

KIRKHOF CENTER 2270

*Illuminating the Night Sky: Exploring Light Intensity and Security on GVSU's Allendale Campus*

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Lighting is an essential part of campus safety. Our goal was to catalog the location of outdoor lighting facilities on GVSU Allendale campus using GIS, GPS, and light meters to assess lighting distribution. We collected lighting data at predetermined locations and recorded height and intensity of each lighting source. We then used desktop GIS (spatial analyst) to interpolate a light intensity map. The resulting map identified different light intensities. We then delineated the dark areas not meeting the Occupational Safety and Health Administration (OSHA) standards and analyzed the environment (ground truthing and 3-D modeling) to determine inefficiencies. Our results will help the Facilities and Maintenance staff to assess lighting demands; the Department of Public Safety (DPS) will be able to organize more efficient patrols to deficient areas; and maintenance staff will be able to update poorly lit areas. In short, our efforts will make the campus community safer.-12.