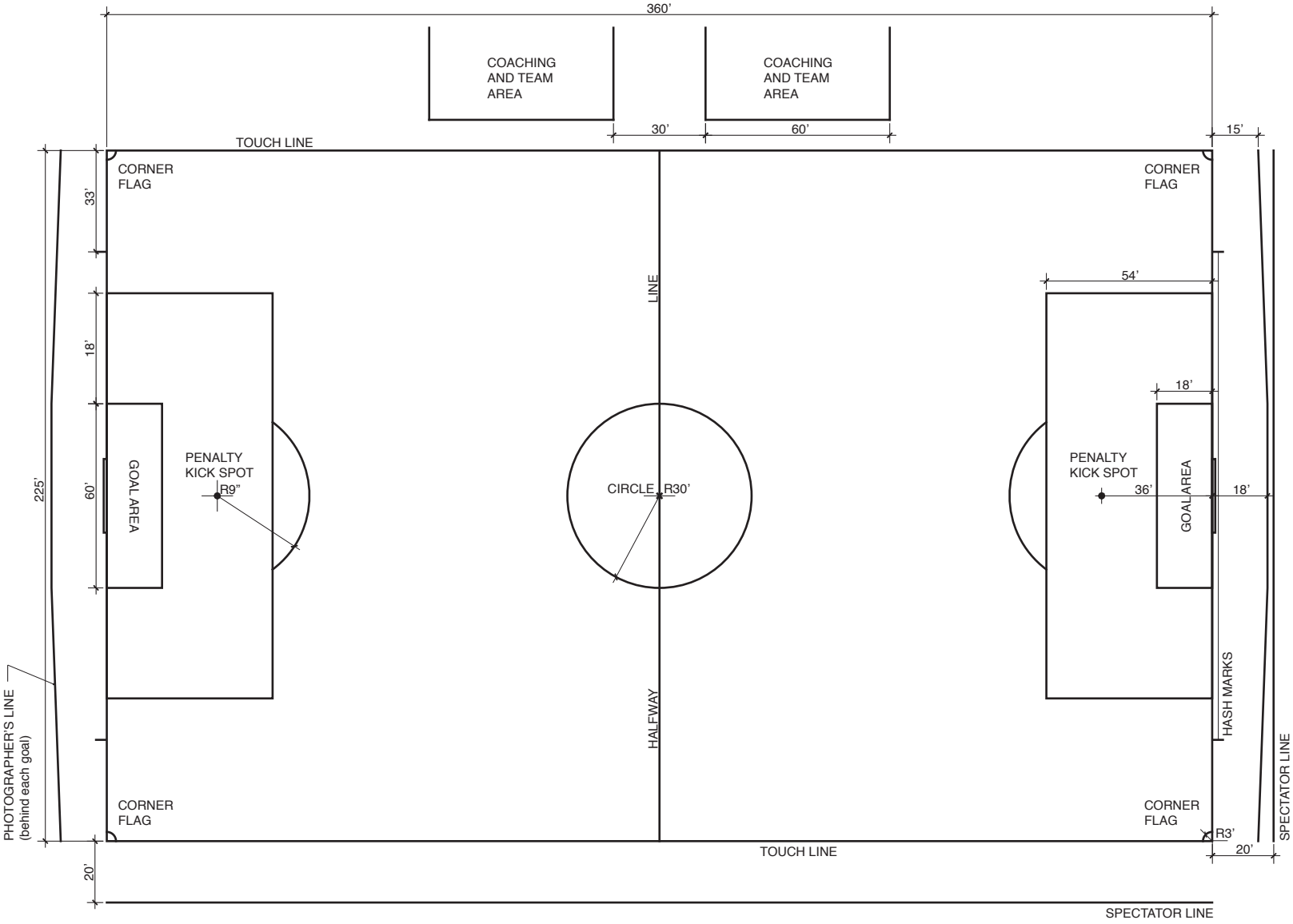
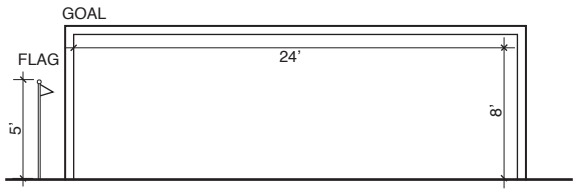
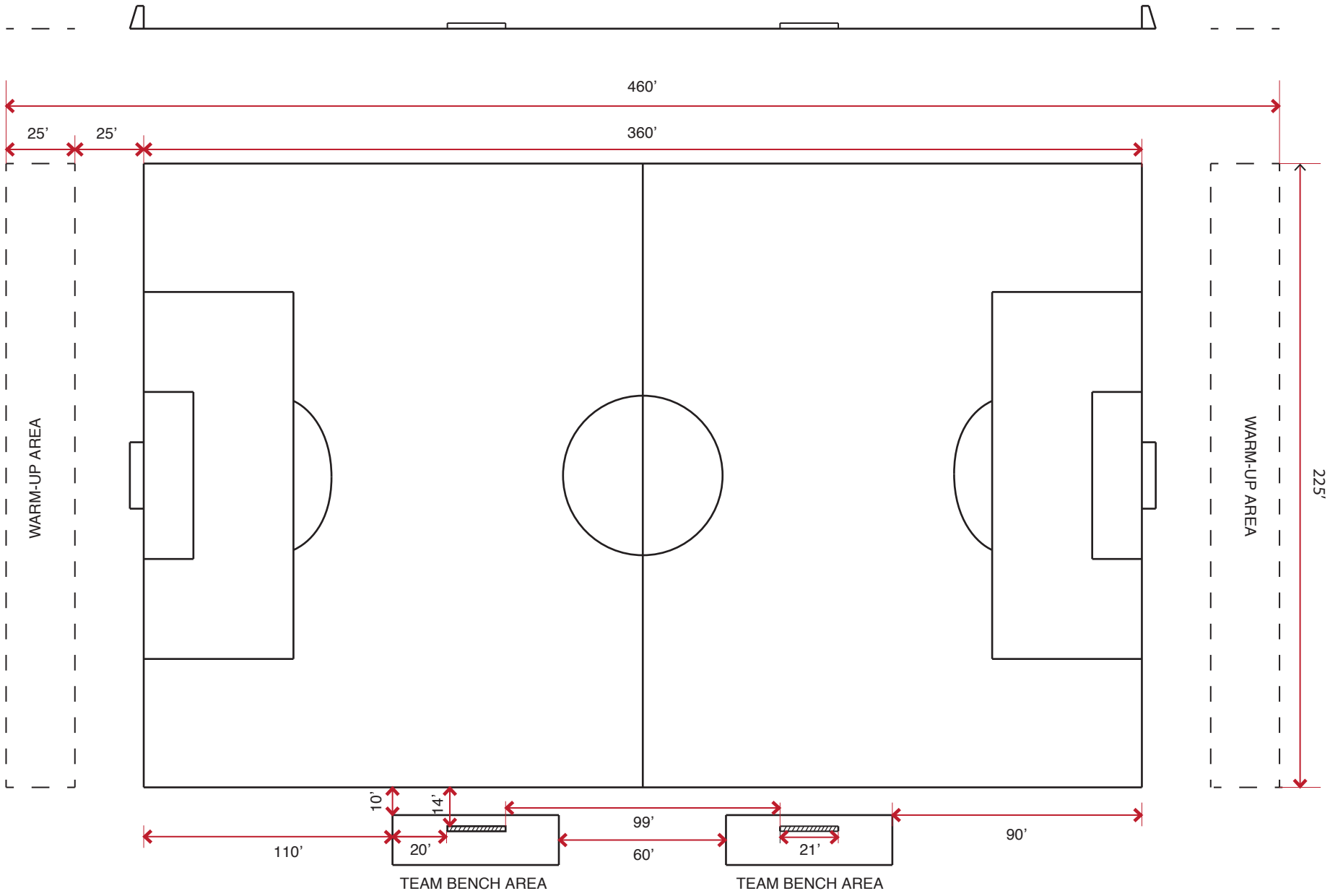
NCAA SOCCER FIELD DIMENSIONS

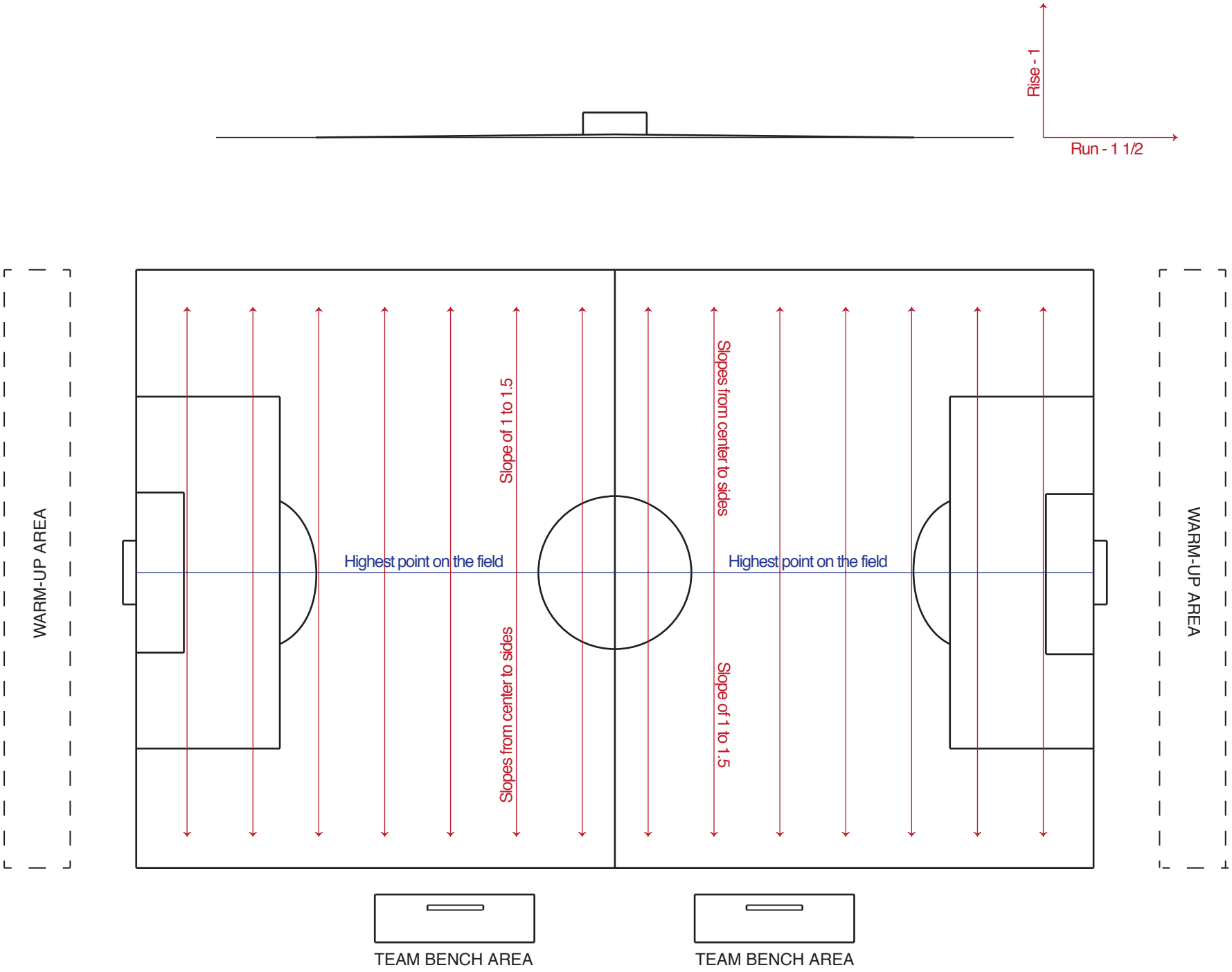




DIMENSIONS/SETBACKS OF AN NCAA SOCCER FIELD

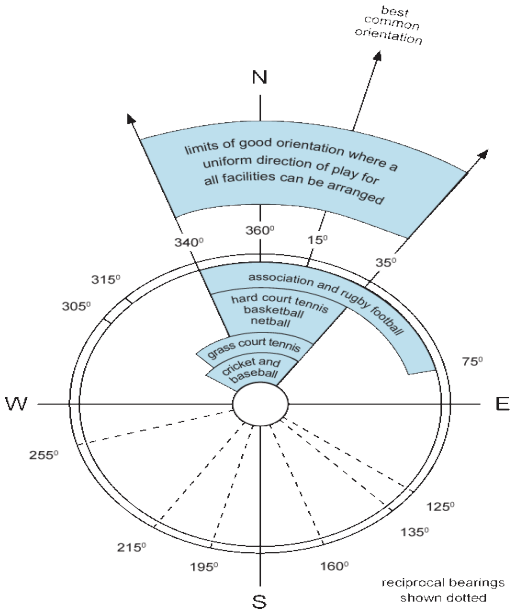


PLAYER BENCH LOCATIONS AND WARM-UP AREAS



SOCCER FIELD SLOPE OR FIELD CROWN

The aim however is to share between opposing participants the advantages and/or disadvantages of the sun's direction and other natural factors such as breezes. It is generally recommended that playing areas are orientated approximately in a north-south direction to minimise the effect of a setting sun on players. The best common orientation is 15° east of north.



Limits of good orientation where a uniform direction for all facilities can be arranged:

- athletics, basketball, bowls, croquet, handball, lacrosse, netball, tennis — between 20° west of north and 35° east of north
- football: soccer, five-a-side, Australian rules, Gaelic, rugby league, rugby union — between 20° west of north and 45° east of north
- hockey, polo, polocrosse — between 45° west of north and 45° east of north

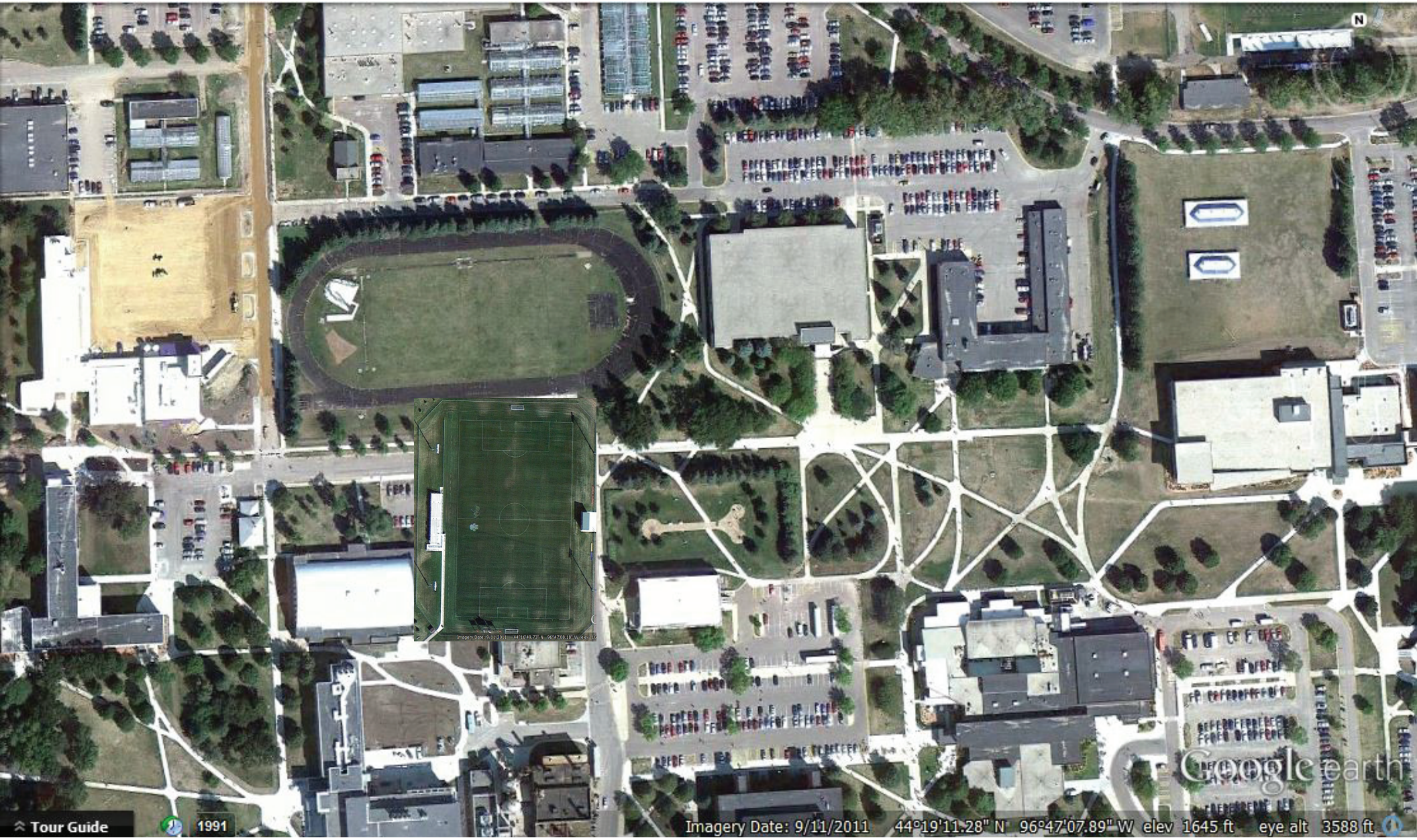
Prevailing winds also have to be taken into account. In athletics, the potential problems caused by strong winds are worse than the inconvenience caused by the setting sun. Athletes approaching the finish line should not have to contend with strong winds. Pole vaulters should not be exposed to crosswinds or strong opposing headwinds. The discus is best thrown into a headwind.

The information and diagram above found from the site:

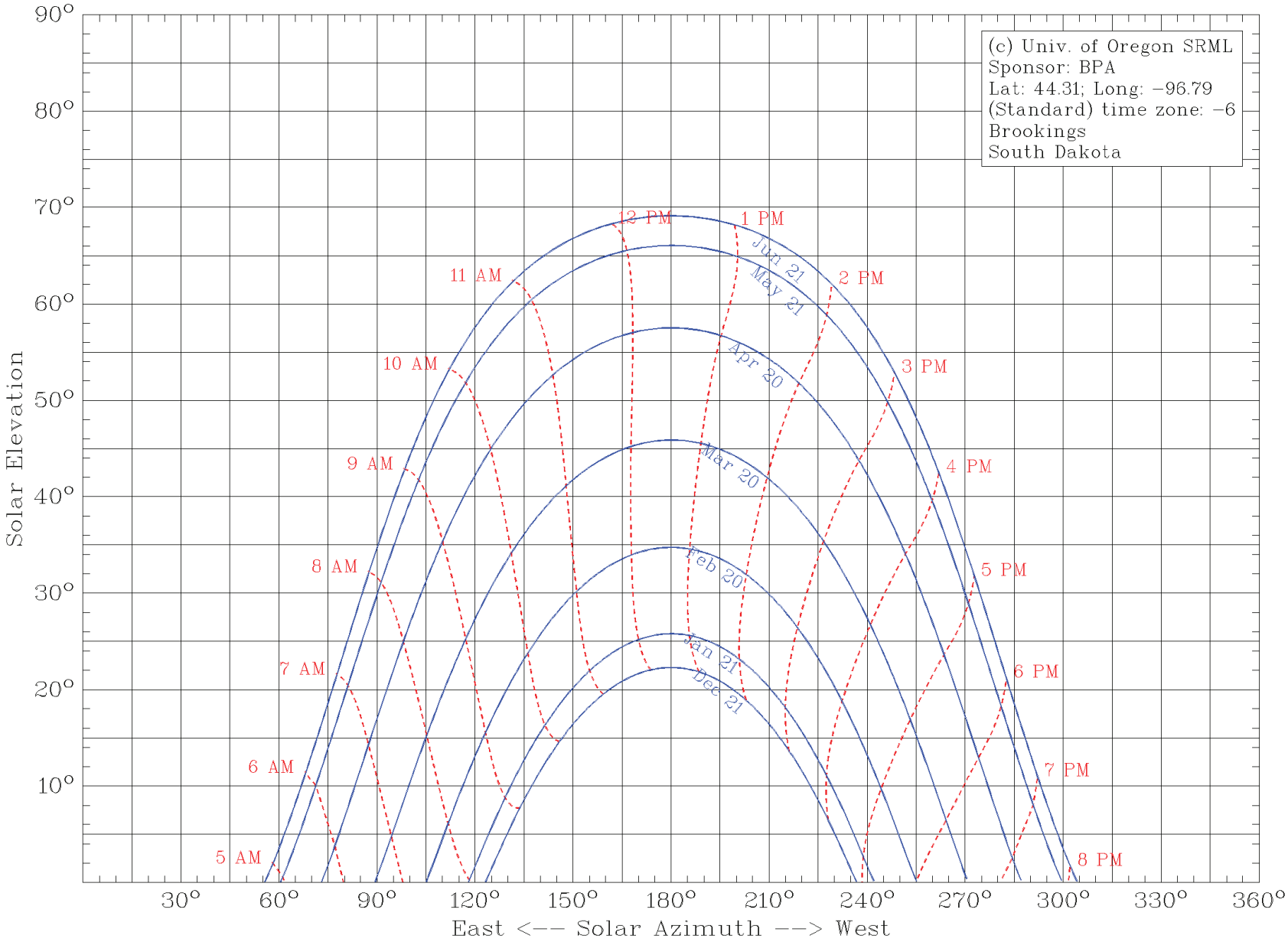
http://www.dsr.wa.gov.au/outdoorplayingareas

OPTIMAL FIELD ORIENTATION

Below is a reference image of the site with a suggestion of how the field could be directed for optimal orientation: North and South tilted between 15-45°

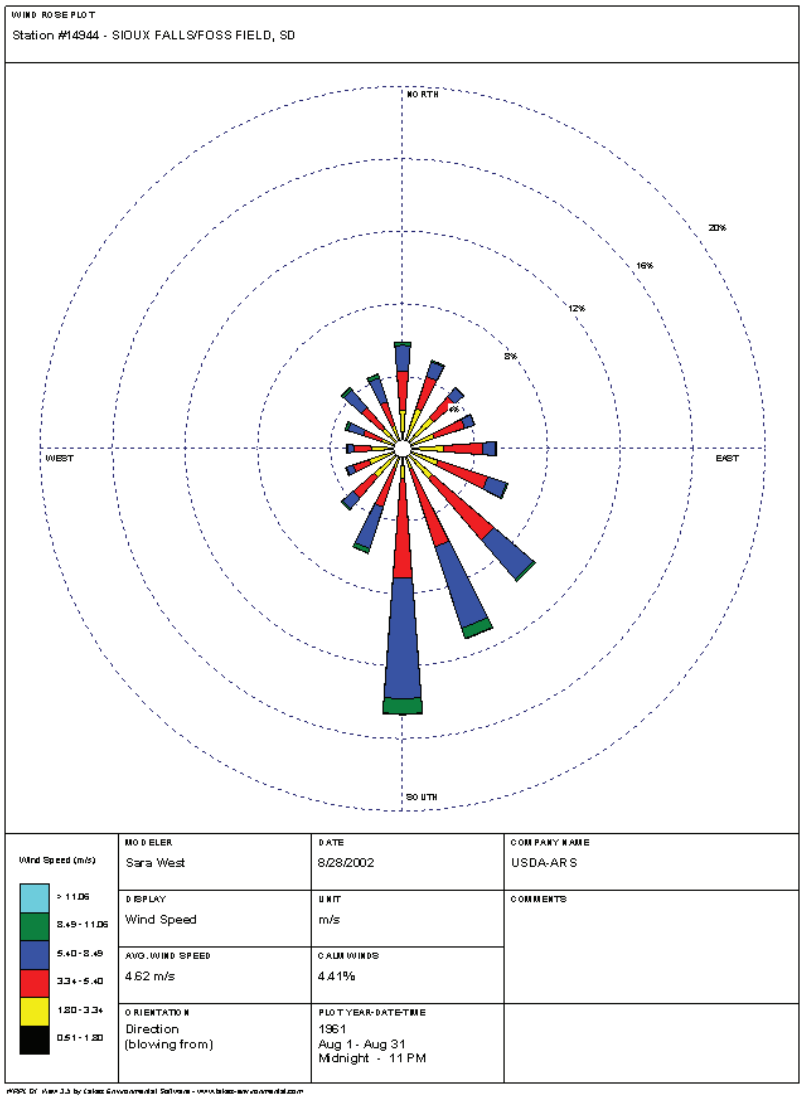


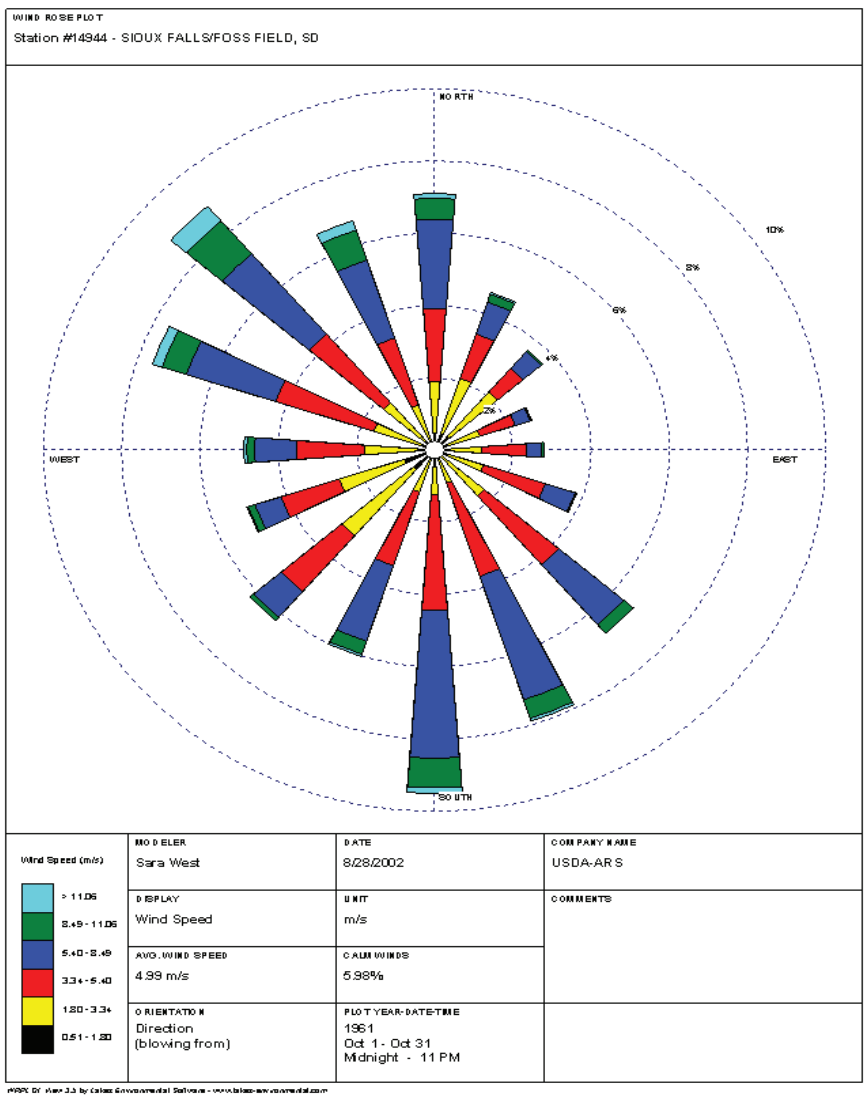
OPTIMAL FIELD ORIENTATION



Website Source:

http://solardat.uoregon.edu/SunChartProgram.html





Website Source:

http://www.wcc.nrcs.usda.gov/ftpref/downloads/climate/windrose/south_dakota/

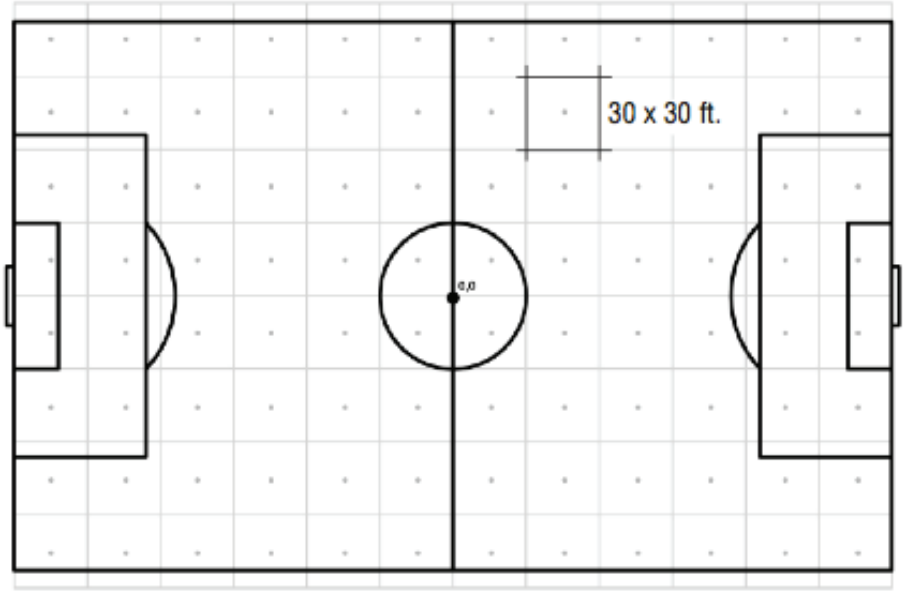
WIND DIRECTION/SPEED_SIOUX FALLS, SD

Field-Measuring Grids of Typical Facilities

Level of Play	Typical Facility Dimensions (ft2)	Horizontal Footcandles Constant/Maintained	Uniformity (Max to Min)	Typical Lighted Area Dimensions (ft)	Grid Size (feet)
Standard	180 x 330	30	2.0:1	190 x 340	30 x 30
Premium	225 x 360	50	2.0:1	230 x 370	30 x 30
Professional*	225 x 360	75+	1.5:1	230 x 370	30 x 30

*Professional facilities may require special consideration in regard to television requirements and seating capacity.

Light Level Grid Point Layout



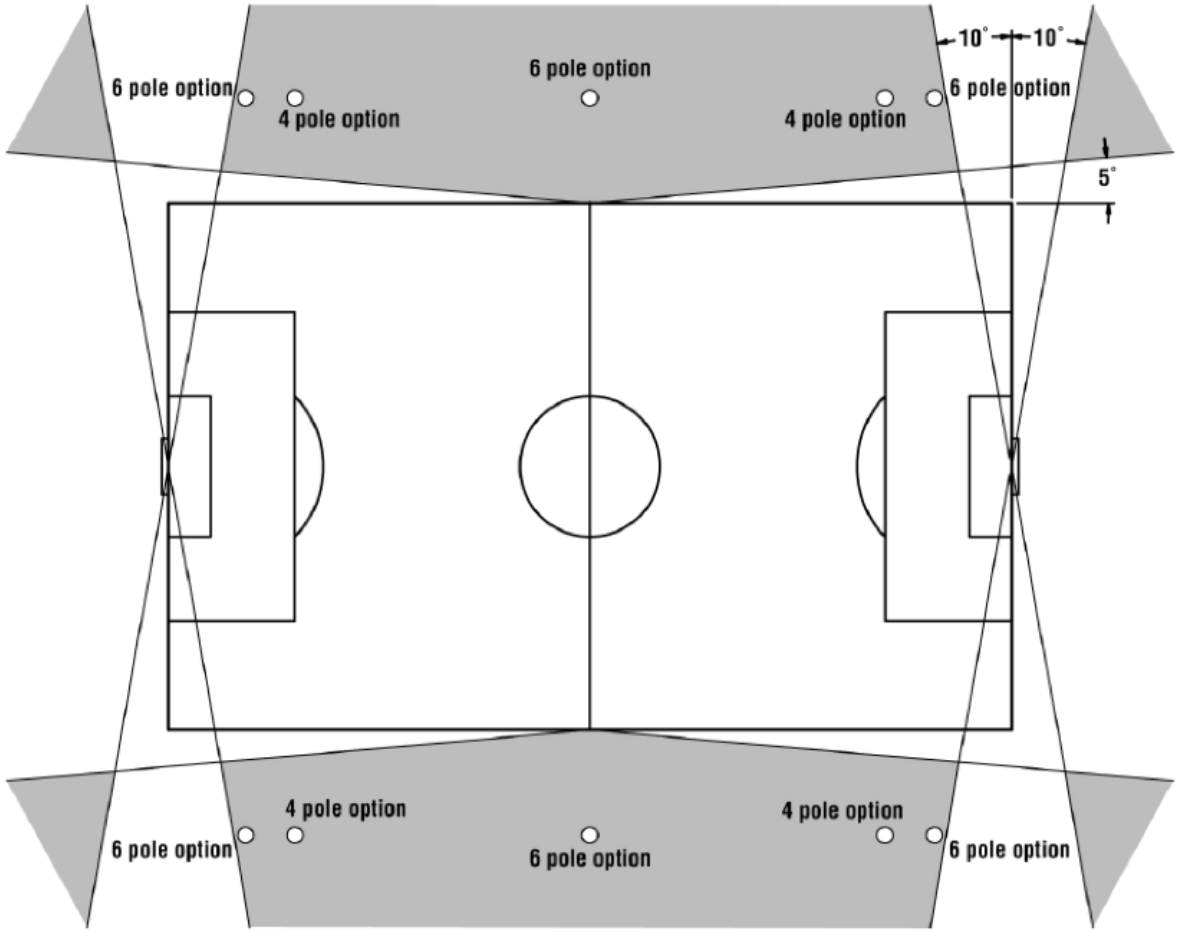
Lighting Standards of the US Soccer Foundation. [2007]. [Graph illustration showing reccommended light pole arrangements]. Retrieved from http://www.ayso.org/Assets/libraries/resources/fielddev_lightingstandards.pdf

Footcandle is a unit of illuminance or illumination, equivalent to the illumination produced by a source of one candle at a distance of one foot and equal to one lumen incident per square foot.

Level of Play/Description	Average Constant or Target Light Levels (Horizontal)	Maximum to Minimum Uniformity Ratio
Standard — Competition No special spectator considerations	30 footcandles	2:1
Premium — Tournaments Up to 5,000 Spectators	50 footcandles	2:1
Professional — Stadiums* Special considerations	75+ footcandles	1.5:1 or better

* Professional facilities involve large spectator seating and/or televised events

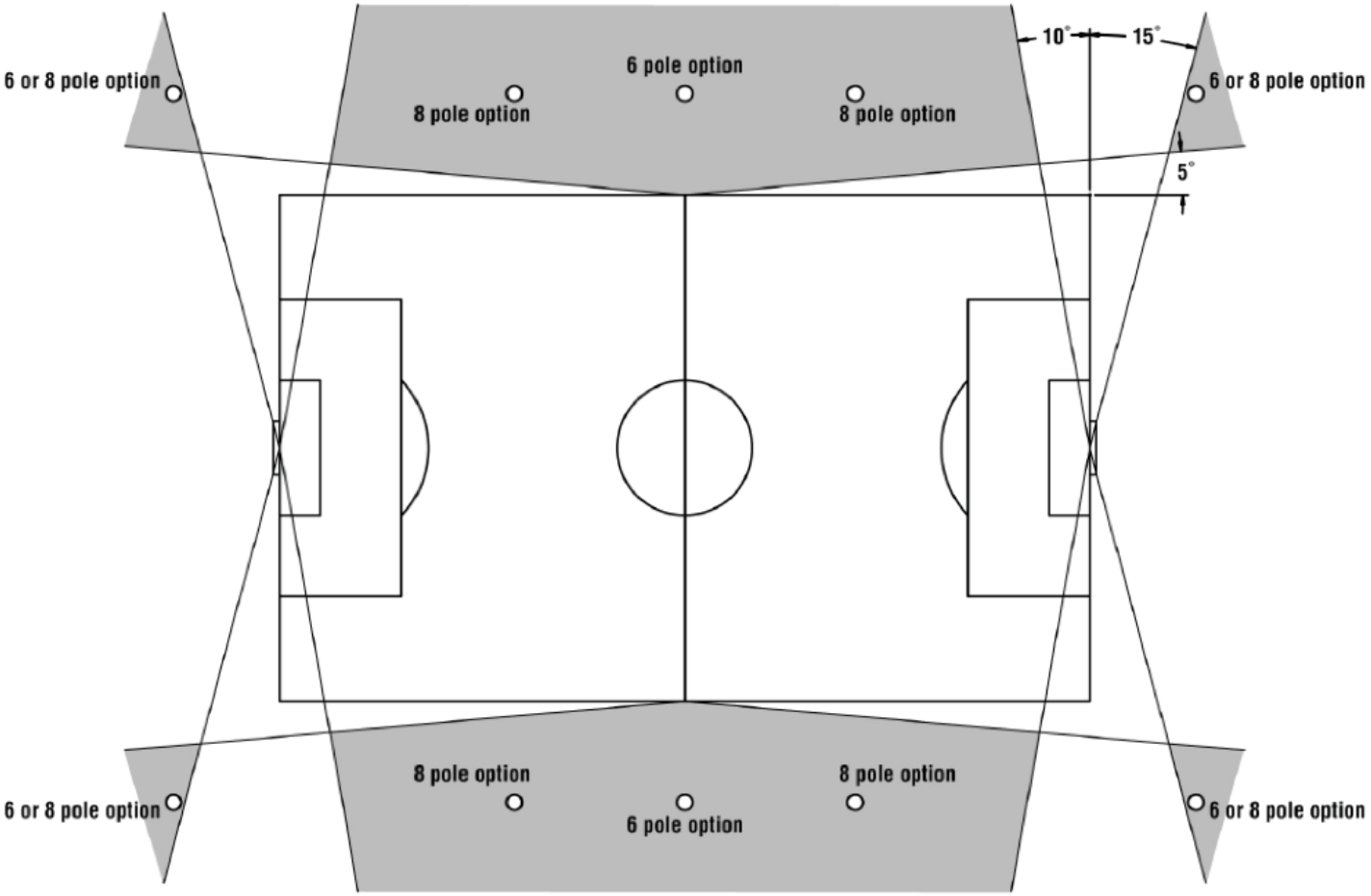
Lighting Standards of the US Soccer Foundation. [2007]. [Graph illustration showing reccommended light pole arrangements]. Retrieved from http://www.ayso.org/Assets/libraries/resources/fielddev_lightingstandards.pdf



4 to 6 Pole Configuration

1. Special consideration for lighting placement is given to stadiums with customized roof mount potential.
2. Shaded areas indicate recommended pole location. All poles should be at least 20 feet from sideline.
3. On a 4-pole design, poles should be located between the penalty line and the goal line.
4. One a 6-pole design, setback of middle poles will depend on the presence of bleachers.
5. Pole placement and aiming angles shall be designed to minimize glare for players and spectators.
6. For new facilities or upgrades, it is recommended to consult a lighting professional for optimal pole placement.

Lighting Standards of the US Soccer Foundation. [2007]. [Graph illustration showing reccommended light pole arrangements]. Retrieved from http://www.ayso.org/Assets/libraries/resources/fielddev_lightingstandards.pdf



6 To 8 Pole Configuration

1. Special consideration for lighting placement is given to stadiums with customized roof mount potential.
2. Shaded areas indicate recommended pole location. All poles should be at least 20 feet from sideline.
3. Setback of middle poles will depend on the presence of bleachers.
4. Outside poles should be located beyond end line. Optimum placement for TV is 15 degrees or greater off the end line for an end camera.
5. Pole placement and aiming angles shall be designed to minimize glare for players, spectators and television cameras.
6. The ratio of key light to backlight main camera levels should be between 1:1 and 1.5:1. A ratio of 1:1 is preferred.
7. For new facilities or upgrades, it is recommended to consult a lighting professional for optimal pole placement.

Lighting Standards of the US Soccer Foundation. [2007]. [Graph illustration showing reccommended light pole arrangements]. Retrieved from http://www.ayso.org/Assets/libraries/resources/fielddev_lightingstandards.pdf