



IES ROAD REPORT

PHOTOMETRIC FILENAME : XMR-3-LED-18-30.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]LED-7763

[TESTLAB]LSI INDUSTRIES, INC

[ISSUE DATE]11/21/16

[TEST DATE]04/28/16

[MANUFACT]LSI INDUSTRIES, INC

[LUMCAT]XMR-3-LED-18-30

[_ABSOLUTE]NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

[OTHER]TEST PROCEDURE: IESNA LM-79-08

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Outdoor

[OTHER]SCALED FROM ORIGINAL TEST DATA

CHARACTERISTICS

| | |
|---|----------------------------------|
| IES Classification | Type III |
| Longitudinal Classification | Short |
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 17553 |
| Downward Total Efficiency | N.A. (absolute) |
| Total Luminaire Efficiency | N.A. (absolute) |
| Luminaire Efficacy Rating (LER) | 114 |
| Total Luminaire Watts | 154.1 |
| Ballast Factor | 1.00 |
| Upward Waste Light Ratio | 0.00 |
| Maximum Candela | 18432.799 |
| Maximum Candela Angle | 55H 67.5V |
| Maximum Candela (<90 Degrees Vertical) | 18432.799 |
| Maximum Candela Angle (<90 Degrees Vertical) | 55H 67.5V |
| Maximum Candela At 90 Degrees Vertical | 0 (0.0% Luminaire Lumens) |
| Maximum Candela from 80 to <90 Degrees Vertical | 1237.843 (7.1% Luminaire Lumens) |
| Cutoff Classification (deprecated) | N.A. (absolute) |

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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

| | Lumens | % Lamp | % Luminaire |
|-------------------------------|----------|--------|-------------|
| FL - Front-Low (0-30) | 705.0 | N.A. | 4.0 |
| FM - Front-Medium (30-60) | 6694.2 | N.A. | 38.1 |
| FH - Front-High (60-80) | 6293.9 | N.A. | 35.9 |
| FVH - Front-Very High (80-90) | 152.2 | N.A. | 0.9 |
| BL - Back-Low (0-30) | 778.2 | N.A. | 4.4 |
| BM - Back-Medium (30-60) | 2022.5 | N.A. | 11.5 |
| BH - Back-High (60-80) | 854.0 | N.A. | 4.9 |
| BVH - Back-Very High (80-90) | 53.1 | N.A. | 0.3 |
| UL - Uplight-Low (90-100) | 0.0 | N.A. | 0.0 |
| UH - Uplight-High (100-180) | 0.0 | N.A. | 0.0 |
| Total | 17553.1 | N.A. | 100.0 |
| BUG Rating | B2-U0-G3 | | |

IES ROAD REPORT
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CANDELA TABULATION

| Vert. Angles | Horizontal Angles | | | | | | | | | |
|-------------------------|--------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | <u>0.0</u> | <u>5.0</u> | <u>15.0</u> | <u>25.0</u> | <u>35.0</u> | <u>45.0</u> | <u>55.0</u> | <u>57.5</u> | <u>65.0</u> | <u>75.0</u> |
| 0.0 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 |
| 2.5 | 1642.398 | 1644.258 | 1643.328 | 1646.118 | 1642.398 | 1652.628 | 1656.348 | 1658.208 | 1662.858 | 1661.928 |
| 5.0 | 1585.667 | 1587.527 | 1590.317 | 1599.617 | 1607.057 | 1625.658 | 1640.538 | 1644.258 | 1650.768 | 1653.558 |
| 7.5 | 1487.086 | 1491.736 | 1496.386 | 1514.056 | 1533.587 | 1566.137 | 1602.407 | 1610.777 | 1636.818 | 1655.418 |
| 10.0 | 1388.505 | 1392.225 | 1401.525 | 1421.055 | 1454.536 | 1505.686 | 1557.767 | 1570.787 | 1612.637 | 1655.418 |
| 12.5 | 1296.434 | 1298.294 | 1310.384 | 1338.284 | 1381.995 | 1445.236 | 1510.336 | 1525.216 | 1574.507 | 1635.888 |
| 15.0 | 1217.383 | 1221.103 | 1233.193 | 1268.534 | 1320.614 | 1388.505 | 1458.256 | 1477.786 | 1539.167 | 1614.497 |
| 17.5 | 1171.813 | 1174.603 | 1191.343 | 1231.333 | 1284.344 | 1354.095 | 1432.215 | 1451.746 | 1521.496 | 1604.267 |
| 20.0 | 1195.993 | 1196.923 | 1220.173 | 1261.094 | 1311.314 | 1377.345 | 1462.906 | 1478.716 | 1549.397 | 1623.797 |
| 22.5 | 1350.375 | 1354.095 | 1363.395 | 1395.945 | 1435.935 | 1504.756 | 1571.717 | 1582.877 | 1642.398 | 1709.358 |
| 25.0 | 1661.928 | 1662.858 | 1648.908 | 1660.068 | 1678.668 | 1726.099 | 1770.739 | 1774.459 | 1823.750 | 1874.900 |
| 27.5 | 2071.132 | 2073.922 | 2076.712 | 2045.092 | 2035.792 | 2048.812 | 2061.832 | 2059.042 | 2084.152 | 2116.703 |
| 30.0 | 2502.657 | 2505.447 | 2518.467 | 2498.007 | 2472.897 | 2457.086 | 2446.856 | 2414.306 | 2400.356 | 2357.575 |
| 32.5 | 2912.791 | 2918.371 | 2939.762 | 2970.452 | 2969.522 | 2932.322 | 2885.821 | 2852.341 | 2746.320 | 2619.838 |
| 35.0 | 3267.125 | 3278.285 | 3325.716 | 3393.607 | 3431.737 | 3434.527 | 3360.126 | 3328.506 | 3120.184 | 2895.121 |
| 37.5 | 3590.769 | 3609.369 | 3680.050 | 3787.931 | 3872.562 | 3940.452 | 3846.521 | 3793.511 | 3538.688 | 3170.404 |
| 40.0 | 3967.423 | 3987.883 | 4066.004 | 4195.275 | 4310.596 | 4438.938 | 4331.987 | 4259.446 | 3907.902 | 3419.647 |
| 42.5 | 4450.098 | 4472.418 | 4569.139 | 4634.240 | 4798.852 | 4940.213 | 4812.802 | 4706.781 | 4246.426 | 3649.359 |
| 45.0 | 5080.645 | 5147.605 | 5216.426 | 5206.196 | 5354.068 | 5473.109 | 5288.037 | 5141.095 | 4555.189 | 3830.711 |
| 47.5 | 6006.005 | 5994.845 | 6084.126 | 6026.465 | 6094.356 | 6109.236 | 5781.872 | 5567.040 | 4849.072 | 4000.903 |
| 50.0 | 7175.027 | 7162.007 | 7287.559 | 7235.478 | 7173.167 | 6881.144 | 6265.478 | 5995.775 | 5148.535 | 4208.295 |
| 52.5 | 8912.286 | 8981.107 | 9007.147 | 8916.936 | 8711.404 | 7842.775 | 6801.163 | 6474.730 | 5503.799 | 4509.619 |
| 55.0 | 10851.357 | 10932.268 | 11139.660 | 11169.420 | 10736.036 | 9148.509 | 7530.291 | 7119.227 | 6008.795 | 4963.463 |
| 57.5 | 11646.515 | 11782.297 | 12474.224 | 13181.962 | 13327.974 | 11012.249 | 8636.073 | 8197.108 | 6805.813 | 5794.892 |
| 60.0 | 10610.484 | 10791.836 | 11996.199 | 13612.557 | 15607.428 | 13591.166 | 10338.921 | 9806.026 | 8215.709 | 7095.976 |
| 62.5 | 6849.524 | 7073.656 | 9048.998 | 11814.847 | 15297.735 | 15938.512 | 12900.169 | 12292.872 | 10207.790 | 8909.496 |
| 65.0 | 2732.369 | 2805.840 | 3603.789 | 6862.544 | 12901.099 | 16432.347 | 16087.313 | 15417.706 | 12651.856 | 10427.272 |
| 67.5 | 1334.564 | 1413.615 | 1645.188 | 2475.687 | 7483.791 | 14350.985 | 18432.799 | 18380.718 | 14558.377 | 11040.149 |
| 70.0 | 675.187 | 720.758 | 836.079 | 1252.723 | 2667.269 | 9660.014 | 16903.862 | 17797.602 | 15427.936 | 9360.551 |
| 72.5 | 472.445 | 490.115 | 558.936 | 838.869 | 1547.537 | 4091.114 | 12822.048 | 14174.283 | 12627.676 | 5475.899 |
| 75.0 | 372.004 | 388.744 | 451.055 | 696.578 | 1193.203 | 2124.143 | 6501.700 | 7767.444 | 6801.163 | 1835.840 |
| 77.5 | 310.623 | 324.573 | 379.444 | 636.127 | 1029.521 | 1337.354 | 2564.038 | 3024.393 | 1962.321 | 629.617 |
| 80.0 | 239.943 | 251.103 | 312.483 | 571.026 | 908.620 | 967.210 | 1156.932 | 1237.843 | 784.928 | 332.944 |
| 82.5 | 165.542 | 173.912 | 226.922 | 459.425 | 780.278 | 721.688 | 506.855 | 509.645 | 404.554 | 199.952 |
| 85.0 | 101.371 | 104.161 | 147.872 | 362.704 | 606.367 | 476.165 | 234.363 | 240.873 | 213.902 | 127.411 |
| 87.5 | 59.521 | 62.311 | 89.281 | 274.353 | 405.484 | 183.212 | 98.581 | 107.881 | 104.161 | 72.541 |
| 90.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| Vert. Angles | Horizontal Angles | | | | | | | | | |
|-------------------------|--------------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | <u>85.0</u> | <u>90.0</u> | <u>95.0</u> | <u>105.0</u> | <u>115.0</u> | <u>125.0</u> | <u>135.0</u> | <u>145.0</u> | <u>155.0</u> | <u>165.0</u> |
| 0.0 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 | 1669.368 |
| 2.5 | 1674.948 | 1681.458 | 1680.528 | 1678.668 | 1689.828 | 1690.758 | 1693.548 | 1694.478 | 1689.828 | 1689.828 |
| 5.0 | 1673.088 | 1683.318 | 1687.968 | 1695.408 | 1707.498 | 1708.428 | 1711.218 | 1716.798 | 1720.519 | 1726.099 |
| 7.5 | 1678.668 | 1692.618 | 1701.918 | 1710.288 | 1721.449 | 1736.329 | 1759.579 | 1774.459 | 1782.829 | 1790.269 |
| 10.0 | 1687.968 | 1703.778 | 1718.659 | 1727.029 | 1752.139 | 1784.689 | 1807.939 | 1822.820 | 1832.120 | 1837.700 |
| 12.5 | 1687.038 | 1704.708 | 1722.379 | 1732.609 | 1780.969 | 1823.750 | 1850.720 | 1857.230 | 1858.160 | 1865.600 |
| 15.0 | 1683.318 | 1700.988 | 1721.449 | 1732.609 | 1799.569 | 1853.510 | 1874.900 | 1883.270 | 1884.200 | 1888.850 |
| 17.5 | 1681.458 | 1705.638 | 1723.309 | 1740.049 | 1822.820 | 1870.250 | 1894.430 | 1906.521 | 1901.870 | 1898.150 |
| 20.0 | 1693.548 | 1721.449 | 1730.749 | 1745.629 | 1848.860 | 1886.990 | 1910.241 | 1916.751 | 1904.661 | 1896.290 |
| 22.5 | 1773.529 | 1780.969 | 1769.809 | 1753.999 | 1880.480 | 1909.311 | 1924.191 | 1913.031 | 1897.220 | 1881.410 |
| 25.0 | 1896.290 | 1876.760 | 1835.840 | 1763.299 | 1905.591 | 1936.281 | 1926.981 | 1901.870 | 1881.410 | 1860.950 |
| 27.5 | 2053.462 | 1998.592 | 1919.541 | 1772.599 | 1913.961 | 1953.951 | 1930.701 | 1888.850 | 1864.670 | 1852.580 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | | | | |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 30.0 | 2206.914 | 2105.543 | 1984.641 | 1778.179 | 1915.821 | 1958.601 | 1916.751 | 1880.480 | 1877.690 | 1907.451 |
| 32.5 | 2373.386 | 2212.494 | 2045.092 | 1766.089 | 1911.171 | 1951.161 | 1894.430 | 1896.290 | 1951.161 | 2064.622 |
| 35.0 | 2541.717 | 2312.935 | 2094.383 | 1732.609 | 1880.480 | 1926.981 | 1880.480 | 1932.561 | 2038.582 | 2214.354 |
| 37.5 | 2707.259 | 2407.796 | 2128.793 | 1678.668 | 1813.520 | 1886.990 | 1866.530 | 1922.331 | 2005.102 | 2127.863 |
| 40.0 | 2860.711 | 2490.567 | 2143.673 | 1605.197 | 1733.539 | 1824.680 | 1822.820 | 1844.210 | 1924.191 | 1980.921 |
| 42.5 | 3001.142 | 2553.808 | 2135.303 | 1524.286 | 1634.958 | 1731.679 | 1752.139 | 1773.529 | 1942.791 | 1764.229 |
| 45.0 | 3106.233 | 2599.378 | 2117.633 | 1444.306 | 1525.216 | 1621.937 | 1702.848 | 1767.949 | 2024.632 | 1687.968 |
| 47.5 | 3218.765 | 2671.919 | 2116.703 | 1369.905 | 1421.985 | 1528.006 | 1674.948 | 1786.549 | 2036.722 | 1697.268 |
| 50.0 | 3380.586 | 2798.400 | 2165.063 | 1315.034 | 1336.424 | 1454.536 | 1645.188 | 1827.470 | 2073.922 | 1719.589 |
| 52.5 | 3664.239 | 3029.043 | 2299.915 | 1294.574 | 1265.744 | 1394.085 | 1599.617 | 1774.459 | 2056.252 | 1739.119 |
| 55.0 | 4047.404 | 3392.677 | 2568.688 | 1314.104 | 1204.363 | 1337.354 | 1527.076 | 1681.458 | 1944.651 | 1727.959 |
| 57.5 | 4674.230 | 3962.773 | 2977.892 | 1376.415 | 1149.492 | 1271.324 | 1437.795 | 1563.347 | 1694.478 | 1687.038 |
| 60.0 | 5767.922 | 4696.551 | 3214.115 | 1413.615 | 1089.972 | 1184.833 | 1334.564 | 1374.555 | 1388.505 | 1663.788 |
| 62.5 | 7372.189 | 5283.387 | 3046.713 | 1315.964 | 1006.271 | 1061.141 | 1195.993 | 1178.323 | 1096.482 | 1621.937 |
| 65.0 | 8322.660 | 5319.657 | 2354.785 | 1095.552 | 868.629 | 906.760 | 1027.661 | 1006.271 | 848.169 | 1503.826 |
| 67.5 | 8079.927 | 4333.847 | 1573.577 | 802.599 | 685.417 | 719.828 | 829.569 | 847.239 | 694.717 | 1313.174 |
| 70.0 | 5307.567 | 2711.909 | 911.410 | 555.216 | 510.576 | 531.966 | 617.527 | 703.088 | 615.667 | 1059.281 |
| 72.5 | 2279.455 | 1125.312 | 400.834 | 380.374 | 388.744 | 405.484 | 466.865 | 591.486 | 527.316 | 772.838 |
| 75.0 | 653.797 | 411.064 | 242.733 | 289.233 | 314.343 | 332.944 | 378.514 | 470.585 | 364.564 | 488.255 |
| 77.5 | 313.413 | 231.572 | 181.352 | 238.083 | 262.263 | 279.933 | 287.373 | 344.104 | 261.333 | 332.944 |
| 80.0 | 194.372 | 154.382 | 150.662 | 197.162 | 216.692 | 202.742 | 203.672 | 252.033 | 198.092 | 232.503 |
| 82.5 | 127.411 | 104.161 | 123.691 | 172.982 | 154.382 | 136.711 | 158.102 | 176.702 | 117.181 | 146.942 |
| 85.0 | 76.261 | 70.681 | 106.951 | 143.222 | 96.721 | 87.421 | 111.601 | 79.981 | 53.941 | 55.801 |
| 87.5 | 39.990 | 35.340 | 84.631 | 105.091 | 49.291 | 43.710 | 37.200 | 26.040 | 13.950 | 16.740 |
| 90.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Vert. Horizontal Angles
Angles

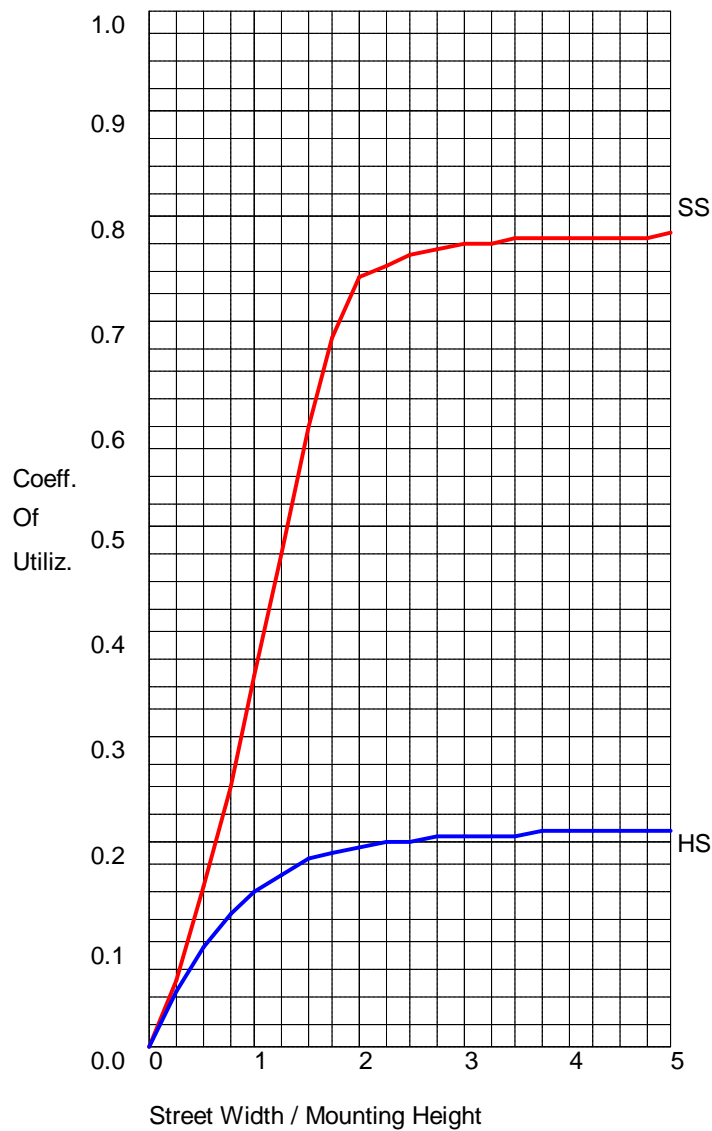
| | 175.0 | 180.0 |
|------|--------------|--------------|
| 0.0 | 1669.368 | 1669.368 |
| 2.5 | 1681.458 | 1684.248 |
| 5.0 | 1720.519 | 1724.239 |
| 7.5 | 1786.549 | 1789.339 |
| 10.0 | 1833.050 | 1831.190 |
| 12.5 | 1862.810 | 1860.950 |
| 15.0 | 1886.990 | 1883.270 |
| 17.5 | 1897.220 | 1893.500 |
| 20.0 | 1896.290 | 1892.570 |
| 22.5 | 1880.480 | 1877.690 |
| 25.0 | 1859.090 | 1859.090 |
| 27.5 | 1856.300 | 1858.160 |
| 30.0 | 1950.231 | 1953.021 |
| 32.5 | 2166.923 | 2169.713 |
| 35.0 | 2367.806 | 2394.776 |
| 37.5 | 2174.363 | 2147.393 |
| 40.0 | 1780.969 | 1745.629 |
| 42.5 | 1587.527 | 1568.927 |
| 45.0 | 1541.957 | 1522.426 |
| 47.5 | 1513.126 | 1488.946 |
| 50.0 | 1474.996 | 1443.376 |
| 52.5 | 1411.755 | 1374.555 |
| 55.0 | 1292.714 | 1259.234 |
| 57.5 | 1153.212 | 1092.762 |
| 60.0 | 1046.261 | 960.700 |
| 62.5 | 983.021 | 831.429 |
| 65.0 | 1031.381 | 750.518 |

IES ROAD REPORT
PHOTOMETRIC FILENAME : XMR-3-LED-18-30.IES

CANDELA TABULATION - (Cont.)

| | | |
|-------------|----------|----------|
| 67.5 | 1188.553 | 823.059 |
| 70.0 | 1307.594 | 1051.841 |
| 72.5 | 1218.313 | 1198.783 |
| 75.0 | 1015.571 | 1209.943 |
| 77.5 | 721.688 | 847.239 |
| 80.0 | 359.914 | 353.404 |
| 82.5 | 151.592 | 155.312 |
| 85.0 | 63.241 | 64.171 |
| 87.5 | 18.600 | 6.510 |
| 90.0 | 0.000 | 0.000 |

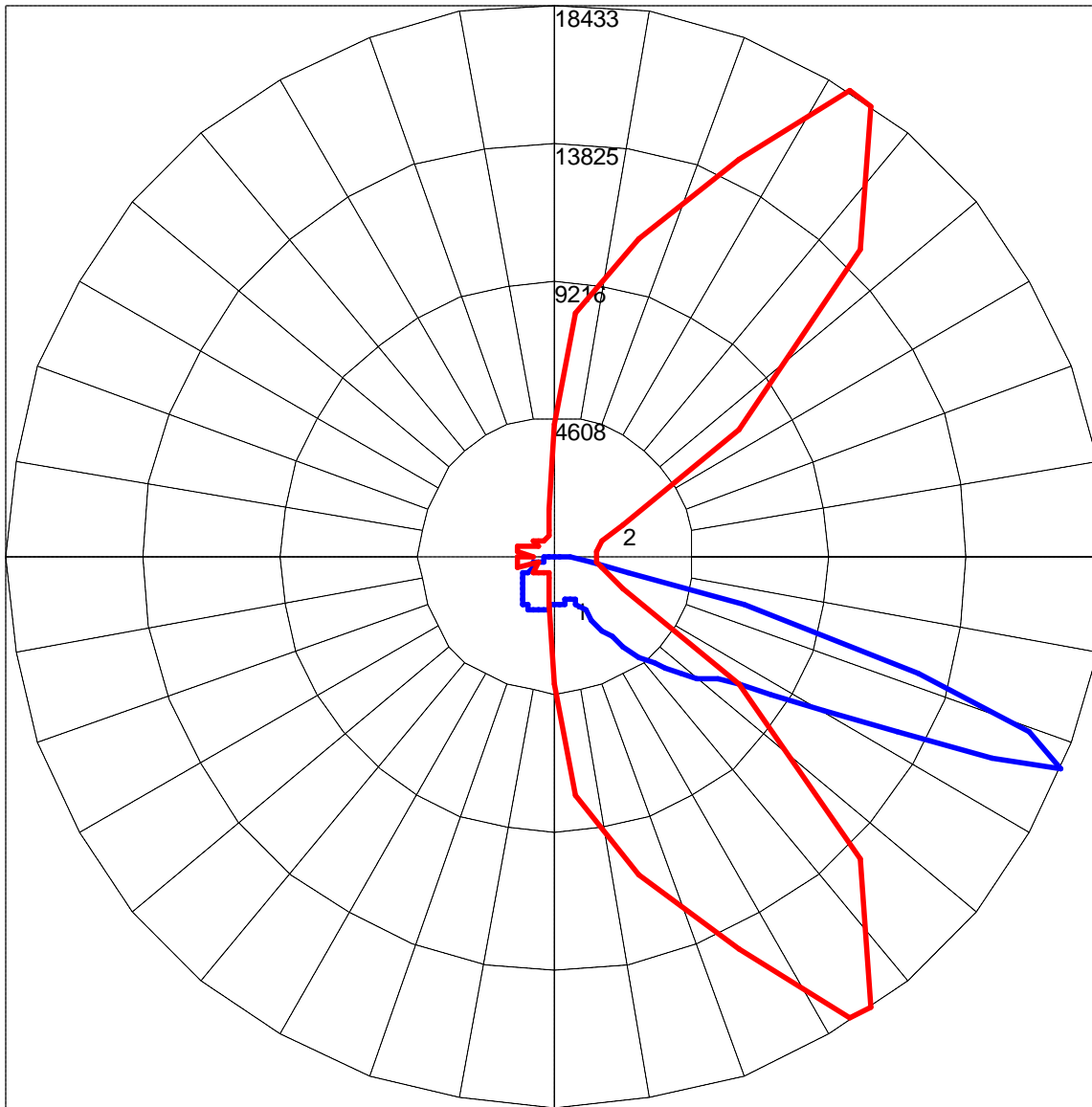
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

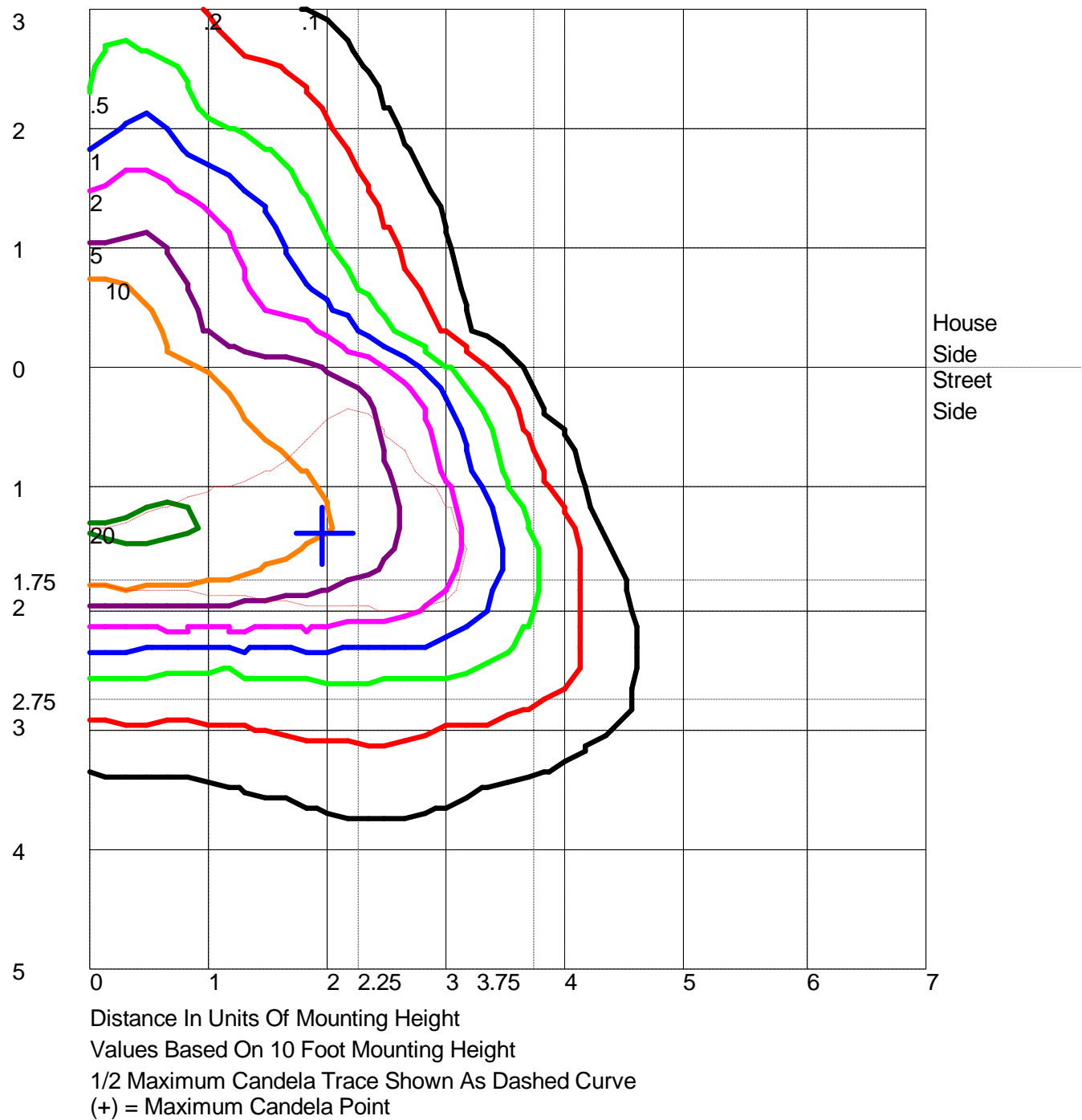
| | Lumens | Percent Of Luminaire |
|----------------------|---------|-------------------------|
| Downward Street Side | 13845.3 | 78.9 |
| Downward House Side | 3707.8 | 21.1 |
| Downward Total | 17553.1 | 100.0 |
| Upward Street Side | 0.0 | 0.0 |
| Upward House Side | 0.0 | 0.0 |
| Upward Total | 0.0 | 0.0 |
| Total Flux | 17553.1 | 100.0 |

POLAR GRAPH

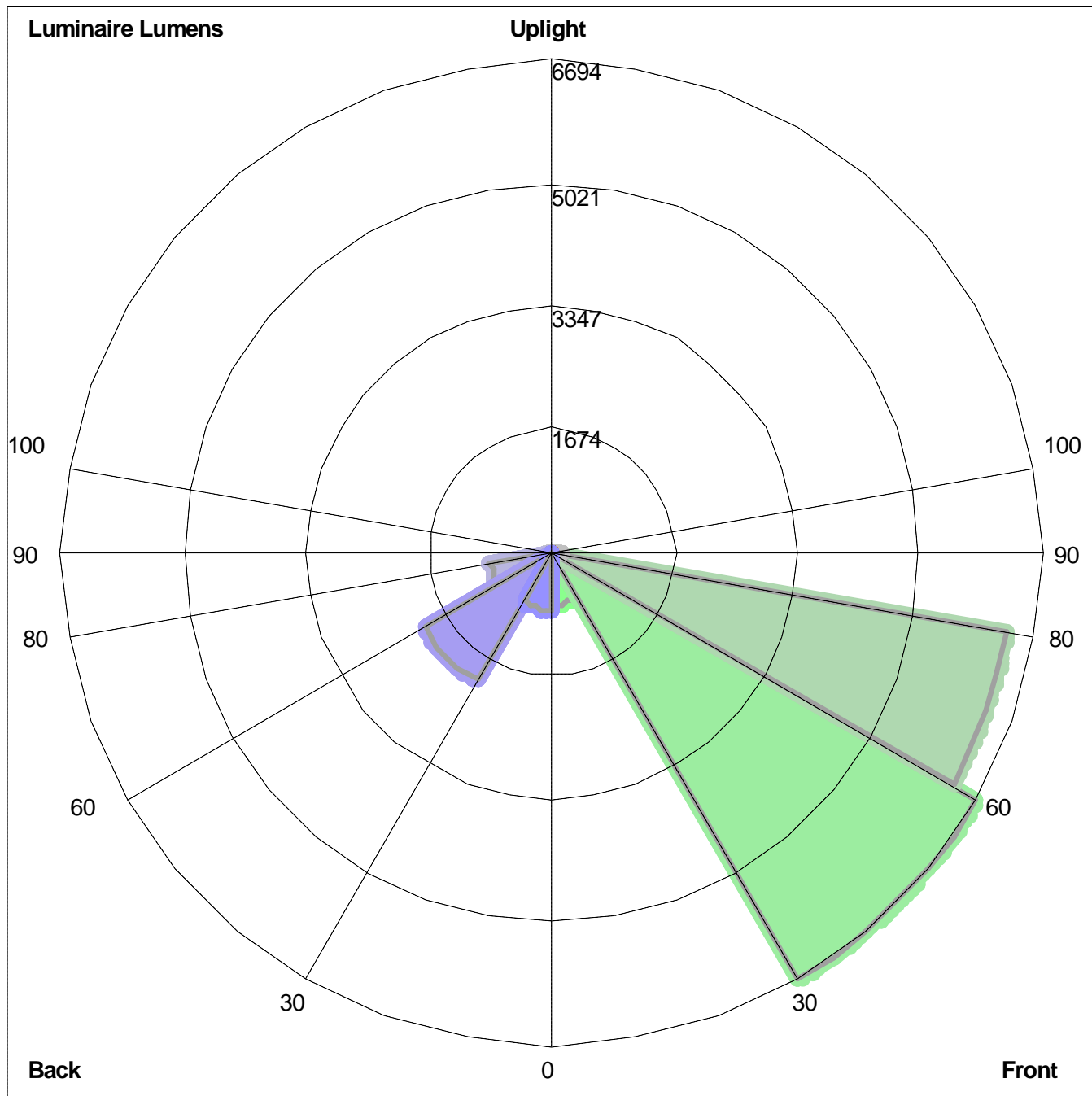


Maximum Candela = 18432.799 Located At Horizontal Angle = 55, Vertical Angle = 67.5
1 - Vertical Plane Through Horizontal Angles (55 - 235) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=705.0, Medium=6694.2, High=6293.9, Very High=152.2
Back: Low=778.2, Medium=2022.5, High=854.0, Very High=53.1
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G3