

BP Solar Frederick Equipment Availability List

Cell Technology Lab

119 items or lots

Module Technology Lab

12 items

Reliability Lab

15+ items or lots

Facilities

102 items or lots

| | Location | Tool |
|-----|--------------------|--|
| | | |
| | | |
| 1 | Main lab | Belt Diffusion Furnace |
| 2 | Main lab | Belt Oxide Furnace |
| 3 | Wet Lab | Analysis tool - Titration for Rena |
| 4 | Wet lab | Chiller for Rena |
| 5 | Wet lab | Fume hood |
| 6 | Wet lab | InLine etch Rena |
| | | |
| 7 | Way back lab | Vacuum annealer, ulvacGLD-280B pump, home made |
| 8 | Wet lab | Rinserdryer |
| 9 | Wet lab | 4 Chemical locker |
| 10 | Front Laser Lab | 18222 - OPTOMECA AEROSAL Print System |
| 11 | Main lab | Tektronix curve tracer |
| 12 | Reliability | 15261 - XENJET 4000 Ink |
| 13 | Way back lab | 18390 - DIMATIX DMP INKJET Printer |
| 14 | Reliability | Refrigerator for chemical storage |
| 15 | Upstairs Laser lab | Granite table from lumonics |
| 16 | Upstairs Laser lab | Rofin |
| 17 | Way back lab | Refrigerator for chemical storage |
| 18 | Cell Line | Optical Microscope -Spain - at warehouse |
| 19 | Cell Line | XRF-2 -- Spain -- at warehouse |
| 20 | Reliability lab | Micro Vu inspection microscope |
| 21 | Characterization | Corescan |
| 22 | Main Lab | Ellipsometer |
| 23 | Main lab | Equipment Lockers |
| 24 | Main lab | Heat Shrink Wrapper (2 parts) |
| 25 | Main lab | Hot Melt Screen Print tooling |
| 26 | Main Lab | Laser Line Width/Height |
| 27 | Front Laser Lab | Microscope - simple scope |
| 28 | Main Lab | Profilometer DecTak |
| 29 | Main lab | Screen Printer AMI |
| 30 | Main lab | Sinton Suns Voc from Spain |
| 31 | Main lab | Tegrapolisher Lap and Polish |
| 32 | Main Lab | Viscometer |
| 33 | Main lab | Workshop - Tools and Benches |
| 34 | Main lab | gas cabinets from silver bullet/oxide furnace |
| 35 | Main lab or lost | Surface Roughness System |
| 36 | Main lab or lost | Surface Roughness Tester & Stand |
| 37 | Office area | FTIR |
| 38 | Reliability Lab | UV oven |
| 39 | Reliability lab | Cell Tester from Spain |
| 40 | Reliability lab | Semilab from Spain |
| 41 | Reliability lab | Spin/Rinse Dryer - 2 - Spain -at Warehouse |
| 42 | Reliability lab | Box Oven for ECRA |
| 43 | Way back lab | N2 Gas Supply System |
| 44 | Way back lab | Vapor doper prototype |
| 45 | Way back lab | Glove Box |
| 46 | Wensheng's desk | NSC curve tracer |
| 47 | Wet lab | ULTRASONIC (3 - 1 bigger, 2 smaller) |
| 48 | Main lab roof | Scrubber & Exhaust |
| 49 | Main lab | Alarm Box |
| | | |
| | | |
| 50 | Front Laser lab | 17979 - SCANNING LASER System Oxford |
| 51 | Reliability lab | Lock-in Thermography |
| 52 | Front Laser lab | Optical Bench |
| 53 | Front Laser lab | Pyrophotonics |
| 54 | Main lab | RTP and Chiller |
| 55 | PECVD lab | PECVD |
| 56 | PECVD lab | PECVD effluent treatment |
| 57 | PECVD lab | PECVD gas delivery |
| 58 | PECVD lab | PECVD MFC box |
| 59 | PECVD lab | PECVD chiller |
| 60 | PECVD lab | Pfeiffer Leak Detector |
| 61 | Reliability | Solvent locker |
| 62 | Way back lab | Chemical Locker |
| 63 | Main lab | Electrochemical Capacitance Voltage Profiling |
| | | |
| 64 | Front Laser lab | 2 chillers |
| 65 | Front Laser lab | Coherent |
| 66 | Front Laser lab | dust extractor |
| 67 | Front Laser lab | Oxford chiller |
| 68 | Way back lab | 20200 - Sono-Tek Spray Coater |
| 69 | Characterization | Semilab |
| 70 | Office area | Optical Microscope measuring - in Library |
| 71 | Main lab | Probe Station |
| 72 | Main lab | KEITHLEY 2420 Source Meter for probe station |
| 73 | Main Lab | Spectrophotometer lambda 950 |
| 74 | Characterization | Spectral response |
| 75 | Characterization | Differential Scanning Calorimeter |
| 76 | Front Laser lab | Bench Laser System |
| 77 | Front Laser lab | Small Optical Parts |
| 78 | Front Laser lab | Beam Profile Analysis (beam profiler) |
| 79 | Front Laser lab | Oscilloscope |
| | | |
| 80 | Wet lab | DI Water System |
| 81 | Main lab | Belt CoFire Furnace |
| 82 | PECVD lab | Bead blaster |
| 83 | Way back lab | 18379 - E-BEAM Deposition System & Chiller |
| 84 | Wet lab | Fume Hood |
| 85 | Wet lab | Fume Hood |
| 86 | Main lab | Dicing Saw |
| 87 | Main lab | Screen Printer Baccini |
| 88 | Main lab | Solvent locker |
| 89 | Reliability | Small Solvent Fume Hood |
| 90 | Way back lab | L&L Box Oven |
| 91 | Way back lab | Big Solvent Fume Hood |
| 92 | Way back lab | Spin Coater |
| 93 | Wet lab | Solvent locker |
| 94 | Process | 18382 - 2 VAPOR EXTRACTORS |
| 95 | | 14889 - 3 Sorensen Power Supplies (frm TO) |
| 96 | | 14972 - SPECTRORADIOMETER |
| 97 | | 15258 - Fluke Data Logger |
| 98 | | 15302 - FLUKE 2624A DATA |
| 99 | | 15311 - Optical Emission Spectrometer (frm TO) |
| 100 | | 15328 - Electronics Test Lab Equip (frm TO) |
| 101 | | 15432 - HP 5000N Laser (bar coder) |
| 102 | Main lab | Electroluminescence Sencam Vision Hi Tech |
| 103 | Main lab | Spare tab pull for Electroluminescence |
| 104 | Main lab | Temperature Furnace Profile System |
| 105 | Reliability | Screen Print ECRA |
| 106 | Characterization | Balance -- 2 ea |
| 107 | Characterization | Cell Test new |
| 108 | Characterization | Cell Test old |
| 109 | Characterization | NonContact Thickness gage |
| 110 | Characterization | Spectrophotometer lambda 40 |
| 111 | Characterization | Suns Voc |
| 112 | Main lab | Lab tables / work counters |
| 113 | Main Lab | Tab Pull/ Force to Break Tester |
| 114 | Main lab | Lab ware |
| 115 | Reliability lab | metallurgical balance for ECRA |
| 116 | Reliability lab | Profilometer KLA |
| 117 | Way back lab | 3 Hot Plates |
| 118 | Way back lab | EFD Material dispense (droplets) |
| 119 | Way back lab | Humidity controlled Desiccators |



1 Spire 480 Laminator



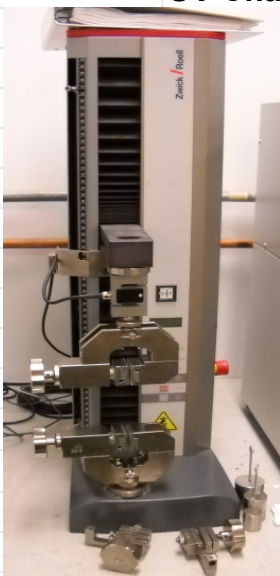
2 Thermotron SM-8-8200 Thermal Chamber



3 Atlas Ci4000 Weatherometer UV Chamber



4 Test Equity Half Cube Benchtop Thermal Chamber



5 Zwick/Roell BDO-FB0.5TS Tensile Tester



6 Eubanks Busbar/Interconnect Cutter



7 Ribbon Pull Tester (Single)



8 Ribbon Pull Tester (Double)



9 byk-Gardner Hazegard Light Transmission instrument

Other Equipment:

- 10 Drywall carts (Module handling)
- 11 HARP carts (Module Handling)
- 12 Vitrek 944i Hi-Pot tester

| | | | | |
|----|--|--|--|--|
| 1 | 2 Espec environmental chambers | | | |
| 2 | All power supplies associated with the use of the environmental chambers | | | |
| 3 | 1 Spire 480- clamshell laminators | | | |
| 4 | 1 Berger module tester | | | |
| 5 | 1 Spire 460-i module tester | | | |
| 6 | 1 UV soak tool | | | |
| 7 | 1 tab pull tester | | | |
| 8 | two-part potting dispenser | | | |
| 9 | two-part silicone dispenser | | | |
| 10 | All outdoor monitoring equipment for outside test arrays | | | |
| 11 | Wet hipot testing | | | |
| 12 | IR cameras | | | |
| 13 | Gel content tester | | | |
| 14 | 2 Thermotron environmental test chambers | | | |
| 15 | 3 Russells environmental test chambers | | | |
| | *more to follow | | | |

| 1 | DSS Casting Stations | | | | |
|--|--|----------|--|---------------|---|
| 2 | DSS Casting Stations | | | | |
| 3 | Onan Generator (Model: 230DFAB) | | | | |
| 4 | Cummins Generator | | | | |
| 5 | Onan ATS (Model: OTPCD-5563453) | | | | |
| 6 | Spectrum Generator (Model: DDC20) | | | | |
| 7 | Perkins Engine (Model: CM70297) | | | | |
| 8 | Asco ATS (Model: 300 Series) | | | | |
| *Note: Automatic transfer for the generators, electrical disconnect would need to be performed by buyer according to BPS HSSE guidelines or they will not be sold. | | | | | |
| | Item | QTY | Make | Model | Notes |
| Tools & Misc | | | | | |
| 9 | 200'-1/8"-.060" | 2 | Greenlee | 438-20 | |
| 10 | 100'-3/16" | 1 | Greenlee | 539-100 | |
| 11 | 100'-1/8" | 1 | Greenlee | 438-10 | |
| 12 | 200'-1/8"-.060" | 1 | Gardner Bender, Streamline | FTS-200 | |
| 13 | 200'-1/8" | 1 | IDEAL Tape Pak | 31-025 | |
| 14 | 12" Flex fish tape leaders | 5 | Greenlee | 439-1 | New |
| 15 | Conduit measuring tape | 1 | Greenlee, reel | 435 | partial reel |
| 16 | Sleeving | 2 | Flexo, 5/8 and 1/2, reel | | partial reels |
| 17 | Pulling cables | 2 | spools | | |
| 18 | Hydraulic Knock Out set | 1 | Gardner Bender | KOH540A | Complete |
| 19 | Hydraulic Punch Driver set | 1 | Greenlee | 7906SB | Complete |
| 20 | replacement dies | numerous | Greenlee | various | |
| 21 | Die crimp tool | 1 | FCI, Hytool #8-4/0 str Cu | MRC840 | |
| 22 | 14 Ton Manual Crimper | 1 | Thomas & Betts | TBM14M | with hard case |
| 23 | Conduit hand benders | 6 | varied sizes | | |
| 24 | Fluorescent bulb crusher | 1 | Bulb Eater | 55 VRS-U | Premium unit |
| 25 | Double gang cover, outdoor | 48 | Various mfg | | clear, solid metal, singles, double, plastic, metal |
| 26 | Weatherproof boxes | 27 | Various styles | | singles and quads |
| 27 | Damp and wet applications, boxes | 20 | Various styles | | most single deep |
| 28 | SCR CVR Pull box | 2 | Hoffman | ASE6X6X4 | New |
| 29 | 4-hole button box | 1 | | | used |
| 30 | Groundable Neutral Asm | 1 | Square D | | 400 Amp, Series B 277-480vac, 125-250 vdc |
| Instruments | | | | | |
| 31 | Power Quality Analyzer | 1 | Fluke 434 | | Case and components included |
| 32 | Scope meter | 1 | Fluke 96B Series II | | Case and components included |
| 33 | Electronic trip circuit breaker, test ki | 1 | Siemens | TS-31 | |
| 34 | Recorder | 1 | Ampprobe DigiMatic | DM-I | |
| 35 | Chart Recorder | 1 | Ampprobe AC current | | |
| 36 | Recorder/interface | 1 | Power Logic, rustrak ranger | 1230 series | |
| 37 | Megger | 1 | AVO | MJ559 | |
| 38 | Megohmmeter | 1 | Supco | M-500 | |
| 39 | Circuit tracer kit | 1 | 3M Scotchtrak | TK-6T | |
| 40 | Circuit tracer kit | 1 | Ampprobe Pasar, advance tracer | AT-2004 | believe this is the entire kit ref AT-2005 |
| 41 | Amp probe | 1 | Ampprobe Ampran | CT-50-1 | |
| 42 | Meter | 1 | Simpson | 260 series | |
| 43 | Meter, Insulation Multimeter | 1 | Fluke 1587 | | with hard case |
| 44 | True RMS Multimeter | 1 | Fluke 116 | | with soft case |
| 45 | True RMS Multimeter | 1 | Fluke 26III | | with soft case |
| 46 | True RMS Multimeter | 1 | Fluke 117 | | |
| 47 | Multimeter | 1 | Fluke 75 | | |
| 48 | AC DC True RMS Clamp meter | 1 | Fluke 36 clamp meter | 36 | with leads |
| 49 | Flexible AC Current Probe | 1 | Fluke | 1200flex | |
| 50 | Light Meter | 1 | Simpson | 408 | with hard case |
| 51 | Light Meter | 1 | Ideal-Sperry | 61-681 | with soft case |
| 52 | Light Meter | 1 | Extech | | with soft case |
| 53 | Hand probe | 1 | Fluke | 80K-40KV | |
| 54 | Universal Thermal Imager | 1 | IRISYS | IRI 1011 | with hard case |
| 55 | IR Flexcam Thermal Imager | 1 | Fluke | Ti55 | with hard case |
| 56 | Motor Winding Test | 1 | All Test Pro | 31 | with soft case |
| 57 | 3Phase rotation tester | 1 | Extech | 480300 | |
| 58 | Phase and rotation meter | 1 | AEMC | PMR-1 | with soft case |
| 59 | Dynatel Cable and pipe locator | 1 | 3M | 2250M | with cables |
| Materials | | | | | |
| 60 | Electric water pipe freeze Protection | 2 | EasyHeat 30ft | AHB130 | New |
| 61 | Electric water pipe freeze Protection | 2 | EasyHeat 18ft | AHB118 | New |
| 62 | Electric water pipe freeze Protection | 2 | EasyHeat 12ft | AHB112 | New |
| 63 | SEOWW 14-3 Cu | 1 | Southwire | | New- partial roll |
| 64 | SEOWW 12-4 Cu | 1 | Southwire | | New- partial roll |
| 65 | 12 AWG/Black, Type RHH/RHW-2 | 18 | | 6734902000R | 2000 ft reels |
| 66 | Flexible non-metallic tubing, 3/8 | 1 | Sealproof | 8450 | Partial roll of 100 ft |
| 67 | Flexible non-metallic tubing, 1/4 | 1 | Sealproof | 8449 | Partial roll of 100 ft |
| 68 | Metal boxes, single and quads, blar | 1 | Various | | New |
| 69 | Metal Outlet boxes | 40 | Thomas & Betts Gal. Steel 4"x 1-1/2"d | 52151-1/2&3/4 | New |
| 70 | Outdoor outlet/switch covers | 50 | | | New |
| 71 | Damp & Wet boxes, fittings, covers | 60 | plus misc fittings | | New |
| 72 | Square D Groundable Neutral Asm | 1 | Sq-D 400A Series B 277-480vac | | New |
| 73 | Pull box enclosure | 2 | Hoffman Pull box | ASEX6x6x4 | New |
| 74 | Rigid connectors, metal and cast | 1 | Various | | New, various styles and sizes |
| 75 | Liquidtight connectors, metal and pl | 1 | Various | | New, various styles and sizes |
| 76 | Replacement Lamps | | Various | | New |
| Safety | | | | | |
| 77 | Salisbury Arc Flash Bib, Coat, Hooc | 1 | Salisbury | | XL, almost new |
| 78 | Salisbury Arc Flash Bib, Coat, Hooc | 1 | Salisbury | | L, slightly used |
| 79 | Salisbury Flash shield & helmet | 2 | Salisbury | CP-HD | slightly used |
| 80 | Salisbury Lineman's glove kit | 3 | Salisbury, Type 1 Class 0 | GK011B/9 | Size 9, 1 new, 2 used |
| 81 | Salisbury Lineman's glove kit | 1 | Salisbury, Type 1 Class 0 | GK014Y/9 | Size 9, used |
| 82 | Isolation gloves | 1 | Salisbury, Type 1 Class 0, Yellow | | New, size 9 |
| 83 | Isolation gloves | 1 | North, Type 1 Class 1, Black | | New, size 9 |
| 84 | Isolation glove kit | 1 | White Type 1 Class 2, Black | | Used, size 10.5 |
| 85 | Isolation glove kit | 1 | Salisbury Type 1 Class 2, Black | | Used, size 9 |
| 86 | Salisbury Sockender Sleeves/Forea | 1 | Salisbury, Class 1 | | New, Medium |
| 87 | Salisbury Sleeves | 3 | Salisbury, Type 1, Class 2 | | 2 New, 1 used, Rg |
| 88 | Salisbury portable glove inflator | 1 | | G99 | New |
| 89 | Salisbury glove dust | 12 | 12-6oz bottles | | New |
| 90 | Body Rescue Hook | 1 | Salisbury | | |
| 91 | Arc Protective blanket | 4 | Salisbury | | 54 W x 65 L |
| 92 | Insulating blanket | 2 | Salisbury, 36"x36" orange, C4-T2 w/12Eye | 900E12 | 1 New, 1 Used |
| 93 | Insulating blanket | 2 | Salisbury, 45"x45" orange, C4-T2 w/12Eye | 1900E | 2 New |
| 94 | Fall protection harness | 2 | Miller | P950QC | New in bag |
| 95 | Lanyard | 1 | Miller | Manyard II | New 6ft |
| 96 | Beam Clamp | 1 | Miller 4000# | 450 | new |
| 97 | Beam Clamp | 1 | Miller 4000# | 455 | new |
| Non Electrical Items | | | | | |
| 98 | Vibration analyzer | 1 | SPM instruments, Shock pulse | A2010 | with hard case |
| 99 | Vibration analyzer | 1 | Commtest | VB 3000 | |
| 100 | Mini VLS Laser Speed Sensor for V | 1 | | | |
| 101 | Ultrasonic leak detector | 1 | SDT North America, SDT 170 | FS170MDUS | |
| 102 | Crimp Tool | 1 | Rigid 320-E 1/2"-2" Pro Press kit | 320-E | with hard case |