Other Lighting

1.0 Introduction

Besides the basic indoor lighting, the DE may have to design for other types such as special lighting for halls, gymnasium, or outdoor facility e.g. façade lighting, courts lighting, area/security lighting, etc.

2.0 Category of Lamps

	TYPE OF Lamp
1.	Reflector Lamp: a) Spotlight b) Floodlight
2.	Incandescent Lamp a) Halogen b) Parabolic Aluminized Reflector (PAR) i) PAR 16 ii) PAR 38 iii) PAR 56 iv) PAR 64
3.	High Intensity Discharge Lamp: a) Mercury Vapor b) Hydrargyrum Medium-arc Iodide (HMI) c) Metal Halide d) Sodium Vapor i) High Pressure Sodium (HPS/SON) ii) Low Pressure Sodium (LPS/SOX)

Table 4.0: Types of Lamps

3.0 Indoor / Industrial lighting

Building with high ceiling such as gymnasiums, multipurpose halls, exhibition halls, etc. shall use less maintenance and high performance type of luminaire such as high-pressure discharge lamps.

The high ceiling lighting design criteria:

Ceiling Height	Type of Luminaires	Criteria
Below 5 metre Above 5 - 15 metre	Low Bay High Bay	Uniform, good glare control And vertical illumination

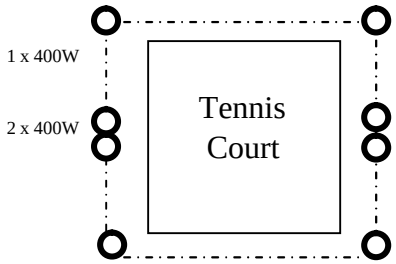
For High bay luminaries, S<1.0 H_m. Which is, S is maximum spacing between luminaries in order to ensure sufficient uniformity and H_m is Mounting height (distance between luminaries and working plane). The lighting system shall be designed by arrangement of alternating circuits, proper grouping of lighting switches, separate switching etc. so that necessary light fittings can be switched off if desired.

4.0 Outdoor lighting

For security lighting e.g. 125W, 150W or 250W SON with 6 to 10 meter and 30 meter apart, single or double arm for external installation shall be taken from essential circuit.

For external courts lighting, floodlighting using SON or Metal Halide lamps shall be considered. The lighting shall be on hot dipped galvanised steel poles/concrete R.C. poles with climbing rungs or etc. for easy maintenance. If the pole height is 8 meter and above, type of mid hinge poles can also be considered. Lighting, feeder pillars, switchboards, distribution board and other equipment installed in the external areas shall be weather-proof, dust-proof and vermin-proof type to IP65 or higher. The location of these feeder pillars, distribution board shall be designed near to the courts. The feeder pillar, distribution board, etc. Shall be hot dipped galvanised or stainless steel.

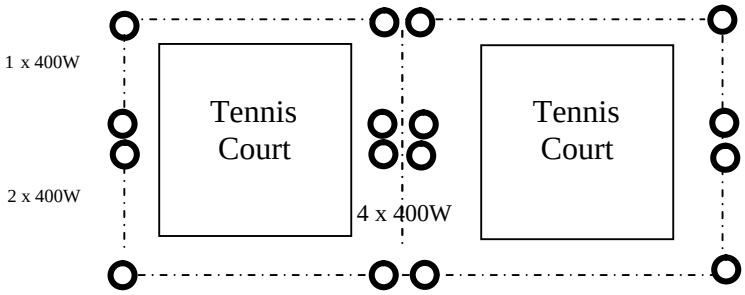
Single court



Legend:

400 W metal halide c/w 6 meter poles and
Mounting bracket
(3 - 5 meter offset)

Double court (side by side)



Light fit

Note:

- 2 x 400 W and 4 x 400 W also can be consider to use 1 x 1000 W and 2 x 1000 W.
(400 W – 16 nos, if 1000 W – 10 nos)

5.0 Architectural & Sculptural Lighting

Architectural & Sculptural lighting may consist of floodlight, directional light, etc. It may be installed to enhance the facade of the buildings or to enhance other special aspects, taking in orientation, promotion, identity, ambience and entertainment aspects (if any).

Area	IES Std. Service Illuminance LUX	JKR Std. Service Illuminance LUX	Suitable Luminaires	Colour Appearance Of Light	Notes
INDOOR:					
Gymnasium	300	200	PAR		
Multipurpose Hall	700	500	PAR down light. (supplementary)	Warm	Localize lighting
Auditorium			PAR down light (supplementary)		
Indoor Sport Facilities (Squash Courts)	700	500	SON/ Metal Halide		
OUTDOOR:					Refer MS 825
Street Lighting			HPS		
Security Lighting			SON		
Facade Lighting	300	300	Floodlight		
Badminton Courts	300	200	HPS/SON/ Metal Halide		
Tennis Courts			"		
Volley Ball Courts	700	500	"		

Table 4.1: General illuminance of spotlight / floodlight for Sports & Recreational Building

6.0 Others

There is numerous other special type of lighting such as stadium lighting, high mast lighting, utility area lighting etc. For these types of lighting, the DE shall liaise with specialist lighting manufacturers to coordinate the design.