

### Eingabe: Farbmétrisches Reflexions-System NCS11

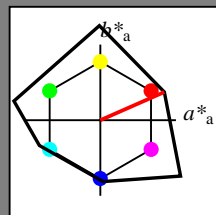
**für Buntton  $h^* = lab^*h = 24/360 = 0.066$**

*lab\*tch* und *lab\*nch*

## D65: Buntton R

**LCH\*Ma: 47 92 24**

rgb\*Ma: 1.0 0.0 0.0



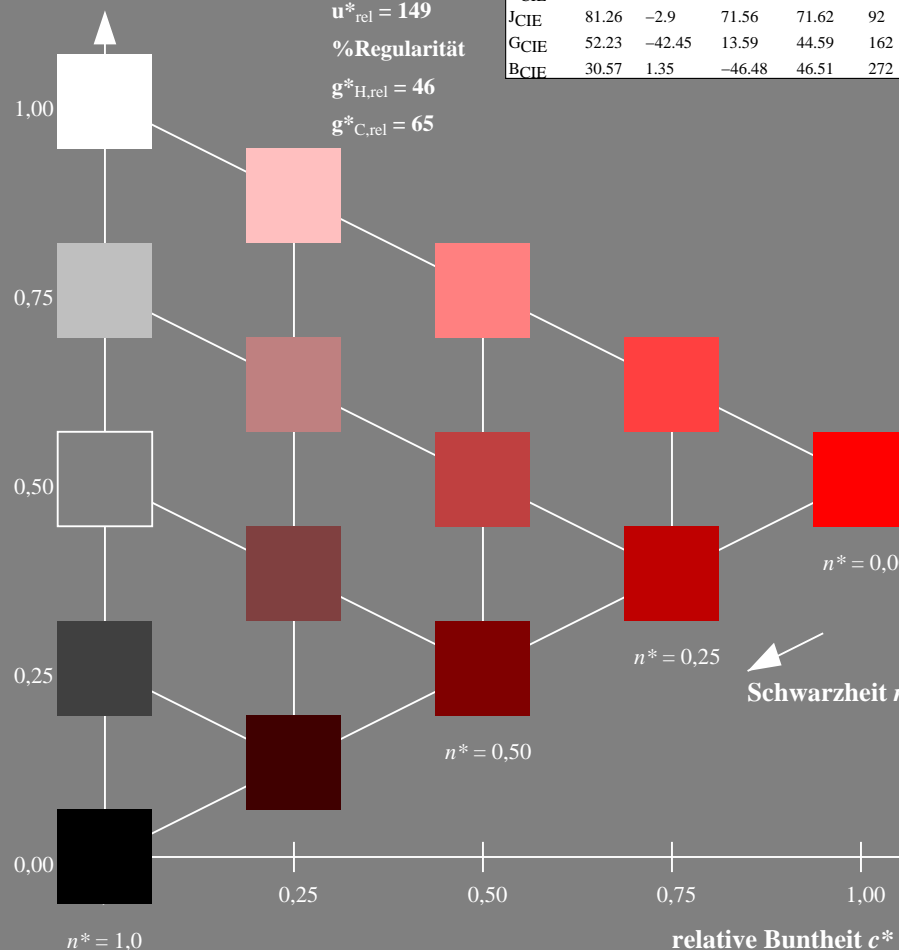
| NCS11; adaptierte CIELAB-Daten |               |         |         |              |              |
|--------------------------------|---------------|---------|---------|--------------|--------------|
|                                | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15         | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37         | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07         | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47         | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01         | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06         | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99         | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41         | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92         | 58.69   | 27.98   | 65.01        | 25           |
| J <sub>CIE</sub>               | 81.26         | -2.9    | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>               | 52.23         | -42.45  | 13.59   | 44.59        | 162          |
| B <sub>CIE</sub>               | 30.57         | 1.35    | -46.48  | 46.51        | 272          |

### Dreiecks-Helligkeit $t^*$

**%Umfang**

$$\mathbf{u}_{\text{rel}}^* = 149$$

### %Regularität

$$g^*_{H,rel} = 46$$
$$g^*_{C_{rel}} = 65$$


TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 24/360 = 0.066 (links)

BAM-Prüfvorlage TG29: Farbmatrik-Systeme NCS11a & NCS11a Input: `oly* setrgbcolor`

D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttöne *Output: no change compared to input*

**Ausgabe: Farbmétrisches Reflexions-System NCS11**

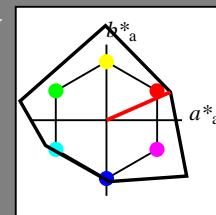
für Buntton  $h^* = lab^*h = 24/360 = 0.066$

*LAB\*LCH, LAB\*NCH*

## D65: Buntton R

**LCH\*Ma: 47 92 24**

rgb\*Ma: 1.0 0.0 0.0



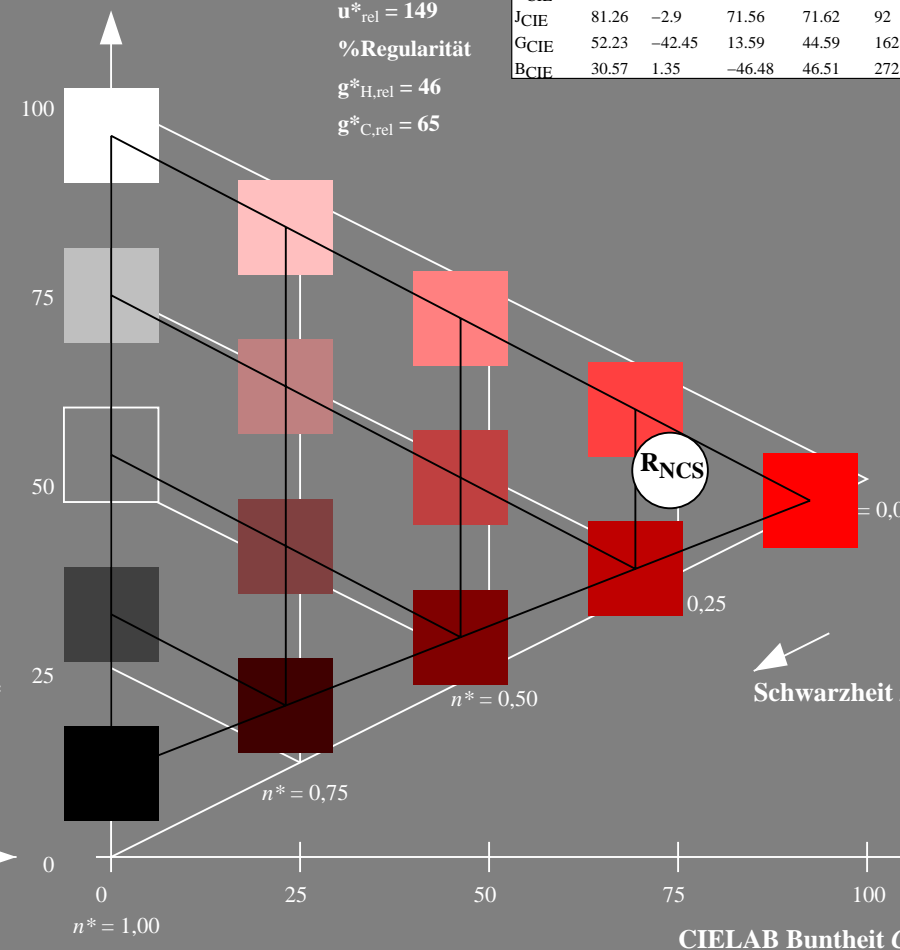
| NCS11; adaptierte CIELAB-Daten |         |         |         |              |            |  |
|--------------------------------|---------|---------|---------|--------------|------------|--|
|                                | $L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab}$ |  |
| R <sub>Ma</sub>                | 47.15   | 84.64   | 37.25   | 92.48        | 24         |  |
| J <sub>Ma</sub>                | 91.37   | -1.27   | 125.03  | 125.03       | 91         |  |
| G <sub>Ma</sub>                | 63.07   | -114.28 | 25.35   | 117.06       | 167        |  |
| G50B <sub>Ma</sub>             | 59.47   | -80.6   | -33.45  | 87.28        | 203        |  |
| B <sub>Ma</sub>                | 49.01   | 3.65    | -81.19  | 81.28        | 273        |  |
| B50R <sub>Ma</sub>             | 44.06   | 106.09  | -73.93  | 129.32       | 325        |  |
| N <sub>Ma</sub>                | 10.99   | 0.0     | 0.0     | 0.0          | 0          |  |
| W <sub>Ma</sub>                | 95.41   | 0.0     | 0.0     | 0.0          | 0          |  |
| R <sub>CIE</sub>               | 39.92   | 58.69   | 27.98   | 65.01        | 25         |  |
| J <sub>CIE</sub>               | 81.26   | -2.9    | 71.56   | 71.62        | 92         |  |
| G <sub>CIE</sub>               | 52.23   | -42.45  | 13.59   | 44.59        | 162        |  |
| B <sub>CIE</sub>               | 30.57   | 1.35    | -46.48  | 46.51        | 272        |  |

CIELAB-Helligkeit  $L^*$ 

**%Umfang**

$$\mathbf{u}_{\text{rel}}^* = 149$$

### %Regularität

$$g^*_{H,rel} = 46$$
$$g^*_{C_{rel}} = 65$$
5 stufige Reihen für konstanten CIELAB Buntton  $24/360 = 0.066$  (rechts)

```
1a & NCS1 lia put: olv* setrgbcolor
```

für 10 Bunttöne: *no change compared to input*

### Eingabe: Farbmimetrisches Reflexions-System NCS11

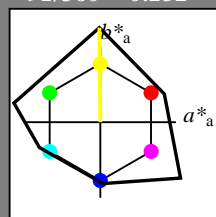
für Buntton  $h^* = lab^*h = 91/360 = 0.252$

$lab^*tch$  und  $lab^*nch$

D65: Buntton J

LCH\*Ma: 91 125 91

rgb\*Ma: 1.0 1.0 0.0



#### NCS11; adaptierte CIELAB-Daten

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$

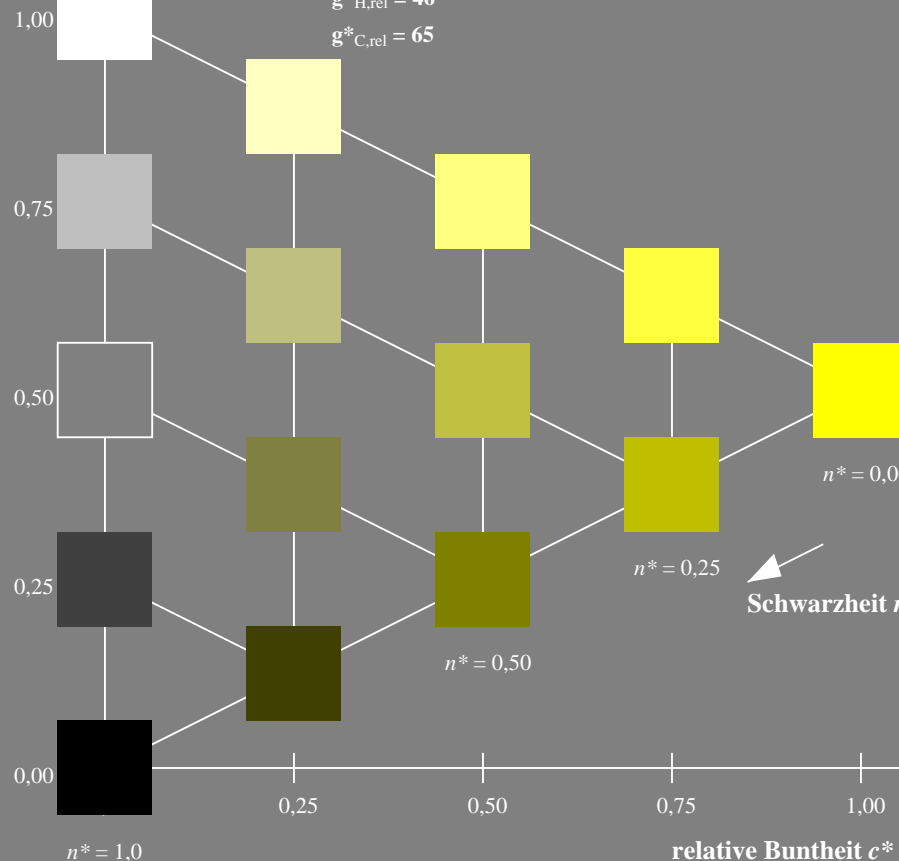
%Umfang

$u^*_{rel} = 149$

%Regularität

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 91/360 = 0.252 (links)

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

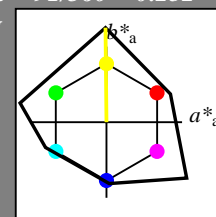
für Buntton  $h^* = lab^*h = 91/360 = 0.252$

$LAB^*LCH$ ,  $LAB^*NCH$

D65: Buntton J

LCH\*Ma: 91 125 91

rgb\*Ma: 1.0 1.0 0.0



#### NCS11; adaptierte CIELAB-Daten

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$

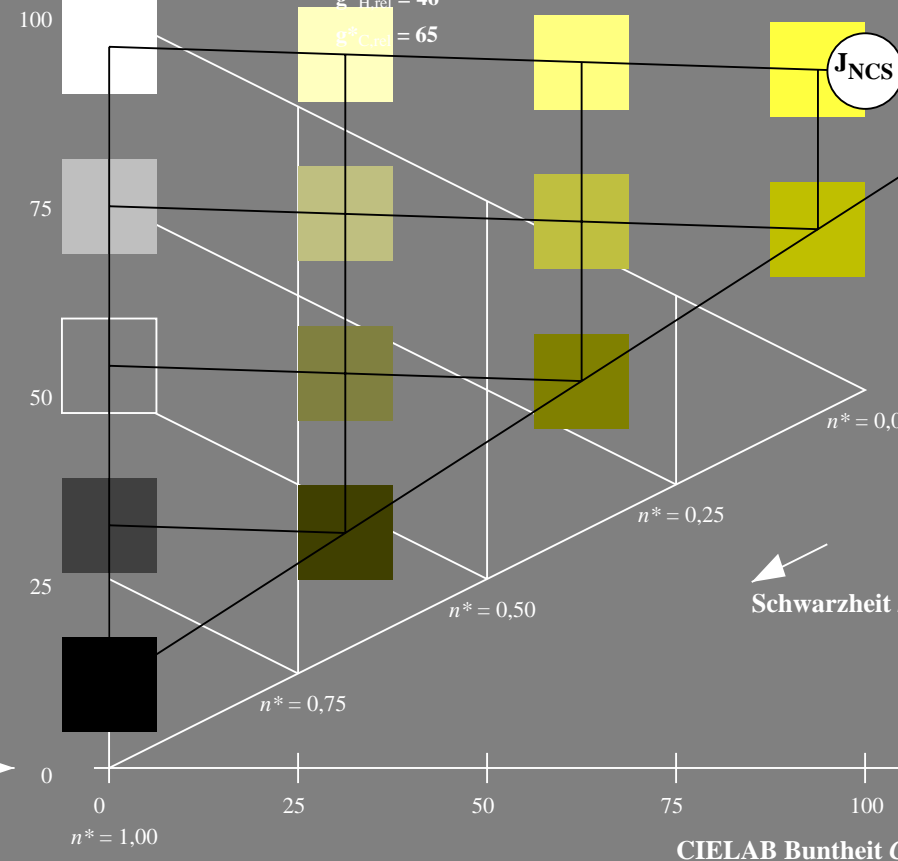
%Umfang

$u^*_{rel} = 149$

%Regularität

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



5 stufige Reihen für konstanten CIELAB Buntton 91/360 = 0.252 (rechts)

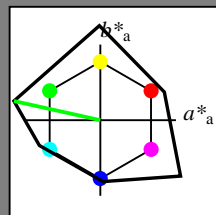
BAM-Prüfvorlage TG29; Farbmimetrik-Systeme NCS11a & NCS11b

D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Buntton  
input: olv\* setrgbcolor  
output: no change compared to input

### Eingabe: Farbmimetrisches Reflexions-System NCS11

für Buntton  $h^* = lab^*h = 167/360 = 0.465$   
 $lab^*tch$  und  $lab^*nch$

D65: Buntton G  
LCH\*Ma: 63 117 167  
rgb\*Ma: 0.0 1.0 0.0



| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$

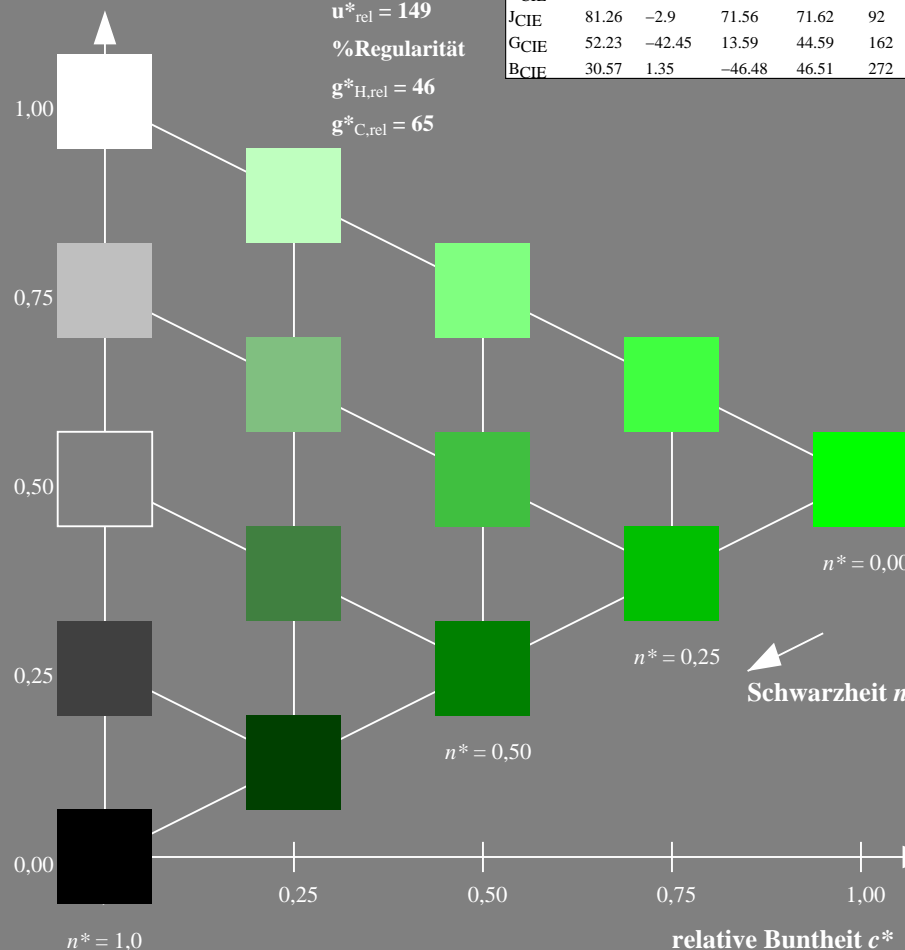
%Umfang

$u^*_{rel} = 149$

%Regularität

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 167/360 = 0.465 (links)

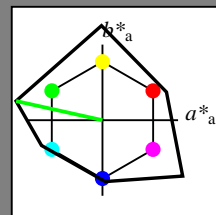
BAM-Prüfvorlage TG29; Farbmimetrik-Systeme NCS11a & NCS11b

D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttonen

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

für Buntton  $h^* = lab^*h = 167/360 = 0.465$   
 $LAB^*LCH$ ,  $LAB^*NCH$

D65: Buntton G  
LCH\*Ma: 63 117 167  
rgb\*Ma: 0.0 1.0 0.0



| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$

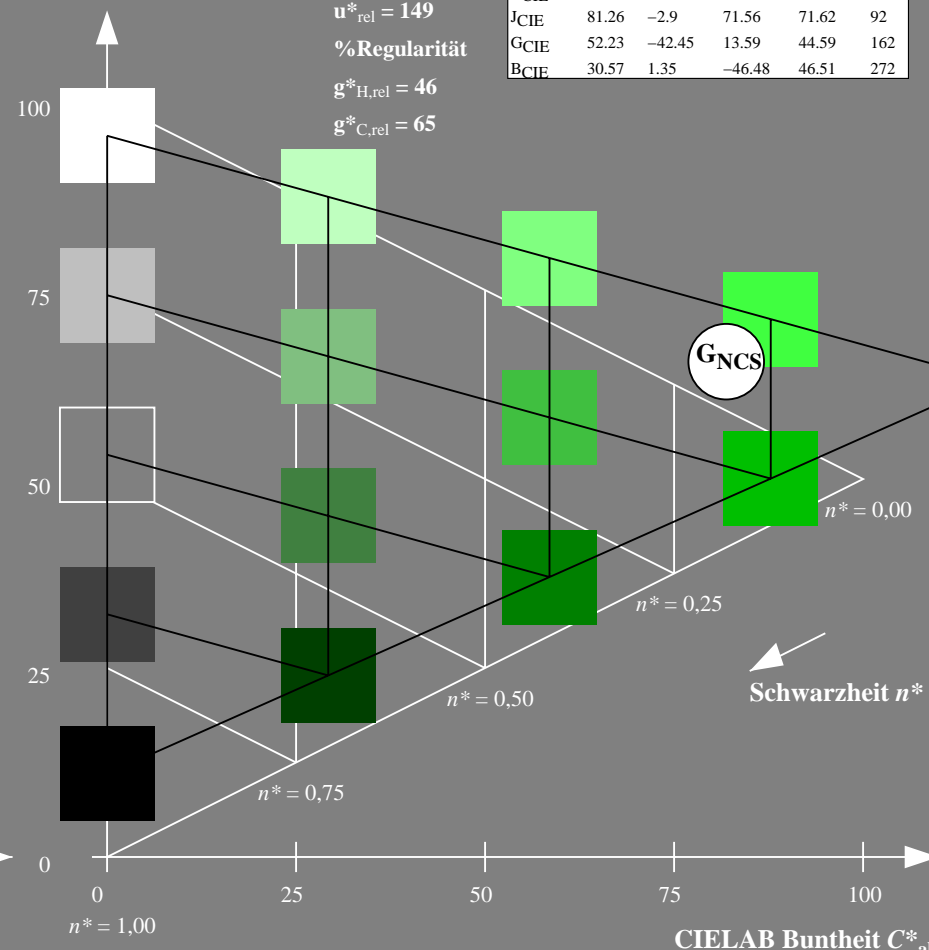
%Umfang

$u^*_{rel} = 149$

%Regularität

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$



5 stufige Reihen für konstanten CIELAB Buntton 167/360 = 0.465 (rechts)

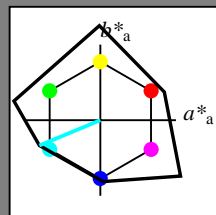
Input:  $olv^* setrgbcolor$

Output: no change compared to input

### Eingabe: Farbmimetrisches Reflexions-System NCS11

für Buntton  $h^* = lab \cdot h = 203/360 = 0.563$   
 $lab \cdot tch$  und  $lab \cdot nch$

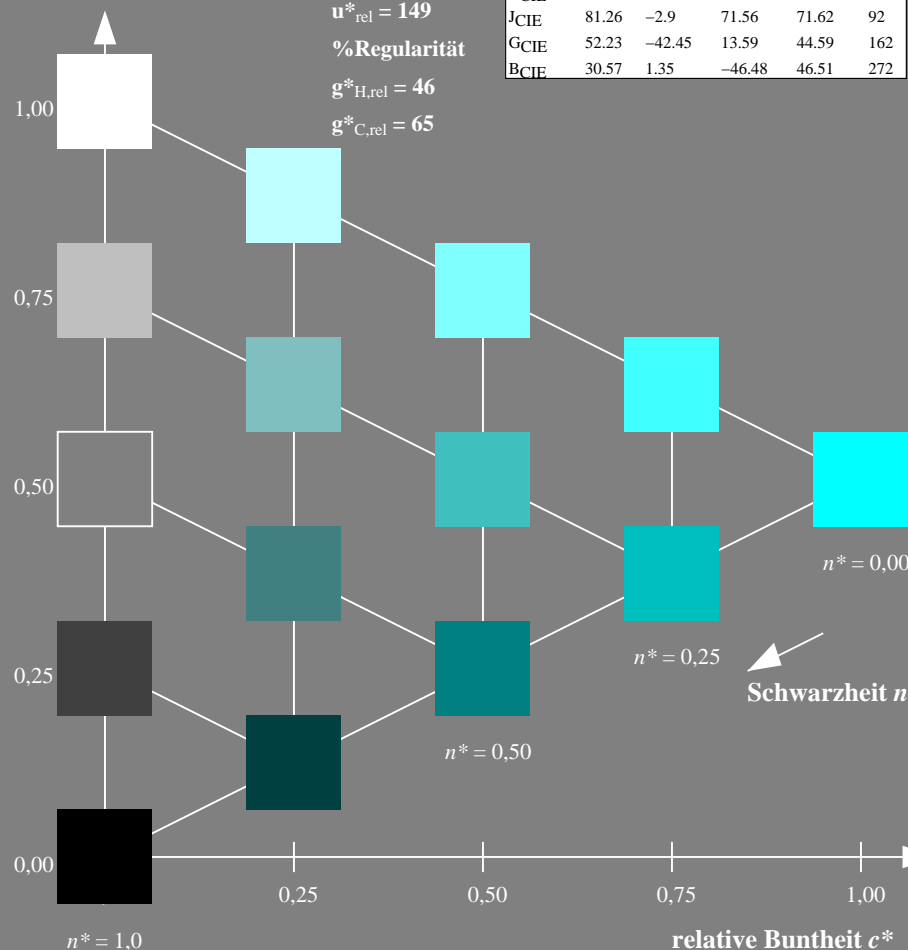
D65: Buntton G50B  
LCH\*Ma: 59 87 203  
rgb\*Ma: 0.0 1.0 1.0



| NCS11; adaptierte CIELAB-Daten |               |         |         |              |              |
|--------------------------------|---------------|---------|---------|--------------|--------------|
|                                | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15         | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37         | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07         | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47         | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01         | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06         | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99         | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41         | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92         | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26         | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23         | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57         | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$

%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$



TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 203/360 = 0.563 (links)

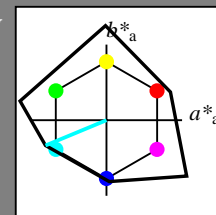
BAM-Prüfvorlage TG29; Farbmimetrische Systeme NCS11a & NCS11b

D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttonen

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

für Buntton  $h^* = lab \cdot h = 203/360 = 0.563$   
 $LAB \cdot LCH$ ,  $LAB \cdot NCH$

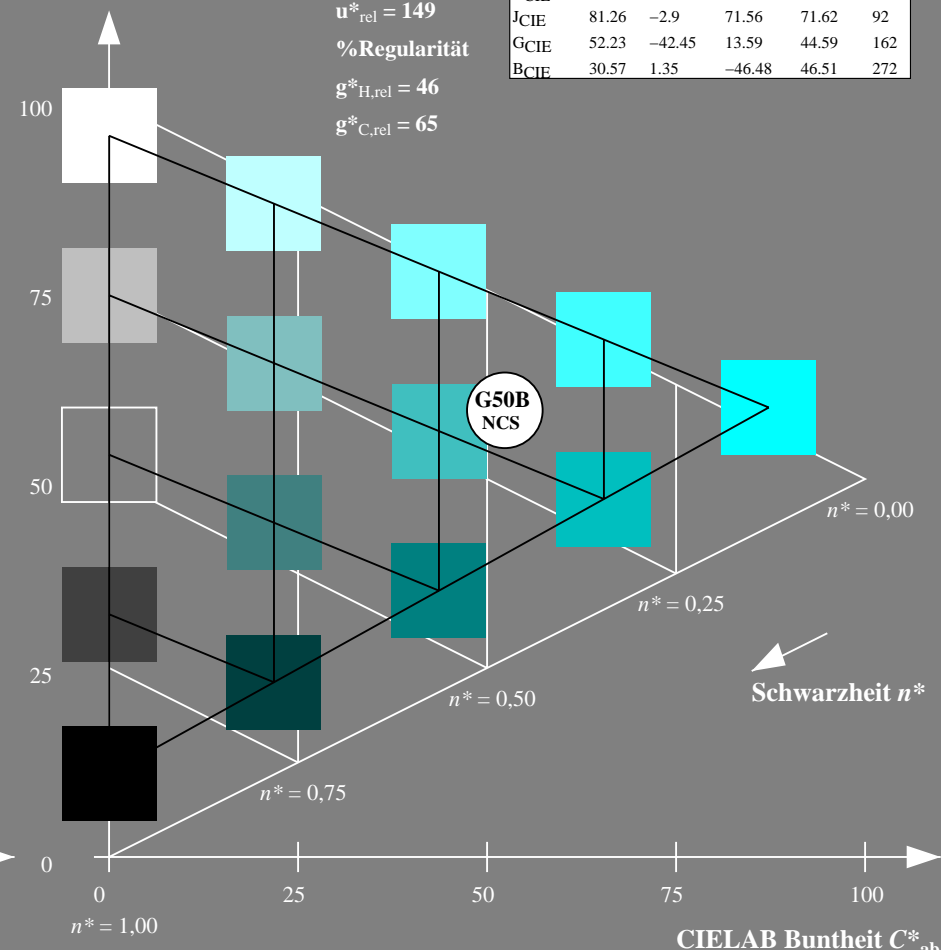
D65: Buntton G50B  
LCH\*Ma: 59 87 203  
rgb\*Ma: 0.0 1.0 1.0



| NCS11; adaptierte CIELAB-Daten |               |         |         |              |              |
|--------------------------------|---------------|---------|---------|--------------|--------------|
|                                | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15         | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37         | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07         | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47         | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01         | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06         | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99         | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41         | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92         | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26         | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23         | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57         | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$

%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$



5 stufige Reihen für konstanten CIELAB Buntton 203/360 = 0.563 (rechts)

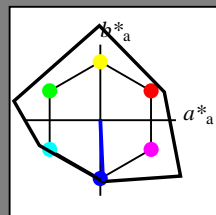
Input:  $olv^* setrgbcolor$

Output: no change compared to input

### Eingabe: Farbmimetrisches Reflexions-System NCS11

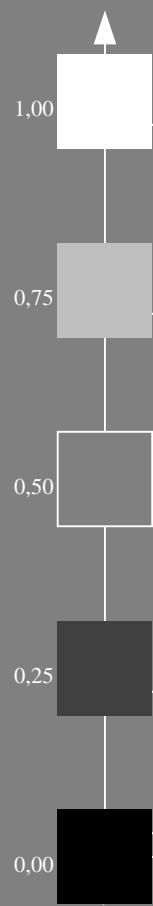
für Buntton  $h^* = lab^*h = 273/360 = 0.757$   
 $lab^*tch$  und  $lab^*nch$

D65: Buntton B  
LCH\*Ma: 49 81 273  
rgb\*Ma: 0.0 0.0 1.0



| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa                         | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa                            | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa                         | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa                            | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$

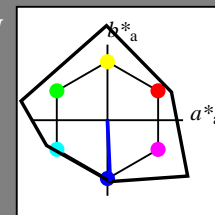


%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

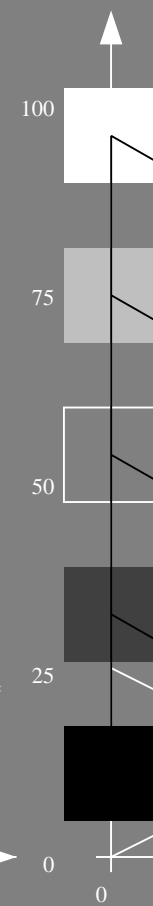
für Buntton  $h^* = lab^*h = 273/360 = 0.757$   
 $LAB^*LCH$ ,  $LAB^*NCH$

D65: Buntton B  
LCH\*Ma: 49 81 273  
rgb\*Ma: 0.0 0.0 1.0



| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa                         | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa                            | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa                         | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa                            | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$



%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 273/360 = 0.757 (links)

5 stufige Reihen für konstanten CIELAB Buntton 273/360 = 0.757 (rechts)

BAM-Prüfvorlage TG29; Farbmimetrische Systeme NCS11a & NCS11b  
D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttonen

Input:  $olv^*setrgbcolor$   
Output: no change compared to input

### Eingabe: Farbmétrisches Reflexions-System NCS11

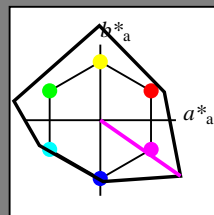
für Buntton  $h^* = lab^*h = 325/360 = 0.903$

*lab\*tch* und *lab\*nch*

## D65: Buntton B50R

**LCH\*Ma: 44 129 325**

**rgb\*Ma: 1.0 0.0 1.0**



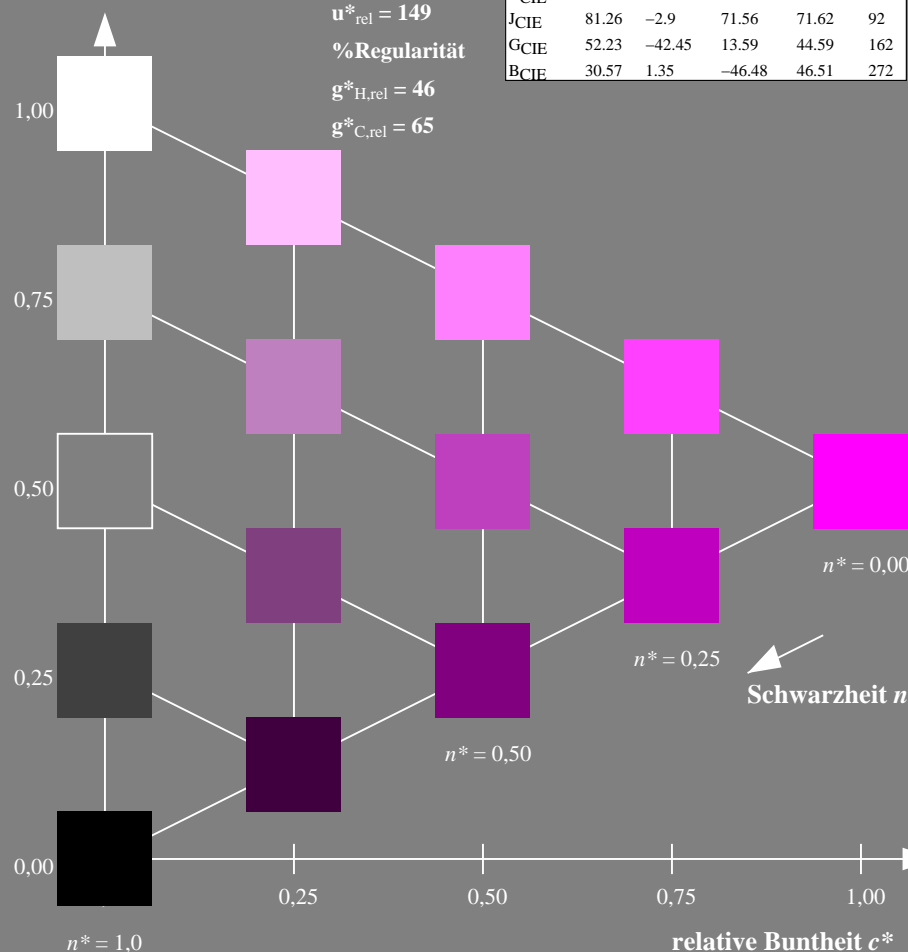
| NCS11; adaptierte CIELAB-Daten |         |         |         |              |              |
|--------------------------------|---------|---------|---------|--------------|--------------|
|                                | $L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| R <sub>Ma</sub>                | 47.15   | 84.64   | 37.25   | 92.48        | 24           |
| J <sub>Ma</sub>                | 91.37   | -1.27   | 125.03  | 125.03       | 91           |
| G <sub>Ma</sub>                | 63.07   | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47   | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01   | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06   | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99   | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41   | 0.0     | 0.0     | 0.0          | 0            |
| R <sub>CIE</sub>               | 39.92   | 58.69   | 27.98   | 65.01        | 25           |
| J <sub>CIE</sub>               | 81.26   | -2.9    | 71.56   | 71.62        | 92           |
| G <sub>CIE</sub>               | 52.23   | -42.45  | 13.59   | 44.59        | 162          |
| B <sub>CIE</sub>               | 30.57   | 1.35    | -46.48  | 46.51        | 272          |

### Dreiecks-Helligkeit $t^*$

%Umfang

$$\mathbf{u}_{\text{rel}}^* = 149$$

**%Regularität**

$$g^*_{H,rel} = 46$$
$$g^*_{C,rel} = 65$$


TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton  $325/360 = 0.903$  (links)

BAM-Prüfvorlage TG29; Farbmetrik-Systeme NCS11a & NCS11b Input: *olv\* setrgbcolor*

D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttöne *no change compared to input*

**Ausgabe: Farbmétrisches Reflexions-System NCS11**

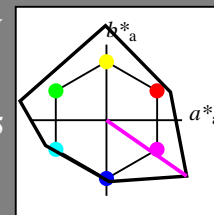
für Buntton  $h^* = l a h^* h = 325/360 = 0,903$

*LAB\*LCH, LAB\*NCH*

## D65: Buntton B50R

**LCH\*Ma: 44 129 325**

**rgb\*Ma: 1.0 0.0 1.0**



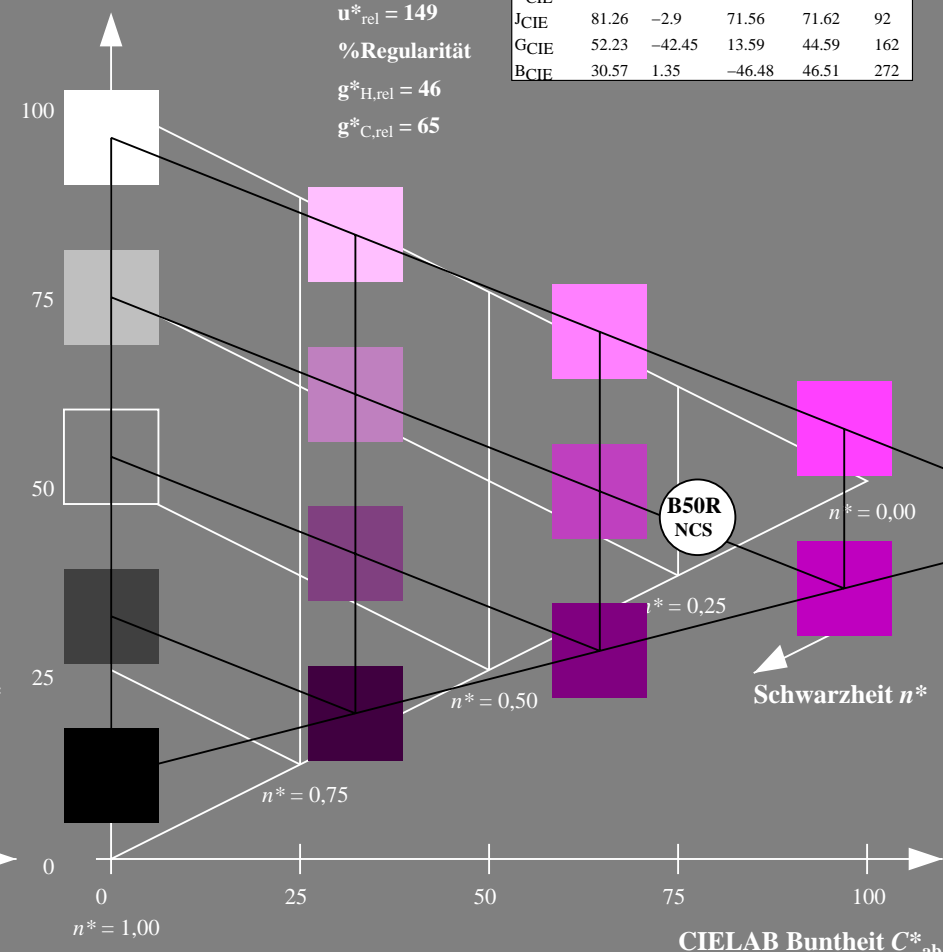
| NCS11; adaptierte CIELAB-Daten |         |         |         |              |            |  |
|--------------------------------|---------|---------|---------|--------------|------------|--|
|                                | $L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab}$ |  |
| R <sub>Ma</sub>                | 47.15   | 84.64   | 37.25   | 92.48        | 24         |  |
| J <sub>Ma</sub>                | 91.37   | -1.27   | 125.03  | 125.03       | 91         |  |
| G <sub>Ma</sub>                | 63.07   | -114.28 | 25.35   | 117.06       | 167        |  |
| G50B <sub>Ma</sub>             | 59.47   | -80.6   | -33.45  | 87.28        | 203        |  |
| B <sub>Ma</sub>                | 49.01   | 3.65    | -81.19  | 81.28        | 273        |  |
| B50R <sub>Ma</sub>             | 44.06   | 106.09  | -73.93  | 129.32       | 325        |  |
| N <sub>Ma</sub>                | 10.99   | 0.0     | 0.0     | 0.0          | 0          |  |
| W <sub>Ma</sub>                | 95.41   | 0.0     | 0.0     | 0.0          | 0          |  |
| R <sub>CIE</sub>               | 39.92   | 58.69   | 27.98   | 65.01        | 25         |  |
| J <sub>CIE</sub>               | 81.26   | -2.9    | 71.56   | 71.62        | 92         |  |
| G <sub>CIE</sub>               | 52.23   | -42.45  | 13.59   | 44.59        | 162        |  |
| B <sub>CIE</sub>               | 30.57   | 1.35    | -46.48  | 46.51        | 272        |  |

CIELAB-Helligkeit  $L^*$ 

%Umfang

$$\mathbf{u}_{\text{rel}}^* = 149$$

%Regularität

$$g^*_{H,rel} = 40$$
$$g^*_{C,rel} = 6.5$$
5 stufige Reihen für konstanten CIELAB Buntton  $325/360 = 0.903$  (rechts)

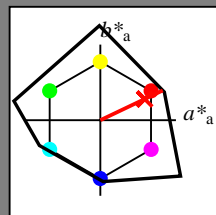
```
1a & NCS1 input: olv* setrgbcolor
```

für 10 Bunttöne: *no change compared to input*

### Eingabe: Farbmimetrisches Reflexions-System NCS11

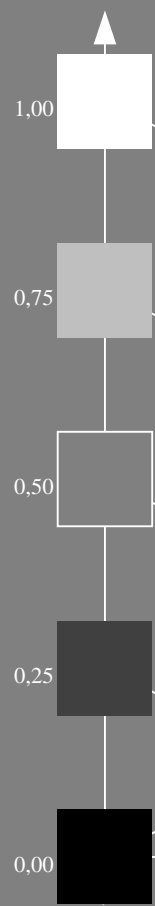
für Buntton  $h^* = lab^*h = 25/360 = 0.071$   
 $lab^*tch$  und  $lab^*nch$

D65: Buntton R  
LCH\*Ma: 48 91 25  
rgb\*Ma: 1.0 0.02 0.0



| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa                         | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa                            | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa                         | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa                            | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$



%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

RCIE

$n^* = 0.00$

$n^* = 0.25$

Schwarzheit  $n^*$

$n^* = 0.50$

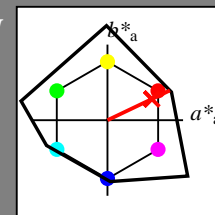
relative Buntheit  $c^*$

TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 25/360 = 0.071 (links)

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

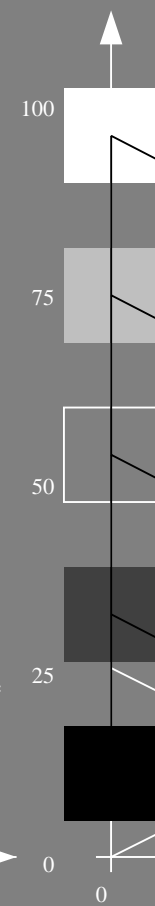
für Buntton  $h^* = lab^*h = 25/360 = 0.071$   
 $LAB^*LCH$ ,  $LAB^*NCH$

D65: Buntton R  
LCH\*Ma: 48 91 25  
rgb\*Ma: 1.0 0.02 0.0



| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa                         | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa                            | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa                         | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa                            | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$



%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

RNCS

RCIE

$n^* = 0.25$

$n^* = 0.50$

Schwarzheit  $n^*$

$n^* = 0.75$

CIELAB Buntheit  $C^*_{ab}$

5 stufige Reihen für konstanten CIELAB Buntton 25/360 = 0.071 (rechts)

BAM-Prüfvorlage TG29; Farbmimetrik-Systeme NCS11a & NCS11b

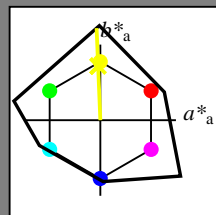
D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttonen  
Input:  $olv^* setrgbcolor$   
Output: no change compared to input



### Eingabe: Farbmimetrisches Reflexions-System NCS11

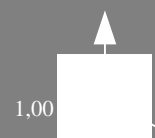
für Buntton  $h^* = lab^*h = 92/360 = 0.256$   
 $lab^*tch$  und  $lab^*nch$

D65: Buntton J  
LCH\*Ma: 90 122 92  
rgb\*Ma: 0.97 1.0 0.0

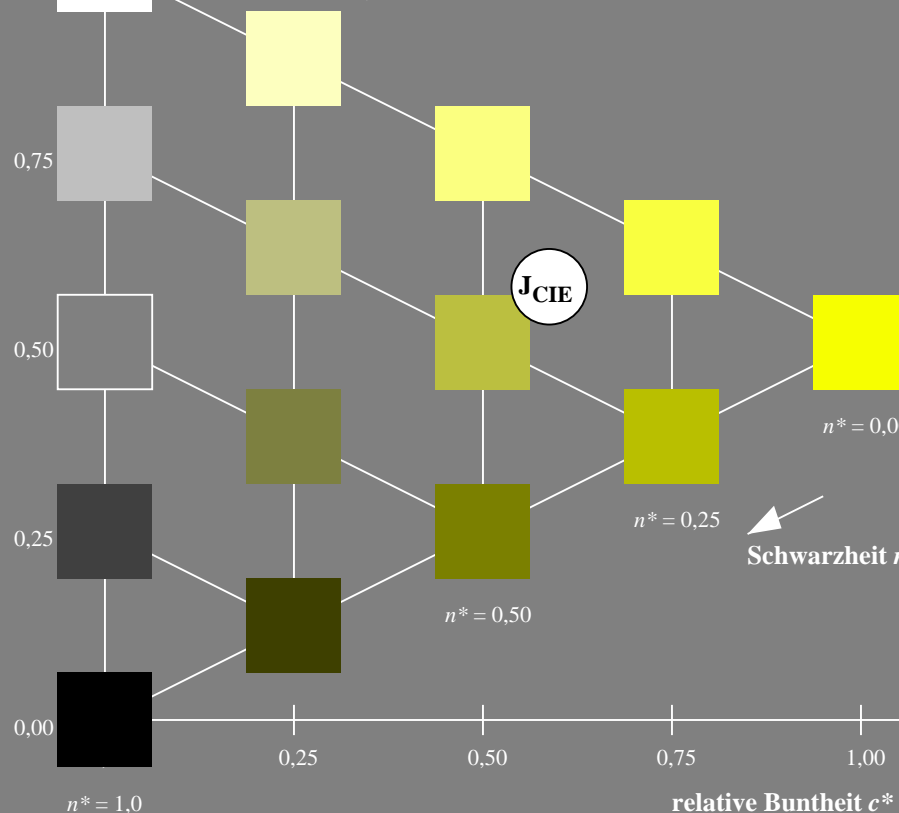


| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$



%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$



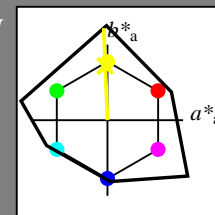
TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 92/360 = 0.256 (links)

BAM-Prüfvorlage TG29; Farbmimetrische Systeme NCS11a & NCS11b  
D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttonen

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

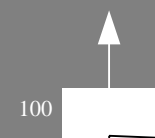
für Buntton  $h^* = lab^*h = 92/360 = 0.256$   
 $LAB^*LCH$ ,  $LAB^*NCH$

D65: Buntton J  
LCH\*Ma: 90 122 92  
rgb\*Ma: 0.97 1.0 0.0

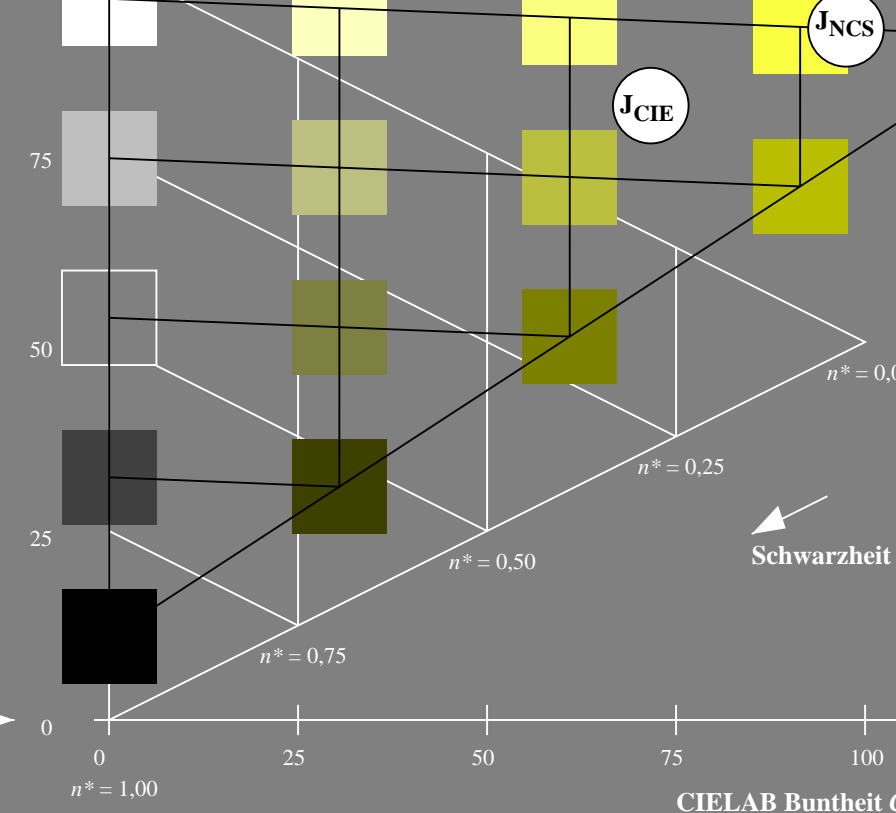


| NCS11; adaptierte CIELAB-Daten |             |         |         |              |              |
|--------------------------------|-------------|---------|---------|--------------|--------------|
|                                | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50B <sub>Ma</sub>             | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| B <sub>Ma</sub>                | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50R <sub>Ma</sub>             | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| N <sub>Ma</sub>                | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| W <sub>Ma</sub>                | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$



%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$



5 stufige Reihen für konstanten CIELAB Buntton 92/360 = 0.256 (rechts)

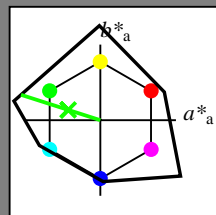
Input:  $olv^* setrgbcolor$   
Output: no change compared to input



### Eingabe: Farbmimetrisches Reflexions-System NCS11

für Buntton  $h^* = lab^*h = 162/360 = 0.451$   
 $lab^*tch$  und  $lab^*nch$

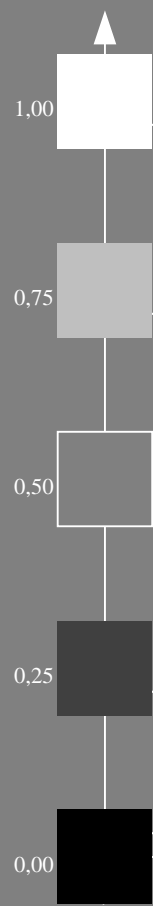
D65: Buntton G  
LCH\*Ma: 65 110 162  
rgb\*Ma: 0.08 1.0 0.0



#### NCS11; adaptierte CIELAB-Daten

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$



%Umfang

$u^*_{rel} = 149$

%Regularität

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

GCIE

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

Schwarzheit  $n^*$

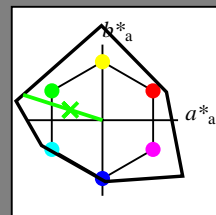
relative Buntheit  $c^*$

TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton 162/360 = 0.451 (links)

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

für Buntton  $h^* = lab^*h = 162/360 = 0.451$   
 $LAB^*LCH$ ,  $LAB^*NCH$

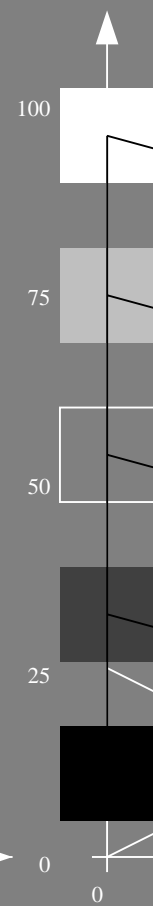
D65: Buntton G  
LCH\*Ma: 65 110 162  
rgb\*Ma: 0.08 1.0 0.0



#### NCS11; adaptierte CIELAB-Daten

|        | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|--------|-------------|---------|---------|--------------|--------------|
| RMa    | 47.15       | 84.64   | 37.25   | 92.48        | 24           |
| JMa    | 91.37       | -1.27   | 125.03  | 125.03       | 91           |
| GMa    | 63.07       | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa | 59.47       | -80.6   | -33.45  | 87.28        | 203          |
| BMa    | 49.01       | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa | 44.06       | 106.09  | -73.93  | 129.32       | 325          |
| NMa    | 10.99       | 0.0     | 0.0     | 0.0          | 0            |
| WMa    | 95.41       | 0.0     | 0.0     | 0.0          | 0            |
| RCIE   | 39.92       | 58.69   | 27.98   | 65.01        | 25           |
| JCIE   | 81.26       | -2.9    | 71.56   | 71.62        | 92           |
| GCIE   | 52.23       | -42.45  | 13.59   | 44.59        | 162          |
| BCIE   | 30.57       | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$



%Umfang

$u^*_{rel} = 149$

%Regularität

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

GCIE

$n^* = 0,00$

$n^* = 0,25$

$n^* = 0,50$

$n^* = 0,75$

Schwarzheit  $n^*$

CIELAB Buntheit  $C^*_{ab}$

5 stufige Reihen für konstanten CIELAB Buntton 162/360 = 0.451 (rechts)

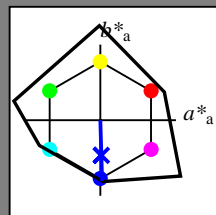
BAM-Prüfvorlage TG29; Farbmimetrische Systeme NCS11a & NCS11b

D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttonen  
Input:  $olv^* setrgbcolor$   
Output: no change compared to input

### Eingabe: Farbmimetrisches Reflexions-System NCS11

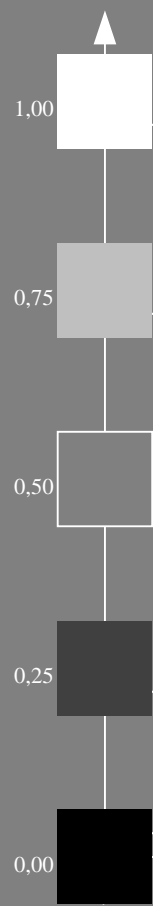
für Buntton  $h^* = lab \cdot h = 272/360 = 0,755$   
 $lab \cdot tch$  und  $lab \cdot nch$

D65: Buntton B  
LCH\*Ma: 49 80 272  
rgb\*Ma: 0.0 0.02 1.0



| NCS11; adaptierte CIELAB-Daten |               |         |         |              |              |
|--------------------------------|---------------|---------|---------|--------------|--------------|
|                                | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15         | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37         | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07         | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa                         | 59.47         | -80.6   | -33.45  | 87.28        | 203          |
| BMa                            | 49.01         | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa                         | 44.06         | 106.09  | -73.93  | 129.32       | 325          |
| NMa                            | 10.99         | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41         | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92         | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26         | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23         | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57         | 1.35    | -46.48  | 46.51        | 272          |

Dreiecks-Helligkeit  $t^*$



%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

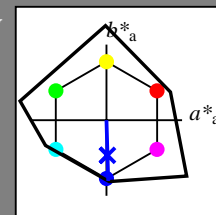
Schwarzheit  $n^*$

TG290-7, 5 stufige Reihen für konstanten CIELAB Buntton  $272/360 = 0,755$  (links)

### Ausgabe: Farbmimetrisches Reflexions-System NCS11

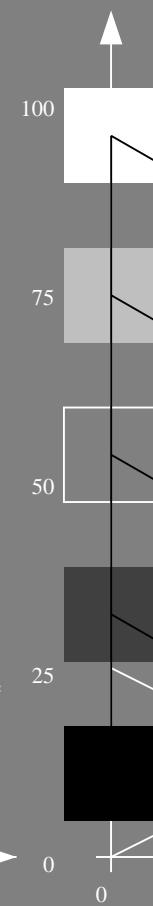
für Buntton  $h^* = lab \cdot h = 272/360 = 0,755$   
 $LAB \cdot LCH$ ,  $LAB \cdot NCH$

D65: Buntton B  
LCH\*Ma: 49 80 272  
rgb\*Ma: 0.0 0.02 1.0



| NCS11; adaptierte CIELAB-Daten |               |         |         |              |              |
|--------------------------------|---------------|---------|---------|--------------|--------------|
|                                | $L^* = L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| RMa                            | 47.15         | 84.64   | 37.25   | 92.48        | 24           |
| JMa                            | 91.37         | -1.27   | 125.03  | 125.03       | 91           |
| GMa                            | 63.07         | -114.28 | 25.35   | 117.06       | 167          |
| G50BMa                         | 59.47         | -80.6   | -33.45  | 87.28        | 203          |
| BMa                            | 49.01         | 3.65    | -81.19  | 81.28        | 273          |
| B50RMa                         | 44.06         | 106.09  | -73.93  | 129.32       | 325          |
| NMa                            | 10.99         | 0.0     | 0.0     | 0.0          | 0            |
| WMa                            | 95.41         | 0.0     | 0.0     | 0.0          | 0            |
| RCIE                           | 39.92         | 58.69   | 27.98   | 65.01        | 25           |
| JCIE                           | 81.26         | -2.9    | 71.56   | 71.62        | 92           |
| GCIE                           | 52.23         | -42.45  | 13.59   | 44.59        | 162          |
| BCIE                           | 30.57         | 1.35    | -46.48  | 46.51        | 272          |

CIELAB-Helligkeit  $L^*$



%Umfang  
 $u^*_{rel} = 149$   
%Regularität  
 $g^*_{H,rel} = 46$   
 $g^*_{C,rel} = 65$

Schwarzheit  $n^*$

5 stufige Reihen für konstanten CIELAB Buntton  $272/360 = 0,755$  (rechts)

BAM-Prüfvorlage TG29; Farbmimetrische Systeme NCS11a & NCS11b  
D65: Koordinaten-Systeme von 5stufigen Farbreihen für 10 Bunttonen  
Input:  $olv^* setrgbcolor$   
Output: no change compared to input