VSRC

## FACT Contrast Sensitivity and Log Values

Functional Acuity Contrast Test (FACT) provides a valuable assessment of contrast sensitivity at a range of functionally significant spatial frequencies. It consists of five rows of nine grating patches. The rows increase in spatial frequency from A through E, A being the low, B and C, middle and D and E, the high spatial frequencies. The grating patches in each row uniformly decrease in contrast from 1 through 9 in steps of 0.15 log units. The contrast sensitivity (CS) scores corresponding to each patch in each row is given below:

| Raw Data (Row) | Cycles per degree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1.5 | 7 | 9 | 13 | 18 | 25 | 36 | 50 | 71 | 100 |
| B | 3 | 10 | 15 | 20 | 29 | 40 | 57 | 80 | 114 | 160 |
| C | 6 | 12 | 16 | 23 | 33 | 45 | 64 | 90 | 128 | 180 |
| D | 12 | 8 | 11 | 15 | 22 | 30 | 43 | 60 | 85 | 120 |
| E | 18 | 4 | 6 | 8 | 12 | 17 | 23 | 33 | 46 | 65 |

The actual CS scores can be read directly from the above chart. For e.g. the CS score for patch 8 at row C is 128.

The CS scores can also be expressed in logarithmic units by using the log transformation (base 10). For a CS score of 128, the corresponding logarithmic unit is log of 128 to the base 10, which is equal to 2.11. If no patch can be identified at a particular row, the original CS score is zero. To obtain a log unit equal to 0 then the CS score is considered equal to 1 (log 1 = 0). The logarithmic units corresponding to each contrast sensitivity (CS) score is given below in parenthesis:

| Raw Data (Row) | Cycles per degree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1.5 | 7 (0.85) | 9 (0.95) | 13 (1.11) | 18 (1.26) | 25 (1.40) | 36 (1.56) | 50 (1.70) | 71 (1.85) | 100 (2.00) |
| B | 3 | 10 (1.00) | 15 (1.18) | 20 (1.30) | 29 (1.46) | 40 (1.60) | 57 (1.76) | 80 (1.90) | 114 (2.06) | 160 (2.20) |
| C | 6 | 12 (1.08) | 16 (1.20) | 23 (1.36) | 33 (1.52) | 45 (1.65) | 64 (1.81) | 90 (1.95) | 128 (2.11) | 180 (2.26) |
| D | 12 | 8 (0.90) | 11 (1.04) | 15 (1.18) | 22 (1.34) | 30 (1.48) | 43 (1.63) | 60 (1.78) | 85 (1.93) | 120 (2.08) |
| E | 18 | 4 (0.60) | 6 (0.78) | 8 (0.90) | 12 (1.08) | 17 (1.23) | 23 (1.36) | 33 (1.52) | 46 (1.66) | 65 (1.81) |

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