Substitute Light Sources
Equivalence Reports for W5W and WY5W (12V and 24V)

In support of document ECE/TRANS/WP.29/GRE/2019/10
Equivalence Report

W5W, WY5W (12V, 24V)
According to Regulation No. 128
Equivalence Requirements GRE-80-02
Checklist for Equivalence of Parameters

W5W, WY5W (12V and 24V)

Parameters

3.1. Parameters with the same values

3.1.1. Holder (as in accordance with the given IEC Publication 60061) ✓
3.1.2. Maximum lamp outline dimensions ✓
3.1.3. Electrical connector n/a
3.1.4. Test voltage ✓
3.1.5. Objective luminous flux ✓
3.1.6. Colour of emitted light ✓
3.1.7. Light centre length ✓
3.1.8. Distortion free zone (if any) n/a

3.2. Parameters with similar values

3.2.1. Normalized luminous intensity distribution see page 4 and 5 ✓
3.2.2. Size and position of the light-emitting-area see page 6 ✓
3.2.3. Homogeneity of the light-emitting-area see page 6 ✓

3.3. Parameters with different values

3.3.1. Maximum electrical power consumption 2W for 12V (2.5W for 24V) ✓
3.3.2. The minimum voltage range R128 Annex 4 (9-16V (12V) and [16]-32V(24V)) ✓
3.3.3. The spectral content R128 par. 3.12.4.** [in combination with functional interlock] ✓
3.3.4. Functional interlock between light source and application IEC Cap: WX2.1x9.5d ✓

3.4. Additional parameters

3.4.1. Thermal behaviour R128 Annex 4 ✓

4. Requirements regarding failure detection

4.1. Failure detection 30 .... 185 mA ✓
4.2. Failure behaviour below 10 mA ✓

no flash R128 3.12.3.** ✓

** GRE-adopted proposal GRE/2018/39
Normalised Intensity Distribution

W5W
Normalised Intensity Distribution

WY5W
Size, Position and Homogeneity of the Light-Emitting-Area W5W, WY5W

Where:

A = A1 + A2 + A3 and B = B1 + B2 + B3 and C = C1 + C2 + C3

The proportion of the total luminous flux emitted into the viewing direction from the area(s)
A, B and C together shall be 70 per cent or more
B shall be 20 per cent or more
A and C shall each be more than 15 per cent
A1, B1 and C1 together shall be less than 50 per cent
A2, B2 and C2 together shall be more than 20 per cent
A3, B3 and C3 together shall be less than 50 per cent

Table 2
Dimensions of the box system in figure 2

<table>
<thead>
<tr>
<th>Dimensions in mm</th>
<th>a</th>
<th>h</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>All views</td>
<td>6.0</td>
<td>8.0</td>
<td>1.5</td>
</tr>
<tr>
<td>(as specified above)</td>
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</table>

Figure 2
Box definition of the light emitting area
END