.9130 86	8179.2446 29	8179.2446 29	8179.2446 29	8173.1914 06	8173.19140625	8196.931640625
b-08- sunglasses	8907.1894 53	8894.4033 20	8907.5312 50	8907.5312 50	8888.5380 86	8888.538085937 5	8901.09765625
b-09- background	- 241.30310 1	- 265.78732 3	- 234.87565 6	- 234.87565 6	- 241.28653 0	- 241.2865295410 1562	- 222.9075927734 375
c-01- frontal	- 2553.5029 30	- 2535.1882 32	- 2540.9140 62	- 2540.9140 62	- 2547.2875 98	- 2547.287597656 25	- 2559.325683593 75
c-02- headcover ed- mouthope n	- 6863.7397 46	- 6852.2656 25	- 6840.0068 36	- 6840.0068 36	- 6845.9145 51	- 6845.914550781 25	- 6840.296875
c-03- headcover ed	- 7114.4877 93	- 7114.3950 20	- 7114.3950 20	- 7114.3950 20	- 7120.1801 76	- 7120.180175781 25	- 7120.180175781 25
c-04- headcover ed	- 12166.345 703	- 12154.149 414	- 12213.936 523	- 12213.936 523	- 12207.777 344	- 12207.77734375	- 12166.38378906 25
c-05-scarf	- 1136.2620 85	- 1136.2620 85	- 1136.2620 85	- 1136.2620 85	- 1136.2620 85	- 1136.262084960 9375	- 1136.262084960 9375
c-06- glasses	- 1481.4426 27	- 1487.6711 43	- 1475.1844 48	- 1475.1844 48	- 1487.7561 04	- 1487.756103515 625	- 1469.109497070 3125
c-07- twofaces	- 7237.8715 82	- 7225.8784 18	- 7232.1694 34	- 7232.1694 34	- 7219.4799 80	- 7219.479980468 75	- 7231.4921875
c-08- sunglasses	1323.6499 02	1335.5386 96	1335.8339 84	1335.8339 84	1323.4461 67	1323.446166992 1875	1329.894775390 625
c-09-mask	- 3031.0314 94	- 3031.0314 94	- 3031.0314 94	- 3031.0314 94	- 3031.0314 94	- 3031.031494140 625	- 3031.031494140 625

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-10-background	5935.286133	5948.137207	5935.930664	5935.930664	5929.479492	5929.4794921875	5929.5029296875
r-01-frontal	6674.853516	6680.667480	6675.058594	6675.058594	6686.854492	6686.8544921875	6680.87255859375
r-02-rolled	4869.323730	4857.313477	4863.114746	4863.114746	4875.173828	4875.173828125	4869.35986328125
r-03-mouthopen	15135.901367	15135.901367	15135.901367	15135.901367	15135.901367	15135.9013671875	15135.9013671875
r-04-headcovered-eyeclosed	11079.183594	11085.358398	11109.148438	11109.148438	11090.982422	11090.982421875	11073.0654296875
r-05-headcovered	7027.903809	7046.575684	7046.140625	7046.140625	7028.008789	7028.0087890625	7027.9462890625
r-06-pitch	7541.475098	7547.354492	7529.666016	7529.666016	7517.748047	7517.748046875	7540.97900390625
r-07-scarf	6770.018066	6770.018066	6770.018066	6770.018066	6770.018066	6770.01806640625	6770.01806640625
r-08-mask	2507.209473	2507.209473	2507.209473	2507.209473	2507.209473	2507.20947265625	2507.20947265625
r-09-background	924.118652	924.718750	942.632507	942.632507	942.267822	942.267822265625	942.267822265625

4.1.27 No Head Covering

Table 29 No head covering – native quality measures determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	0	0	0	0	0	0.0	0.0
b-02-rolled	0	0	0	0	0	0.0	0.0
b-03-headcovered	0.401441	0.401441	0.401441	0.401441	0.401441	0.40144132653061226	0.40144132653061226

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-04-headcovered	0.507551	0.507551	0.507551	0.507551	0.507551	0.5075510204081632	0.5075510204081632
b-05-scarf	0	0	0	0	0	0.0	0.0
b-06-mask	0	0	0	0	0	0.0	0.0
b-07-glasses	0	0	0	0	0	0.0	0.0
b-08-sunglasses	0	0	0	0	0	0.0	0.0
b-09-background	0	0	0	0	0	0.0	0.0
c-01-frontal	0	0	0	0	0	0.0	0.0
c-02-headcovered-mouthopen	0.462296	0.462296	0.462296	0.462296	0.462296	0.46229591836734696	0.46229591836734696
c-03-headcovered	0.411454	0.411454	0.411454	0.411454	0.411454	0.41145408163265307	0.41145408163265307
c-04-headcovered	0.515918	0.515918	0.515918	0.515918	0.515918	0.5159183673469387	0.5159183673469387
c-05-scarf	0	0	0	0	0	0.0	0.0
c-06-glasses	0	0	0	0	0	0.0	0.0
c-07-twofaces	0	0	0	0	0	0.0	0.0
c-08-sunglasses	0	0	0	0	0	0.0	0.0
c-09-mask	0	0	0	0	0	0.0	0.0
c-10-background	0	0	0	0	0	0.0	0.0
r-01-frontal	0	0	0	0	0	0.0	0.0
r-02-rolled	0	0	0	0	0	0.0	0.0
r-03-mouthopen	0	0	0	0	0	0.0	0.0
r-04-headcovered-eyeclosed	0.417207	0.417207	0.417207	0.417207	0.417207	0.41720663265306124	0.41720663265306124
r-05-headcovered	0.301582	0.301582	0.301582	0.301582	0.301582	0.3015816326530612	0.3015816326530612
r-06-pitch	0	0	0	0	0	0.0	0.0
r-07-scarf	0	0	0	0	0	0.0	0.0

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-08-mask	0	0	0	0	0	0.0	0.0
r-09-background	0	0	0	0	0	0.0	0.0

4.2 Quality component values

4.2.1 Unified quality score

Table 30 Unified quality score - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	63	63	63	63	63	63	63
b-02-rolled	66	66	66	66	66	66	66
b-03-headcovered	7	7	7	7	7	7	7
b-04-headcovered	17	17	17	17	17	17	17
b-05-scarf	10	10	10	10	10	10	10
b-06-mask	3	3	3	3	3	3	3
b-07-glasses	33	33	33	33	33	33	33
b-08-sunglasses	14	14	14	14	14	14	14
b-09-background	66	66	66	66	66	66	66
c-01-frontal	79	79	79	79	79	79	79
c-02-headcovered-mouthopen	3	3	3	3	3	3	3
c-03-headcovered	2	2	2	2	2	2	2
c-04-headcovered	11	11	11	11	11	11	11
c-05-scarf	10	10	10	10	10	10	10
c-06-glasses	53	53	53	53	53	53	53

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-07-twofaces	82	82	82	82	82	82	82
c-08-sunglasses	49	49	49	49	49	49	49
c-09-mask	14	14	14	14	14	14	14
c-10-background	86	86	86	86	86	86	86
r-01-frontal	79	79	79	79	79	79	79
r-02-rolled	74	74	74	74	74	74	74
r-03-mouthopen	79	79	79	79	79	79	79
r-04-headcovered-eyeclosed	27	27	27	27	27	27	27
r-05-headcovered	15	15	15	15	15	15	15
r-06-pitch	70	70	70	70	70	70	70
r-07-scarf	55	55	55	55	55	55	55
r-08-mask	8	8	8	8	8	8	8
r-09-background	84	84	84	84	84	84	84

4.2.2 Background Uniformity

Table 31 Background uniformity - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	67	67	67	67	67	67	67
b-02-rolled	69	69	69	69	69	69	69
b-03-headcovered	80	80	80	80	80	80	80
b-04-headcovered	69	69	69	69	69	69	69
b-05-scarf	62	62	62	62	62	62	62
b-06-mask	81	81	81	81	81	81	81
b-07-glasses	69	69	69	69	69	69	69

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-08-sunglasses	63	63	63	63	63	63	63
b-09-background	17	17	17	17	17	17	17
c-01-frontal	71	71	71	71	71	71	71
c-02-headcovered-mouthopen	75	75	75	75	75	75	75
c-03-headcovered	77	77	77	77	77	77	77
c-04-headcovered	71	71	71	71	71	71	71
c-05-scarf	67	67	67	67	67	67	67
c-06-glasses	68	68	68	68	68	68	68
c-07-twofaces	60	60	60	60	60	60	60
c-08-sunglasses	79	79	79	79	79	79	79
c-09-mask	83	83	83	83	83	83	83
c-10-background	19	19	19	19	19	19	19
r-01-frontal	77	77	77	77	77	77	77
r-02-rolled	58	58	58	58	58	58	58
r-03-mouthopen	77	77	77	77	77	77	77
r-04-headcovered-eyeclosed	78	78	78	78	78	78	78
r-05-headcovered	80	80	80	80	80	80	80
r-06-pitch	74	74	74	74	74	74	74
r-07-scarf	79	79	79	79	79	79	79
r-08-mask	68	68	68	68	68	68	68
r-09-background	28	28	28	28	28	28	28

4.2.3 Illumination Uniformity

Table 32 Illumination uniformity - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	56	56	56	56	56	56	56
b-02-rolled	58	58	58	58	58	58	58
b-03-headcovered	53	53	53	53	53	53	53
b-04-headcovered	50	50	50	50	50	50	50
b-05-scarf	81	81	81	81	81	81	81
b-06-mask	30	30	30	30	30	30	30
b-07-glasses	51	51	51	51	51	51	51
b-08-sunglasses	57	57	57	57	57	57	57
b-09-background	35	35	35	35	35	35	35
c-01-frontal	71	71	71	71	71	71	71
c-02-headcovered-mouthopen	95	95	95	95	95	95	95
c-03-headcovered	95	95	95	95	95	95	95
c-04-headcovered	69	69	69	69	69	69	69
c-05-scarf	75	75	75	75	75	75	75
c-06-glasses	62	62	62	62	62	62	62
c-07-twofaces	68	68	68	68	68	68	68
c-08-sunglasses	67	67	67	67	67	67	67
c-09-mask	27	27	27	27	27	27	27
c-10-background	68	68	68	68	68	68	68
r-01-frontal	61	61	61	61	61	61	61
r-02-rolled	62	62	62	62	62	62	62
r-03-mouthopen	61	61	61	61	61	61	61

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-04-headcovered-eyeclosed	62	62	62	62	62	62	62
r-05-headcovered	62	62	62	62	62	62	62
r-06-pitch	64	64	64	64	64	64	64
r-07-scarf	52	52	52	52	52	52	52
r-08-mask	75	75	75	75	75	75	75
r-09-background	31	31	31	31	31	31	31

4.2.4 Luminance Mean

Table 33 Luminance mean - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	87	87	87	87	87	87	87
b-02-rolled	88	88	88	88	88	88	88
b-03-headcovered	92	92	92	92	92	92	92
b-04-headcovered	89	89	89	89	89	89	89
b-05-scarf	88	88	88	88	88	88	88
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	92	92	92	92	92	92	92
b-08-sunglasses	85	85	85	85	85	85	85
b-09-background	73	73	73	73	73	73	73
c-01-frontal	84	84	84	84	84	84	84
c-02-headcovered-mouthopen	91	91	91	91	91	91	91
c-03-headcovered	94	94	94	94	94	94	94

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04-headcovered	82	82	82	82	82	82	82
c-05-scarf	45	45	45	45	45	45	45
c-06-glasses	72	72	72	72	72	72	72
c-07-twofaces	87	87	87	87	87	87	87
c-08-sunglasses	81	81	81	81	81	81	81
c-09-mask	99	99	99	99	99	99	99
c-10-background	69	69	69	69	69	69	69
r-01-frontal	45	45	45	45	45	45	45
r-02-rolled	45	45	45	45	45	45	45
r-03-mouthopen	43	43	43	43	43	43	43
r-04-headcovered-eyeclosed	62	62	62	62	62	62	62
r-05-headcovered	49	49	49	49	49	49	49
r-06-pitch	39	39	39	39	39	39	39
r-07-scarf	76	76	76	76	76	76	76
r-08-mask	13	13	13	13	13	13	13
r-09-background	62	62	62	62	62	62	62

4.2.5 Luminance Variance

Table 34 Luminance variance - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	99	99	99	99	99	99	99
b-03-headcovered	80	80	80	80	80	80	80

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-04-headcovered	99	99	99	99	99	99	99
b-05-scarf	99	99	99	99	99	99	99
b-06-mask	63	63	63	63	63	63	63
b-07-glasses	99	99	99	99	99	99	99
b-08-sunglasses	95	95	95	95	95	95	95
b-09-background	92	92	92	92	92	92	92
c-01-frontal	82	82	82	82	82	82	82
c-02-headcovered-mouthopen	73	73	73	73	73	73	73
c-03-headcovered	67	67	67	67	67	67	67
c-04-headcovered	100	100	100	100	100	100	100
c-05-scarf	93	93	93	93	93	93	93
c-06-glasses	98	98	98	98	98	98	98
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	98	98	98	98	98	98	98
c-09-mask	58	58	58	58	58	58	58
c-10-background	98	98	98	98	98	98	98
r-01-frontal	91	91	91	91	91	91	91
r-02-rolled	87	87	87	87	87	87	87
r-03-mouthopen	88	88	88	88	88	88	88
r-04-headcovered-eyeclosed	84	84	84	84	84	84	84
r-05-headcovered	97	97	97	97	97	97	97
r-06-pitch	88	88	88	88	88	88	88
r-07-scarf	98	98	98	98	98	98	98

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-08-mask	97	97	97	97	97	97	97
r-09- background	90	90	90	90	90	90	90

4.2.6 Under-Exposure Prevention

Table 35 Under-exposure prevention - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	100	100	100	100	100	100	100
b-04- headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	100	100	100	100	100	100	100
b-09- background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	100	100	100	100	100	100	100
c-03- headcovered	100	100	100	100	100	100	100
c-04- headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07- twofaces	100	100	100	100	100	100	100
c-08- sunglasses	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-09-mask	100	100	100	100	100	100	100
c-10-background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	100	100	100	100	100	100	100
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09-background	100	100	100	100	100	100	100

4.2.7 Over-Exposure Prevention

Table 36 Over-exposure prevention - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	100	100	100	100	100	100	100
b-04-headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	100	100	100	100	100	100	100
c-03- headcovered	100	100	100	100	100	100	100
c-04- headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07- twofaces	100	100	100	100	100	100	100
c-08- sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	100	100	100	100	100	100	100
r-04- headcovered- eyeclosed	100	100	100	100	100	100	100
r-05- headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09- background	99	99	99	99	99	99	99

4.2.8 Dynamic Range

Table 37 Dynamic range - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	86	86	86	86	86	86	86
b-02-rolled	86	86	86	86	86	86	86
b-03-headcovered	93	93	93	93	93	93	93
b-04-headcovered	86	86	86	86	86	86	86
b-05-scarf	87	87	87	87	87	87	87
b-06-mask	95	95	95	95	95	95	95
b-07-glasses	86	86	86	86	86	86	86
b-08-sunglasses	87	87	87	87	87	87	87
b-09-background	88	88	88	88	88	88	88
c-01-frontal	81	81	81	81	81	81	81
c-02-headcovered-mouthopen	93	93	93	93	93	93	93
c-03-headcovered	94	94	94	94	94	94	94
c-04-headcovered	82	82	82	82	82	82	82
c-05-scarf	82	82	82	82	82	82	82
c-06-glasses	86	86	86	86	86	86	86
c-07-twofaces	87	87	87	87	87	87	87
c-08-sunglasses	86	86	86	86	86	86	86
c-09-mask	93	93	93	93	93	93	93
c-10-background	87	87	87	87	87	87	87
r-01-frontal	80	80	80	80	80	80	80
r-02-rolled	79	79	79	79	79	79	79
r-03-mouthopen	78	78	78	78	78	78	78

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-04-headcovered-eyeclosed	79	79	79	79	79	79	79
r-05-headcovered	84	84	84	84	84	84	84
r-06-pitch	78	78	78	78	78	78	78
r-07-scarf	84	84	84	84	84	84	84
r-08-mask	69	69	69	69	69	69	69
r-09-background	88	88	88	88	88	88	88

4.2.9 Sharpness

Table 38 Sharpness - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	99	99	99	99	99	99	99
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	100	100	100	100	100	100	100
b-04-headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	99	99	99	99	99	99	99
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	100	100	100	100	100	100	100
c-03-headcovered	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04-headcovered	100	100	100	100	100	100	100
c-05-scarf	99	99	99	99	99	99	99
c-06-glasses	100	100	100	100	100	100	100
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	99	99	99	99	99	99	99
c-09-mask	100	100	100	100	100	100	100
c-10-background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	100	100	100	100	100	100	100
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	100	100	100	100	100	100	100
r-06-pitch	99	99	99	99	99	99	99
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	99	99	99	99	99	99	99
r-09-background	100	100	100	100	100	100	100

4.2.10 No Compression Artefacts

Table 39 No compression artefacts - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-04-headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	100	100	100	100	100	100	100
c-03-headcovered	100	100	100	100	100	100	100
c-04-headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10-background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	100	100	100	100	100	100	100
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-08-mask	100	100	100	100	100	100	100
r-09-background	100	100	100	100	100	100	100

4.2.11 Natural Colour

Table 40 Natural colour - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	99	99	99	99	99	99	99
b-03-headcovered	100	100	100	100	100	100	100
b-04-headcovered	97	97	97	97	97	97	97
b-05-scarf	83	83	83	83	83	83	83
b-06-mask	76	76	76	76	76	76	76
b-07-glasses	95	95	95	95	95	95	95
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	100	100	100	100	100	100	100
c-03-headcovered	100	100	100	100	100	100	100
c-04-headcovered	100	100	100	100	100	100	100
c-05-scarf	0	0	0	0	0	0	0
c-06-glasses	100	100	100	100	100	100	100
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-09-mask	77	77	77	77	77	77	77
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	100	100	100	100	100	100	100
r-04- headcovered- eyeclosed	100	100	100	100	100	100	100
r-05- headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	0	0	0	0	0	0	0
r-09- background	100	100	100	100	100	100	100

4.2.12 Single Face Present

Table 41 Single face - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	100	100	100	100	100	100	100
b-04- headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	100	100	100	100	100	100	100
b-09- background	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	100	100	100	100	100	100	100
c-03- headcovered	100	100	100	100	100	100	100
c-04- headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07- twofaces	67	67	67	67	67	67	67
c-08- sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	100	100	100	100	100	100	100
r-04- headcovered- eyeclosed	100	100	100	100	100	100	100
r-05- headcovered	100	100	100	100	100	100	100
r-06-pitch	68	68	68	68	68	68	68
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09- background	100	100	100	100	100	100	100

4.2.13 Eyes Open

Table 42 Eyes open - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	99	99	99	99	99	99	99
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	98	98	98	98	98	98	98
b-04- headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	99	99	99	99	99	99	99
b-09- background	100	100	100	100	100	100	100
c-01-frontal	99	99	99	99	99	99	99
c-02- headcovered- mouthopen	98	98	98	98	98	98	98
c-03- headcovered	99	99	99	99	99	99	99
c-04- headcovered	99	99	99	99	99	99	99
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	96	96	96	96	96	96	96
c-07- twofaces	99	99	99	99	99	99	99
c-08- sunglasses	99	99	99	99	99	99	99
c-09-mask	98	98	98	98	98	98	98
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	98	98	98	98	98	98	98
r-03- mouthopen	99	99	99	99	99	99	99

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-04-headcovered-eyeclosed	58	58	58	58	58	58	58
r-05-headcovered	98	98	98	98	98	98	98
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09-background	100	100	100	100	100	100	100

4.2.14 Mouth Closed

Table 43 Mouth closed - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	96	96	96	96	96	96	96
b-02-rolled	96	96	96	96	96	96	96
b-03-headcovered	96	96	96	96	96	96	96
b-04-headcovered	96	96	96	96	96	96	96
b-05-scarf	90	90	90	90	90	90	90
b-06-mask	95	95	95	95	95	95	95
b-07-glasses	96	96	96	96	96	96	96
b-08-sunglasses	96	96	96	96	96	96	96
b-09-background	96	96	96	96	96	96	96
c-01-frontal	96	96	96	96	96	96	96
c-02-headcovered-mouthopen	88	88	88	88	88	88	88
c-03-headcovered	96	96	96	96	96	96	96

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04-headcovered	92	92	92	92	92	92	92
c-05-scarf	93	93	93	93	93	93	93
c-06-glasses	96	96	96	96	96	96	96
c-07-twofaces	96	96	96	96	96	96	96
c-08-sunglasses	96	96	96	96	96	96	96
c-09-mask	96	96	96	96	96	96	96
c-10-background	96	96	96	96	96	96	96
r-01-frontal	96	96	96	96	96	96	96
r-02-rolled	96	96	96	96	96	96	96
r-03-mouthopen	88	88	88	88	88	88	88
r-04-headcovered-eyeclosed	96	96	96	96	96	96	96
r-05-headcovered	96	96	96	96	96	96	96
r-06-pitch	96	96	96	96	96	96	96
r-07-scarf	96	96	96	96	96	96	96
r-08-mask	95	95	95	95	95	95	95
r-09-background	96	96	96	96	96	96	96

4.2.15 Eyes Visible

Table 44 Eyes visible - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	45	45	45	45	45	45	45

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-04-headcovered	85	85	85	85	85	85	85
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	98	98	98	98	98	98	98
b-07-glasses	62	62	62	62	62	62	62
b-08-sunglasses	0	0	0	0	0	0	0
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	0	0	0	0	0	0	0
c-03-headcovered	0	0	0	0	0	0	0
c-04-headcovered	52	52	52	52	52	52	52
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	55	55	55	55	55	55	55
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	0	0	0	0	0	0	0
c-09-mask	92	92	92	92	92	92	92
c-10-background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	100	100	100	100	100	100	100
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	81	81	81	81	81	81	81
r-06-pitch	81	81	81	81	81	81	81
r-07-scarf	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-08-mask	98	98	98	98	98	98	98
r-09- background	92	92	92	92	92	92	92

4.2.16 Mouth Occlusion Prevention

Table 45 Mouth occlusion prevention - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	100	100	100	100	100	100	100
b-04- headcovered	100	100	100	100	100	100	100
b-05-scarf	0	0	0	0	0	0	0
b-06-mask	0	0	0	0	0	0	0
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	100	100	100	100	100	100	100
b-09- background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	100	100	100	100	100	100	100
c-03- headcovered	100	100	100	100	100	100	100
c-04- headcovered	100	100	100	100	100	100	100
c-05-scarf	0	0	0	0	0	0	0
c-06-glasses	100	100	100	100	100	100	100
c-07- twofaces	100	100	100	100	100	100	100
c-08- sunglasses	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-09-mask	0	0	0	0	0	0	0
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	100	100	100	100	100	100	100
r-04- headcovered- eyeclosed	100	100	100	100	100	100	100
r-05- headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	0	0	0	0	0	0	0
r-09- background	100	100	100	100	100	100	100

4.2.17 Inter-Eye Distance

Table 46 Inter-eye distance - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	100	100	100	100	100	100	100
b-04- headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	100	100	100	100	100	100	100
b-09- background	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	100	100	100	100	100	100	100
c-03- headcovered	100	100	100	100	100	100	100
c-04- headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07- twofaces	100	100	100	100	100	100	100
c-08- sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	100	100	100	100	100	100	100
r-04- headcovered- eyeclosed	100	100	100	100	100	100	100
r-05- headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09- background	100	100	100	100	100	100	100

4.2.18 Head-Size

Table 47 Head-size - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	2	2	2	2	2	2	2
b-02-rolled	2	2	2	2	2	2	2
b-03-headcovered	1	1	1	1	1	1	1
b-04-headcovered	1	1	1	1	1	1	1
b-05-scarf	1	1	1	1	1	1	1
b-06-mask	2	2	2	2	2	2	2
b-07-glasses	1	1	1	1	1	1	1
b-08-sunglasses	4	4	4	4	4	4	4
b-09-background	3	3	3	3	3	3	3
c-01-frontal	1	1	1	1	1	1	1
c-02-headcovered-mouthopen	2	2	2	2	2	2	2
c-03-headcovered	1	1	1	1	1	1	1
c-04-headcovered	1	1	1	1	1	1	1
c-05-scarf	2	2	2	2	2	2	2
c-06-glasses	4	4	4	4	4	4	4
c-07-twofaces	2	2	2	2	2	2	2
c-08-sunglasses	1	1	1	1	1	1	1
c-09-mask	1	1	1	1	1	1	1
c-10-background	1	1	1	1	1	1	1
r-01-frontal	2	2	2	2	2	2	2
r-02-rolled	2	2	2	2	2	2	2
r-03-mouthopen	2	2	2	2	2	2	2

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-04-headcovered-eyeclosed	2	2	2	2	2	2	2
r-05-headcovered	1	1	1	1	1	1	1
r-06-pitch	2	2	2	2	2	2	2
r-07-scarf	0	0	0	0	0	0	0
r-08-mask	1	1	1	1	1	1	1
r-09-background	0	0	0	0	0	0	0

4.2.19 Leftward Crop of the Face Image

Table 48 Leftward crop of the face image - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	100	100	100	100	100	100	100
b-04-headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	100	100	100	100	100	100	100
c-03-headcovered	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04-headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10-background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	100	100	100	100	100	100	100
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09-background	100	100	100	100	100	100	100

4.2.20 Rightward Crop of the Face Image

Table 49 Rightward crop of the face image - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-04-headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	100	100	100	100	100	100	100
c-03-headcovered	100	100	100	100	100	100	100
c-04-headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10-background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	100	100	100	100	100	100	100
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-08-mask	100	100	100	100	100	100	100
r-09- background	100	100	100	100	100	100	100

4.2.21 Margin above of the Face Image

Table 50 Margin above of the face image - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	100	100	100	100	100	100	100
b-04- headcovered	100	100	100	100	100	100	100
b-05-scarf	99	99	99	99	99	99	99
b-06-mask	97	97	97	97	97	97	97
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	82	82	82	82	82	82	82
b-09- background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	98	98	98	98	98	98	98
c-03- headcovered	100	100	100	100	100	100	100
c-04- headcovered	99	99	99	99	99	99	99
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07- twofaces	100	100	100	100	100	100	100
c-08- sunglasses	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-09-mask	100	100	100	100	100	100	100
c-10- background	100	100	100	100	100	100	100
r-01-frontal	99	99	99	99	99	99	99
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	99	99	99	99	99	99	99
r-04- headcovered- eyeclosed	100	100	100	100	100	100	100
r-05- headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09- background	100	100	100	100	100	100	100

4.2.22 Margin below of the Face Image

Table 51 Margin below of the face image - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	90	90	90	90	90	90	90
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	100	100	100	100	100	100	100
b-04- headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	100	100	100	100	100	100	100
b-09- background	32	32	32	32	32	32	32

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	100	100	100	100	100	100	100
c-03- headcovered	100	100	100	100	100	100	100
c-04- headcovered	100	100	100	100	100	100	100
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	38	38	38	38	38	38	38
c-07- twofaces	100	100	100	100	100	100	100
c-08- sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	100	100	100	100	100	100	100
r-04- headcovered- eyeclosed	100	100	100	100	100	100	100
r-05- headcovered	100	100	100	100	100	100	100
r-06-pitch	99	99	99	99	99	99	99
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09- background	100	100	100	100	100	100	100

4.2.23 Head Pose Yaw Angle

Table 52 Head pose yaw angle - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	100	100	100	100	100	100	100
b-04-headcovered	100	100	100	100	100	100	100
b-05-scarf	98	98	98	98	98	98	98
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	100	100	100	100	100	100	100
c-03-headcovered	100	100	100	100	100	100	100
c-04-headcovered	100	100	100	100	100	100	100
c-05-scarf	99	99	99	99	99	99	99
c-06-glasses	100	100	100	100	100	100	100
c-07-twofaces	100	100	100	100	100	100	100
c-08-sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10-background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	99	99	99	99	99	99	99

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-04-headcovered-eyeclosed	99	99	99	99	99	99	99
r-05-headcovered	99	99	99	99	99	99	99
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09-background	100	100	100	100	100	100	100

4.2.24 Head Pose Pitch Angle

Table 53 Head pose pitch angle - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	98	98	98	98	98	98	98
b-02-rolled	100	100	100	100	100	100	100
b-03-headcovered	99	99	99	99	99	99	99
b-04-headcovered	99	99	99	99	99	99	99
b-05-scarf	98	98	98	98	98	98	98
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	94	94	94	94	94	94	94
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	94	94	94	94	94	94	94
c-01-frontal	99	99	99	99	99	99	99
c-02-headcovered-mouthopen	93	93	93	93	93	93	93
c-03-headcovered	96	96	96	96	96	96	96

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-04-headcovered	96	96	96	96	96	96	96
c-05-scarf	92	92	92	92	92	92	92
c-06-glasses	98	98	98	98	98	98	98
c-07-twofaces	97	97	97	97	97	97	97
c-08-sunglasses	97	97	97	97	97	97	97
c-09-mask	96	96	96	96	96	96	96
c-10-background	99	99	99	99	99	99	99
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03-mouthopen	100	100	100	100	100	100	100
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	100	100	100	100	100	100	100
r-06-pitch	96	96	96	96	96	96	96
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09-background	99	99	99	99	99	99	99

4.2.25 Head Pose Roll Angle

Table 54 Head pose roll angle - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	92	92	92	92	92	92	92
b-03-headcovered	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-04-headcovered	100	100	100	100	100	100	100
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	99	99	99	99	99	99	99
b-08-sunglasses	100	100	100	100	100	100	100
b-09-background	100	100	100	100	100	100	100
c-01-frontal	100	100	100	100	100	100	100
c-02-headcovered-mouthopen	100	100	100	100	100	100	100
c-03-headcovered	100	100	100	100	100	100	100
c-04-headcovered	99	99	99	99	99	99	99
c-05-scarf	99	99	99	99	99	99	99
c-06-glasses	100	100	100	100	100	100	100
c-07-twofaces	99	99	99	99	99	99	99
c-08-sunglasses	100	100	100	100	100	100	100
c-09-mask	99	99	99	99	99	99	99
c-10-background	99	99	99	99	99	99	99
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	79	79	79	79	79	79	79
r-03-mouthopen	99	99	99	99	99	99	99
r-04-headcovered-eyeclosed	100	100	100	100	100	100	100
r-05-headcovered	100	100	100	100	100	100	100
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
r-08-mask	100	100	100	100	100	100	100
r-09- background	100	100	100	100	100	100	100

4.2.26 Expression Neutrality

Table 55 Expression neutrality - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	23	23	23	23	23	23	23
b-02-rolled	95	95	95	95	95	95	95
b-03- headcovered	76	76	76	76	76	76	76
b-04- headcovered	47	47	47	47	47	47	47
b-05-scarf	66	66	66	66	66	66	66
b-06-mask	55	55	55	55	55	55	55
b-07-glasses	93	93	93	93	93	93	93
b-08- sunglasses	94	94	94	94	94	94	94
b-09- background	72	72	72	72	72	72	72
c-01-frontal	62	62	62	62	62	62	62
c-02- headcovered- mouthopen	41	41	41	41	41	41	41
c-03- headcovered	40	40	40	40	40	40	40
c-04- headcovered	19	19	19	19	19	19	19
c-05-scarf	68	68	68	68	68	68	68
c-06-glasses	67	67	67	67	67	67	67
c-07- twofaces	39	39	39	39	39	39	39
c-08- sunglasses	78	78	78	78	78	78	78

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-09-mask	60	60	60	60	60	60	60
c-10- background	90	90	90	90	90	90	90
r-01-frontal	91	91	91	91	91	91	91
r-02-rolled	88	88	88	88	88	88	88
r-03- mouthopen	12	12	12	12	12	12	12
r-04- headcovered- eyeclosed	23	23	23	23	23	23	23
r-05- headcovered	40	40	40	40	40	40	40
r-06-pitch	38	38	38	38	38	38	38
r-07-scarf	91	91	91	91	91	91	91
r-08-mask	62	62	62	62	62	62	62
r-09- background	69	69	69	69	69	69	69

4.2.27 No Head Covering

Table 56 No head covering - component values determined on different platforms

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
b-01-smile	100	100	100	100	100	100	100
b-02-rolled	100	100	100	100	100	100	100
b-03- headcovered	4	4	4	4	4	4	4
b-04- headcovered	1	1	1	1	1	1	1
b-05-scarf	100	100	100	100	100	100	100
b-06-mask	100	100	100	100	100	100	100
b-07-glasses	100	100	100	100	100	100	100
b-08- sunglasses	100	100	100	100	100	100	100
b-09- background	100	100	100	100	100	100	100

Identifier	Windows 10 (x86_64)	Windows 10 (x86)	Ubuntu 22.04 (x86_64)	Ubuntu 24.04 (x86_64)	MacOS	Android	iOS
c-01-frontal	100	100	100	100	100	100	100
c-02- headcovered- mouthopen	2	2	2	2	2	2	2
c-03- headcovered	4	4	4	4	4	4	4
c-04- headcovered	1	1	1	1	1	1	1
c-05-scarf	100	100	100	100	100	100	100
c-06-glasses	100	100	100	100	100	100	100
c-07- twofaces	100	100	100	100	100	100	100
c-08- sunglasses	100	100	100	100	100	100	100
c-09-mask	100	100	100	100	100	100	100
c-10- background	100	100	100	100	100	100	100
r-01-frontal	100	100	100	100	100	100	100
r-02-rolled	100	100	100	100	100	100	100
r-03- mouthopen	100	100	100	100	100	100	100
r-04- headcovered- eyeclosed	3	3	3	3	3	3	3
r-05- headcovered	10	10	10	10	10	10	10
r-06-pitch	100	100	100	100	100	100	100
r-07-scarf	100	100	100	100	100	100	100
r-08-mask	100	100	100	100	100	100	100
r-09- background	100	100	100	100	100	100	100