



**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : XMR-3-LED-18-40.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  
[MANUFACTURER]LSI INDUSTRIES, INC  
[LUMCAT]XMR-3-LED-18-40  
[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                                | 18874                        |
| Downward Total Efficiency                       | N.A. (absolute)              |
| Total Luminaire Efficiency                      | N.A. (absolute)              |
| Luminaire Efficacy Rating (LER)                 | 122                          |
| Total Luminaire Watts                           | 154.1                        |
| Ballast Factor                                  | 1.00                         |
| Upward Waste Light Ratio                        | 0.00                         |
| Maximum Candela                                 | 19820                        |
| Maximum Candela Angle                           | 55H 67.5V                    |
| Maximum Candela (<90 Degrees Vertical)          | 19820                        |
| 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 | 1331 (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)         | 758.0    | N.A.   | 4.0         |
| FM - Front-Medium (30-60)     | 7198.0   | N.A.   | 38.1        |
| FH - Front-High (60-80)       | 6767.6   | N.A.   | 35.9        |
| FVH - Front-Very High (80-90) | 163.7    | N.A.   | 0.9         |
| BL - Back-Low (0-30)          | 836.8    | N.A.   | 4.4         |
| BM - Back-Medium (30-60)      | 2174.7   | N.A.   | 11.5        |
| BH - Back-High (60-80)        | 918.3    | N.A.   | 4.9         |
| BVH - Back-Very High (80-90)  | 57.0     | 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                         | 18874.1  | N.A.   | 100.0       |
| BUG Rating                    | B2-U0-G3 |        |             |

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**CANDELA TABULATION**

| Vert.<br>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             | 1795              | 1795       | 1795        | 1795        | 1795        | 1795        | 1795        | 1795        | 1795        | 1795        |
| 2.5             | 1766              | 1768       | 1767        | 1770        | 1766        | 1777        | 1781        | 1783        | 1788        | 1787        |
| 5.0             | 1705              | 1707       | 1710        | 1720        | 1728        | 1748        | 1764        | 1768        | 1775        | 1778        |
| 7.5             | 1599              | 1604       | 1609        | 1628        | 1649        | 1684        | 1723        | 1732        | 1760        | 1780        |
| 10.0            | 1493              | 1497       | 1507        | 1528        | 1564        | 1619        | 1675        | 1689        | 1734        | 1780        |
| 12.5            | 1394              | 1396       | 1409        | 1439        | 1486        | 1554        | 1624        | 1640        | 1693        | 1759        |
| 15.0            | 1309              | 1313       | 1326        | 1364        | 1420        | 1493        | 1568        | 1589        | 1655        | 1736        |
| 17.5            | 1260              | 1263       | 1281        | 1324        | 1381        | 1456        | 1540        | 1561        | 1636        | 1725        |
| 20.0            | 1286              | 1287       | 1312        | 1356        | 1410        | 1481        | 1573        | 1590        | 1666        | 1746        |
| 22.5            | 1452              | 1456       | 1466        | 1501        | 1544        | 1618        | 1690        | 1702        | 1766        | 1838        |
| 25.0            | 1787              | 1788       | 1773        | 1785        | 1805        | 1856        | 1904        | 1908        | 1961        | 2016        |
| 27.5            | 2227              | 2230       | 2233        | 2199        | 2189        | 2203        | 2217        | 2214        | 2241        | 2276        |
| 30.0            | 2691              | 2694       | 2708        | 2686        | 2659        | 2642        | 2631        | 2596        | 2581        | 2535        |
| 32.5            | 3132              | 3138       | 3161        | 3194        | 3193        | 3153        | 3103        | 3067        | 2953        | 2817        |
| 35.0            | 3513              | 3525       | 3576        | 3649        | 3690        | 3693        | 3613        | 3579        | 3355        | 3113        |
| 37.5            | 3861              | 3881       | 3957        | 4073        | 4164        | 4237        | 4136        | 4079        | 3805        | 3409        |
| 40.0            | 4266              | 4288       | 4372        | 4511        | 4635        | 4773        | 4658        | 4580        | 4202        | 3677        |
| 42.5            | 4785              | 4809       | 4913        | 4983        | 5160        | 5312        | 5175        | 5061        | 4566        | 3924        |
| 45.0            | 5463              | 5535       | 5609        | 5598        | 5757        | 5885        | 5686        | 5528        | 4898        | 4119        |
| 47.5            | 6458              | 6446       | 6542        | 6480        | 6553        | 6569        | 6217        | 5986        | 5214        | 4302        |
| 50.0            | 7715              | 7701       | 7836        | 7780        | 7713        | 7399        | 6737        | 6447        | 5536        | 4525        |
| 52.5            | 9583              | 9657       | 9685        | 9588        | 9367        | 8433        | 7313        | 6962        | 5918        | 4849        |
| 55.0            | 11668             | 11755      | 11978       | 12010       | 11544       | 9837        | 8097        | 7655        | 6461        | 5337        |
| 57.5            | 12523             | 12669      | 13413       | 14174       | 14331       | 11841       | 9286        | 8814        | 7318        | 6231        |
| 60.0            | 11409             | 11604      | 12899       | 14637       | 16782       | 14614       | 11117       | 10544       | 8834        | 7630        |
| 62.5            | 7365              | 7606       | 9730        | 12704       | 16449       | 17138       | 13871       | 13218       | 10976       | 9580        |
| 65.0            | 2938              | 3017       | 3875        | 7379        | 13872       | 17669       | 17298       | 16578       | 13604       | 11212       |
| 67.5            | 1435              | 1520       | 1769        | 2662        | 8047        | 15431       | 19820       | 19764       | 15654       | 11871       |
| 70.0            | 726               | 775        | 899         | 1347        | 2868        | 10387       | 18176       | 19137       | 16589       | 10065       |
| 72.5            | 508               | 527        | 601         | 902         | 1664        | 4399        | 13787       | 15241       | 13578       | 5888        |
| 75.0            | 400               | 418        | 485         | 749         | 1283        | 2284        | 6991        | 8352        | 7313        | 1974        |
| 77.5            | 334               | 349        | 408         | 684         | 1107        | 1438        | 2757        | 3252        | 2110        | 677         |
| 80.0            | 258               | 270        | 336         | 614         | 977         | 1040        | 1244        | 1331        | 844         | 358         |
| 82.5            | 178               | 187        | 244         | 494         | 839         | 776         | 545         | 548         | 435         | 215         |
| 85.0            | 109               | 112        | 159         | 390         | 652         | 512         | 252         | 259         | 230         | 137         |
| 87.5            | 64                | 67         | 96          | 295         | 436         | 197         | 106         | 116         | 112         | 78          |
| 90.0            | 0                 | 0          | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           |

| Vert.<br>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             | 1795              | 1795        | 1795        | 1795         | 1795         | 1795         | 1795         | 1795         | 1795         | 1795         |
| 2.5             | 1801              | 1808        | 1807        | 1805         | 1817         | 1818         | 1821         | 1822         | 1817         | 1817         |
| 5.0             | 1799              | 1810        | 1815        | 1823         | 1836         | 1837         | 1840         | 1846         | 1850         | 1856         |
| 7.5             | 1805              | 1820        | 1830        | 1839         | 1851         | 1867         | 1892         | 1908         | 1917         | 1925         |
| 10.0            | 1815              | 1832        | 1848        | 1857         | 1884         | 1919         | 1944         | 1960         | 1970         | 1976         |
| 12.5            | 1814              | 1833        | 1852        | 1863         | 1915         | 1961         | 1990         | 1997         | 1998         | 2006         |
| 15.0            | 1810              | 1829        | 1851        | 1863         | 1935         | 1993         | 2016         | 2025         | 2026         | 2031         |
| 17.5            | 1808              | 1834        | 1853        | 1871         | 1960         | 2011         | 2037         | 2050         | 2045         | 2041         |
| 20.0            | 1821              | 1851        | 1861        | 1877         | 1988         | 2029         | 2054         | 2061         | 2048         | 2039         |
| 22.5            | 1907              | 1915        | 1903        | 1886         | 2022         | 2053         | 2069         | 2057         | 2040         | 2023         |
| 25.0            | 2039              | 2018        | 1974        | 1896         | 2049         | 2082         | 2072         | 2045         | 2023         | 2001         |
| 27.5            | 2208              | 2149        | 2064        | 1906         | 2058         | 2101         | 2076         | 2031         | 2005         | 1992         |

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**CANDELA TABULATION - (Cont.)**

|             |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|
| <b>30.0</b> | 2373 | 2264 | 2134 | 1912 | 2060 | 2106 | 2061 | 2022 | 2019 | 2051 |
| <b>32.5</b> | 2552 | 2379 | 2199 | 1899 | 2055 | 2098 | 2037 | 2039 | 2098 | 2220 |
| <b>35.0</b> | 2733 | 2487 | 2252 | 1863 | 2022 | 2072 | 2022 | 2078 | 2192 | 2381 |
| <b>37.5</b> | 2911 | 2589 | 2289 | 1805 | 1950 | 2029 | 2007 | 2067 | 2156 | 2288 |
| <b>40.0</b> | 3076 | 2678 | 2305 | 1726 | 1864 | 1962 | 1960 | 1983 | 2069 | 2130 |
| <b>42.5</b> | 3227 | 2746 | 2296 | 1639 | 1758 | 1862 | 1884 | 1907 | 2089 | 1897 |
| <b>45.0</b> | 3340 | 2795 | 2277 | 1553 | 1640 | 1744 | 1831 | 1901 | 2177 | 1815 |
| <b>47.5</b> | 3461 | 2873 | 2276 | 1473 | 1529 | 1643 | 1801 | 1921 | 2190 | 1825 |
| <b>50.0</b> | 3635 | 3009 | 2328 | 1414 | 1437 | 1564 | 1769 | 1965 | 2230 | 1849 |
| <b>52.5</b> | 3940 | 3257 | 2473 | 1392 | 1361 | 1499 | 1720 | 1908 | 2211 | 1870 |
| <b>55.0</b> | 4352 | 3648 | 2762 | 1413 | 1295 | 1438 | 1642 | 1808 | 2091 | 1858 |
| <b>57.5</b> | 5026 | 4261 | 3202 | 1480 | 1236 | 1367 | 1546 | 1681 | 1822 | 1814 |
| <b>60.0</b> | 6202 | 5050 | 3456 | 1520 | 1172 | 1274 | 1435 | 1478 | 1493 | 1789 |
| <b>62.5</b> | 7927 | 5681 | 3276 | 1415 | 1082 | 1141 | 1286 | 1267 | 1179 | 1744 |
| <b>65.0</b> | 8949 | 5720 | 2532 | 1178 | 934  | 975  | 1105 | 1082 | 912  | 1617 |
| <b>67.5</b> | 8688 | 4660 | 1692 | 863  | 737  | 774  | 892  | 911  | 747  | 1412 |
| <b>70.0</b> | 5707 | 2916 | 980  | 597  | 549  | 572  | 664  | 756  | 662  | 1139 |
| <b>72.5</b> | 2451 | 1210 | 431  | 409  | 418  | 436  | 502  | 636  | 567  | 831  |
| <b>75.0</b> | 703  | 442  | 261  | 311  | 338  | 358  | 407  | 506  | 392  | 525  |
| <b>77.5</b> | 337  | 249  | 195  | 256  | 282  | 301  | 309  | 370  | 281  | 358  |
| <b>80.0</b> | 209  | 166  | 162  | 212  | 233  | 218  | 219  | 271  | 213  | 250  |
| <b>82.5</b> | 137  | 112  | 133  | 186  | 166  | 147  | 170  | 190  | 126  | 158  |
| <b>85.0</b> | 82   | 76   | 115  | 154  | 104  | 94   | 120  | 86   | 58   | 60   |
| <b>87.5</b> | 43   | 38   | 91   | 113  | 53   | 47   | 40   | 28   | 15   | 18   |
| <b>90.0</b> | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

**Vert. Horizontal Angles**  
**Angles**

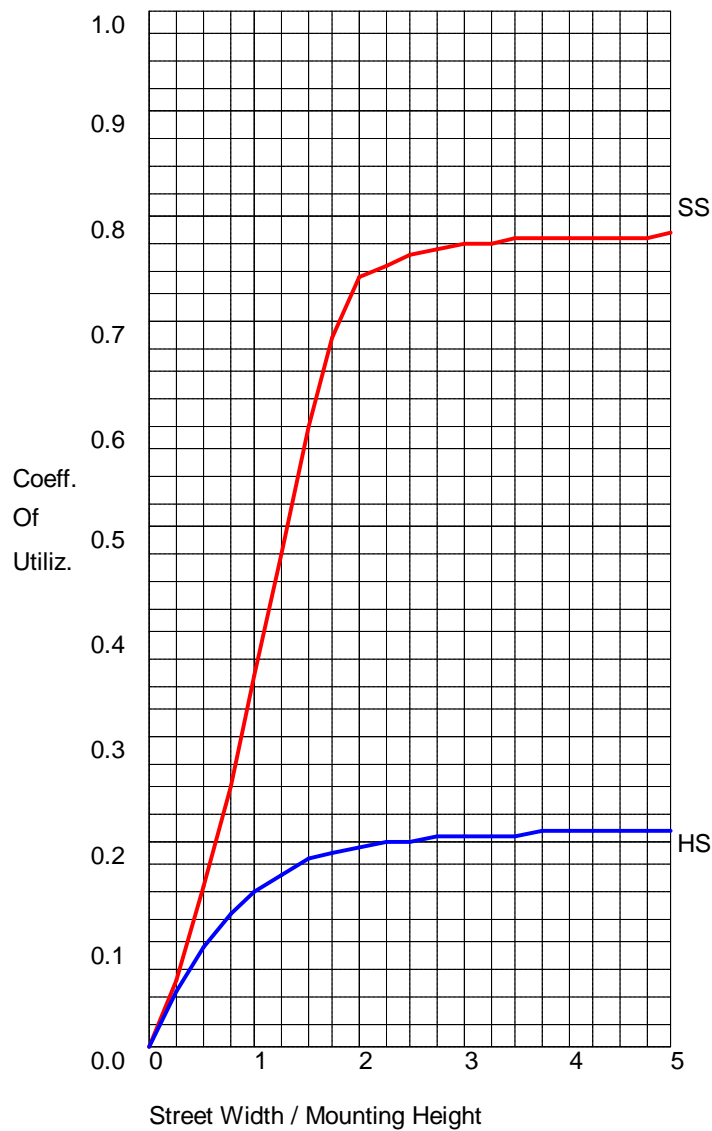
|             | <b><u>175.0</u></b> | <b><u>180.0</u></b> |
|-------------|---------------------|---------------------|
| <b>0.0</b>  | 1795                | 1795                |
| <b>2.5</b>  | 1808                | 1811                |
| <b>5.0</b>  | 1850                | 1854                |
| <b>7.5</b>  | 1921                | 1924                |
| <b>10.0</b> | 1971                | 1969                |
| <b>12.5</b> | 2003                | 2001                |
| <b>15.0</b> | 2029                | 2025                |
| <b>17.5</b> | 2040                | 2036                |
| <b>20.0</b> | 2039                | 2035                |
| <b>22.5</b> | 2022                | 2019                |
| <b>25.0</b> | 1999                | 1999                |
| <b>27.5</b> | 1996                | 1998                |
| <b>30.0</b> | 2097                | 2100                |
| <b>32.5</b> | 2330                | 2333                |
| <b>35.0</b> | 2546                | 2575                |
| <b>37.5</b> | 2338                | 2309                |
| <b>40.0</b> | 1915                | 1877                |
| <b>42.5</b> | 1707                | 1687                |
| <b>45.0</b> | 1658                | 1637                |
| <b>47.5</b> | 1627                | 1601                |
| <b>50.0</b> | 1586                | 1552                |
| <b>52.5</b> | 1518                | 1478                |
| <b>55.0</b> | 1390                | 1354                |
| <b>57.5</b> | 1240                | 1175                |
| <b>60.0</b> | 1125                | 1033                |
| <b>62.5</b> | 1057                | 894                 |
| <b>65.0</b> | 1109                | 807                 |

**IES ROAD REPORT**  
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**CANDELA TABULATION - (Cont.)**

|             |      |      |
|-------------|------|------|
| <b>67.5</b> | 1278 | 885  |
| <b>70.0</b> | 1406 | 1131 |
| <b>72.5</b> | 1310 | 1289 |
| <b>75.0</b> | 1092 | 1301 |
| <b>77.5</b> | 776  | 911  |
| <b>80.0</b> | 387  | 380  |
| <b>82.5</b> | 163  | 167  |
| <b>85.0</b> | 68   | 69   |
| <b>87.5</b> | 20   | 7    |
| <b>90.0</b> | 0    | 0    |

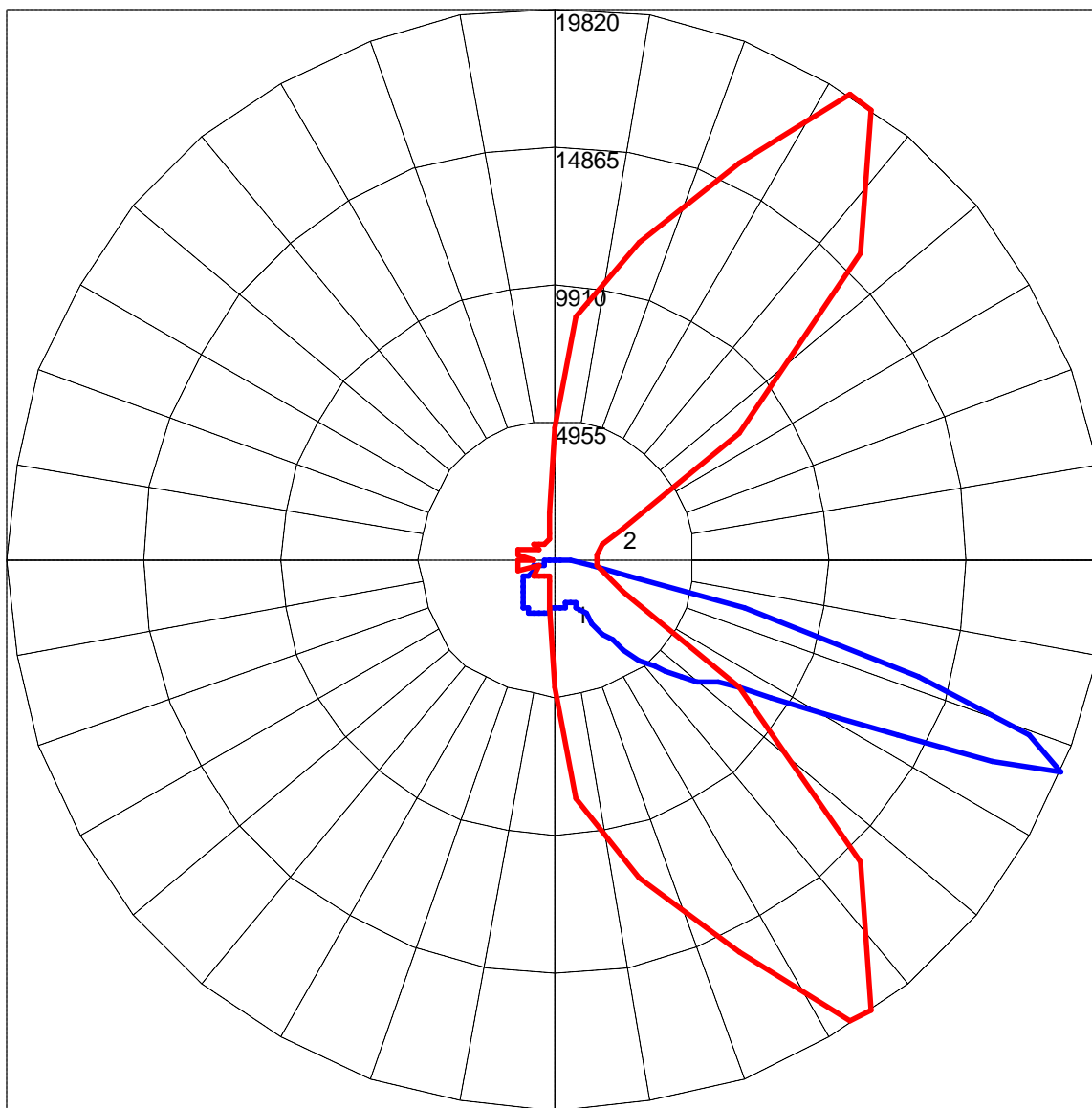
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

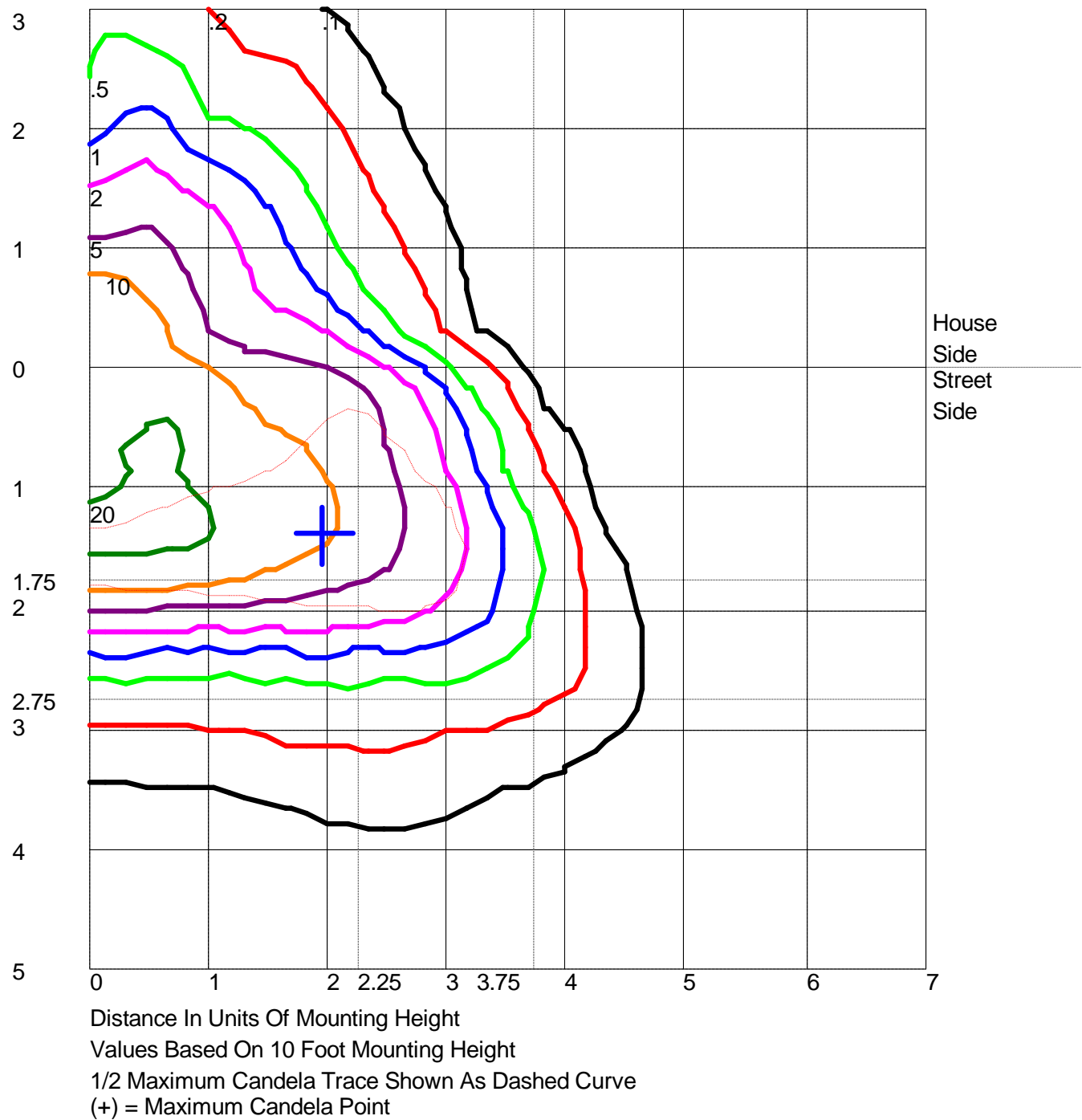
|                      | Lumens  | Percent<br>Of Luminaire |
|----------------------|---------|-------------------------|
| Downward Street Side | 14887.3 | 78.9                    |
| Downward House Side  | 3986.8  | 21.1                    |
| Downward Total       | 18874.1 | 100.0                   |
| Upward Street Side   | 0.0     | 0.0                     |
| Upward House Side    | 0.0     | 0.0                     |
| Upward Total         | 0.0     | 0.0                     |
| Total Flux           | 18874.1 | 100.0                   |

POLAR GRAPH



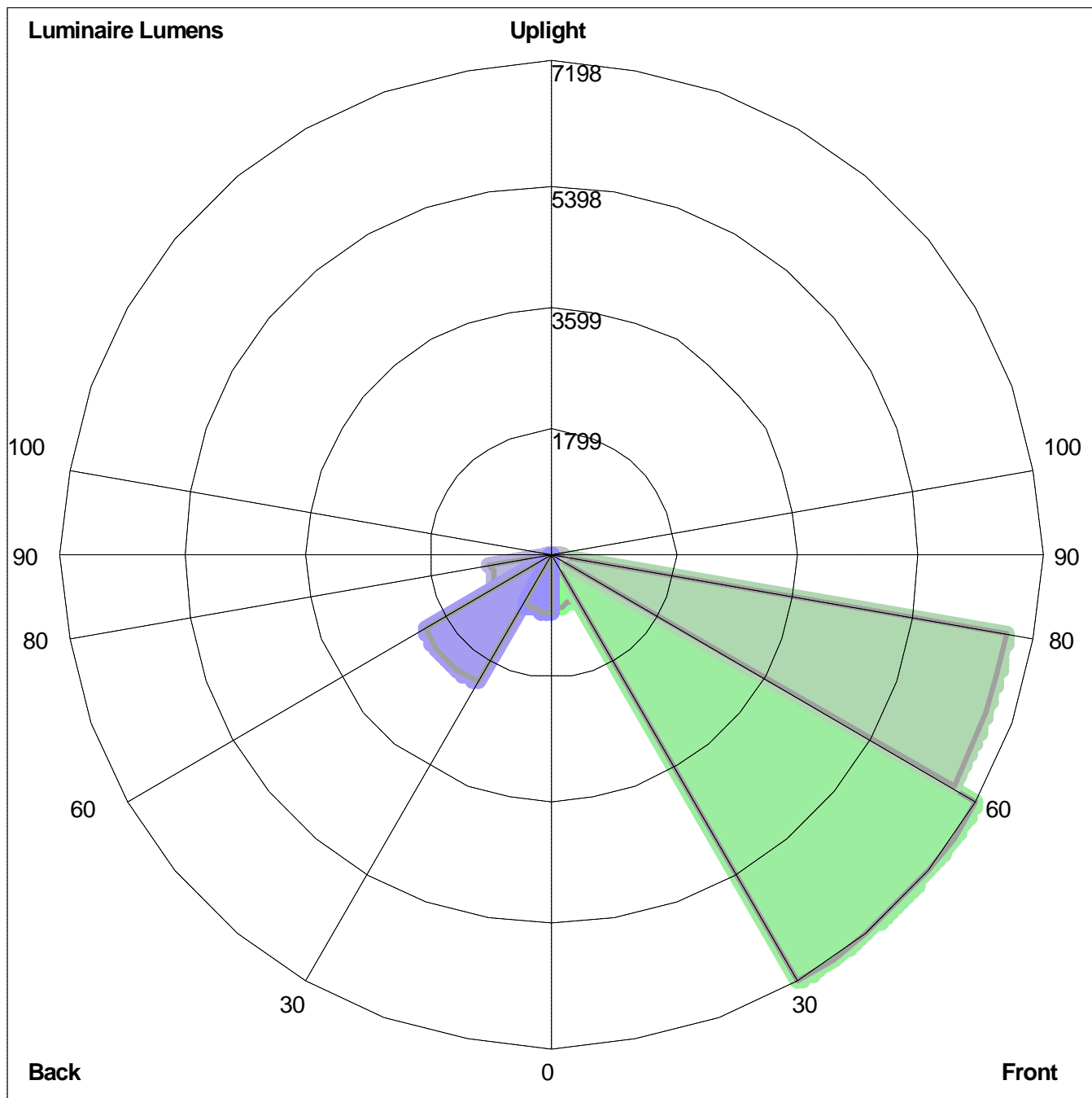
Maximum Candela = 19820 Located At Horizontal Angle = 55, Vertical Angle = 67.5  
# 1 - Vertical Plane Through Horizontal Angles (55 - 235) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE





LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:  
Front: Low=758.0, Medium= 7198.0, High=6767.6, Very High=163.7  
Back: Low=836.8, Medium=2174.7, High=918.3, Very High=57.0  
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G3