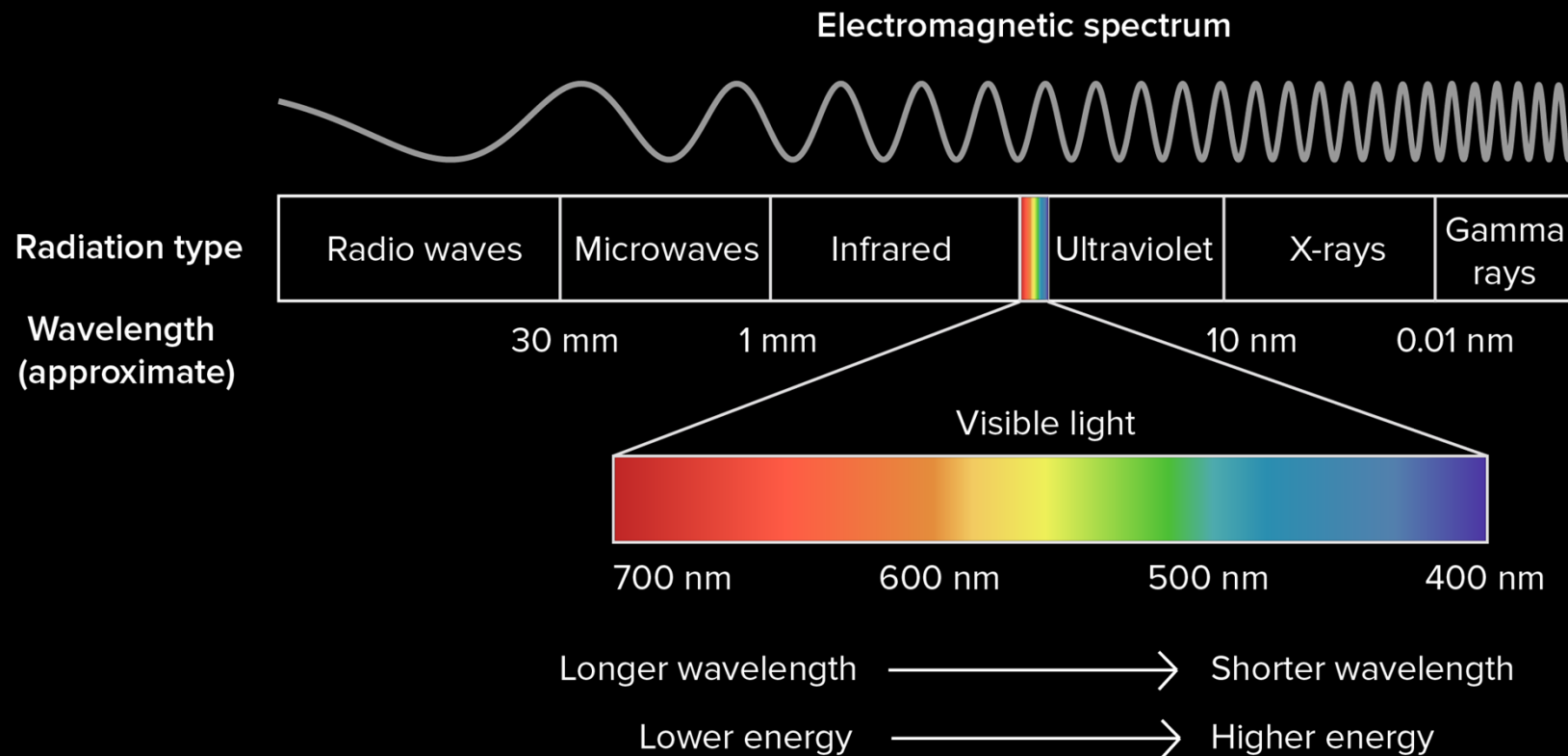




GAISMA 2.0

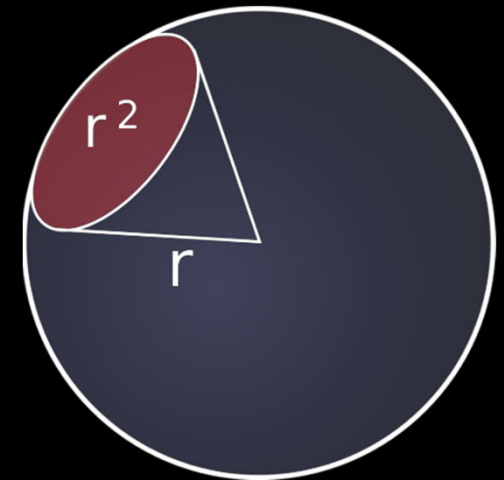
Gaismekļu lietojums, vadība un protokoli

KAS IR GAISMA?

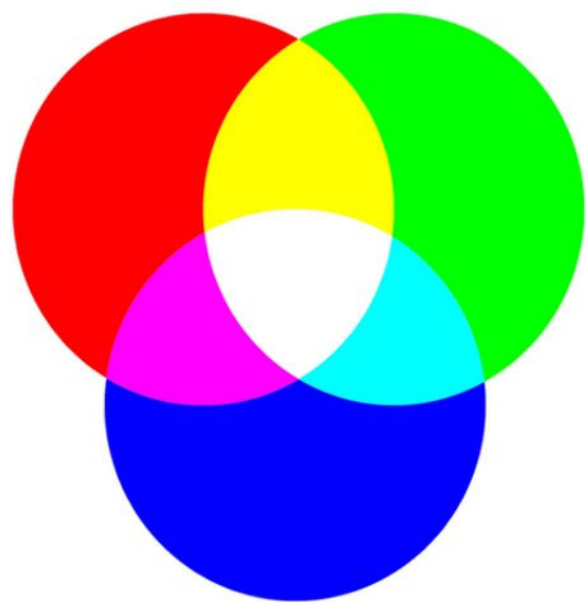


GAISMAS APRĒĶINI

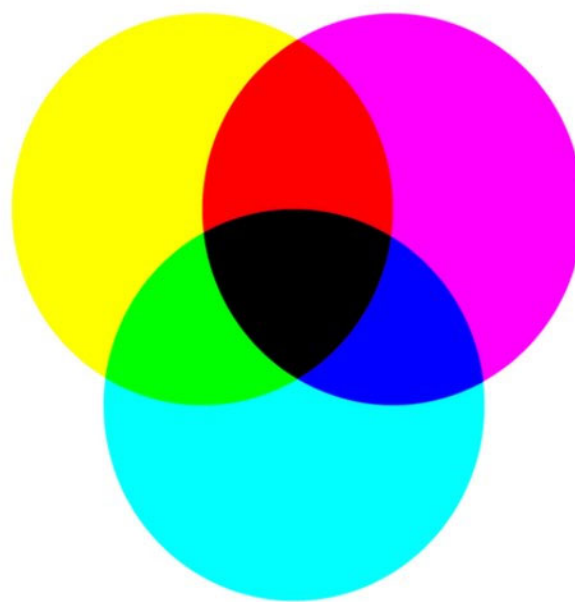
- Degoša svece dod $\approx 1 \text{ cd}$ gaismas intensitāti
- 25 W fluroscenta spuldze izstaro $\approx 1700 \text{ lm}$
 - 1700 lm izstarots visos virzienos (4π steradiāni),
gaismas intensitāte $I_V = \frac{1700 \text{ lm}}{4\pi \text{ sr}} \approx 135 \frac{\text{lm}}{\text{sr}} = 135 \text{ cd}$
 - 1700 lm izstarots 20° lielā leņķī,
gaismas intensitāte $I_V \approx 18000 \text{ cd}$
- $1 \text{ lx} = 1 \frac{\text{lm}}{\text{m}^2} = 1 \frac{\text{cd} \cdot \text{sr}}{\text{m}^2}$



KRĀSU MODEĻI

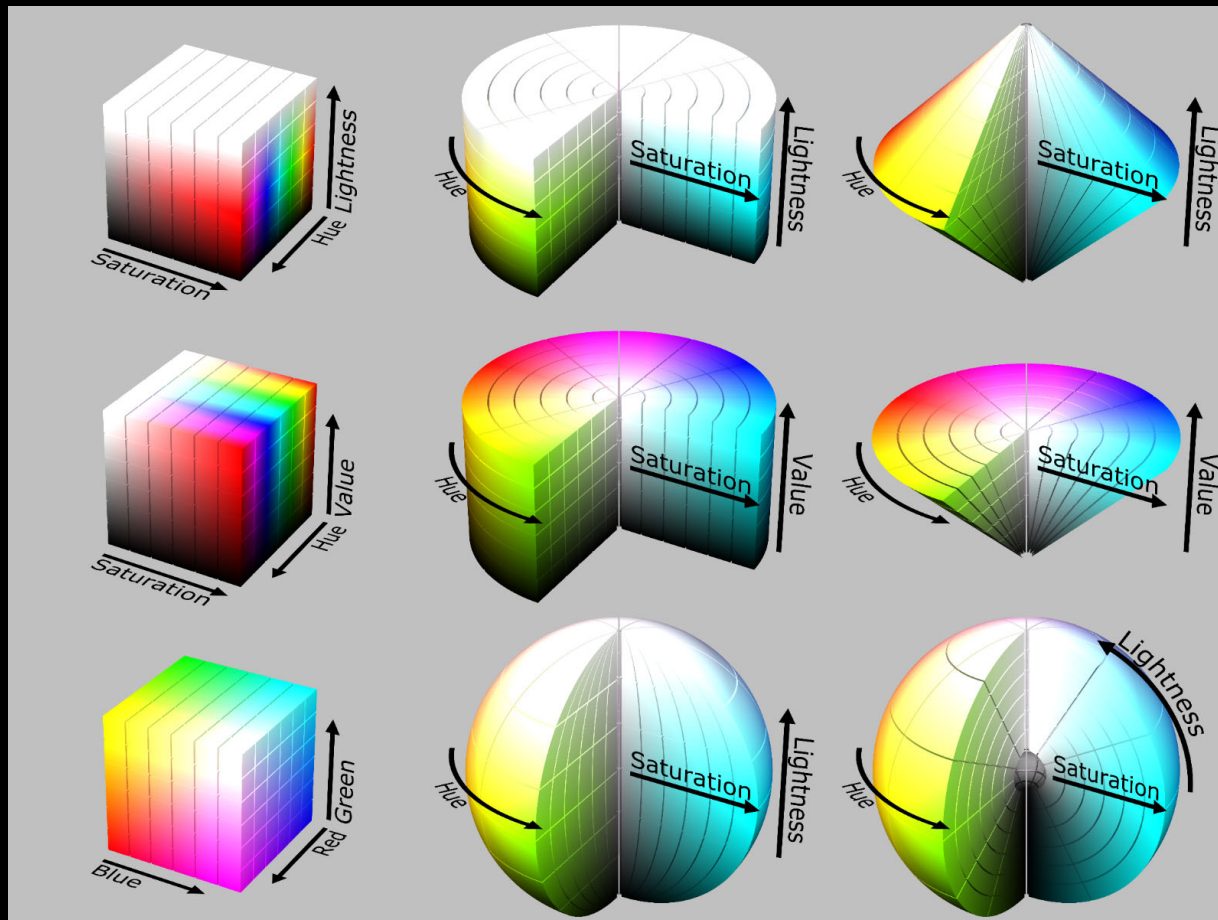


R G B



C M Y K

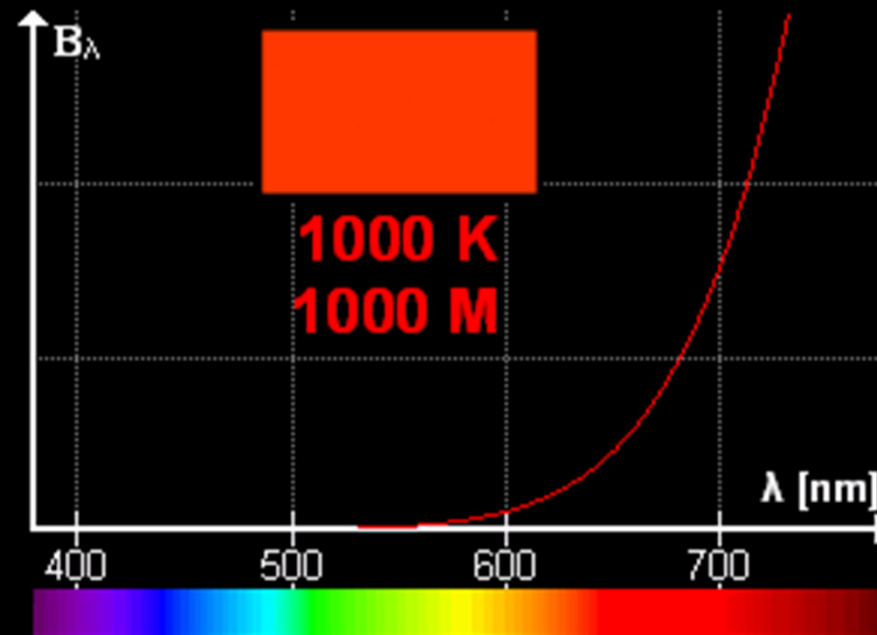
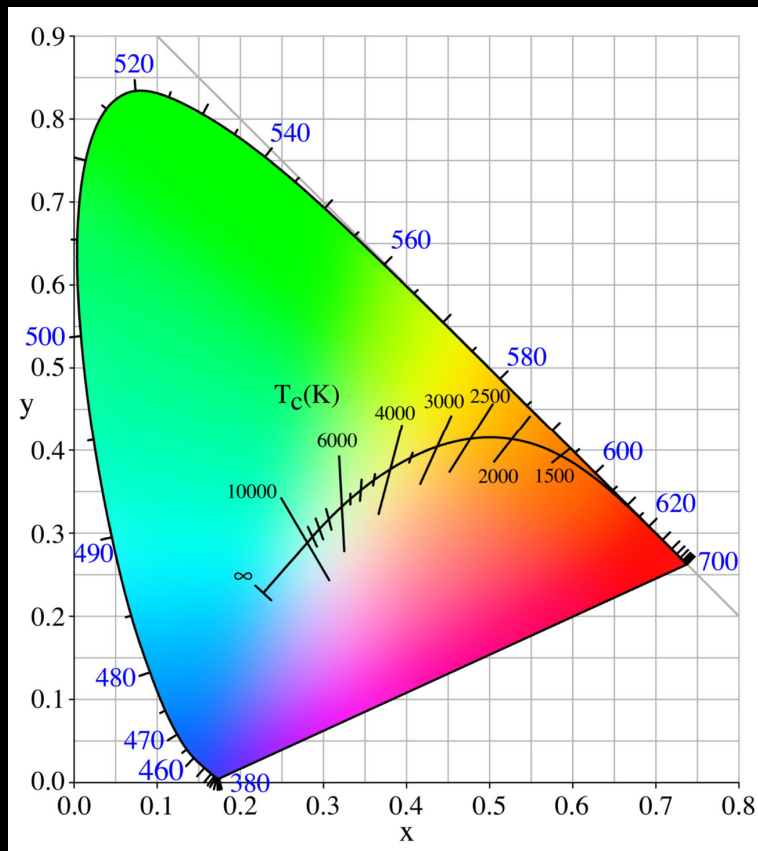
HSL / HSV / RGB



KRĀSU TEMPERATŪRA



KRĀSU TEMPERATŪRA



KRĀSU TEMPERATŪRA

3,200-3,500°K

- Quartz Lights
- Warm Metal Halide

3,000°K

- Halogen Light

2,500-2,900°K

- Household Tungsten
- Standard Incandescent

2,200°K

- High Pressure Sodium

1,850-1,930°K

- Candle Light

1,700-1,800°K

- Match Flame

5,000°K

- Late Morning
- Early Afternoon

4,500°K

- Mid Morning
- Mid Afternoon

4,000°K

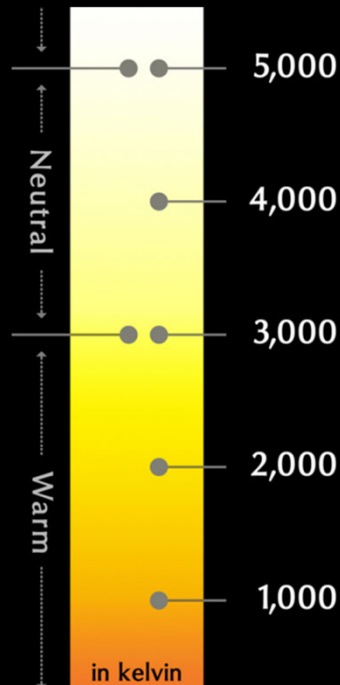
- Late Afternoon

3,500°K

- Early Morning
- Evening

2,000-3,000°K

- Sunrise
- Sunset



INDOOR Artificial Light

5,500-10,500°K

- LCD's
- CRT's

6,000°K

- Mercury Vapor Light

5,500°K

- Electronic Flash
- Daylight Metal Halide (HMI)

4,200°K

- Cool White Fluorescent (CFL)

4,000°K

- Standard Clear Metal Halide

OUTDOOR Shade and Sun

10,000°K +

- Blue Sky
- Skylight

7,500°K

- Shade from blue Sky

7,000-8,000°K

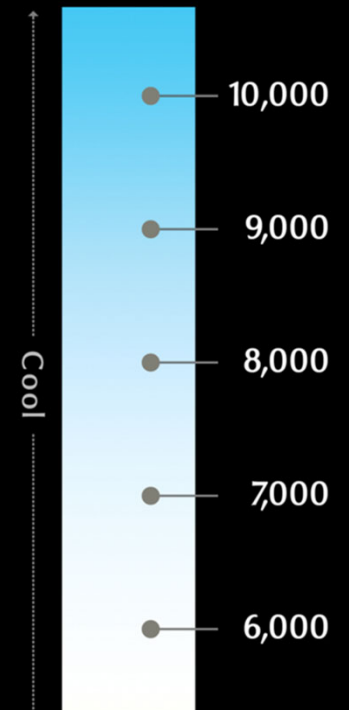
- Shade on clear Day

6,000-7,000°K

- Cloudy Sky
- Shade from Clouds
- Shade in Daylight

5,300-5,500°K

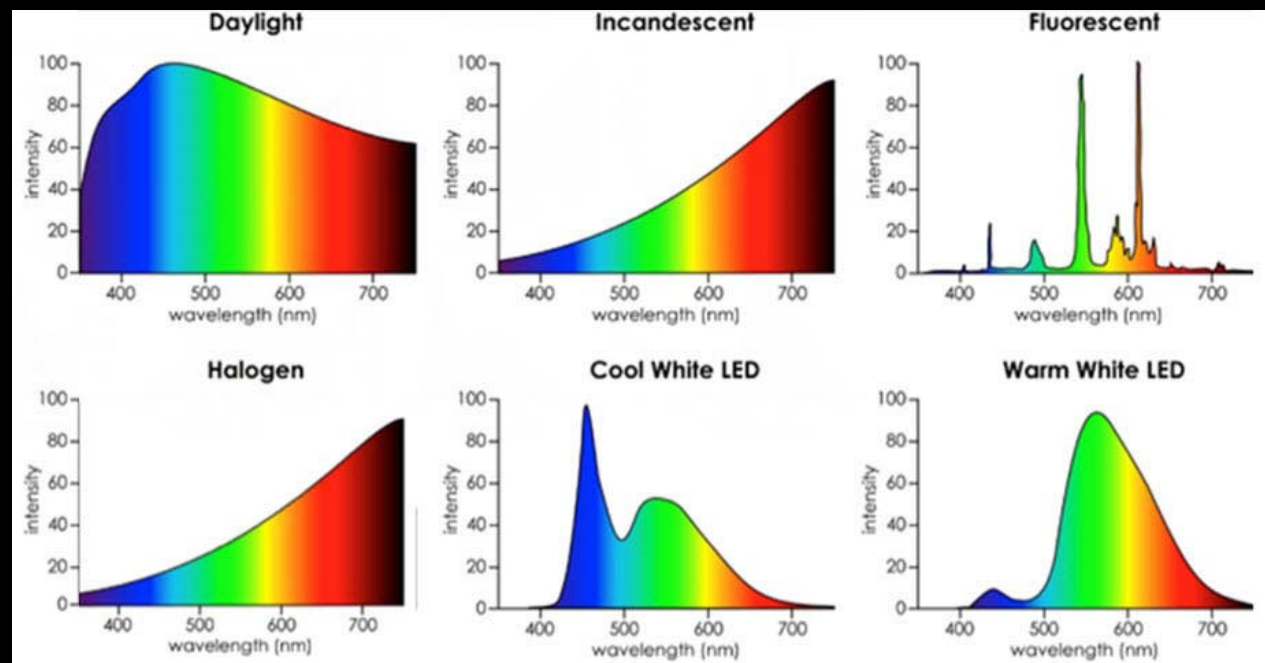
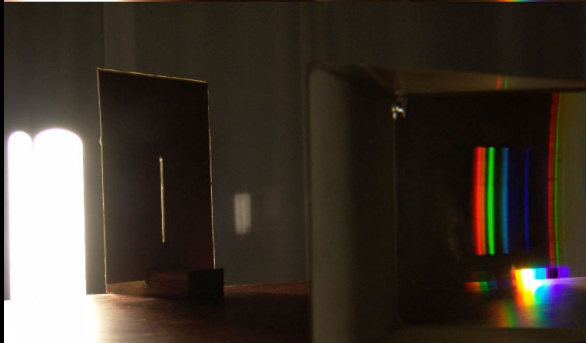
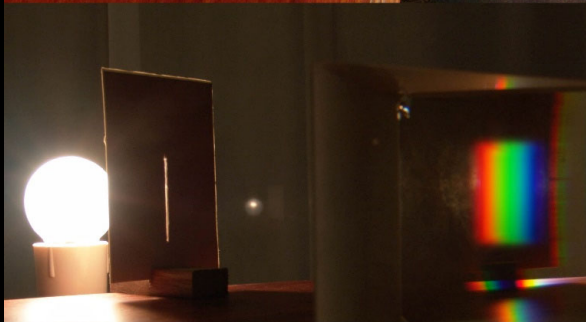
- Average Noon (Northern Hemisphere)



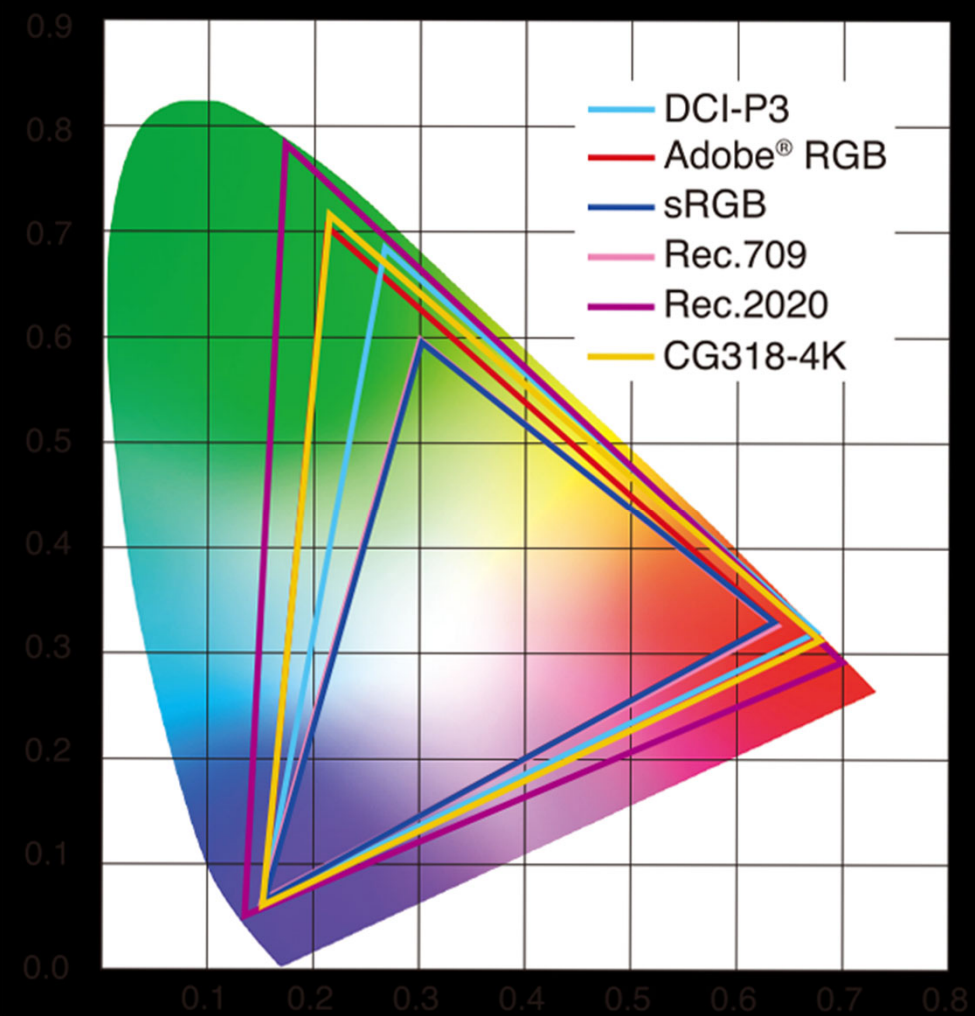
Canon EOS

7,000°K Shade	5,200°K Daylight	3,000- 7,000°K Auto Setting
6,000°K Flash Use	4,000°K White Fluorescent Light	2,500-10,000°K Color Temperature
6,000°K Cloudy, Twilight, Sunset	3,200°K Tungsten Light	2,000-10,000°K Custom Setting

GAISMAS SPEKTRS



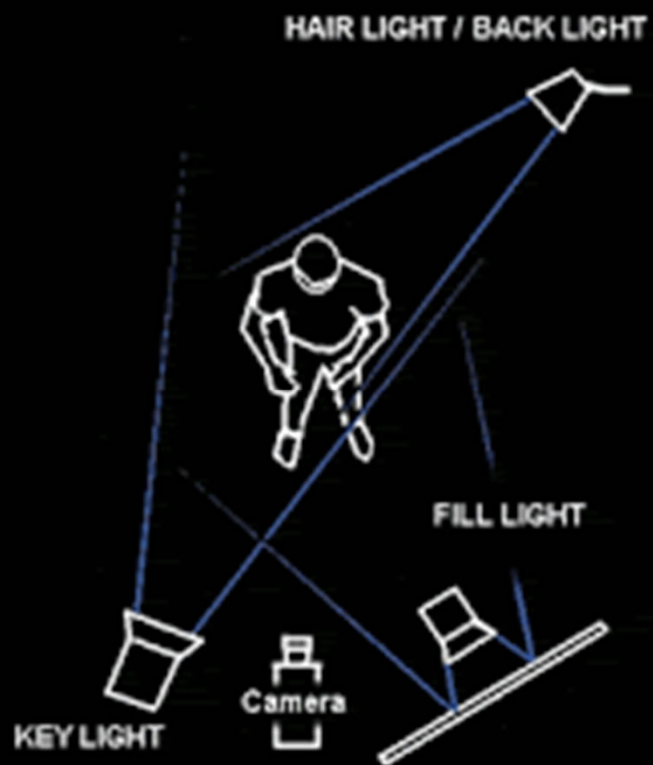
KRĀSU GAMMA



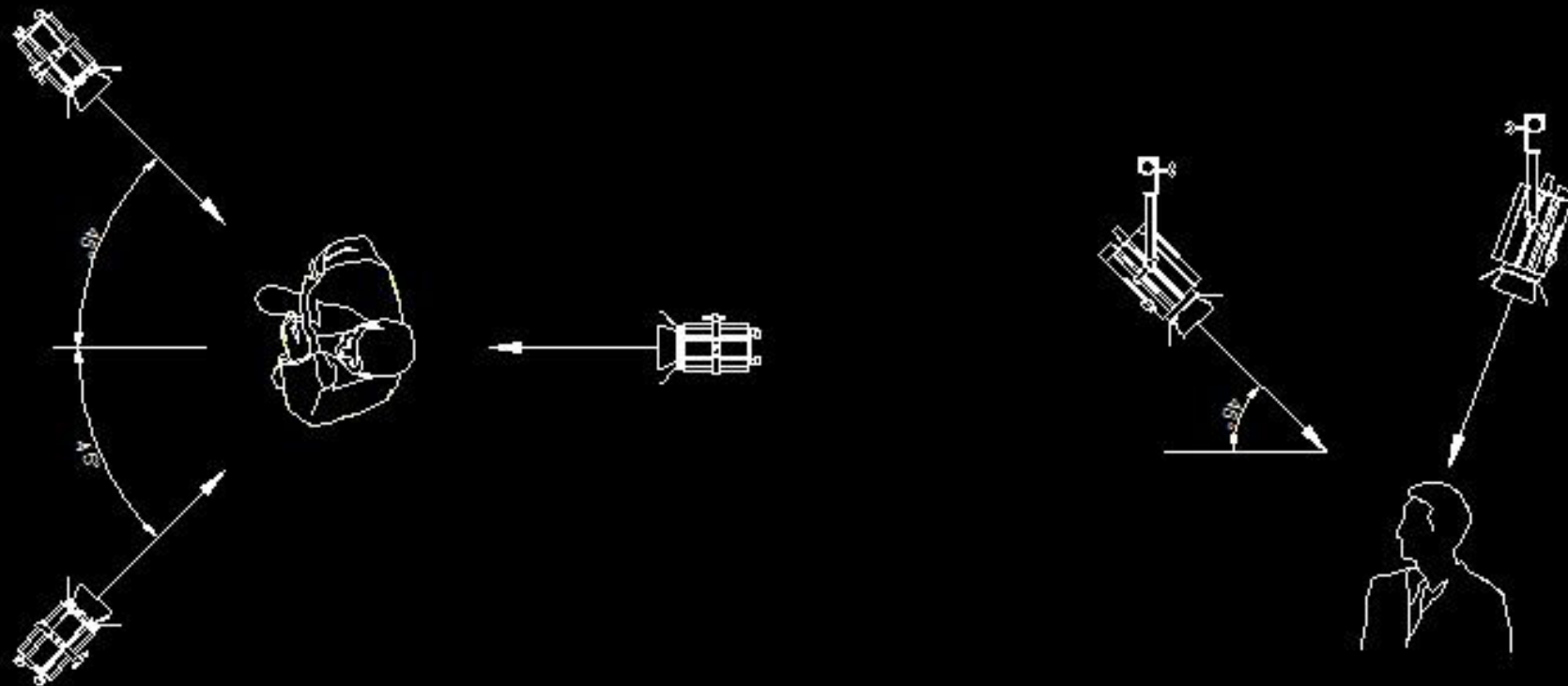
KRĀSU GAMMA



3 PUNKTU GAISMA



SKATUVES GAISMAS PAMATI



SKATUVES GAISMAS PAMATI



No.



Nope.



Definitely not.



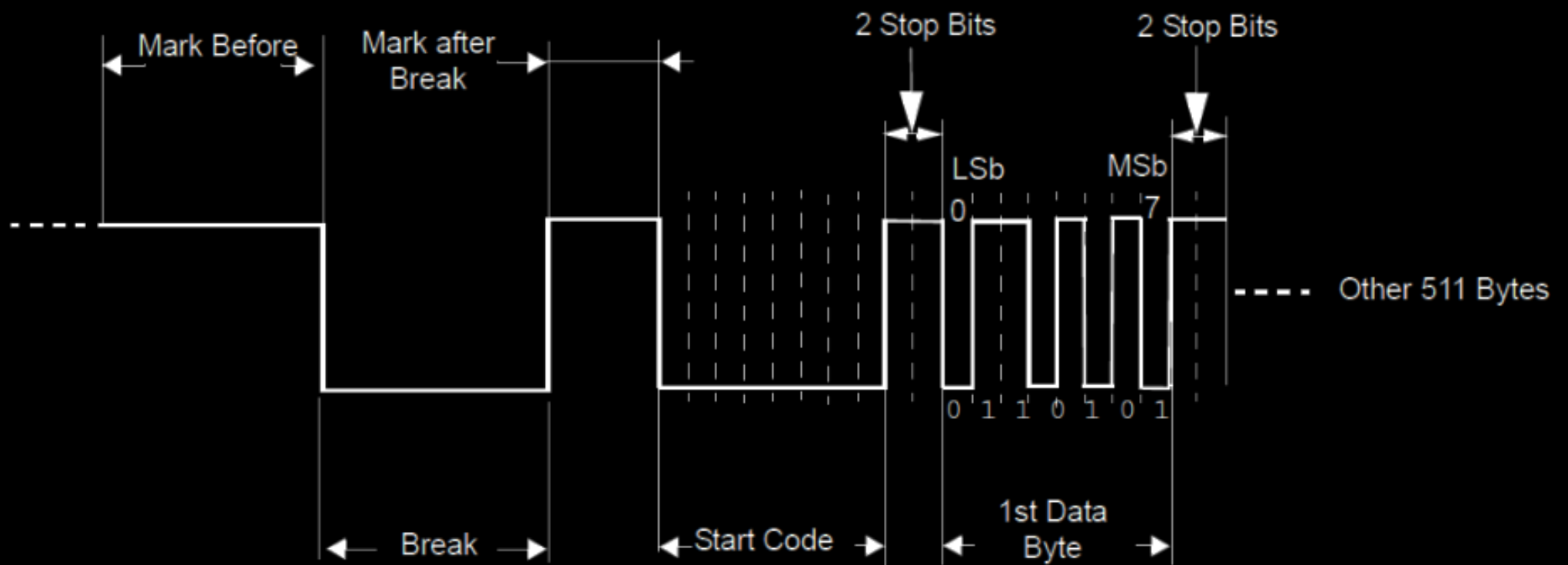
You messed up.



There you go!

GAISMU VADĪBA

- DMX512



KANĀLI UN PARAMETRI

DMX Channel Table

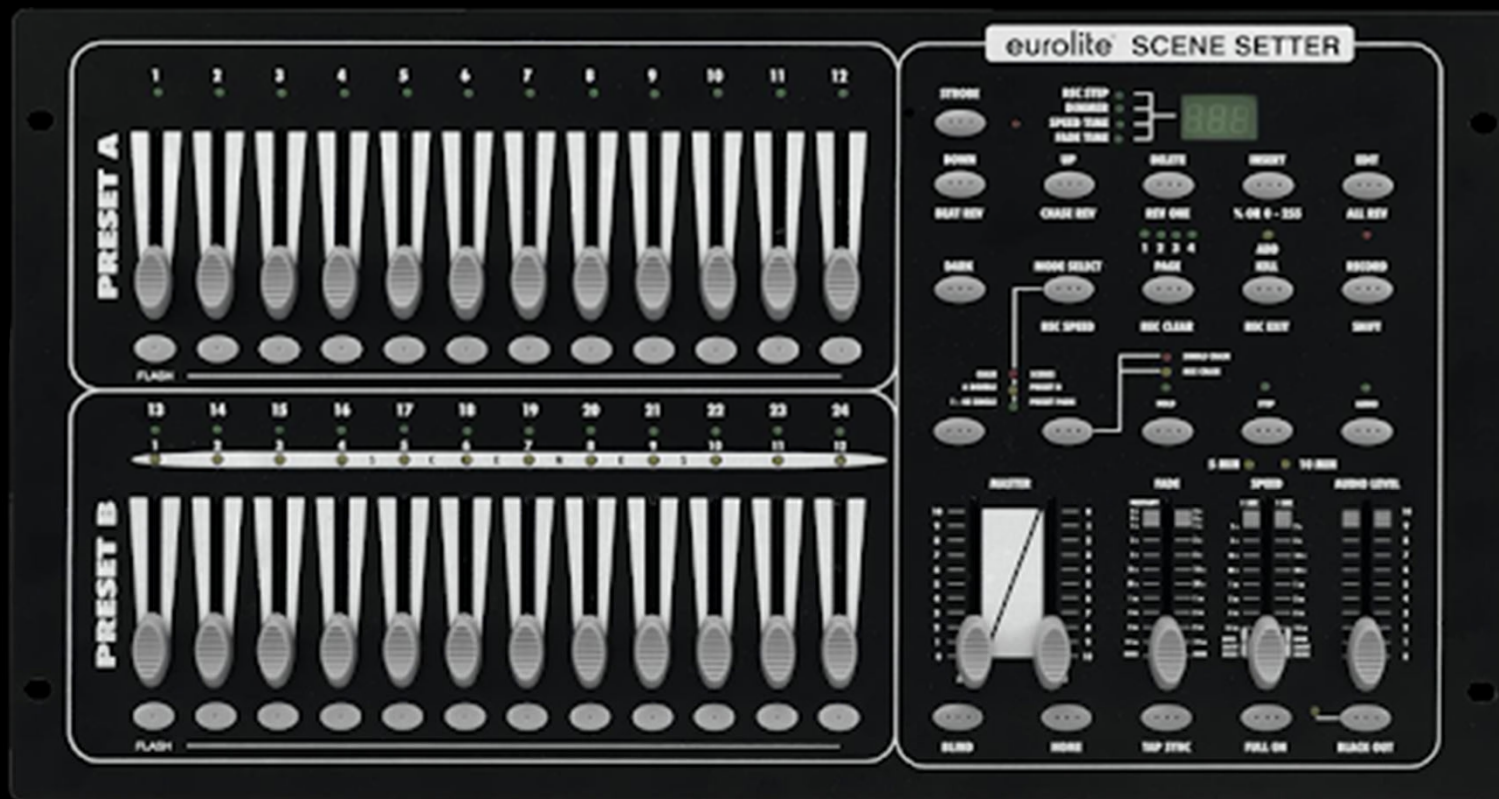
9CH

CH	Vablue	Function
1	0-255	PAN 0-540°
2	0-255	Tilt 0-180°
3	0-255	Dimmer 0-100%
4	0-255	Strobe in the line(from slow to fast)
5	0-139	Chose Color
	140-255	Color Auto (From slow to fast)
6	0-63	Gobo static
	64-127	Gobo shake
	128-255	Gobo Auto (From slow to fast)
7	0-255	PAN/Tilt speed
8	0-59	No function,other CH
	60-84	Auto3 Speed(from slow to fast)
	85-109	Auto2 Speed(from slow to fast)
	110-134	Auto1 Speed(from slow to fast)
	135-159	Auto0 Speed(from slow to fast)
	160-184	Sound3 Sensitivity (from low to high)
	185-209	Sound2 Sensitivity (from low to high)
	210-234	Sound1 Sensitivity (from low to high)
	235-255	Sound0 Sensitivity (from low to high)
9	0-20	No function,other CH
	21-100	X motor Auto
	101-200	Y motor Auto
	201-249	X,Y motor Auto
	250-255	Keep 5 seconds,the system reset

11CH

CH	Vablue	Function
1	0-255	PAN 0-540°
2	0-255	PAN 16 bit
3	0-255	Tilt 0-180°
4	0-255	Tilt 16 bit
5	0-255	Pan &Tilt Speed
6	0-255	Dimmer 0-100%
7	0-255	Strobe in the line(from slow to fast)
8	0-139	Chose Color
	140-255	Color Auto (From slow to fast)
9	0-63	Gobo static
	64-127	Gobo shake
	128-255	Gobo Auto (From slow to fast)
10	0-59	No function,other CH
	60-84	Auto3 Speed(from slow to fast)
	85-109	Auto2 Speed(from slow to fast)
	110-134	Auto1 Speed(from slow to fast)
	135-159	Auto0 Speed(from slow to fast)
	160-184	Sound3 Sensitivity (from low to high)
	185-209	Sound2 Sensitivity (from low to high)
	210-234	Sound1 Sensitivity (from low to high)
	235-255	Sound0 Sensitivity (from low to high)
11	0-20	No function,other CH
	21-100	X motor Auto
	101-200	Y motor Auto
	201-249	X,Y motor Auto
	250-255	Keep 5 seconds,the system reset

GAISMU PULTIS



GAISMU PULTIS



GAISMU PULTIS



GAISMU VADĪBA

- Art-Net
 - DMX + RDM
 - Ethernet
 - UDP/IP protokols (UDP nepārbauda nosūtīto datu saņemšanu, TCP pārbauda)
 - līdz pat 32 768 DMX universe'iem
 - Node Universe 0 = DMX Universe 1
- sACN (Streaming Architecture for Control Networks)
 - DMX + DMP
 - Ethernet un 802.11 (Wi-Fi)
 - ANSI E1.31
 - UDP (DMP atbalsta TCP)

Q&A

NODERĪGAS SAITES:

- <https://www.lightingschool.eu/portfolio/shaping-the-light/>
- <https://www.sweetwater.com/insync/stage-lighting-101-understanding-basics/>
- <https://www.onstagelighting.co.uk/stage-lighting-guides-help/>