

IES ROAD REPORT

PHOTOMETRIC FILENAME : W4CR-XX-L20-830-XXX-DIM-UNV-N-XXX_.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] W4CR_BARBARA-NARROW
[TESTLAB] LEDIL Inc
[TESTDATE] 07/03/2025
[ISSUEDATE] 2025-07-15
[MANUFAC] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMINAIRE] 4 INCH ROUND OUTDOOR LED CYLINDER
[MORE] NARROW DIST. W/MICROPRISM LENS
[LUMCAT] W4CR-xx-L20-830-xxx-DIM-UNV-N-xxx
[MORE] 0-10V LED DRIVER

CHARACTERISTICS

| | |
|---|------------------------------|
| IES Classification | Type VS |
| Longitudinal Classification | Very Short |
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 2173 |
| Downward Total Efficiency | N.A. (absolute) |
| Total Luminaire Efficiency | N.A. (absolute) |
| Luminaire Efficacy Rating (LER) | 120 |
| Total Luminaire Watts | 18.1 |
| Ballast Factor | 1.00 |
| Upward Waste Light Ratio | 0.00 |
| Maximum Candela | 6162.725 |
| Maximum Candela Angle | 90H 0V |
| Maximum Candela (<90 Degrees Vertical) | 6162.725 |
| Maximum Candela Angle (<90 Degrees Vertical) | 90H 0V |
| Maximum Candela At 90 Degrees Vertical | .199 (0.0% Luminaire Lumens) |
| Maximum Candela from 80 to <90 Degrees Vertical | .993 (0.0% Luminaire Lumens) |
| Cutoff Classification (deprecated) | N.A. (absolute) |

IES ROAD REPORT**PHOTOMETRIC FILENAME : W4CR-XX-L20-830-XXX-DIM-UNV-N-XXX_.IES****LUMINAIRE CLASSIFICATION SYSTEM (LCS)**

| | Lumens | % Lamp | % Luminaire |
|-------------------------------|----------|--------|-------------|
| FL - Front-Low (0-30) | 955.1 | N.A. | 44.0 |
| FM - Front-Medium (30-60) | 124.7 | N.A. | 5.7 |
| FH - Front-High (60-80) | 6.2 | N.A. | 0.3 |
| FVH - Front-Very High (80-90) | 0.3 | N.A. | 0.0 |
| BL - Back-Low (0-30) | 955.1 | N.A. | 44.0 |
| BM - Back-Medium (30-60) | 124.7 | N.A. | 5.7 |
| BH - Back-High (60-80) | 6.2 | N.A. | 0.3 |
| BVH - Back-Very High (80-90) | 0.3 | N.A. | 0.0 |
| UL - Uplight-Low (90-100) | 0.2 | N.A. | 0.0 |
| UH - Uplight-High (100-180) | < 0.05 | N.A. | 0.0 |
| Total | 2172.8 | N.A. | 100.0 |
| BUG Rating | B2-U1-G0 | | |

IES ROAD REPORT

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CANDELA TABULATION

| Vert. Angles | Horizontal Angles | | | | |
|-----------------|-------------------|-------------|-------------|-------------|-------------|
| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> |
| 0 | 6162.725 | 6162.725 | 6162.725 | 6162.725 | 6162.725 |
| 1 | 6155.410 | 6155.131 | 6153.938 | 6153.637 | 6155.881 |
| 2 | 6125.174 | 6123.378 | 6122.193 | 6112.333 | 6110.280 |
| 3 | 6068.718 | 6059.542 | 6061.087 | 6055.311 | 6058.247 |
| 4 | 5978.619 | 5973.571 | 5968.450 | 5962.210 | 5967.368 |
| 5 | 5853.427 | 5861.110 | 5845.892 | 5836.304 | 5848.968 |
| 6 | 5698.344 | 5703.694 | 5692.509 | 5688.226 | 5697.204 |
| 7 | 5524.504 | 5517.124 | 5509.508 | 5510.913 | 5517.911 |
| 8 | 5312.915 | 5302.164 | 5299.279 | 5297.778 | 5308.176 |
| 9 | 5066.489 | 5060.242 | 5052.471 | 5052.456 | 5071.787 |
| 10 | 4790.688 | 4783.624 | 4778.524 | 4778.134 | 4802.882 |
| 11 | 4481.560 | 4475.644 | 4478.933 | 4484.526 | 4506.756 |
| 12 | 4148.222 | 4144.786 | 4152.865 | 4162.579 | 4191.660 |
| 13 | 3799.203 | 3802.455 | 3815.524 | 3828.873 | 3855.702 |
| 14 | 3446.401 | 3452.597 | 3475.218 | 3491.951 | 3512.438 |
| 15 | 3100.620 | 3111.672 | 3141.033 | 3160.114 | 3179.651 |
| 16 | 2770.571 | 2787.680 | 2821.000 | 2846.961 | 2857.079 |
| 17 | 2473.114 | 2490.635 | 2529.856 | 2550.423 | 2556.524 |
| 18 | 2207.078 | 2214.304 | 2257.786 | 2278.787 | 2285.263 |
| 19 | 1955.096 | 1976.436 | 2021.272 | 2038.506 | 2044.732 |
| 20 | 1743.992 | 1766.054 | 1805.621 | 1830.751 | 1836.483 |
| 21 | 1565.583 | 1584.494 | 1623.547 | 1643.069 | 1641.112 |
| 22 | 1415.894 | 1434.967 | 1468.832 | 1484.822 | 1481.702 |
| 23 | 1293.549 | 1307.597 | 1338.327 | 1352.477 | 1347.135 |
| 24 | 1188.836 | 1200.625 | 1230.251 | 1240.413 | 1234.842 |
| 25 | 1097.523 | 1109.981 | 1136.811 | 1144.817 | 1137.583 |
| 26 | 1015.600 | 1027.992 | 1051.885 | 1058.633 | 1052.334 |
| 27 | 939.578 | 948.769 | 971.411 | 977.173 | 971.735 |
| 28 | 862.776 | 869.649 | 889.532 | 894.462 | 890.797 |
| 29 | 785.025 | 790.912 | 804.908 | 811.074 | 809.617 |
| 30 | 704.050 | 706.332 | 718.621 | 725.339 | 723.521 |
| 31 | 618.551 | 619.919 | 628.860 | 634.879 | 634.975 |
| 32 | 534.611 | 533.816 | 539.504 | 545.737 | 545.877 |
| 33 | 449.222 | 447.801 | 452.717 | 458.192 | 457.574 |
| 34 | 367.372 | 366.798 | 370.035 | 374.782 | 374.922 |
| 35 | 295.839 | 291.784 | 294.955 | 297.089 | 295.956 |
| 36 | 227.286 | 226.344 | 228.014 | 229.206 | 227.006 |
| 37 | 171.272 | 171.640 | 169.888 | 169.793 | 172.221 |
| 38 | 127.039 | 128.930 | 124.817 | 125.796 | 126.274 |
| 39 | 93.145 | 92.218 | 92.844 | 91.136 | 90.776 |
| 40 | 71.305 | 68.045 | 68.163 | 68.060 | 68.045 |
| 41 | 51.900 | 51.952 | 52.872 | 53.232 | 53.843 |
| 42 | 41.422 | 41.885 | 43.313 | 44.122 | 45.130 |
| 43 | 35.645 | 36.079 | 37.639 | 38.721 | 39.530 |
| 44 | 32.665 | 32.989 | 34.505 | 35.638 | 36.153 |
| 45 | 31.340 | 31.561 | 33.048 | 33.953 | 34.372 |
| 46 | 30.906 | 31.186 | 32.481 | 33.180 | 33.563 |
| 47 | 31.046 | 31.318 | 32.400 | 32.959 | 33.342 |
| 48 | 31.421 | 31.605 | 32.525 | 32.930 | 33.342 |
| 49 | 31.642 | 31.841 | 32.613 | 32.893 | 33.254 |
| 50 | 31.664 | 31.819 | 32.510 | 32.724 | 32.996 |
| 51 | 31.318 | 31.436 | 32.084 | 32.245 | 32.437 |
| 52 | 30.376 | 30.524 | 31.090 | 31.171 | 31.289 |

IES ROAD REPORT**PHOTOMETRIC FILENAME : W4CR-XX-L20-830-XXX-DIM-UNV-N-XXX_.IES****CANDELA TABULATION - (Cont.)**

| | | | | | |
|-----|--------|--------|--------|--------|--------|
| 53 | 28.964 | 29.089 | 29.626 | 29.618 | 29.692 |
| 54 | 27.161 | 27.308 | 27.764 | 27.690 | 27.779 |
| 55 | 25.144 | 25.233 | 25.645 | 25.534 | 25.586 |
| 56 | 22.959 | 23.003 | 23.290 | 23.216 | 23.231 |
| 57 | 20.634 | 20.685 | 20.862 | 20.818 | 20.788 |
| 58 | 18.411 | 18.448 | 18.536 | 18.500 | 18.470 |
| 59 | 16.351 | 16.336 | 16.358 | 16.314 | 16.299 |
| 60 | 14.474 | 14.445 | 14.408 | 14.401 | 14.393 |
| 61 | 12.856 | 12.804 | 12.760 | 12.730 | 12.745 |
| 62 | 11.472 | 11.398 | 11.362 | 11.332 | 11.347 |
| 63 | 10.324 | 10.265 | 10.192 | 10.170 | 10.199 |
| 64 | 9.353 | 9.309 | 9.250 | 9.213 | 9.264 |
| 65 | 8.580 | 8.536 | 8.484 | 8.433 | 8.492 |
| 66 | 7.888 | 7.866 | 7.807 | 7.771 | 7.837 |
| 67 | 7.314 | 7.292 | 7.226 | 7.204 | 7.270 |
| 68 | 6.777 | 6.763 | 6.711 | 6.674 | 6.755 |
| 69 | 6.292 | 6.284 | 6.218 | 6.189 | 6.262 |
| 70 | 5.843 | 5.828 | 5.762 | 5.718 | 5.777 |
| 71 | 5.394 | 5.394 | 5.306 | 5.254 | 5.291 |
| 72 | 4.967 | 4.960 | 4.864 | 4.798 | 4.842 |
| 73 | 4.533 | 4.526 | 4.415 | 4.334 | 4.371 |
| 74 | 4.077 | 4.069 | 3.952 | 3.856 | 3.893 |
| 75 | 3.598 | 3.562 | 3.459 | 3.348 | 3.378 |
| 76 | 3.046 | 3.002 | 2.877 | 2.789 | 2.818 |
| 77 | 2.421 | 2.392 | 2.230 | 2.163 | 2.163 |
| 78 | 1.692 | 1.678 | 1.516 | 1.428 | 1.442 |
| 79 | 1.096 | 1.111 | 1.067 | 1.074 | 1.074 |
| 80 | 0.993 | 0.993 | 0.979 | 0.979 | 0.979 |
| 81 | 0.927 | 0.927 | 0.927 | 0.935 | 0.927 |
| 82 | 0.883 | 0.876 | 0.876 | 0.883 | 0.883 |
| 83 | 0.824 | 0.817 | 0.817 | 0.817 | 0.824 |
| 84 | 0.758 | 0.751 | 0.751 | 0.758 | 0.758 |
| 85 | 0.684 | 0.684 | 0.684 | 0.684 | 0.684 |
| 86 | 0.603 | 0.596 | 0.596 | 0.596 | 0.603 |
| 87 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |
| 88 | 0.390 | 0.390 | 0.390 | 0.383 | 0.383 |
| 89 | 0.272 | 0.265 | 0.265 | 0.265 | 0.265 |
| 90 | 0.199 | 0.184 | 0.184 | 0.177 | 0.169 |
| 91 | 0.184 | 0.177 | 0.169 | 0.162 | 0.162 |
| 92 | 0.184 | 0.177 | 0.169 | 0.169 | 0.162 |
| 93 | 0.184 | 0.177 | 0.177 | 0.169 | 0.169 |
| 94 | 0.184 | 0.177 | 0.177 | 0.169 | 0.169 |
| 95 | 0.184 | 0.177 | 0.177 | 0.169 | 0.177 |
| 96 | 0.191 | 0.177 | 0.177 | 0.169 | 0.169 |
| 97 | 0.191 | 0.184 | 0.177 | 0.177 | 0.177 |
| 98 | 0.191 | 0.184 | 0.184 | 0.184 | 0.184 |
| 99 | 0.206 | 0.184 | 0.184 | 0.184 | 0.184 |
| 100 | 0.206 | 0.191 | 0.184 | 0.184 | 0.184 |
| 101 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 102 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 103 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 104 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 105 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 106 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 107 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 108 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

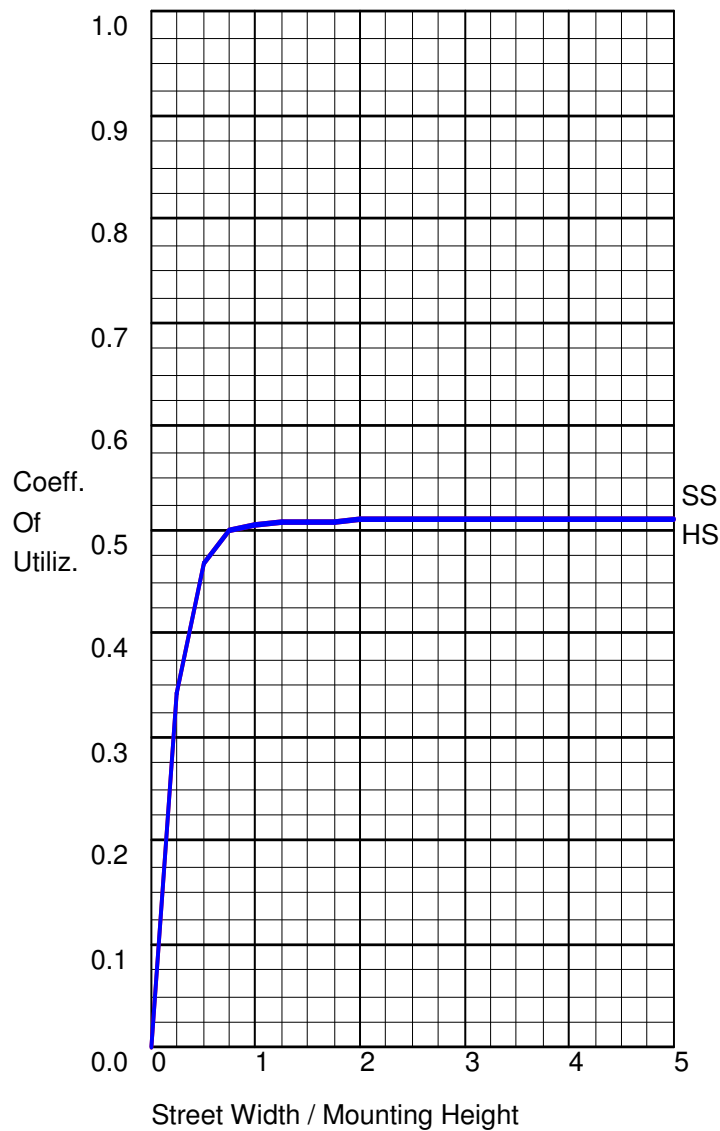
IES ROAD REPORT**PHOTOMETRIC FILENAME : W4CR-XX-L20-830-XXX-DIM-UNV-N-XXX_.IES****CANDELA TABULATION - (Cont.)**

| | | | | | |
|-----|-------|-------|-------|-------|-------|
| 109 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 110 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 111 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 112 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 113 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 114 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 115 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 116 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 117 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 118 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 119 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 121 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 122 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 123 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 124 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 125 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 126 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 127 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 128 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 129 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 130 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 131 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 132 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 133 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 134 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 135 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 136 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 137 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 138 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 139 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 140 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 141 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 142 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 143 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 144 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 145 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 146 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 147 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 148 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 149 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 150 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 151 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 152 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 153 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 154 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 155 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 156 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 157 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 158 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 159 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 160 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 161 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 162 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 163 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 164 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

IES ROAD REPORT**PHOTOMETRIC FILENAME : W4CR-XX-L20-830-XXX-DIM-UNV-N-XXX_.IES****CANDELA TABULATION - (Cont.)**

| | | | | | |
|-----|-------|-------|-------|-------|-------|
| 165 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 166 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 167 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 168 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 169 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 170 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 171 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 172 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 173 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 174 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 175 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 176 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 177 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 178 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 179 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 180 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

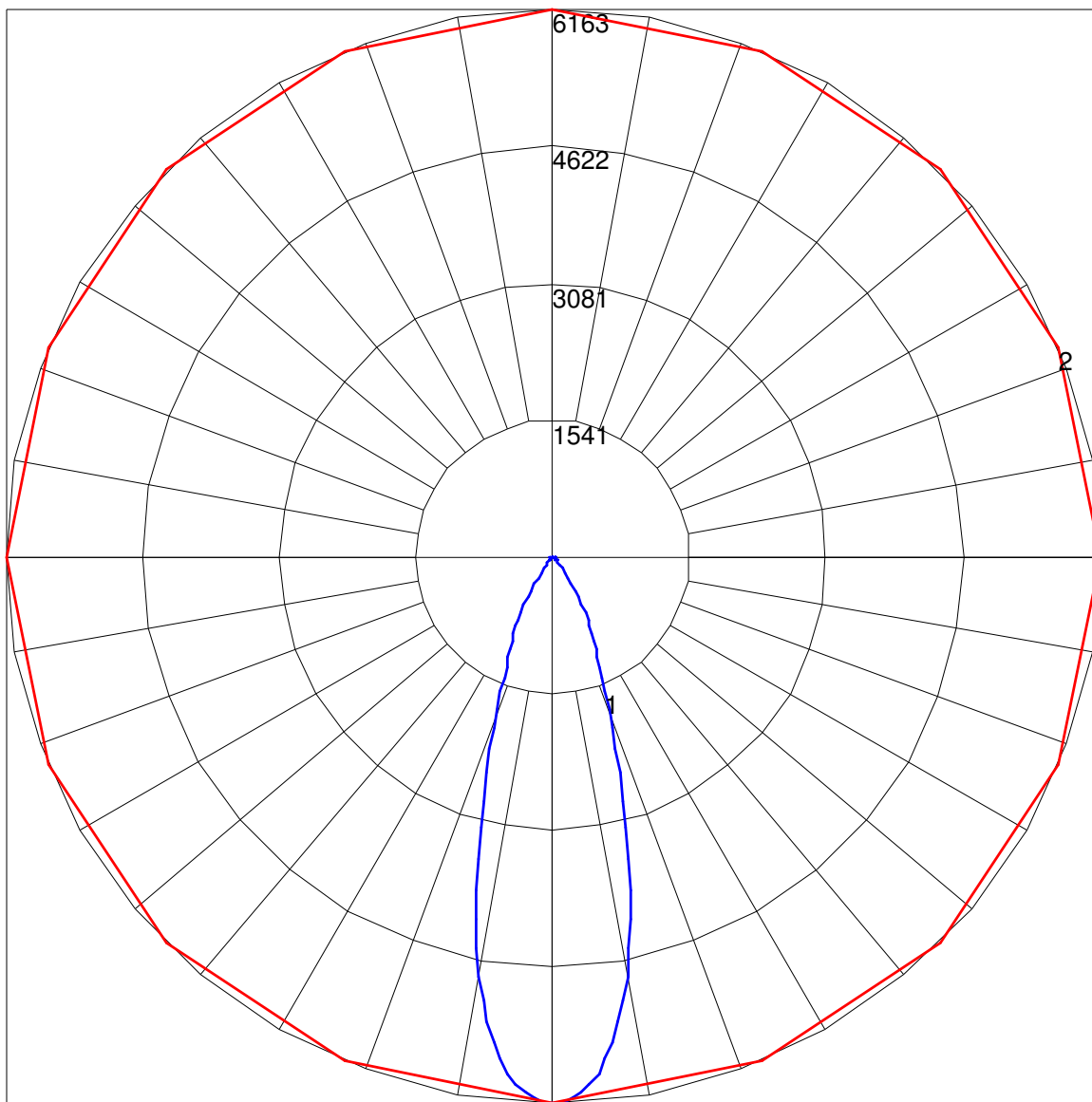
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

| | Lumens | Percent Of Luminaire |
|----------------------|--------|-------------------------|
| Downward Street Side | 1086.4 | 50.0 |
| Downward House Side | 1086.4 | 50.0 |
| Downward Total | 2172.8 | 100.0 |
| Upward Street Side | 0.1 | 0.0 |
| Upward House Side | 0.1 | 0.0 |
| Upward Total | 0.2 | 0.0 |
| Total Flux | 2173.0 | 100.0 |

POLAR GRAPH



Maximum Candela = 6162.725 Located At Horizontal Angle = 90, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE

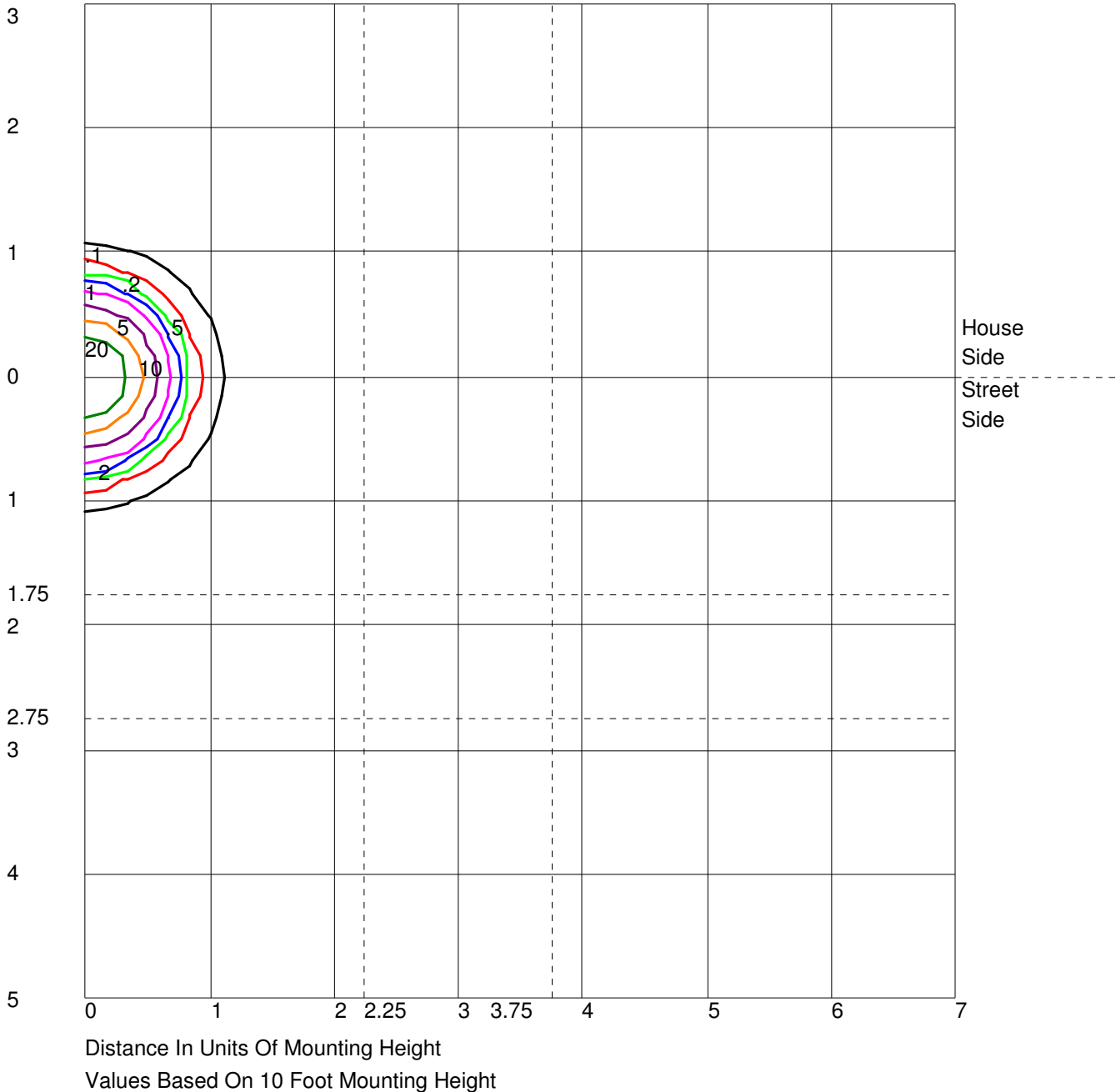


PHOTO IES R

