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Info: Definitions of IES Roadway Luminaire Classifications (Types I, II, III, IV and V)

Summary:

The Illuminating Engineering Society of North America (IESNA) defines roadway and area lighting fixtures by their photometric properties and distance to the half maximum candela trace and the maximum candela value. The classifications allow designers to choose the proper product for their requirements.

More Information:

The definitions of the IES classifications follow:

IES Classifications - The lateral classification describes the lateral light distribution with regards to the lighted area width described as multiples of the mounting height (MH). The width of the half-maximum candela trace within the longitudinal distribution range (Short, Medium or Long) is used. The boundaries for each classification in terms of Longitudinal Roadway Lines (LRL, running along the roadway) are as follows:

- Type I - Half-maximum candela trace falls between 1 MH LRL on the House side and 1 MH LRL on the Street side.
- Type II - Half-maximum candela trace on the Street side is beyond the 1 MH LRL but not beyond the 1.75 MH LRL.
- Type III - Half-maximum candela trace on the Street side is beyond the 1.75 MH LRL but not beyond the 2.75 MH LRL.
- Type IV - Half-maximum candela trace on the Street side is beyond the 2.75 MH LRL.
- Type V - Has circular symmetry being essentially the same at all lateral angles around the luminaire.

Informally, there is also a Type V-S, similar to Type V, but square in shape.

In addition to these types, the light distribution can be classified as Short (S), Medium (M), or Long (L). This refers to the luminaire's vertical light distribution and is based on where the maximum intensity (candela value) points to in the grid in the figure below, given in Transverse Roadway Lines (TRL, running across the roadway) as a multiple of mounting height (MH). The vertical distribution categories are defined as follows:

- Short (S): The maximum intensity points to a point in the S zone of the grid, 1.0 - 2.25 MH TRL.
- Medium (M): The maximum intensity points to a point in the M zone of the grid, 2.25 - 3.75 MH TRL.
- Long (L): The maximum intensity points to a point in the L zone of the grid, 3.75 - 6.0 MH TRL.

The image below is Figure 22-7 from the IESNA Lighting Handbook, 9th Edition, © 2000, and is used with permission.

LRL = Longitudinal Roadway Lines, running along the roadway

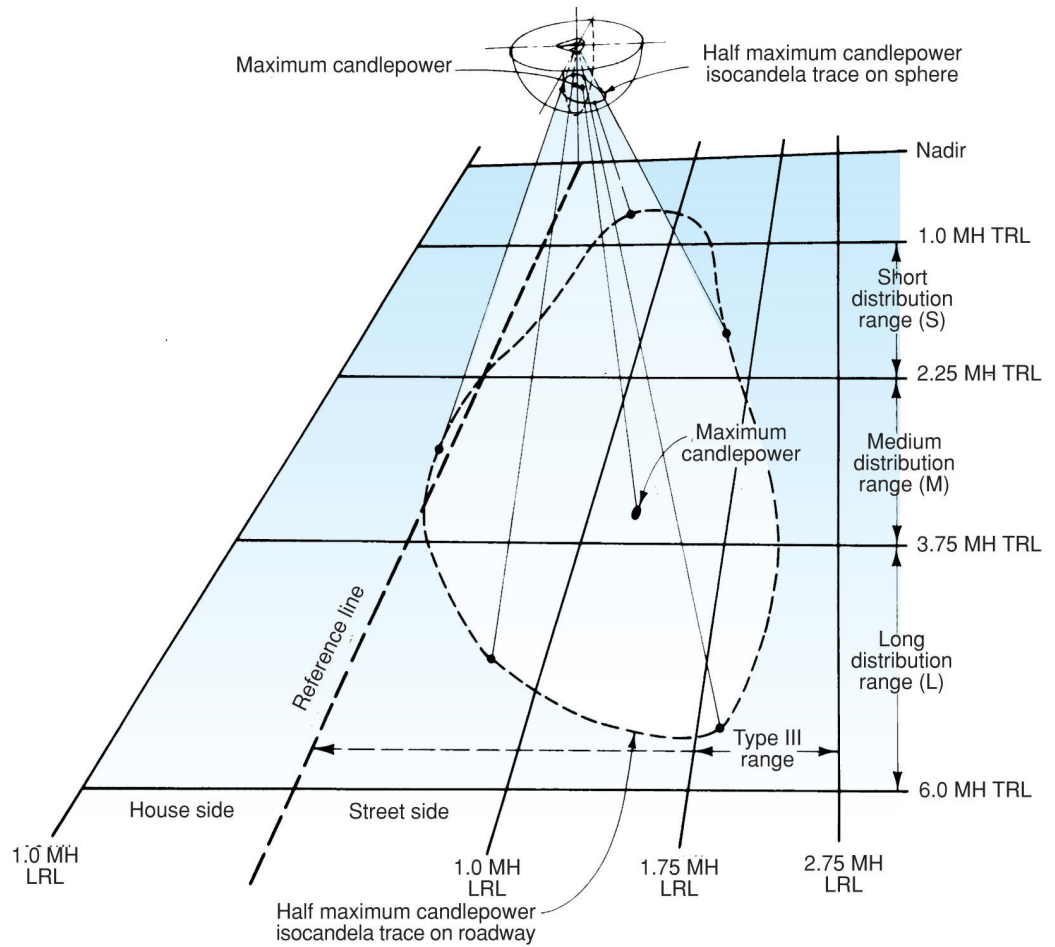
TRL = Transverse Roadway Lines, running across the roadway

In this example, the luminaire is a Type III -- Medium distribution.

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