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· Dallas Convention Center ·

Navy Techval Demonstration Of Work Station Specific Lighting

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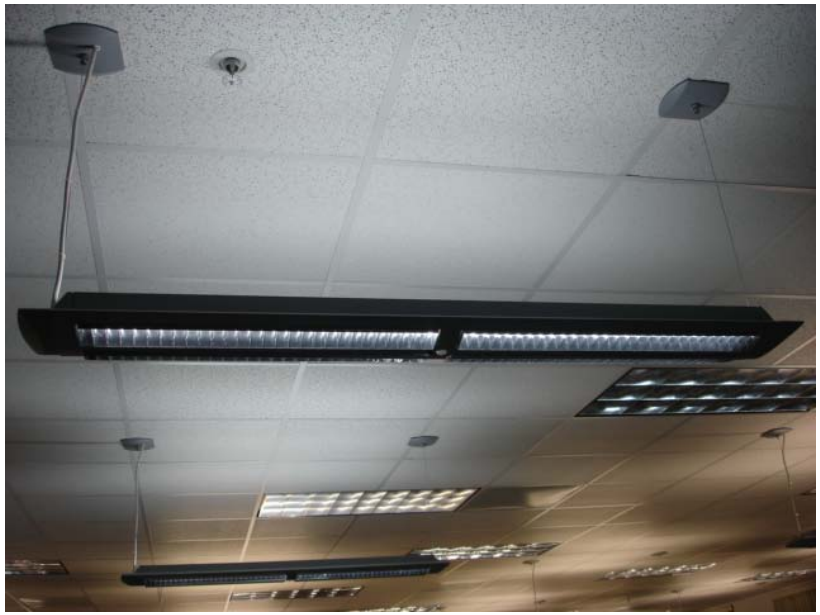
US Navy

Work Station Specific Lighting

What Is It?

1. Pendant light used mainly in open cubicles
2. Each cubicle has own dedicated fixture
3. One up light
4. Two down lights
5. Down light dimmed by the occupant
6. Up light on time clock
7. Occupancy sensor
8. Day light sensor
9. T5 5000K
10. Does not replace task lighting



Work Station Specific Lighting

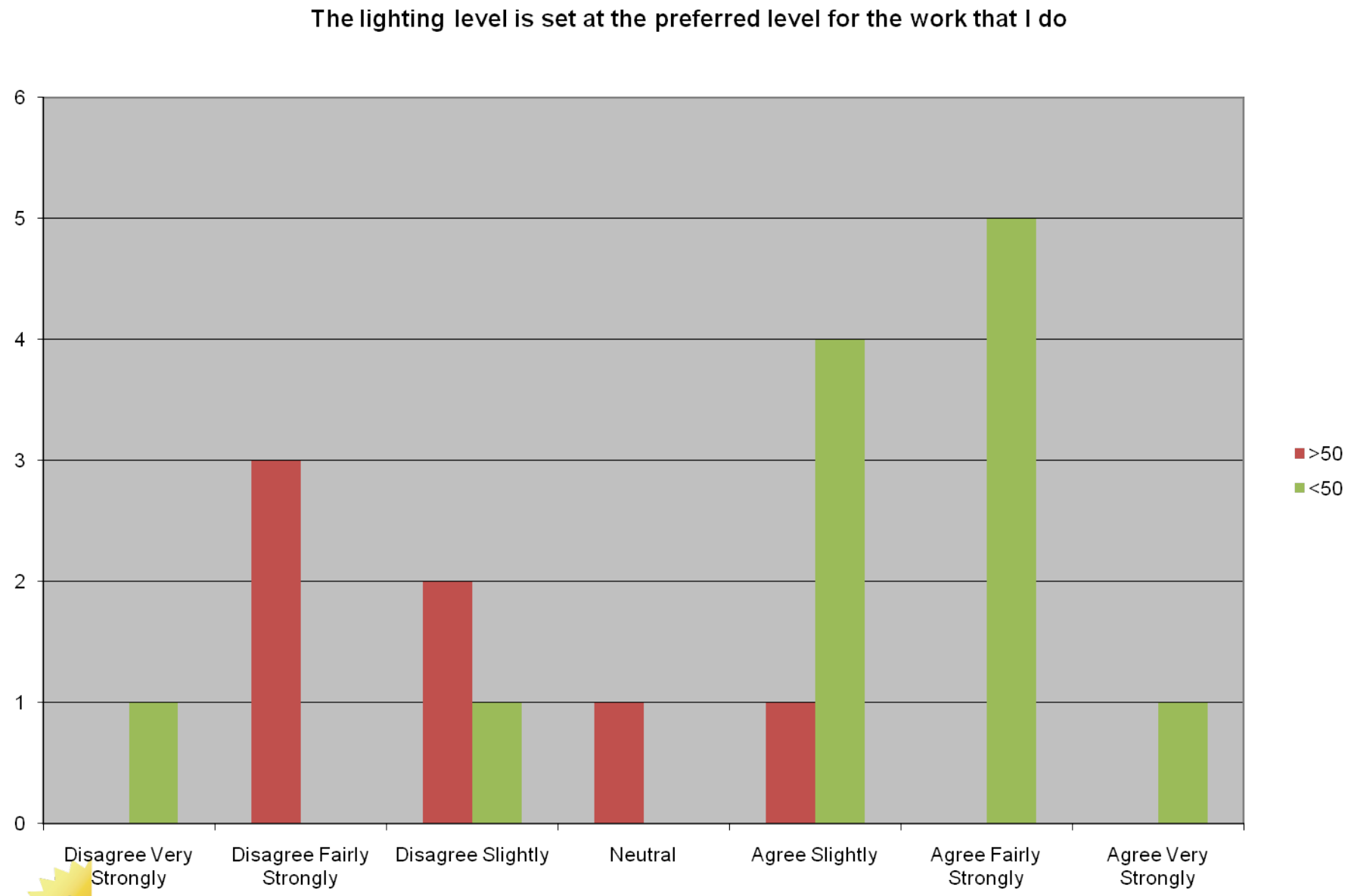
Data

1. Projected payback is 11.7 years
2. Projected pay back on incremental cost is 3 to 4 years
3. Recent projects indicate a total savings of 70% lighting energy use
4. Most of the savings due to occupancy sensor

Work Station Specific Lighting

Challenges

1. Building new in 1996.
2. Originally 3 lamp T8 2 X 4 recessed troffer, est. 50 FC
3. Nine foot ceilings
4. During California energy crises, severely delamped
   a) Currently 21 fixtures with 0 lamps
   b) 23 fixtures with 1 lamp
   c) 10 fixtures with 2 lamps
   d) 0 fixtures with 3 lamps
   e) Average 11.8 FC, 0.4 min, 41.9 max
5. New occupants relamped their area and changed cubicle spaces and heights
6. Timeclock, on 0600, off 1800. Reset 30 min.
7. Two banks of lights per circuit



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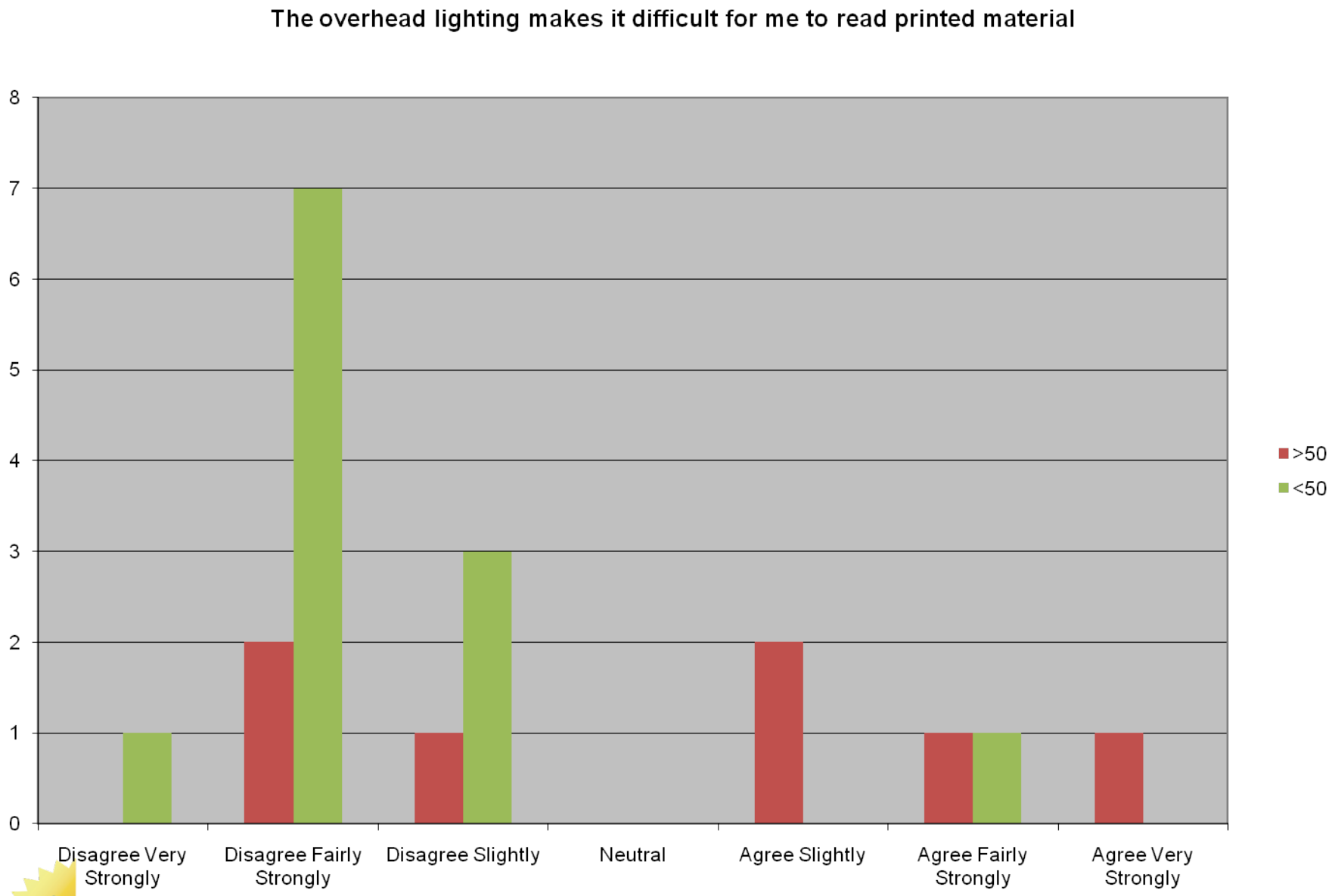

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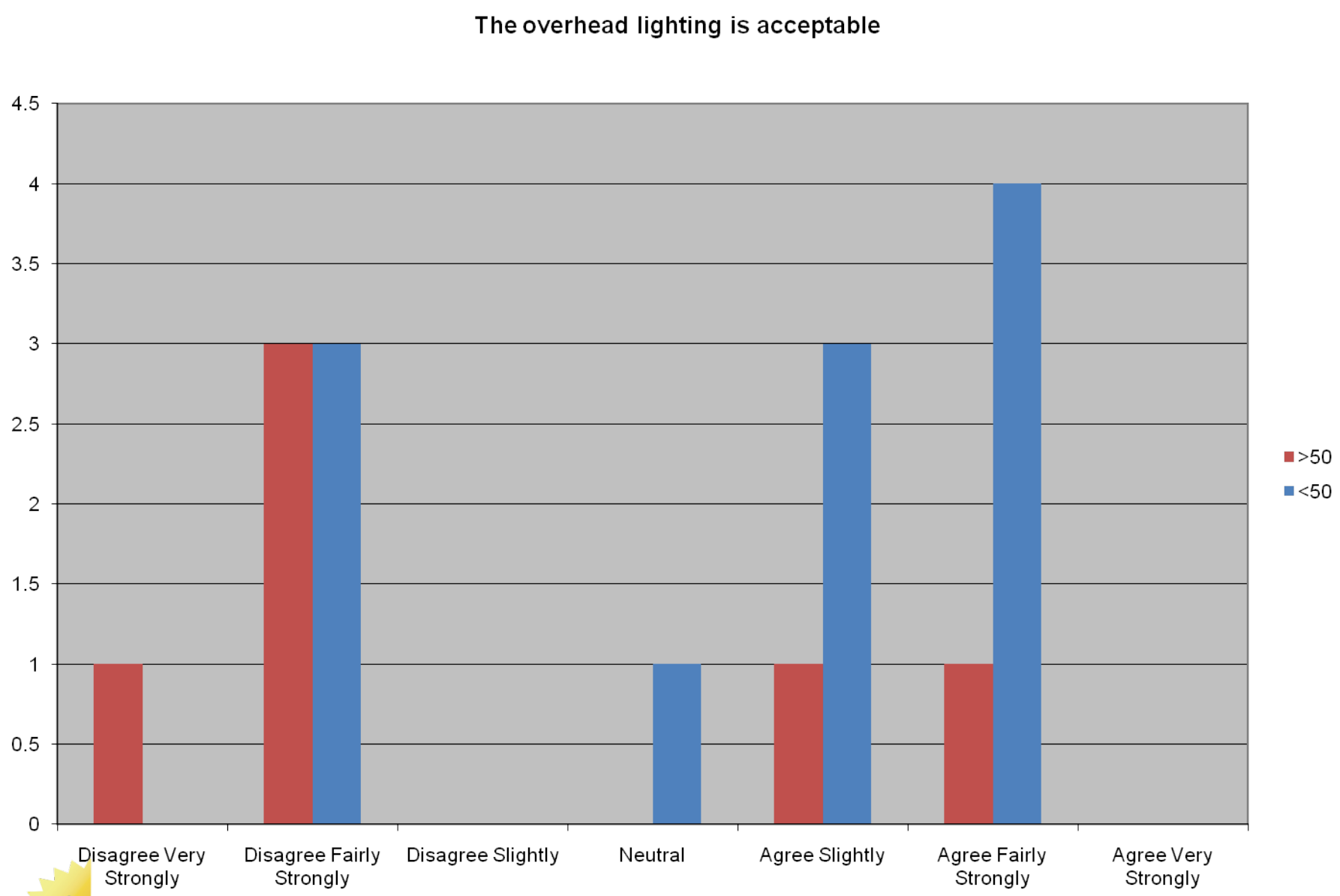

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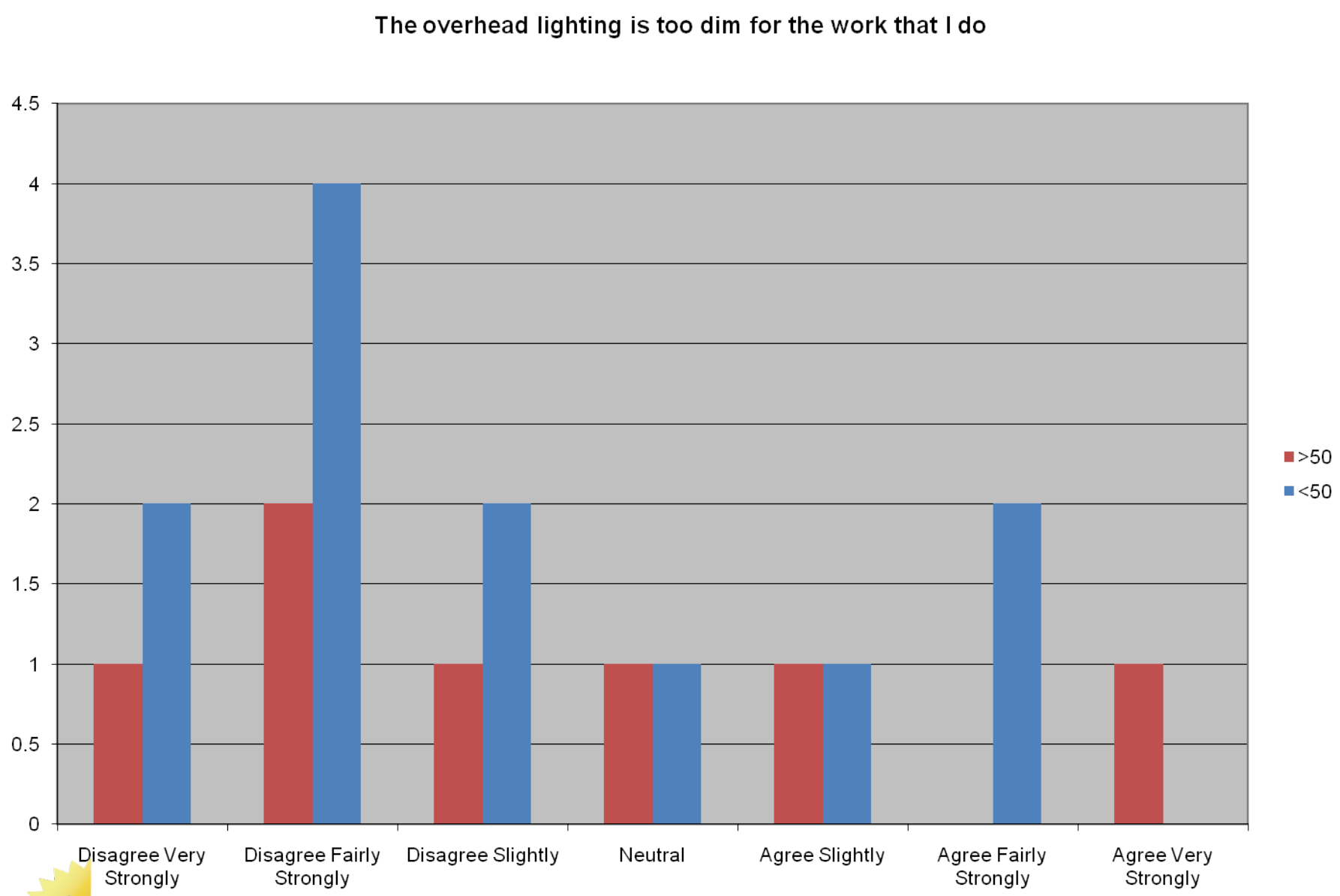

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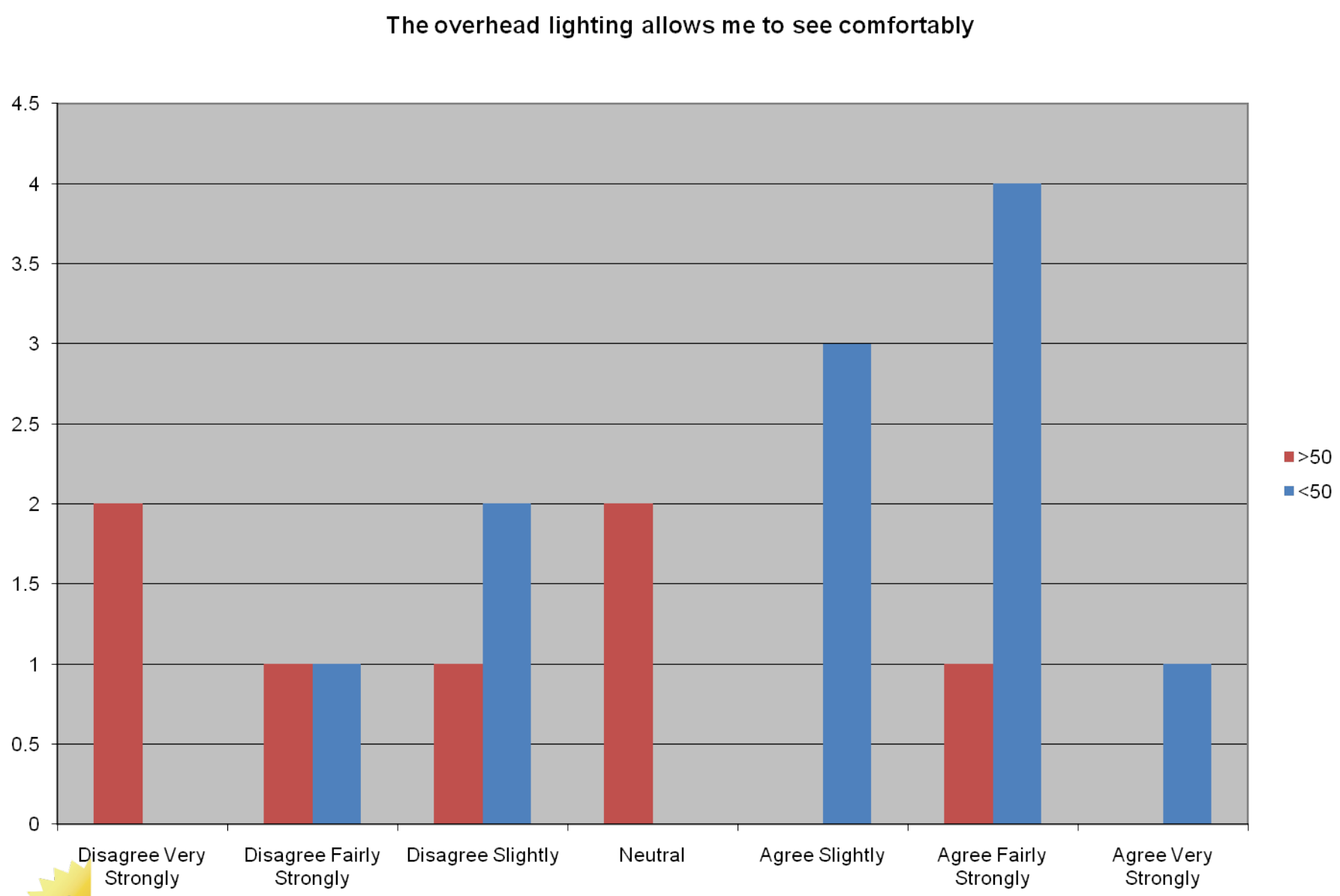

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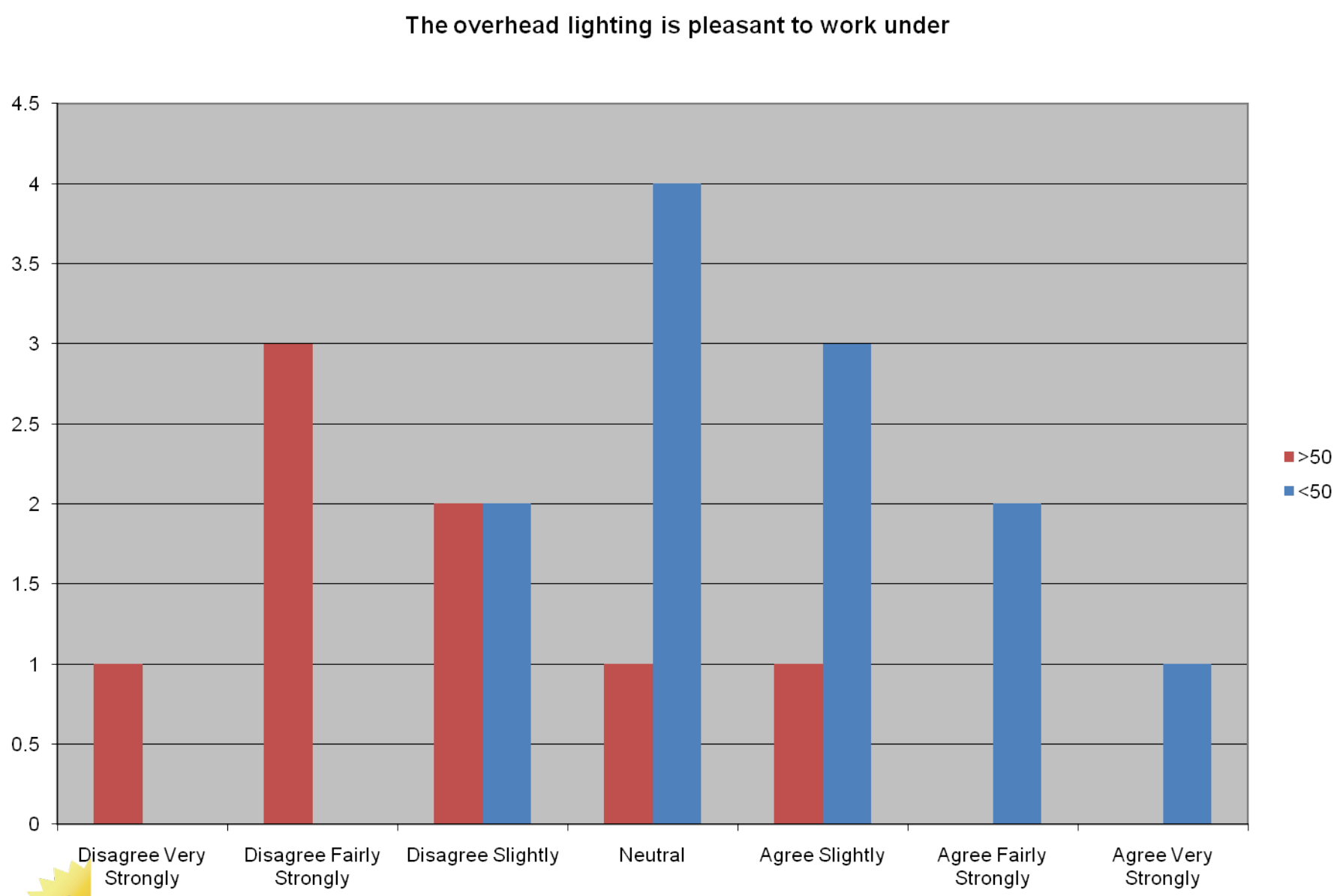

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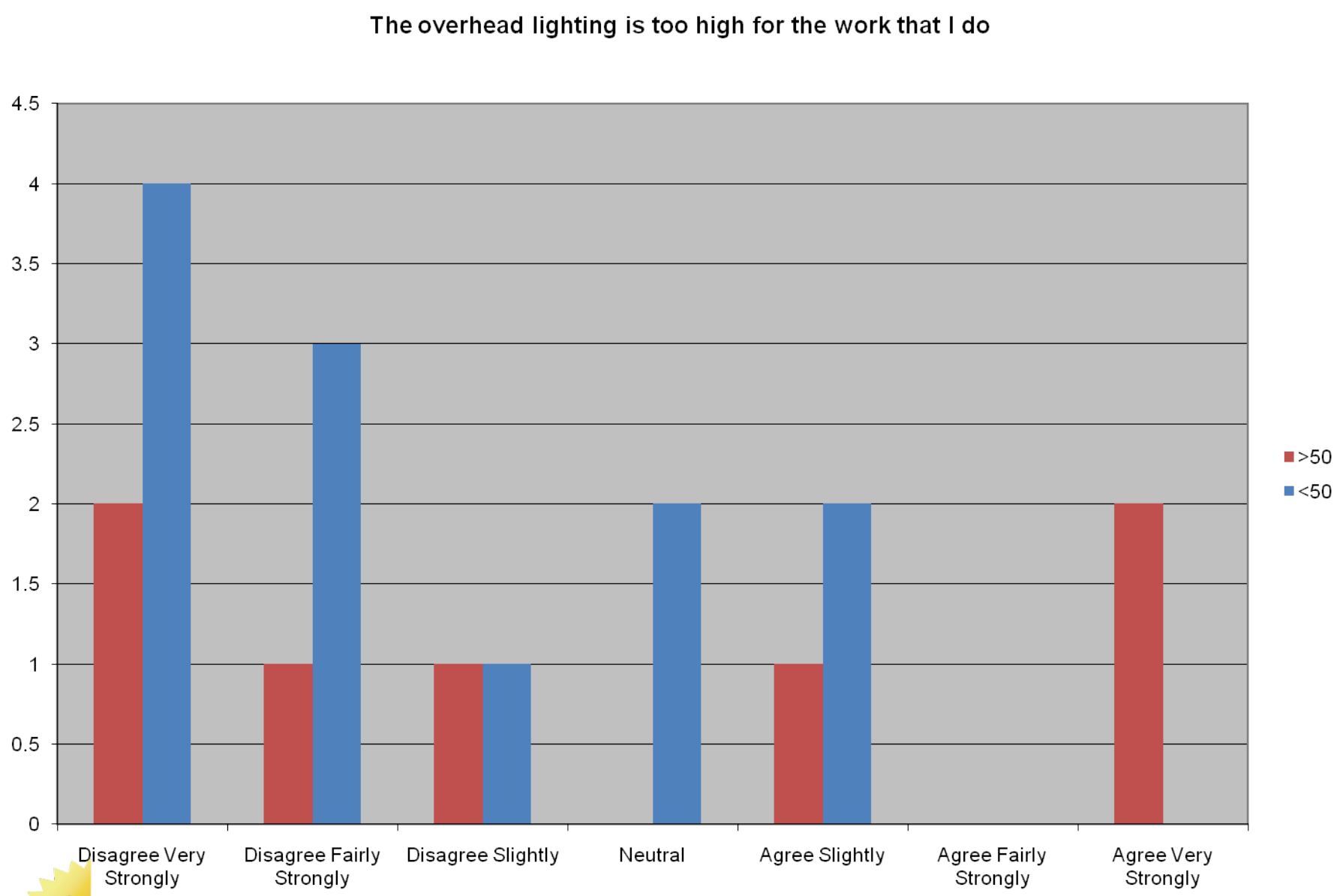

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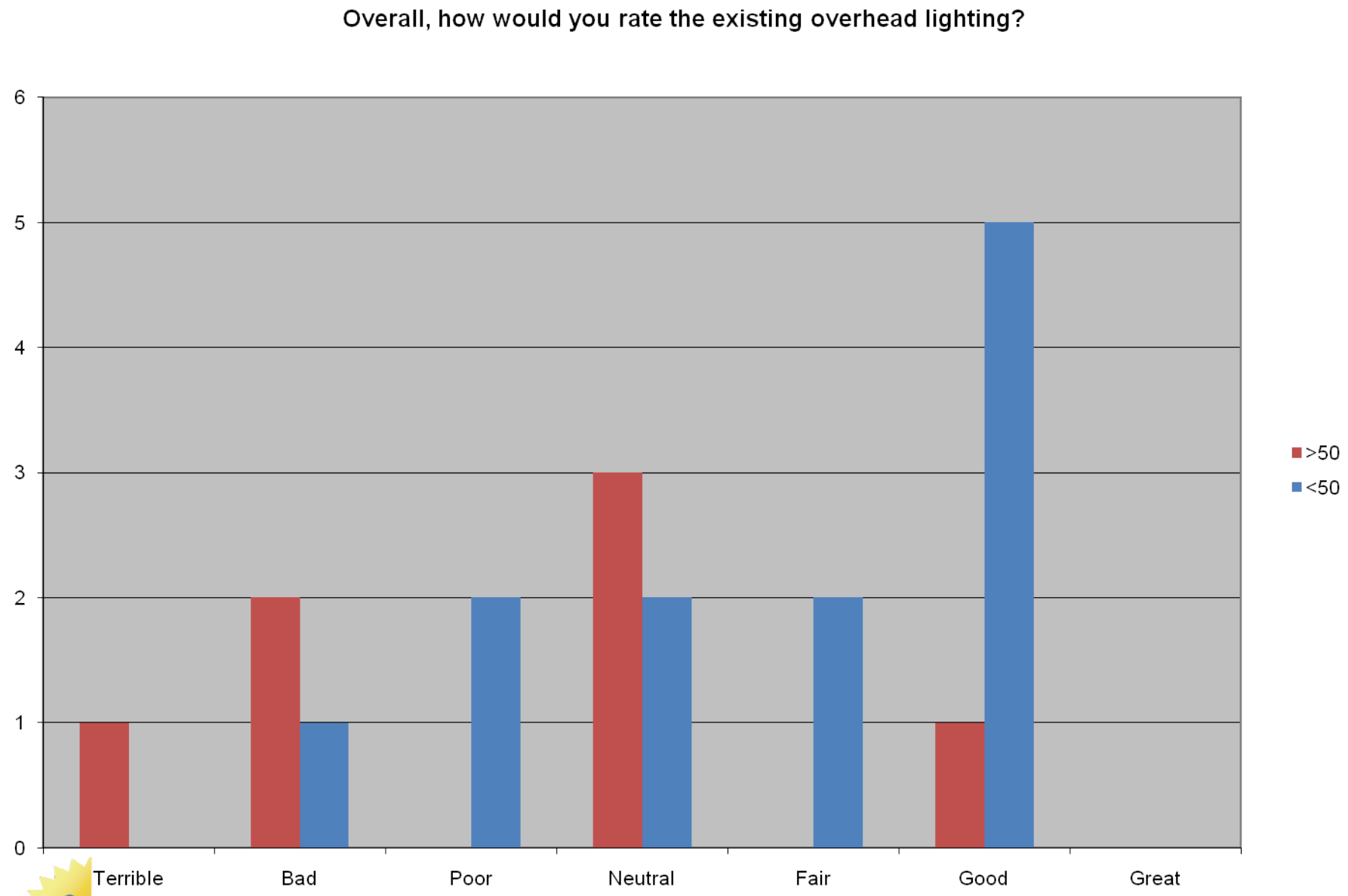

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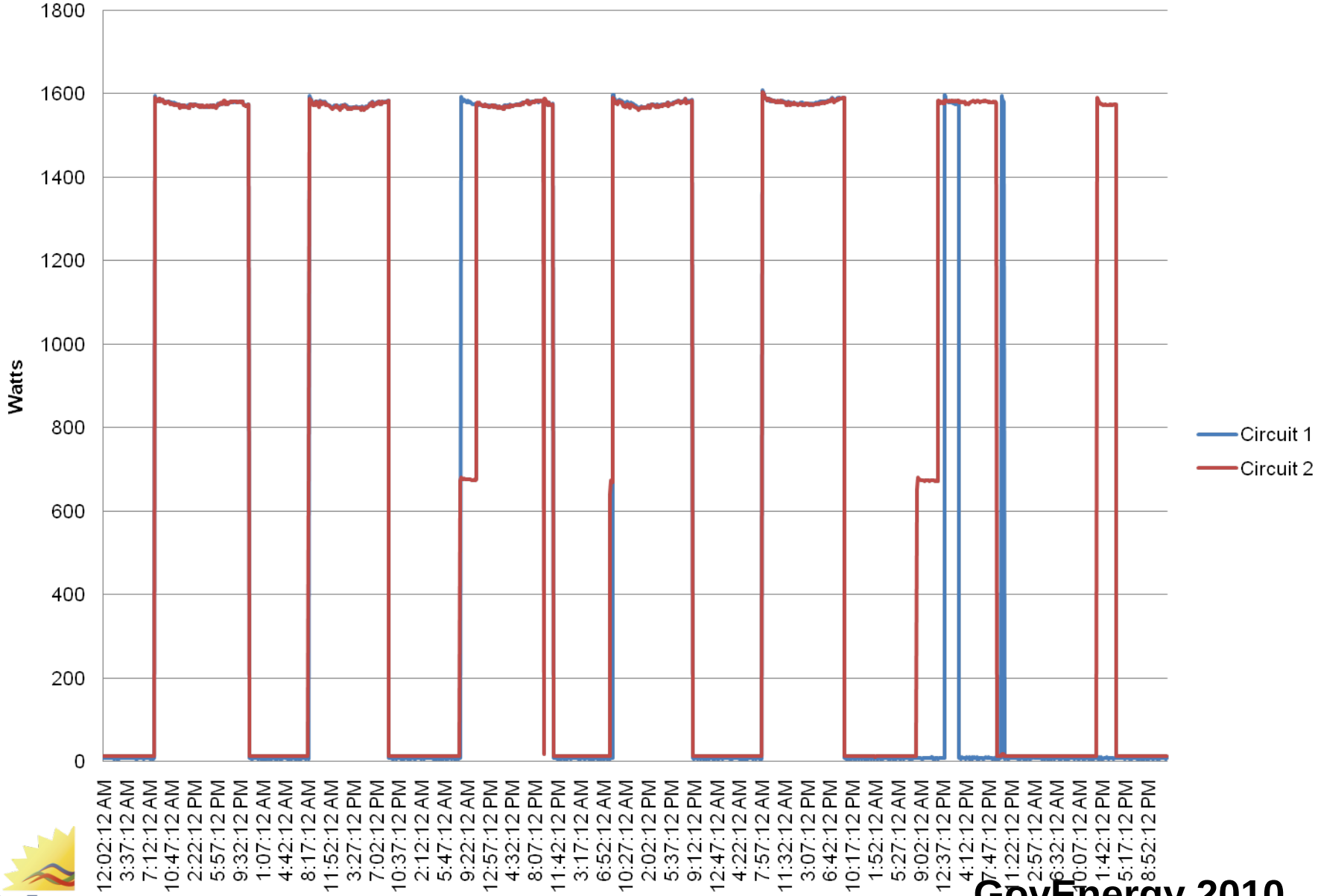
Work Station Specific Lighting

Issues

- Mounting height
  - 20” from ceiling to top of fixture
  - 7’1” from floor to bottom of fixture
  - Hot spots on ceiling
  - Fire sprinklers
- Uniformity in passageways
- Shadows on work area
- Commissioning
  - Not a DIY
- Uplight
  - Hot spots
  - Glare
- Navy IT security
- Change out remaining lighting to 5000K

Lighting Circuits 1 & 2 Power Use 6/14/10 - 6/20/10



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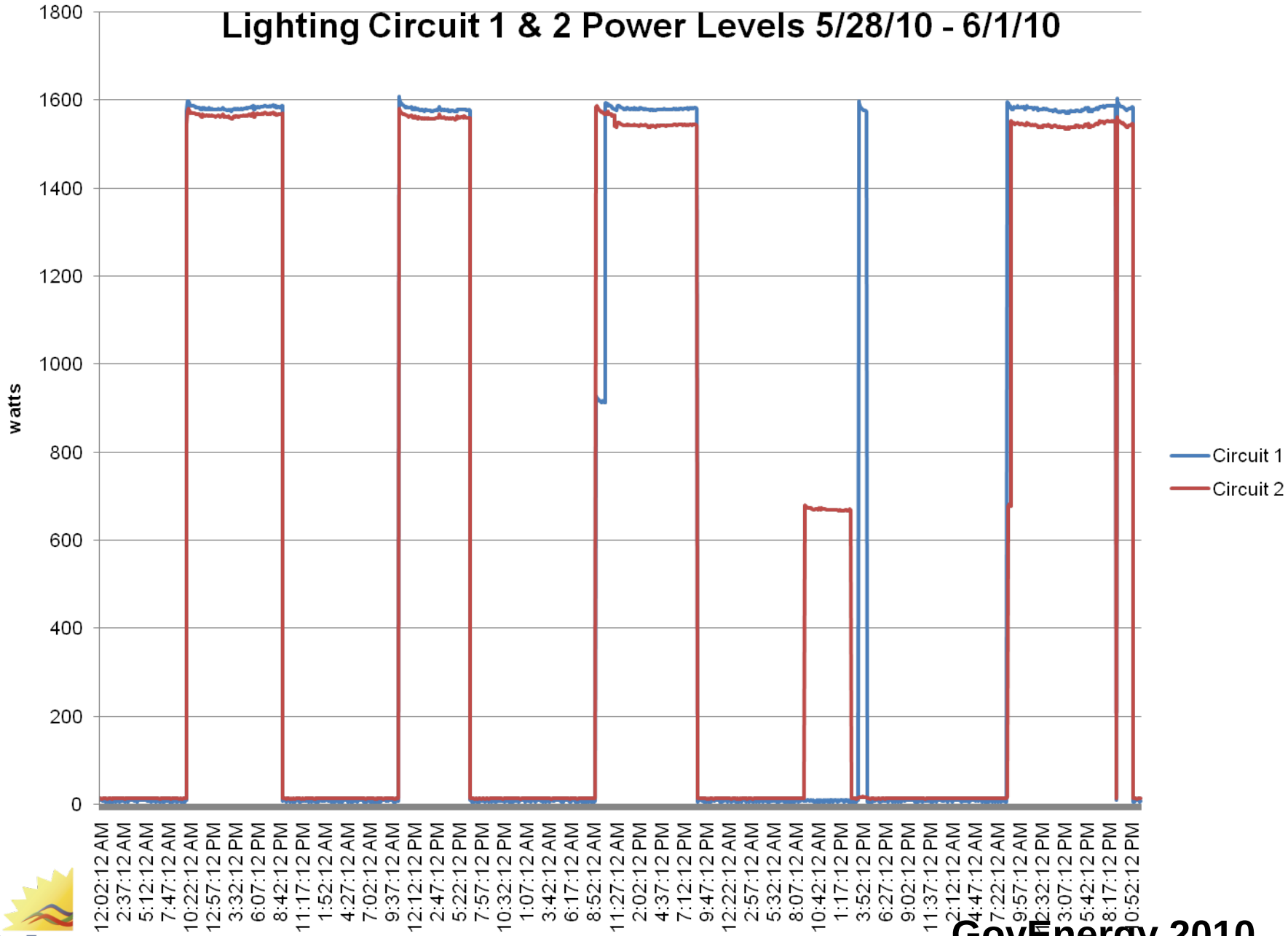

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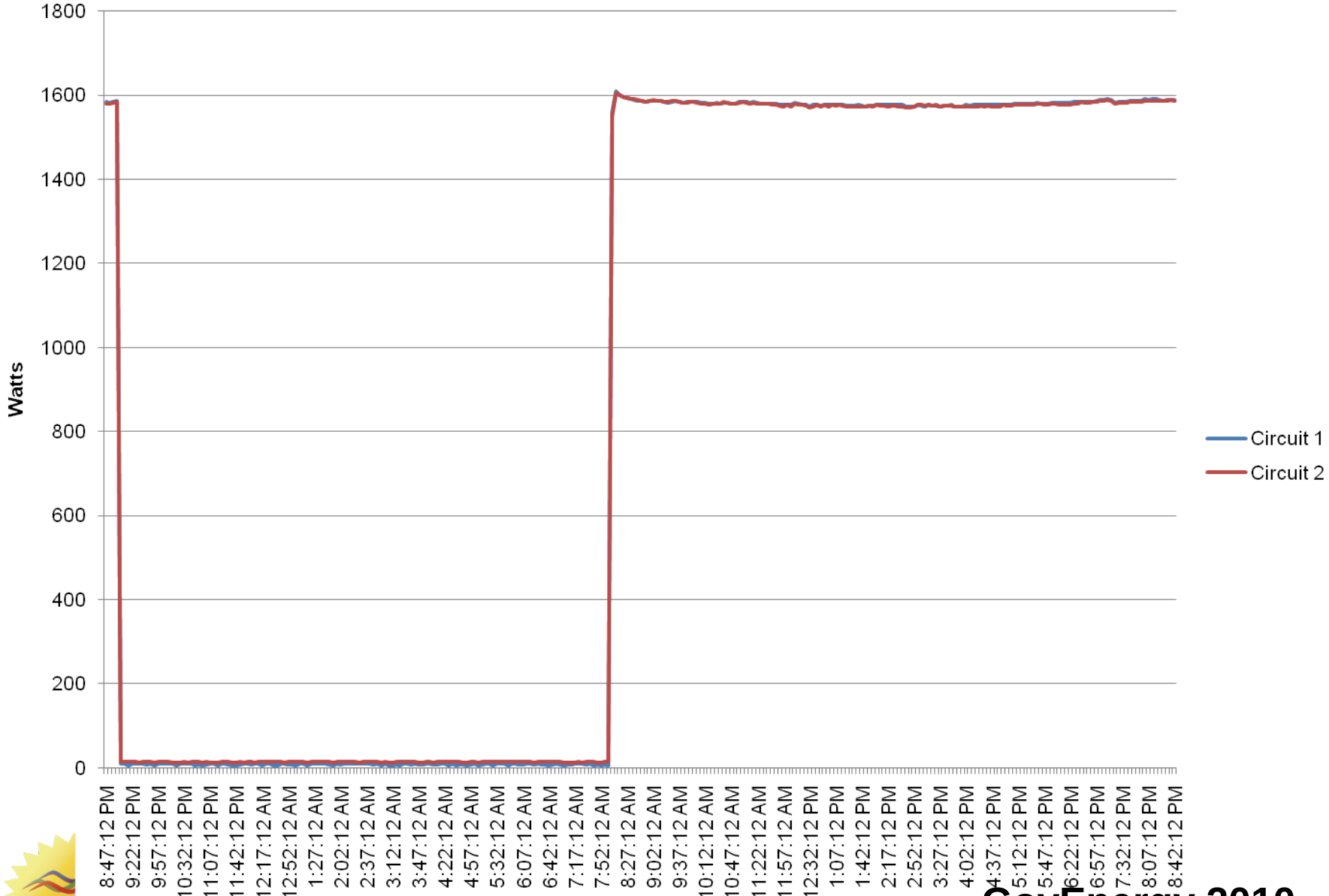
Lighting Circuits 1 & 2 Power Use 6/18/10



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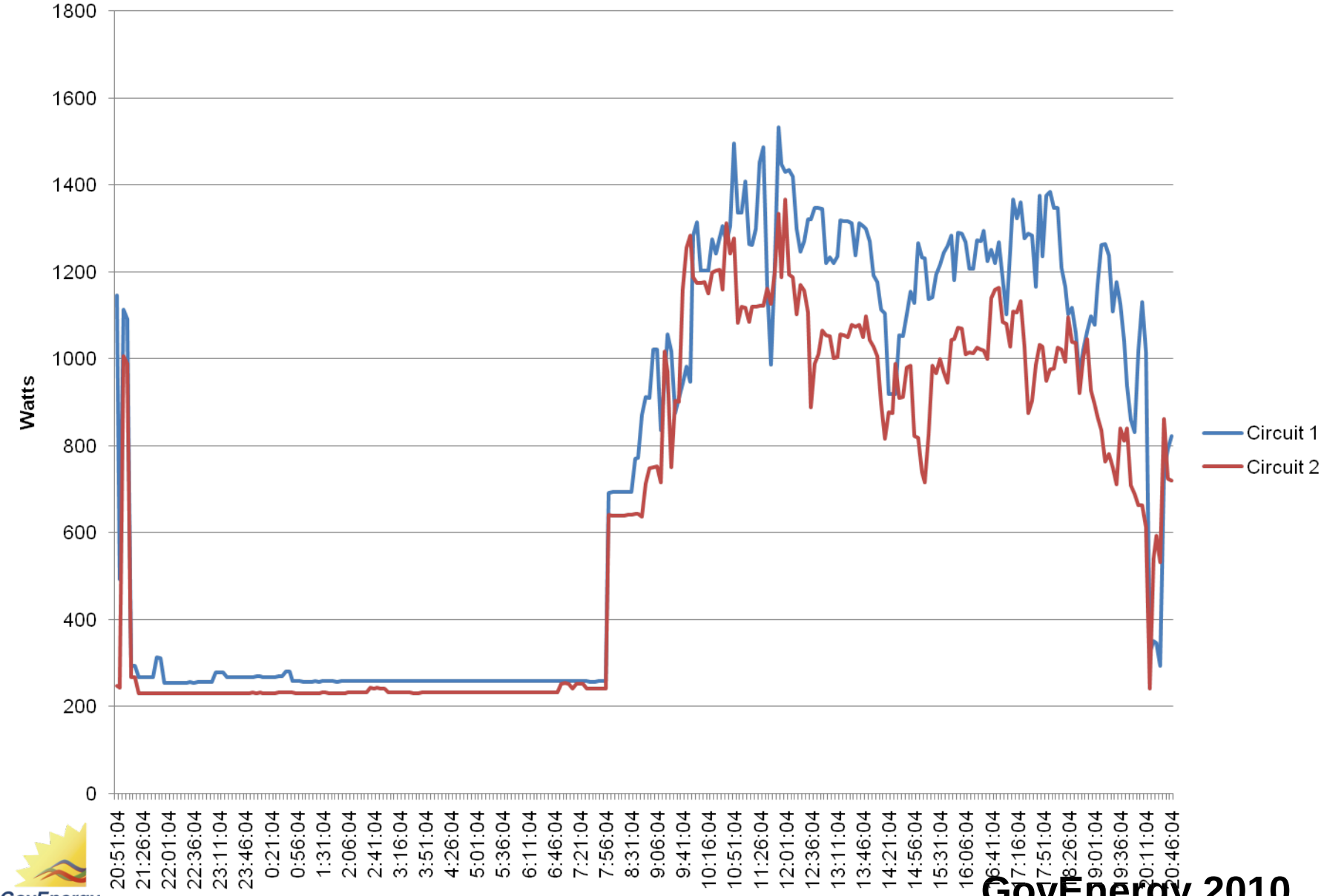
Lighting Circuits 1 & 2 Power Use 8/13/10



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Tabulated Data
6/18/10 and 8/13/10

	Original	
	Circuit 1	Circuit 2
Min. W	6	13
Max W	1609	1605
Ave W	860	862
	Post Install	
Min. W	255	229
Max. W	1532	1367
Ave. W	740	630
Delta	0.14	0.27

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Work Station Specific Lighting

Where to use

1. Open cubicles
2. Cubicles are frequently unoccupied
3. Daylight in outer zones
4. Large number of people that perform various visual tasks
5. Various age ranges

Contact Information

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