





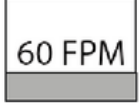




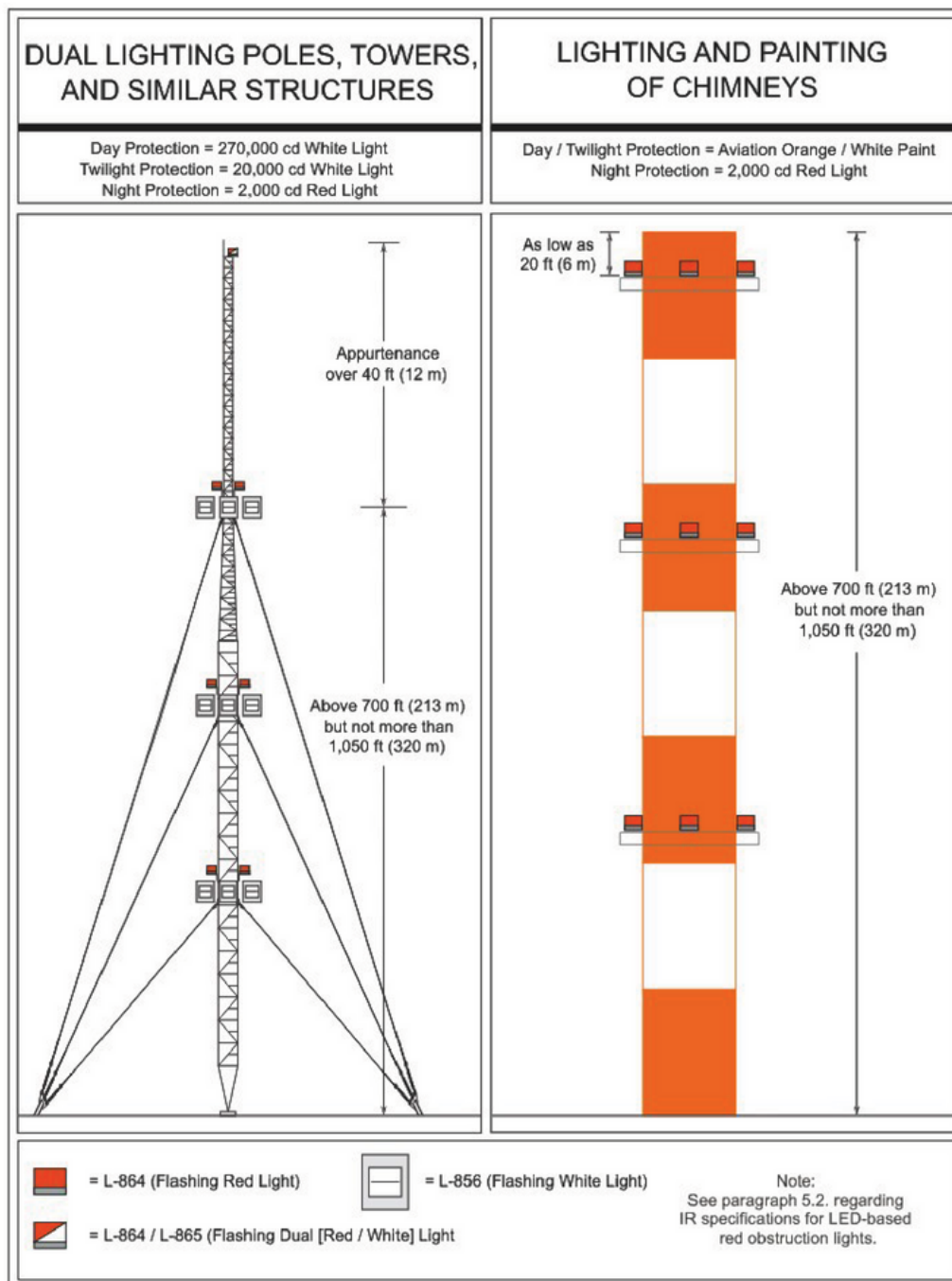
Type	Symbol	Description
<b>L-810</b> <b>L-810 F</b>		Steady-Burning or Flashing (30 FPM) - RED Single Obstruction Light
<b>L-810</b> <b>L-810 F</b>		Steady-Burning or Flashing (30 FPM) – RED Double Obstruction Light
<b>L-856</b>		High-Intensity Flashing – WHITE Obstruction Light (40 FPM)
<b>L-857</b>		High-Intensity Flashing – WHITE Catenary Light (60 FPM)
<b>L-864</b>		Medium-Intensity Flashing – RED Obstruction Light (20-40 FPM)(30 FPM when used with L-810 F)
<b>L-865</b>		Medium-Intensity Flashing – WHITE Obstruction Light (40-FPM)
<b>L-866</b>		Medium-Intensity Flashing - WHITE Catenary Light (60-FPM)
<b>L-864/L-865</b>		Medium-Intensity Flashing Dual – RED / WHITE Obstruction Light (20-40 FPM) Obstruction Light (40 FPM)
<b>L-885</b>		Flashing Obstruction Light - RED Obstruction Light (60 FPM)

FPM = Flashes Per Minute

**Table A-1. FAA-Approved Obstruction Lighting Fixtures**

11/16/2020

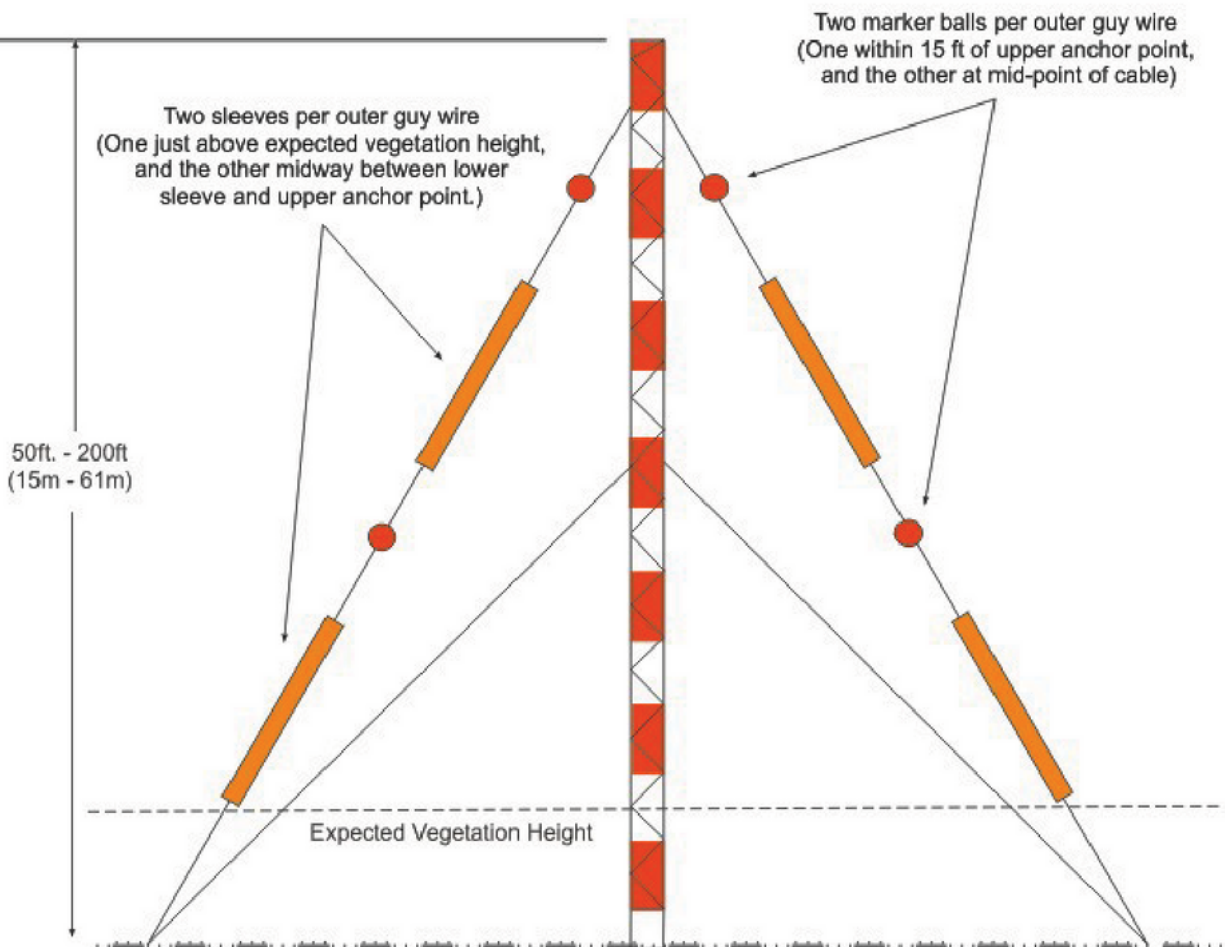
AC 70/7460-1M



**Figure A-7. Dual Lighting of Poles, Towers, and Similar Structures/Lighting and Painting of Chimneys**

## METEROLOGICAL (MET) TOWER MARKING STANDARDS (GUYED STRUCTURE)

Day Protection = Aviation Orange / White Paint, High-Visibility Sleeves and Spherical Markers



= High-Visibility Sleeve



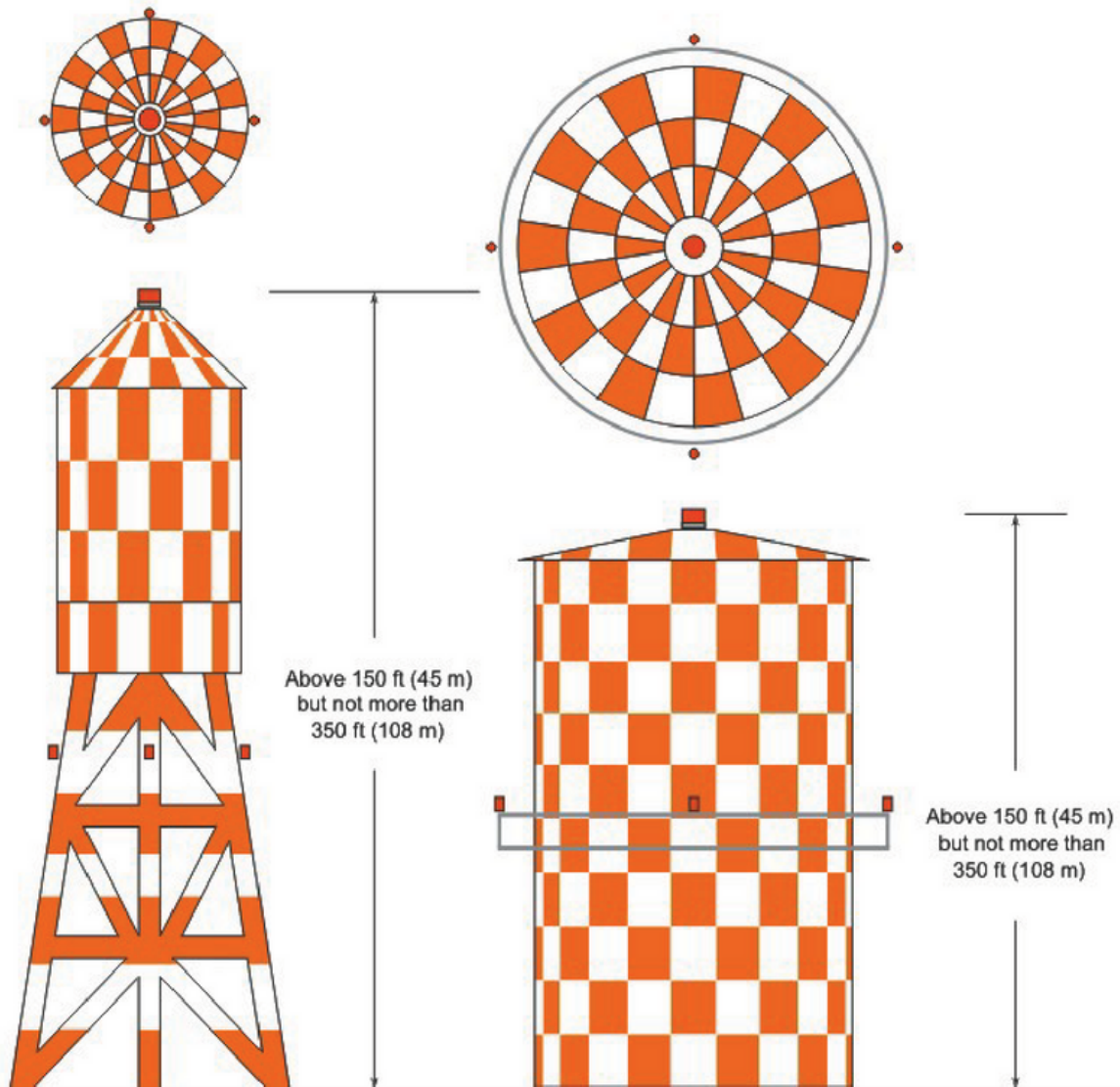
= Spherical Marker - Aviation Orange

**Figure A-2. Meteorological Evaluation Tower (MET) Marking Standards (Guyed Structure)**

PAINTING AND LIGHTING OF WATER TOWER, STORAGE TANKS,  
AND SIMILAR STRUCTURES

Day Protection = Aviation Orange / White Paint

Night Protection = 2,000 cd Red Light and 32 cd Red Steady-Burning Side Lights



- / ■ = L-864 (Flashing Red Light)  
● / ■ = L-810 (Steady-Burning Red Light)

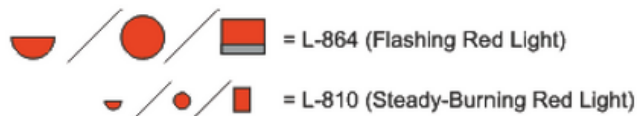
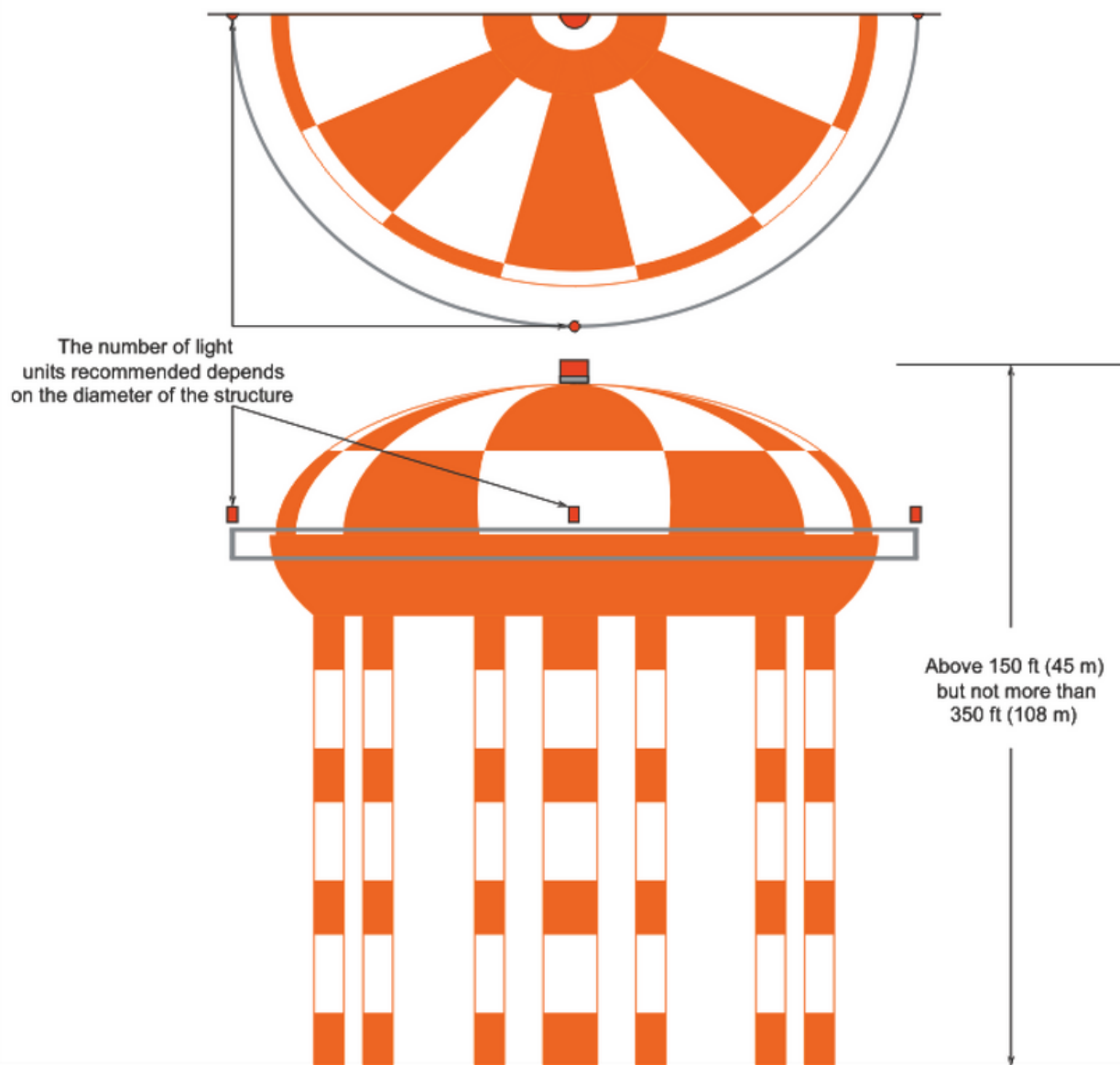
Note:  
See paragraph 5.2. regarding  
IR specifications for LED-based  
red obstruction lights.

Figure A-3. Painting and Lighting of Water Towers, Storage Tanks, and Similar Structures



## PAINTING AND LIGHTING OF WATER TOWERS AND SIMILAR STRUCTURES

Day Protection = Aviation Orange / White Paint  
Night Protection = 2,000 cd Red Light and 32 cd Red Steady-Burning Side Lights



Note:  
See paragraph 5.2. regarding  
IR specifications for LED-based  
red obstruction lights.

Figure A-4. Painting and Lighting of Water Towers and Similar Structures

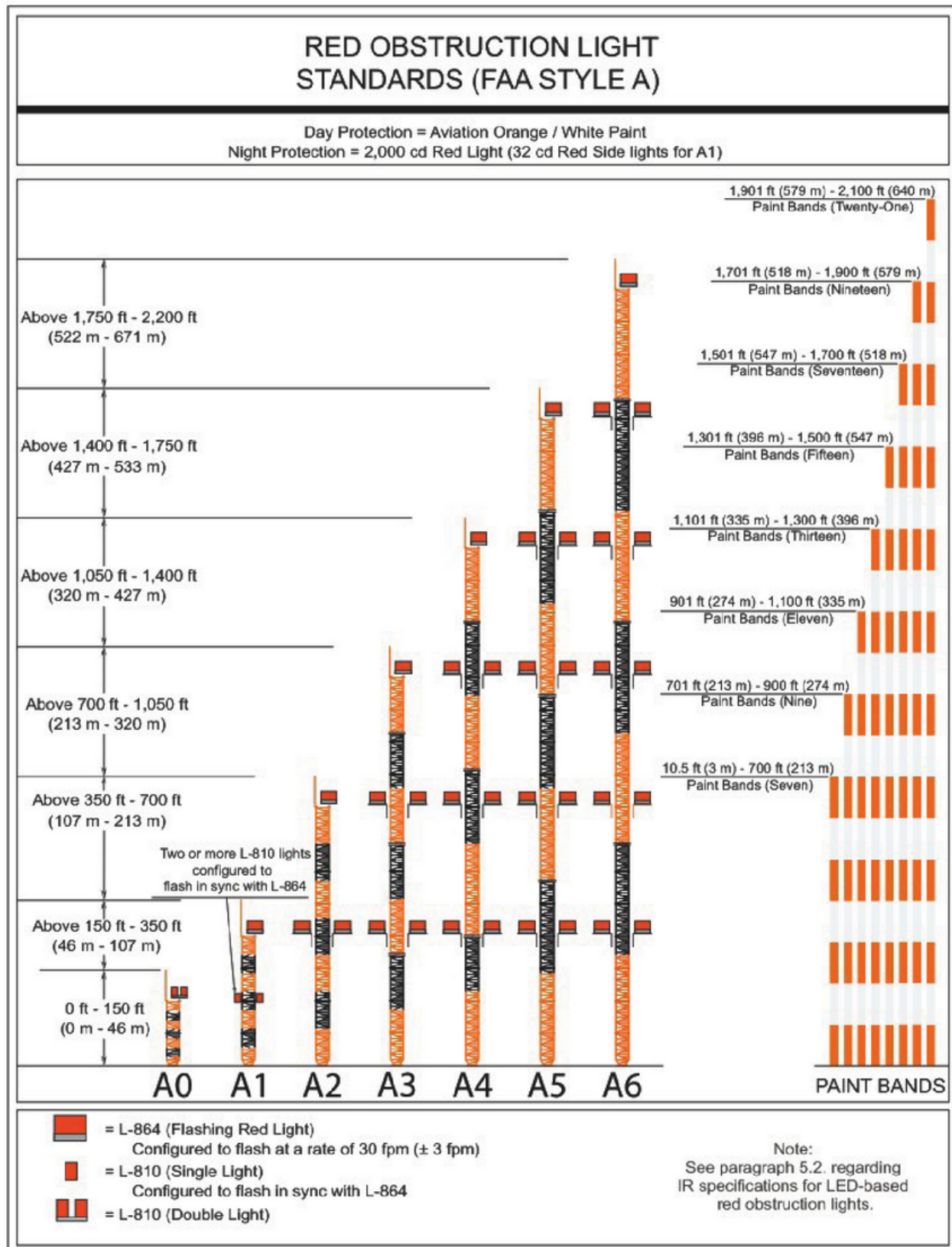
## PAINTING OF SINGLE PEDESTAL WATER TOWER BY TEARDROP PATTERN

Day Protection = Aviation Orange / White Paint  
Night Protection = By Flood Light

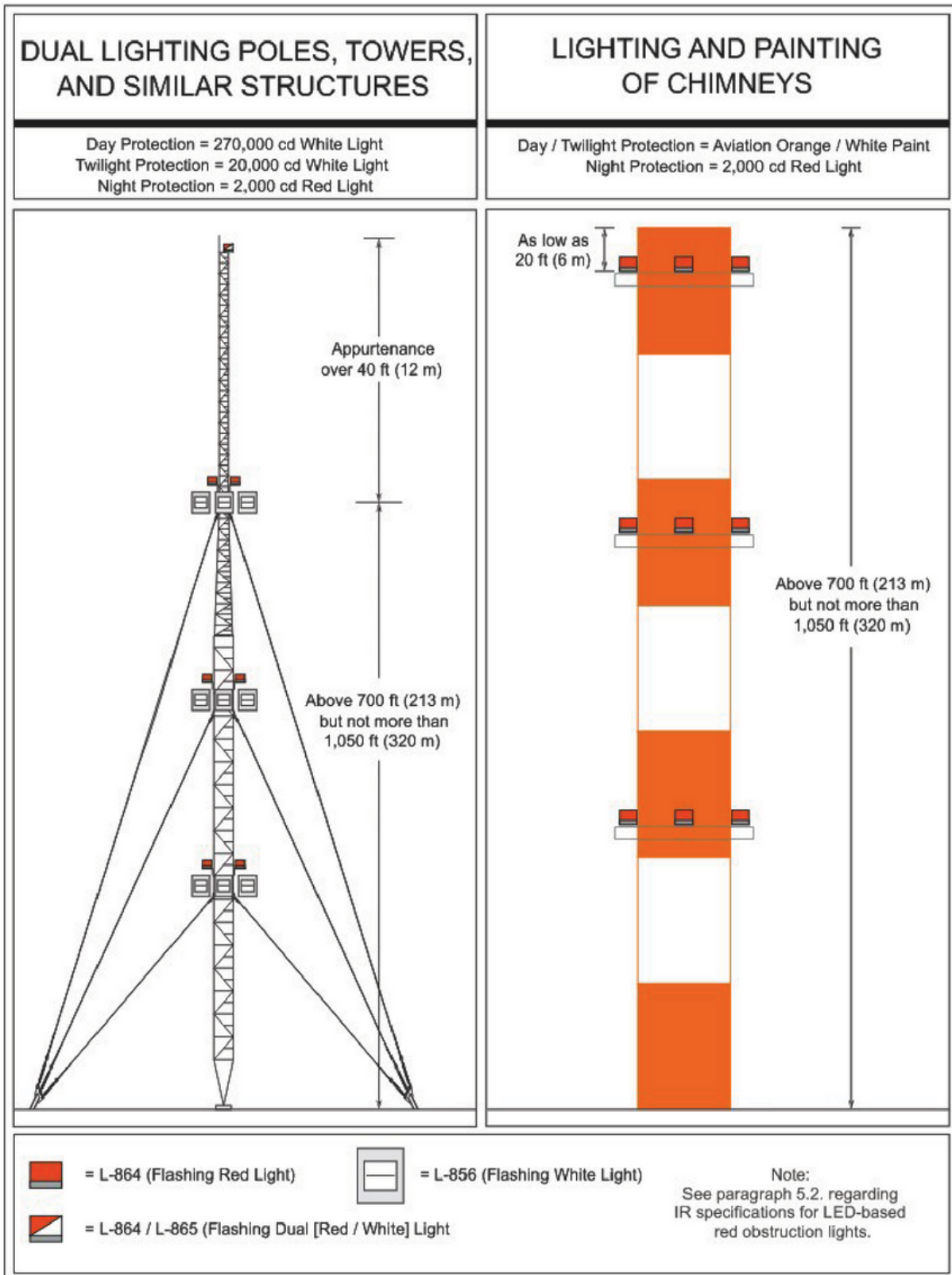


= 360° Coverage of the Water Tower (Flood Light)

Figure A-5. Painting a Single Pedestal Water Tower Using the Teardrop Pattern



**Figure A-6. Red Obstruction Light Standards (FAA Style A)**



**Figure A-7. Dual Lighting of Poles, Towers, and Similar Structures/Lighting and Painting of Chimneys**

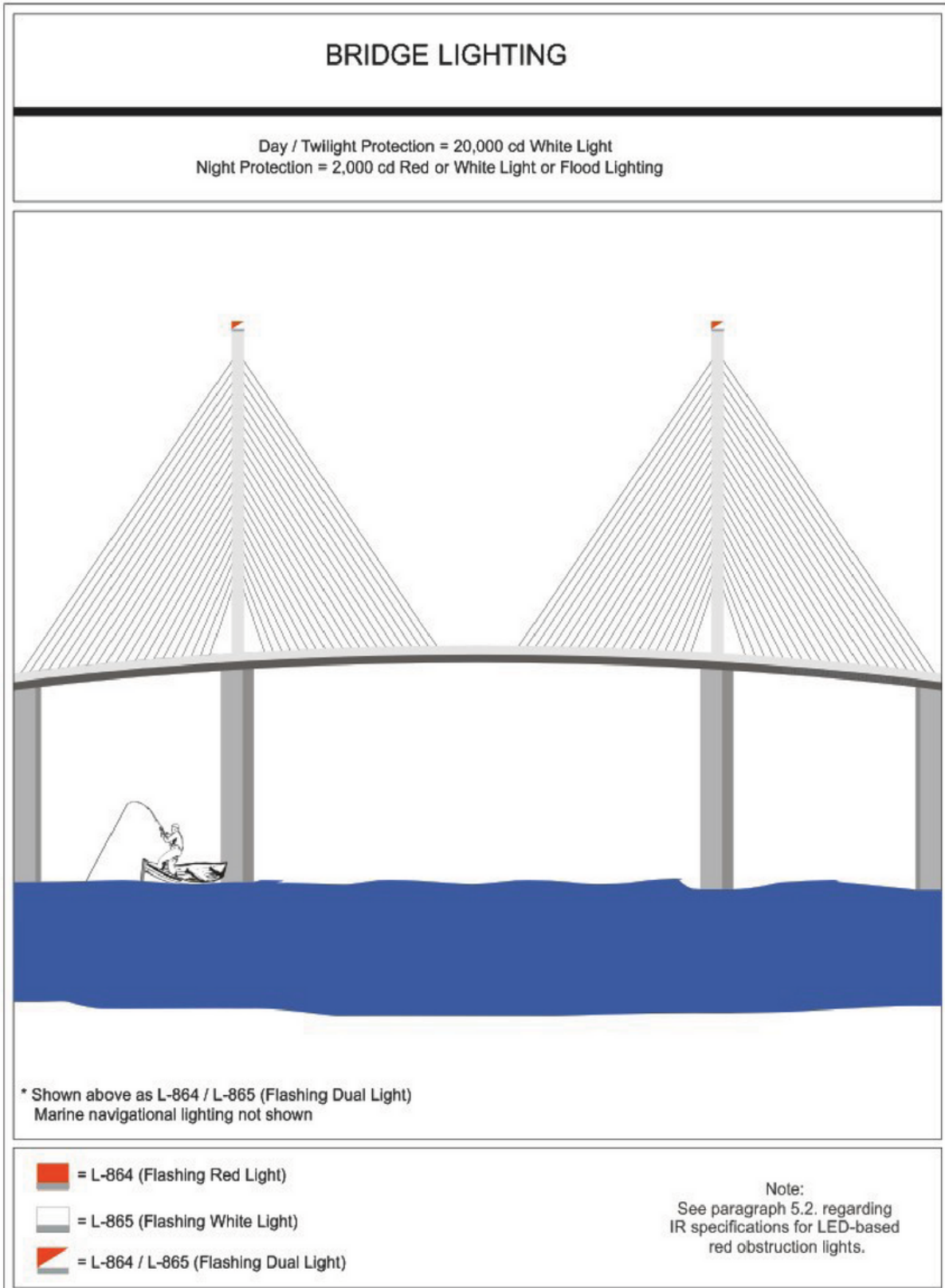


Figure A-8. Bridge Lighting



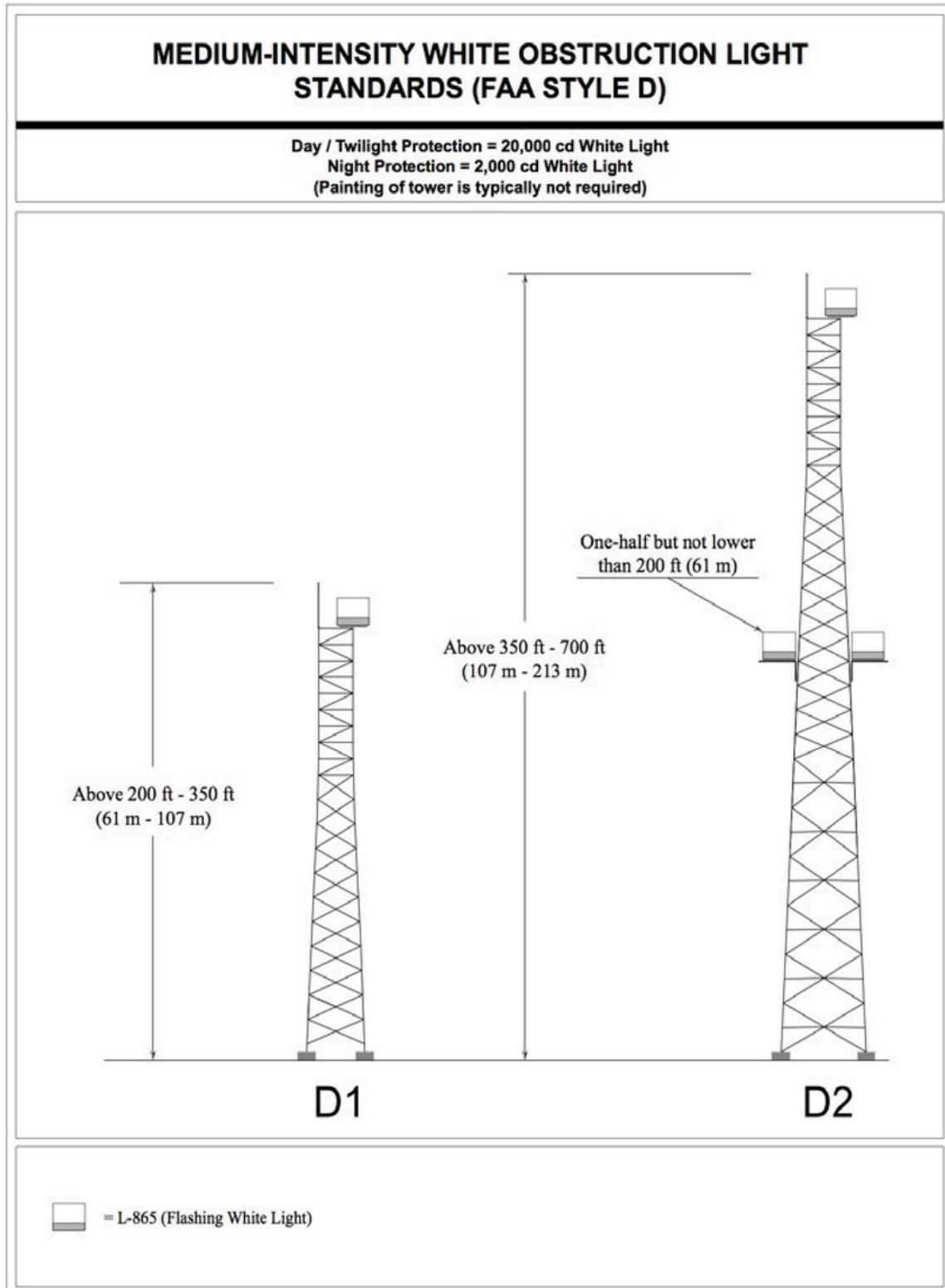
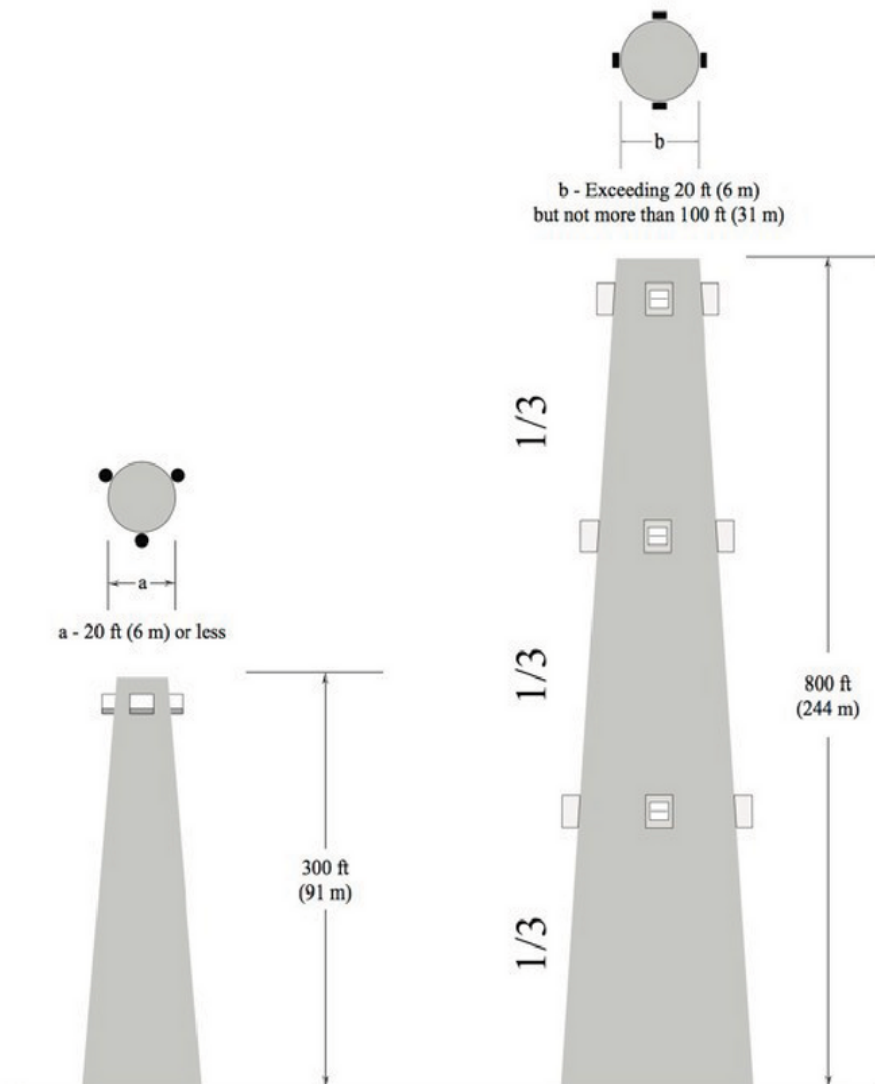


Figure A-9. Medium-Intensity White Obstruction Light Standards (FAA Style D)

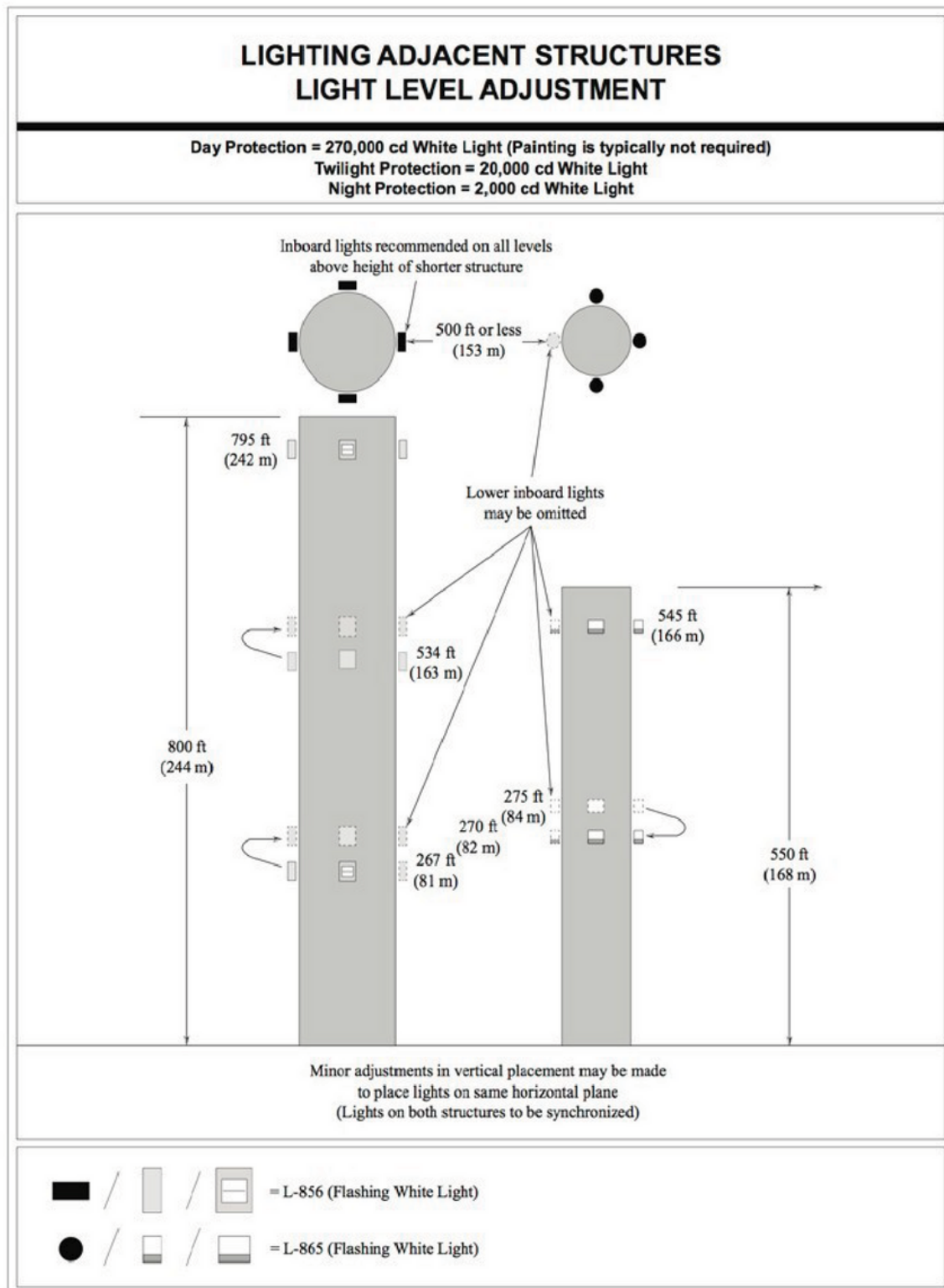
## LIGHTING OF CHIMNEYS, FLARE STACKS, OR SIMILAR SOLID STRUCTURES

Day Protection = 270,000 cd White Light (Painting of tower is typically not required)  
 Twilight Protection = 20,000 cd White Light  
 Night Protection = 2,000 cd White Light



= L-856 (Flashing White Light)  
 = L-865 (Flashing White Light)

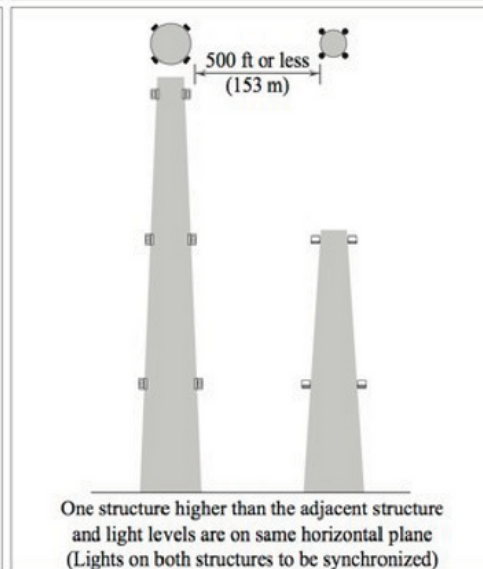
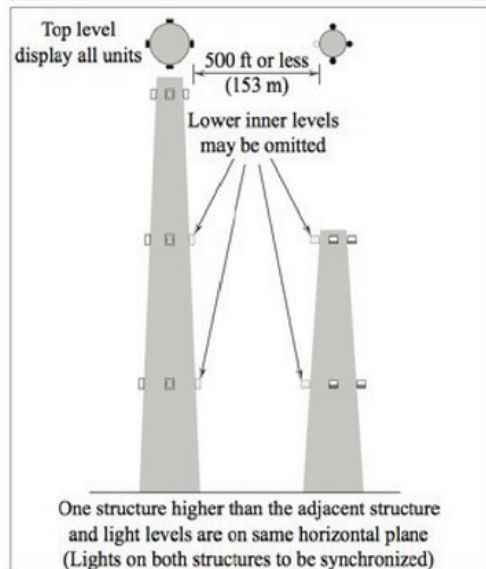
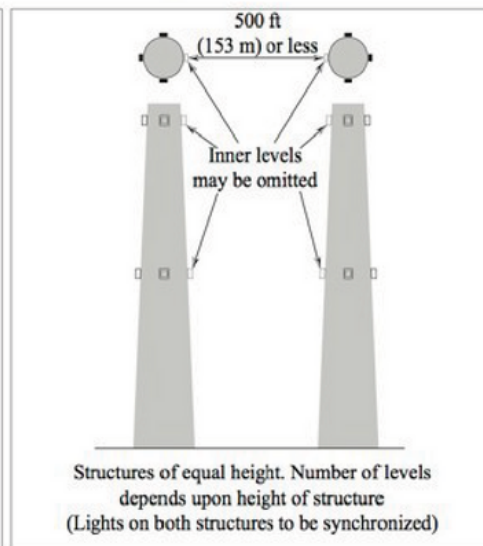
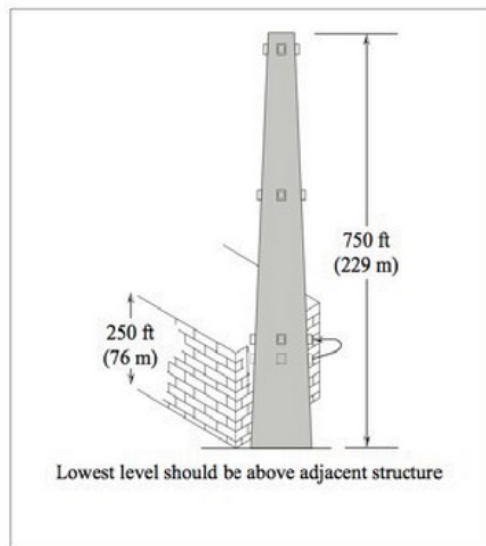
Figure A-10. Lighting of Chimneys, Flare Stacks, or Similar Solid Structures



**Figure A-11. Lighting Adjacent Structures—Light Level Adjustment**

## LIGHTING ADJACENT STRUCTURES

Day Protection = 270,000 cd White Light (Painting of tower is typically not required)  
 Twilight Protection = 20,000 cd White Light  
 Night Protection = 2,000 cd White Light









 / 
  / 
  = L-856 (Flashing White Light)  
 / 
  / 
  = L-865 (Flashing White Light)

Figure A-12. Lighting Adjacent Structures

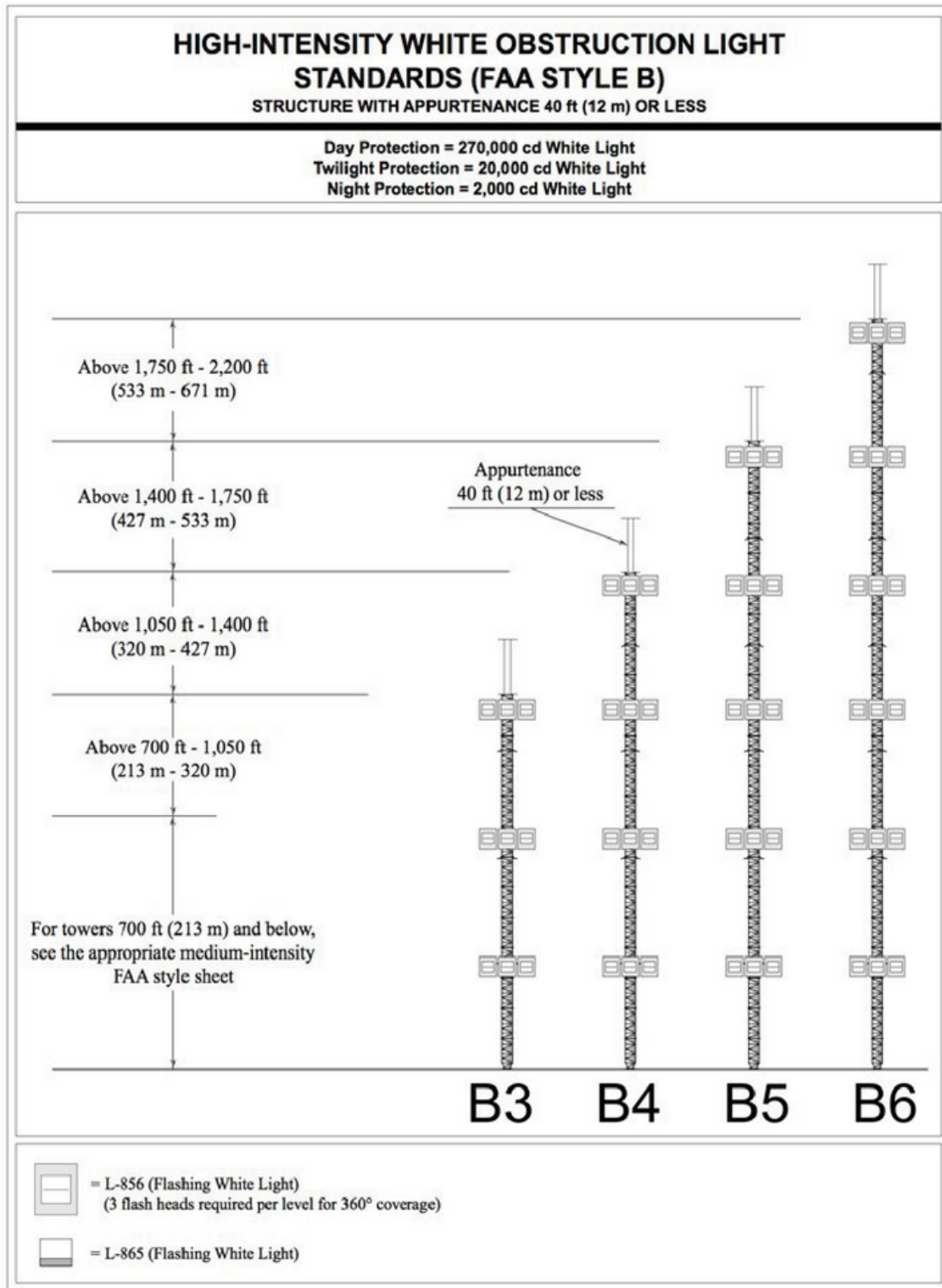


Figure A-13. High-Intensity White Obstruction Light Standards (FAA Style B)—With Appurtenance 40 Feet or Less



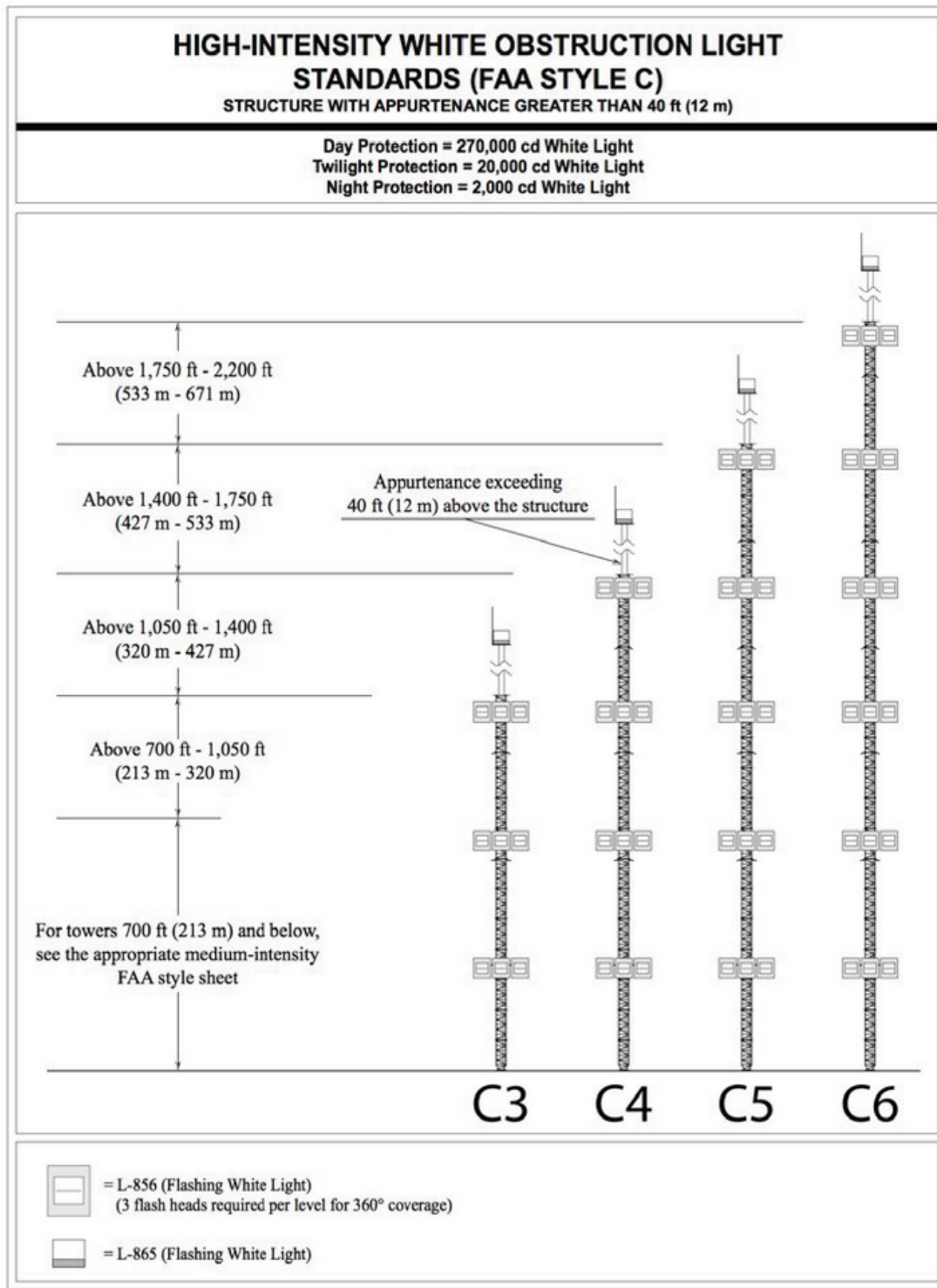
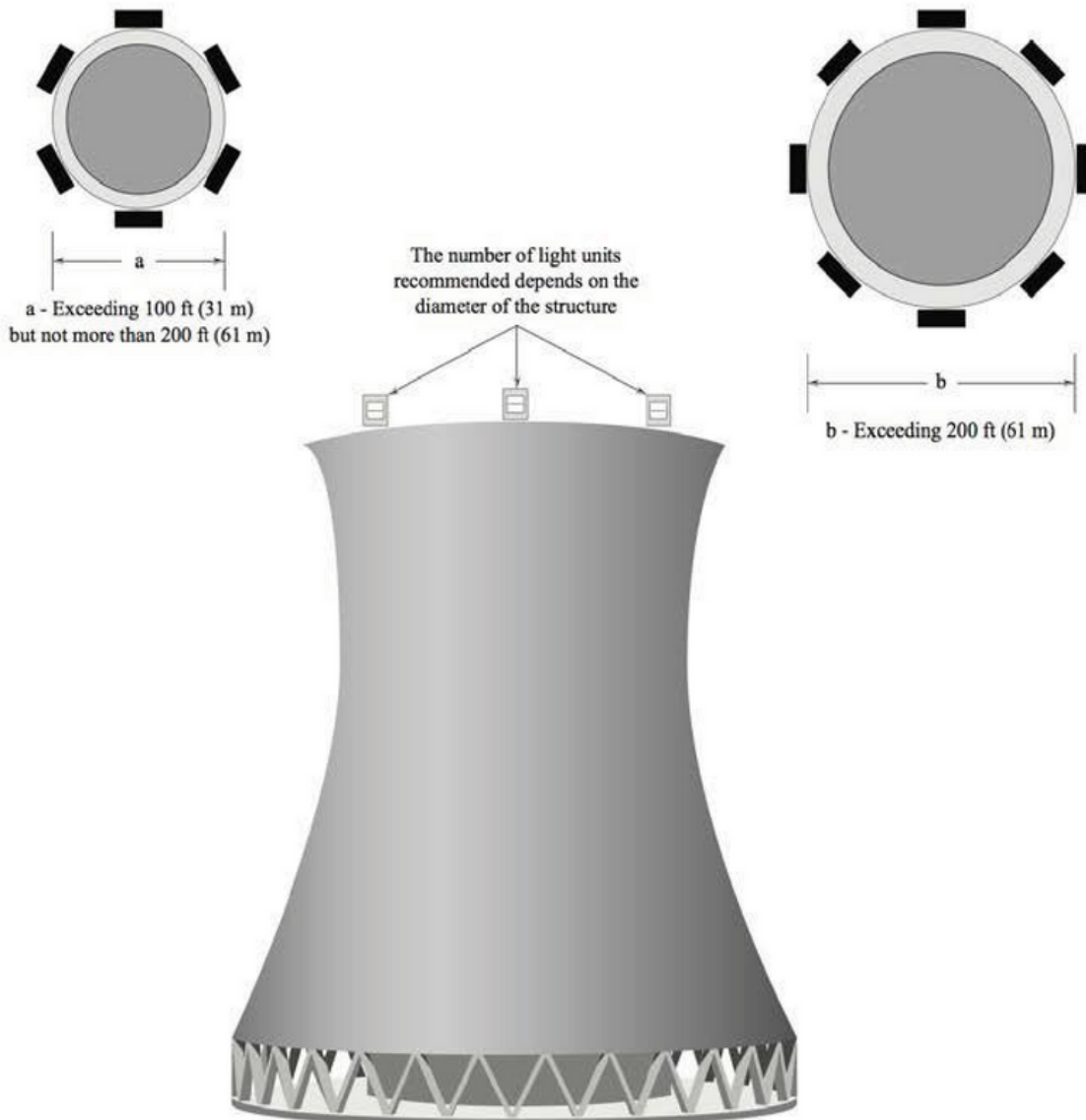


Figure A-14. High-Intensity White Obstruction Light Standards (FAA Style C)—With Appurtenance Over 40 Feet High

## LIGHTING HYPERBOLIC COOLING TOWERS

Day Protection = 270,000 cd White Light (Painting of tower is typically not required)  
 Twilight Protection = 20,000 cd White Light  
 Night Protection = 2,000 cd White Light

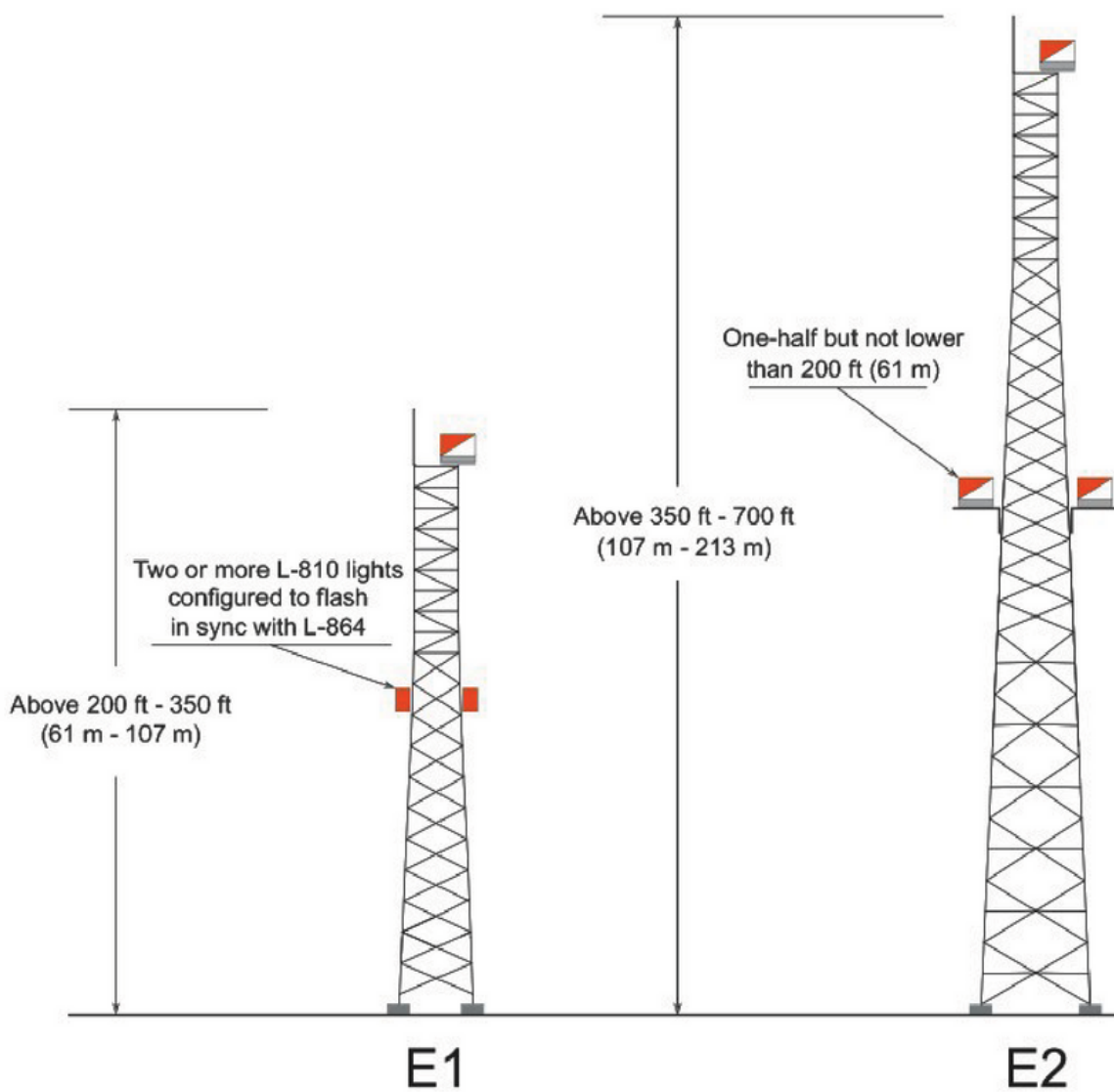




= L-856 (Flashing White Light)

Figure A-15. Lighting Hyperbolic Cooling Tower

## MEDIUM-INTENSITY DUAL OBSTRUCTION LIGHT STANDARDS (FAA STYLE E)

Day / Twilight Protection = 20,000 cd White Light  
 Night Protection = 2,000 cd Red Light and 32 cd side lights  
 (Painting of tower is typically not required)



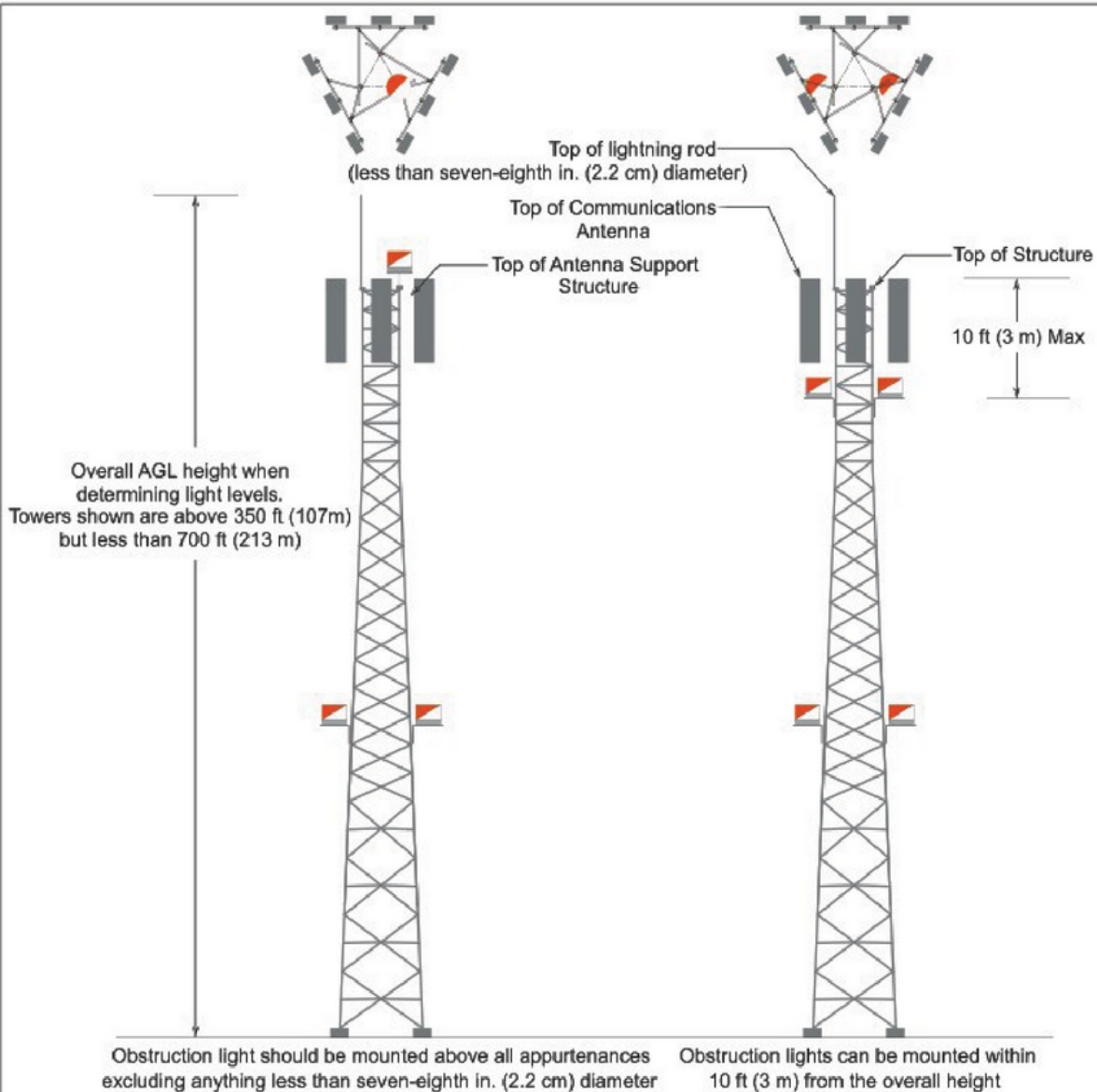
-  = L-864 / L-865 (Flashing Dual [Red / White] Light  
L-864 configured to flash at a rate of 30 fpm ( $\pm 3$  fpm)
-  = L-810 (Single Light)  
Configured to flash in sync with L-864

Note:  
 See paragraph 5.2. regarding  
 IR specifications for LED-based  
 red obstruction lights.

Figure A-16. Medium-Intensity Dual Obstruction Light Standards (FAA Style E)

## MEDIUM-INTENSITY LIGHTING ESTABLISHING THE LOCATION OF TOP BEACONS

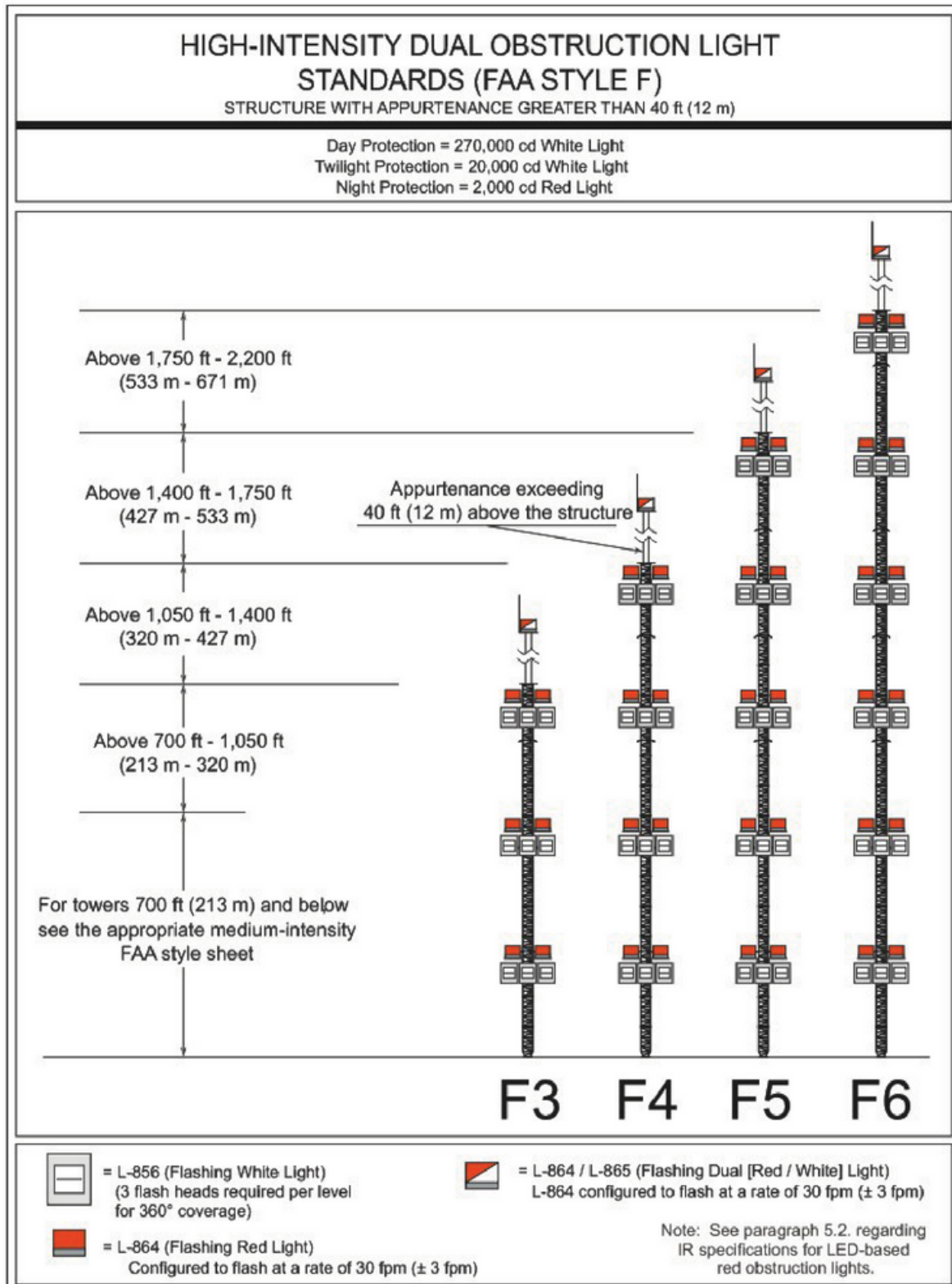
Day Protection = 20,000 cd White Light  
Night Protection = 2,000 cd Red Light



-  = L-864 (Flashing Red Light)
-  = L-865 (Flashing White Light)
-  = L-864 / L-865 (Flashing Dual Light)

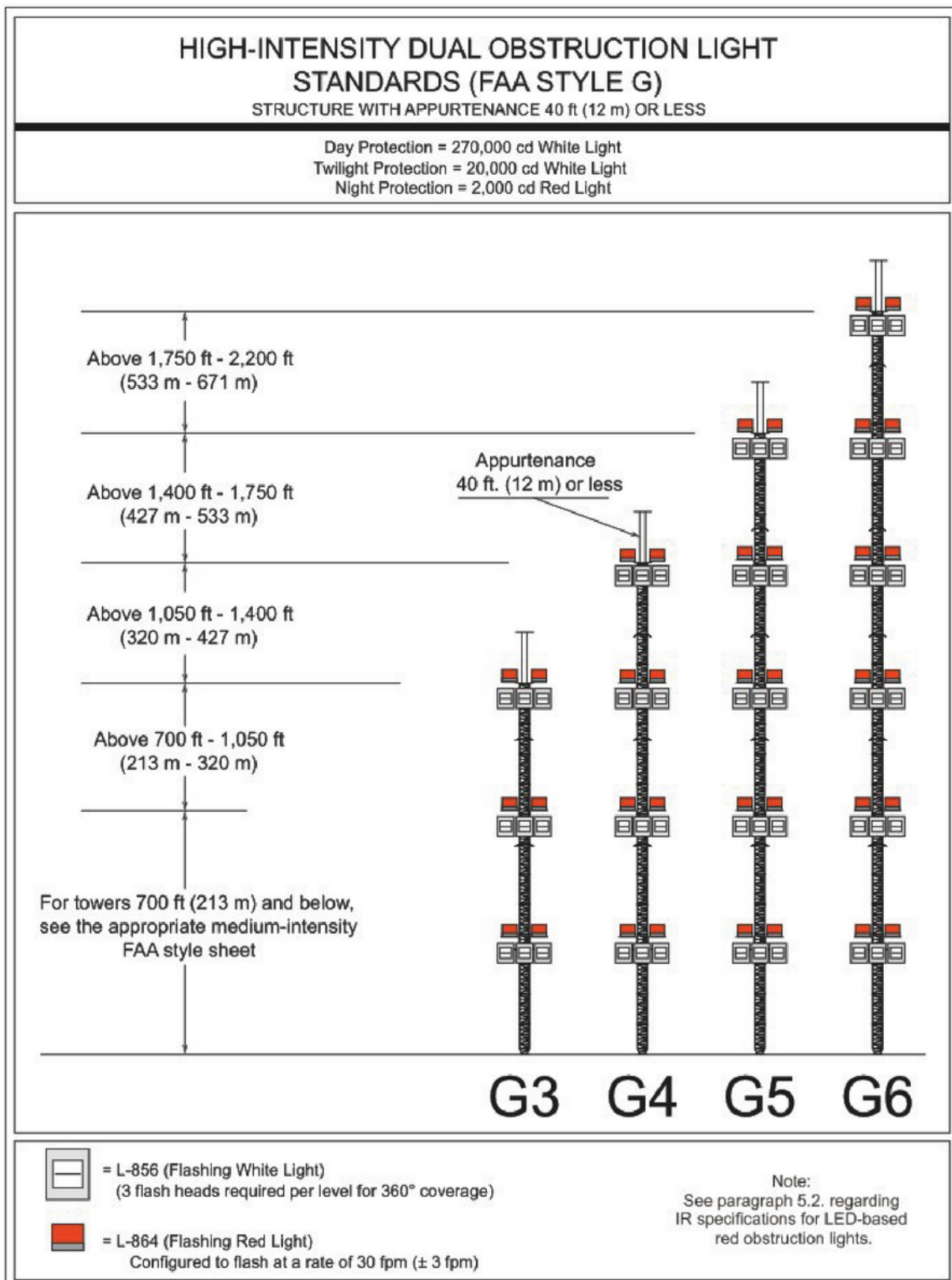
Note:  
See paragraph 5.2. regarding  
IR specifications for LED-based  
red obstruction lights.

Figure A-17. Medium-Intensity Lighting—Establishing the Location of Top Beacons



**Figure A-18. High-Intensity Dual Obstruction Light Standards (FAA Style F)—With Appurtenance Over 40 Feet High**





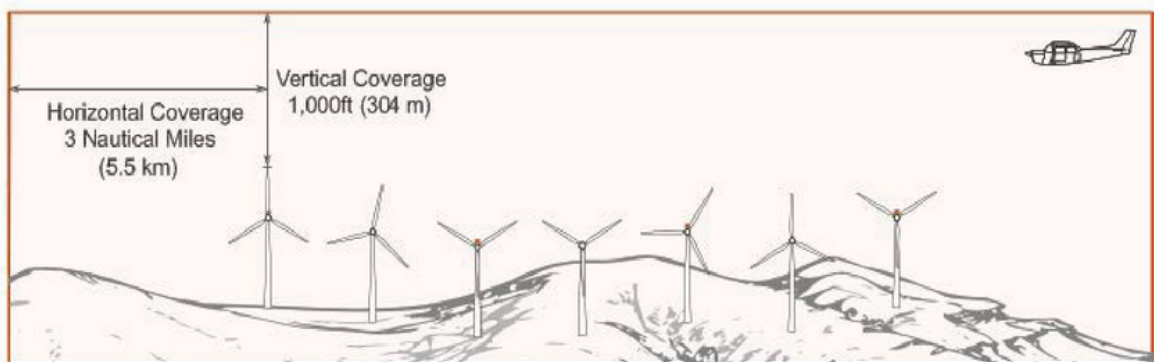
**Figure A-19. High-Intensity Dual Obstruction Light Standards (FAA Style G)—With Appurtenance 40 Feet or Less**

## AIRCRAFT DETECTION LIGHTING SYSTEM

(ADLS) SAMPLE WIND FARM COVERAGE MAP



\* Multiple ADLS units required for the above wind farm



\* System above shown in active mode with aircraft in coverage area

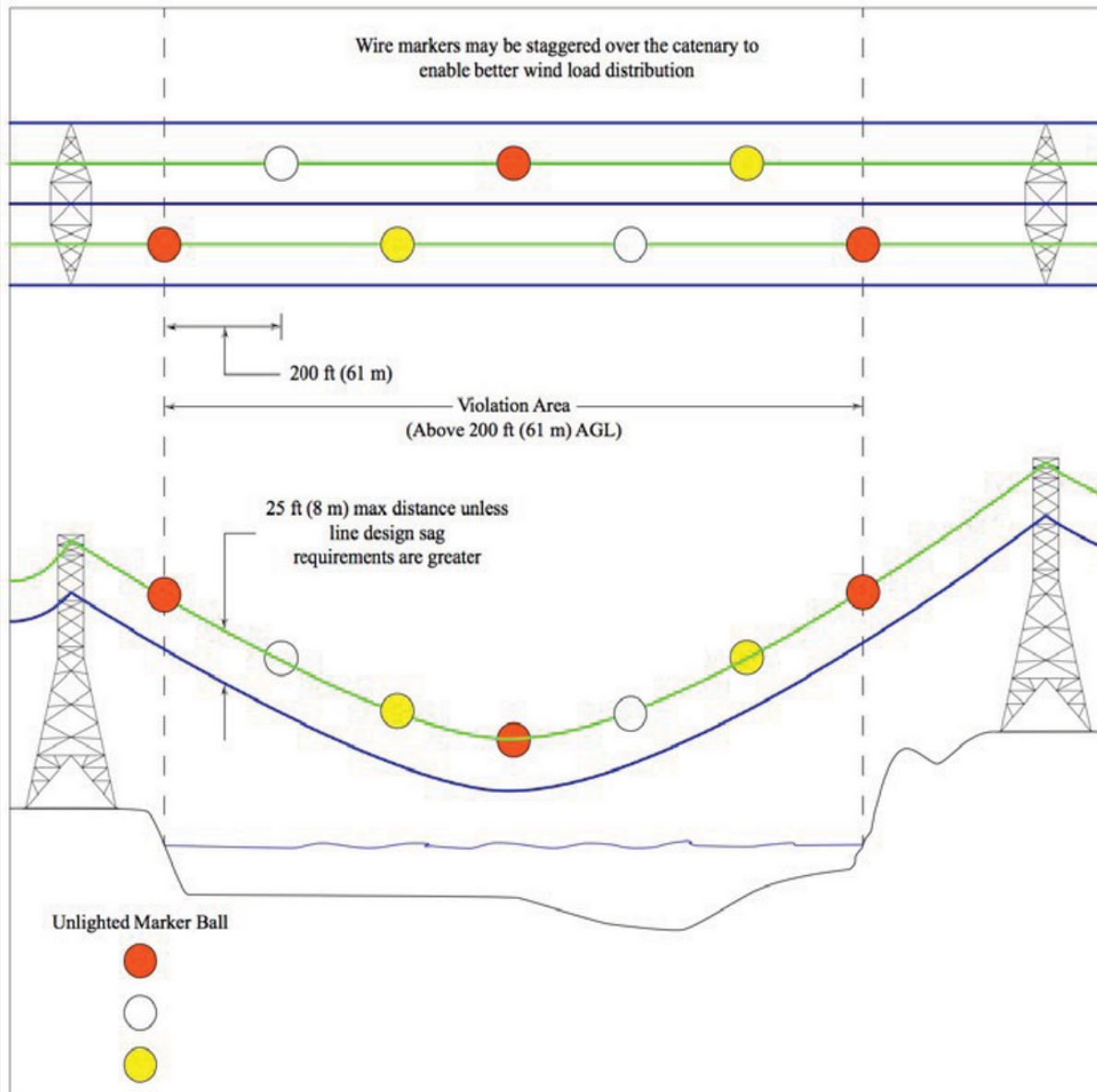
 = L-864 (Flashing Red Light)

Note:  
See paragraph 5.2. regarding  
IR specifications for LED-based  
red obstruction lights.

Figure A-20. Aircraft Detection Lighting System (sample coverage map)

## CATENARY UNLIGHTED MARKERS

Required for transmission lines less than 69 kV  
Recognizable from a minimum distance of 4,000 ft (1,219 m)



Extensive catenary wires: min 36-inch- (91-cm-) diameter markers; less extensive catenary wires: 20-inch- (51-cm-) or 12-inch- (30.48-cm-) diameter markers.

Evenly spaced along the wire at approximately 200-ft (61-m) intervals.

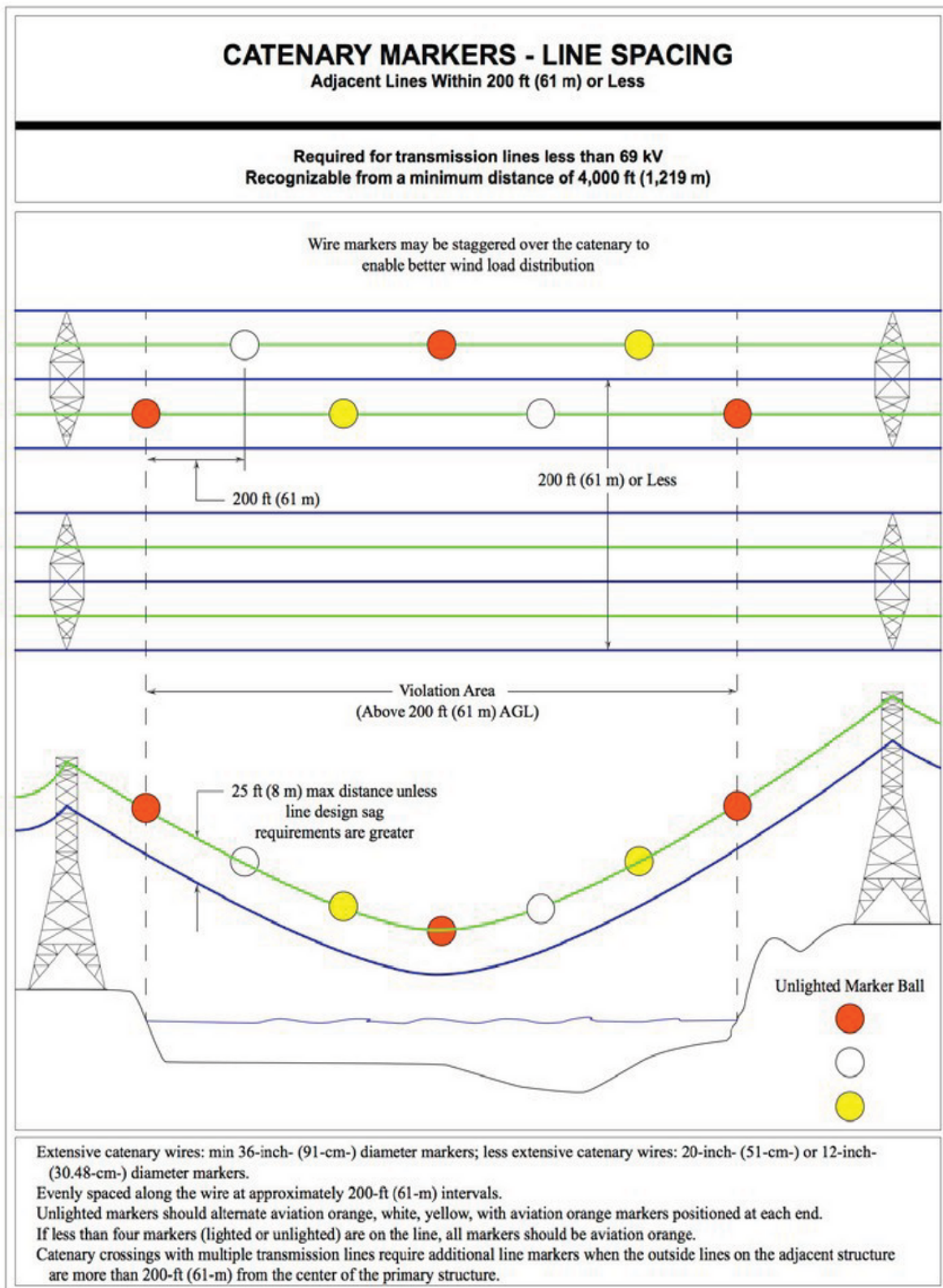
Lighted markers should be a solid color, such as aviation orange, white or yellow.

Lighted markers should alternate aviation orange, white, yellow with aviation orange markers positioned at each end.

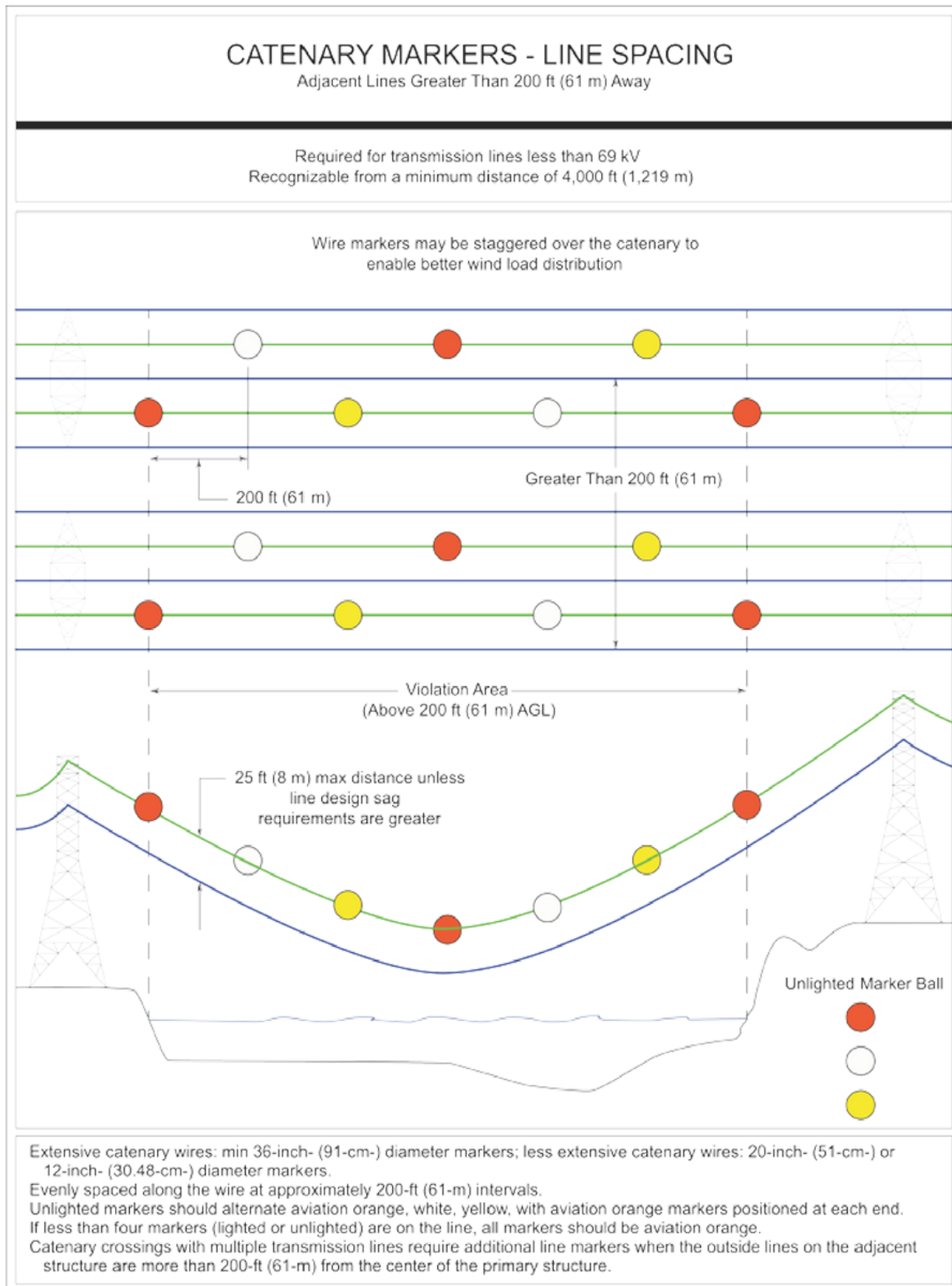
If less than four lighted markers are on the line, all markers should be aviation orange.

Figure A-21. Catenary Unlighted Markers (less than 69 kV)



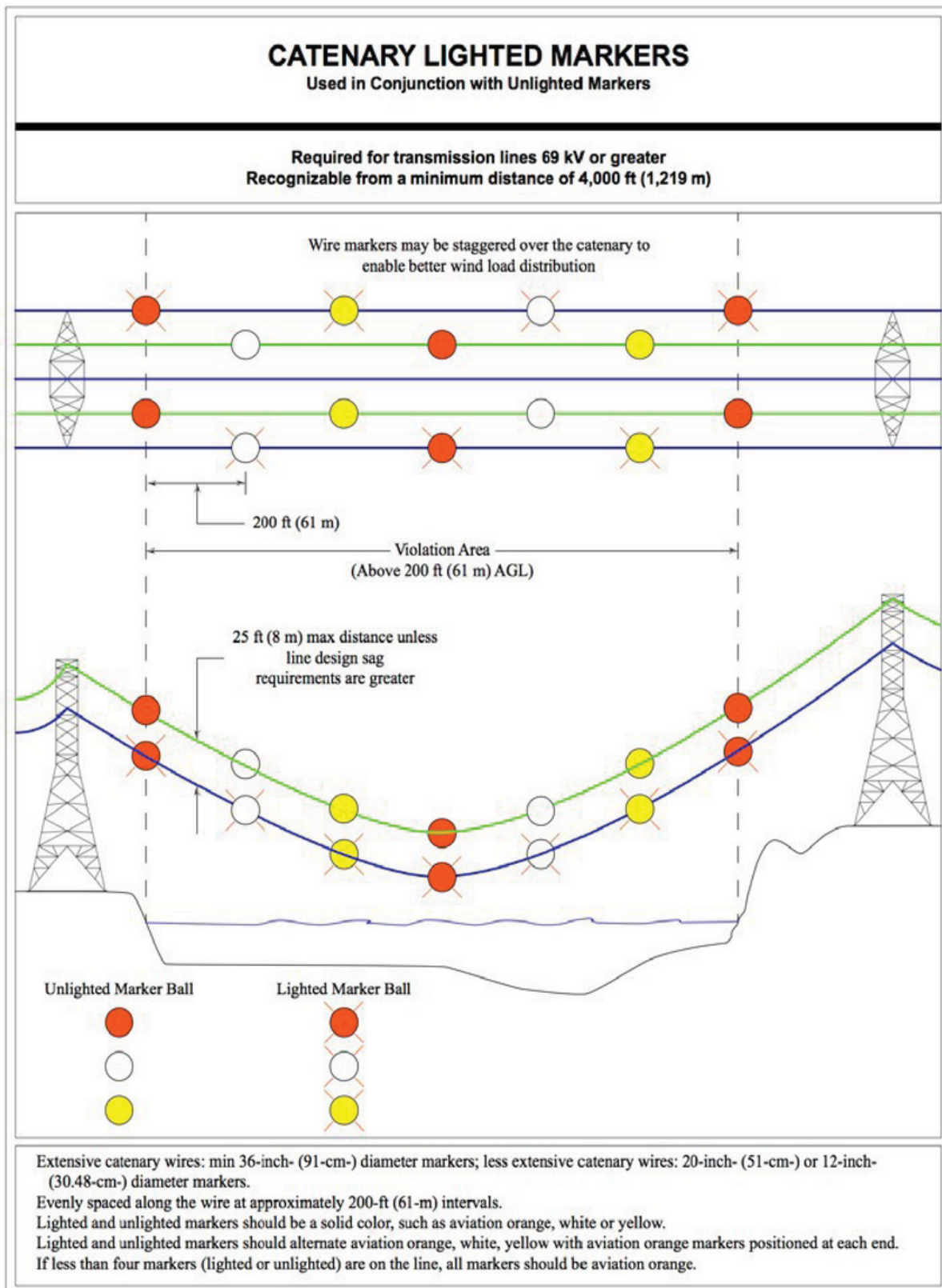


**Figure A-22. Catenary Markers – Line Spacing (Adjacent Lines Within 200 ft. (60.96 m) or Less)**

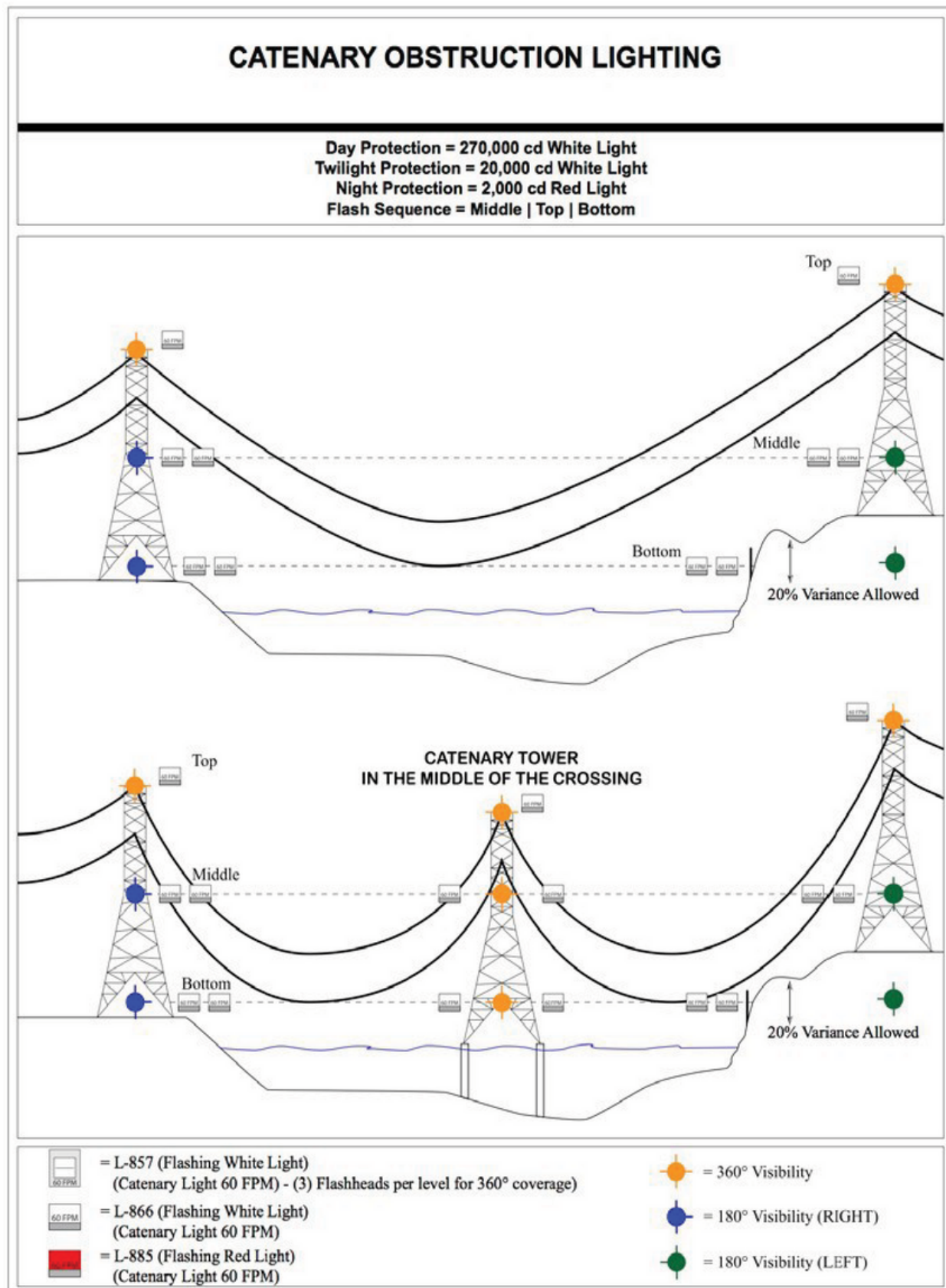


**Figure A-23. Catenary Markers - Line Spacing (Adjacent Lines Greater Than 200 ft. (60.96 m) Away)**

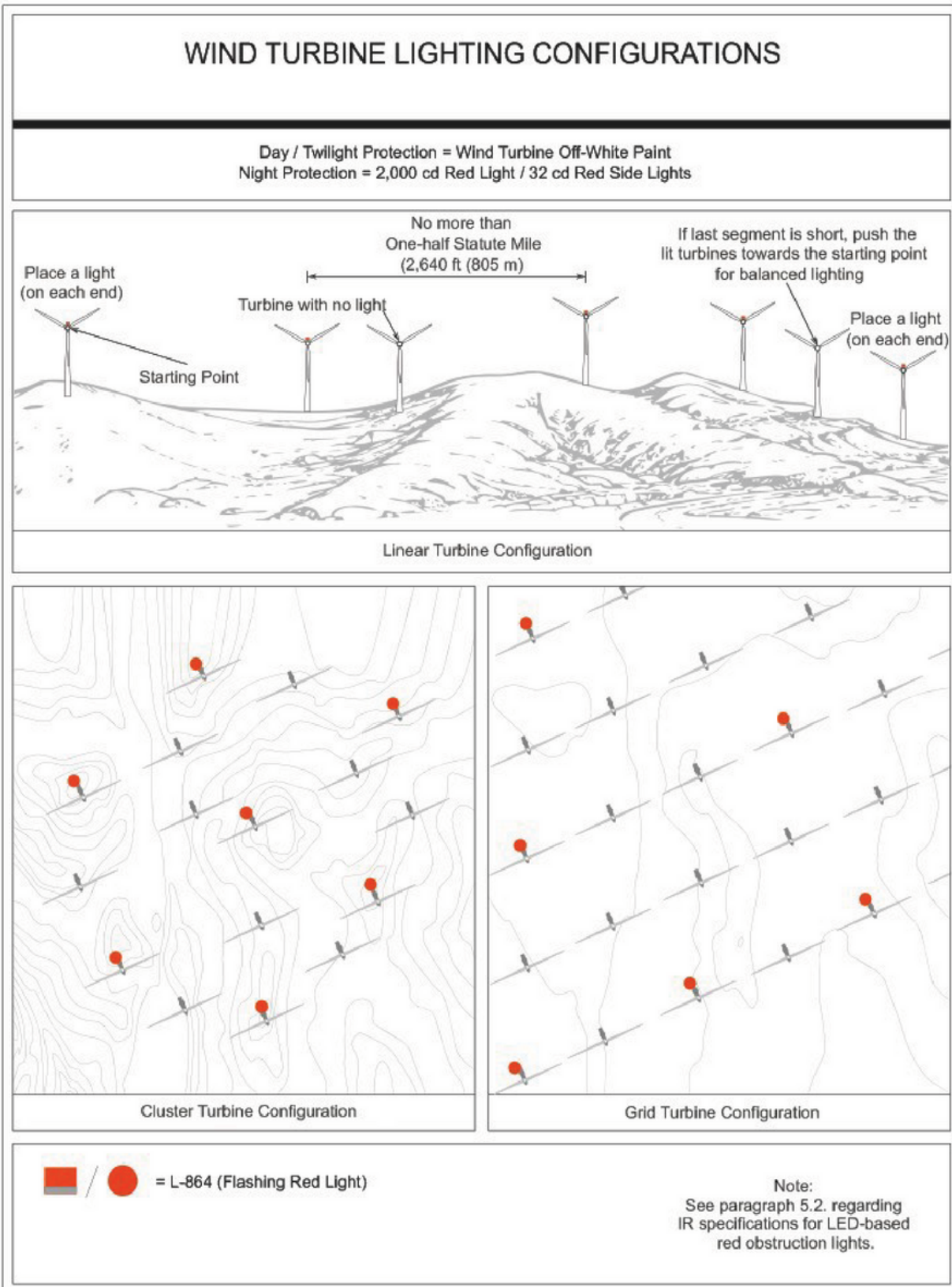




**Figure A-24. Catenary Lighted Markers – Used in Conjunction with Unlighted Markers  
(69 kV or greater)**



**Figure A-25. Catenary Obstruction Lighting**



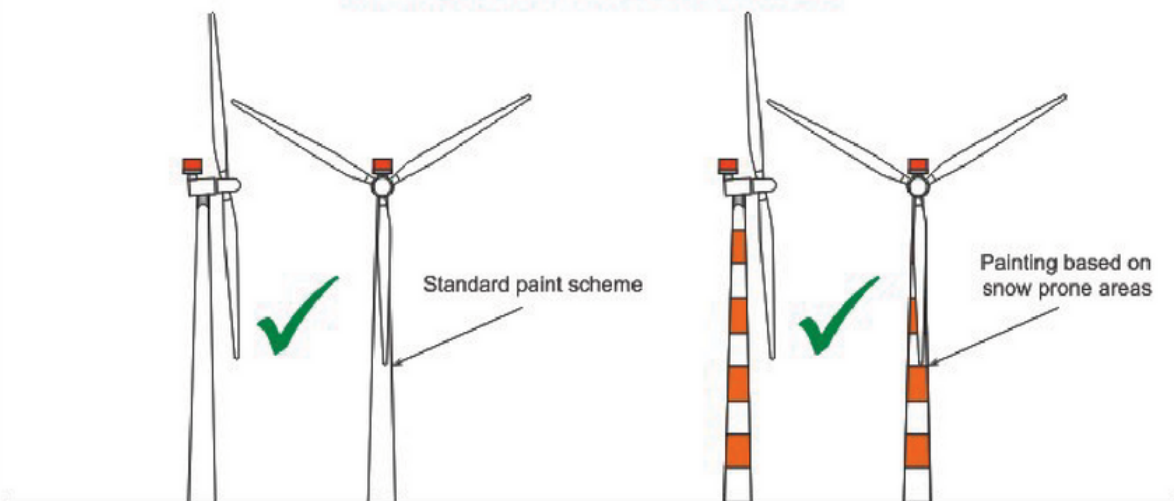
**Figure A-26. Wind Turbine Lighting Configurations**



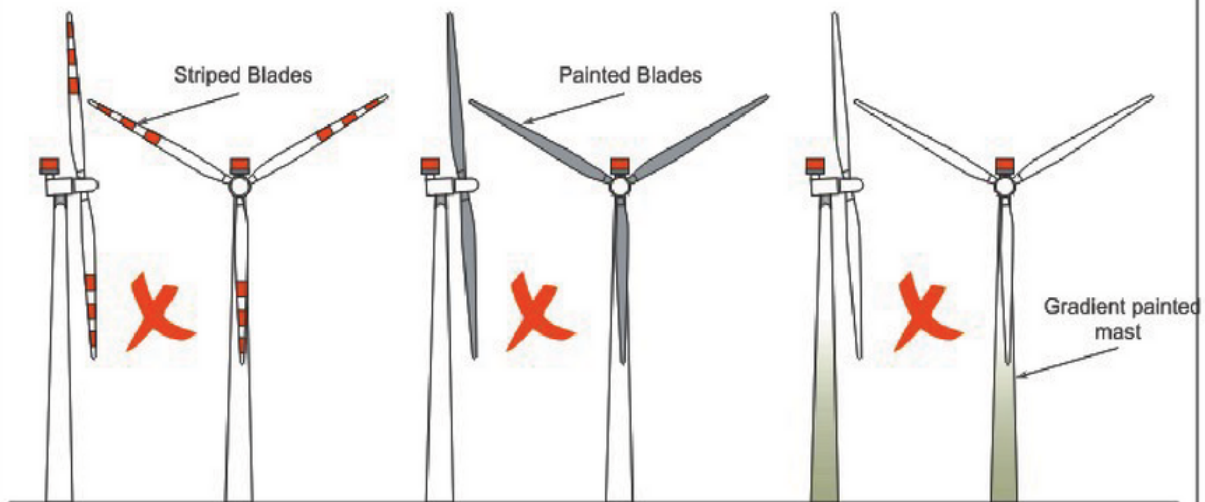
## LIGHTING AND MARKING OF WIND TURBINES PAINT SCHEMES

Day / Twilight Protection = Aviation Orange and Wind Turbine Off-White Paint  
Night Protection = 2,000 cd Red Lights / Turbines Under 499 ft (152 m)

### APPROVED PAINT SCHEMES



### NOT APPROVED PAINT SCHEMES



 = L-864 (Flashing Red Light)

Note:  
See paragraph 5.2. regarding  
IR specifications for LED-based  
red obstruction lights.

Figure A-27. Lighting and Marking of Wind Turbines – Paint Schemes

## LIGHTING AND MARKING OF WIND TURBINES IN SNOW PRONE AREAS (OPTIONAL)

Day / Twilight Protection = Aviation Orange and Wind Turbine Off-White Paint  
Night Protection = 2,000 cd Red Lights / 32 cd Red Side Lights

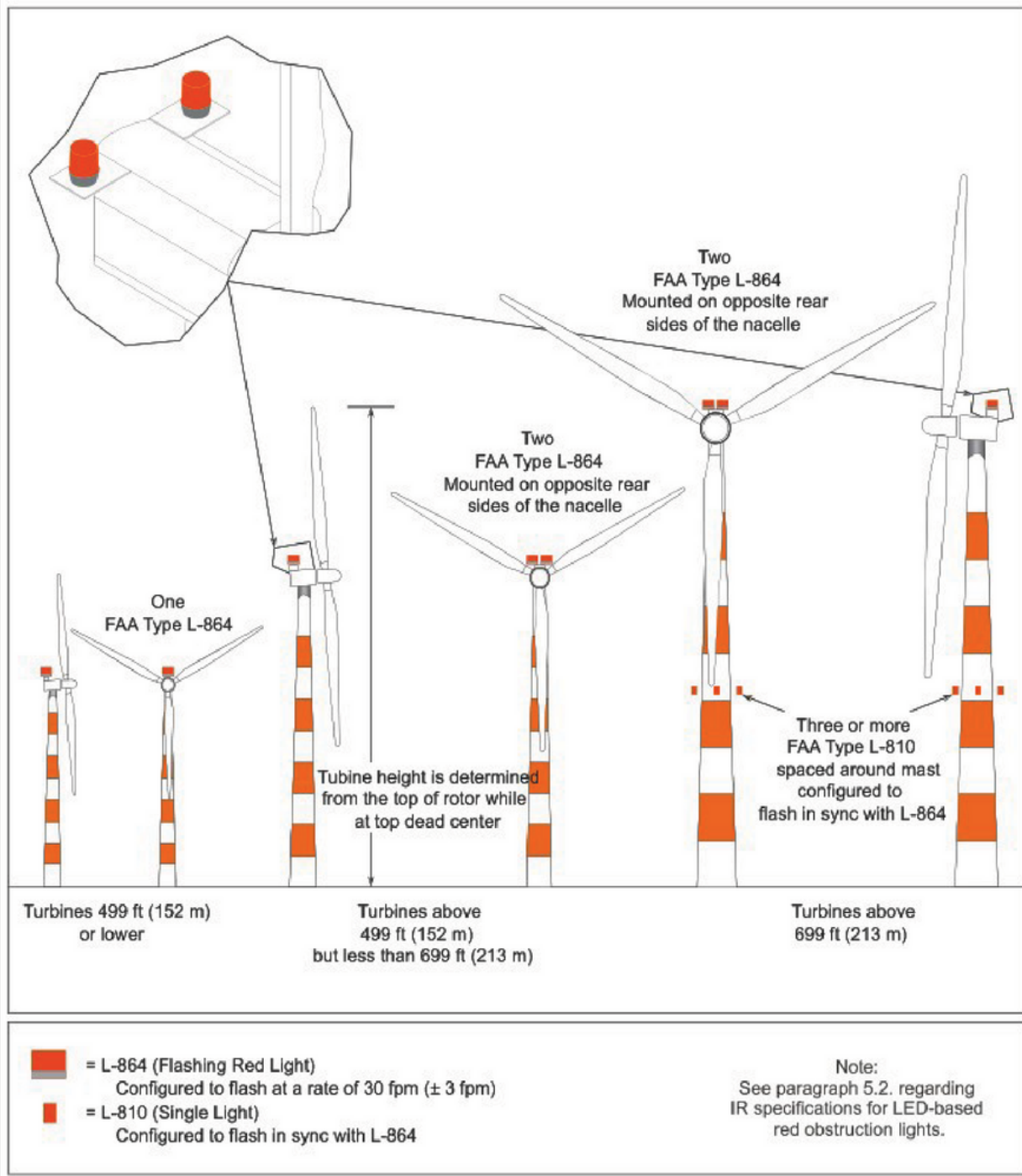


Figure A-28. Wind Turbine Lighting and Marking in Snow Prone Areas (Optional)



## WIND TURBINE LIGHTING

Day / Twilight Protection = Wind Turbine Off-White Paint  
 Night Protection = 2,000 cd Red Light / 32 cd Red Side Lights

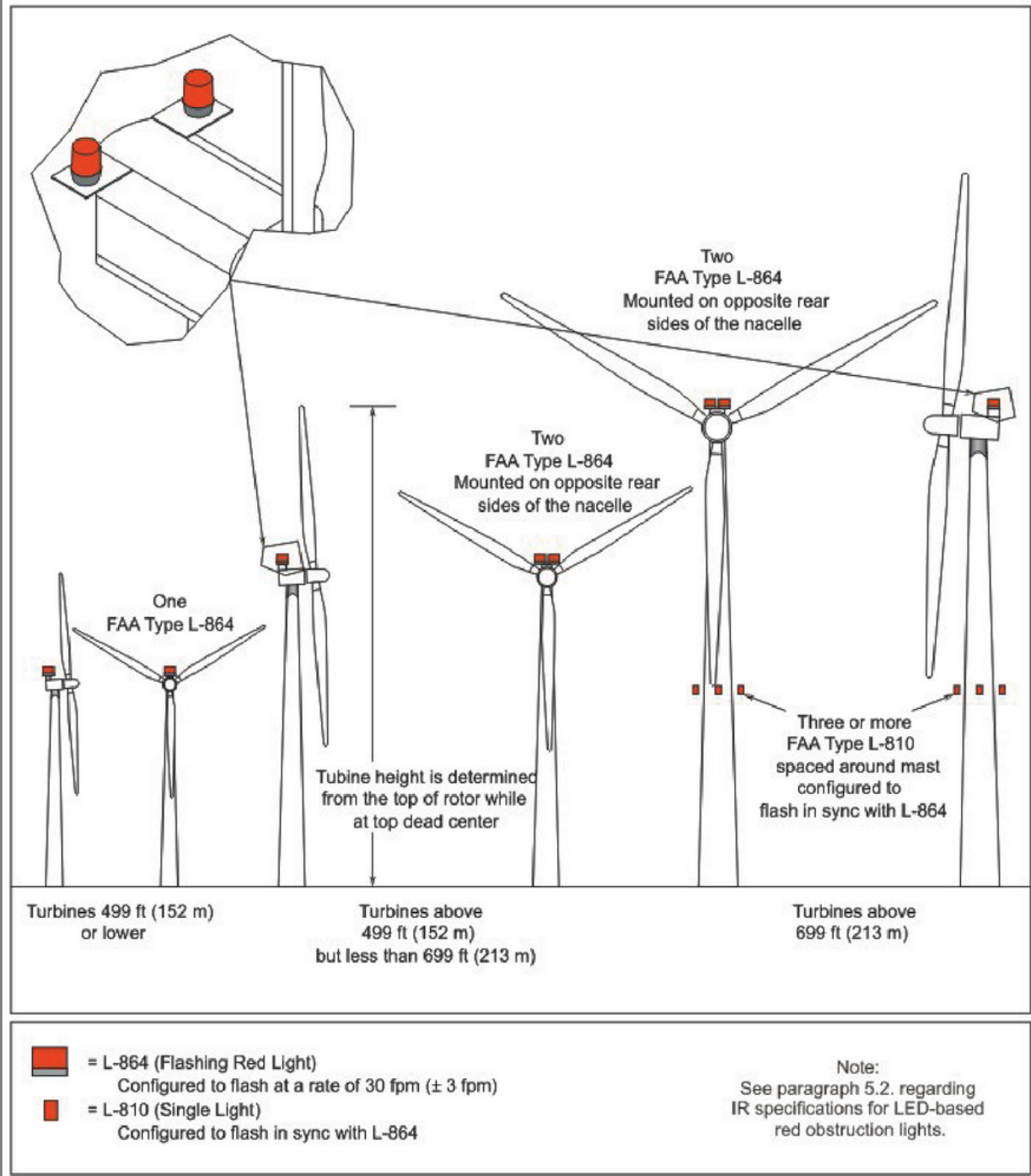
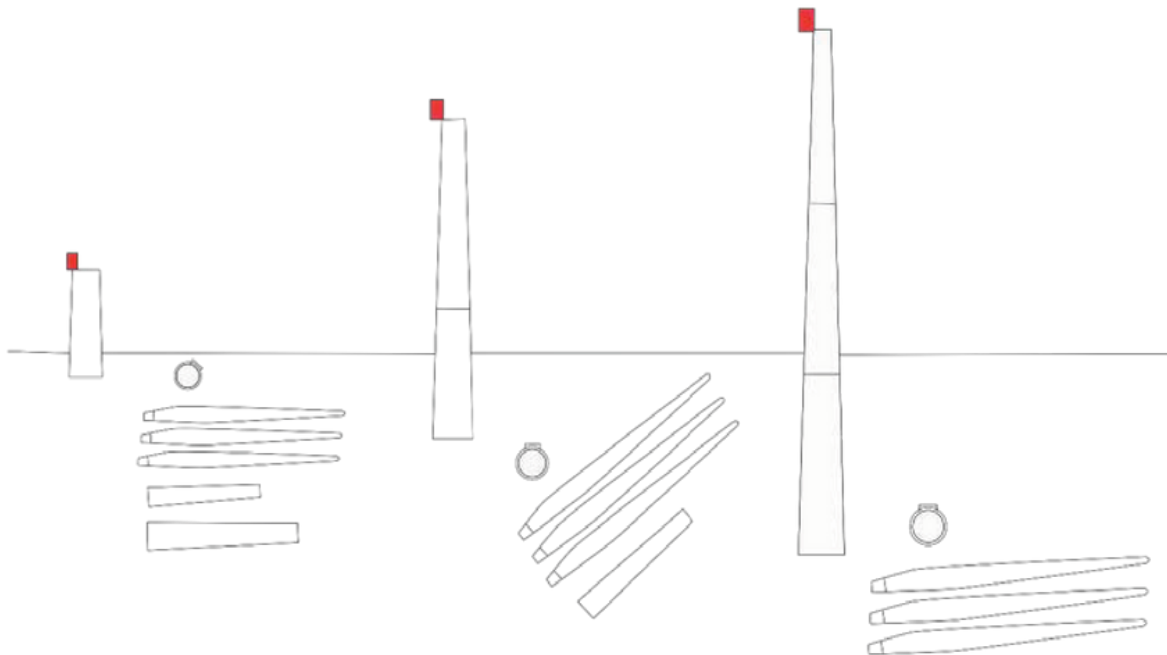


Figure A-29. Wind Turbine Lighting

LIGHTING AND MARKING OF WIND TURBINES  
DURING CONSTRUCTION

Day / Twilight Protection = Wind Turbine Off-White Paint  
Night Protection = 32 cd Red Lights / Turbines Under 499 ft (152 m)



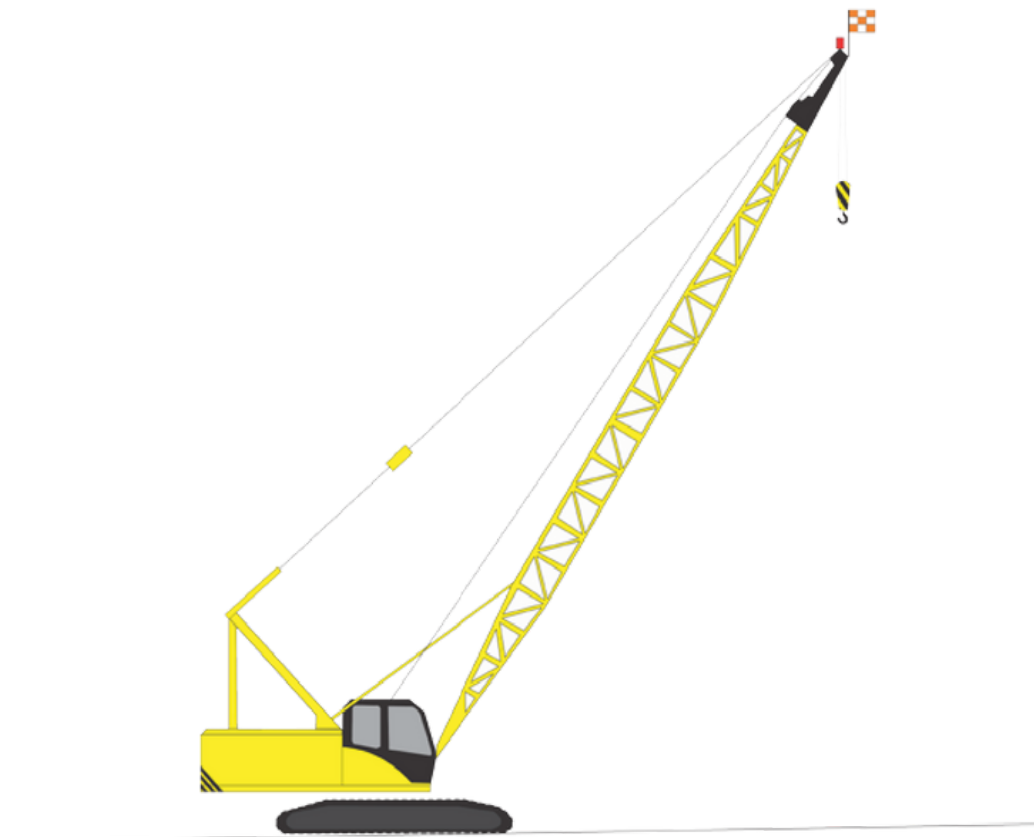
■ = L-810 (Single Light)

Note:  
See paragraph 5.2. regarding  
IR specifications for LED-based  
red obstruction lights.

Figure A-30. Marking and Lighting of Turbines During Construction

## CRAWLER CRANE MARKING AND LIGHTING

Day / Twilight Protection = Prominent Coloring and Flag  
Night Protection = 32 cd Red Light



= L-864 (Flashing Red Light)



= Checkered Flag (Orange/White, 36 in by 36 in)

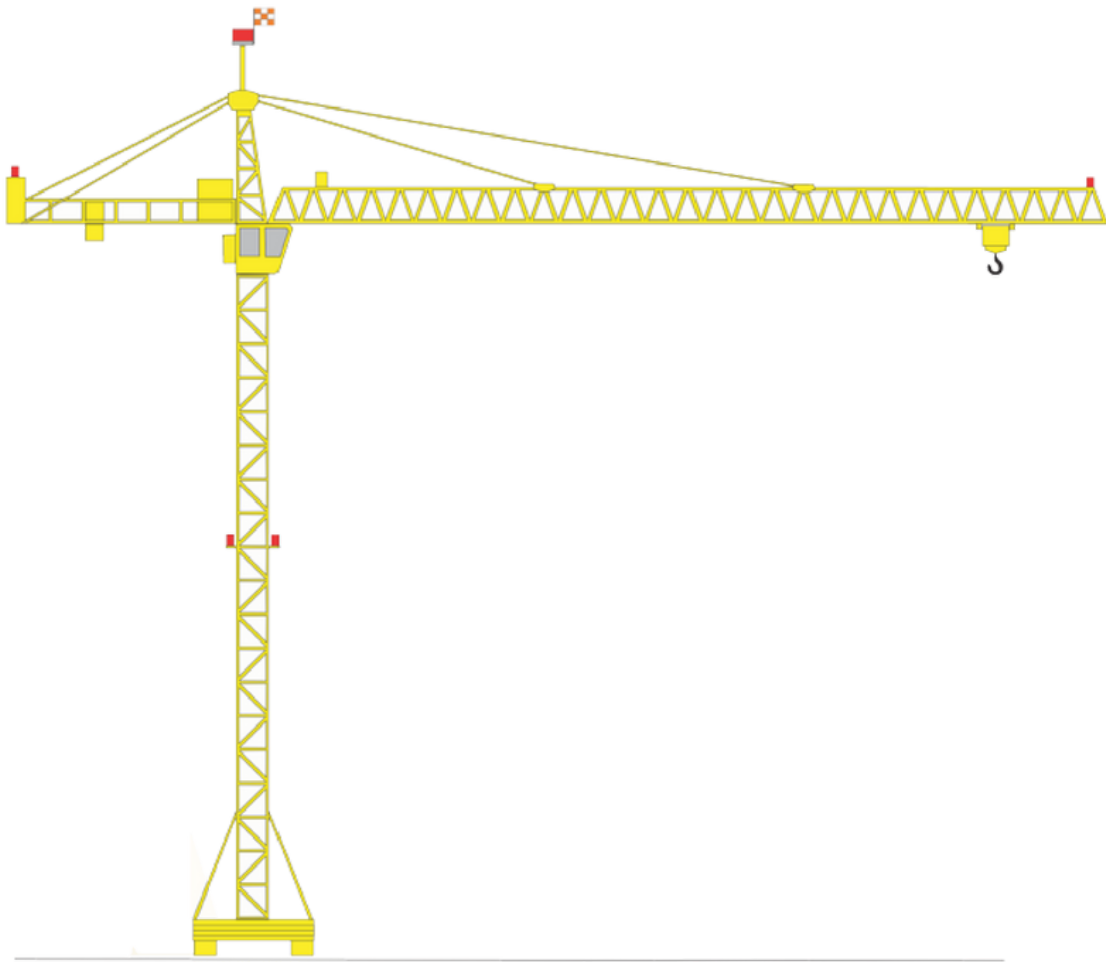


= L-810 (Single Light)

Figure A-31. Crawler Crane Marking and Lighting

## TOWER CRANE MARKING AND LIGHTING

Day / Twilight Protection = Prominent Coloring and Checkered Flag  
Night Protection = 2,000 cd Red Light / 32 cd Red Side Lights



= L-864 (Flashing Red Light)



= Checkered Flag (Orange/White, 36 in by 36 in)

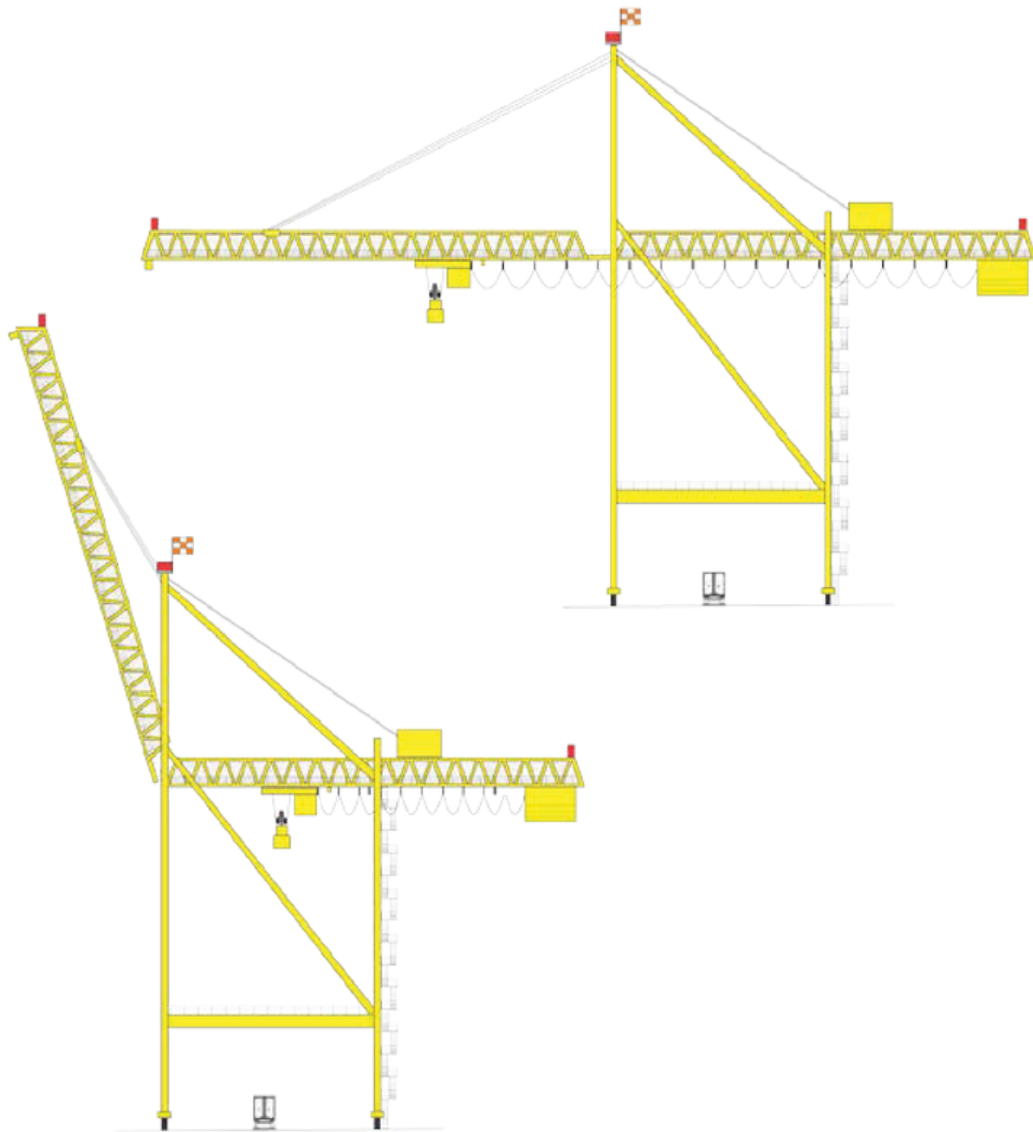


= L-810 (Single Light)

Figure A-32. Tower Crane Marking and Lighting

## CONTAINER CRANE MARKING AND LIGHTING

Day / Twilight Protection = Prominent Coloring and Flag  
Night Protection = 2,000 cd Red Light / 32 cd Red Side Lights



 = L-864 (Flashing Red Light)

 = Checkered Flag (Orange/White, 36 in by 36 in)


 = L-810 (Single Light)

Figure A-33. Container Crane Marking and Lighting