



EXTERIOR LIGHTING CONTROL NARRATIVE

Toyota North Austin – Current Lighting LightGrid+ System

1. Purpose and Design Intent

The exterior lighting control strategy for Toyota North Austin is intended to provide the lighting levels required for normal dealership operations while substantially reducing site illumination and off-site light spill during after-hours periods. The control sequence is automatic and is programmed through the Current Lighting LightGrid+ system so that the reduced after-hours condition does not depend on routine manual action by dealership personnel.

All exterior pole-mounted luminaires and building-mounted wall packs are included in the LightGrid+ control system. Each controlled fixture is provided with a LightGrid+ control module capable of scheduled ON/OFF operation and dimming. Exterior photocell input is used in combination with the LightGrid+ astronomical timeclock to establish dusk/dawn operation and the programmed nightly reduction sequence.

2. Automatic Control Sequence

The exterior lighting system shall operate in the following four programmed states. The transition between each state shall occur automatically through the LightGrid+ system.

Time / Trigger	Exterior Pole Lights	Wall Packs	Required Control State
Daylight Hours	OFF	OFF	All exterior lighting remains OFF during daylight hours.
Dusk / Photocell Activation	100% output	100% output	At dusk, all exterior pole lights and wall packs are automatically brought to 100% of their programmed normal operating output.
Dusk to 10:00 PM	100% output	100% output	Normal Operating Mode. Exterior lighting remains at 100% output through the dealership's evening operating period.
10:00 PM to Dawn	50% output, except designated fixtures OFF	50% output	Reduced After-Hours Mode. Designated fixtures are commanded to 0%/OFF; every remaining exterior pole light and wall pack is automatically dimmed to 50% output.
Dawn / Photocell Deactivation	OFF	OFF	At dawn, all exterior lighting is automatically turned OFF and remains OFF through daylight hours.

3. Normal Operating Mode – Dusk to 10:00 PM

Upon establishment of dusk by the exterior photocell in coordination with the LightGrid+ astronomical timeclock, the exterior lighting system shall automatically transition from OFF to the normal operating condition. All site pole lights and exterior wall packs shall be commanded to 100% output. This condition corresponds to the lighting levels represented on the Operating Hours photometric plan.

The 100% operating condition shall remain in effect from dusk until 10:00 PM. No routine employee action is required to initiate or maintain this condition.

4. Reduced After-Hours Mode – 10:00 PM to Dawn

At 10:00 PM each night, the LightGrid+ system shall automatically transition the site from the normal operating condition to the reduced after-hours condition. All exterior wall packs and all site pole fixtures that are not specifically identified to be OFF shall be dimmed from 100% output to 50% output.

The fixtures specifically identified as OFF on the After-Hours photometric plan shall be commanded to 0% output and shall remain OFF through the remainder of the night. These fixtures currently include fixture designation F5s, fixture designation FRA, both A4A fixtures, and three of the four B5A fixtures. The remaining B5A fixture remains active at the programmed 50% after-hours output.

The reduced 50% lighting condition, together with the complete shutoff of the designated fixtures, shall remain in effect continuously from 10:00 PM until dawn. This programmed reduction is intended to lower overall site illumination and further reduce light contribution toward the surrounding properties during the period when the dealership is not conducting normal evening operations.

5. Photometric Effect of the After-Hours Sequence

The revised photometric calculations demonstrate the effect of the programmed after-hours controls. Because most exterior luminaires are reduced to 50% output and selected fixtures are completely shut OFF, calculated average illumination is reduced throughout the site after 10:00 PM.

Calculated Area	Operating Hours	After Hours
Front Row	33.4 fc avg.	16.7 fc avg.
Perimeter Sales Parking	8.0 fc avg.	2.5 fc avg.
Rooftop Parking	4.8 fc avg.	2.4 fc avg.
Drive Lane	5.4 fc avg.	2.7 fc avg.
Employee Parking	4.0 fc avg.	2.0 fc avg.
Handicap Parking	7.0 fc avg.	3.5 fc avg.
Sales Parking	11.2 fc avg.	5.2 fc avg.
Residential Property	0.00 fc avg. / 0.01 fc max.	0.00 fc avg. / 0.01 fc max.

6. Emergency / Scheduled Maintenance Override

A manual override shall be provided only within a controlled-access space, such as the electrical room. The override is intended solely for emergency conditions and scheduled maintenance activities and is not intended to provide a routine means of extending normal exterior lighting operation.

When an override is initiated, the affected exterior lighting may be temporarily returned to the required maintenance or emergency operating level, including up to 100% output where necessary. The override shall be limited to a maximum duration of two (2) hours in accordance with IECC requirements. At expiration of the two-hour period, the LightGrid+ system shall automatically cancel the override and return all exterior lighting to the control state required by the normal programmed schedule.

7. Programming and Commissioning

The LightGrid+ system shall be programmed and commissioned to verify the dusk activation, 100% normal operating mode, 10:00 PM automatic transition, 50% after-hours dimming, complete shutoff of the specifically designated fixtures, dawn shutoff, and the two-hour maximum emergency/maintenance override. Following commissioning, the programmed sequence shall operate automatically on a nightly basis.