

|                              |                 |                 |                              |
|------------------------------|-----------------|-----------------|------------------------------|
| <b>H-LaF51</b> <b>700481</b> | $n_d = 1.70000$ | $\nu_d = 48.08$ | $n_F - n_C = 0.014559$       |
|                              | $n_e = 1.70346$ | $\nu_e = 47.80$ | $n_{F'} - n_{C'} = 0.014717$ |

| Refractive Indices |                      |             |
|--------------------|----------------------|-------------|
|                    | $\lambda(\text{nm})$ | $n_\lambda$ |
| $n_{2325}$         | 2325.42              | 1.66549     |
| $n_{1970}$         | 1970.09              | 1.67085     |
| $n_{1530}$         | 1529.58              | 1.67686     |
| $n_{1129}$         | 1128.64              | 1.68256     |
| $n_t$              | 1013.98              | 1.68456     |
| $n_s$              | 852.11               | 1.68821     |
| $n_{A'}$           | 768.19               | 1.69079     |
| $n_r$              | 706.52               | 1.69320     |
| $n_C$              | 656.27               | 1.69564     |
| $n_{C'}$           | 643.85               | 1.69633     |
| $n_{\text{He-Ne}}$ | 632.80               | 1.69697     |
| $n_D$              | 589.29               | 1.69987     |
| $n_d$              | 587.56               | 1.70000     |
| $n_e$              | 546.07               | 1.70346     |
| $n_F$              | 486.13               | 1.71020     |
| $n_{F'}$           | 479.99               | 1.71104     |
| $n_g$              | 435.84               | 1.71838     |
| $n_h$              | 404.66               | 1.72530     |
| $n_i$              | 365.01               | 1.73740     |

| Constants of Dispersion Formula |                 |
|---------------------------------|-----------------|
| $A_0$                           | 2.82781336E+00  |
| $A_1$                           | -1.06938171E-02 |
| $A_2$                           | 2.08610635E-02  |
| $A_3$                           | 7.26796327E-04  |
| $A_4$                           | -3.73066587E-05 |
| $A_5$                           | 3.28626126E-06  |

| Relative Partial Dispersions |        |             |        |
|------------------------------|--------|-------------|--------|
| $P_{d,C}$                    | 0.2995 | $P'_{d,C'}$ | 0.2495 |
| $P_{e,d}$                    | 0.2376 | $P'_{e,d}$  | 0.2352 |
| $P_{g,F}$                    | 0.5618 | $P'_{g,F'}$ | 0.4990 |

| Range of Temperature (°C) | Temperature Coefficients of Refractive Index |     |       |     |     |     |     |
|---------------------------|--|-----|-------|-----|-----|-----|-----|
|                           | dn/dt relative (10 <sup>-6</sup> / °C)       |     |       |     |     |     |     |
|                           | t  | C'  | He-Ne | D   | e   | F'  | g   |
| -40 ~ -20                 | 1.5  | 2.0 | 2.0   | 2.2 | 2.4 | 2.9 | 3.4 |
| -20 ~ 0                   | 1.4  | 1.9 | 1.9   | 2.1 | 2.3 | 2.9 | 3.4 |
| 0 ~ 20                    | 1.3  | 1.9 | 1.9   | 2.1 | 2.3 | 2.9 | 3.4 |
| 20 ~ 40                   | 1.3  | 1.9 | 2.0   | 2.2 | 2.4 | 2.9 | 3.5 |
| 40 ~ 60                   | 1.4  | 2.0 | 2.1   | 2.2 | 2.5 | 3.1 | 3.7 |
| 60 ~ 80                   | 1.5  | 2.1 | 2.1   | 2.4 | 2.6 | 3.2 | 3.8 |

| Chemical Properties (grade) |   |
|-----------------------------|---|
| RC(S)                       | 1 |
| RA(S)                       | 1 |
| D <sub>W</sub>              | 1 |
| D <sub>A</sub>              | 3 |
| R <sub>OH</sub> (S)         | 1 |
| RP(S)                       | 2 |

| Thermal Properties                                     |     |
|--|-----|
| T <sub>g</sub> (°C)                                    | 642 |
| T <sub>s</sub> (°C)                                    | 698 |
| T <sub>10</sub> <sup>14.5</sup> (°C)                   | 591 |
| T <sub>10</sub> <sup>13</sup> (°C)                     | 635 |
| $\alpha_{-50/80^\circ\text{C}}$ (10 <sup>-7</sup> /K)  | 77  |
| $\alpha_{100/300^\circ\text{C}}$ (10 <sup>-7</sup> /K) | 91  |

| Mechanical Properties       |       |
|-----------------------------|-------|
| HK(10 <sup>7</sup> Pa)      | 532   |
| F <sub>A</sub>              | 171   |
| E(10 <sup>7</sup> Pa)       | 10590 |
| G(10 <sup>7</sup> Pa)       | 4133  |
| $\mu$                       | 0.281 |
| B(nm/cm/10 <sup>5</sup> Pa) | 1.580 |

| Density                     |      |
|-----------------------------|------|
| $\rho$ (g/cm <sup>3</sup> ) | 4.01 |

| Deviation of Relative Partial Dispersions |         |
|---|---------|
| $\Delta P_{F,e}$                          | -0.0007 |
| $\Delta P_{g,F}$                          | -0.0019 |
| $\Delta P_{C,t}$                          | -0.0121 |
| $\Delta P_{C,s}$                          | -0.0055 |

| Internal Transmittance |                     |                      |
|------------------------|---------------------|----------------------|
| $\lambda(\text{nm})$   | $\tau_{5\text{mm}}$ | $\tau_{10\text{mm}}$ |
| 2400                   | 0.920               | 0.845                |
| 2200                   | 0.972               | 0.944                |
| 2000                   | 0.990               | 0.977                |
| 1800                   | 0.999               | 0.990                |
| 1600                   | 0.999               | 0.998                |
| 1400                   | 0.999               | 0.998                |
| 1200                   | 0.999               | 0.998                |
| 1060                   | 0.999               | 0.998                |
| 1000                   | 0.999               | 0.998                |
| 900                    | 0.999               | 0.998                |
| 850                    | 0.999               | 0.998                |
| 800                    | 0.999               | 0.998                |
| 750                    | 0.999               | 0.998                |
| 700                    | 0.999               | 0.998                |
| 650                    | 0.999               | 0.998                |
| 600                    | 0.999               | 0.998                |
| 550                    | 0.999               | 0.998                |
| 500                    | 0.999               | 0.998                |
| 480                    | 0.999               | 0.998                |
| 460                    | 0.999               | 0.998                |
| 440                    | 0.997               | 0.996                |
| 420                    | 0.995               | 0.993                |
| 400                    | 0.992               | 0.985                |
| 390                    | 0.987               | 0.977                |
| 380                    | 0.978               | 0.958                |
| 370                    | 0.959               | 0.921                |
| 360                    | 0.914               | 0.836                |
| 350                    | 0.798               | 0.638                |
| 340                    | 0.538               | 0.290                |
| 330                    | 0.180               | 0.032                |
| 320                    |                     |                      |
| 310                    |                     |                      |
| 300                    |                     |                      |
| 290                    |                     |                      |
| 280                    |                     |                      |

| Coloration Code                        |         |
|--|---------|
| $\lambda_{80}(\lambda_{70})/\lambda_5$ | 370/330 |

| Coloration of Internal Transmittance |  |
|--------------------------------------|--|
| $\lambda\tau_{80}/\lambda\tau_5$     |  |