

## ANSI/ISEA 107-2004 Combined-Performance Material Testing Report, Level 2

|                       |                 |
|-----------------------|-----------------|
| Material Description: | Test Lab(s):    |
| Lot #:                | Address:        |
| Manufacturer:         | Contact Person: |
| Color:                | Date Tested:    |

| COLOR REQUIREMENTS             |            |                                                                                                       |             |               |
|--------------------------------|------------|-------------------------------------------------------------------------------------------------------|-------------|---------------|
| Test                           | Section    | ANSI/ISEA 107 Requirement                                                                             | Test Result | Pass/<br>Fail |
| Color, prior to Exposure Tests | 7.1.2, 9.2 | The chromaticity shall lie within the area defined in Table 3.<br>(Attach color plot to test report.) | x =<br>y =  |               |
|                                | 7.1.2, 9.2 | The daytime luminance factor (%Y) shall meet or exceed the minimums defined in Table 3.               | %Y =        |               |
| Colorfastness after Xenon Test | 7.1.3, 9.2 | The chromaticity shall lie within the area defined in Table 3.<br>(Attach color plot to test report.) | x =<br>y =  |               |
|                                | 7.1.3, 9.2 | The daytime luminance factor (%Y) shall meet or exceed the minimums defined in Table 3.               | %Y =        |               |

**PHOTOMETRIC PERFORMANCE REQUIREMENTS**

Take measurements at  $\varepsilon_1 = 0^\circ$  and  $\varepsilon_2 = 90^\circ$ . Record maximum value on left side of test result column and the other value on right side of test result column.

| ANSI/ISEA 107 Requirement<br>Section 8.1, Table 5 |                |                                 | Test Result<br>cd/(lx·m <sup>2</sup> ) |  | Pass/<br>Fail |
|---------------------------------------------------|----------------|---------------------------------|----------------------------------------|--|---------------|
| Observation Angle                                 | Entrance Angle | Minimum cd/(lx·m <sup>2</sup> ) |                                        |  |               |
| 12' (0.2°)                                        | 5°             | 330 / 248                       |                                        |  |               |
|                                                   | 20°            | 290 / 218                       |                                        |  |               |
|                                                   | 30°            | 180 / 135                       |                                        |  |               |
|                                                   | 40°            | 65 / 47                         |                                        |  |               |
| 20' (0.33°)                                       | 5°             | 250 / 188                       |                                        |  |               |
|                                                   | 20°            | 200 / 150                       |                                        |  |               |
|                                                   | 30°            | 170 / 128                       |                                        |  |               |
|                                                   | 40°            | 60 / 45                         |                                        |  |               |
| 1.0°                                              | 5°             | 25 / 18.8                       |                                        |  |               |
|                                                   | 20°            | 15 / 11.3                       |                                        |  |               |
|                                                   | 30°            | 12 / 9                          |                                        |  |               |
|                                                   | 40°            | 10 / 7.5                        |                                        |  |               |
| 1.5°                                              | 5°             | 10 / 7.5                        |                                        |  |               |
|                                                   | 20°            | 7 / 5.25                        |                                        |  |               |
|                                                   | 30°            | 5 / 3.75                        |                                        |  |               |
|                                                   | 40°            | 4 / 3                           |                                        |  |               |

**PHYSICAL PERFORMANCE REQUIREMENTS**

| Test                                                     | Section                 | ANSI/ISEA 107 Requirement                                                                                                                                                           | Test Result                            | Pass/<br>Fail |
|----------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------|
| Retroreflection, after abrasion                          | 8.2 ,<br>9.4.1          | $R_A (0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_1$<br>$R_A (0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_2$ | $\varepsilon_1$ :<br>$\varepsilon_2$ : |               |
| Retroreflection, after flexing                           | 8.2,<br>9.4.2           | $R_A (0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_1$<br>$R_A (0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_2$ | $\varepsilon_1$ :<br>$\varepsilon_2$ : |               |
| Retroreflection, after folding at cold Temperatures      | 8.2,<br>9.4.3           | $R_A (0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_1$<br>$R_A (0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_2$ | $\varepsilon_1$ :<br>$\varepsilon_2$ : |               |
| Retroreflection, after exposure to temperature variation | 8.2,<br>9.4.4           | $R_A (0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_1$<br>$R_A (0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_2$ | $\varepsilon_1$ :<br>$\varepsilon_2$ : |               |
| Retroreflection, after washing (when applicable)         | 8.2,<br>9.4.5,<br>9.4.6 | $R_A (0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_1$<br>$R_A (0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_2$ | $\varepsilon_1$ :<br>$\varepsilon_2$ : |               |
| Retroreflection, after dry cleaning (when applicable)    | 8.2,<br>9.4.5,<br>9.4.7 | $R_A (0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_1$<br>$R_A (0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_2$ | $\varepsilon_1$ :<br>$\varepsilon_2$ : |               |
| Retroreflection in rainfall                              | 8.2 ,<br>9.4.8          | $R_A (0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_1$<br>$R_A (0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\varepsilon_2$ | $\varepsilon_1$ :<br>$\varepsilon_2$ : |               |