

Prisoner Lighting System - Quick Reference

💡 Light Types

Type	Color	Intensity	Range	State
Entrance	Blue	3	10	Always On
Prisoner	Orange	2	8	Off When Rescued
Player	Yellow	-	-	Always On

🎨 Default Colors

Entrance: RGB(0, 128, 255) Hex: #0080FF

Prisoner: RGB(255, 128, 0) Hex: #FF8000

⚙️ Flicker Settings

yaml

Min Intensity: 0.8 (80% of base)

Max Intensity: 1.2 (120% of base)

Speed: 10 (changes per second)

Smoothing: 0.1 (transition time)

🔧 Setup Steps

1. Create Point Light prefab
2. Create PrisonerLightingSystem GameObject
3. Assign prefab to system
4. Configure colors & settings
5. Play - lights auto-spawn at prisoners/entrance

📐 Position Calculation

World Position = Grid Position \times Cell Size

Y Height = Cell Size \times 0.5 (center of cell)

Example:

Grid: (7, 8)

Cell Size: 2

World: (14, 1, 16)

Runtime Behavior

Game Start:

- 1 blue light at entrance
- 10 orange lights at prisoners

Rescue Prisoner:

- Orange light.SetActive(false)
- Visual confirmation

Game Restart:

- ClearAllLights()
- Reinitialize on next start

Quick Tweaks

Brighter/Dimmer

csharp

```
prisonerLightIntensity = 2f; // ← Change (1-5)
```

Wider/Narrower Range

csharp

```
prisonerLightRange = 8f; // ← Change (2-15)
```

More/Less Flicker

csharp

```
minFlickerIntensity = 0.8f; // ← Lower = more dramatic  
maxFlickerIntensity = 1.2f; // ← Higher = more dramatic
```

Faster/Slower Flicker

csharp

```
flickerSpeed = 10f; // ← Higher = faster
```

Custom Colors

csharp

```
prisonerLightColor = new Color(1f, 0f, 0f); // Red  
entranceLightColor = new Color(0f, 1f, 0f); // Green
```

Components Hierarchy

```
PrisonerLightingSystem
├── Entrance_Light
│   ├── Light (Component)
│   └── FlickeringLight (Component)
├── Prisoner_Light_7_8
│   ├── Light (Component)
│   └── FlickeringLight (Component)
├── Prisoner_Light_12_4
│   ├── Light (Component)
│   └── FlickeringLight (Component)
└── ... (remaining prisoners)
```

Visual Indicators

- Blue = Safety (entrance/exit)
- Orange = Objective (prisoner location)
- Yellow = Player (your position)
- Dark = Extinguished (rescued)

Debug Commands

```
csharp

// Show light count
Debug.Log($"Lights: {prisonerLights.Count} prisoners + 1 entrance");

// Check specific light
if (prisonerLights.ContainsKey(position))
    Debug.Log("Light exists at position");

// Visualize in Scene view
OnDrawGizmos() // Draws wire spheres at light positions
```

Performance

Shadows: Disabled (recommended)
Update Rate: Every frame (flickering)
Light Count: 11 max (1 entrance + 10 prisoners)
Impact: Low-Medium

Testing Checklist

- Blue light at entrance ✓
- Orange lights at prisoners ✓
- Lights flicker ✓
- Orange light disables on rescue ✓
- Blue light stays on ✓
- Visible from distance ✓

Usage Tips

For Players:

- **Follow blue** to find exit
- **Follow orange** to find prisoners
- **Lights extinguish** = prisoner rescued
- **Navigate by lights** in dark dungeon

For Designers:

- **Blue = Safe** (consistent theming)
 - **Orange = Danger/Distress** (needs help)
 - **Flicker = Alive** (dynamic world)
 - **Disable = Complete** (visual feedback)
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Follow the Lights  - Blue for safety, orange for rescue!