What JWST will be able to see:

No of objects now at mag<31 is the number of objects that were fainter but will now be seen at this magnitude or higher.  
No. at z>10 is how many of these magnified objects are at a redshift of 10 or greater  
Red indicates where magnified objects seen is limited by JWST’s FoV (for which I’ve used 3’x3’ which I found in the report) rather than by the area in which the magnification is seen

Magnification=15  
Change in AB mag=-2.94

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Lens z** |  | **No of objects now mag <31** | **No at z>10** | **At z>12** | **At z>14** |  | **No of objects now mag <29** | **No at z>10** | **At z>12** | **At z>14** |
| 0.1 |  | 77.072 | 12.741 | 2.095 | 0.230 |  | 12.206 | 1.422 | 0.1420 | 8.30E-03 |
| 0.2 |  | 70.423 | 11.694 | 1.928 | 0.212 |  | 11.149 | 1.305 | 0.1307 | 7.65E-03 |
| 0.3 |  | 64.370 | 10.739 | 1.776 | 0.196 |  | 10.186 | 1.198 | 0.1204 | 7.06E-03 |
| 0.4 |  | 58.873 | 9.870 | 1.638 | 0.181 |  | 9.312 | 1.100 | 0.1109 | 6.52E-03 |
| 0.5 |  | 53.892 | 9.080 | 1.512 | 0.167 |  | 8.520 | 1.012 | 0.1024 | 6.03E-03 |
| 0.6 |  | 49.382 | 8.363 | 1.397 | 0.155 |  | 7.804 | 0.932 | 0.0946 | 5.59E-03 |
| 0.7 |  | 45.300 | 7.713 | 1.293 | 0.144 |  | 7.155 | 0.859 | 0.0875 | 5.18E-03 |
| 0.8 |  | 41.608 | 7.123 | 1.198 | 0.133 |  | 6.568 | 0.793 | 0.0811 | 4.81E-03 |
| 0.9 |  | 38.264 | 6.587 | 1.112 | 0.124 |  | 6.037 | 0.733 | 0.0752 | 4.48E-03 |
| 1 |  | 35.232 | 6.099 | 1.033 | 0.116 |  | 5.556 | 0.678 | 0.0699 | 4.17E-03 |

Magnification =10  
Change in AB mag=-2.5

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Lens z** | **No of objects now mag <31** | **No at z>10** | **At z>12** | **At z>14** | **No of objects now mag <29** | **No at z>10** | **At z>12** | **At z>14** |
| 0.1 | 112.340 | 17.343 | 2.603 | 0.257 | 14.867 | 1.400 | 0.1001 | 3.62E-03 |
| 0.2 | 102.641 | 15.917 | 2.397 | 0.237 | 13.577 | 1.284 | 0.0921 | 3.34E-03 |
| 0.3 | 93.810 | 14.616 | 2.208 | 0.219 | 12.402 | 1.178 | 0.0848 | 3.08E-03 |
| 0.4 | 85.790 | 13.432 | 2.035 | 0.202 | 11.336 | 1.082 | 0.0781 | 2.85E-03 |
| 0.5 | 78.523 | 12.356 | 1.878 | 0.187 | 10.370 | 0.995 | 0.0721 | 2.63E-03 |
| 0.6 | 71.945 | 11.379 | 1.736 | 0.173 | 9.495 | 0.916 | 0.0666 | 2.44E-03 |
| 0.7 | 65.991 | 10.493 | 1.606 | 0.161 | 8.704 | 0.844 | 0.0616 | 2.26E-03 |
| 0.8 | 60.605 | 9.690 | 1.489 | 0.149 | 7.989 | 0.779 | 0.0571 | 2.10E-03 |
| 0.9 | 55.727 | 8.960 | 1.381 | 0.139 | 7.341 | 0.720 | 0.0529 | 1.95E-03 |
| 1 | 51.305 | 8.296 | 1.284 | 0.129 | 6.754 | 0.666 | 0.0492 | 1.82E-03 |

Magnification = 5  
Change in AB mag=-1.75

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Lens z | No of objects now mag <31 | No at z>10 | For JW FoV | At z>12 | At z>14 | No of objects now mag <29 | No at z>10 | At z>12 | At z>14 |
| 0.1 | 274.329 | 37.08 | 29.35 | 4.618 | 0.362 | 25.03 | 1.507 | 0.512 | 0.0006 |
| 0.2 | 250.603 | 34.024 | 28.79 | 4.251 | 0.334 | 22.853 | 1.382 | 0.047 | 0.0005 |
| 0.3 | 229.003 | 31.238 | 28.1 | 3.915 | 0.308 | 20.869 | 1.268 | 0.043 | 0.0005 |
| 0.4 | 209.39 | 28.703 | 26.79 | 3.609 | 0.285 | 19.068 | 1.165 | 0.040 | 0.0004 |
| 0.5 | 191.6 | 26.4 | 25.59 | 3.33 | 0.263 | 17.44 | 1.07 | 0.037 | 0.0004 |
| 0.6 | 175.533 | 24.309 |  | 3.077 | 0.244 | 15.960 | 0.985 | 0.034 | 0.0004 |
| 0.7 | 160.975 | 22.412 |  | 2.848 | 0.226 | 14.625 | 0.908 | 0.0315 | 0.0004 |
| 0.8 | 147.808 | 20.692 |  | 2.639 | 0.210 | 13.417 | 0.837 | 0.0292 | 0.0003 |
| 0.9 | 135.885 | 19.130 |  | 2.448 | 0.195 | 12.325 | 0.774 | 0.0270 | 0.0003 |
| 1 | 125.076 | 17.710 |  | 2.275 | 0.182 | 11.334 | 0.716 | 0.0251 | 0.0003 |

JWST will not see all of the magnified objects from the second column at redshifts less than 10, however I haven’t calculated how many it would actually see in its field of view for those since we’re only using lensing for the highest redshift objects.