

G7+TM SPECIFICATION

DEFINITIONS & ALGORITHMS

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Abbreviations and New Terminology

Shortened CIEXYZ abbreviations

This document frequently refers to CIEXYZ units. For simplicity, the 'CIE' prefix may be omitted, in which case 'XYZ' implies 'CIEXYZ' and individual upper-case 'X', 'Y' and 'Z' always imply CIEXYZ values.

Avoiding 'Y' vs 'y' confusion

The XYZ_ 'Y' variable is a function of light reflection and different from the traditional CMYK acronym's 'Y' value, which refers to the yellow ink or yellow file value.

To avoid confusion, XYZ_Y is always upper-case 'Y', while all cyan, magenta, yellow and black ink abbreviations are henceforth always lower case, e.g. 'cmyk', 'cmy', 'c', 'm', 'y' or 'k'.

For consistency, all two-ink overprint abbreviations 'r' (m=y, c = 0, k = 0), 'g' (c=y, m = 0, k = 0) and 'b' (c=m, y = 0, k = 0) or 'rgb', are also lower case.

RPC (Reference Print Condition)

The standard printing condition on whose neutral tonality and TVI values the G7+ Tonality and HDS specifications are based – initially CRPC6 (GRACoL 2013) but this may be replaced, if needed, without otherwise changing the G7+ specification.

SPC (Subject Print Condition)

The printing system, printed sample or measurement data on which the user wants to apply G7+ calibration or verification.

HDS (High Density Smoothing)

An optional G7+ function that reduces the chance of cmy quantization in high-density pure color gradations or over-inked devices, while preserving the benefits and features of legacy G7.

G7+TM vs. G7[®] Comparison Summary

Reference dataset (RPC) vs. algebraic concept

- While the G7 tonality specification is based on algebraic formulae in CGATS TR015, the G7+ tonality specification is based on a fixed 'reference' print condition, or 'RPC'.
- For legacy compatibility, on first release the G7+ RPC is CGATS.21 CRPC6 (GRACoL 2013) in IT8.7/5 format, which has been available for download from Idealliance since 2017.
- Note that the original CRPC6 dataset released in 2013 in IT8.7/4 format, lacked many of the RPC gray scale values, had some minor gray scale errors compared to TR 015 math, and may not agree exactly with the RPC values. See annex C for more details.
- The RPC concept not only simplifies tonality calculations, but also facilitates easy updating of the G7+ specification, if appropriate, for example if defining the RPC from an internationally agreed 'Universal Characterization Dataset' (UCD) becomes more useful than CRPC6.

G7+ Tonality definition

- G7+ tonality is defined in units of CIEXYZ_Y vs. neutral density (ND) or L* for G7.
- G7+ tonality is initially identical to G7 tonality at GRACoL 2013 ink values. If a new G7+ RPC is defined in future, it should match GRACoL 2013 as closely as possible for legacy purposes.
- G7+ mid-tones are slightly lighter on low dynamic-range printing, and slightly darker on high dynamic-range printing, for improved pictorial appearance.

G7+ Gray Balance definition

- G7+ gray balance is defined in units of CIEXYZ vs. units of CIEa*b* for G7.
- G7+ gray balance is unaffected by any amount of SCCA (Substrate-Corrected Colorimetric Aims¹), while even mild SCCA can damage or destroy G7 gray balance compliance.
- G7+ gray balance is more visually neutral, especially on strongly colored substrates, after visual chromatic adaptation.
- G7+ gray balance mimics the ICC Relative Colorimetric rendering intent, the default familiar to millions of Adobe software users.

G7+ High Density Smoothing (HDS) function

- HDS is a user-optional function that reduces quantization or 'banding', and provides better ICC profile accuracy and more pleasing images without color management on some high-saturation or over-inked printers.
- HDS can also improve the calibration of printing systems (offset, flexography, digital, dye-sublimation, etc.) whose gray balance or tonality above 75% is uneven or unstable.
- HDS reduces the need for, but remains compatible with, G7's Native CMY option.
- When used, HDS introduces a new 'ΔTVI' verification metric.

G7+ Calibration, Verification and QC tools

- G7+ requires new or updated software for calibration, verification, and QC.
- G7+ introduces new or adjusted G7+ Master program aims, tolerances and rules.

¹ Using a common hinge value.

G7+ Tonality Definition

The RPC and SPC concept

The G7+ tonality definition consists of the CIEXYZ_Y (XYZ_Y or Y) values of two neutral gray scales (cmy and k) of a 'Reference Print condition' (RPC), scaled linearly to fit the Y range (max Y – min Y) of the same two scales of the 'Subject Print condition' (SPC), i.e. the printing system to be calibrated or verified.

G7+ Tonality reference constants

Upon first release, the G7+ RPC is defined by CGATS.21 CRPC6 (GRACoL 2013), but this may be replaced in future by a new RPC (see 'Expected RPC change') subject to industry trends.

The neutral XYZ_Y values of the RPC are G7+ constants, listed in two tables corresponding to the 25 steps of a P2P51 target, where column 'c' is the cyan value of a cmy gray balance triplet.

Interstitial step values can be calculated by linear interpolation so long as the 25 listed values are maintained to two decimal places, however the G7+ specification does not require extra values.

G7+ RPC Tonality tables and curves (corrected December 2024)

NOTE: Editions of this document prior to 47 had slightly inaccurate RPC_Y values.

Index c/k	RPC _Y	
	c	k
0	87.618	87.618
2	83.809	84.298
4	80.144	81.078
6	76.617	77.956
8	73.222	74.928
10	69.957	71.99
15	62.323	65.02
20	55.392	58.549
25	49.1	52.534
30	43.386	46.936
35	38.197	41.723
40	33.485	36.874
45	29.206	32.36
50	25.323	28.159
55	21.803	24.254
60	18.62	20.634
65	15.751	17.292
70	13.18	14.227
75	10.897	11.44
80	8.897	8.939
85	7.179	6.736
90	5.749	4.847
95	4.617	3.293
98	4.088	2.532
100	3.8	2.099

Table 1: The G7+ RPC tonality tables from an idealized form of CRPC6, calculated from TR015 math².

NOTE: This table may change slightly if the RPC is changed. See 'Expected RPC change'.

² The first edition of CRPC6 (GRACoL 2013) data contained only IT8.7/4 values that omitted some P2P index values. Later IT8.7/5 editions added these missing values but with small interpolation errors. For clarity and precision, the tables above were generated from the original TR015 equations, but note that TR015 is NOT a part of the G7+ specification.

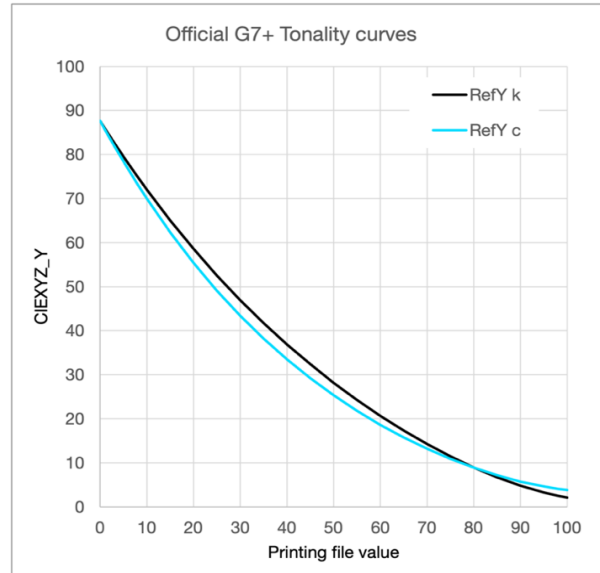


Figure 1: Graphs of the actual G7+ RPC tonality table values (from CRPC6).

Determining tonality aim values for a new SPC

If the SPC's dynamic range is different from that of the RPC, the RPC values must be scaled linearly to fit the SPC's maximum and minimum k and cmy Y values, using the following equations. The resulting scaled RPC_Y values become the aim values for the SPC's cmy and k gray scales.

Linear-scaling RPC k tonality to get $SPCY_k$ aim values

For $k = 0 - 100$;

$$SPCY_k = \text{scaled_RPCY}_k = (RPCY_k - RPCY_{100}) \times \frac{(SPCY_s - SPCY_{100})}{(RPCY_s - RPCY_{100})} + SPCY_{100}$$

Where;

$RPCY_k$ = Y value of the RPC_k gray scale step

$RPCY_s$ = Y value of the RPC substrate

$RPCY_{100}$ = Y value of the RPC 100% k gray scale step

$SPCY_s$ = Y value of the SPC substrate

$SPCY_{100}$ = Y value of the SPC 100% k gray scale step

Linear-scaling RPC cmy tonality to get $SPCY_{cmy}$ aim values

For c of the cmy triplet = 0 - 100;

$$SPCY_{cmy} = \text{scaled_RPCY}_{cmy} = (RPC_{cmy} - RPC_{300}) \times \frac{(SPC_s - SPC_{300})}{(RPC_s - RPC_{300})} + SPC_{300}$$

Where;

RPC_{cmy} = Y value of the RPC cmy gray scale step

RPC_{300} = Y value of the RPC 300% cmy gray scale step

$SPCY_{300} = Y \text{ value of the SPC 300\% cmy gray scale step}$

Example linear-scaling graphical representation

Shown below for k with identical principles used for cmy grays.

Equation color coding helps illustrate the operation.

Substituting i for k ,

$$SPCY_i = (RPCY_i - RPCY_{100}) \times \frac{(SPCY_s - SPCY_{100})}{(RPCY_s - RPCY_{100})} + SPCY_{100}$$

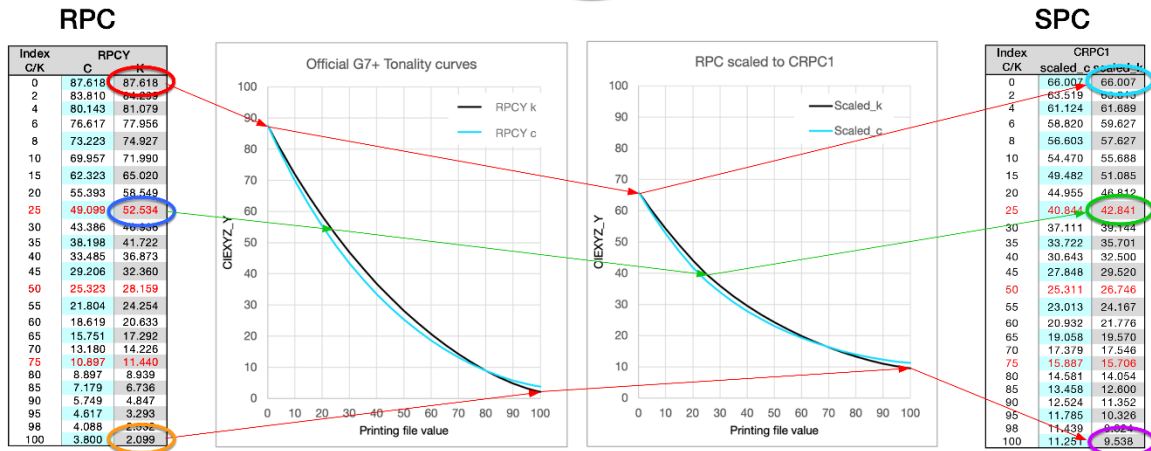


Figure 2: RPC linear scaling flowchart for $k = 0, 25$ and 100 .
Note that all other k control points "i" between 0 and 100 are scaled identically.

Scaled cmy Y values are calculated identically, by substituting i for c .

Converting Y to L* or ND

$SPCY_k$ and $SPCY_{cmy}$ aim values can be converted as needed from CIEXYZ_Y to L* or ND (Neutral Density) by the equations in Annex B:

Potential RPC change

In future, the current RPC (based on CRPC6) may be replaced to align with changes in international printing standards, or for other reasons.

G7+ support tools must facilitate easy adaptation to a new RPC, if and when one is chosen by PRINTING United Alliance.

G7+ Gray Balance Definition

G7+ gray balance cmy triplet values

For legacy compatibility, G7+ gray balance uses exactly the same neutral cmy triplet percentages as G7, found in existing P2P51, IT8.7/5 etc. targets and the new P2P75A target (see Annex A).

P2P Neutral Triplets				
C	Round 4		Round 2	
	M	Y	M	Y
0	0	0	0	0
2	1.4926	1.4926	1.49	1.49
4	2.9833	2.9833	2.98	2.98
6	4.4736	4.4736	4.47	4.47
8	5.9648	5.9648	5.96	5.96
10	7.4584	7.4584	7.46	7.46
15	11.212	11.212	11.21	11.21
20	15.0112	15.0112	15.01	15.01
25	18.8781	18.8781	18.88	18.88
30	22.8348	22.8348	22.83	22.83
35	26.9033	26.9033	26.9	26.9
40	31.1056	31.1056	31.11	31.11
45	35.4638	35.4638	35.46	35.46
50	40	40	40	40
55	44.7362	44.7362	44.74	44.74
60	49.6944	49.6944	49.69	49.69
65	54.8967	54.8967	54.9	54.9
70	60.3652	60.3652	60.37	60.37
75	66.1219	66.1219	66.12	66.12
80	72.1888	72.1888	72.19	72.19
85	78.588	78.588	78.59	78.59
90	85.3416	85.3416	85.34	85.34
95	92.4716	92.4716	92.47	92.47
98	96.9394	96.9394	96.94	96.94
100	100	100	100	100

Table 2: G7+ neutral cmy triplets (rounded above to four and two decimals) are identical to G7.

New G7+ gray balance algorithm

Find darkest Y value

- Get 'Y_graymin' from the two gray scales and the 400% cmyk patch of the P2P data.
- Reduce Y_graymin by a constant (0.8) to approximate a darker minimum Y value that might be found by SCCA tools with access to a full IT8 dataset printed on the same device.

Get XYZ hinge values

Rather than hinging on the actual XYZ values of the darkest P2P patch, whose color could vary unpredictably, consistent gray balance across media and devices is assured by calculating theoretically neutral X, Y and Z hinge values as functions of Y_graymin modified by the XYZ white point ratios of the illuminant used (typically D50), as follows.

$X_ratio = X \text{ value} / Y \text{ value of the illuminant white point} (= 0.9642 \text{ for D50}).$

$Z_ratio = Z \text{ value} / Y \text{ value of the illuminant white point} (= 0.8252 \text{ for D50}).$

$hingeX = X_ratio \times Y_graymin \times 0.8;$

$hingeY = Y_graymin \times 0.8;$

$hingeZ = Z_ratio \times Y_graymin \times 0.8;$

Calculate New G7+ gray balanced XYZ

For each cmy control point index (i) value (0, 2, 4, ...95, 98, 100);

Y_i = (given by tonality algorithm)

$X_i = (X_s - \text{hinge}X) \times (Y_i - \text{hinge}Y) / (Y_s - \text{hinge}Y) + \text{hinge}X$;

$Z_i = (Z_s - \text{hinge}Z) \times (Y_i - \text{hinge}Y) / (Y_s - \text{hinge}Y) + \text{hinge}Z$;

Where X_s , Y_s and Z_s are substrate values.

Convert X_i , Y_i , Z_i to L^*i , a^*i , b^*i , as needed by standard formulae.

The graymin factor explained

Most SCCA tools hinge on the lowest X, Y and Z values found in the 1617 patches of an IT8.7/4 target, but for practical reasons, G7+ must be compatible with a much smaller target, e.g. the P2P, which does not contain the same range of dark color patches as an IT8.

To solve this, the graymin factor (0.8) reduces the darkest L^* found in a P2P (typically, but not always, the 400% patch) to approximate the lowest $L^* L^*$ in a IT8.7/4 printed on the same device.

To avoid gray balance errors, G7+ then generates XYZ values from that reduced L^* value, rather than using the lowest X, Y and Z values from different patches. (See G7+ vs. typical SCCA tools.)

Comparison graphs: original G7+ vs. New G7+ vs. G7

The graphs below show that the difference between the original and New G7+ gray balance is greatest in low-density printing, e.g. CRPC1, with almost no difference in CRPC6.

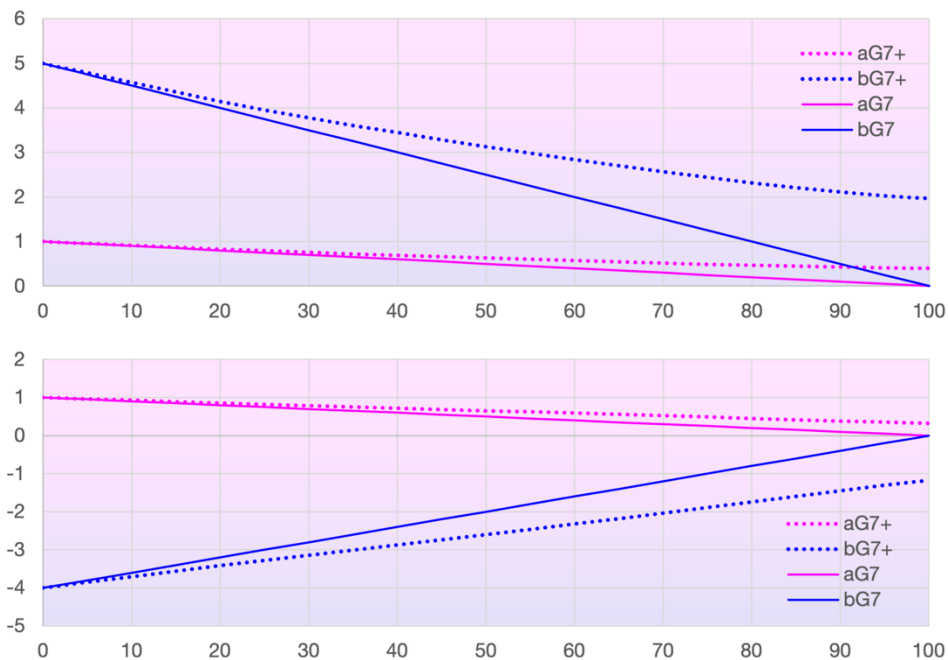


Figure 3: Gray balance graphs for CRPC1 (top) and CRPC6 (bottom), solid = legacy G7, dotted = G7+.

Understanding the graphs

- Because the G7 gray balance algorithm (solid lines) ignores tint transparency, G7 a^* and b^* are always zero for 300% cmy.
- By contrast, the G7+ a^* and b^* gray balance graphs (dotted lines) show the influence of

substrate color and will never reach zero at 300% on real-world reflective media.

- Because G7+ treats the cmy tint as a transparent neutral density filter, it forms a more logical basis for gray balance than models based on L^* or G7's $(1 - c/100)$ formula.
- G7+ gray balance looks more neutral than G7 gray balance (after chromatic adaptation or "CA"), especially on colored substrates, but with higher substrate chroma, apparent neutrality is more dependent on viewing conditions, degree of CA, subject matter, and personal taste.
- While SCCA can damage or destroy G7 gray scale compliance, a G7+ dataset modified by SCCA maintains perfect G7+ gray balance, so long as the SCCA algorithm hinges on $L^* 0.0$.

Comparison images: legacy G7 vs G7+

Shown on CRPC1 data adjusted by SCCA to $L^* 85$, $a^* 10$, $b^* 30$. (Ignore G7+ label on left image.)

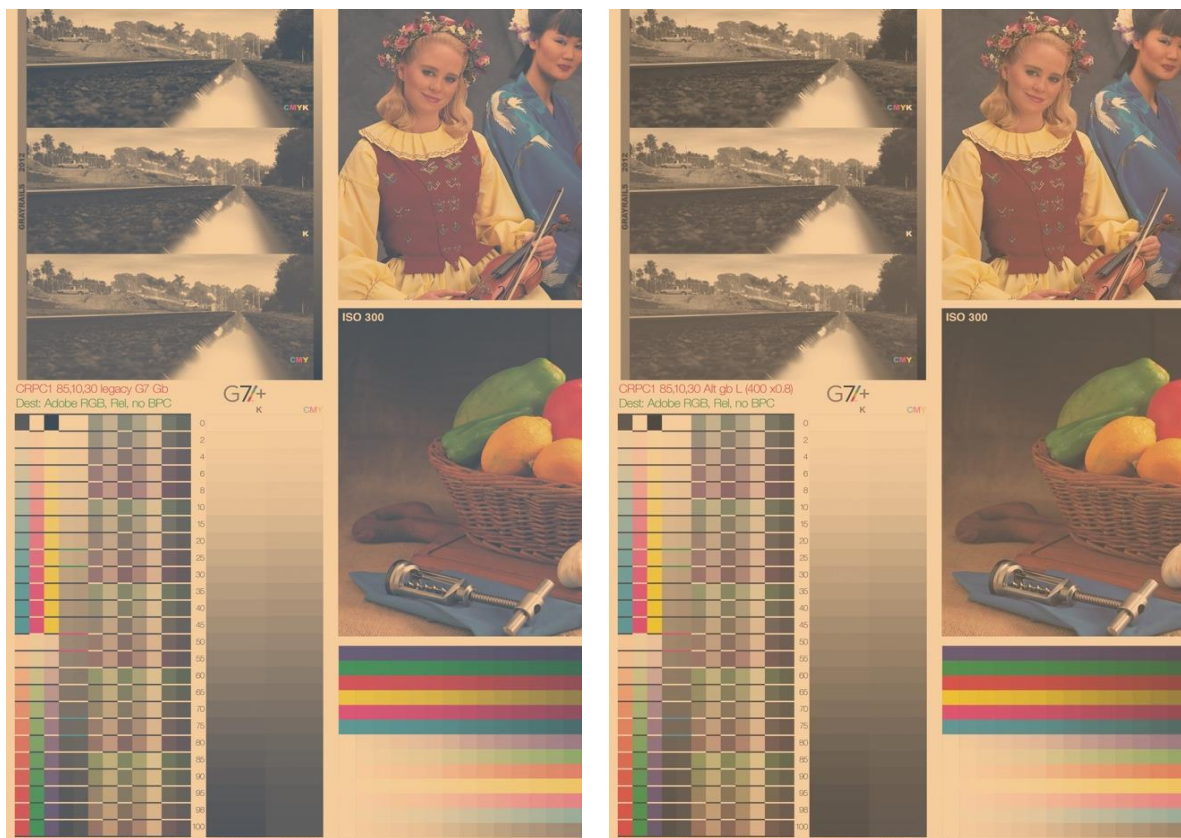


Figure 4: Legacy G7 gray balance (left) vs. G7+ gray balance (right). (Ignore G7+ label on left image.)

Native CMY (user option, default OFF)

G7's Native CMY function is largely redundant with HDS on, because HDS produces similar, but more predictable results, however HDS does not entirely replace Native CMY, so a user may choose to apply HDS, Native CMY, or both.

Native CMY alters the target a^* , b^* values for cmy grayscale values above 50% with a non-linear function that ends with the device's 300% cmy native a^* and b^* values at 100%, thus avoiding the need to solve extreme gray balance errors in dark shadows.

Calculating Native CMY aims

For each cmy control point index (i) value (0, 2, 4, ...95, 98, 100);

Calculate Y_i , X_i , Z_i as described under G7+ Gray Balance Definition, using the New method.

Convert X_i , Y_i , Z_i to L^*_i , a^*_i , b^*_i , by standard formulae.

Find a^*_{300} and b^*_{300} from the calibration sample's 300% patch

If $i < 50$;

$$a^*_{\text{native_CMY}} = a^*_i$$

$$b^*_{\text{native_CMY}} = b^*_i$$

Else

$$\text{scale} = ((i - 50) / 50)^4$$

$$a^*_{\text{native_CMY}} = a^*_i \times (1 - \text{scale}) + a^*_{300} \times \text{scale}$$

$$b^*_{\text{native_CMY}} = b^*_i \times (1 - \text{scale}) + b^*_{300} \times \text{scale}$$

The graph below shows the a^* , b^* curves for legacy G7 and G7+ New gray balance with Native CMY on and off and a 0.8 of 1.0.

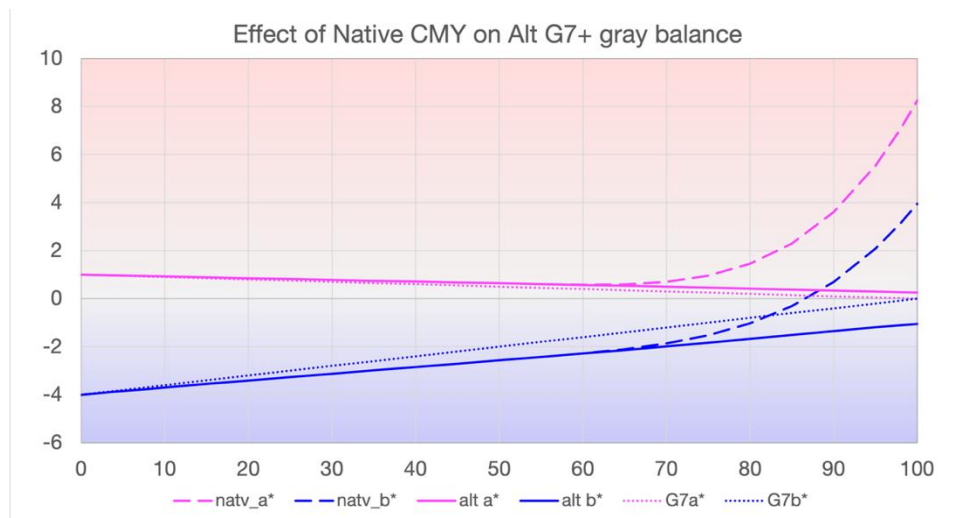


Figure 5: Legacy G7 (dots) vs New G7+ (solid) vs Native CMY (dashes) when 300% cmy = 8 a^* , 4 b^*

Native CMY is recommended when HDS is off and the printing system fails G7+ Grayscale due to its inability to achieve neutrality at 300% within normal tolerances.

G7+ vs. typical SCCA tools

Because most SCCA tools hinge on the lowest X, Y and Z values from different color patches in an IT8.7/4 dataset, an unwanted color cast can result in a perfect G7 dataset. By contrast, G7+ eliminates unwanted color casts by calculating the X and Z hinge values from the Y value of the lowest L^* , using the X, Y, Z ratios of the viewing illuminant (nominally D50).

Maximizing SCCA software compatibility with G7+

Maximum SCCA compatibility with G7+ can be achieved by altering the SCCA algorithm to use the same hinge philosophy as G7+, namely calculating X, Y and Z hinge values from the lowest L^* , rather than the common default of the lowest X, Y and Z values in the IT8.7/4 data.

G7+ HDS Definition

HDS principle

HDS is an optional function that replaces cmy gray scale aim values above index 75% with TV aims derived from the RPC's c, m, y TVI curves³, scaled to match the c, m, y values that achieve grayscale compliance at 75%. (Grayscale calibration is outside the scope of this specification.)

The function allows for the fact that a 75% cmy gray patch is actually 75c, 66.12m, 66.12y.

Determining HDS Aim_TV curves

NOTE: These values can be calculated once and saved as constants for any RPC.

Calculating RPC c, m, y TV reference curves

From all single – ink c, m, and y RPC data, find X of c, Y of m and Z of y;

For index $i = 0 - 100$;

$$RPC_TV_{ci} = \frac{RPCX_s - RPCX_{ci}}{RPCX_s - RPCX_{c100}} \times 100$$

$$RPC_TV_{mi} = \frac{RPCY_s - RPCY_{mi}}{RPCY_s - RPCY_{m100}} \times 100$$

$$RPC_TV_{yi} = \frac{RPCZ_s - RPCZ_{yi}}{RPCZ_s - RPCZ_{y100}} \times 100$$

Where;

$RPCX_s$ $RPCY_s$ and $RPCZ_s = X, Y$ and Z values of the RPC substrate

$RPCX_{ci}$ $RPCY_{mi}$ and $RPCZ_{yi} = X, Y$ and Z RPC values for index value i

$RPCX_{c100}$ $RPCY_{m100}$ and $RPCZ_{y100} = X, Y$ and Z values of 100% RPC c, m and y

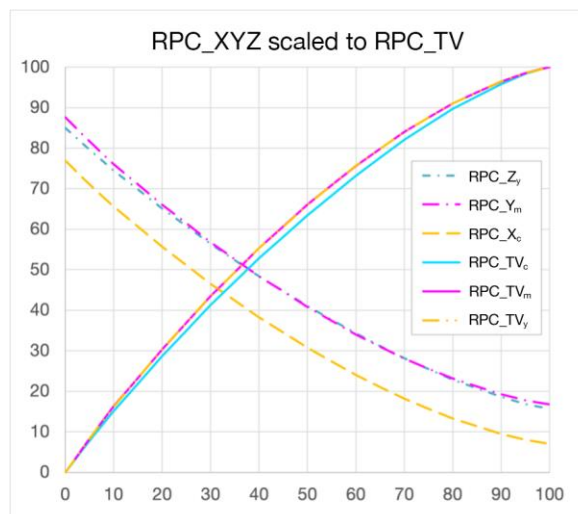


Figure 10: RPC single-ink XYZ values converted to RPC_TVc , RPC_TVm and RPC_TVy .

³ TV and TVI calculations substitute XYZ for traditional rgb reflectance values for compatibility with Lab data and to avoid density filtration status differences produced by legacy TVI calculations.

Calculating SPC c, m, y TV curves

From all single – ink c, m, and y SPC data, find X of c, Y of m and Z of y;

For index $i = 0 - 100$;

$$SPC_TV_{ci} = \frac{SPCX_s - SPCX_{ci}}{SPCX_s - SPCX_{c100}} \times 100$$

$$SPC_TV_{mi} = \frac{SPCY_s - SPCY_{mi}}{SPCY_s - SPCY_{m100}} \times 100$$

$$SPC_TV_{yi} = \frac{SPCZ_s - SPCZ_{yi}}{SPCZ_s - SPCZ_{y100}} \times 100$$

Where;

$SPCX_s$ $SPCY_s$ and $SPCZ_s = X, Y$ and Z values of the SPC substrate

$SPCX_{ci}$ $SPCY_{mi}$ and $SPCZ_{yi} = X, Y$ and Z SPC values for index value i

$SPCX_{c100}$ $SPCY_{m100}$ and $SPCZ_{y100} = X, Y$ and Z values of SPC 100% c, m and y

Find Cal and SPC_TV values for 75c, 66.12m, 66.12y

Interpolate calibrated grayscale curves for index values 75c, 66.12m, 66.12y to find output values Cal_{c75} , Cal_{m66} , Cal_{y66} then interpolate these in the SPC_TV curves to get calibrated SPC_TV values, SPC_TV_{c75} , SPC_TV_{m66} , SPC_TV_{y66} .⁴

NOTE: These values must be calculated separately for each SPC or print run.

$SPC_TV_{c75} = \text{Interpolate } Cal_{c75} \text{ in } SPC_TVc \text{ curve}$

$SPC_TV_{m66} = \text{Interpolate } Cal_{m66} \text{ in } SPC_TVm \text{ curve}$

$SPC_TV_{y66} = \text{Interpolate } Cal_{y66} \text{ in } SPC_TVy \text{ curve}$

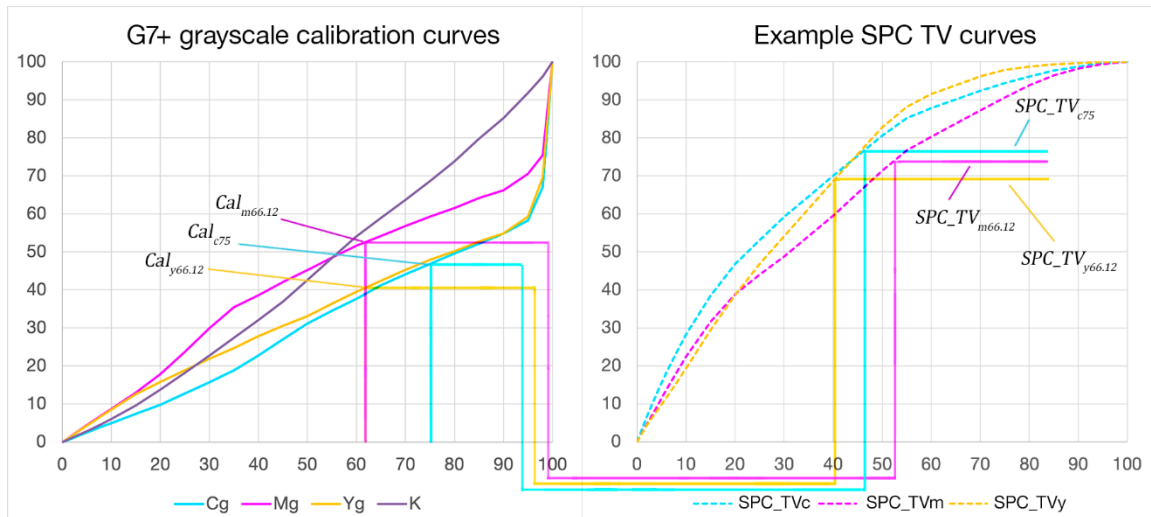


Figure 11: Finding Cal and SPC_TV values for 75c, 66.12m, 66.12y

Scaling RPC TV curves

To avoid tone breaks in pure color gradients, the derived RPC TV curves must be scaled, hinging on 100, so that scaled RPC_TV_{75} values match the SPC_TV_{75} values. To avoid over-range errors,

⁴ Equation suffixes are simplified from 66.12 to 66 for clarity.

scaling adds the available headroom ($100 - RPC_TV_i$) multiplied by a scaling factor.

Calculate scale factors;

$$factor_c = \frac{SPC_TV_{c75} - RPC_TV_{c75}}{100 - RPC_TV_{c75}}$$

$$factor_m = \frac{SPC_TV_{m66} - RPC_TV_{m66}}{100 - RPC_TV_{m66}}$$

$$factor_y = \frac{SPC_TV_{y66} - RPC_TV_{y66}}{100 - RPC_TV_{y66}}$$

For RPCTV values $i = 75c, 66.12m, 66.12y - 100$;

$$Temp_TV_{ci} = RPC_TV_{ci} + (100 - RPC_TV_{ci}) \times factor_c$$

$$Temp_TV_{mi} = RPC_TV_{mi} + (100 - RPC_TV_{mi}) \times factor_m$$

$$Temp_TV_{yi} = RPC_TV_{yi} + (100 - RPC_TV_{yi}) \times factor_y$$

Scaled_TVci = Reverse – Interpolate Temp_TVc in SPC_TVc curve

Scaled_TVmi = Reverse – Interpolate Temp_TVm in SPC_TVm curve

Scaled_TVyi = Reverse – Interpolate Temp_TVy in SPC_TVy curve

Applying scaled RPC TV values

Above index 75c, 66.12m, 66.12y, the c, m, y, Scaled_TV values replace the Aim_TV values calculated by the G7+ gray balance and tonality algorithms, as follows.

For $i = 0 - 75c, 0 - 66.12m, 0 - 66.12y$;

Aim_TVci, Aim_TVmi and Aim_TVyi are determined by gray balance and tonality

For $i > 75c, 66.12m, 66.12y$;

$$Aim_TV_{ci} = Scaled_TV_{ci}$$

$$Aim_TV_{mi} = Scaled_TV_{mi}$$

$$Aim_TV_{yi} = Scaled_TV_{yi}$$

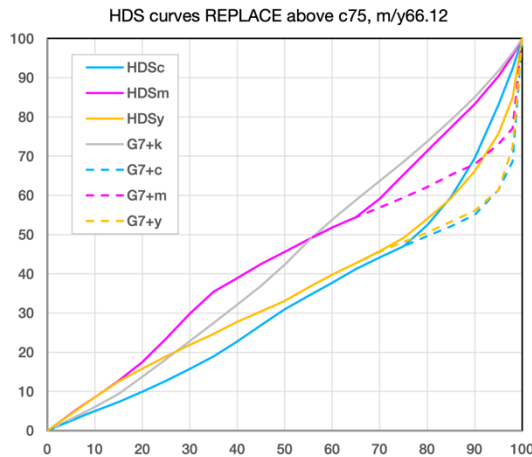


Figure 12: Calibration curves with HDS on (solid) vs. off (dotted) for a typical high density ink-jet printer. Note that at $i = 75c, 66.12m, 66.12y$, the *Scaled_TV c, m, y* values equal the equivalent grayscale-calibrated *c, m, y* values, ensuring a continuous curve without steps.

Implication of sudden slope change

Concern has been expressed that the abrupt slope change in the HDS calibration curves (solid c, m lines in the left graph below) might cause a visible change in tonality or color on the resulting print, or issues with subsequent processes like ICC profiling.

To address these concerns, it was suggested that HDS target TV values above 75% might be BLENDED with cmY gray scale aim values, instead of REPLACING them, to produce a smoother slope change similar to the solid lines in the right-hand graph below.

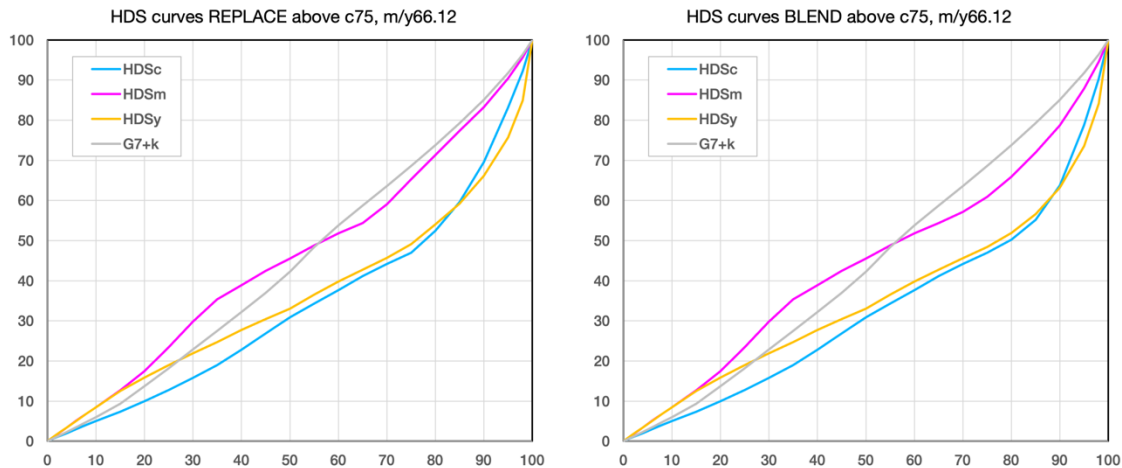


Figure 9: Effect of blending (right) vs replacing (left) with HDS on (solid) and off (dotted) for a typical high density printer.

However, after studying the pros and cons of both approaches and actual imagery, the replacement algorithm (see equations above) is confirmed for the reasons outlined below.

Potential advantages of BLENDED HDS curves

- May avoid interpolation challenges in subsequent processes, e.g. ICC profiling.
- Users and mathematicians are typically more comfortable with smoother-looking curves.

Limitations of the BLEND approach

- Neither Lab-based nor TVI-based blended aims for c, m and y channels higher than 75% can be calculated with P2P data, because single-ink c, m, y TVI values cannot be converted to Lab-based gray scale aims, or vice-versa.
- Not providing any method for verifying cmY curves aims between 75 and 100 would weaken the G7+ specification.
- While Lab or TVI aims could be calculated with a profile or full characterization dataset, verification would be much slower and more complicated, and profile tools differ too much to define unambiguous aims.

Advantages of the REPLACE approach

- Full-scale verification is possible from P2P or similar data, with Lab aims for all cmY grayscale patches up to index 75%, and individual c, m, y TVI aims above 75c, 66.12m, 66.12y.
- Critical QC patches HC (25), HR (50) and SC (75) can continue to be verified colorimetrically.
- The slope change at 75% is similar to non-linearities in certain color regions of many real-world characterization datasets, especially where more than four inks are employed.

-
- Visible artifacts due to the slope change have yet to be observed, and if they occur, are an acceptable trade-off in typical HDS use-cases.
 - The noticeable slope changes at 75% shown in this document's example graphs are from a high-density ink jet printer and are typically milder or absent on most printing systems.

HDS benefits (informational only)

The G7+ HDS feature is designed to,

- Reduce or eliminate quantization or 'banding' produced by G7 on some high-density or over-inked printers.
- Enable more accurate ICC profiles and better image appearance without color management.
- Improve calibration of conventional offset or other printing systems with unstable shadow performance.
- Reduce or eliminate the need for G7's Native CMY option.

Implication of HDS ON / OFF switching

- Switching HDS OFF restores full gray balance correction between 75 and 100% cmy, but eliminates the potential benefits offered by HDS, primarily smoother single-ink cmy scales.
- G7+ users need to understand the pros and cons and typical use cases of HDS.
- Switching HDS off is unlikely to have significant disadvantages on well-behaved printers that don't exhibit the issues mentioned in HDS benefits (above).
- G7+ verification must know if HDS was or on or off or report dual scores (see next section).

G7+ Verification

This section defines how to verify whether a SPC ('subject print condition', sample or measured data file from a subject system) meets the specifications of G7+ as determined by three discrete tests for G7+ Tonality, G7+ gray balance and G7+ HDS (if used).

Ideally, the verification process would know what options were chosen, but in many cases this will not be possible, so all certified G7+ verification software tools and the G7+ Master program should be capable of scoring for multiple options, either simultaneously or with user input.

Patches to be verified

G7+ Grayscale verification uses the same k-only and cmy-only gray scale patch values as G7, listed under 'cmYK Target Definitions', found in the P2P51, P2P75A⁵ or IT8.7/5 target.

HDS verification uses single-ink c, m and y patches found in the P2P75A and IT8.7/5.

P2P k patches evaluated for $w\Delta L^*_k$

Average and Maximum $w\Delta L^*$ are calculated from patches 2 – 98, inclusive⁶.

P2P cmy gray patches evaluated for $w\Delta L^*_{cmy}$ and $w\Delta Ch$

Average and Maximum $w\Delta L^*$ and $w\Delta Ch$ are calculated from P2P cmy gray scale patches with cyan values of 2 – 75, inclusive⁷ (HDS on) or 2 - 98 inclusive (HDS off).

P2P cmy single-ink patches evaluated for HDS (if used)

G7+ HDS verification evaluates TVI values on individual c, m and y 80, 85, 90 and 95 % patches, but initial measurements include 0% (substrate) and 100%. If the target does not contain 75 and 85% c m y patches, e.g. the P2P51, the missing patches must be linearly interpolated from their nearest neighbors.

All measurements are CIEX, Y or Z from single-ink C, M and Y scales respectively.

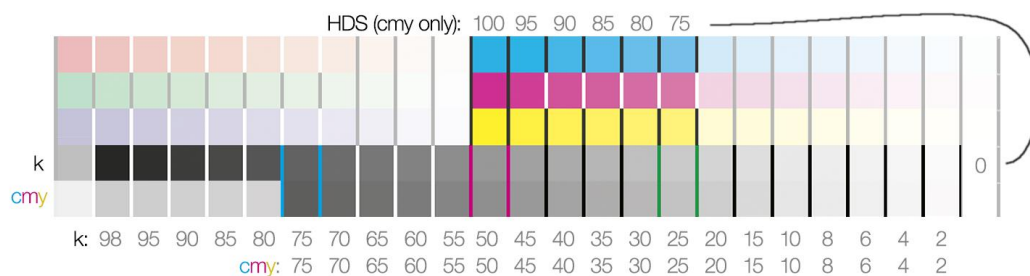


Figure 10: Patches on the P2P75A target used to verify G7+ Gray balance calibration.

Note that optional verification of m and y values between 66.12 and 75 is discussed in Annex D.

G7+ tonality verification

Metric: $w\Delta L^*$

Verifying G7+ tonality of the SPC's two gray scales (k and cmy) uses G7's familiar $w\Delta L^*$ metric, but with unique L^* aim values calculated for each SPC using the equations shown earlier under

⁵ See Annex A: – New P2P75A target

⁶ Patches 0 and 100 can have no ΔL^* error. Including them would just dilute the average $w\Delta L^*$ value.

⁷ The substrate patch can have no ΔCh error. Including it in the average would just dilute the average $w\Delta Ch$ value.

‘G7+ Tonality Definition’ – ‘Determining tonality aim values for a new SPC’.

Calculating average and maximum $w\Delta L^*$

To calculate $w\Delta L^*$ values, the scaled_RPC_Y aim values must first be converted to L^* using standard CIE equations (see Annex B: Standard Conversions).

Weighted delta L^* values are produced by the following equations.

For $i = 0$ to 100

$$w\Delta L_i^* = \Delta L_i^* \times \left\{ 1 - \max \left[0, \left(\frac{i - 50}{50} \right) \times 0.75 \right] \right\}$$

Where;

$$\Delta L_i^* = \left[(L_{sample}^* - L_{target}^*)^2 \right]^{1/2}$$

Or;

$$\Delta L_i^* = \text{absolute} (L_{sample}^* - L_{target}^*)$$

G7+ gray balance verification (cmy only)

Metric: $w\Delta Ch$

Verifying gray balance of the SPC’s cmy gray scale uses G7’s familiar $w\Delta Ch$ metric, but with unique a^* and b^* aim values calculated for each SPC by the equations shown earlier under ‘G7+ Gray Balance Definition’.

Calculating average and maximum $w\Delta Ch$

To calculate $w\Delta Ch$ values, the XYZ_i aim values must first be converted to a^* and b^* using standard CIE equations.

Weighted delta Ch values are produced by the following equations.

For $i = 0$ to 100

$$w\Delta Ch_i = \Delta Ch_i \times \left\{ 1 - \max \left[0, \left(\frac{i - 50}{50} \right) \times 0.75 \right] \right\}$$

Where;

$$\Delta Ch_i = \left[(a_{sample}^* - a_{aim}^*)^2 + (b_{sample}^* - b_{aim}^*)^2 \right]^{1/2}$$

The weighting function (same as G7)

The ΔL^* and ΔCh weighting function reduces the significance of errors above a grayscale value of 50%, beginning at 100% significance for $i = 0$ through 50 and reducing linearly to terminate at 25% significance for $i = 100$, as shown in Figure 6. Note that for cmy, $w\Delta Ch$ and $w\Delta L^*$ values above 75% are ignored in favor of HDS ΔTVI verification (see next section).

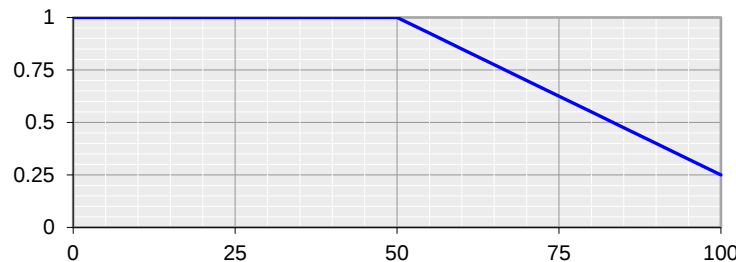


Figure 11: Graph of the $w\Delta L^*$ and $w\Delta Ch$ weighting function.

G7+ HDS Verification (if used)

Metric: ΔTVI

Above a gray scale index $i = 75$, cmy $w\Delta L^*$ and $w\Delta Ch$ values are replaced with ΔTVI values calculated by comparing individual SPC c , m and y TVI values to equivalent RPC TVI values.

Calculating RPC TVI values

RPC TVI values are derived by subtracting index values from the c , m , y Scaled_TV values produced by the equations in 'Determining HDS Aim_TV curves'.

Calculating SPC TVI values

SPC_TV values are derived by standard TVI math from the SPC substrate, solid and tint patch.

Calculating ΔTVI values

ΔTVI values are calculated by subtracting RPC_TV from the equivalent SPC_TV values. The sign of the resulting value is ignored to get absolute ΔTVI values⁸.

For c , m , y values $i = 80, 85, 90, 95$:

$$\Delta TVI_{ci} = \text{Absolute} (SPC_TVI_{ci} - RPC_TVI_{ci})$$

$$\Delta TVI_{mi} = \text{Absolute} (SPC_TVI_{mi} - RPC_TVI_{mi})$$

$$\Delta TVI_{yi} = \text{Absolute} (SPC_TVI_{yi} - RPC_TVI_{yi})$$

Where;

$$RPC_TVI_{ci} = Scaled_TV_{ci} - i$$

$$RPC_TVI_{mi} = Scaled_TV_{mi} - i$$

$$RPC_TVI_{yi} = Scaled_TV_{yi} - i$$

$$SPC_TVI_{ci} = (X_s - X_{ci}) / (X_s - X_{c100}) \times 100$$

$$SPC_TVI_{mi} = (Y_s - Y_{mi}) / (Y_s - Y_{m100}) \times 100$$

$$SPC_TVI_{yi} = (Z_s - Z_{yi}) / (Z_s - Z_{y100}) \times 100$$

And;

X_s, Y_s, Z_s = the X, Y, Z values of SPC substrate

$X_{c100}, Y_{m100}, Z_{y100}$ = the X, Y, Z values of SPC solid c, m, y

X_{ci}, Y_{mi}, Z_{yi} = the X, Y, Z values of SPC tint patch

Calculating Max ΔTVI score

$$\text{Maximum } \Delta TVI = \text{Max} (\Delta TVI_{c80-95}, \Delta TVI_{m80-95}, \Delta TVI_{y80-95})$$

Calculating Average ΔTVI score

$$\text{Average } \Delta TVI = \text{Max} (\text{avg} \Delta TVI_{c80-95}, \text{avg} \Delta TVI_{m80-95}, \text{avg} \Delta TVI_{y80-95})$$

Note: Even though a 75% cmy gray scale index value equates to 75 c , 66.12 m , 66.12 y , only individual c , m and y patches 80, 85, 90 and 95 are required for PRINTING United Alliance G7+ Master Program HDS verification.

⁸ All ΔTVI values must have the same sign to avoid cancelation when calculating average ΔTVI .

Impact of possible RPC change on G7+ verification

If the G7+ RPC is officially changed by PRINTING United Alliance, users should have the ability to choose which to use, the new RPC or the initial CRPC6-based RPC. This choice will extend the value of well-established workflows that cannot, for whatever reason, switch immediately from CRPC6 to the new RPC.

Annex A: cmyk Target Definitions

G7+ and G7 share the same k-only and cmy-only values in the P2P51 and newer P2P75+ targets shown below.

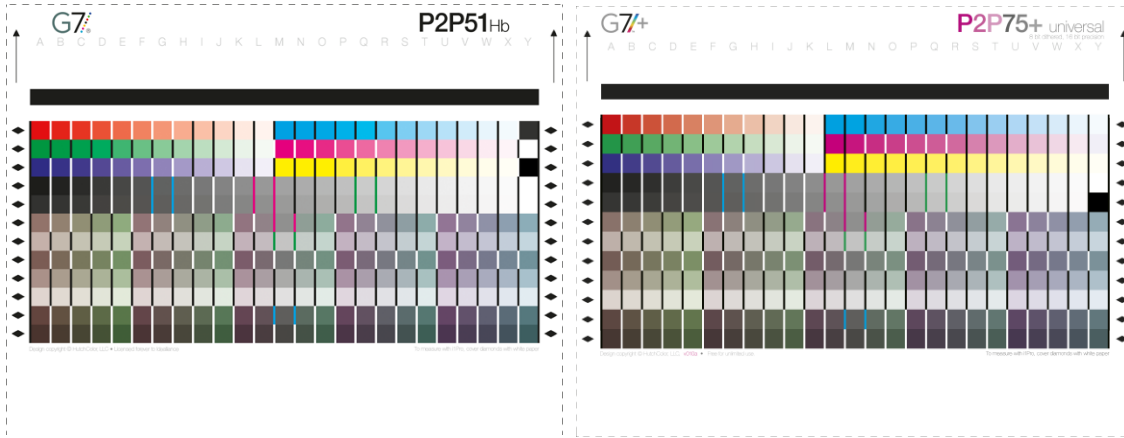


Figure 12: The P2P75+ (right) has the same patches as the P2P51 (left), minus 95% r, g, b, plus 75% and 85% c, m, y.

G7+ and G7 cmy gray balance values

The m and y values of each cmy gray balance triplet continue to be defined by equation 1 in CGATS-TR015-2022, repeated here for convenience.

$$M = Y = 0.7470 \times c - 4.100 \times 10^{-4} \times c^2 + 2.940 \times 10^{-5} \times c^3$$

New P2P75A target

G7+ is compatible with the P2P51 but users should begin using the new P2P75A target (optimized for the HDS function) as soon as possible.

The P2P75A target is almost identical to the P2P51, except for the following changes;

- Adds six new c, m and y patches of 75% and 85% in rows 1-3.
- Removes r, g, b patches of 95% in rows 1-3.
- Removes duplicate 300% cmy patch from row 1.
- Removes two duplicate 0% patches from right hand side of rows 2 and 5.
- Moves the cmy scales in rows 1-3 by one patch to the right.
- Moves the 400% cmyk patch from the right hand side of row 3 to row 5.

P2P75A availability

The P2P75A target image and definition files are available at www.printing.org. In addition, all 300 P2P75A target patch values can be selected from Table 3 on the following pages.

Error in early P2P75+ targets

The first P2P75+ targets distributed had an unwanted 5% cyan value in the 5% magenta patch and definition files. To be sure you are using the corrected version, check that the cyan value is 0% in the magenta 5% patch, or switch to the P2P75A.

P2P75A patch values

ID	NAME	C	M	Y	K
1	Y01	5	0	0	0
2	X01	10	0	0	0
3	W01	20	0	0	0
4	V01	30	0	0	0
5	U01	40	0	0	0
6	T01	50	0	0	0
7	S01	60	0	0	0
8	R01	70	0	0	0
9	Q01	75	0	0	0
10	P01	80	0	0	0
11	O01	85	0	0	0
12	N01	90	0	0	0
13	M01	95	0	0	0
14	L01	100	0	0	0
15	K01	0	5	5	0
16	J01	0	10	10	0
17	I01	0	20	20	0
18	H01	0	30	30	0
19	G01	0	40	40	0
20	F01	0	50	50	0
21	E01	0	60	60	0
22	D01	0	70	70	0
23	C01	0	80	80	0
24	B01	0	90	90	0
25	A01	0	100	100	0
26	Y02	0	5	0	0
27	X02	0	10	0	0
28	W02	0	20	0	0
29	V02	0	30	0	0
30	U02	0	40	0	0
31	T02	0	50	0	0
32	S02	0	60	0	0
33	R02	0	70	0	0
34	Q02	0	75	0	0
35	P02	0	80	0	0
36	O02	0	85	0	0
37	N02	0	90	0	0
38	M02	0	95	0	0
39	L02	0	100	0	0
40	K02	5	0	5	0
41	J02	10	0	10	0
42	I02	20	0	20	0
43	H02	30	0	30	0
44	G02	40	0	40	0
45	F02	50	0	50	0
46	E02	60	0	60	0
47	D02	70	0	70	0
48	C02	80	0	80	0
49	B02	90	0	90	0
50	A02	100	0	100	0

ID	NAME	C	M	Y	K
51	Y03	0	0	5	0
52	X03	0	0	10	0
53	W03	0	0	20	0
54	V03	0	0	30	0
55	U03	0	0	40	0
56	T03	0	0	50	0
57	S03	0	0	60	0
58	R03	0	0	70	0
59	Q03	0	0	75	0
60	P03	0	0	80	0
61	O03	0	0	85	0
62	N03	0	0	90	0
63	M03	0	0	95	0
64	L03	0	0	100	0
65	K03	5	5	0	0
66	J03	10	10	0	0
67	I03	20	20	0	0
68	H03	30	30	0	0
69	G03	40	40	0	0
70	F03	50	50	0	0
71	E03	60	60	0	0
72	D03	70	70	0	0
73	C03	80	80	0	0
74	B03	90	90	0	0
75	A03	100	100	0	0
76	Y04	0	0	0	0
77	X04	0	0	0	2
78	W04	0	0	0	4
79	V04	0	0	0	6
80	U04	0	0	0	8
81	T04	0	0	0	10
82	S04	0	0	0	15
83	R04	0	0	0	20
84	Q04	0	0	0	25
85	P04	0	0	0	30
86	O04	0	0	0	35
87	N04	0	0	0	40
88	M04	0	0	0	45
89	L04	0	0	0	50
90	K04	0	0	0	55
91	J04	0	0	0	60
92	I04	0	0	0	65
93	H04	0	0	0	70
94	G04	0	0	0	75
95	F04	0	0	0	80
96	E04	0	0	0	85
97	D04	0	0	0	90
98	C04	0	0	0	95
99	B04	0	0	0	98
100	A04	0	0	0	100

101	Y05	100	100	100	100
102	X05	2	1.49	1.49	0
103	W05	4	2.98	2.98	0
104	V05	6	4.47	4.47	0
105	U05	8	5.96	5.96	0
106	T05	10	7.46	7.46	0
107	S05	15	11.21	11.21	0
108	R05	20	15.01	15.01	0
109	Q05	25	18.88	18.88	0
110	P05	30	22.84	22.84	0
111	O05	35	26.9	26.9	0
112	N05	40	31.11	31.11	0
113	M05	45	35.46	35.46	0
114	L05	50	40	40	0
115	K05	55	44.74	44.74	0
116	J05	60	49.69	49.69	0
117	I05	65	54.9	54.9	0
118	H05	70	60.37	60.37	0
119	G05	75	66.12	66.12	0
120	F05	80	72.19	72.19	0
121	E05	85	78.59	78.59	0
122	D05	90	85.34	85.34	0
123	C05	95	92.47	92.47	0
124	B05	98	96.94	96.94	0
125	A05	100	100	100	0
126	Y06	50	22	22	0
127	X06	50	31	22	0
128	W06	50	40	22	0
129	V06	50	49	22	0
130	U06	50	58	22	0
131	T06	50	22	31	0
132	S06	50	31	31	0
133	R06	50	40	31	0
134	Q06	50	49	31	0
135	P06	50	58	31	0
136	O06	50	22	40	0
137	N06	50	31	40	0
138	M06	50	40	40	0
139	L06	50	49	40	0
140	K06	50	58	40	0
141	J06	50	22	49	0
142	I06	50	31	49	0
143	H06	50	40	49	0
144	G06	50	49	49	0
145	F06	50	58	49	0
146	E06	50	22	58	0
147	D06	50	31	58	0
148	C06	50	40	58	0
149	B06	50	49	58	0
150	A06	50	58	58	0

151	Y07	25	8.88	8.88	0
152	X07	25	13.88	8.88	0
153	W07	25	18.88	8.88	0
154	V07	25	23.88	8.88	0
155	U07	25	28.88	8.88	0
156	T07	25	8.88	13.88	0
157	S07	25	13.88	13.88	0
158	R07	25	18.88	13.88	0
159	Q07	25	23.88	13.88	0
160	P07	25	28.88	13.88	0
161	O07	25	8.88	18.88	0
162	N07	25	13.88	18.88	0
163	M07	25	18.88	18.88	0
164	L07	25	23.88	18.88	0
165	K07	25	28.88	18.88	0
166	J07	25	8.88	23.88	0
167	I07	25	13.88	23.88	0
168	H07	25	18.88	23.88	0
169	G07	25	23.88	23.88	0
170	F07	25	28.88	23.88	0
171	E07	25	8.88	28.88	0
172	D07	25	13.88	28.88	0
173	C07	25	18.88	28.88	0
174	B07	25	23.88	28.88	0
175	A07	25	28.88	28.88	0
176	Y08	62.5	34.24	34.24	0
177	X08	62.5	43.25	34.24	0
178	W08	62.5	52.26	34.24	0
179	V08	62.5	61.28	34.24	0
180	U08	62.5	70.29	34.24	0
181	T08	62.5	34.24	43.25	0
182	S08	62.5	43.25	43.25	0
183	R08	62.5	52.26	43.25	0
184	Q08	62.5	61.28	43.25	0
185	P08	62.5	70.29	43.25	0
186	O08	62.5	34.24	52.26	0
187	N08	62.5	43.25	52.26	0
188	M08	62.5	52.26	52.26	0
189	L08	62.5	61.28	52.26	0
190	K08	62.5	70.29	52.26	0
191	J08	62.5	34.24	61.28	0
192	I08	62.5	43.25	61.28	0
193	H08	62.5	52.26	61.28	0
194	G08	62.5	61.28	61.28	0
195	F08	62.5	70.29	61.28	0
196	E08	62.5	34.24	70.29	0
197	D08	62.5	43.25	70.29	0
198	C08	62.5	52.26	70.29	0
199	B08	62.5	61.28	70.29	0
200	A08	62.5	70.29	70.29	0

201	Y09	37.5	14.99	14.99	0
202	X09	37.5	21.99	14.99	0
203	W09	37.5	28.99	14.99	0
204	V09	37.5	35.99	14.99	0
205	U09	37.5	42.99	14.99	0
206	T09	37.5	14.99	21.99	0
207	S09	37.5	21.99	21.99	0
208	R09	37.5	28.99	21.99	0
209	Q09	37.5	35.99	21.99	0
210	P09	37.5	42.99	21.99	0
211	O09	37.5	14.99	28.99	0
212	N09	37.5	21.99	28.99	0
213	M09	37.5	28.99	28.99	0
214	L09	37.5	35.99	28.99	0
215	K09	37.5	42.99	28.99	0
216	J09	37.5	14.99	35.99	0
217	I09	37.5	21.99	35.99	0
218	H09	37.5	28.99	35.99	0
219	G09	37.5	35.99	35.99	0
220	F09	37.5	42.99	35.99	0
221	E09	37.5	14.99	42.99	0
222	D09	37.5	21.99	42.99	0
223	C09	37.5	28.99	42.99	0
224	B09	37.5	35.99	42.99	0
225	A09	37.5	42.99	42.99	0
226	Y10	12.5	3.33	3.33	0
227	X10	12.5	6.33	3.33	0
228	W10	12.5	9.33	3.33	0
229	V10	12.5	12.33	3.33	0
230	U10	12.5	15.33	3.33	0
231	T10	12.5	3.33	6.33	0
232	S10	12.5	6.33	6.33	0
233	R10	12.5	9.33	6.33	0
234	Q10	12.5	12.33	6.33	0
235	P10	12.5	15.33	6.33	0
236	O10	12.5	3.33	9.33	0
237	N10	12.5	6.33	9.33	0
238	M10	12.5	9.33	9.33	0
239	L10	12.5	12.33	9.33	0
240	K10	12.5	15.33	9.33	0
241	J10	12.5	3.33	12.33	0
242	I10	12.5	6.33	12.33	0
243	H10	12.5	9.33	12.33	0
244	G10	12.5	12.33	12.33	0
245	F10	12.5	15.33	12.33	0
246	E10	12.5	3.33	15.33	0
247	D10	12.5	6.33	15.33	0
248	C10	12.5	9.33	15.33	0
249	B10	12.5	12.33	15.33	0
250	A10	12.5	15.33	15.33	0
251	Y11	75	48.07	48.07	0
252	X11	75	57.1	48.07	0
253	W11	75	66.12	48.07	0
254	V11	75	75.15	48.07	0
255	U11	75	84.18	48.07	0
256	T11	75	48.07	57.1	0
257	S11	75	57.1	57.1	0
258	R11	75	66.12	57.1	0
259	Q11	75	75.15	57.1	0
260	P11	75	84.18	57.1	0
261	O11	75	48.07	66.12	0
262	N11	75	57.1	66.12	0
263	M11	75	66.12	66.12	0
264	L11	75	75.15	66.12	0
265	K11	75	84.18	66.12	0
266	J11	75	48.07	75.15	0
267	I11	75	57.1	75.15	0
268	H11	75	66.12	75.15	0
269	G11	75	75.15	75.15	0
270	F11	75	84.18	75.15	0
271	E11	75	48.07	84.18	0
272	D11	75	57.1	84.18	0
273	C11	75	66.12	84.18	0
274	B11	75	75.15	84.18	0
275	A11	75	84.18	84.18	0
276	Y12	87.5	63.84	63.84	0
277	X12	87.5	72.88	63.84	0
278	W12	87.5	81.92	63.84	0
279	V12	87.5	90.96	63.84	0
280	U12	87.5	100	63.84	0
281	T12	87.5	63.84	72.88	0
282	S12	87.5	72.88	72.88	0
283	R12	87.5	81.92	72.88	0
284	Q12	87.5	90.96	72.88	0
285	P12	87.5	100	72.88	0
286	O12	87.5	63.84	81.92	0
287	N12	87.5	72.88	81.92	0
288	M12	87.5	81.92	81.92	0
289	L12	87.5	90.96	81.92	0
290	K12	87.5	100	81.92	0
291	J12	87.5	63.84	90.96	0
292	I12	87.5	72.88	90.96	0
293	H12	87.5	81.92	90.96	0
294	G12	87.5	90.96	90.96	0
295	F12	87.5	100	90.96	0
296	E12	87.5	63.84	100	0
297	D12	87.5	72.88	100	0
298	C12	87.5	81.92	100	0
299	B12	87.5	90.96	100	0
300	A12	87.5	100	100	0

Table 3: P2P75A values. ID values match the vertical format. NAME values match the horizontal format.

Rounding precision

The target values above are calculated in 16 bits to four decimal places, then rounded to two decimal places. Greater precision can be used but the minimum allowed is 2 decimals.

Note that some 3rd-party targets have conflicted with measuring or evaluation software, apparently because their M and Y values were rounded to two decimals from previously rounded 3 decimal values, producing an error in the c8 patch, as shown below.

To avoid this conflict, software that detects patch identities based on percentages could accept either the 5.97 or 5.96 value as 'correct', or simply replace any m or y value of 5.97 with 5.96.

P2P51 / 75+ gray scale values				2 from 3 decimals		3 decimals		4 decimals	
K	C	M	Y	M	Y	M	Y	M	Y
0	0	0	0	0	0	0	0	0	0
2	2	1.49	1.49	1.49	1.49	1.493	1.493	1.4926	1.4926
4	4	2.98	2.98	2.98	2.98	2.983	2.983	2.9833	2.9833
6	6	4.47	4.47	4.47	4.47	4.474	4.474	4.4736	4.4736
8	8	5.96	5.96	5.97	5.97	5.965	5.965	5.9648	5.9648

Figure 13: Error (shown in red) produced by rounding to 2 decimals from a value rounded to 3-decimals.

The nearest 16 bit values for c and k are integers with no decimal values.

Official 8-bit targets with 16-bit precision

To maximize precision on systems only capable of printing 8-bits per channel, targets supplied by PRINTING United Alliance, or legacy Idealliance, (P2P51, P2P75A, IT8.7/5, etc.) are created as master 16-bit per channel, 300 dpi files, then converted to 8-bits with LSB (Least Significant Bit) dithering. This produces 8-bit target images with the same tonal resolution as 16-bit files when each patch is integrated optically by a measuring aperture approximately 6mm wide or larger.

Custom targets

Custom 3rd party targets should employ similar dithering, or be saved in 16 bits per channel.

Note that in most use cases, the reduced precision of un-dithered 8-bit per channel targets will be too small to matter.

CAUTION: If official supplied targets or custom 8-bit dithered targets are re-sized or compressed in the printing workflow, their effective 16-bit precision may be lost.

Annex B: Standard Conversions

Converting Y to ND (Neutral Density)

If $Y = 0$;

$ND = \text{Infinity}$

Else;

$$ND = \log_{10} \frac{100}{Y}$$

Converting Y to L*

If $\left(\frac{Y}{100}\right) > \left(\frac{6}{29}\right)^3$

$$L^* = 116 \times \left(\frac{Y}{100}\right)^{\frac{1}{3}}$$

Else;

$$L^* = 116 \times \left[\left(\frac{841}{108}\right) \times \left(\frac{Y}{100}\right) + \frac{4}{29} \right] - 16$$

Annex C: Where the RPC tables came from

Origins of CRPC6

On first release, the G7+ RPC is defined by the IT8.7/5 version of CGATS.21 CRPC6 (GRACoL 2013), available from www.idealliance.org since 2017 and listed in full in Annex D. However in 2011, when the original IT8.7/4-based CRPC6 dataset was created from GRACoL 2006, rounding produced some small grayscale errors. For example, in the IT8.7/4 version of CRPC6, 50, 40, 40 cmy is $L^* 57.46$, $a^* 0.38$, $b^* -2.03$, but should be $L^* 57.39$, $a^* 0.50$, $b^* -2.00$.

This means the G7+ RPC tonality tables do not exactly match the original CRPC6 IT8.7/4 data. This is known and normal.

IT8.7/5 version enhancements

Both GRACoL 2006 and the original CRPC6 datasets were based on the IT8.7/4 target, which lacks 22 of the cmy and 7 of the k-only gray scale patches in a P2P target that are crucial for G7 and G7+. These missing patches were added in the IT8.7/5 version of CRPC6 as follows.

- 29 duplicate patches were removed from the IT8.7/4.
- The missing 22 cmy and 7 k-only patches present in a P2P target were added using CGATS TR 015 equations to create precise G7 CIE Lab values.
- The same equations were used to correct the small CIE Lab errors in the cmy 50,40,40 patch and the 16 k-only patches present in the original IT8.7/4 data.
- The graphs below show the differences between IT8.7/5 and IT8.7/4 CRPC6 gray patches.

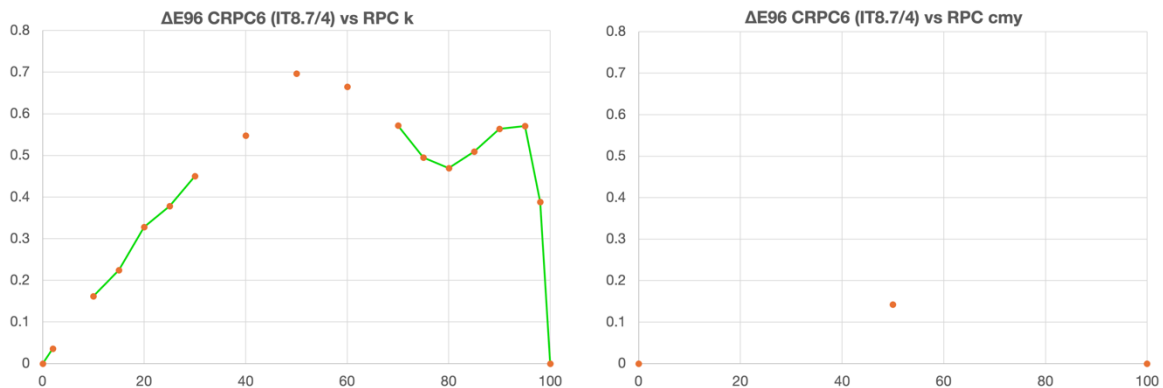


Figure 14: ΔE_{96} difference between the original IT8.7/4 and IT8.7/5 CRPC6 datasets. Note that many of the RPC grayscale patches are missing from the IT8.7/4 data, as shown by absence of red dots.

Significance of the changes

- The small differences shown above are undetectable by eye or by most measuring systems.
- All gray patches in the IT8.7/5 version of CRPC6, and therefore the G7+ RPC tables, comply precisely with TR 015 math, however note that the G7+ specification allows a future RPC to differ from TR 015, if necessary, and TR 015 is NOT part of the G7+ specification.

Note: Other non-official versions of IT8.7/5 CRPC6 data may not exactly match the G7+ RPC tables, depending on how they were created from the original IT8.7/4.

Annex D: IT8.7/5 CRPC6 patch values

ID	C	M	Y	K	X	Y	Z	L*	a*	b*
1	100	0	0	0	15.75	23.91	54.47	56	-37	-50
2	100	40	40	100	0.94	1.12	1.19	9.93	-5.12	-3.93
3	40	20	70	40	14.41	16.54	7.06	47.67	-9.09	21.66
4	40	70	0	80	3.87	3.13	3.68	20.56	13.65	-7.91
5	20	12	12	10	45.81	47.79	43.2	74.69	-0.75	-4.83
6	100	20	70	20	6.52	11.72	9.39	40.76	-40.94	0.94
7	70	85	0	0	12.21	8.96	20.08	35.91	27.32	-35.36
8	85	100	20	0	7.41	5.54	13.06	28.21	22.01	-31.95
9	10	85	0	0	32.33	18.94	19.97	50.62	60.22	-9.77
10	30	40	10	0	36.92	33.95	36.88	64.92	14.29	-13.4
11	30	10	55	0	43.66	49.26	23.39	75.61	-10.91	26.57
12	40	20	100	40	13.67	15.97	3.57	46.93	-10.51	38.3
13	70	20	55	0	18.89	25.55	19.46	57.61	-26.87	3.34
14	0	40	40	40	23.27	20.41	11.08	52.3	16.92	15.33
15	0	10	30	0	71.89	72	41.58	87.97	5.25	20.11
16	0	55	85	0	43.95	34.22	6.44	65.14	35.07	54.44
17	30	10	0	0	51.31	54.44	62.34	78.72	-3.09	-18.84
18	10	40	0	0	50.54	43.55	44.83	71.93	24.14	-11.59
19	100	0	100	100	0.88	1.31	0.85	11.32	-13.43	3.66
20	0	40	55	0	52.62	45.3	17.46	73.09	24.59	34.42
21	0	40	10	10	46.64	39.62	32.79	69.2	25.25	-0.14
22	40	27	27	10	28.37	29.84	27.18	61.52	-1.57	-4.47
23	55	85	30	0	15.03	10.64	13.4	38.97	32.14	-14.33
24	20	70	20	20	21.19	15.26	13.92	45.99	34.54	-3.62
25	20	0	100	20	34.74	40.13	5.45	69.56	-13.02	66.66
26	0	0	100	10	56.76	60.67	6.12	82.2	-4.22	85.3
27	0	75	0	0	40.37	25.46	24.33	57.52	57.16	-6.36
28	10	40	100	20	28.46	25.81	3.9	57.86	14.55	55.01
29	40	0	10	10	38.58	44.71	47.84	72.7	-13.89	-13.84
30	3	0	3	3	76.38	79.39	68.59	91.41	-0.34	-2.86
31	20	40	40	40	17.31	16.1	10.58	47.11	10.04	7.95
32	55	100	100	0	11.94	8.03	3.11	34.04	33.54	19.24
33	30	55	40	0	29.41	24.98	18.43	57.06	21.66	4.62
34	85	85	40	0	7.65	6.78	11.48	31.3	10.94	-22.08
35	0	70	20	0	41.74	28.02	20.43	59.91	51.04	5.29
36	10	40	10	0	49.03	42.49	38.38	71.21	23.19	-4.59
37	40	10	70	0	35.65	42.58	15.65	71.27	-17.3	35.55
38	40	0	40	60	11.04	13.31	9.39	43.22	-12.49	5.18
39	20	70	20	10	25.62	18.27	16.68	49.82	37.72	-3.9
40	85	0	10	0	19.39	28.35	48.88	60.2	-35.5	-36.59
41	0	70	70	60	10.4	7.78	2.85	33.53	24.49	20.25
42	20	40	20	10	34.16	30.86	26.74	62.39	15.92	-2.22
43	40	0	3	3	45.2	51.8	61.03	77.16	-13.14	-20.25
44	85	55	70	0	9.01	11.46	9.45	40.34	-15.97	0
45	85	0	30	0	17.43	27.41	35.47	59.35	-42.07	-21.03
46	70	55	30	0	14.94	15.28	20.53	46.02	1.23	-18.86
47	0	40	30	0	54.77	46.75	28.62	74.03	26.03	14.71
48	10	70	20	0	36.01	24.75	20.11	56.83	46.16	0.64
49	70	40	85	0	14.25	17.92	7.57	49.4	-17.52	22.54
50	0	100	0	0	33.32	16.79	15.42	48	75	-4
51	40	0	70	60	10.24	12.81	5.43	42.47	-15.22	20.09
52	10	10	10	20	44.04	45.06	38.32	72.93	1.73	-1.55

53	0	20	55	0	62.77	60.52	22.16	82.12	10.42	40.14
54	70	70	10	0	13.77	11.89	22.04	41.04	15.47	-30.45
55	80	0	0	0	22.85	31.17	58.14	62.65	-29.61	-42.36
56	10	10	70	20	38.4	40.66	11.6	69.94	-2.55	44.19
57	10	40	70	10	36.2	32.52	10.08	63.77	16.86	38.3
58	40	3	0	0	47.07	53.03	65.45	77.89	-10.99	-23.25
59	0	70	30	0	41.37	27.94	17.51	59.83	50.25	11.46
60	0	20	100	40	24.94	24.7	3.44	56.78	4.88	56.16
61	10	10	30	0	62.55	64.7	40.63	84.33	0.38	15.06
62	20	30	30	0	44.69	43.11	31.39	71.63	9.22	6.18
63	100	10	20	20	9.25	14.55	25.23	45.01	-34.05	-29.55
64	40	40	70	0	26.9	27.26	11.54	59.21	2.54	25.86
65	70	100	0	20	8.13	5.44	12.11	27.96	29.75	-29.7
66	70	30	0	0	21.46	24.25	43.64	56.34	-8.79	-37.01
67	20	10	20	10	45.65	48.42	38.87	75.09	-2.93	1.44
68	10	40	70	20	29.63	26.76	8.53	58.75	15.23	35.01
69	70	100	40	60	3.66	2.86	3.4	19.48	15.13	-7.89
70	0	40	70	0	51.42	44.39	12.04	72.49	24.04	47.27
71	40	0	0	80	5.56	6.26	7.09	30.06	-5.36	-8.82
72	100	100	70	0	4.31	4.19	5.84	24.28	3.88	-13.27
73	20	0	20	40	26.38	29.12	22.97	60.89	-6.82	1.99
74	0	3	3	40	34.79	35.56	30.22	66.18	1.72	-1.4
75	70	0	10	20	18.67	24.75	35.4	56.83	-24.66	-25.27
76	40	10	20	0	41.16	46.53	44.4	73.89	-10.98	-7.69
77	40	55	20	0	26.48	22.92	25.08	54.99	19	-12.08
78	0	55	30	0	47.51	36.47	22.8	66.88	37.68	12.63
79	40	10	40	20	26.26	30.52	21.54	62.1	-12.55	6.83
80	0	70	40	0	40.95	27.79	14.81	59.7	49.54	17.71
81	100	100	100	40	2.55	2.65	2.14	18.59	-0.16	0.48
82	10	100	20	20	19.98	10.94	8.83	39.48	56.73	0.69
83	20	0	10	10	51.83	56.5	50.86	79.9	-6.83	-4.86
84	30	10	100	0	40.18	46.16	6.72	73.65	-12.95	67.88
85	85	20	10	0	16.44	22.01	40.12	54.04	-24.66	-36.5
86	0	85	40	0	36.14	21.26	11.2	53.23	62.11	16.59
87	40	0	20	0	45.22	53.18	49.43	77.98	-16.63	-6.56
88	85	10	100	0	11.46	20.78	6.8	52.71	-50.3	31.45
89	30	40	30	0	34.86	32.72	26.97	63.93	11.68	0.05
90	10	6	6	20	46.14	47.87	42.67	74.74	-0.04	-4.08
91	40	40	20	40	13.82	13.43	13.88	43.41	5.56	-7.96
92	70	100	100	60	3.15	2.68	1.56	18.71	10.28	6.54
93	0	30	30	0	60.06	54.44	32.8	78.72	18.73	16.26
94	40	100	20	60	5.71	3.79	4.09	22.97	26.93	-6.25
95	85	10	10	0	17.92	25.1	44.37	57.17	-30.05	-36.48
96	100	40	0	0	11.05	13.92	35.55	44.12	-16.25	-47.39
97	40	0	0	20	32.82	37.45	45.54	67.61	-11.29	-19.89
98	30	20	70	0	38.42	41.78	14.4	70.72	-5.86	37.76
99	0	0	100	0	69.63	74.16	7.04	89	-4	93
100	0	10	10	20	50.57	50.28	39.53	76.24	5.64	2.55
101	40	40	20	60	8.39	8.21	8.31	34.42	4.27	-6.13
102	20	10	70	0	49.43	53.96	16.07	78.44	-6.89	46.9
103	70	100	55	0	9.44	6.77	7.75	31.28	26.67	-9.38
104	40	100	40	40	8.46	5.49	4.91	28.1	32.13	-2.05
105	20	100	0	60	7.55	4.55	5.01	25.41	35.38	-7.21
106	40	10	10	20	28.85	32.14	35.17	63.46	-8.09	-13.51
107	100	0	40	100	0.91	1.25	1.38	10.95	-10.39	-4.69
108	10	0	0	20	50.06	52.77	50.07	77.74	-2.2	-7.7
109	100	55	55	0	7.01	9.74	12.78	37.38	-21.36	-15.36

110	70	20	100	20	11.58	16.57	4.9	47.71	-27.91	31.8
111	40	40	40	60	7.94	7.99	6.37	33.96	2.21	0.98
112	55	70	70	0	15.46	13.28	7.99	43.18	16.53	10.2
113	40	20	40	10	29.16	32.35	23.47	63.63	-7.61	5.76
114	100	10	40	20	8.23	14.01	18.26	44.25	-39.59	-17.08
115	70	40	70	40	7.3	8.87	5.75	35.73	-11.43	6.88
116	30	30	0	0	42.47	40.95	49.1	70.14	9.13	-19.7
117	100	20	55	0	9.49	16.72	18	47.91	-44.64	-10.2
118	55	100	20	0	13.95	8.66	12.89	35.33	41.26	-19.2
119	0	100	40	100	1.56	1.21	0.74	10.65	11.68	4.35
120	10	10	0	0	67.74	68.31	66.2	86.16	4.15	-9.7
121	85	30	20	0	14.27	18.76	31.02	50.41	-21.79	-29.84
122	40	40	70	80	3.96	4.16	2.23	24.2	-0.81	9.29
123	100	0	55	0	11.02	21.47	21.15	53.46	-56.77	-7.29
124	100	100	100	20	3.09	3.21	2.62	20.87	-0.15	0.27
125	100	0	100	70	2.73	4.97	2.38	26.66	-31.48	12.22
126	30	70	30	0	25.99	19.13	17.03	50.84	34.87	-2.95
127	70	100	85	0	8.67	6.46	4.19	30.55	23.36	6.22
128	0	100	70	20	21.94	12.08	3.82	41.35	58.07	27.09
129	0	100	0	60	9.35	5.35	4.86	27.7	41.31	-2.47
130	10	20	20	0	58.31	57.16	42.91	80.27	7.86	5.16
131	20	40	70	40	16.36	15.53	5.88	46.35	8.03	24.57
132	40	3	40	40	18.16	21.68	15.21	53.69	-13.8	6.34
133	70	20	0	40	10.98	12.9	21.5	42.61	-10.31	-26.68
134	40	40	70	20	18.33	18.71	8.33	50.35	1.53	21.28
135	40	0	0	3	45.7	52.12	63.85	77.35	-12.53	-22.66
136	70	0	70	0	20.74	31.89	16.19	63.25	-41.99	20.43
137	70	100	70	20	6.7	5.09	4.39	27	20.25	-1.06
138	40	70	100	0	19.4	15.57	3.91	46.4	24.01	35.23
139	30	70	10	0	27.38	19.85	22.96	51.67	36.98	-13.9
140	20	10	0	0	59.2	61.13	64.26	82.45	0.61	-14.26
141	70	0	0	10	23.46	30.27	49.87	61.89	-23.59	-34.8
142	40	100	70	60	5.19	3.68	2.19	22.6	22.36	6.92
143	30	85	0	0	24.46	15.19	20.18	45.9	49.72	-18.34
144	100	40	40	20	6.47	9.29	13.73	36.53	-23.29	-19.42
145	100	55	10	0	8.95	10.58	25.74	38.86	-10.09	-41.05
146	20	70	0	20	22.5	15.99	18.69	46.96	36.47	-13.35
147	10	100	30	0	28.71	15.31	10.61	46.06	66.38	6.04
148	0	0	0	0	85.01	87.62	76.93	95	1	-4
149	0	70	40	60	10.81	7.94	4.57	33.86	26.19	9.71
150	40	0	20	40	19.85	23.33	21.65	55.41	-12.58	-4.92
151	30	10	40	0	45.31	50.49	32.05	76.37	-9.42	13.34
152	10	85	55	0	30.51	18.58	8.58	50.19	55.42	20.08
153	0	20	30	0	65.85	62.96	37.13	83.42	11.78	18.16
154	10	100	40	20	19.62	10.94	6.64	39.48	54.97	9.29
155	40	0	0	0	48.4	55.19	67.69	79.15	-12.76	-23.17
156	3	0	0	3	77	79.88	71.77	91.63	-0.03	-5.34
157	0	70	0	40	18.99	13.11	12.45	42.93	36.91	-4.88
158	0	0	70	80	7.52	8.22	2.9	34.44	-3.82	21.48
159	20	0	0	0	65.12	70.19	72.25	87.09	-5.66	-13.59
160	100	0	100	80	1.96	3.39	1.75	21.55	-25.5	9.39
161	70	10	0	0	25.71	31.86	54.34	63.23	-19.67	-37.4
162	0	100	40	20	22.7	12.28	6.51	41.66	60.22	13.63
163	40	40	100	0	25.49	26.17	5.27	58.2	1.09	48
164	10	85	70	0	29.85	18.29	6.17	49.84	54.46	29.28
165	0	0	2	0	84.52	87.22	74.47	94.83	0.8	-2.19
166	0	20	0	10	57.65	54.41	49.63	78.7	13.04	-5.54

167	85	0	85	0	12.92	24.04	10.42	56.13	-55.03	24.02
168	30	70	70	0	24.06	18.22	7.86	49.76	31.35	22.06
169	70	70	70	10	9.6	9.22	6.87	36.41	5.81	3.05
170	0	0	100	20	46.23	49.58	5.33	75.81	-4.38	78.06
171	85	55	85	0	8.54	11.21	6.6	39.93	-18.17	10.27
172	20	100	40	60	7.02	4.47	3.16	25.18	31.32	3.56
173	30	85	30	0	22.87	14.58	13.28	45.06	46.33	-3.51
174	40	40	3	3	30.96	29.21	38.06	60.97	10.61	-21.82
175	20	20	20	10	41.59	42.09	34.72	70.93	3.09	0.02
176	70	100	100	80	1.99	1.78	1.12	14.26	6.8	4.43
177	10	0	40	0	67.1	72.67	37.37	88.29	-6.45	26.23
178	20	20	40	0	47.98	49.22	29.43	75.59	1.43	16.08
179	20	70	30	0	30.41	21.65	17.13	53.65	40.12	1.67
180	40	85	40	0	19.12	12.78	11.45	42.43	39.7	-2.79
181	0	20	0	40	30.11	28.52	25.82	60.36	10.09	-4.13
182	55	40	40	0	22.42	23.79	21.76	55.88	-2.35	-4.33
183	85	20	70	0	12.15	19.63	13.21	51.42	-39.91	7.64
184	40	20	40	20	23.94	26.59	19.38	58.59	-7.26	5.21
185	70	10	70	20	13.63	19.76	10.72	51.57	-30.78	15.2
186	0	55	55	0	45.92	35.61	14.17	66.22	36.08	30.59
187	20	100	20	0	24.81	13.52	12.41	43.53	61.43	-3.71
188	55	30	55	0	23.57	27.17	18.26	59.13	-11.22	8.57
189	100	0	40	60	4.09	6.81	8.23	31.37	-29.74	-11.06
190	0	100	20	0	33.36	17.17	12.04	48.47	73.14	5.87
191	85	85	0	0	8.92	7.13	19.82	32.11	18.8	-41.38
192	85	0	20	0	18.41	27.9	41.93	59.8	-38.83	-28.91
193	100	20	30	0	11.04	17.63	28.26	49.05	-37.57	-27.77
194	70	70	70	40	5.78	5.64	4.24	28.48	3.98	2.34
195	60	0	0	0	34.31	42.22	62.99	71.02	-20.77	-32.75
196	85	40	0	0	14.34	16.69	36.88	47.87	-10.39	-42.79
197	0	100	100	0	30.2	16.02	2.3	47	68	48
198	40	0	40	40	18.69	22.58	15.7	54.64	-15.11	6.76
199	100	70	0	20	6.12	6.15	17.13	29.78	2.11	-39.49
200	20	40	10	20	28.87	25.93	25.71	57.97	15.67	-8.05
201	55	0	10	0	36.08	44.42	54.95	72.51	-21.21	-22.05
202	10	20	10	0	59.72	58.13	50.39	80.81	8.92	-2.76
203	100	70	40	0	6.51	7.49	13.7	32.9	-7.19	-25.61
204	30	0	0	0	56.41	62.43	69.98	83.14	-9.14	-18.38
205	100	55	70	0	6.52	9.52	9.35	36.97	-24.6	-5.46
206	70	100	0	0	10.84	7.01	16.73	31.84	35.11	-35.02
207	20	100	100	20	15.44	9.19	2.23	36.34	45.93	30.18
208	30	100	30	0	20.94	11.9	10.97	41.06	54.59	-3.68
209	10	70	0	20	25.66	17.74	18.75	49.18	40.67	-9.66
210	0	40	100	80	5.64	5.38	1.35	27.79	5.3	24.68
211	40	20	100	20	20.91	24.3	4.79	56.39	-11.62	47.39
212	100	70	0	80	1.96	1.96	3.64	15.27	1.66	-16.74
213	20	10	55	0	50.99	55.29	23.84	79.21	-6.05	31.94
214	0	85	70	0	34.92	20.8	6.11	52.73	60.14	34.54
215	100	70	70	40	3.35	4.09	4.28	23.97	-9.08	-5.7
216	0	100	0	100	1.61	1.17	0.83	10.35	14.1	2.2
217	20	0	10	20	42.54	46.42	41.77	73.82	-6.53	-4.53
218	20	0	0	10	53.46	57.64	59.25	80.54	-5.37	-12.64
219	3	3	0	0	79.39	81.29	73.47	92.26	1.99	-5.75
220	20	70	40	20	20.46	14.98	10.32	45.61	32.65	6.2
221	40	100	0	0	18.81	10.68	16.41	39.03	52.81	-21.85
222	55	100	70	0	12.57	8.3	5.71	34.59	35.45	5.13
223	0	40	0	3	54.34	45.81	43.27	73.42	27.57	-7.11

224	40	70	20	20	15.85	12.21	13.81	41.55	25.85	-11
225	10	70	0	10	30.91	21.18	22.46	53.15	44.14	-10.38
226	20	85	100	0	24.3	15.48	3.11	46.29	47.35	40.36
227	70	0	70	20	14.69	22.36	11.72	54.41	-36.43	17.06
228	0	85	85	0	34.03	20.31	4.11	52.19	59.42	43.98
229	70	70	40	80	2.5	2.4	2.55	17.44	3.88	-5.11
230	40	10	100	20	22.85	27.82	5.14	59.73	-17	51.27
231	40	10	55	0	37.08	43.73	22.92	72.05	-15.93	21.32
232	10	0	85	0	61.29	67.53	11.17	85.77	-8.76	72.77
233	40	40	40	100	1.45	1.49	1.19	12.56	0.25	0.61
234	20	40	100	40	15.72	15.07	2.99	45.73	7.07	40.27
235	0	70	100	80	4.84	3.93	1.15	23.44	14.43	19.89
236	55	85	85	0	13.27	9.96	4.66	37.77	26.39	15.98
237	100	70	100	80	1.56	1.92	1.32	15.04	-7.27	3.11
238	20	12	12	60	13.67	14.34	12.89	44.72	-0.99	-3.03
239	100	40	40	0	8.72	12.83	19.51	42.51	-27.8	-22.79
240	20	40	55	0	38.49	35.44	17.06	66.09	14.31	23.27
241	0	40	10	20	38.35	32.72	27.03	63.93	23.19	-0.05
242	100	55	0	0	9.49	10.82	29.57	39.27	-7.4	-46.77
243	70	0	40	80	3.42	4.63	4.39	25.65	-15.29	-3.43
244	40	20	0	10	33.17	34.71	44.53	65.52	-1.02	-22.27
245	0	0	80	0	71.28	75.81	13.28	89.77	-3.8	73.57
246	100	0	100	0	8.04	18.42	6.98	50	-66	26
247	70	10	40	20	15.27	20.84	19.91	52.77	-25.91	-5.93
248	100	70	40	80	1.77	1.93	2.56	15.11	-2.14	-9.22
249	40	70	20	10	19.06	14.55	16.52	45.01	28.28	-11.82
250	100	20	10	0	12.48	18.29	38.45	49.84	-30.84	-41.54
251	20	20	70	0	45.05	46.97	14.54	74.17	-0.68	43.33
252	20	10	40	20	35.35	38.16	22.59	68.14	-4.82	15.21
253	20	20	70	40	19.31	20.42	7.15	52.31	-1.91	29.27
254	0	0	20	60	19.15	20.12	13.77	51.97	-1.25	7.09
255	0	40	40	10	44.36	38.22	20.03	68.18	23.14	20.37
256	0	40	0	40	25.09	21.45	19.98	53.44	19.9	-4.93
257	3	40	0	0	55.36	46.92	45.48	74.14	27.03	-8.56
258	20	10	85	0	48.18	52.81	10.14	77.76	-7.36	62.22
259	30	20	0	0	46.79	47.49	55.63	74.5	2.83	-19.33
260	0	40	20	40	24.15	20.94	15.13	52.88	18.27	5.13
261	100	100	0	100	1.01	0.88	1.01	7.91	6.23	-4.82
262	40	30	40	0	32.04	33.63	25.22	64.67	-1.39	4.37
263	10	20	10	20	40.16	39.21	34.05	68.9	7.45	-2.52
264	100	0	10	0	14.71	23.5	46.69	55.58	-41.34	-42.01
265	85	40	30	0	12.35	15.75	23.73	46.65	-17.99	-23.99
266	20	100	10	0	25.15	13.54	14.15	43.57	62.68	-8.4
267	40	40	0	100	1.51	1.46	1.46	12.38	2.63	-3.2
268	0	0	7	0	83.43	86.32	68.86	94.45	0.38	2.14
269	7	7	7	7	62.21	63.74	54.71	83.83	1.74	-2.27
270	10	40	0	10	41.71	36.09	37.13	66.59	22.16	-10.86
271	85	70	85	0	7.38	8.41	5.63	34.82	-6.79	5.91
272	55	30	85	0	21.62	25.76	8.33	57.81	-14.37	34.14
273	10	20	55	0	54.2	54.08	21.87	78.51	5.29	34.49
274	100	85	85	80	1.54	1.68	1.43	13.69	-2.06	-0.59
275	70	20	20	0	21.84	27.27	36.33	59.22	-19.44	-22.46
276	40	100	30	0	17.81	10.5	11.08	38.73	48.86	-8.06
277	30	55	85	0	26.86	23.42	6.41	55.5	18.35	37.94
278	70	0	40	40	11.06	15.61	14.48	46.46	-26.27	-4.27
279	20	55	40	0	34.39	28.17	18.6	60.04	26.83	9.38
280	80	65	65	60	3.42	3.71	3.33	22.68	-2.43	-1.92

281	100	40	40	40	4.71	6.58	9.37	30.83	-19.02	-16.09
282	10	40	20	0	48.07	41.94	32.87	70.83	22.2	2.55
283	20	30	100	0	39.39	39.09	5.67	68.82	5.4	64.33
284	20	20	40	60	12	12.49	7.95	41.99	-0.32	8.29
285	100	0	0	20	11.24	16.96	37.09	48.21	-32.49	-42.5
286	100	100	0	10	5.35	4.13	14.23	24.1	17.89	-42.18
287	100	40	20	60	3.49	4.48	7.65	25.19	-12.07	-19.5
288	40	40	10	10	26.4	25.16	30.02	57.23	9.03	-16.52
289	70	70	40	10	10.55	9.65	12.02	37.2	9.83	-13.51
290	10	100	10	20	20.16	10.92	10.07	39.44	57.78	-3.61
291	20	0	40	10	47.72	53.48	30.35	78.16	-10.37	19.05
292	70	40	70	80	2.71	3.24	2.24	20.97	-7.38	3.64
293	0	0	85	0	70.73	75.27	11.18	89.52	-3.89	79.22
294	70	100	100	0	8.4	6.33	3.18	30.23	22.39	12.16
295	100	100	0	0	5.87	4.42	16.39	25	20	-46
296	0	30	40	0	59.02	53.69	27.25	78.28	18.15	24.32
297	70	10	30	0	22.73	30.5	34.16	62.08	-27.7	-14.43
298	20	20	70	20	30.17	31.67	10.39	63.07	-1.38	36.09
299	70	100	70	80	2.11	1.82	1.49	14.53	8.34	0.2
300	10	20	70	10	43.22	43.48	12.5	71.88	3.85	44.89
301	10	20	0	20	41.76	40.34	39.73	69.71	8.86	-8.98
302	10	10	40	10	50.21	52.33	28.01	77.48	-0.67	21.66
303	40	0	30	0	43.77	52.23	41.57	77.42	-18.39	1.93
304	85	20	30	0	14.85	21.28	29.44	53.26	-30.54	-22.43
305	20	12	12	0	55.61	57.93	52.26	80.7	-0.62	-5.03
306	70	0	0	20	19.52	25.16	40.97	57.23	-22.05	-32.11
307	20	0	85	0	52.89	60.48	11.15	82.1	-13.54	66.51
308	30	40	85	0	30.88	30.03	7.55	61.68	7.26	43.82
309	40	100	100	100	1.28	1.16	0.7	10.26	5.14	4.43
310	10	40	20	10	39.67	34.77	27.33	65.57	20.27	2.27
311	7	7	7	0	71.16	72.84	62.41	88.37	1.98	-2.27
312	55	0	55	0	30.72	41.05	24.18	70.21	-30.11	15.8
313	100	10	10	0	13.58	20.79	42.43	52.72	-36.09	-41.75
314	3	3	3	3	74.49	76.58	66.66	90.13	1.34	-3.28
315	70	100	0	60	4.06	2.94	5.34	19.82	19.56	-18.55
316	100	40	10	0	10.39	13.62	30.86	43.69	-19.36	-41.18
317	0	40	20	60	14.11	12.4	8.98	41.84	14.16	4.23
318	70	10	40	0	21.79	29.95	28.62	61.61	-29.99	-6.71
319	40	10	0	20	29.97	32.76	40.82	63.97	-6.01	-20.3
320	20	20	40	40	20.58	21.32	13.26	53.3	0.12	10.74
321	0	10	10	0	75.35	74.72	58.38	89.26	6.85	3.27
322	100	0	20	20	10	16.43	27.7	47.53	-38.93	-29.46
323	100	40	40	80	1.93	2.5	3.13	17.93	-10.58	-8.7
324	10	20	85	0	51.48	51.75	9.3	77.13	4.21	63.95
325	100	40	20	20	7.2	9.64	18.62	37.18	-18.71	-30.07
326	10	100	0	20	20.42	10.93	11.39	39.46	58.97	-7.73
327	0	70	100	60	9.99	7.56	1.68	33.06	23.39	29.99
328	85	70	10	0	10.01	9.52	21.52	36.96	6.69	-36.47
329	20	55	55	0	33.42	27.63	13.97	59.55	25.58	19.62
330	20	40	0	60	11.67	10.54	11.32	38.79	11.15	-8.68
331	70	85	30	0	11.17	8.63	13.38	35.26	22.79	-20.68
332	40	0	0	40	21.1	24.08	28.86	56.17	-9.76	-16.48
333	40	0	100	60	9.67	12.34	2.86	41.75	-16.62	34.35
334	40	100	40	0	17.5	10.43	9.56	38.61	47.73	-3.33
335	20	40	20	60	10.74	9.92	8.52	37.7	9.12	-1.23
336	30	0	70	0	46.38	55.07	17.51	79.08	-18.06	44.63
337	40	0	100	20	24.92	31.73	5.53	63.12	-22.54	55.19

338	70	30	55	0	17.31	22.11	17.68	54.14	-20.29	1.26
339	10	40	55	0	45.14	40.11	17.25	69.55	19.5	28.8
340	20	40	85	0	36.54	34	7.57	64.96	12.85	49.38
341	40	10	30	0	39.88	45.7	37.53	73.35	-12.61	0.25
342	70	0	70	40	9.96	14.95	8.14	45.56	-30.75	13.72
343	10	20	70	20	35.29	35.62	10.54	66.23	3.23	41.05
344	50	0	0	0	41.07	48.5	65.33	75.14	-16.63	-27.88
345	85	100	0	0	7.86	5.53	16.69	28.19	26.32	-41.22
346	100	40	10	20	7.61	9.82	21.46	37.52	-16.23	-35.39
347	10	30	0	0	55.88	51.08	51.57	76.73	17.16	-11.11
348	70	20	70	20	12.59	17.35	9.83	48.7	-25.21	13.16
349	100	20	40	0	10.39	17.26	23.83	48.59	-40.48	-20.84
350	70	40	40	20	11.72	13.59	14.71	43.64	-9.36	-9.73
351	0	5	0	0	80.98	81.69	72.41	92.44	4.34	-4.51
352	20	20	100	20	29	30.68	4.71	62.24	-2.25	57.91
353	100	40	0	100	0.98	1.07	1.49	9.6	-2.2	-8.36
354	70	70	100	40	5.35	5.41	2.52	27.86	1.65	13.07
355	10	100	10	0	29.04	15.2	13.93	45.91	68.29	-3.79
356	40	10	10	10	35.18	39.21	43.07	68.9	-8.66	-14.65
357	100	85	70	0	4.85	5.31	6.67	27.59	-3.37	-11.32
358	40	40	55	0	27.94	27.97	16.69	59.86	3.9	13.39
359	70	70	40	20	8.96	8.24	10.11	34.47	8.94	-12.3
360	70	85	20	0	11.5	8.74	15.38	35.47	24.29	-25.5
361	100	100	20	20	4.47	3.78	9.6	22.92	11.92	-30.52
362	20	20	20	40	21.74	22.12	18.34	54.15	1.95	-0.2
363	10	10	40	20	40.8	42.61	23.08	71.29	-0.88	19.71
364	100	30	30	0	10.11	15.28	25.56	46.02	-31.54	-28.39
365	40	30	20	0	33.97	34.8	35.25	65.59	1.46	-9.95
366	3	40	40	40	22.26	19.68	10.98	51.47	15.89	14.23
367	100	40	0	40	5.72	7.03	16.32	31.88	-11.32	-33.98
368	30	40	100	0	30.3	29.56	5.21	61.27	6.88	53.6
369	10	100	40	0	28.47	15.31	9.09	46.05	65.51	11.11
370	40	70	0	40	11.47	8.83	12.28	35.66	23.24	-16.92
371	70	20	10	10	18.99	23.06	35.08	55.13	-15.71	-27.75
372	10	20	0	10	50.73	48.95	48.36	75.42	9.59	-9.75
373	10	100	0	0	29.22	15.14	15.78	45.82	69.39	-8.63
374	30	55	70	0	27.58	23.91	9.68	56	19.1	26.22
375	40	0	70	10	32.26	40.28	14.62	69.67	-22.16	35.38
376	20	10	10	10	46.96	49.34	45.72	75.66	-1.69	-6.23
377	0	85	55	0	35.62	21.12	8.48	53.08	61.01	25.42
378	0	20	70	0	61.16	59.16	15.03	81.38	9.87	54.53
379	100	20	0	40	6.69	9.14	20	36.25	-19.71	-34.61
380	100	20	70	40	4.75	8.18	6.6	34.35	-33.71	0.65
381	10	30	100	0	46.28	44.11	5.61	72.3	10.89	70.61
382	100	55	100	0	5.88	9.21	4.96	36.39	-29.01	11.97
383	70	20	20	60	6.33	7.71	9.67	33.37	-11.1	-12.74
384	0	40	70	60	12.98	11.73	3.95	40.79	11.46	25.32
385	40	100	85	0	16.26	10.03	3.95	37.89	43.95	20.3
386	85	30	40	0	12.93	18.09	22.45	49.61	-26.89	-16.47
387	0	0	100	60	16.46	17.95	2.75	49.44	-4.7	48.48
388	100	70	0	60	3.2	3.22	7.26	20.91	1.64	-25.33
389	0	40	20	0	55.67	47.3	33.82	74.38	26.78	7.27
390	40	70	40	80	3.52	3	2.5	20.06	10.47	-0.18
391	85	85	85	0	6.39	6.26	4.78	30.07	3.76	2.07
392	100	0	40	0	12.16	22.22	28.42	54.26	-52.09	-19.06
393	0	50	0	0	51.99	40.85	39.07	70.07	35.98	-7.49
394	100	0	0	40	7.73	11.54	24.03	40.47	-27.78	-35.21

395	20	30	55	0	42.31	41.48	19.29	70.51	7.05	25.95
396	85	40	85	0	9.73	14.32	7.57	44.69	-28.78	14.43
397	0	20	100	20	39.28	38.42	4.58	68.33	7.16	69.09
398	0	30	70	0	56.09	51.42	13.51	76.93	16.82	50.81
399	70	20	10	0	22.69	27.64	42.28	59.56	-16.99	-29.76
400	70	20	40	20	14.06	18.28	18.09	49.83	-20.58	-7.1
401	20	100	70	40	10.73	6.64	2.98	30.97	38.06	14.87
402	70	20	20	10	18.28	22.77	30.17	54.83	-18.04	-20.89
403	100	20	100	60	3.06	5.27	2.66	27.48	-29.04	11.33
404	40	100	55	0	17.08	10.33	7.48	38.43	46.2	3.99
405	55	70	55	0	16.06	13.58	11.07	43.62	18.12	0.41
406	0	70	70	10	32.5	22.51	6.74	54.56	43.82	34.87
407	100	100	40	40	3.21	2.92	5.2	19.74	6.86	-17.99
408	0	100	70	80	4.37	2.95	1.3	19.83	23.89	11.63
409	70	70	55	0	11.8	11.03	10.98	39.63	8.47	-6.19
410	0	40	85	0	50.28	43.47	7.71	71.87	23.7	60.76
411	55	10	10	0	33.13	39.12	49.54	68.84	-15.5	-22.44
412	40	3	0	3	44.48	50.12	61.81	76.14	-10.83	-22.77
413	55	0	30	0	33.52	42.92	39.63	71.5	-25.59	-5.76
414	70	40	20	60	5.51	6.06	8	29.57	-3.85	-13.31
415	10	20	40	10	45.86	45.56	25.05	73.26	5.55	19.48
416	100	100	40	100	0.99	0.93	0.88	8.38	3.5	-2.02
417	55	10	20	0	31.91	38.43	42.39	68.34	-17.67	-14.76
418	10	70	0	0	37.26	25.33	26.87	57.4	47.81	-11.05
419	0	10	100	0	63.8	64.92	6.55	84.44	2.78	87.22
420	100	40	100	80	1.72	2.5	1.52	17.9	-15.37	5.63
421	10	20	100	20	33.94	34.45	4.64	65.32	2.53	63.61
422	100	40	70	60	2.91	4.26	3.75	24.51	-18.87	-1.52
423	85	55	30	0	10.67	12.22	19.84	41.56	-8.04	-25.13
424	20	0	70	40	23.08	26.58	8.68	58.58	-11	34.16
425	40	100	100	80	2.84	2.23	1.06	16.63	13.79	9.47
426	0	70	10	20	28.81	19.56	16.51	51.34	44.02	-0.87
427	10	0	70	0	62.88	69.05	17.99	86.53	-8.34	56.4
428	40	3	3	0	46.53	52.7	62.6	77.7	-11.68	-20.85
429	40	0	100	40	16.23	20.72	4.09	52.64	-19.78	44.88
430	20	10	100	20	31.73	35.16	5.07	65.87	-7.67	62.25
431	100	100	70	60	2.2	2.17	2.4	16.37	2.19	-5.71
432	0	7	7	0	78.12	78.4	63.49	90.96	5.09	1.15
433	0	10	70	10	54.38	55.36	13.99	79.25	2.55	53.52
434	85	70	40	0	8.78	9.01	13.93	36.01	0.76	-20.85
435	100	55	85	0	6.13	9.34	6.62	36.64	-27.31	4.52
436	0	100	100	10	25.17	13.66	2.17	43.74	62.04	43.54
437	85	10	85	0	12.15	21.45	9.65	53.44	-48.64	21.92
438	0	85	20	0	36.6	21.24	15.22	53.21	63.72	5.47
439	70	0	20	60	7.27	9.7	11.69	37.29	-18.46	-12.37
440	20	40	0	20	30.11	26.79	30.01	58.78	16.9	-13.82
441	40	20	0	40	17.84	18.67	23.41	50.3	-0.87	-17.11
442	0	0	50	0	75.36	79.57	30.79	91.49	-2.75	41.34
443	55	70	20	0	17.71	14.31	19.47	44.68	22.66	-18.96
444	0	0	100	80	6.99	7.73	1.65	33.41	-4.52	30.96
445	0	100	0	40	15.36	8.36	7.79	34.73	52.41	-3.59
446	40	10	70	10	29.47	35.26	13.29	65.95	-16.42	32.47
447	0	7	7	7	68.08	68.41	55.52	86.21	4.68	0.97
448	20	40	70	10	30.78	28.72	9.97	60.53	11.84	33.07
449	20	0	20	0	61.43	67.51	52.57	85.76	-8.38	3.36
450	100	40	85	0	6.95	11.89	7.57	41.04	-37.82	8.16
451	0	20	0	60	17.14	16.36	14.67	47.44	7.67	-3.09

452	0	100	20	60	9.23	5.41	3.92	27.86	39.67	3.2
453	100	70	10	0	7.62	7.92	21.08	33.81	-0.11	-41.03
454	20	20	20	20	34.03	34.49	28.52	65.35	2.7	-0.09
455	0	70	0	20	29.07	19.61	18.8	51.39	44.8	-5.97
456	7	0	0	0	77.54	81.11	75.21	92.18	-1.33	-7.39
457	100	40	0	20	8.04	9.99	24.61	37.83	-13.6	-40.81
458	40	55	100	0	22.17	20.39	4.57	52.28	12	41.5
459	20	100	70	20	16.13	9.49	4.01	36.92	47.39	18.28
460	0	40	40	0	53.92	46.21	23.95	73.68	25.38	22.21
461	10	100	100	0	26.12	14.34	2.51	44.72	61.8	42.29
462	10	70	40	20	23.95	17.02	10.39	48.28	37.25	10.57
463	40	100	100	60	4.92	3.57	1.48	22.21	20.8	13.57
464	70	20	85	0	16.9	24.07	9.05	56.16	-31.19	28.68
465	40	70	100	60	5.71	4.98	1.79	26.69	10.88	17.81
466	70	100	70	0	9.04	6.63	5.81	30.95	24.8	-1.64
467	40	0	40	10	35.08	42.45	28.84	71.18	-18.84	9.43
468	40	0	40	3	40.12	48.52	32.78	75.15	-19.61	10.13
469	55	40	70	0	20.47	22.55	11.4	54.61	-6.08	18.34
470	3	40	40	0	51.58	44.57	23.76	72.61	23.96	20.71
471	30	70	55	0	24.77	18.6	11.06	50.21	32.47	11.79
472	20	40	0	40	19.6	17.56	19.35	48.96	14	-11.32
473	0	20	85	0	59.79	57.93	9.42	80.7	9.57	69.69
474	0	100	85	0	31.12	16.55	3.38	47.69	68.44	40.85
475	10	100	70	0	27.47	15.02	5.12	45.66	63.23	27.15
476	30	100	10	0	21.65	12.03	14.35	41.26	57.07	-12.9
477	70	100	10	0	10.61	7.01	14.77	31.82	33.45	-30.27
478	40	85	20	0	19.95	13.08	15.4	42.88	41.95	-12.77
479	70	40	100	40	6.79	8.55	3.19	35.1	-13.74	20.5
480	100	70	70	60	2.46	2.93	2.96	19.78	-6.95	-4.26
481	70	70	10	20	9.95	8.67	15.53	35.34	13.27	-26.1
482	0	98	0	0	33.63	17.16	15.81	48.46	74.11	-4.16
483	0	70	100	20	25.67	18.05	2.8	49.56	39.05	48.25
484	10	85	40	0	31.06	18.75	11.24	50.39	56.6	11.56
485	20	20	100	60	10.85	11.73	2.48	40.78	-3.32	35.71
486	40	20	20	10	31.02	33.52	32.98	64.58	-4.74	-8.39
487	20	0	40	40	24.92	28.03	16.44	59.92	-8.75	14.09
488	40	30	100	0	28.02	30.65	5.76	62.21	-5.94	52.51
489	100	100	10	20	4.65	3.79	10.88	22.96	14.07	-34.61
490	20	40	100	0	35.91	33.47	5.15	64.54	12.57	59.54
491	30	100	85	0	19.32	11.4	3.83	40.25	50.14	25.11
492	0	100	0	70	6.81	4.04	3.56	23.8	35.11	-1.52
493	10	0	40	10	54.98	59.69	31.11	81.67	-6.37	23.91
494	0	3	0	0	82.56	84	74.15	93.45	3.02	-4.29
495	70	20	40	0	20.07	26.28	26.03	58.3	-23.95	-8.05
496	100	20	100	0	7.49	15.17	6.43	45.87	-53.35	21.26
497	100	40	70	0	7.43	12.17	10.82	41.49	-35	-2.49
498	70	100	40	0	9.84	6.89	9.84	31.55	28.73	-16.47
499	55	10	100	0	25.04	33.38	6.79	64.47	-27.86	51.77
500	40	100	20	20	12.82	7.76	9.18	33.47	41.96	-10.89
501	20	10	0	10	48.68	50.34	52.87	76.28	0.39	-13.31
502	70	0	10	10	22.4	29.74	42.98	61.43	-26.39	-27.41
503	20	40	100	60	9.38	9.16	2.16	36.3	4.51	30.8
504	40	40	85	0	26.05	26.62	7.55	58.62	1.61	38.53
505	0	0	3	3	79.44	82.03	69.24	92.59	0.67	-1.41
506	20	55	70	0	32.56	27.09	9.71	59.06	24.65	31.41
507	3	0	40	40	31.1	33.26	17	64.37	-3.52	20.45
508	0	40	100	40	21.3	18.96	2.9	50.64	15.02	49.41

509	20	100	20	20	17.26	9.75	8.97	37.39	51.64	-3.39
510	85	70	100	0	7.11	8.27	4.23	34.54	-8.14	12.86
511	20	30	0	0	48.91	45.85	50.33	73.45	13.21	-15.39
512	40	40	100	40	11.52	12.07	3.07	41.32	-0.84	32.03
513	30	100	0	0	22.01	12.08	16.25	41.34	58.43	-17.5
514	95	0	0	0	16.89	25.12	55.07	57.19	-35.7	-48.59
515	10	20	40	0	55.86	55.36	30.06	79.25	6.26	21.38
516	70	10	85	0	18.23	27.32	9.83	59.27	-37.48	31.37
517	0	40	20	10	45.84	39.14	28.06	68.85	24.5	6.69
518	40	70	20	0	22.82	17.29	19.7	48.62	30.73	-12.66
519	30	10	85	0	41	46.95	10.11	74.16	-12.63	56.11
520	40	10	40	0	38.69	44.91	31.27	72.83	-14.11	8.43
521	0	40	70	80	6.08	5.73	2.23	28.72	6.28	17.06
522	40	20	20	20	25.48	27.54	27.07	59.47	-4.45	-7.82
523	100	40	100	60	2.71	4.17	2.36	24.21	-21.32	8.16
524	15	0	0	0	69.6	74.14	73.34	88.99	-4.03	-11.27
525	70	100	70	60	3.38	2.78	2.31	19.14	12.15	-0.13
526	30	85	100	0	20.55	13.62	3.24	43.69	41.37	34.97
527	30	20	10	0	44.91	46.3	47.82	73.74	0.78	-12.02
528	0	0	40	100	1.98	2.14	1.34	16.23	-1.89	4.96
529	0	70	0	80	5.43	4.05	3.58	23.84	19.94	-1.57
530	40	27	27	0	34.24	35.99	32.7	66.51	-1.57	-4.65
531	20	40	70	20	25.22	23.64	8.44	55.73	10.57	30.14
532	20	20	10	20	34.91	35.04	33.21	65.78	3.87	-6.66
533	10	10	10	10	54.13	55.33	47.05	79.23	1.99	-1.65
534	70	10	10	0	24.81	31.6	46.96	63.01	-22.54	-29.51
535	100	85	85	100	0.97	1.03	0.85	9.23	-0.89	0.05
536	40	0	0	100	1.57	1.75	1.83	14.1	-3.03	-4.28
537	0	30	55	0	57.48	52.54	19.78	77.6	17.36	37.14
538	20	70	20	60	8.53	6.47	5.76	30.57	22.07	-2.06
539	30	0	100	0	44.09	52.84	7.24	77.78	-19.02	72.83
540	70	40	0	80	3.18	3.38	5.05	21.49	-1.32	-14.19
541	20	20	10	10	42.71	42.8	40.63	71.42	4.33	-7.21
542	0	0	40	80	7.7	8.25	4.63	34.49	-2.33	10.51
543	70	30	85	0	15.57	20.91	8.3	52.85	-24.5	25.7
544	40	70	70	10	16.95	13.56	6.8	43.59	23.24	15.71
545	0	20	0	20	47.33	44.74	40.71	72.72	12	-5.07
546	40	55	10	0	27.38	23.44	29.15	55.52	20.38	-18.07
547	20	100	85	0	22.83	12.96	3.69	42.7	56.3	30.23
548	55	20	40	0	27.19	32.39	27.17	63.66	-15.5	-0.76
549	100	100	10	0	5.72	4.51	14.69	25.29	17	-41.33
550	70	85	55	0	10.37	8.36	9.02	34.73	19.09	-8.17
551	70	55	10	0	16.11	15.85	27.52	46.78	4.8	-30.45
552	70	20	0	20	16.44	19.42	33.39	51.17	-12.25	-32.11
553	7	7	0	7	63.3	64.32	60.44	84.13	2.97	-7.64
554	80	65	65	40	5.03	5.45	4.93	27.97	-2.76	-2.38
555	20	0	0	20	43.86	47.31	48.48	74.39	-5.09	-11.66
556	0	30	100	0	53.9	49.53	5.57	75.78	16.27	76.82
557	55	85	20	0	15.42	10.78	15.43	39.21	33.42	-19.17
558	40	20	10	10	32.04	34.1	38.49	65.04	-2.99	-15.38
559	100	100	0	80	1.81	1.54	2.74	12.86	8.39	-14.5
560	40	20	40	40	15.56	17.29	12.79	48.62	-6.32	3.98
561	100	0	100	60	3.49	6.62	3.01	30.93	-36.82	14.62
562	10	55	30	0	40.92	32.26	22.37	63.56	32.8	7.73
563	85	40	100	0	9.35	14.07	5.56	44.33	-30.29	22.65
564	55	0	40	0	32.35	42.17	33.01	70.99	-27.52	2.62
565	70	0	0	0	28.15	36.35	60.53	66.79	-25.16	-37.63

566	20	100	40	20	16.83	9.7	6.76	37.29	49.75	5.01
567	10	20	20	20	39.22	38.61	29.2	68.47	6.37	4.18
568	10	55	100	0	36.88	29.72	4.35	61.41	29.3	58.47
569	55	55	20	0	20.63	19.05	24.5	50.75	11.36	-18.34
570	100	40	100	0	6.62	11.68	5.63	40.71	-39.67	16.04
571	20	0	40	20	39.13	43.96	25.19	72.2	-9.98	17.41
572	70	0	100	0	18.74	30.01	7.28	61.66	-45.12	44.87
573	0	10	100	20	42.64	43.75	4.95	72.06	1.38	73.54
574	70	40	40	40	8.04	9.27	9.86	36.5	-7.84	-7.98
575	20	100	20	60	7.23	4.5	3.99	25.26	33.01	-1.75
576	100	10	70	20	6.99	13.24	10.16	43.13	-46.4	2.46
577	60	45	45	0	19.15	20.37	18.6	52.25	-2.45	-4.04
578	20	40	0	0	44.29	39.14	43.86	68.85	20.07	-15.71
579	40	40	100	20	17.34	17.97	4.06	49.46	0.07	39.57
580	55	55	30	0	19.98	18.72	21.11	50.36	9.82	-12.54
581	30	55	10	0	31.81	26.3	29.59	58.32	25.15	-13.95
582	85	100	30	0	7.16	5.5	11.44	28.12	20.03	-27.44
583	30	10	70	0	42.19	48.04	15.88	74.85	-11.99	41.18
584	20	20	0	60	13.66	13.59	14.16	43.64	3.59	-8.31
585	100	20	20	0	11.74	17.97	33.11	49.46	-34.35	-34.65
586	0	40	70	10	42.22	36.67	10.22	67.03	21.8	43.45
587	0	0	5	0	83.86	86.67	71.06	94.6	0.55	0.41
588	30	40	0	0	38.47	34.99	42.93	65.74	15.77	-19.92
589	100	70	30	0	6.85	7.62	15.93	33.17	-4.9	-30.82
590	70	40	70	60	4.74	5.7	3.82	28.64	-9.28	5.18
591	70	10	10	20	17.27	21.9	32	53.92	-19.53	-25.3
592	70	20	70	10	15.02	20.8	11.6	52.73	-27.24	14.52
593	40	70	10	10	19.65	14.86	19.13	45.44	29.41	-16.93
594	100	70	70	0	5.63	7.15	7.93	32.14	-13.54	-8.59
595	70	0	0	60	7.81	9.94	15.17	37.73	-15.27	-21.09
596	85	10	40	0	15.29	23.76	27.17	55.85	-39.05	-14.23
597	0	70	55	0	40.23	27.48	11.08	59.42	48.54	27.61
598	10	40	20	20	32.46	28.57	22.52	60.4	18.53	2
599	70	0	30	0	24.57	34.5	37.56	65.36	-33.7	-13.57
600	0	100	40	40	14.89	8.41	4.63	34.82	49.2	11.03
601	10	70	70	20	22.87	16.49	5.76	47.61	35.33	27.32
602	85	20	40	0	14.11	20.88	24.81	52.82	-33.15	-15.32
603	70	0	70	10	17.46	26.72	13.79	58.71	-39.13	18.66
604	85	85	70	0	6.78	6.47	6.69	30.56	5.73	-6.28
605	100	70	20	0	7.21	7.76	18.37	33.47	-2.56	-35.93
606	0	0	100	70	11.38	12.49	2.18	41.98	-4.62	40.36
607	20	20	70	10	36.94	38.65	12.33	68.5	-1.07	39.55
608	30	10	30	0	46.55	51.42	38.61	76.93	-8.33	4.96
609	20	10	70	20	33.12	36.41	11.49	66.83	-6.84	39.14
610	100	40	70	80	1.83	2.56	2.23	18.2	-13.98	-1.05
611	20	55	20	0	35.72	28.84	25.72	60.64	28.77	-3.46
612	20	12	12	80	6	6.3	5.56	30.16	-0.84	-1.81
613	40	70	40	20	15.04	11.85	10.25	40.97	23.6	-1.57
614	75	0	0	0	25.37	33.66	59.3	64.69	-27.39	-40.02
615	40	3	3	40	20.31	23.02	26.78	55.09	-8.93	-14.87
616	70	20	30	0	20.93	26.77	30.97	58.76	-21.77	-15.36
617	40	55	85	0	22.64	20.73	6.45	52.65	12.58	32.86
618	0	70	85	0	38.51	26.45	5.21	58.46	47.27	48.74
619	85	40	20	0	12.96	16.05	27.64	47.04	-15.57	-30.2
620	100	100	40	20	4.07	3.66	7.3	22.51	8.11	-22.71
621	3	0	0	40	34.66	36.01	32.31	66.53	-0.22	-4.02
622	3	3	0	40	33.78	34.68	31.24	65.5	1.17	-4.17

623	100	0	100	20	6.54	14.08	5.62	44.35	-56.2	22.36
624	20	70	100	20	18.67	14.05	2.94	44.3	29.35	38.14
625	0	10	20	20	49.39	49.42	33.79	75.71	4.75	9.6
626	40	100	0	20	13.35	7.85	11.82	33.66	44.64	-19.03
627	40	100	40	60	5.47	3.74	3.25	22.8	24.88	-1.13
628	55	20	20	0	29.17	33.57	38.09	64.62	-11.84	-15.57
629	3	3	3	0	78.82	80.97	70.38	92.12	1.47	-3.25
630	70	85	100	0	9.23	7.85	3.57	33.67	14.64	15.4
631	10	20	30	0	57.04	56.26	36.23	79.76	6.97	13.09
632	0	0	70	10	59.17	63.01	15.38	83.45	-3.77	57.22
633	10	0	10	0	72.43	76.89	63.64	90.27	-3.53	-0.18
634	40	0	40	80	5.07	6.06	4.41	29.56	-9	3.23
635	0	20	40	40	27.44	26.66	13.9	58.66	7.09	18.26
636	70	40	10	10	15.77	17.18	27.94	48.49	-4.56	-28.21
637	85	100	100	0	5.44	4.82	3.18	26.21	9.88	5.2
638	70	40	100	0	13.81	17.6	5.45	49.01	-18.6	31.24
639	20	0	0	60	15.94	17.19	17.36	48.5	-3.61	-7.74
640	85	55	20	0	11.18	12.45	22.99	41.92	-5.86	-30.77
641	20	70	10	20	21.79	15.58	16.15	46.42	35.52	-8.49
642	55	100	40	0	13.38	8.54	9.73	35.09	38.67	-9.98
643	0	0	95	0	69.86	74.4	8.05	89.11	-3.98	89.15
644	20	0	40	60	14.38	16.2	9.76	47.23	-7.39	10.84
645	70	85	70	0	9.91	8.18	6.66	34.35	17.15	0.36
646	20	40	40	0	39.65	36.18	23.01	66.66	15.52	11.85
647	0	100	70	0	32.01	16.99	4.98	48.25	69.27	32.31
648	20	20	30	0	49.18	50.1	35.43	76.13	2.39	7.97
649	0	85	0	0	36.83	21.01	19.79	52.96	65.55	-5.37
650	10	0	70	20	42.1	46.5	12.84	73.87	-8.04	47.37
651	70	40	40	10	14.02	16.3	17.67	47.36	-10.2	-10.42
652	30	100	20	0	21.28	11.97	12.59	41.17	55.75	-8.3
653	0	40	0	0	57.53	48.42	45.75	75.09	28.3	-7.25
654	55	55	85	0	17.15	17.14	6.51	48.43	3.45	25.29
655	0	40	40	80	6.14	5.65	3.33	28.52	7.81	8.16
656	85	0	0	0	20.52	28.84	56.99	60.64	-31.84	-44.65
657	0	0	3	40	35.71	36.95	31.19	67.24	0.27	-1.08
658	55	20	85	0	23.67	29.82	9.13	61.5	-20.96	37.61
659	3	3	40	40	30.26	31.97	16.45	63.32	-2.11	19.93
660	70	85	85	0	9.5	7.99	4.74	33.96	15.61	8.96
661	0	40	40	100	1.81	1.74	1.11	14.04	3.3	4.26
662	60	45	45	40	9.06	9.67	8.82	37.24	-2.18	-3.13
663	0	40	100	60	12.44	11.33	2.1	40.13	10.7	37.98
664	85	20	20	0	15.64	21.68	34.53	53.69	-27.69	-29.43
665	0	3	40	40	31.56	33.04	16.6	64.19	-1.07	21.08
666	100	10	10	20	9.8	14.79	29.29	45.34	-31.07	-35.84
667	10	20	10	10	49.21	47.98	41.71	74.81	8.14	-2.74
668	20	70	40	60	8.23	6.37	4.48	30.33	20.46	4.14
669	85	55	55	0	9.57	11.72	13.06	40.77	-13.2	-10.29
670	10	70	85	0	32.85	23.23	5.22	55.31	41.83	43.28
671	55	70	85	0	14.96	13.01	5.51	42.78	15.32	20.2
672	0	60	0	0	46.9	34.02	32.77	64.98	44.16	-7.38
673	55	55	10	0	21.38	19.46	28.41	51.22	12.89	-24.27
674	70	40	0	20	13.73	14.61	26.61	45.1	-2.25	-31.81
675	100	70	85	0	5.26	6.96	5.65	31.72	-16.03	0.45
676	100	70	100	0	5.02	6.82	4.27	31.4	-17.63	7.18
677	40	70	70	0	20.36	16.12	7.92	47.13	25.61	17.29
678	20	40	0	10	36.51	32.4	36.37	63.67	18.34	-14.84
679	0	55	40	0	46.88	36.14	19.15	66.63	37	19.57

680	55	70	30	0	17.19	14.07	16.81	44.33	21.35	-13.66
681	85	40	40	0	11.78	15.47	20.17	46.27	-20.29	-17.68
682	30	0	85	0	45.02	53.79	11.1	78.34	-18.73	60.17
683	85	85	10	0	8.58	7.04	17.42	31.9	16.78	-36.49
684	10	0	40	20	44.87	48.82	25.78	75.34	-6.25	21.78
685	20	70	10	0	31.69	22.25	23.09	54.29	42.07	-9.62
686	70	100	40	20	7.3	5.29	7.18	27.55	23.84	-13.55
687	20	40	20	40	18.1	16.55	14.33	47.69	11.79	-1.77
688	55	100	30	0	13.66	8.6	11.25	35.21	39.93	-14.65
689	10	70	100	20	21.98	15.95	2.87	46.91	34.27	43.18
690	30	20	100	0	36.64	40.2	6.22	69.61	-6.85	63.11
691	0	55	0	0	49.35	37.3	35.83	67.5	40.05	-7.48
692	40	40	0	70	6.57	6.27	7.71	30.08	5.57	-11.29
693	55	30	100	0	21.05	25.28	5.83	57.35	-15.09	43.78
694	30	55	55	0	28.46	24.46	13.9	56.55	20.21	14.63
695	40	40	20	20	20.99	20.28	21.22	52.15	7.01	-9.69
696	40	70	10	0	23.53	17.67	22.81	49.09	31.89	-18.05
697	30	20	20	0	43.55	45.44	40.85	73.18	-0.77	-4.45
698	85	70	20	0	9.56	9.32	18.72	36.6	4.68	-31.29
699	0	100	30	0	33.27	17.26	10.44	48.59	72.29	10.96
700	40	55	55	0	24.2	21.72	13.82	53.73	14.83	9.99
701	30	70	40	0	25.49	18.92	14.5	50.59	33.86	2.79
702	40	20	20	0	37.44	40.45	39.75	69.79	-5.01	-8.86
703	10	10	55	0	59.18	61.94	24.27	82.88	-1.3	37.48
704	0	3	0	3	77.87	79.28	69.99	91.36	2.86	-4.21
705	0	10	55	0	68.28	68.99	24.61	86.5	3.86	43.11
706	70	0	40	10	19.7	28.28	26.23	60.14	-33.7	-5.22
707	40	0	100	100	1.42	1.78	0.85	14.27	-7.8	8.62
708	70	30	30	0	19.1	23.14	27.82	55.22	-15.5	-16.4
709	100	10	55	0	10.23	18.98	19.52	50.66	-50.65	-8.75
710	40	3	40	0	41.28	49.3	33.53	75.64	-18.16	9.86
711	40	30	70	0	29.58	31.94	12.85	63.29	-4.53	29.11
712	70	70	20	20	9.6	8.5	13.5	35.01	11.87	-21.43
713	70	20	40	10	16.83	21.97	21.8	53.99	-22.24	-7.66
714	20	100	40	0	24.31	13.47	9.26	43.46	59.57	6.04
715	20	100	100	40	10.3	6.45	1.8	30.51	36.8	24.3
716	0	0	20	10	66.03	68.89	45.91	86.45	-0.87	12.14
717	0	20	40	60	15.76	15.45	8.33	46.25	5.05	14.22
718	40	3	40	3	39.02	46.63	31.83	73.95	-17.88	9.5
719	100	20	10	20	9.04	13.02	26.57	42.79	-26.25	-35.72
720	0	85	10	0	36.8	21.17	17.46	53.14	64.66	0.04
721	100	85	55	0	5.25	5.48	8.97	28.07	-0.49	-19.46
722	55	70	40	0	16.7	13.86	14.38	44.03	19.98	-8.2
723	90	0	0	0	18.64	26.93	56.02	58.91	-33.77	-46.62
724	100	10	40	0	11.25	19.62	26.04	51.41	-46.25	-19.94
725	30	55	30	0	30.08	25.33	21.8	57.4	22.73	-1.78
726	20	85	20	0	27.16	16.61	15.25	47.77	52.88	-3.96
727	40	70	100	40	8.99	7.6	2.38	33.14	14.93	23.35
728	30	100	100	0	18.97	11.24	2.86	39.99	49.48	31.33
729	10	100	100	20	18.11	10.38	2.12	38.51	51.41	35
730	20	0	10	0	63.13	68.75	61.69	86.38	-7.13	-5
731	0	70	40	80	5.22	4.06	2.48	23.86	17.34	6.56
732	55	70	0	0	18.96	15	25.92	45.64	25.09	-29.68
733	3	0	3	0	81.05	84.23	72.64	93.55	-0.32	-2.8
734	40	20	70	60	8.67	9.98	4.55	37.8	-7.86	16.61
735	20	10	30	0	54.05	57.7	39.61	80.57	-3.97	9.9
736	70	100	20	60	3.85	2.91	4.25	19.66	17.2	-12.95

737	0	10	0	10	63.32	62.54	55.97	83.2	7.01	-4.69
738	20	100	55	0	23.88	13.38	7.19	43.33	58.26	13.63
739	0	10	0	20	51.78	51.17	45.81	76.78	6.51	-4.41
740	20	100	70	60	6.72	4.42	2.12	25.01	29.02	11.7
741	70	40	10	20	13.21	14.36	23.1	44.75	-4.09	-26.1
742	30	85	10	0	23.88	14.96	17.65	45.58	48.56	-13.43
743	0	70	40	20	27.91	19.32	10.51	51.06	41.71	15
744	55	20	55	0	25.87	31.53	20.2	62.95	-17.82	11.01
745	20	20	0	0	53.95	53.26	57.2	78.03	6.71	-14.88
746	70	0	55	0	22.07	32.92	23.12	64.1	-39.42	7.24
747	20	10	70	10	40.54	44.42	13.62	72.51	-6.93	42.89
748	20	85	70	0	25.34	16.02	6.26	47	48.7	23.95
749	0	70	0	0	42.41	28.09	26.97	59.97	52.78	-6.79
750	70	70	70	60	3.87	3.83	2.91	23.09	2.75	1.8
751	40	0	3	40	20.91	23.97	27.68	56.06	-10.22	-14.72
752	40	70	40	40	10.13	8.16	7.02	34.31	19.09	-1.22
753	55	85	70	0	13.68	10.14	6.59	38.1	27.56	7.14
754	10	100	70	20	18.9	10.74	3.91	39.14	52.75	22.7
755	10	70	10	0	36.47	24.87	23.18	56.95	47.16	-5.2
756	40	0	100	0	36.83	46.6	7.26	73.93	-24.83	66.08
757	0	0	20	20	53.96	56.36	37.8	79.82	-0.97	11.04
758	70	0	40	60	6.84	9.51	8.81	36.94	-21.16	-3.59
759	30	30	30	0	38.46	38.42	30.76	68.33	4.58	1.46
760	40	40	0	40	15.03	14.23	18.64	44.56	8.08	-17.39
761	85	30	10	0	15	19.09	35.98	50.79	-18.97	-36.5
762	40	40	100	80	3.72	4	1.44	23.67	-2.11	16.57
763	40	70	100	20	13.35	10.97	3.07	39.53	19.31	28.94
764	20	0	70	20	36.46	41.78	12.71	70.72	-12.23	42.32
765	0	3	40	3	70.67	73.42	35.18	88.65	-0.27	29.91
766	0	100	0	10	27.73	14.22	13.16	44.54	69.09	-4.07
767	20	0	0	40	27.93	30.17	30.78	61.8	-4.52	-9.83
768	3	3	3	40	33.12	34.14	29.72	65.07	0.72	-2.52
769	70	40	70	20	10.58	12.93	8.14	42.66	-13.5	8.71
770	85	20	100	0	10.81	18.54	6.41	50.14	-43.99	28.7
771	85	100	55	0	6.54	5.35	7.82	27.71	15.51	-15.83
772	0	0	15	0	81.73	84.92	60.42	93.85	-0.3	9.13
773	100	40	100	100	0.92	1.18	0.84	10.43	-8.03	2.3
774	20	100	20	40	11.61	6.86	6.26	31.48	42.27	-2.81
775	70	70	0	40	7.25	6.29	12	30.14	12.14	-25.61
776	20	10	0	20	40.01	41.41	43.37	70.46	0.27	-12.33
777	70	40	55	0	15.75	18.87	15.89	50.53	-13.46	-0.78
778	20	40	20	0	41.42	37.24	32.17	67.46	17.52	-2.21
779	0	0	20	0	80.72	84.09	55.68	93.49	-0.71	13.36
780	55	10	0	0	34.27	39.59	57.43	69.18	-12.98	-30.38
781	70	40	0	60	5.95	6.29	10.44	30.14	-1.33	-20.84
782	20	70	0	60	9.13	6.79	7.53	31.33	23.85	-8.45
783	0	0	0	3	80.21	82.67	72.54	92.87	0.97	-3.88
784	0	100	100	60	8.45	5.27	1.35	27.49	34.66	24.24
785	40	70	70	60	5.98	5.12	2.85	27.06	12.33	9.09
786	40	20	40	0	35.24	39.05	28.19	68.79	-7.99	6.38
787	30	70	85	0	23.48	17.89	5.32	49.36	30.5	32.49
788	20	40	70	60	9.76	9.41	3.85	36.76	5.57	18.98
789	0	40	3	40	24.97	21.4	19.23	53.38	19.67	-3.45
790	40	40	40	20	19.91	19.76	15.59	51.57	4.28	1.74
791	20	20	0	10	44.41	43.9	47.12	72.16	6.13	-13.92
792	20	20	10	0	51.8	51.83	49.07	77.18	4.82	-7.53
793	40	40	40	80	4.03	4.07	3.22	23.9	1.54	0.96

794	85	10	70	0	13.07	22.25	14.33	54.29	-46.12	9.61
795	70	10	55	0	20.46	29.1	21.24	60.87	-33.09	5.31
796	100	30	70	0	8.06	14.13	11.85	44.42	-41.84	-0.56
797	55	40	0	0	25.86	25.71	40.37	57.76	4.51	-30.42
798	70	40	100	20	9.8	12.41	4.21	41.86	-16.02	25.57
799	0	100	0	20	23.1	12.05	11.2	41.3	63.56	-3.99
800	10	30	30	0	51.85	48.44	32.02	75.1	13.93	11.2
801	100	0	20	40	6.94	11.19	18.21	39.9	-33	-24.49
802	40	20	20	40	16.5	17.84	17.45	49.3	-3.88	-6.57
803	40	40	70	60	7.45	7.75	3.84	33.45	-0.14	13.34
804	10	55	10	0	42.27	32.9	30.4	64.08	34.67	-5.3
805	20	100	10	20	17.55	9.79	10.22	37.47	52.91	-7.49
806	55	10	30	0	30.77	37.76	35.92	67.84	-19.68	-7.02
807	30	70	100	0	23.07	17.65	3.82	49.07	29.95	40.39
808	40	20	0	20	27.4	28.66	36.63	60.48	-0.94	-20.71
809	100	30	85	0	7.48	13.73	8.22	43.85	-44.75	10.48
810	70	100	100	40	4.52	3.68	2.04	22.58	13.96	8.3
811	100	0	40	20	8.84	15.81	19.87	46.73	-44.89	-16.27
812	70	70	0	60	4.8	4.22	7.41	24.38	9.85	-19.93
813	20	20	0	20	36.6	36.22	38.73	66.69	5.6	-12.86
814	20	70	70	20	19.4	14.47	5.76	44.9	30.48	22.64
815	70	10	100	0	17.48	26.62	6.8	58.62	-38.64	41.61
816	30	55	0	0	33	27.04	34.31	59.01	26.41	-19.95
817	60	45	45	60	5.72	6.11	5.54	29.7	-1.95	-2.48
818	10	85	30	0	31.37	18.81	13.17	50.46	57.42	6.1
819	20	70	40	40	13.48	10.12	7.05	38.06	26.49	5.14
820	0	20	10	20	46.3	44	35.27	72.23	11.24	1.47
821	70	20	0	0	23.55	27.96	48.91	59.85	-14.41	-37.22
822	0	3	0	40	35.05	35.77	31.48	66.34	1.94	-3.09
823	30	55	100	0	26.36	23.07	4.5	55.14	17.87	46.84
824	40	20	0	0	40.18	42.06	53.99	70.91	-1.14	-23.78
825	40	100	0	100	1.36	1.05	0.91	9.43	11.11	-0.67
826	98	0	0	0	16.15	24.33	54.66	56.42	-36.56	-49.48
827	40	100	0	80	3.26	2.23	2.53	16.65	21.02	-6.3
828	55	55	0	0	22.19	19.93	32.84	51.76	14.32	-30.28
829	10	100	55	0	28.03	15.22	7	45.93	64.27	18.91
830	85	10	20	0	17	24.68	38.09	56.76	-33.24	-29.12
831	10	70	10	20	25.02	17.38	16.22	48.73	39.89	-4.68
832	70	10	70	10	16.24	23.67	12.64	55.76	-33.17	16.72
833	20	0	20	20	41.42	45.62	35.82	73.3	-7.63	2.53
834	20	0	30	0	59.77	66.26	44.06	85.13	-9.59	12.11
835	70	70	40	60	4.23	4	4.51	23.67	5.39	-7.48
836	40	0	20	10	37.33	43.93	40.84	72.18	-15.66	-6.16
837	0	0	40	20	51.37	54.25	26.33	78.61	-2.46	26.46
838	10	10	20	10	52.7	54.29	39.94	78.63	0.93	6.12
839	70	20	0	60	6.8	7.94	12.66	33.85	-8.27	-21.13
840	20	70	10	10	26.29	18.62	19.37	50.24	38.7	-9.16
841	10	40	10	10	40.49	35.25	31.91	65.94	21.23	-4.44
842	20	70	0	10	27.04	19.05	22.36	50.75	39.56	-14.34
843	20	40	40	20	26.74	24.63	15.95	56.71	12.64	9.73
844	100	30	40	0	9.53	14.98	21.62	45.6	-34.32	-21.77
845	20	40	40	60	10.28	9.68	6.47	37.27	7.5	6.24
846	100	85	85	60	2.21	2.43	2.13	17.6	-2.86	-1.16
847	70	40	70	0	14.93	18.37	11.23	49.94	-15.74	10.83
848	100	100	0	70	2.32	1.96	4.08	15.29	9.51	-19.43
849	0	70	20	60	11.08	8.02	5.94	34.02	27.51	3.04
850	70	100	10	20	7.93	5.42	10.71	27.9	28.17	-25.57

851	20	40	100	20	24.22	22.86	3.96	54.93	9.74	49.59
852	20	40	70	0	37.43	34.69	11.71	65.51	13.41	36.22
853	20	70	55	0	29.19	21.12	11.05	53.08	37.98	16.79
854	20	10	40	10	43.33	46.69	27.37	73.99	-4.9	16.71
855	10	40	40	10	38.13	33.83	19.61	64.83	18.6	15.49
856	100	100	100	60	2.03	2.1	1.68	16.02	0	0.58
857	0	7	0	7	69.26	69.32	61.68	86.66	5.28	-4.51
858	0	40	70	40	22.17	19.65	6.04	51.44	15.64	32.63
859	100	0	40	40	6.25	10.81	13.37	39.26	-37.34	-13.75
860	20	40	10	10	35.18	31.49	31.28	62.92	17.1	-8.68
861	70	100	40	80	2.25	1.84	2	14.65	10.8	-5.05
862	30	100	55	0	20.22	11.75	7.35	40.81	52.21	8.64
863	55	10	40	0	29.71	37.1	30.01	67.35	-21.54	0.95
864	0	0	70	60	17.16	18.58	5.57	50.19	-4.05	32.67
865	100	30	20	0	10.74	15.59	29.83	46.43	-28.55	-34.84
866	70	100	20	0	10.35	6.98	13	31.76	31.78	-25.66
867	60	45	45	100	1.27	1.35	1.15	11.62	-0.95	-0.51
868	30	0	40	0	50.01	57.97	35.49	80.72	-15.17	15.79
869	0	20	70	20	40.99	39.92	10.73	69.41	7.82	45.94
870	40	40	3	40	14.81	14.07	17.84	44.33	7.73	-16.01
871	0	100	0	80	4.52	2.82	2.36	19.3	28.12	-0.32
872	40	0	70	80	4.96	6.12	2.86	29.71	-11.07	13.63
873	0	90	0	0	35.44	19.3	18.03	51.04	69.19	-4.87
874	40	100	20	0	18.13	10.57	12.71	38.84	50.09	-12.65
875	100	70	20	20	5.52	5.9	13.1	29.16	-1.95	-30.43
876	70	40	10	0	18.76	20.47	33.5	52.36	-4.95	-30.23
877	0	40	40	3	50.88	43.69	22.75	72.02	24.65	21.6
878	70	40	100	60	4.46	5.55	2.31	28.26	-11.29	15.57
879	10	40	100	0	42.29	37.89	5.09	67.94	18.09	65.68
880	60	45	45	20	13.41	14.29	13.1	44.64	-2.32	-3.73
881	0	20	20	0	67.22	63.97	44.2	83.95	12.54	9.9
882	0	0	75	0	71.84	76.35	15.58	90.02	-3.7	68.06
883	85	100	10	0	7.64	5.54	14.8	28.23	24.12	-36.53
884	30	30	85	0	33.93	35.16	8.35	65.87	0.13	47.97
885	0	0	0	7	74.15	76.43	67	90.06	0.93	-3.72
886	10	0	20	20	47.43	50.82	36.79	76.57	-4.32	6.81
887	100	10	100	20	6.16	12.59	5.29	42.14	-50.71	20.18
888	100	70	10	20	5.81	6.02	15	29.46	0.08	-34.92
889	100	70	0	40	4.54	4.57	11.64	25.47	1.82	-32.62
890	0	0	10	10	67.78	70.31	54.04	87.15	-0.04	4.17
891	5	3	3	0	76.65	79.12	69.93	91.29	0.73	-4.28
892	0	2	0	0	83.33	85.16	75.02	93.95	2.34	-4.18
893	100	40	0	60	3.82	4.62	9.87	25.63	-8.92	-26.77
894	40	30	85	0	28.64	31.18	8.34	62.66	-5.43	42.45
895	0	20	20	40	28.72	27.66	19.5	59.58	8.15	6.67
896	100	85	30	0	5.91	5.69	13.21	28.61	4.9	-31.68
897	10	20	20	10	48.03	47.19	35.56	74.31	7.09	4.64
898	40	40	10	20	21.76	20.76	24.67	52.69	8.32	-15.3
899	20	0	100	0	51.87	59.43	7.18	81.53	-13.75	79.52
900	40	0	85	0	37.78	47.52	11.04	74.52	-24.3	53.78
901	70	100	40	40	5.29	3.98	5.09	23.59	19.34	-10.76
902	0	0	98	0	69.69	74.23	7.4	89.03	-4.01	91.57
903	0	100	100	40	13.83	8.07	1.68	34.12	45.71	31.75
904	100	55	30	0	7.98	10.16	19.29	38.13	-15.39	-29.88
905	40	100	70	20	11.64	7.43	4.18	32.77	36.87	10.1
906	0	20	70	60	14.9	14.83	4.73	45.4	3.63	28.77
907	0	40	0	60	14.63	12.64	11.54	42.21	15.76	-3.46

908	40	40	40	3	27.53	27.19	21.26	59.15	5.33	2.3
909	0	0	100	40	29.08	31.43	3.97	62.87	-4.63	63.27
910	100	70	20	60	2.94	3.1	5.67	20.45	-0.88	-19.09
911	55	20	0	0	31.31	34.64	51.52	65.47	-7.49	-30.47
912	100	0	0	100	0.95	1.21	1.87	10.64	-7.57	-10.68
913	70	70	0	0	14.27	12.15	25.35	41.46	16.82	-35.88
914	30	30	55	0	36.13	36.86	19.03	67.17	1.97	20.76
915	3	40	3	0	54.97	46.63	43.45	73.95	26.88	-6.42
916	85	100	70	0	6.13	5.19	5.86	27.27	13.06	-8.21
917	0	20	100	60	14.29	14.36	2.42	44.75	2.76	43.09
918	0	70	20	10	34.49	23.37	17.11	55.45	46.97	4.81
919	70	0	0	80	3.76	4.7	6.88	25.85	-10.89	-15.21
920	40	70	20	60	6.71	5.41	5.76	27.86	16.6	-6.75
921	40	100	40	80	3.09	2.26	1.85	16.79	17.43	0.19
922	20	85	10	0	27.68	16.8	17.56	48.01	53.94	-9.04
923	10	0	0	10	61.12	64.39	61.12	84.17	-2.25	-8.25
924	20	10	100	0	47.31	51.95	6.67	77.25	-7.58	74.32
925	85	30	30	0	13.59	18.44	26.56	50.03	-24.42	-23.21
926	70	70	0	80	2.7	2.43	3.68	17.58	7.13	-13.04
927	0	10	85	0	64.88	65.91	10.26	84.95	3.02	74.24
928	40	100	100	40	7.59	5.18	1.9	27.24	27.91	17.63
929	70	20	70	40	8.56	11.65	6.84	40.65	-21.17	10.48
930	40	0	40	20	28.87	34.96	23.91	65.72	-17.73	8.56
931	20	55	10	0	36.76	29.44	30.01	61.17	29.91	-9.7
932	10	6	6	10	56.69	58.76	52.38	81.16	0.09	-4.36
933	0	10	20	0	73.56	73.32	49.64	88.6	6.01	11.51
934	70	70	100	60	3.63	3.71	1.89	22.69	0.79	9.89
935	40	70	20	40	10.67	8.39	9.28	34.78	21.17	-8.99
936	100	85	40	0	5.64	5.61	11.42	28.41	2.67	-26.87
937	70	10	20	20	16.58	21.55	27.57	53.55	-21.77	-18.86
938	10	40	10	20	33.13	28.95	26.18	60.74	19.43	-4.09
939	100	70	40	40	3.79	4.25	6.84	24.49	-4.48	-17.41
940	0	55	20	0	48.12	36.75	26.79	67.09	38.45	5.8
941	40	40	40	0	29.07	28.67	22.35	60.49	5.56	2.48
942	70	20	20	20	15.25	18.92	24.87	50.59	-16.63	-19.29
943	0	100	20	20	22.95	12.22	8.73	41.57	61.71	4.66
944	85	30	100	0	10.1	16.27	5.99	47.33	-37.29	25.75
945	70	40	30	0	17.32	19.73	24.75	51.53	-8.95	-17.45
946	40	40	0	80	4.47	4.3	5.04	24.63	4.54	-8.71
947	0	0	90	0	70.26	74.8	9.49	89.3	-3.94	84.28
948	85	30	0	0	15.77	19.41	41.47	51.16	-16.07	-43.21
949	0	100	20	40	15.21	8.46	6.14	34.92	50.69	3.68
950	100	10	85	0	8.46	17.51	9.51	48.9	-57.59	14.58
951	10	0	20	10	57.87	61.94	44.64	82.88	-4.45	7.52
952	20	30	20	0	45.76	43.79	36.94	72.09	10.3	-1.11
953	20	10	20	20	37.27	39.57	31.86	69.16	-2.86	1.19
954	0	40	70	20	34.6	30.19	8.66	61.82	19.89	39.82
955	20	70	70	40	12.73	9.78	4.14	37.45	24.23	18.39
956	100	0	70	40	5.42	10.37	7.72	38.49	-43.3	3.14
957	20	30	40	0	43.65	42.41	26.16	71.15	8.28	13.88
958	0	0	70	40	30.27	32.52	8.83	63.77	-4.02	42.57
959	0	100	55	0	32.64	17.23	6.82	48.55	70.25	24.19
960	70	20	70	60	5.44	7.29	4.46	32.45	-17.05	7.9
961	80	65	65	0	9.44	10.32	9.51	38.41	-4.09	-3.52
962	20	0	20	60	15.08	16.65	13.21	47.82	-5.67	1.44
963	70	10	20	10	19.87	25.93	33.37	57.97	-23.52	-20.37
964	70	40	20	0	18.02	20.09	28.86	51.94	-7	-23.78

965	0	20	40	0	64.59	61.97	30.73	82.9	11.2	26.63
966	10	0	0	0	74.51	78.46	74.51	90.99	-2.33	-8.84
967	10	40	85	0	43.03	38.52	7.62	68.4	18.3	55.12
968	100	100	40	80	1.64	1.53	2.01	12.77	4.64	-8.33
969	20	20	85	0	43.93	45.98	9.22	73.53	-1.17	58.04
970	40	100	70	80	3.04	2.31	1.4	17.02	15.58	5.51
971	100	20	100	40	4.34	7.95	3.74	33.87	-37.08	14.66
972	20	10	20	0	55.42	58.69	46.95	81.12	-2.89	1.72
973	70	70	70	0	11.28	10.8	7.99	39.24	6.42	3.42
974	70	20	100	0	16.27	23.52	6.36	55.6	-32.33	38.32
975	10	6	6	60	16.46	17.14	15.21	48.44	-0.39	-2.71
976	100	20	20	20	8.55	12.82	22.97	42.49	-29.16	-29.75
977	0	70	70	0	39.44	27.04	7.86	59.01	47.84	37.98
978	55	100	0	0	14.55	8.76	16.64	35.51	44.18	-28.46
979	20	20	40	10	39.42	40.55	24.53	69.86	1.02	14.55
980	85	70	0	0	10.49	9.74	24.69	37.38	8.64	-41.73
981	100	70	100	40	3.04	3.92	2.61	23.42	-12.02	4.71
982	20	40	40	10	32.65	29.96	19.27	61.62	13.94	10.66
983	0	0	40	60	18.3	19.48	10.04	51.24	-2.47	16.84
984	70	0	20	0	25.69	35.12	44.49	65.84	-31.02	-21.67
985	0	80	0	0	38.56	23.15	21.99	55.23	61.34	-5.89
986	70	70	20	0	13.28	11.66	19.13	40.67	13.95	-25.15
987	100	100	30	0	5.31	4.54	11.47	25.37	11.94	-32.27
988	30	70	0	0	28.3	20.39	26.57	52.28	37.97	-19.36
989	20	70	70	0	28.45	20.72	7.81	52.64	37	27.19
990	30	100	70	0	19.78	11.6	5.42	40.57	51.03	16.86
991	40	0	3	0	47.89	54.88	64.63	78.97	-13.38	-20.61
992	70	70	100	0	10.51	10.39	4.14	38.53	3.8	20.25
993	55	10	55	0	28.25	36.1	22.15	66.6	-23.96	13.4
994	100	40	100	20	5.04	8.53	4.33	35.06	-33.18	13.16
995	0	10	70	20	44.42	45.36	11.81	73.13	1.98	49.05
996	85	85	30	0	7.95	6.87	13.29	31.5	12.84	-26.93
997	0	40	10	0	56.58	47.85	39.44	74.73	27.53	0.06
998	70	70	20	40	6.73	6.03	9.13	29.49	9.79	-17.58
999	100	20	0	20	9.58	13.24	30.52	43.13	-23.3	-41.61
1000	70	40	0	10	16.37	17.46	32.16	48.84	-2.64	-34.29
1001	20	70	85	0	27.82	20.36	5.26	52.24	36.24	37.76
1002	0	100	40	0	33.06	17.28	8.92	48.61	71.46	16.14
1003	20	0	70	60	13.41	15.5	5.51	46.31	-9.53	26.27
1004	100	100	70	20	3.53	3.46	4.47	21.79	3.17	-10.5
1005	70	20	0	10	19.66	23.29	40.45	55.37	-13.32	-34.64
1006	30	85	20	0	23.33	14.75	15.34	45.29	47.4	-8.46
1007	55	55	55	0	18.52	17.96	13.65	49.45	6.39	3.07
1008	55	10	70	0	26.91	35.07	15.28	65.8	-25.83	27.04
1009	85	55	0	0	12.32	12.98	30.49	42.73	-1.3	-42.26
1010	0	0	40	3	72.55	76.35	36.28	90.02	-2.22	30.71
1011	0	0	40	40	32.33	34.27	17.09	65.18	-2.54	21.64
1012	0	20	40	10	52.94	50.92	25.56	76.63	10.17	24.38
1013	40	10	100	0	33.67	40.76	6.73	70.01	-18.64	61.54
1014	100	85	0	0	6.8	5.87	19.54	29.09	12.22	-46
1015	70	0	100	40	9.22	14.36	4.18	44.75	-33.19	30.74
1016	70	20	40	40	9.48	12.21	12.07	41.55	-17.27	-6.16
1017	0	15	0	0	73.58	70.95	64.15	87.46	10.97	-5.52
1018	10	40	40	20	31.16	27.77	16.23	59.68	16.91	14.18
1019	40	0	40	70	7.8	9.37	6.65	36.68	-10.8	4.43
1020	40	85	55	0	18.59	12.6	8.87	42.15	38.18	5.15
1021	40	20	100	60	8.26	9.68	2.53	37.27	-9.2	29.25

1022	55	30	10	0	27.46	29.44	39.53	61.17	-3.65	-23.44
1023	70	30	100	0	15.03	20.48	5.91	52.38	-25.64	34.84
1024	40	0	100	80	4.56	5.73	1.7	28.73	-12	22.34
1025	40	100	100	20	11.1	7.18	2.4	32.22	35.36	21.66
1026	20	85	0	0	28.25	17.02	20.1	48.28	55	-14.07
1027	40	100	10	20	13.1	7.81	10.44	33.58	43.31	-14.92
1028	55	40	100	0	19.21	21.63	5.36	53.63	-8.09	39.67
1029	100	100	55	0	4.71	4.37	7.83	24.86	6.6	-20.76
1030	85	55	100	0	8.24	11.05	4.89	39.66	-19.64	17.99
1031	20	85	55	0	25.93	16.28	8.69	47.34	49.73	14.77
1032	20	100	40	40	11.26	6.78	4.78	31.31	40.48	4.21
1033	70	20	20	40	10.2	12.56	16.21	42.1	-13.93	-16.08
1034	20	100	70	0	23.37	13.2	5.27	43.06	57.18	21.89
1035	0	100	70	60	8.78	5.38	2.07	27.8	36.18	16.94
1036	3	40	3	40	23.94	20.64	19.04	52.55	18.77	-4.47
1037	100	40	40	60	3.23	4.37	5.92	24.85	-14.82	-12.66
1038	0	10	40	0	70.41	70.78	34.3	87.38	4.65	28.98
1039	20	0	70	0	54.35	61.88	17.77	82.85	-13.04	50.55
1040	100	85	85	0	4.47	5.1	4.77	27.01	-5.79	-3.18
1041	20	20	0	40	23.53	23.35	24.72	55.43	4.57	-10.66
1042	40	40	20	10	25.49	24.6	25.73	56.68	7.64	-10.31
1043	0	0	40	10	62.98	66.38	31.84	85.19	-2.34	28.87
1044	70	100	20	40	5.58	4.05	6.56	23.82	21.81	-17.32
1045	70	55	70	0	12.98	14.29	9.58	44.64	-5.11	7
1046	20	70	100	60	7.53	6.08	1.73	29.61	17.11	23.49
1047	70	40	20	20	12.7	14.1	19.96	44.38	-5.88	-20.51
1048	40	40	30	0	29.88	29.13	26.5	60.9	6.89	-4.37
1049	85	0	70	0	14.01	25.08	15.56	57.15	-52.45	11.43
1050	0	20	20	10	55.17	52.64	36.53	77.66	11.4	9.05
1051	40	40	100	100	1.38	1.53	0.8	12.77	-2.55	7
1052	10	55	55	0	39.3	31.38	14.06	62.83	30.92	25.05
1053	70	40	100	80	2.58	3.2	1.52	20.84	-9.18	10.74
1054	40	30	30	0	32.98	34.21	30.06	65.13	-0.02	-2.96
1055	0	3	3	3	77.28	78.81	66.95	91.15	2.59	-1.79
1056	20	70	40	0	29.94	21.46	14.56	53.45	39.22	7.57
1057	40	40	0	3	31.33	29.47	39.74	61.19	11.04	-23.68
1058	0	10	40	20	47.05	47.52	23.64	74.52	3.46	24.22
1059	40	70	0	0	24.33	18.14	26.34	49.66	32.93	-23.47
1060	0	40	3	0	57.26	48.26	43.81	74.99	28.08	-5.07
1061	100	85	20	0	6.2	5.76	15.13	28.8	7.22	-36.38
1062	100	70	100	20	3.92	5.2	3.36	27.31	-14.69	5.86
1063	100	70	20	40	4.13	4.39	8.93	24.92	-1.49	-24.76
1064	40	0	70	40	17.22	21.56	8.51	53.56	-18.27	26.13
1065	0	70	0	60	11.37	8.08	7.52	34.15	29	-3.55
1066	0	70	100	40	16.71	12.14	2.2	41.43	31.24	39.23
1067	20	55	0	0	38	30.23	34.84	61.85	31.01	-15.82
1068	100	100	20	40	3.48	3	6.71	20.06	9.81	-24.46
1069	85	100	85	0	5.74	4.99	4.21	26.71	11.12	-0.56
1070	100	70	70	80	1.66	1.93	1.87	15.14	-5.2	-2.93
1071	70	20	10	20	15.84	19.17	28.88	50.89	-14.49	-25.62
1072	70	70	40	0	12.4	11.28	14.19	40.05	10.76	-14.57
1073	20	70	70	10	23.51	17.32	6.72	48.66	33.66	24.78
1074	70	30	70	0	16.35	21.48	12.38	53.47	-22.67	13.5
1075	20	0	70	10	44.5	50.84	15.04	76.58	-12.65	46.23
1076	0	100	70	40	14.44	8.33	2.88	34.66	47.17	21.98
1077	40	85	0	0	20.97	13.48	20.22	43.48	44.33	-22.6
1078	20	20	20	60	12.59	12.86	10.67	42.55	1.29	-0.18

1079	100	100	0	60	2.81	2.34	5.5	17.19	10.82	-23.85
1080	85	40	10	0	13.64	16.37	32.02	47.46	-13.02	-36.46
1081	0	30	85	0	54.84	50.34	8.56	76.28	16.5	65.13
1082	70	0	40	0	23.52	33.87	31.36	64.86	-36.11	-5.45
1083	20	55	100	0	31.27	26.17	4.42	58.2	23.68	52.53
1084	7	0	7	7	66.27	69.72	58.89	86.86	-2.1	-1.38
1085	0	0	10	0	82.78	85.78	65.6	94.22	0.12	4.76
1086	40	20	55	0	33.81	38.07	20.83	68.07	-9.79	18.56
1087	40	20	0	60	10.6	11.1	13.55	39.75	-0.79	-13.41
1088	0	40	0	20	38.98	33.05	31.12	64.2	24.02	-6.22
1089	10	20	100	0	50.61	50.94	6.12	76.64	4.01	75.71
1090	0	0	70	20	48.25	51.53	12.97	77	-3.91	52.42
1091	0	95	0	0	34.18	17.81	16.49	49.27	72.54	-4.39
1092	70	40	40	0	16.65	19.37	21	51.12	-10.87	-11.01
1093	0	10	20	10	60.31	60.24	40.99	81.97	5.32	10.52
1094	20	55	85	0	31.8	26.57	6.39	58.57	24.03	43.31
1095	40	100	40	20	12.3	7.63	6.95	33.21	39.61	-2.84
1096	100	10	30	0	11.98	20.06	31	51.91	-43.19	-27.23
1097	20	30	10	0	47.01	44.57	43.22	72.61	11.58	-8.44
1098	55	55	40	0	19.35	18.41	17.94	49.99	8.29	-6.49
1099	55	20	10	0	30.23	34.12	44.45	65.06	-9.73	-22.97
1100	0	70	70	40	17.41	12.56	4.19	42.09	32.22	26.11
1101	10	70	30	0	35.58	24.62	17.28	56.7	45.28	6.57
1102	40	70	40	0	21.71	16.77	14.47	47.97	28.45	-1.64
1103	10	100	20	0	28.88	15.27	12.21	46	67.29	1.11
1104	40	0	40	100	1.52	1.78	1.37	14.3	-5.36	1.16
1105	100	30	100	0	7.08	13.43	6.05	43.41	-46.68	18.72
1106	70	40	20	10	15.16	16.89	24.08	48.12	-6.5	-22.11
1107	0	100	40	80	4.39	2.88	1.71	19.54	25.34	6.31
1108	20	20	55	0	46.43	48.09	21.56	74.88	0.18	28.84
1109	3	3	40	3	67.85	71.15	34.91	87.56	-1.64	28.41
1110	70	0	20	20	17.94	24.39	30.52	56.48	-26.96	-18.59
1111	0	0	3	0	84.32	87.05	73.33	94.76	0.72	-1.32
1112	30	20	40	0	41.22	43.87	28.83	72.14	-3.25	11.1
1113	40	40	100	60	7.09	7.52	2.22	32.96	-1.52	24.5
1114	0	10	40	10	57.71	58.18	28.58	80.84	3.95	26.51
1115	0	55	70	0	44.96	34.96	9.89	65.72	35.47	42.29
1116	3	40	40	3	48.7	42.16	22.58	70.98	23.27	20.13
1117	100	85	10	0	6.5	5.82	17.24	28.96	9.7	-41.16
1118	70	100	20	20	7.72	5.39	9.44	27.81	26.64	-21.54
1119	0	3	40	0	74.99	77.83	37.09	90.7	-0.11	30.76
1120	10	55	0	0	43.38	33.61	35.35	64.65	35.5	-11.71
1121	0	20	70	10	50.07	48.6	12.7	75.2	8.78	50.05
1122	10	0	100	0	60.2	66.42	7.12	85.21	-8.91	86.14
1123	70	20	100	40	7.95	11.21	3.67	39.94	-23.52	25.61
1124	10	40	40	0	46.29	40.85	23.4	70.07	20.52	17
1125	40	70	40	10	18.11	14.12	12.23	44.4	26.02	-1.7
1126	100	55	40	0	7.57	9.98	16.49	37.81	-17.86	-24.16
1127	85	20	0	0	17.27	22.33	46.33	54.38	-21.5	-43.65
1128	100	20	70	60	3.27	5.35	4.35	27.71	-26.56	0.38
1129	85	70	55	0	8.27	8.82	10.83	35.63	-2.04	-12.63
1130	40	20	10	0	38.71	41.21	46.46	70.32	-3.21	-16.32
1131	10	0	10	10	59.42	63.13	52.44	83.51	-3.44	-0.38
1132	100	70	55	0	6.06	7.33	10.7	32.54	-10.46	-17.55
1133	10	0	10	20	48.62	51.73	42.98	77.12	-3.41	-0.36
1134	20	100	0	20	17.86	9.84	11.57	37.55	54.19	-11.57
1135	100	0	10	20	10.58	16.67	32.16	47.84	-35.83	-36.02

1136	70	85	10	0	11.86	8.85	17.6	35.69	25.84	-30.38
1137	70	0	85	0	19.59	30.84	10.69	62.37	-43.88	33.92
1138	0	70	40	40	18.1	12.87	7.2	42.56	33.89	12.27
1139	0	0	60	0	73.82	78.2	24.02	90.87	-3.24	51.71
1140	40	100	0	40	9.26	5.66	8.12	28.54	36.98	-15.54
1141	40	70	0	20	16.96	12.82	18.44	42.49	28.02	-20.52
1142	40	85	70	0	18.07	12.38	6.46	41.82	36.89	14.15
1143	55	30	0	0	28.49	29.98	45.79	61.64	-1.63	-30.49
1144	70	10	20	0	23.74	31.05	40.24	62.55	-25.2	-21.99
1145	100	20	100	20	5.82	11.21	5	39.94	-44.96	17.9
1146	85	55	40	0	10.21	12.01	16.94	41.23	-10.16	-19.3
1147	40	30	0	0	36.5	36.32	47.77	66.76	4.97	-24
1148	0	55	100	0	43.18	33.63	4.28	64.67	34.81	64.48
1149	40	100	0	60	6	3.85	5.13	23.17	29.32	-11.7
1150	70	70	70	20	8.2	7.89	5.87	33.75	5.43	2.93
1151	20	10	10	0	56.97	59.76	55.24	81.71	-1.6	-6.49
1152	10	10	40	0	61.11	63.53	33.56	83.72	-0.34	23.75
1153	0	10	70	0	66.44	67.37	16.54	85.69	3.32	58.28
1154	40	85	100	0	17.28	12	3.35	41.22	35.28	29.95
1155	55	30	40	0	24.72	27.89	24.39	59.79	-9.05	-2.55
1156	30	100	40	0	20.66	11.85	9.43	40.98	53.6	1.18
1157	100	100	40	0	5.08	4.49	9.95	25.23	9.68	-27.71
1158	20	85	40	0	26.48	16.46	11.31	47.57	50.99	6.5
1159	40	0	70	0	39.06	48.69	17.23	75.26	-23.41	38.7
1160	20	0	20	10	50.43	55.49	43.41	79.32	-8.02	2.9
1161	40	40	0	20	22.73	21.42	28.75	53.41	9.71	-21.06
1162	40	55	40	0	25.1	22.21	18.26	54.25	16.46	0.15
1163	3	3	40	0	71.96	75.38	36.8	89.57	-1.51	29.21
1164	20	70	0	40	14.99	10.86	12.42	39.35	30.29	-10.95
1165	100	20	40	20	7.63	12.35	16.73	41.77	-34.39	-17.88
1166	85	20	85	0	11.37	19.02	8.94	50.71	-42.38	19.66
1167	100	100	70	40	2.83	2.79	3.34	19.19	2.62	-8.02
1168	20	55	30	0	35.04	28.5	22.05	60.34	27.75	2.8
1169	55	85	10	0	15.85	10.94	17.69	39.48	34.74	-24.05
1170	100	10	70	0	9.28	18.26	13.93	49.81	-54.53	2.94
1171	0	40	40	60	13.61	12.12	6.77	41.41	12.86	12.1
1172	70	10	100	20	12.49	18.81	5.25	50.47	-33.49	34.78
1173	30	85	85	0	20.9	13.8	4.41	43.95	41.94	28.02
1174	70	0	100	20	13.42	21.24	5.61	53.21	-39.17	37.72
1175	40	10	85	0	34.49	41.55	10.06	70.56	-18.16	50.07
1176	0	0	25	0	79.72	83.26	50.89	93.13	-1.11	17.92
1177	70	70	100	20	7.58	7.56	3.26	33.06	2.73	16.5
1178	70	40	70	10	12.6	15.47	9.6	46.27	-14.7	9.74
1179	0	20	0	0	70.19	66.11	60.34	85.05	14.22	-5.96
1180	10	10	20	20	42.93	44.27	32.69	72.41	0.71	5.54
1181	30	0	30	0	51.43	59	42.85	81.29	-13.85	6.99
1182	40	55	70	0	23.35	21.2	9.68	53.17	13.53	21.35
1183	100	10	0	0	14.45	21.11	49.11	53.07	-32.1	-49.14
1184	10	6	6	100	1.89	1.98	1.67	15.4	-0.47	-0.4
1185	70	55	55	0	13.65	14.64	13.39	45.14	-2.97	-3.66
1186	100	100	85	0	3.94	3.98	4.18	23.59	1.5	-5.75
1187	10	20	0	0	61.65	59.4	58.75	81.51	10.45	-10.46
1188	10	10	70	0	57.48	60.45	16.25	82.08	-1.96	52.75
1189	85	30	70	0	11.22	17.09	12.09	48.37	-33.34	5.55
1190	100	100	20	60	2.6	2.29	4.37	16.96	7.95	-18.27
1191	55	85	0	0	16.3	11.12	20.22	39.78	36.01	-28.98
1192	100	20	85	0	7.98	15.62	8.87	46.47	-51.36	12.62

1193	0	70	100	0	37.75	25.94	3.54	57.98	46.89	57.54
1194	100	40	70	20	5.6	8.86	7.89	35.71	-29.27	-2.31
1195	40	100	100	0	15.95	9.89	2.98	37.65	43.25	26.39
1196	40	70	30	0	22.22	16.99	16.96	48.25	29.6	-7.26
1197	10	10	0	10	55.67	56.2	54.42	79.73	3.71	-9.03
1198	100	0	70	60	3.68	6.67	5.05	31.05	-34.39	2.31
1199	40	20	30	0	36.31	39.75	33.73	69.29	-6.57	-1.37
1200	40	10	40	10	32.01	37.19	26.09	67.42	-13.36	7.57
1201	0	70	20	40	18.54	13	9.61	42.77	35.28	3.65
1202	55	70	100	0	14.62	12.81	4.04	42.48	14.58	27.68
1203	70	70	20	60	4.46	4.05	5.73	23.84	7.82	-13.51
1204	10	30	70	0	48.21	45.78	13.29	73.4	11.51	45.33
1205	100	0	85	0	8.92	19.52	10.18	51.29	-63.91	16.46
1206	10	85	10	0	31.91	18.81	17.44	50.47	59.33	-4.52
1207	0	30	20	0	61.2	55.22	38.9	79.17	19.48	8.43
1208	3	3	0	3	74.9	76.74	69.35	90.2	1.87	-5.63
1209	30	0	55	0	48.06	56.49	25.69	79.89	-16.89	29.78
1210	70	85	40	0	10.83	8.52	11.53	35.04	21.28	-15.77
1211	85	85	55	0	7.22	6.64	9.01	30.98	8.2	-14.59
1212	0	40	40	70	9.55	8.63	4.91	35.27	10.34	10.34
1213	20	85	85	0	24.73	15.71	4.3	46.59	47.88	33.19
1214	10	30	40	0	50.87	47.75	26.66	74.67	13.21	19.09
1215	3	40	0	40	24.18	20.82	19.89	52.75	18.98	-5.94
1216	0	20	20	60	16.42	15.93	11.31	46.88	6.1	5.29
1217	10	30	20	0	52.95	49.16	37.77	75.55	14.84	3.71
1218	100	40	100	40	3.77	6.11	3.26	29.68	-27.18	10.63
1219	20	12	12	20	37.38	39.03	35.27	68.77	-0.82	-4.5
1220	100	20	70	0	8.68	16.17	12.9	47.2	-48.34	1.24
1221	85	0	55	0	15.21	26.03	22	58.07	-49.1	-1.01
1222	100	40	55	0	8.04	12.49	14.95	41.99	-31.56	-13.18
1223	85	70	30	0	9.16	9.16	16.22	36.29	2.73	-26.13
1224	0	20	40	20	43.35	41.8	21.2	70.73	9.19	22.4
1225	85	30	85	0	10.55	16.62	8.25	47.78	-35.73	17.14
1226	0	10	0	0	77.13	76.07	68.11	89.89	7.72	-5.04
1227	70	70	100	80	2.22	2.31	1.31	17.05	-0.28	6.77
1228	100	10	20	0	12.77	20.45	36.46	52.34	-39.73	-34.5
1229	20	12	12	100	1.75	1.85	1.58	14.69	-0.77	-0.62
1230	30	40	55	0	32.83	31.44	16.87	62.88	9.13	18.17
1231	100	100	70	80	1.53	1.5	1.56	12.63	2.37	-3.89
1232	100	100	100	100	0.98	1.01	0.81	9.05	0.2	0.39
1233	40	20	70	10	26.88	30.68	12.08	62.24	-10.62	29.48
1234	55	55	70	0	17.76	17.52	9.64	48.91	4.7	14.13
1235	30	85	40	0	22.51	14.48	11.38	44.91	45.33	1.7
1236	10	10	100	0	55.13	58.22	6.61	80.86	-2.5	80.79
1237	0	3	3	0	81.95	83.52	70.83	93.24	2.75	-1.73
1238	40	70	100	80	3.26	2.96	1.23	19.88	6.99	12.61
1239	40	40	70	10	22.3	22.68	9.84	54.74	1.98	23.51
1240	100	20	0	0	13.29	18.61	44.43	50.23	-27.18	-48.51
1241	30	30	40	0	37.48	37.77	25.7	67.85	3.47	9
1242	10	85	20	0	31.63	18.81	15.22	50.47	58.34	0.77
1243	10	40	0	20	34.3	29.79	30.6	61.47	20.36	-10.12
1244	100	55	20	0	8.44	10.35	22.33	38.47	-12.81	-35.44
1245	0	10	10	10	61.82	61.41	48.17	82.6	6.15	2.85
1246	40	0	10	0	46.75	54.15	57.97	78.55	-14.75	-14.77
1247	20	100	0	40	12.1	6.94	8.02	31.68	44.79	-9.75
1248	10	0	70	10	51.5	56.72	15.21	80.02	-8.19	51.73
1249	70	10	0	10	21.48	26.59	44.93	58.59	-18.4	-34.71

1250	30	55	20	0	30.82	25.72	25.41	57.77	23.88	-7.87
1251	10	70	10	10	30.23	20.8	19.44	52.73	43.44	-5.03
1252	70	0	100	80	3.02	4.44	1.76	25.08	-19.51	15.39
1253	20	40	10	0	42.63	38	37.64	68.02	18.75	-9.09
1254	100	0	40	80	2.18	3.4	4.03	21.57	-20.61	-8.32
1255	20	40	20	20	27.99	25.37	22.01	57.43	14.57	-2.14
1256	55	70	10	0	18.32	14.63	22.49	45.13	23.93	-24.27
1257	20	85	30	0	26.83	16.55	13.22	47.69	51.89	1.18
1258	10	10	10	0	65.72	67.07	56.87	85.54	2.36	-1.59
1259	0	0	10	20	55.4	57.54	44.23	80.48	-0.19	3.88
1260	10	100	85	0	26.76	14.69	3.53	45.2	62.36	35.57
1261	0	40	0	100	1.86	1.7	1.36	13.85	5.53	0.62
1262	20	70	100	0	27.34	20.06	3.72	51.91	35.77	45.92
1263	55	40	55	0	21.4	23.16	16.33	55.24	-4.34	6.29
1264	70	55	20	0	15.5	15.55	23.8	46.38	3	-24.59
1265	70	40	20	40	8.65	9.56	13.16	37.04	-4.82	-17.02
1266	100	30	10	0	11.41	15.88	34.58	46.82	-25.27	-41.35
1267	30	85	70	0	21.42	14.06	6.36	44.32	42.81	18.88
1268	0	20	100	0	58.76	57	6.07	80.18	9.35	82.04
1269	10	6	6	80	7.12	7.43	6.51	32.77	-0.41	-1.68
1270	70	55	85	0	12.44	13.97	6.56	44.19	-6.82	17.78
1271	20	0	100	60	12.77	14.94	2.82	45.55	-10.43	41.25
1272	30	40	40	0	34.01	32.2	22.68	63.51	10.57	7.05
1273	100	40	20	40	5.17	6.78	12.44	31.3	-15.37	-24.89
1274	3	0	3	40	34.38	35.82	30.94	66.38	-0.53	-2.19
1275	40	40	20	0	30.75	29.63	30.98	61.33	8.29	-10.95
1276	40	40	10	0	31.82	30.26	36.11	61.88	9.83	-17.57
1277	40	0	20	60	11.63	13.65	12.61	43.73	-10.42	-3.94
1278	20	20	40	20	32.19	33.18	20.23	64.31	0.7	13.29
1279	70	0	70	80	3.17	4.53	2.8	25.36	-18.06	6.59
1280	0	0	55	0	74.54	78.84	27.25	91.16	-3.01	46.52
1281	0	25	0	0	66.75	61.26	56.48	82.52	17.67	-6.39
1282	55	85	100	0	12.99	9.82	3.49	37.52	25.64	22.59
1283	85	20	55	0	13.08	20.27	18.65	52.14	-36.77	-4.34
1284	70	20	100	60	5.12	7.09	2.61	32.01	-19.02	19.52
1285	0	70	10	10	34.83	23.43	19.76	55.51	47.86	-0.9
1286	20	100	100	0	22.37	12.73	2.7	42.36	55.68	36.63
1287	5	0	0	0	79.58	82.9	75.67	92.97	-0.68	-6.43
1288	85	30	55	0	12.04	17.59	17.02	49	-30.29	-6.09
1289	70	70	70	80	2.32	2.32	1.76	17.09	1.76	1.57
1290	30	30	100	0	33.29	34.61	5.72	65.44	-0.26	58.26
1291	3	40	3	3	51.94	44.12	41.19	72.31	26.19	-6.39
1292	40	27	27	20	23.31	24.54	22.36	56.62	-1.52	-4.22
1293	0	0	40	0	77.02	81	38.29	92.13	-2.16	31.6
1294	0	0	100	100	1.87	2.14	0.85	16.19	-4.31	11.95
1295	55	85	40	0	14.66	10.51	11.52	38.75	30.89	-9.36
1296	70	100	70	40	4.85	3.83	3.25	23.1	16	-0.61
1297	0	30	0	0	63.58	56.79	52.79	80.06	21.14	-6.71
1298	40	3	3	3	43.98	49.82	59.19	75.96	-11.5	-20.48
1299	10	40	70	0	44.04	39.32	11.85	68.98	18.76	41.79
1300	10	85	85	0	29.12	17.9	4.19	49.37	53.69	38.62
1301	30	20	55	0	39.74	42.82	21.2	71.43	-4.76	23.59
1302	3	40	0	3	52.29	44.39	43.02	72.49	26.33	-8.4
1303	100	0	70	80	2.06	3.47	2.72	21.84	-24.34	1.1
1304	0	0	70	0	72.47	76.93	18.19	90.29	-3.55	62.44
1305	85	0	40	0	16.51	26.88	29.7	58.86	-45	-13.19
1306	40	55	30	0	25.76	22.54	21.55	54.6	17.7	-6.12

1307	40	70	85	0	19.78	15.79	5.39	46.7	24.65	27.54
1308	10	70	20	20	24.63	17.26	14.08	48.58	38.9	0.41
1309	70	100	30	0	10.1	6.94	11.37	31.67	30.23	-21.11
1310	40	40	40	10	24.13	23.88	18.75	55.97	4.89	2.05
1311	0	100	10	20	23.07	12.15	9.96	41.46	62.73	0.23
1312	100	0	20	60	4.42	6.94	10.85	31.66	-26.5	-19.53
1313	0	40	0	80	6.52	5.78	5.11	28.86	10.34	-1.77
1314	40	40	0	0	33.12	31.12	41.97	62.61	11.35	-24.11
1315	10	55	70	0	38.4	30.83	9.78	62.36	30.12	36.87
1316	20	0	55	0	56.13	63.43	26.24	83.67	-12.11	35.34
1317	40	85	10	0	20.44	13.27	17.68	43.16	43.15	-17.68
1318	0	100	100	20	20.94	11.62	2.03	40.61	56.54	39.47
1319	30	20	85	0	37.35	40.85	9.2	70.07	-6.51	52.13
1320	40	70	10	20	16.37	12.49	15.97	41.98	26.97	-15.71
1321	40	20	70	0	32.53	37.08	14.23	67.34	-11.16	32.36
1322	40	20	10	20	26.34	28.03	31.53	59.92	-2.81	-14.23
1323	70	10	10	10	20.76	26.38	38.95	58.4	-21.03	-27.45
1324	0	70	0	10	35.11	23.47	22.54	55.55	48.65	-6.41
1325	25	0	0	0	60.65	66.22	71.12	85.11	-7.4	-16
1326	20	20	20	0	50.44	50.95	41.88	76.65	3.52	0.21
1327	30	10	20	0	47.91	52.35	45.71	77.49	-6.95	-3.06
1328	30	0	20	0	52.97	60.08	51.03	81.88	-12.4	-1.63
1329	55	0	100	0	27.23	38.01	7.3	68.03	-34.15	55.75
1330	20	70	40	10	24.76	17.94	12.31	49.42	35.84	6.73
1331	70	0	100	60	5.88	8.96	2.95	35.9	-26.85	23.63
1332	10	30	55	0	49.5	46.78	19.54	74.05	12.21	31.53
1333	40	10	20	10	34.05	38.52	36.74	68.4	-10.37	-7.2
1334	70	70	40	40	6.35	5.92	6.99	29.21	7.01	-9.89
1335	55	30	20	0	26.49	28.91	33.93	60.7	-5.58	-16.48
1336	40	40	0	10	27.46	25.85	34.84	57.89	10.46	-22.64
1337	20	30	70	0	41.09	40.55	13.1	69.86	6.17	39.73
1338	30	70	20	0	26.6	19.43	19.81	51.19	35.9	-8.46
1339	40	30	55	0	30.75	32.78	18.74	63.98	-3.14	15.88
1340	100	0	70	0	9.92	20.56	15.06	52.46	-60.77	4.59
1341	55	10	85	0	25.81	34.11	9.97	65.05	-27.13	40.86
1342	30	0	10	0	54.56	61.17	59.81	82.47	-10.88	-9.88
1343	40	70	0	60	7.23	5.68	7.5	28.59	18.6	-13.04
1344	40	70	70	40	9.46	7.86	4.18	33.69	16.44	11.66
1345	100	0	0	70	3.62	5.19	9.95	27.28	-19.13	-24.19
1346	40	10	20	20	27.96	31.62	30.18	63.03	-9.7	-6.77
1347	10	6	6	40	29.15	30.31	26.99	61.92	-0.29	-3.46
1348	100	10	0	20	10.39	15.03	33.7	45.67	-27.89	-42.05
1349	85	40	70	0	10.3	14.67	11.01	45.18	-26.43	3.29
1350	20	0	40	0	58.25	65.11	36.44	84.54	-10.68	21.05
1351	55	20	100	0	23	29.23	6.31	60.98	-21.7	47.85
1352	70	70	20	10	11.3	9.97	16.1	37.78	12.89	-23.28
1353	40	0	70	20	26.54	33.21	12.37	64.33	-21.01	32.25
1354	40	0	10	20	31.74	36.82	39.18	67.14	-13.11	-12.68
1355	40	40	3	0	32.72	30.85	40.17	62.38	10.91	-22.19
1356	20	100	0	0	25.48	13.56	16.03	43.6	63.95	-13.07
1357	55	20	70	0	24.66	30.64	13.95	62.2	-19.67	24.25
1358	40	70	55	0	21.01	16.46	11.08	47.57	26.89	7.2
1359	0	70	40	10	33.81	23.16	12.49	55.24	45.52	16.23
1360	100	70	70	20	4.37	5.44	5.87	27.95	-11.15	-7.1
1361	40	100	70	40	7.99	5.36	3.09	27.74	29.45	8.52
1362	40	100	10	0	18.47	10.62	14.47	38.94	51.44	-17.23
1363	10	0	30	0	68.75	73.99	45.26	88.92	-5.55	17.19

1364	20	20	100	40	18.58	19.85	3.53	51.67	-2.89	46.74
1365	0	20	20	20	45.24	43.27	30.2	71.74	10.34	8.22
1366	30	20	30	0	42.36	44.66	34.62	72.67	-2.1	3.16
1367	10	70	55	0	34.38	24.11	11.04	56.2	43.36	22.18
1368	40	27	27	80	4.46	4.73	4.22	25.94	-1.31	-1.94
1369	40	0	40	0	42.48	51.35	34.57	76.89	-19.94	10.51
1370	40	20	20	60	9.78	10.58	10.24	38.87	-3.3	-5.16
1371	10	30	85	0	47.09	44.83	8.46	72.78	11.09	59.46
1372	40	20	70	20	22.11	25.28	10.21	57.35	-10.14	26.8
1373	10	20	40	20	37.4	37.26	20.68	67.47	4.87	17.82
1374	10	10	20	0	64.05	65.85	48.25	84.92	1.26	6.76
1375	10	55	20	0	41.56	32.57	26.17	63.81	33.69	1.21
1376	70	55	100	0	12.08	13.74	4.77	43.86	-7.86	25.87
1377	100	40	30	0	9.21	13.07	22.9	42.87	-25.17	-28.95
1378	85	85	20	0	8.26	6.95	15.25	31.7	14.79	-31.68
1379	0	70	70	20	26.81	18.77	5.8	50.42	40.04	31.99
1380	100	70	100	60	2.28	2.85	1.96	19.45	-9.39	3.6
1381	20	30	85	0	40.08	39.71	8.39	69.26	5.66	53.65
1382	55	40	20	0	23.99	24.64	29.97	56.72	1.03	-17.32
1383	55	40	30	0	23.18	24.2	25.69	56.29	-0.68	-10.92
1384	100	100	0	20	4.85	3.82	12.25	23.07	16.18	-38.55
1385	0	70	20	20	28.51	19.5	14.33	51.27	43.15	4.39
1386	3	0	0	0	81.72	84.76	76.16	93.78	-0.02	-5.45
1387	0	7	0	0	79.43	79.41	70.67	91.42	5.69	-4.72
1388	100	10	100	0	7.8	16.8	6.73	48.01	-59.66	23.64
1389	100	0	0	80	2.47	3.44	6.29	21.74	-15.31	-19.73
1390	100	0	70	20	7.47	14.91	10.99	45.51	-51.97	3.91
1391	10	70	70	0	33.6	23.68	7.81	55.77	42.5	32.61
1392	0	70	10	0	42.12	28.09	23.56	59.97	51.94	-0.71
1393	80	65	65	80	2.09	2.25	1.96	16.76	-1.8	-1.05
1394	40	0	0	10	39.91	45.53	55.63	73.24	-12.02	-21.5
1395	70	10	70	0	19.27	28.21	14.82	60.08	-35.6	18.33
1396	0	40	40	20	36.38	31.48	16.64	62.91	21.16	18.76
1397	85	40	55	0	11	15.06	15.38	45.72	-23.51	-7.82
1398	55	0	70	0	29.3	39.93	16.76	69.42	-32.02	29.71
1399	40	20	85	0	31.48	36.2	9.18	66.67	-12.03	46.35
1400	80	65	65	100	1.08	1.15	0.96	10.21	-1.09	-0.2
1401	70	20	70	0	17.83	24.81	13.6	56.89	-29.32	16.03
1402	55	0	20	0	34.79	43.69	47.04	72.02	-23.44	-14.07
1403	20	0	100	40	22.16	25.75	4.06	57.8	-11.85	53.93
1404	30	40	20	0	35.75	33.22	31.59	64.34	12.9	-6.7
1405	10	10	100	20	36.95	39.34	5.01	69	-3.2	67.95
1406	70	0	20	10	21.46	29.27	36.84	61.02	-28.98	-20.06
1407	85	55	10	0	11.73	12.7	26.53	42.31	-3.57	-36.48
1408	20	70	20	0	30.89	21.82	19.87	53.84	41.11	-4.02
1409	0	20	10	10	56.42	53.52	42.84	78.18	12.25	1.64
1410	100	40	0	80	2.16	2.54	4.67	18.12	-6.07	-17.97
1411	100	30	0	0	12.15	16.2	39.87	47.24	-21.89	-47.9
1412	70	0	70	60	6.27	9.21	5.25	36.39	-24.8	10.48
1413	20	10	10	20	38.3	40.27	37.27	69.66	-1.67	-5.76
1414	20	70	70	60	7.8	6.21	2.82	29.93	18.31	14.27
1415	10	10	0	20	45.61	46.08	44.59	73.6	3.39	-8.42
1416	70	40	0	40	9.36	9.93	17.43	37.72	-1.79	-26.49
1417	70	40	40	80	2.81	3.23	3.27	20.94	-5.32	-4.5
1418	0	40	3	3	54.09	45.65	41.52	73.32	27.36	-5.07
1419	85	10	55	0	14.13	23.04	20.28	55.11	-42.88	-2.67
1420	30	30	10	0	40.7	39.79	42.21	69.32	7.32	-12.84

1421	100	70	40	60	2.73	3.02	4.46	20.14	-3.29	-13.3
1422	20	70	100	40	12.35	9.58	2.29	37.07	23.29	30.93
1423	55	40	85	0	19.71	22.01	7.57	54.04	-7.36	30.55
1424	10	10	70	10	47.12	49.74	13.77	75.91	-2.32	48.37
1425	55	0	85	0	28.1	38.85	10.9	68.64	-33.33	44.07
1426	40	0	20	20	30.77	36.22	33.72	66.69	-14.73	-5.84
1427	20	100	30	0	24.58	13.51	10.8	43.52	60.48	1.07
1428	0	100	100	70	6.2	4.04	1.17	23.81	28.67	20.24
1429	100	0	100	40	4.94	10.03	4.23	37.9	-46.57	18.61
1430	40	27	27	100	1.5	1.59	1.36	13.18	-0.93	-0.57
1431	100	100	100	80	1.47	1.53	1.22	12.77	-0.02	0.5
1432	100	20	20	40	6.02	8.84	15.2	35.68	-24.41	-24.68
1433	85	100	40	0	6.92	5.46	9.92	28	18.14	-22.86
1434	7	0	7	0	76.07	79.99	67.43	91.68	-2.13	-1.32
1435	55	30	70	0	22.51	26.44	12.64	58.45	-13.05	21.34
1436	0	85	30	0	36.42	21.28	13.14	53.26	62.89	11.01
1437	40	100	40	100	1.33	1.1	0.81	9.81	8.63	1.73
1438	7	7	0	0	72.55	73.66	69.24	88.76	3.23	-8.02
1439	10	70	20	10	29.82	20.68	16.86	52.6	42.44	0.48
1440	40	100	20	40	8.83	5.57	6.36	28.31	34.38	-8.7
1441	10	30	10	0	54.15	49.92	44.24	76.02	15.88	-3.82
1442	40	85	30	0	19.51	12.92	13.35	42.64	40.8	-7.87
1443	100	20	40	60	3.63	5.48	6.99	28.07	-22.34	-11.86
1444	20	20	100	0	43.16	45.26	6.17	73.06	-1.4	69.28
1445	55	20	30	0	28.14	32.96	32.38	64.13	-13.74	-8.27
1446	55	100	55	0	12.96	8.42	7.63	34.84	36.96	-2.79
1447	70	70	0	20	10.33	8.86	17.84	35.71	14.57	-30.89
1448	0	0	30	0	78.81	82.51	46.49	92.8	-1.48	22.4
1449	10	10	85	0	56.08	59.14	10.15	81.37	-2.33	68.42
1450	20	12	12	40	23.81	24.92	22.51	57	-0.98	-3.85
1451	40	100	70	0	16.66	10.19	5.54	38.18	44.93	12.14
1452	10	20	70	0	52.72	52.86	14.76	77.79	4.6	49.02
1453	0	40	100	100	1.7	1.74	0.76	14.08	0.59	9.89
1454	100	0	100	10	7.3	16.19	6.3	47.22	-60.96	24.16
1455	40	40	0	60	9.14	8.69	10.98	35.38	6.48	-13.53
1456	70	55	40	0	14.38	15.01	17.49	45.65	-0.55	-12.95
1457	10	40	30	0	47.17	41.41	27.94	70.46	21.31	9.67
1458	10	0	100	20	40.32	44.78	5.39	72.75	-8.64	72.46
1459	3	0	40	0	73.92	78.42	38.02	90.97	-3.47	29.96
1460	0	40	100	0	49.39	42.71	5.04	71.36	23.52	71.84
1461	10	70	40	10	29.03	20.4	12.38	52.29	40.77	11.48
1462	40	70	70	20	14.05	11.37	5.82	40.2	20.88	14.25
1463	70	30	40	0	18.34	22.72	23.47	54.78	-17.55	-9.49
1464	55	55	100	0	16.73	16.85	4.67	48.07	2.73	33.7
1465	30	30	70	0	34.9	35.95	12.96	66.48	0.82	34.3
1466	0	55	10	0	48.77	37.04	31.12	67.31	39.29	-0.86
1467	100	0	0	60	4.87	7.12	14.08	32.07	-22.41	-28.05
1468	10	0	55	0	64.79	70.76	26.75	87.37	-7.61	40.83
1469	70	20	40	60	5.93	7.53	7.38	32.99	-13.79	-4.99
1470	10	70	70	10	27.75	19.77	6.71	51.58	38.84	29.86
1471	0	0	20	40	34.11	35.73	24.1	66.31	-1.16	9.22
1472	100	40	70	40	4.14	6.32	5.6	30.2	-24.04	-1.92
1473	20	10	40	0	52.75	56.68	32.81	80	-4.85	18.45
1474	40	27	27	60	9.08	9.6	8.69	37.11	-1.41	-2.88
1475	40	10	0	10	36.39	39.8	49.81	69.33	-6.47	-21.9
1476	70	0	20	40	11.88	16.03	19.74	47.01	-22.77	-15.51
1477	70	70	30	0	12.83	11.46	16.55	40.34	12.39	-19.92

1478	3	0	40	3	69.62	73.91	36.01	88.88	-3.51	29.13
1479	70	70	0	10	12.13	10.36	21.27	38.48	15.68	-33.36
1480	100	20	0	60	4.32	5.78	11.86	28.84	-15.73	-27.45
1481	60	45	45	80	3.06	3.28	2.93	21.12	-1.65	-1.73
1482	0	0	7	7	72.62	75.19	60.16	89.48	0.26	1.86
1483	85	0	100	0	12.09	23.16	7.2	55.24	-56.83	34.14
1484	20	70	20	40	14.01	10.32	9.32	38.41	28.33	-2.88
1485	40	0	0	60	12.32	14.02	16.47	44.26	-7.93	-12.98
1486	85	10	0	0	18.8	25.37	51.32	57.43	-26.57	-44.11
1487	7	0	0	7	67.59	70.72	65.55	87.35	-1.32	-7.04
1488	40	70	70	80	3.36	2.98	1.74	19.98	8.3	6.73
1489	100	30	55	0	8.76	14.56	16.48	45.02	-38.23	-11.69
1490	100	100	0	40	3.78	3.07	8.54	20.33	13.31	-31.27
1491	85	70	70	0	7.78	8.61	7.95	35.22	-4.68	-3.39
1492	55	0	0	0	37.57	45.26	64.15	73.06	-18.68	-30.35
1493	40	20	100	0	30.77	35.54	6.25	66.17	-12.51	57.06
1494	0	100	10	0	33.42	17.02	13.72	48.29	74.1	0.87
1495	20	100	100	60	6.44	4.31	1.42	24.66	27.61	18.52
1496	0	20	70	40	25.93	25.5	7.38	57.56	5.65	37.39
1497	100	100	40	60	2.43	2.24	3.49	16.71	5.57	-13.29
1498	30	85	55	0	21.97	14.29	8.79	44.65	43.96	9.77
1499	30	10	10	0	49.36	53.3	53.65	78.05	-5.4	-11.11
1500	40	0	55	0	40.63	49.98	25.09	76.06	-21.97	24.23
1501	70	70	85	0	10.81	10.55	5.58	38.82	4.82	13.03
1502	40	40	70	40	12.13	12.49	5.83	41.99	0.61	17.32
1503	55	30	30	0	25.58	28.4	28.99	60.25	-7.37	-9.65
1504	100	100	20	0	5.53	4.55	13.05	25.42	14.33	-36.74
1505	70	0	0	40	12.85	16.5	26.13	47.62	-18.8	-26.63
1506	20	70	0	0	32.61	22.79	26.73	54.86	42.94	-15.19
1507	0	100	100	80	4.14	2.88	0.97	19.54	21.84	15.87
1508	10	85	100	0	28.53	17.56	2.96	48.96	53.17	46.04
1509	100	20	40	40	5.44	8.53	11.26	35.06	-28.37	-14.93
1510	70	30	20	0	19.87	23.54	32.51	55.62	-13.39	-23.13
1511	85	10	30	0	16.12	24.23	32.37	56.32	-36.28	-21.71
1512	2	0	0	0	82.78	85.69	76.39	94.18	0.31	-4.95
1513	85	85	100	0	6.12	6.12	3.62	29.71	2.41	8.3
1514	0	20	10	0	68.7	65.03	51.85	84.5	13.39	1.97
1515	40	20	40	60	9.3	10.33	7.73	38.43	-5.34	3
1516	10	55	40	0	40.28	31.94	18.84	63.29	32.01	14.47
1517	100	0	0	10	13.3	20.14	44.97	51.99	-34.74	-46.14
1518	10	0	20	0	70.54	75.4	54.08	89.58	-4.56	8.31
1519	55	100	10	0	14.26	8.72	14.67	35.43	42.71	-23.79
1520	70	10	0	20	17.91	22.13	36.99	54.16	-17.11	-32.1
1521	100	40	20	0	9.77	13.33	26.65	43.26	-22.34	-35.05
1522	10	55	85	0	37.53	30.2	6.4	61.83	29.6	48.9
1523	100	85	100	0	4.21	4.94	3.6	26.57	-7.4	3
1524	100	0	30	0	12.98	22.71	33.93	54.77	-48.82	-26.7
1525	40	10	10	0	42.54	47.39	52.08	74.44	-9.18	-15.62
1526	70	0	10	0	26.83	35.7	51.9	66.29	-28.26	-29.48
1527	70	40	0	0	19.5	20.83	38.64	52.76	-2.91	-36.75
1528	0	40	0	10	47.43	40.08	37.85	69.53	26.03	-6.77
1529	10	70	40	0	35.13	24.44	14.65	56.53	44.48	12.64
1530	100	0	20	0	13.85	23.13	40.09	55.21	-45.11	-34.45
1531	55	85	55	0	14.16	10.34	8.98	38.44	29.13	-1.61
1532	0	100	100	100	1.51	1.28	0.63	11.1	8.2	7.28
1533	70	70	10	10	11.71	10.16	18.55	38.12	14.36	-28.3
1534	70	0	40	20	16.49	23.58	21.82	55.66	-31.35	-4.82

1535	0	30	10	0	62.39	56.01	45.51	79.62	20.32	0.85
1536	0	40	100	20	33.18	29.01	3.84	60.79	19.39	60.44
1537	40	30	10	0	35.13	35.48	41.14	66.12	3.14	-17
1538	0	85	100	0	33.25	19.85	2.82	51.67	58.94	51.76
1539	30	30	20	0	39.51	39.07	36.14	68.8	5.86	-5.68
1540	70	55	0	0	16.73	16.16	31.69	47.19	6.5	-36.43
1541	55	100	85	0	12.21	8.15	4.1	34.29	34.29	13.16
1542	70	100	100	20	6.24	4.88	2.57	26.38	18.06	10.14
1543	20	40	30	0	40.51	36.71	27.42	67.06	16.46	4.68
1544	40	70	0	10	20.3	15.23	22.06	45.95	30.44	-22.03
1545	0	100	40	60	9.04	5.4	3.08	27.84	38.18	8.74
1546	70	100	0	40	5.91	4.11	8.38	24.02	24.6	-24.3
1547	0	70	70	80	5.04	4.02	1.7	23.73	15.67	13.71
1548	70	100	0	80	2.39	1.81	2.72	14.48	14.33	-11.55
1549	40	10	70	20	24.23	29.03	11.24	60.81	-15.56	29.54
1550	70	10	40	10	18.28	25.05	23.97	57.12	-27.95	-6.38
1551	100	70	40	20	5.01	5.7	9.83	28.63	-5.85	-21.47
1552	0	40	20	20	37.65	32.28	23.24	63.57	22.49	6.09
1553	10	6	6	0	68.92	71.34	63.49	87.65	0.29	-4.56
1554	40	85	85	0	17.6	12.16	4.51	41.47	35.94	23.18
1555	30	40	70	0	31.74	30.68	11.61	62.24	7.98	30.89
1556	70	30	10	0	20.66	23.9	37.78	55.99	-11.12	-30.02
1557	40	27	27	40	15.18	16	14.58	46.98	-1.5	-3.64
1558	100	70	0	0	8.08	8.12	24.16	34.23	2.27	-46.2
1559	55	40	10	0	24.9	25.16	34.89	57.23	2.77	-23.85
1560	40	10	0	0	44.05	48.17	60.41	74.93	-6.85	-23.48
1561	40	40	40	40	13.06	13.05	10.37	42.84	3.18	1.27
1562	100	20	20	60	3.92	5.6	9.14	28.39	-19.35	-19.53
1563	10	70	100	0	32.24	22.84	3.62	54.91	41.39	51.73
1564	40	55	0	0	28.39	24.05	33.72	56.14	21.68	-24.04
1565	0	0	0	5	77.13	79.5	69.72	91.46	0.95	-3.8
1566	20	20	70	60	11.29	12.04	4.59	41.28	-2.27	22.41
1567	40	70	40	60	6.38	5.27	4.48	27.48	14.77	-0.77
1568	70	40	40	60	5.15	5.9	6.15	29.16	-6.3	-6.29
1569	0	0	0	100	2.02	2.1	1.73	16	0	0
1570	0	0	0	98	2.44	2.53	2.1	18.06	0.02	-0.08
1571	0	0	0	95	3.18	3.29	2.74	21.18	0.05	-0.2
1572	0	0	0	90	4.68	4.85	4.06	26.29	0.1	-0.4
1573	0	0	0	85	6.51	6.74	5.68	31.2	0.15	-0.6
1574	0	0	0	80	8.64	8.94	7.58	35.87	0.2	-0.8
1575	0	0	0	75	11.06	11.44	9.73	40.31	0.25	-1
1576	0	0	0	70	13.77	14.23	12.15	44.56	0.3	-1.2
1577	0	0	0	65	16.74	17.3	14.82	48.63	0.35	-1.4
1578	0	0	0	60	19.98	20.64	17.73	52.55	0.4	-1.6
1579	0	0	0	55	23.49	24.25	20.89	56.34	0.45	-1.8
1580	0	0	0	50	27.27	28.16	24.31	60.03	0.5	-2
1581	0	0	0	45	31.35	32.36	28.01	63.64	0.55	-2.2
1582	0	0	0	40	35.73	36.87	31.98	67.18	0.6	-2.4
1583	0	0	0	35	40.44	41.72	36.26	70.68	0.65	-2.6
1584	0	0	0	30	45.5	46.94	40.86	74.15	0.7	-2.8
1585	0	0	0	25	50.94	52.54	45.82	77.6	0.75	-3
1586	0	0	0	20	56.77	58.54	51.14	81.04	0.8	-3.2
1587	0	0	0	15	63.05	65.01	56.87	84.49	0.85	-3.4
1588	0	0	0	10	69.82	71.98	63.05	87.96	0.9	-3.6
1589	0	0	0	8	72.69	74.93	65.67	89.36	0.92	-3.68
1590	0	0	0	6	75.63	77.96	68.35	90.76	0.94	-3.76
1591	0	0	0	4	78.67	81.09	71.13	92.17	0.96	-3.84

1592	0	0	0	2	81.79	84.3	73.98	93.58	0.98	-3.92
1593	100	100	100	0	3.66	3.8	3.14	23	0	0
1594	98	96.94	96.94	0	3.94	4.09	3.39	23.96	0.02	-0.08
1595	95	92.47	92.47	0	4.46	4.62	3.84	25.62	0.05	-0.2
1596	90	85.34	85.34	0	5.55	5.75	4.82	28.77	0.1	-0.4
1597	85	78.59	78.59	0	6.94	7.18	6.05	32.21	0.15	-0.6
1598	80	72.19	72.19	0	8.6	8.9	7.54	35.79	0.2	-0.8
1599	75	66.12	66.12	0	10.54	10.9	9.28	39.41	0.25	-1
1600	70	60.37	60.37	0	12.75	13.18	11.26	43.03	0.3	-1.2
1601	65	54.9	54.9	0	15.25	15.75	13.51	46.65	0.35	-1.4
1602	60	49.69	49.69	0	18.03	18.62	16.02	50.24	0.4	-1.6
1603	55	44.74	44.74	0	21.12	21.81	18.81	53.82	0.45	-1.8
1604	50	40	40	0	24.53	25.32	21.9	57.39	0.5	-2
1605	45	35.46	35.46	0	28.3	29.2	25.32	60.96	0.55	-2.2
1606	40	31.11	31.11	0	32.45	33.48	29.09	64.55	0.6	-2.4
1607	35	26.9	26.9	0	37.03	38.2	33.25	68.17	0.65	-2.6
1608	30	22.84	22.84	0	42.07	43.39	37.83	71.82	0.7	-2.8
1609	25	18.88	18.88	0	47.61	49.09	42.87	75.51	0.75	-3
1610	20	15.01	15.01	0	53.73	55.4	48.44	79.27	0.8	-3.2
1611	15	11.21	11.21	0	60.44	62.31	54.55	83.08	0.85	-3.4
1612	10	7.46	7.46	0	67.87	69.97	61.32	86.98	0.9	-3.6
1613	8	5.96	5.96	0	71.03	73.21	64.19	88.55	0.92	-3.68
1614	6	4.47	4.47	0	74.32	76.61	67.19	90.14	0.94	-3.76
1615	4	2.98	2.98	0	77.76	80.15	70.32	91.75	0.96	-3.84
1616	2	1.49	1.49	0	81.32	83.81	73.57	93.37	0.98	-3.92
1617	40	3	0	40	20.6	23.22	28	55.3	-8.41	-16.56

Table 4: CRPC6 IT8.7/5 values – source of the initial G7+ RPC colorimetric values.

Annex E: Contact Information for Requests and Error Reporting

PRINTING United Alliance
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