**Section 315.TABLE A MPE for Ocular Exposure (Intrabeam Viewing)**

**Ultraviolet**

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| Wavelength  (μ m) | Exposure  Duration, *t*s | MPE | |
| (J cm-2) | (W cm-2) |
| 0.180 to 0.302 | 10-9 to 3 x 104 | 3 x 10-3 |  |
| 0.303 | 10-9 to 3 x 104 | 4 x 10-3 |  |
| 0.304 | 10-9 to 3 x 104 | 6 x 10-3 |  |
| 0.305 | 10-9 to 3 x 104 | 10 x 10-3 |  |
| 0.306 | 10-9 to 3 x 104 | 16 x 10-3 |  |
| 0.307 | 10-9 to 3 x 104 | 25 x 10-3 |  |
| 0.308 | 10-9 to 3 x 104 | 40 x 10-3 |  |
| 0.309 | 10-9 to 3 x 104 | 63 x 10-3 |  |
| 0.310 | 10-9 to 3 x 104 | 0.1 |  |
| 0.311 | 10-9 to 3 x 104 | 0.16 |  |
| 0.312 | 10-9 to 3 x 104 | 0.25 |  |
| 0.313 | 10-9 to 3 x 104 | 0.40 |  |
| 0.314 | 10-9 to 3 x 104 | 0.63 |  |
| 0.315 to 0.400 | 10-9 to 10 | 0.56 *t*¼ |  |
| 0.315 to 0.400 | 10 x 3 x 104 | 1.0 |  |

NOTE: To calculate MPE, use the J cm-2 value shown or 0.56 *t*¼, whichever is lower.

**Visible and Near Infrared**

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| --- | --- | --- | --- |
| Wavelength  (μ m) | Exposure  Duration, *ts* | MPE | |
| (J cm-2) | (W cm-2) |
| 0.400 to 0.700 | 10-9 to 18 x 10-6 | 0.5 x 10-6 |  |
| 0.400 to 0.700 | 18 x 10-6 to 10 | 1.8 *t*¾ x 10-3 |  |
| 0.400 to 0.550 | 10 to 104 | 10 x 10-3 |  |
| 0.550 to 0.700 | 10 to T1 | 1.8 *t*¾ x 10-3 |  |
| 0.550 to 0.700 | T1 to 104 | 10CB to 10-3 |  |
| 0.400 to 0.700 | 104 to 3 x 104 |  | CB x 10-6 |
| 0.700 to 1.050 | 10-9 to 18 x 10-6 | 0.5CA x 10-6 |  |
| 0.700 to 1.050 | 18 x 10-6 to 103 | 1.8CA *t*¾ x 10-3 |  |
| 0.700 to 1.050 | 103 to 3 x 104 |  | 320CA x 10-6 |
| 1.050 to 1.400 | 10-9 to 50 x 10-6 | 5Cc x 10-6 |  |
| 1.050 to 1.400 | 50 x 10-6 to 103 | 9.0Cc *t*¾ x 10-3 |  |
| 1.050 to 1.400 | 103 to 3 x 104 |  | 1.6Cc x 10-3 |

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| NOTES: | 1. | See Section 315.Tables D & E for limiting apertures (see ANSI Z136.1 pg. 44). |
|  | 2. | For multiple pulses, apply correction factor Cp given in Section 315.Table C. |
|  | 3. | For information on correction factors T1, CB, CA, Cp and Cc, see Section 315.Table C. |

**Far Infrared**

|  |  |  |  |
| --- | --- | --- | --- |
| Wavelength  (μ m) | Exposure  Duration, *ts* | MPE | |
| (J cm-2) | (W cm-2) |
| 1.400 to 1.500 | 10-9 to 10-3 | 0.1 |  |
| 1.400 to 1.500 | 10-3 to 10 | 0.56 *t*¼ |  |
| 1.400 to 1.500 | 10 to 3 x 104 |  | 0.1 |
| 1.500 to 1.800 | 10-9 to 10 | 1.0 |  |
| 1.500 to 1.800 | 10 to 3 x 104 |  | 0.1 |
| 1.800 to 2.600 | 10-9 to 10-3 | 0.1 |  |
| 1.800 to 2.600 | 10-3 to 10 | 0.56 *t*¼ |  |
| 1.800 to 2.600 | 10 to 3 x 104 |  | 0.1 |
| 2.600 to 103 | 10-9 to 10-7 | 10 x 10-3 |  |
| 2.600 to 103 | 10-7 to 10 | 0.56 *t*¼ |  |
| 2.600 to 103 | 10 to 3 x 104 |  | 0.1 |

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| NOTES: | 1. | See Section 315.Tables D & E for limiting apertures (see ANSI Z136.1 pg. 44). | | | |
|  | 2. | For multiple pulses, apply correction factor Cp given in Section 315.Table C. | | | |
|  | | | | | |
| GENERAL NOTES: | 1. | The MPE for diffuse reflections at wave lengths between 0.400 and 1.400 μm is obtained by multiplying the corresponding MPEs above by CE (see Section 315.Table C for correction factors and T1). | | | |
|  | 2. | For repeated (pulsed) exposures, see ANSI Z136.1. | | | |
|  | 3. | For purposes of this Section 315.Table A, the following abbreviations or symbols are used: | | | |
|  | | | μm | = | micrometers |
|  | | | *t*s | = | time in seconds |
|  | | | J | = | joules |
|  | | | W | = | watts |
|  | | | cm | = | centimeters |