

HYDREL SAF

DESIGN GUIDE

Bringing Vision to Life



SAF DESIGN GUIDE

Committed to lighting performance, Hydrel utilizes the most advanced sources and optics to create a wide variety of lighting effects. Combining today's smaller, more efficient sources with precision optical platforms, Hydrel achieves photometric performance seldom experienced in outdoor lighting – a soft, uniform illumination that is noticeably superior.

This guide is meant to generate ideas of how SAF luminaires can be specified to meet the needs of your project.

Please reference product specific IES files at Hydrel.com and let SAF help bring your vision to life.

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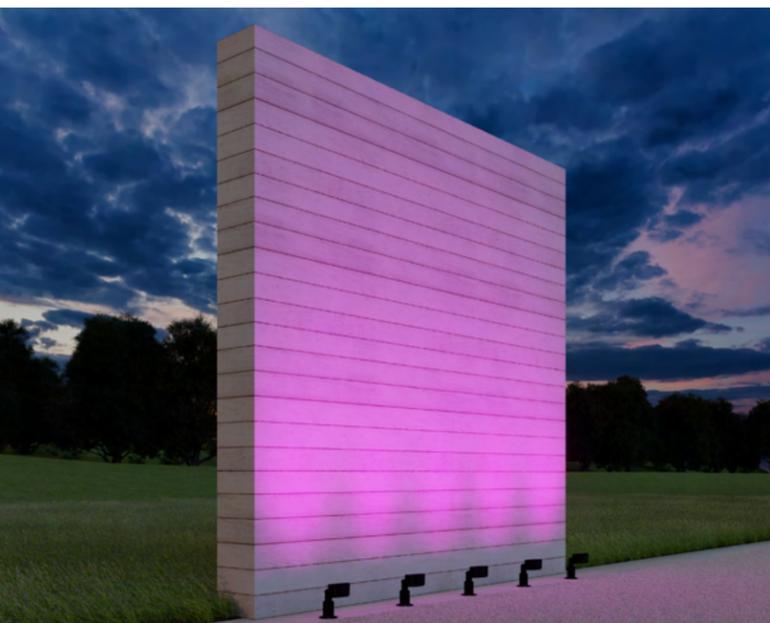
FAÇADE & WALL WASH LIGHTING

Accentuate a surface by delivering a low, consistent light level. Fixtures are placed close to the surface with a minimal setback to create density while minimizing hot spots.

In these examples, (5) SAF7 luminaires are aligned 4 feet apart on-center to wall wash stacked concrete.



| | |
|-----------------------------|----------------------------|
| Application: | Wall Wash - White |
| Target: | Stacked Concrete Wall |
| Target Height: | 20 ft |
| Luminaire: | (5) SAF7 |
| Mounting Accessory: | Cylindrical Pedestal Mount |
| Distribution: | 40° |
| Performance Package: | P3 |
| CCT: | 4000K |
| Setback: | .5 ft (4 ft on center) |
| Aiming Angle: | 0° |
| Max/Min Ratio: | 659.0:1 fc |
| Ave. Foot Candles: | 20.3 fc |



| | |
|-----------------------------|----------------------------|
| Application: | Wall Wash - RGBW |
| Target: | Stacked Concrete Wall |
| Target Height: | 12 ft |
| Luminaire: | (5) SAF7 |
| Mounting Accessory: | Cylindrical Pedestal Mount |
| Distribution: | 70° |
| Performance Package: | P1 |
| CCT: | RGBW |
| Setback: | 2 ft (4 ft on center) |
| Aiming Angle: | 0° |
| Ave. Foot Candles: | 0.4 fc |



Floodlighting reinforces the architectural form by illuminating setback portions of the façade. In this example, the central vertical areas above each entrance and the top floor levels are illuminated while leaving the outer corner volumes unlit. The contrast between these surfaces emphasizes the solidity of the outer surface while accentuating the lighter interior volume that rises within and above.

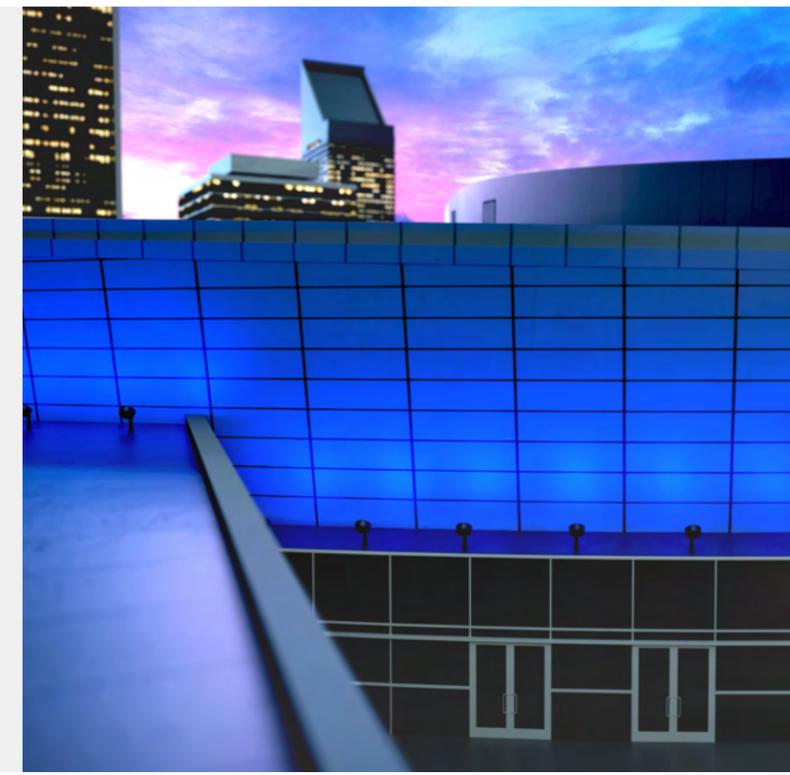


| | |
|-----------------------------|--------------------------|
| Application: | Hospital |
| Target: | Textured Concrete |
| Target Height: | 50 ft |
| Luminaire: | SAF28 |
| Mounting Accessory: | Cylindrical Junction Box |
| Distribution: | 15°V x 60°H |
| Performance Package: | P3 |
| CCT: | 4000K |
| Setback: | 2 ft (10-ft on-center) |
| Aiming Angle: | 60° |
| Max/Min Ratio: | 500+ fc |
| Ave. Foot Candles: | 12.8 fc |





| | |
|-----------------------------|----------------------------|
| Application: | Arena |
| Target: | Smooth Concrete |
| Target Height: | 30 ft |
| Luminaire: | SAF28 |
| Mounting Accessory: | Cylindrical Pedestal Mount |
| Distribution: | 70° |
| Performance Package: | P1 |
| CCT: | RGBW |
| Setback: | 2.5 ft (6.5-ft on-center) |
| Aiming Angle: | 80° |
| Max/Min Ratio: | 309.2:1 fc |
| Ave. Foot Candles: | 10 fc |



At this arena, electric-blue floodlighting illuminates the roof-line and accentuates its form. The contrast between surfaces emphasizes the dynamic shape of the arena while accentuating the lighter interior volume. The whimsical coloration hints at the fun and excitement contained within.

SAF28 luminaires are installed every six and a half feet using a P1 performance package, an 70° distribution, and an 80° aiming angle to provide solid color.

COLUMN AND PILASTER

Illuminate columns by delivering a consistent light level from its base to its capital. By installing the fixtures near the surface, the designer ensures that the coverage will be full and uniform.

In the examples, SAF7, SAF14 and SAF28 luminaires are positioned to deliver static white column lighting to each of three columns.

Narrow distributions are selected to focus the light and deliver it to the peak.

| | |
|-----------------------------|----------------------------|
| Application: | Columns |
| Target: | Textured Concrete |
| Target Height: | 20, 30, and 40 ft |
| Luminaire: | SAF7, SAF14, SAF28 |
| Mounting Accessory: | Cylindrical Pedestal Mount |
| Distribution: | 10° |
| Performance Package: | P1, P2, P1 |
| CCT: | 4000K |
| Setback: | 1.5 ft |
| Aiming Angle: | 0° |
| Max/Min Ratio: | 20.9:1, 21.6:1, 21.2:1 fc |
| Ave. Foot Candles: | 11.4, 20.3, 30.2 fc |



| | |
|-----------------------------|-------------------------------|
| Application: | Pilasters |
| Target: | Textured Concrete |
| Target Height: | 20 ft |
| Luminaire: | SAF14 |
| Mounting Accessory: | Architectural Stanchion Mount |
| Distribution: | 15° |
| Performance Package: | P1 |
| CCT: | 3000K |
| Setback: | 1.5 ft |
| Aiming Angle: | 80° |
| Max/Min Ratio: | 265.3:1 fc |
| Ave. Foot Candles: | 11.6 fc |

The 20 pilasters that run the length of this classically designed building are each up lit to emphasize their solid form. Lighting is positioned at the base of each pilaster in a recessed trough lined by ornate fencing. The SAF14 is easily tucked away to allow the architecture to speak for itself. With an IP68 rating, these luminaires will continue to perform even if those troughs become temporarily flooded.

To enhance the warmth of the building a 3000K CCT was chosen, along with the P1 Performance Package to illuminate the full pilaster.





The walking path outside of this office building is an ideal location for pole-mounted clusters, as they provide both wayfinding and security for pedestrians as well as landscape accent lighting. Six SAF14s are mounted using Architectural Mid-pole Clamps to illuminate this scene, plus Hydrel Alder accent lights around the trees for additional canopy illumination. Boasting a G0 BUG rating, the SAF line provides for the visual comfort of pedestrians as they navigate the space.

| | | | |
|-----------------------------|------------------------------|------------------------------|------------------------------|
| Application: | Pole 1 (left) | Pole 2 (center) | Pole 2 (right) |
| Target: | Pathway/bench | Pathway/landscape | Pathway/bench |
| Luminaire: | SAF14 | SAF14 | SAF14 |
| Mounting Accessory: | Architectural Mid-Pole Clamp | Architectural Mid-Pole Clamp | Architectural Mid-Pole Clamp |
| Distribution: | 15°V x 60°H | 15°V x 60°H | 15°V x 60°H |
| Performance Package: | P1 | P1 | P1 |
| CCT: | 4000K | 4000K | 4000K |
| Fixture Height: | 18 ft | 16 ft | 18 ft |
| Aiming Angle: | 20° | 55° | 30° |
| Max/Min Ratio: | 100.8:1 fc | 100.8:1 fc | 100.8:1 fc |
| Ave. Foot Candles: | 24.1 fc | 24.1 fc | 24.1 fc |

POLE-MOUNT AREA FLOODING

Pole-mounted clusters provide a versatile and flexible location for wayfinding and security illumination, as well as directed surface illumination as shown on the Hydrel signage above. In this example, architectural pole-mount arms are used to position three SAF luminaires; two fixed on the pathway and one fixed on the signage.

| | | |
|-----------------------------|-----------------|-----------|
| Application: | Sign | Pathway |
| Target: | Painted Surface | Concrete |
| Luminaire: | SAF14 | (2) SAF14 |
| Mounting Accessory: | ADPM | ADPM |
| Distribution: | 15°V x 60°H | 40° |
| Performance Package: | P2 | P3 |
| CCT: | 4000K | 4000K |
| Fixture Height: | 18 ft | 16 ft |
| Aiming Angle: | 0° | 55° |
| Max/Min Ratio: | 6.4:1 fc | 28.8:1 fc |
| Ave. Foot Candles: | 13.2 fc | 5.1 fc |

(ADPM: Architectural Decorative Pole Mount)



SIGNS & SPOT LIGHTING

Spot lighting is an effective method for illuminating signage. In the examples, SAF7 luminaires are positioned to deliver the appropriate volume of light for each target.



| | |
|-----------------------------|---------------------------------|
| Application: | Sign |
| Target: | Painted |
| Luminaire: | SAF7 |
| Mounting Accessory: | Cylindrical Architectural J-box |
| Distribution: | 50° |
| Performance Package: | P2 |
| CCT: | 4000K |
| Setback: | 3.5 ft |
| Aiming Angle: | 10° |
| Max/Min Ratio: | 76.8:1 fc |
| Ave. Foot Candles: | 45.9 fc |

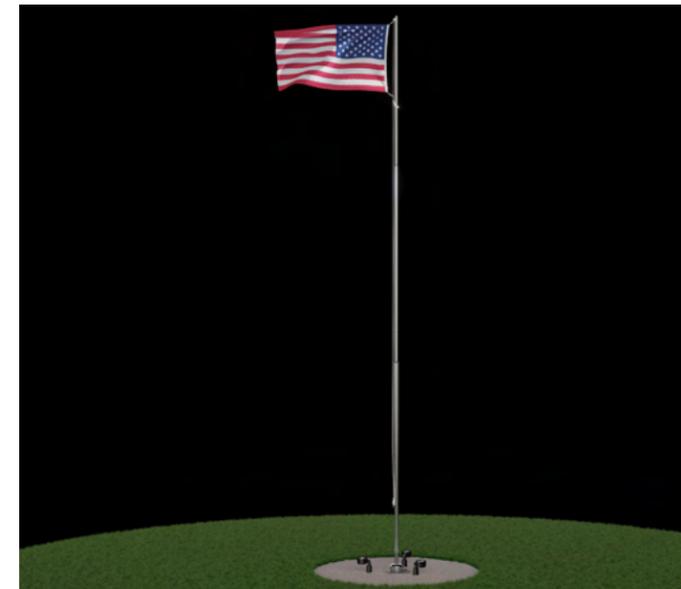


| | | |
|-----------------------------|--------------|--------------|
| Application: | Sign1 | Sign2 |
| Target: | Painted Logo | Painted Logo |
| Luminaire: | SAF7 | SAF7 |
| Mounting Accessory: | 36" CWMAE | 12" CWMAE |
| Distribution: | 50° | 50° |
| Performance Package: | P2 | P2 |
| CCT: | 4000K | 4000K |
| Setback: | 36" | 12" |
| Aiming Angle: | 30° | 45° |
| Max/Min Ratio: | 201:1 fc | 24.2:1 fc |
| Ave. Foot Candles: | 31.2 fc | 48.9 fc |

(CWMAE: Cylindrical Wall Mount Arm, End)

FLAG LIGHTING

According to US Flag Code, the United States flag may be displayed between sunset and sunrise (during hours of darkness) only if it is sufficiently illuminated. Properly illuminating the flag requires that the flag is recognizable by a casual observer over some distance. Below are two examples of how sufficient illumination can be applied: the first using ground-mounted luminaires and the second using pole-mounts.



| | |
|-----------------------------|---------------------------------|
| Application: | Flag |
| Target: | 10 ft x 5 ft Flag |
| Target Height: | 40 ft |
| Luminaire: | (3) SAF7 |
| Mounting Accessory: | Cylindrical Architectural J-box |
| Distribution: | 20° |
| Performance Package: | P1 |
| CCT: | 4000K |
| Setback: | 2 ft |
| Aiming Angle: | 0° |
| Max/Min Ratio: | 11.5:1 fc |
| Ave. Foot Candles: | 6.9 fc |



| | |
|-----------------------------|------------------------------|
| Application: | Flag |
| Target: | 10 ft x 5 ft Flag |
| Target Height: | 40 ft |
| Luminaire: | (2) SAF7 |
| Mounting Accessory: | Architectural Mid-pole Clamp |
| Distribution: | 20° |
| Performance Package: | P1 |
| CCT: | 4000K |
| Fixture Height: | 8 ft |
| Aiming Angle: | 0° |
| Max/Min Ratio: | 12.3:1 fc |
| Ave. Foot Candles: | 4.9 fc |

FLOODLIGHTING

When illuminating large objects over long distances, significant power is required to ensure enough light is delivered on target. In this example we are providing illumination to a water tower like we see in many areas of North America, which generate water pressure to service local municipalities.

| | |
|-----------------------------|----------------------------|
| Application: | Floodlighting |
| Target: | Water Tower |
| Target Height: | 130 ft |
| Luminaire: | (7) SAF28 |
| Mounting Accessory: | Yoke Mount on Junction-box |
| Distribution: | 15° |
| Performance Package: | P3 |
| CCT: | 4000K |
| Setback: | 2 ft |
| Aiming Angle: | 70° |
| Max/Min Ratio: | 131:1 fc |
| Ave. Foot Candles: | 18.6 fc |



MOUNTING ACCESSORIES

The application examples provided require a broad assortment of mounting accessories and the Hydrel SAF family offers a multitude of options to meet the needs of your design.

JUNCTION BOXES



CJB
Cylindrical
Junction Box



CAJB
Cylindrical
Architectural
Junction Box



CSM
Cylindrical Stanchion
Mount 12" - 48"
(available in 6" increments)



CSM
Cylindrical Pedestal
Mount



AWSC
Architectural Wall
Splice Cover

POLE MOUNTS



APAR/APAS
Round 18" Pole Mount



CPMSA
Cylindrical Pole Mount
Splice Access



ADPMR/ADPMS
Architectural
Decorative Pole
Mount Round



PATR/PATS
Pole Arm Mounting
(Tenon)



AMPC
Architectural
Mid-Pole Clamp



PAR/PAS
Pole Arm
Mounting

MOUNTING ARMS



CWMA_T
Cylindrical Wall
Mount Arm Top 12" - 48"
(available in 6" increments)



CWMA_E
Cylindrical Wall
Mount Arm Top 12" - 48"
(available in 6" increments)



CWMA_T
Cylindrical Wall
Mount Arm Top 12" - 48"
(available in 6" increments)



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