HITACHI
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Color measurement of Cosmetics (Foundation and Eyeshadow)

Color measurement is performed when expressing color quantitatively .This makes it possible to evaluate the brightness of a sample and slight color difference.

We picked up foundation and eye shadow (cosmetics), and evaluated them using U-3900 spectrophotometer, φ 150 integrating sphere and option package program. By using the color value on the coordinates of the L * a * b * colorimetric system (by using D65 light source and 2 degree visual field), it is possible to easily check slight differences in brightness and color appearance of foundation.

Samples:

Powder foundation

Eye shadow

Measurement conditions:

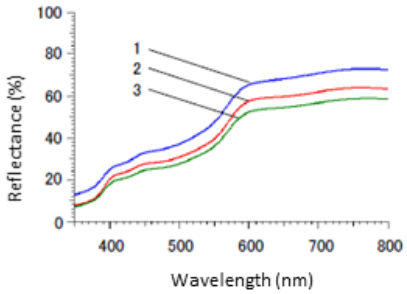
Scan Speed: 300 nm/min

Slit: 5 nm

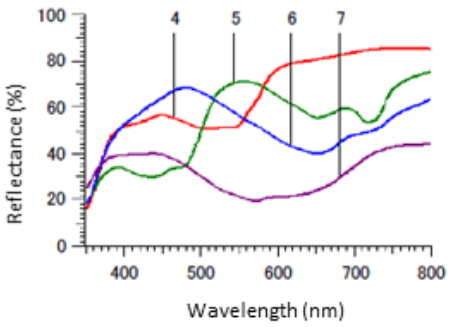
Sampling interval: 1 nm

Standard Reflectance Material: Aluminum Oxide White plate

Measurement method: n-d(JIS Z8722 (2000))、[0/d] (CIE No.15.2)



Foundation Diffuse Reflectance spectrum



Eye shadow Diffuse Reflectance spectrum

Hitachi High-Tech Science Corporation

Color Measurement of Foundations

Color calculation results (D_{65} light source, 2 degree visual field)

No.	Sample name	L*	a*	b*
1	Foundation 1	76.73	10.71	22.20
2	Foundation 2	71.89	12.08	21.92
3	Foundation 3	69.11	11.66	22.09

Among the three foundations, Foundation 1 had the highest value of L * (brightness).
From this we can see that Foundation 1 has the strongest brightness.

Foundation 2 has the highest a * value.
For this reason, it can be said it is the most reddish.

It is possible to evaluate differences in brightness and slight differences in color.

Color Measurement of Eye shadows

Color calculation results (D_{65} light source, 2 degree visual field)

No.	Sample name	L*	a*	b*
4	Pink Eye shadow	81.98	15.92	5.33
5	Green Eye shadow	84.22	-12.93	34.01
6	Light blue Eye shadow	79.03	-10.06	-8.57
7	Violet Eye shadow	55.14	6.47	-21.70

The results of color measurement are shown in the L * a * b * colorimetric system, therefore the difference in brightness and color can be easily checked.