WINDOW 7 Command Line Version

Updated 7/18/2019 (for WINDOW version 7.5.11 and greater)

To run WINDOW7 in command line mode, you need to provide a password. This password will be provided to you by registering :

https://windows .lbl.gov/tools/knowledge-base/articles/using-window-7-command-line-mode

All changes between WINDOW 6 and WINDOW 7 are highlighted in yellow.

W7.exe -pw <passwordstring> -db w7.mdb -idstart 1 -idstop 2 -calcglz -exit

Warning: do not copy/paste the above string into a command window, the – characters in WORD are sometimes turned into "em dashes" (–) as opposed to the hyphens (-) that W7.exe expects.

Command Line Switch	Description
w7	starts the program
db <dbPath>	opens the w7 database specified by dbPath Full path is not needed if the batch file is run in the program working directory, and the database is in that directory Put path in quotes if it contains spaces
pw <password>	Provides a valid password for command line option.
ini <iniPath>	resets ini varaiables based on the ini specified by iniPath Put path in quotes if it contains spaces
log <logPath>	specifies a log file for all warning and error messages Put path in quotes if it contains spaces
clearlog	deletes the contents of the current log file (use after log <logPath>)
idStart <id>	specifies the starting ID number for a subsequent calculation command (defaults to 1)
idStop <id>	specifies the ending ID number for a subsequent calculation command (defaults to 99,999,999)
ang	enable angular calcGlz.
ChromogenicStateIndex	Specifies the chromogenics state index to calculate (Glazing System or Window) or to make report if the glazing system has one or more electrchromic glass (defaults to 0.; range is 0 to max, where max is the number of chromogenics states -1; 0 means light state, -99 means state)
calcGlz	calculates Glazing systems from idStart to idStop
calcWin	calculates Windows from idStart to idStop

xml <xmlfilename>	This XML file can be used to describe an input file for a glazing system or window to be imported into a WINDOW 7 database or to generate an Energy Plus BSDF IDF.
delay	Delay between calculations (msec).
DBExportTable <W7 db table name>	Name of W7 database table to export from, such as GlzSys (for glazing systems).
DBExportXML <export XML filename>	Filename for XML file created from the DBExportTable switch
DBExportIDList	specify list of record IDs to export. List is enclosed in double quotes, space or comma delimited, limit 50 (not well tested). An example is "1 12 3".
DBExportIDStart	optionally sets the first ID to export (defaults to 0)
DBExportIDStop	optionally sets the last ID to export (defaults to last record)
DBExportListRecords	enables including list records inside parent records (e.g., GlassList GasList, and ShadeList data within GlzSys)
DBNoExportListRecords	disables inclusion of list records
windowReport <Report Type>	Generates the report specified in <report type> for the calculated windows. Report Types are: - Detailed - DOE-2 - Energy Plus - Energy Plus IDF - Energy Plus BSDF IDF The name of the report must be in quotes, for example: -windowReport "Energy Plus IDF"
glzReport <Report Type>	Generates the report specified in <report type> for the calculated Glazing Systems. Report Types are: - Detailed - Energy Plus IDF - Energy Plus BSDF IDF NOTES: • For this switch, the argument -GlzIDStart must be used to specify the ID of the glazing system, rather than the normal -IDStart. • The name of the report must be in quotes, for example: -glzReport "Energy Plus BSDF IDF"
verbose	Log message at the beginning and the end of DBExportTable.
ignore	ignores all subsequent command line arguments (normally used for testing only)
exit	exits program and returns to command prompt. if omitted, the program runs in interactive mode after processing all command line arguments Exit codes are: 0 = no warnings or errors 1 = warnings 2 = errors

Sample Batch File:

This calculates glazing systems 1-5 in the w7.mdb file.

```
w7  -db w7.mdb -idStart 1 -idStop 5 -calcGlz -exit
```

Note that command line arguments are processed sequentially and immediately which means that the following is legal:

```
w7 -db mydb.mdb -idStart 1 -idStop 1 -calcGlz -idStart 2 -idStop 5 -calcWin -db myotherdb.mdb -calcGlz -exit
```

This command line sequence would:

- open *mydb.mdb*
- calculate *glazing system 1*,
- then calculate *windows 2 through 5*
- then open myotherdb.mdb and calculate glazing systems 2 through 5
- then exit to the command prompt

Creating Reports

The command line arguments are slightly different for creating reports than the other functionality.
It is necessary to use `–glzIDstart` instead of `–IDstart`.

Glazing System:

This is how to generate a Detailed report for a glazing system. You can only run one at a time, so `–glzIDStart` and `–gldIDStop` should be the same:

```
w7.exe –pw yourpassword -db C:\Users\Public\LBNL\WINDOW7.3\w7.mdb -log
c:\temp\test.log –glzReport detailed -glzSysIDStart 1 –glzSysIDStop 1 -output
c:\temp\report.txt -exit
```

Whole Window:

For the whole window report (instead of the glazing system report), the command line is:

```
w7.exe –pw yourpassword -db C:\Users\Public\LBNL\WINDOW7.3\w7.mdb -log
c:\temp\test.log –windowReport detailed –windowIDStart 1 –windowIDStop 1 -
output c:\temp\report.txt -exit
```

XML Inputfile Definition

Using the XML switch, and specifying a filename for the XML file, the WINDOW 7 command line version can read these XML files in order to do the calculations or to generate Energy Plus BSDF IDF. Here is an example of an XML input file, which can be called anything (window-07-in.xml).

This assumes that the W7.mdb file has the appropriate records in the Environmental Conditions, Gas, and Glass Libraries, as these are all referenced only by ID, and are not themselves defined in this XML file.

Input values are in SI units

For Shading Systems it is possible to leave out the Shading Layer Tag and just reference the database using IDs.

Tag	Attribute	Description
W6XMLInput		
CalcOptions	BsdfCalc	**No** if a BSDF output file is not desired. **Yes** if a BSDF output file is desired.
	SpecularMatrixCalc	**No** if matrix method for specular systems (glazing systems without shading devices) is not desired. **Yes** if matrix method for specular systems (glazing systems without shading devices) is desired.
	WriteEPlusBSDFIDF	**No** if a Energy Plus BSDF IDF is not desired. **Yes** if a Energy Plus BSDF IDF is desired.
	Basis	Required if "BsdfCalc" or "SpecularMatrixCalc" is set to "Yes". Default: "**W6 quarter-size"** **Values:** • W6 quarter-size • W6 half-size • W6 standard basis
	AutoOverwrite	**Yes**: XML input will overwrite one in database if it's id already exists in database. **No**: XML input will not overwrite one in database if it's id already exists in database.
GlazingSystems		
GlzSys	Id	
	Name	
	CsvOutputPath	**Name of CSV output file, including path if desired**
	BsdfOutputPath	**Name of BSDF output file, including path if desired**
	Height	**Glazing system height.** **Default: 1000 mm**
	Width	**Glazing system width.** **Default: 1000 mm**
	NumberOfLayers	**Number of layers in the glazing system.** **Legal values: Integer, 1-10**

	EnvironmentalConditions	**ID of the Environmental conditions library to be used in the glazing system definition.** **Default = 1 (NFRC conditions)**
	Tilt	**Glazing system tilt.** **Default: 90**
	Comment	**Default: blank**
GlassLayer	ShadeFlag	**0 = not a shading layer** **1 = a shading layer**
	Ventilated	0 = Not ventilated Legal values: 0
	Id	If ShadeFlag = 0, NFRC ID of glass layer If ShadeFlag >0, ID of the shading layer defined later in XML file
	Name	Name of glass layer
	Flipped	Whether the glass layer is flipped or not; Legal values: 0 (not flipped) or 1 (flipped) Default: 0
	Layer	Layer index; 0 = outside layer
GapLayer	Ventilated	Legal values: 0 Default: 0
	Id	Gas layer ID
	Name	
	Thickness	
	Layer	Layer index in the glazing system; 0 = the gap between outside layer and its next layer.
ShadingLayer		
ShadeLayer	Id	ID of shading layer
	Name	
	Type	0 = venetian 1 = diffusing 2 = BSDF 3 = woven 4 = frit 5 = vertical venetian
	ShadeMaterialId	The ID of the shading material, which is defined later in the XML file
	HoleArea	Default: 0.05
	BSDFpath	Default: Blank (shading layer is not represented by a BSDF file)
	ConvectionFactor	Default: 0
VenetianBlind	Id	
	SlatWidth	

	SlatSpacing	
	SlatTilt	
	SlatCurvature	Default: 0
ShadeMaterial	Id	
	Name	
	Source	
	SpectralData	Default: 0 (no spectral data)
	AngularFunction	Default: 0
	Thickness	
	Tsol	
	Rsol1	
	Rsol2	
	Tvis	
	Rvis1	
	Rvis2	
	Tir	
	Emis1	
	Emis2	
	Conductivity	
	Specularity	
	Tvis2	
	Tsol2	
WovenShade	Id	
	ThreadDiameter	
	ThreadSpacing	
	ShadeThickness	
FrittedGlass	Id	
	SubstrateId	
	FritSpecularId	
	FritDiffuseId	
	FritCoverage	

```
<ShadeLayer Id="26" Name="Shade-Diffusing" Type="1" ShadeMaterialId="31108" HoleArea="0.05"
BsdfPath="" ConvectionFactor="0" />
      <ShadeMaterial Id="31108" Name="Mat-Diffusing" Source="" SpectralData="0" AngularFunction="0"
Thickness="0.6" Tsol="0" Rsol1="0.7" Rsol2="0.7" Tvis="0" Rvis1="0.7" Rvis2="0.7" Tir="0"
Emis1="0.9" Emis2="0.9" Conductivity="160" Specularity="1" Tvis2="0" Tsol2="0" />
```

EXAMPLE XML FILES:

Example 1: Simple double glazed system with Air-filled cavity

```
<W6XMLInput>
    <GlazingSystems>
        <GlzSys Id="7" Name="Double Low Solar Low-E Clear (Air)" CsvOutputPath="GlzSys7.csv" Height="1000"
        Width="1000" NumberOfLayers="2" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="5284" Name="SB60 Clear-6.PPG" Flipped="0"
            Layer="0"/>
            <GapLayer Ventilated="0" Id="1" Name="Air" Thickness="9" Layer="0"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="9804" Name="CLEAR6.LOF" Flipped="0" Layer="1"/>
        </GlzSys>
    </GlazingSystems>
</W6XMLInput>
```

Example 2: Simple double glazed system with Argon-filled cavity

```
<W6XMLInput>
    <GlazingSystems>
        <GlzSys Id="26" Name="Double Low E Argon Pure" CsvOutputPath="GlzSys26.csv" Height="1000"
        Width="1000" NumberOfLayers="2" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="0"/>
            <GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="0"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="103" Name="CLEAR_6.DAT" Flipped="0" Layer="1"/>
        </GlzSys>
    </GlazingSystems>
</W6XMLInput>
```

Example 3: Glazing system with Venetian blind between glass

```
<W6XMLInput>
    <CalcOptions BsdfCalc="yes" SpecularMatrixCalc="yes" Basis="W6 quarter-size" AutoOverwrite="yes"/>
    <GlazingSystems>
        <GlzSys Id="29" Name="Test #1" CsvPath="Test1.csv" BsdfOutputPath="Test1.xml" Height="1000"
        Width="1000" NumberOfLayers="3" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="0"/>
            <GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="0"/>
            <GlassLayer ShadeFlag="1" Ventilated="0" Id="27" Name="Shade-Venetian" Flipped="0" Layer="1"/>
            < GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="1"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="103" Name="Clear_3.dat" Flipped="0" Layer="2"/>
        </GlzSys>
        <ShadingLayer>
            <ShadeLayer Id="27" Name="Shade-Venetian" Type="0" ShadeMaterialId="31105" HoleArea="0.05"
            BSDFpath="" ConvectionFactor="0" />
            <VenetianBlind Id="27" SlatWidth="12" SlatSpacing="10" SlatTilt ="45" SlatCurvature="0"/>
            <ShadeMaterial Id="31105" Name="Mat-Venetian" Source="" SpectralData="0" AngularFunction="0"
            Thickness="0.6" Tsol="0" Rsol1="0.7" Rsol2="0.7" Tvis="0" Rvis1="0.7" Rvis2="0.7" Tir="0" Emis1="0.9"
            Emis2="0.9" Conductivity="160" Specularity="1" Tvis2="0" Tsol2="0" />
        </ShadingLayer>
```

```
    </GlazingSystems>
</W6XMLInput>
```

Example 4: Glazing system with woven shade on the inside

```
<W6XMLInput>
    <CalcOptions BsdfCalc="yes" SpecularMatrixCalc="yes" Basis="W6 quarter-size" AutoOverwrite="yes"/>
    <GlazingSystems>
        <GlzSys Id="29" Name="Test #1" CsvOutputPath="Test1.csv" BsdfOutputPath="Test1.xml" Height="1000"
        Width="1000" NumberOfLayers="3" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="0"/>
            <GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="0"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="103" Name="Clear_3.dat" Flipped="0" Layer="1"/>
            <GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="1"/>
            <GlassLayer ShadeFlag="1" Ventilated="0" Id="27" Name="Shade-Woven" Flipped="0" Layer="2"/>
        </GlzSys>
        <ShadingLayer>
            <ShadeLayer Id="27" Name="Shade-Woven" Type="3" ShadeMaterialId="31106" HoleArea="0.05"
            BSDFpath="" ConvectionFactor="0" />
            <WovenShade Id="27" ThreadDiameter="1" ThreadSpacing="2" ShadeThickness="2"/>
            <ShadeMaterial Id="31106" Name="Mat-Woven" Source="" SpectralData="0" AngularFunction="0"
            Thickness="0.6" Tsol="0" Rsol1="0.7" Rsol2="0.7" Tvis="0" Rvis1="0.7" Rvis2="0.7" Tir="0" Emis1="0.9"
            Emis2="0.9" Conductivity="160" Specularity="1" Tvis2="0" Tsol2="0" />
        </ShadingLayer>
    </GlazingSystems>
</W6XMLInput>
```

Example 5: Glazing system with Fritted Glass on the outside

```
<W6XMLInput>
    <CalcOptions BsdfCalc="yes" SpecularMatrixCalc="yes" Basis="W6 quarter-size" AutoOverwrite="yes"/>
    <GlazingSystems>
        <GlzSys Id="29" Name="Test #1" CsvOutputPath="Test1.csv" BsdfOutputPath="Test1.xml" Height="1000"
        Width="1000" NumberOfLayers="3" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="1" Ventilated="0" Id="24" Name="Shade-Frit" Flipped="0" Layer="0"/>
            <GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="0"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="1"/>
            < GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="1"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="2"/>
        </GlzSys>
        <ShadingLayer>
            <ShadeLayer Id="24" Name="Shade-Frit" Type="4" ShadeMaterialId="31105" HoleArea="0.05"
            BSDFpath="" ConvectionFactor="0" />
            <FrittedGlass Id="24" SubstrateId="103" FritSpecularId="30002" FritDiffuseId="3000"
            FritCoverage="0.5"/>
            <ShadeMaterial Id="31105" Name="United Mat" Source="" SpectralData="0" AngularFunction="0"
            Thickness="0.6" Tsol="0" Rsol1="0.7" Rsol2="0.7" Tvis="0" Rvis1="0.7" Rvis2="0.7" Tir="0" Emis1="0.9"
            Emis2="0.9" Conductivity="160" Specularity="1" Tvis2="0" Tsol2="0" />
        </ShadingLayer>
    </GlazingSystems>
</W6XMLInput>
```

Example 6: Glazing system with Venetian Blind on the outside

```
<W6XMLInput>
    <CalcOptions BsdfCalc="yes" SpecularMatrixCalc="yes" Basis="W6 quarter-size" AutoOverwrite="yes"/>
    <GlazingSystems>
        <GlzSys Id="29" Name="Test #1" CsvOutputPath="Test1.csv" BsdfOutputPath="Test1.xml" Height="1000"
        Width="1000" NumberOfLayers="3" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="1" Ventilated="0" Id="27" Name="Shade-Venetian" Flipped="1" Layer="0"/>
            <GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="0"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="1"/>
            < GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="1"/>
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="2"/>
        </GlzSys>
        <ShadingLayer>
            <ShadeLayer Id="27" Name="Shade-Venetian" Type="0" ShadeMaterialId="31105" HoleArea="0.05"
            BSDFpath="" ConvectionFactor="0" />
            <VenetianBlind Id="27" SlatWidth="12" SlatSpacing="10" SlatTilt ="45" SlatCurvature="0"/>
            <ShadeMaterial Id="31105" Name="Mat-Venetian" Source="" SpectralData="0" AngularFunction="0"
            Thickness="0.6" Tsol="0" Rsol1="0.7" Rsol2="0.7" Tvis="0" Rvis1="0.7" Rvis2="0.7" Tir="0" Emis1="0.9"
            Emis2="0.9" Conductivity="160" Specularity="1" Tvis2="0" Tsol2="0" />
         </ShadingLayer>
    </GlazingSystems>
</W6XMLInput>
```

Example 7: Single glazed system with venetian blind on the inside, with no Shading Layer tag (using the database via the Id)

```
<W6XMLInput>
    <CalcOptions BsdfCalc="yes" SpecularMatrixCalc="yes" Basis="W6 quarter-size" AutoOverwrite="no"/>
    <GlazingSystems>
        <GlzSys Id="29" Name="Test #4" CsvOutputPath="Test4.csv" BsdfOutputPath="Test4.xml" Height="1000"
        Width="1000" NumberOfLayers="2" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="0"/>
            <GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="0"/>
            <GlassLayer ShadeFlag="1" Ventilated="0" Id="27" Name="Shade-Venetian" Flipped="1" Layer="1"/>
        </GlzSys>
    </GlazingSystems>
</W6XMLInput>
```

Example 8: Glazing system with diffusing shade on the inside

```
<W6XMLInput>
    <CalcOptions BsdfCalc="yes" SpecularMatrixCalc="yes" Basis="W6 quarter-size" AutoOverwrite="yes"/>
    <GlazingSystems>
        <GlzSys Id="29" Name="Test #1" CsvOutputPath="Test1.csv" BsdfOutputPath="Test1.xml" Height="1000"
        Width="1000" NumberOfLayers="3" EnvironmentalConditions="1" Tilt="90" Comment="">
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="925" Name="CMFTIR_3.AFG" Flipped="1" Layer="0"/>
            < GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="0"/>
```

```
            <GlassLayer ShadeFlag="0" Ventilated="0" Id="103" Name="Clear_3.dat" Flipped="0" Layer="1"/>
            < GapLayer Ventilated="0" Id="2" Name="Argon" Thickness="6" Layer="1"/>
            <GlassLayer ShadeFlag="1" Ventilated="0" Id="27" Name="Shade-Diffusing" Flipped="0" Layer="2"/>
        </GlzSys>
        <ShadingLayer>
            <ShadeLayer Id="27" Name="Shade-Diffusing" Type="1" ShadeMaterialId="31106" HoleArea="0.05"
            BSDFpath="" ConvectionFactor="0" />
            <ShadeMaterial Id="31106" Name="Mat-Diffusing" Source="" SpectralData="0" AngularFunction="0"
            Thickness="0.6" Tsol="0" Rsol1="0.7" Rsol2="0.7" Tvis="0" Rvis1="0.7" Rvis2="0.7" Tir="0" Emis1="0.9"
            Emis2="0.9" Conductivity="160" Specularity="1" Tvis2="0" Tsol2="0" />
        </ShadingLayer>
    </GlazingSystems>
</W6XMLInput>
```

It can also include window definitions (again this also assumes that the glazing systems, frames and dividers are in the W7.mdb, as they are referenced only by ID):

```
<Window ID=”1” Name="test" Height="1000" Width="1000" Area = “20” EnvironmentalConditions="1"
Tilt="90" Comment="blah" OperatorType = Single/>
        <GlzSys Id=”4" />
        <Frame ID="1" CrossSection=Jamb/>
        <Frame ID="2" CrossSection=Sill/>
        <Frame ID="3" CrossSection=Head/>
        <Divider ID=”4" />
        <CSVOutput=”Window01.csv”
</Window>
```

CSV Output File Definition

The CSV output will have the following form:

ID	
Name	
NLayers	
EnvConditions	
EnvTimestamp	
Tilt	
Keff	
Thickness	
HoutWinter	
HoutSummer	
HinWinter	
HinSummer	
HCinWinter	
HCinSummer	
HRinWinter	
HRinSummer	
HCoutWinter	
HCoutSummer	
HRoutWinter	
HRoutSummer	
ToutWinter	
ToutSummer	
TinWinter	
TinSummer	
SolarWinter	
SolarSummer	
UvalCenterWinter	
UvalCenterSummer	
SCWinter	
SCSummer	
SHGC	
RHInsideWinter	

RHInsideSummer	
RHOutsideWinter	
RHOutsideSummer	
RelHeatGain	
Tsol	
Routsol	
Rinsol	
Tvis	
Rinvis	
Routvis	
Tuv	
Tir	
Emishout	
Emishin	
Wldom1	
Wldom2	
Purity1	
Purity2	
Chrom1	
Chrom2	
Chrom3	
Chrom4	
Cielab1	
Cielab2	
Cielab3	
Cielab4	
Cielab5	
Cielab6	
Comment	
Color	
Manufacturer	
Certification	
Status	
Timestamp	
Tdw-K	
Tdw-ISO	
Height	
Width	
BSDFPath	

Example CSV Output File

"ID","Name","NLayers","EnvConditions","EnvTimestamp","Tilt","Keff","Thickness","HoutWinter","HoutSummer","HinWinter","HinSummer","HCinWinter","HCinSummer","HRinWinter","HRinSummer","HCoutWinter","HCoutSummer","HRoutWinter","HRoutSummer","ToutWinter","ToutSummer","TinWinter","TinSummer","SolarWinter","SolarSummer","UvalCenterWinter","UvalCenterSummer","SCWinter","SCSummer","SHGC","RHInsideWinter","RHInsideSummer","RHOutsideWinter","RHOutsideSummer","RelHeatGain","Tsol","Routsol","Rinsol","Tvis","Rinvis","Routvis","Tuv","Tir","Emishout","Emishin","Wldom1","Wldom2","Purity1","Purity2","Chrom1","Chrom2","Chrom3","Chrom4","Cielab1","Cielab2","Cielab3","Cielab4","Cielab5","Cielab6","Comment","Color","Manufacturer","Certification","Status","Timestamp","Tdw-K","Tdw-ISO","Height","Width","BSDFPath"

43,VRE6-38,2,1,1047949073,90.000000,0.023906,24.075001,29.200123,
21.209217,7.079291,7.530383,2.417206,2.351404,4.662086,5.178978,
26.000000,15.200000,3.200124,6.009218,-18.000000,32.000000,21.000000,
24.000000,0.000000,783.000000, 1.392526,1.252864,0.000000,0.220726,
0.192032,-91229998193783603000.000000,-91229998193783603000.000000,
-91229998193783603000.000000,-91229998193783603000.000000,
149.003540,0.137060,0.217523,0.343057,0.309640,0.212812,0.335486,
0.070132,0.000000,0.840261,0.840000,0.494424,0.481961,0.048452,
0.107279,,,,,62.556129,-8.861276,0.876263,64.897240,-7.963365,
-5.287445,,0,,,16672,1263858217,0.140965,0.235822,1000.000000,
1000.000000,