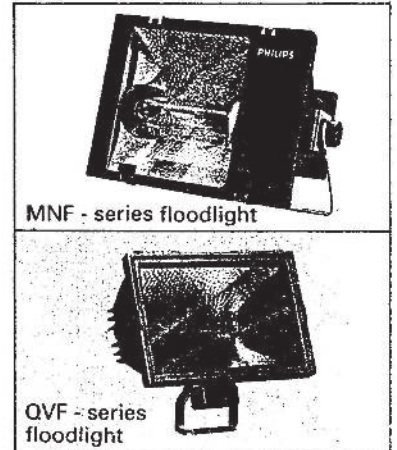
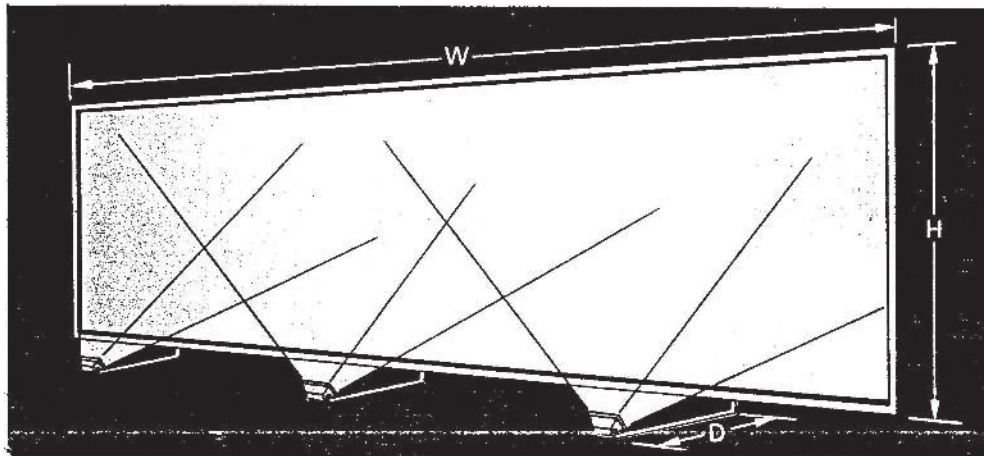


Philips Lighting

SUPPORT CENTRE PROFESSIONAL LIGHTING SINGAPORE (SCPLS)

Guide to Bill-board Lighting



Introduction

Every bill-board carries a message. The impact created by the message depends largely on the quality of its content/display and its physical location. In the evening, the impact can be increased by effective lighting.

There are various ways of lighting up a bill-board. An effective and economical way is by floodlighting.

What are the lighting criteria for floodlighting a bill-board?

1. Colour rendering index (CRI or Ra)

CRI measures the effect of a light source on the colour appearance of objects. The higher the CRI, the better would be the colour appearance of the objects. The highest CRI value is 100.

Colour rendering index (CRI) : > 65

2. Correlated colour temperature (CCT)

CCT measures the chromaticity of a light source. The range is from 2700K to 6500K where 2700K represents a warm light effect while 6500K represents a cool light effect.

Correlated colour temperature (CCT) : > 3000K

3. Illuminance level (lux)

International recommendations specify the illumination level as follows:

200 lux (light surfaces with dark surroundings).
500 lux (dark surfaces with dark surroundings).
500 lux (light surfaces with bright surroundings).
1000 lux (dark surfaces with bright surroundings).

4. Uniformity

Uniformity determines visual comfort when viewing the bill-board. For this reason a minimum uniformity is taken into account:

Uniformity: Emin/Eave > 0.4

What type of lamps and floodlights?

Lamps

1. Metal halide lamp source is recommended for its good CRI (65) and CCT (5000K). The suitable wattages are respectively 150/250/400W.
2. Tungsten Halogen lamp gives excellent CRI (100), has a warmer CCT (3000K), but it consumes more energy for the same lighting effect. The suitable wattages are respectively 500/1000/1500W.

Floodlights

3. MNF - series floodlights are recommended for housing the metal halide lamp and control gear. It is compact, sturdy, weatherproof and has a good optical system.
4. QVF-series floodlights are recommended for the Tungsten Halogen lamps likewise.

What type and how many floodlights are required?

To decide on the type and quantity of floodlights required to illuminate a certain bill-board size, we need to determine the required illuminance.

This guide considers 200 lux on the bill-board.

1. **Determine the size of the billboard:**
height = h
width = w
2. **From the table the following information can then be found:**
 - a) Luminaire type
 - b) Quantity of luminaires required for 200 lux
 - c) Distance away from the bill-board.
3. **Position the floodlights as follows:-**
Spacing between floodlights: ≤ 3.5 metres
First/last floodlight from bill-board side: $\leq \frac{1}{2}$ the spacing between floodlights.

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