

# Family Correlated Photometric Data

The following photometric information is developed using correlated data. Finelite considers a family to be a group of luminaires where critical performance metrics such as photometric performance, thermal performance, and electrical performance can be accurately projected via a combination of LM79 tests at the luminaire level and well-documented specifications at the component level.

For more information, please download [Finelite's Family Correlated White Paper](#)

Additional links:

- [Solid-State Lighting: Early Lessons Learned on the Way to Market](#)  
(U.S. Department of Energy)
- [Lighting Facts®](#)
- [Design Lights Consortium®](#)

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP3-P-ID-4FT-H-H-835-F-F-KPL2008-50.005.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

[TEST] KPL2008-50.005 Family Correlation File  
[TESTLAB] Northern Lights Testing Laboratories  
[ISSUE DATE] 1/18/2024  
[TEST DATE] 11/27/2024  
[MANUFAC] Finelite, Inc.  
[LUMCAT] HP3-P-ID-4ft-H-H-835-F-F  
[LUMINAIRE] HP3 Series  
[LAMPCAT] 320 LM561B+ LEDs with 80 CRI  
[OTHER] INPUT ELECTRICAL: 277.0 VOLTS, 53.8 WATTS  
[ABSOLUTE LUMENS] 7071  
[LAMP] Samsung  
[BALLAST] Osram  
[BALLAST CAT] x2 @ 700mA

**CHARACTERISTICS**

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 7074            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 131             |
| Total Luminaire Watts           | 53.8            |
| Ballast Factor                  | 1.00            |
| CIE Type                        | General Diffuse |
| Spacing Criterion (0-180)       | N.A.            |
| Spacing Criterion (90-270)      | N.A.            |
| Spacing Criterion (Diagonal)    | N.A.            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 4.00 ft         |
| Luminous Width (90-270)         | 0.25 ft         |
| Luminous Height                 | 0.00 ft         |

**LUMINANCE DATA (cd/sq.m)**

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 11788            | 11250             | 10703             |
| 55                  | 10724            | 10104             | 9586              |
| 65                  | 9685             | 9101              | 8609              |
| 75                  | 8642             | 8052              | 7770              |
| 85                  | 7768             | 7290              | 6830              |

CANDELA TABULATION

|       | <u>0</u> | <u>15</u> | <u>30</u> | <u>45</u> | <u>60</u> | <u>75</u> | <u>90</u> | <u>105</u> | <u>120</u> | <u>135</u> |
|-------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|
| 0.0   | 1360.808 | 1360.808  | 1360.808  | 1360.808  | 1360.808  | 1360.808  | 1360.808  | 1360.808   | 1360.808   | 1360.808   |
| 2.5   | 1351.496 | 1371.795  | 1355.146  | 1355.898  | 1357.084  | 1355.099  | 1359.068  | 1355.099   | 1357.084   | 1355.898   |
| 5.0   | 1344.978 | 1364.891  | 1348.195  | 1348.430  | 1348.524  | 1346.586  | 1350.368  | 1346.586   | 1348.524   | 1348.430   |
| 7.5   | 1335.045 | 1353.350  | 1336.362  | 1335.280  | 1334.998  | 1332.393  | 1335.704  | 1332.393   | 1334.998   | 1335.280   |
| 10.0  | 1326.053 | 1344.639  | 1323.269  | 1318.302  | 1316.261  | 1311.916  | 1315.368  | 1311.916   | 1316.261   | 1318.302   |
| 12.5  | 1300.609 | 1320.428  | 1301.268  | 1301.127  | 1291.956  | 1287.366  | 1289.068  | 1287.366   | 1291.956   | 1301.127   |
| 15.0  | 1276.107 | 1293.611  | 1273.407  | 1273.172  | 1265.656  | 1257.802  | 1259.082  | 1257.802   | 1265.656   | 1273.172   |
| 17.5  | 1248.105 | 1264.048  | 1243.138  | 1239.498  | 1236.046  | 1223.131  | 1224.646  | 1223.131   | 1236.046   | 1239.498   |
| 20.0  | 1217.365 | 1232.124  | 1211.073  | 1202.513  | 1198.591  | 1186.956  | 1186.805  | 1186.956   | 1198.591   | 1202.513   |
| 22.5  | 1183.588 | 1194.424  | 1174.511  | 1162.641  | 1154.834  | 1146.603  | 1145.277  | 1146.603   | 1154.834   | 1162.641   |
| 25.0  | 1151.335 | 1159.142  | 1134.639  | 1121.865  | 1109.807  | 1101.341  | 1101.388  | 1101.341   | 1109.807   | 1121.865   |
| 27.5  | 1103.853 | 1115.149  | 1093.534  | 1080.008  | 1065.777  | 1055.844  | 1052.100  | 1055.844   | 1065.777   | 1080.008   |
| 30.0  | 1061.657 | 1064.827  | 1047.520  | 1033.984  | 1017.476  | 1007.026  | 1003.951  | 1007.026   | 1017.476   | 1033.984   |
| 32.5  | 1015.783 | 1024.484  | 998.749   | 987.923   | 969.092   | 957.691   | 953.252   | 957.691    | 969.092    | 987.923    |
| 35.0  | 971.029  | 976.946   | 953.534   | 936.554   | 927.567   | 906.377   | 904.911   | 906.377    | 927.567    | 936.554    |
| 37.5  | 924.114  | 926.054   | 904.249   | 886.560   | 868.396   | 856.099   | 852.599   | 856.099    | 868.396    | 886.560    |
| 40.0  | 871.424  | 875.018   | 853.498   | 835.004   | 817.646   | 805.821   | 800.571   | 805.821    | 817.646    | 835.004    |
| 42.5  | 821.855  | 822.848   | 802.273   | 785.767   | 767.556   | 755.732   | 750.435   | 755.732    | 767.556    | 785.767    |
| 45.0  | 771.814  | 773.422   | 751.759   | 736.577   | 716.002   | 704.461   | 700.771   | 704.461    | 716.002    | 736.577    |
| 47.5  | 720.353  | 720.353   | 701.813   | 685.305   | 665.818   | 654.088   | 650.541   | 654.088    | 665.818    | 685.305    |
| 50.0  | 668.609  | 670.311   | 649.737   | 634.270   | 615.162   | 605.513   | 601.256   | 605.513    | 615.162    | 634.270    |
| 52.5  | 617.337  | 619.182   | 599.695   | 585.033   | 568.289   | 557.363   | 554.714   | 557.363    | 568.289    | 585.033    |
| 55.0  | 569.567  | 568.667   | 552.208   | 536.647   | 522.410   | 514.464   | 509.119   | 514.464    | 522.410    | 536.647    |
| 57.5  | 521.228  | 517.397   | 502.497   | 489.916   | 476.152   | 466.692   | 463.429   | 466.692    | 476.152    | 489.916    |
| 60.0  | 472.038  | 468.774   | 456.760   | 442.334   | 430.415   | 422.657   | 419.063   | 422.657    | 430.415    | 442.334    |
| 62.5  | 425.495  | 422.468   | 410.833   | 397.041   | 383.489   | 378.524   | 376.523   | 378.524    | 383.489    | 397.041    |
| 65.0  | 378.991  | 375.761   | 366.619   | 356.156   | 343.750   | 339.659   | 336.906   | 339.659    | 343.750    | 356.156    |
| 67.5  | 333.151  | 331.258   | 322.878   | 312.159   | 303.315   | 299.342   | 297.488   | 299.342    | 303.315    | 312.159    |
| 70.0  | 291.206  | 288.170   | 278.818   | 272.032   | 265.391   | 260.358   | 259.271   | 260.358    | 265.391    | 272.032    |
| 72.5  | 247.020  | 239.622   | 238.885   | 231.615   | 225.405   | 222.075   | 221.422   | 222.075    | 225.405    | 231.615    |
| 75.0  | 207.110  | 205.161   | 199.859   | 192.968   | 190.446   | 185.873   | 186.204   | 185.873    | 190.446    | 192.968    |
| 77.5  | 169.990  | 167.100   | 162.110   | 157.058   | 154.348   | 151.042   | 151.279   | 151.042    | 154.348    | 157.058    |
| 80.0  | 132.549  | 130.306   | 126.154   | 123.907   | 120.526   | 118.799   | 117.801   | 118.799    | 120.526    | 123.907    |
| 82.5  | 96.753   | 95.675    | 94.005    | 91.735    | 90.326    | 89.158    | 92.213    | 89.158     | 90.326     | 91.735     |
| 85.0  | 62.689   | 61.578    | 59.383    | 58.834    | 57.827    | 56.663    | 55.122    | 56.663     | 57.827     | 58.834     |
| 87.5  | 32.759   | 30.413    | 29.055    | 28.029    | 26.544    | 26.667    | 26.969    | 26.667     | 26.544     | 28.029     |
| 90.0  | 2.705    | 2.635     | 2.994     | 2.833     | 3.411     | 3.609     | 2.744     | 3.609      | 3.411      | 2.833      |
| 92.5  | 37.905   | 39.457    | 39.504    | 38.392    | 39.201    | 37.224    | 39.409    | 37.224     | 39.201     | 38.392     |
| 95.0  | 79.253   | 79.480    | 80.705    | 79.882    | 80.790    | 76.538    | 75.639    | 76.538     | 80.790     | 79.882     |
| 97.5  | 114.642  | 114.888   | 112.835   | 111.671   | 111.326   | 110.967   | 112.447   | 110.967    | 111.326    | 111.671    |
| 100.0 | 156.888  | 155.645   | 152.273   | 151.610   | 151.289   | 149.591   | 149.510   | 149.591    | 151.289    | 151.610    |
| 102.5 | 197.953  | 197.599   | 194.784   | 193.398   | 190.788   | 189.448   | 189.401   | 189.448    | 190.788    | 193.398    |
| 105.0 | 241.137  | 241.519   | 238.838   | 236.425   | 234.354   | 232.727   | 233.739   | 232.727    | 234.354    | 236.425    |
| 107.5 | 289.541  | 287.053   | 283.449   | 281.051   | 279.230   | 277.854   | 275.929   | 277.854    | 279.230    | 281.051    |
| 110.0 | 336.783  | 335.610   | 332.564   | 328.595   | 324.850   | 324.921   | 324.324   | 324.921    | 324.850    | 328.595    |
| 112.5 | 382.502  | 387.005   | 382.227   | 377.090   | 374.357   | 370.724   | 371.443   | 370.724    | 374.357    | 377.090    |
| 115.0 | 431.833  | 438.455   | 431.975   | 438.030   | 423.368   | 418.873   | 420.860   | 418.873    | 423.368    | 438.030    |
| 117.5 | 487.078  | 490.720   | 482.727   | 481.165   | 475.348   | 470.760   | 472.699   | 470.760    | 475.348    | 481.165    |
| 120.0 | 539.201  | 544.025   | 537.214   | 534.518   | 528.133   | 523.592   | 522.930   | 523.592    | 528.133    | 534.518    |
| 122.5 | 595.959  | 597.804   | 592.695   | 588.296   | 579.593   | 579.546   | 574.107   | 579.546    | 579.593    | 588.296    |
| 125.0 | 649.974  | 654.845   | 649.785   | 645.101   | 632.993   | 634.507   | 629.635   | 634.507    | 632.993    | 645.101    |
| 127.5 | 706.920  | 711.083   | 704.366   | 698.076   | 690.933   | 690.129   | 686.393   | 690.129    | 690.933    | 698.076    |
| 130.0 | 761.408  | 767.936   | 762.023   | 756.158   | 747.645   | 746.414   | 745.705   | 746.414    | 747.645    | 756.158    |
| 132.5 | 816.463  | 825.214   | 816.037   | 812.490   | 803.693   | 802.747   | 807.193   | 802.747    | 803.693    | 812.490    |

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP3-P-ID-4FT-H-H-835-F-F-KPL2008-50.005.IES**

**CANDELA TABULATION - (Cont.)**

|              |          |          |          |          |          |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>135.0</b> | 871.045  | 882.255  | 871.471  | 868.965  | 863.572  | 861.444  | 865.276  | 861.444  | 863.572  | 868.965  |
| <b>137.5</b> | 928.750  | 936.365  | 924.114  | 922.222  | 923.310  | 917.066  | 922.695  | 917.066  | 923.310  | 922.222  |
| <b>140.0</b> | 981.818  | 994.497  | 979.739  | 978.131  | 978.836  | 974.773  | 979.457  | 974.773  | 978.836  | 978.131  |
| <b>142.5</b> | 1033.843 | 1045.620 | 1034.229 | 1032.432 | 1032.714 | 1028.453 | 1030.062 | 1028.453 | 1032.714 | 1032.432 |
| <b>145.0</b> | 1087.862 | 1096.140 | 1085.445 | 1083.319 | 1084.175 | 1082.708 | 1084.645 | 1082.708 | 1084.175 | 1083.319 |
| <b>147.5</b> | 1136.388 | 1146.462 | 1137.244 | 1137.197 | 1137.150 | 1132.842 | 1135.448 | 1132.842 | 1137.150 | 1137.197 |
| <b>150.0</b> | 1186.241 | 1195.750 | 1183.212 | 1183.645 | 1183.927 | 1180.898 | 1185.009 | 1180.898 | 1183.927 | 1183.645 |
| <b>152.5</b> | 1227.581 | 1241.962 | 1230.233 | 1231.747 | 1230.233 | 1226.442 | 1231.644 | 1226.442 | 1230.233 | 1231.747 |
| <b>155.0</b> | 1269.673 | 1286.228 | 1272.749 | 1272.466 | 1273.031 | 1266.456 | 1273.558 | 1266.456 | 1273.031 | 1272.466 |
| <b>157.5</b> | 1309.310 | 1327.897 | 1313.044 | 1309.545 | 1310.354 | 1311.107 | 1310.354 | 1311.107 | 1310.354 | 1309.545 |
| <b>160.0</b> | 1347.339 | 1363.800 | 1346.013 | 1342.702 | 1344.545 | 1338.591 | 1341.949 | 1338.591 | 1344.545 | 1342.702 |
| <b>162.5</b> | 1376.573 | 1394.257 | 1376.620 | 1374.250 | 1376.187 | 1368.766 | 1372.980 | 1368.766 | 1376.187 | 1374.250 |
| <b>165.0</b> | 1403.719 | 1419.804 | 1403.954 | 1401.170 | 1402.675 | 1396.439 | 1401.264 | 1396.439 | 1402.675 | 1401.170 |
| <b>167.5</b> | 1426.040 | 1442.980 | 1427.413 | 1424.864 | 1426.181 | 1421.177 | 1426.425 | 1421.177 | 1426.181 | 1424.864 |
| <b>170.0</b> | 1444.495 | 1462.987 | 1446.714 | 1444.062 | 1446.855 | 1441.137 | 1447.138 | 1441.137 | 1446.855 | 1444.062 |
| <b>172.5</b> | 1459.055 | 1478.545 | 1462.460 | 1459.582 | 1462.601 | 1456.600 | 1462.940 | 1456.600 | 1462.601 | 1459.582 |
| <b>175.0</b> | 1469.750 | 1489.663 | 1473.766 | 1470.549 | 1473.719 | 1468.612 | 1474.858 | 1468.612 | 1473.719 | 1470.549 |
| <b>177.5</b> | 1476.372 | 1496.096 | 1480.106 | 1476.983 | 1480.529 | 1475.046 | 1481.950 | 1475.046 | 1480.529 | 1476.983 |
| <b>180.0</b> | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 |

**Vert.  
Angles**

**Horizontal Angles**

|             | <b>150</b> | <b>165</b> | <b>180</b> | <b>195</b> | <b>210</b> | <b>225</b> | <b>240</b> | <b>255</b> | <b>270</b> | <b>285</b> |
|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>0.0</b>  | 1360.808   | 1360.808   | 1360.808   | 1360.808   | 1360.808   | 1360.808   | 1360.808   | 1360.808   | 1360.808   | 1360.808   |
| <b>2.5</b>  | 1355.146   | 1371.795   | 1351.496   | 1371.795   | 1355.146   | 1355.898   | 1357.084   | 1355.099   | 1359.068   | 1355.099   |
| <b>5.0</b>  | 1348.195   | 1364.891   | 1344.978   | 1364.891   | 1348.195   | 1348.430   | 1348.524   | 1346.586   | 1350.368   | 1346.586   |
| <b>7.5</b>  | 1336.362   | 1353.350   | 1335.045   | 1353.350   | 1336.362   | 1335.280   | 1334.998   | 1332.393   | 1335.704   | 1332.393   |
| <b>10.0</b> | 1323.269   | 1344.639   | 1326.053   | 1344.639   | 1323.269   | 1318.302   | 1316.261   | 1311.916   | 1315.368   | 1311.916   |
| <b>12.5</b> | 1301.268   | 1320.428   | 1300.609   | 1320.428   | 1301.268   | 1301.127   | 1291.956   | 1287.366   | 1289.068   | 1287.366   |
| <b>15.0</b> | 1273.407   | 1293.611   | 1276.107   | 1293.611   | 1273.407   | 1273.172   | 1265.656   | 1257.802   | 1259.082   | 1257.802   |
| <b>17.5</b> | 1243.138   | 1264.048   | 1248.105   | 1264.048   | 1243.138   | 1239.498   | 1236.046   | 1223.131   | 1224.646   | 1223.131   |
| <b>20.0</b> | 1211.073   | 1232.124   | 1217.365   | 1232.124   | 1211.073   | 1202.513   | 1198.591   | 1186.956   | 1186.805   | 1186.956   |
| <b>22.5</b> | 1174.511   | 1194.424   | 1183.588   | 1194.424   | 1174.511   | 1162.641   | 1154.834   | 1146.603   | 1145.277   | 1146.603   |
| <b>25.0</b> | 1134.639   | 1159.142   | 1151.335   | 1159.142   | 1134.639   | 1121.865   | 1109.807   | 1101.341   | 1101.388   | 1101.341   |
| <b>27.5</b> | 1093.534   | 1115.149   | 1103.853   | 1115.149   | 1093.534   | 1080.008   | 1065.777   | 1055.844   | 1052.100   | 1055.844   |
| <b>30.0</b> | 1047.520   | 1064.827   | 1061.657   | 1064.827   | 1047.520   | 1033.984   | 1017.476   | 1007.026   | 1003.951   | 1007.026   |
| <b>32.5</b> | 998.749    | 1024.484   | 1015.783   | 1024.484   | 998.749    | 987.923    | 969.092    | 957.691    | 953.252    | 957.691    |
| <b>35.0</b> | 953.534    | 976.946    | 971.029    | 976.946    | 953.534    | 936.554    | 927.567    | 906.377    | 904.911    | 906.377    |
| <b>37.5</b> | 904.249    | 926.054    | 924.114    | 926.054    | 904.249    | 886.560    | 868.396    | 856.099    | 852.599    | 856.099    |
| <b>40.0</b> | 853.498    | 875.018    | 871.424    | 875.018    | 853.498    | 835.004    | 817.646    | 805.821    | 800.571    | 805.821    |
| <b>42.5</b> | 802.273    | 822.848    | 821.855    | 822.848    | 802.273    | 785.767    | 767.556    | 755.732    | 750.435    | 755.732    |
| <b>45.0</b> | 751.759    | 773.422    | 771.814    | 773.422    | 751.759    | 736.577    | 716.002    | 704.461    | 700.771    | 704.461    |
| <b>47.5</b> | 701.813    | 720.353    | 720.353    | 720.353    | 701.813    | 685.305    | 665.818    | 654.088    | 650.541    | 654.088    |
| <b>50.0</b> | 649.737    | 670.311    | 668.609    | 670.311    | 649.737    | 634.270    | 615.162    | 605.513    | 601.256    | 605.513    |
| <b>52.5</b> | 599.695    | 619.182    | 617.337    | 619.182    | 599.695    | 585.033    | 568.289    | 557.363    | 554.714    | 557.363    |
| <b>55.0</b> | 552.208    | 568.667    | 569.567    | 568.667    | 552.208    | 536.647    | 522.410    | 514.464    | 509.119    | 514.464    |
| <b>57.5</b> | 502.497    | 517.397    | 521.228    | 517.397    | 502.497    | 489.916    | 476.152    | 466.692    | 463.429    | 466.692    |
| <b>60.0</b> | 456.760    | 468.774    | 472.038    | 468.774    | 456.760    | 442.334    | 430.415    | 422.657    | 419.063    | 422.657    |
| <b>62.5</b> | 410.833    | 422.468    | 425.495    | 422.468    | 410.833    | 397.041    | 383.489    | 378.524    | 376.523    | 378.524    |
| <b>65.0</b> | 366.619    | 375.761    | 378.991    | 375.761    | 366.619    | 356.156    | 343.750    | 339.659    | 336.906    | 339.659    |
| <b>67.5</b> | 322.878    | 331.258    | 333.151    | 331.258    | 322.878    | 312.159    | 303.315    | 299.342    | 297.488    | 299.342    |
| <b>70.0</b> | 278.818    | 288.170    | 291.206    | 288.170    | 278.818    | 272.032    | 265.391    | 260.358    | 259.271    | 260.358    |
| <b>72.5</b> | 238.885    | 239.622    | 247.020    | 239.622    | 238.885    | 231.615    | 225.405    | 222.075    | 221.422    | 222.075    |
| <b>75.0</b> | 199.859    | 205.161    | 207.110    | 205.161    | 199.859    | 192.968    | 190.446    | 185.873    | 186.204    | 185.873    |
| <b>77.5</b> | 162.110    | 167.100    | 169.990    | 167.100    | 162.110    | 157.058    | 154.348    | 151.042    | 151.279    | 151.042    |
| <b>80.0</b> | 126.154    | 130.306    | 132.549    | 130.306    | 126.154    | 123.907    | 120.526    | 118.799    | 117.801    | 118.799    |

CANDELA TABULATION - (Cont.)

|       |          |          |          |          |          |          |          |          |          |          |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 82.5  | 94.005   | 95.675   | 96.753   | 95.675   | 94.005   | 91.735   | 90.326   | 89.158   | 92.213   | 89.158   |
| 85.0  | 59.383   | 61.578   | 62.689   | 61.578   | 59.383   | 58.834   | 57.827   | 56.663   | 55.122   | 56.663   |
| 87.5  | 29.055   | 30.413   | 32.759   | 30.413   | 29.055   | 28.029   | 26.544   | 26.667   | 26.969   | 26.667   |
| 90.0  | 2.994    | 2.635    | 2.705    | 2.635    | 2.994    | 2.833    | 3.411    | 3.609    | 2.744    | 3.609    |
| 92.5  | 39.504   | 39.457   | 37.905   | 39.457   | 39.504   | 38.392   | 39.201   | 37.224   | 39.409   | 37.224   |
| 95.0  | 80.705   | 79.480   | 79.253   | 79.480   | 80.705   | 79.882   | 80.790   | 76.538   | 75.639   | 76.538   |
| 97.5  | 112.835  | 114.888  | 114.642  | 114.888  | 112.835  | 111.671  | 111.326  | 110.967  | 112.447  | 110.967  |
| 100.0 | 152.273  | 155.645  | 156.888  | 155.645  | 152.273  | 151.610  | 151.289  | 149.591  | 149.510  | 149.591  |
| 102.5 | 194.784  | 197.599  | 197.953  | 197.599  | 194.784  | 193.398  | 190.788  | 189.448  | 189.401  | 189.448  |
| 105.0 | 238.838  | 241.519  | 241.137  | 241.519  | 238.838  | 236.425  | 234.354  | 232.727  | 233.739  | 232.727  |
| 107.5 | 283.449  | 287.053  | 289.541  | 287.053  | 283.449  | 281.051  | 279.230  | 277.854  | 275.929  | 277.854  |
| 110.0 | 332.564  | 335.610  | 336.783  | 335.610  | 332.564  | 328.595  | 324.850  | 324.921  | 324.324  | 324.921  |
| 112.5 | 382.227  | 387.005  | 382.502  | 387.005  | 382.227  | 377.090  | 374.357  | 370.724  | 371.443  | 370.724  |
| 115.0 | 431.975  | 438.455  | 431.833  | 438.455  | 431.975  | 438.030  | 423.368  | 418.873  | 420.860  | 418.873  |
| 117.5 | 482.727  | 490.720  | 487.078  | 490.720  | 482.727  | 481.165  | 475.348  | 470.760  | 472.699  | 470.760  |
| 120.0 | 537.214  | 544.025  | 539.201  | 544.025  | 537.214  | 534.518  | 528.133  | 523.592  | 522.930  | 523.592  |
| 122.5 | 592.695  | 597.804  | 595.959  | 597.804  | 592.695  | 588.296  | 579.593  | 579.546  | 574.107  | 579.546  |
| 125.0 | 649.785  | 654.845  | 649.974  | 654.845  | 649.785  | 645.101  | 632.993  | 634.507  | 629.635  | 634.507  |
| 127.5 | 704.366  | 711.083  | 706.920  | 711.083  | 704.366  | 698.076  | 690.933  | 690.129  | 686.393  | 690.129  |
| 130.0 | 762.023  | 767.936  | 761.408  | 767.936  | 762.023  | 756.158  | 747.645  | 746.414  | 745.705  | 746.414  |
| 132.5 | 816.037  | 825.214  | 816.463  | 825.214  | 816.037  | 812.490  | 803.693  | 802.747  | 807.193  | 802.747  |
| 135.0 | 871.471  | 882.255  | 871.045  | 882.255  | 871.471  | 868.965  | 863.572  | 861.444  | 865.276  | 861.444  |
| 137.5 | 924.114  | 936.365  | 928.750  | 936.365  | 924.114  | 922.222  | 923.310  | 917.066  | 922.695  | 917.066  |
| 140.0 | 979.739  | 994.497  | 981.818  | 994.497  | 979.739  | 978.131  | 978.836  | 974.773  | 979.457  | 974.773  |
| 142.5 | 1034.229 | 1045.620 | 1033.843 | 1045.620 | 1034.229 | 1032.432 | 1032.714 | 1028.453 | 1030.062 | 1028.453 |
| 145.0 | 1085.445 | 1096.140 | 1087.862 | 1096.140 | 1085.445 | 1083.319 | 1084.175 | 1082.708 | 1084.645 | 1082.708 |
| 147.5 | 1137.244 | 1146.462 | 1136.388 | 1146.462 | 1137.244 | 1137.197 | 1137.150 | 1132.842 | 1135.448 | 1132.842 |
| 150.0 | 1183.212 | 1195.750 | 1186.241 | 1195.750 | 1183.212 | 1183.645 | 1183.927 | 1180.898 | 1185.009 | 1180.898 |
| 152.5 | 1230.233 | 1241.962 | 1227.581 | 1241.962 | 1230.233 | 1231.747 | 1230.233 | 1226.442 | 1231.644 | 1226.442 |
| 155.0 | 1272.749 | 1286.228 | 1269.673 | 1286.228 | 1272.749 | 1272.466 | 1273.031 | 1266.456 | 1273.558 | 1266.456 |
| 157.5 | 1313.044 | 1327.897 | 1309.310 | 1327.897 | 1313.044 | 1309.545 | 1310.354 | 1311.107 | 1310.354 | 1311.107 |
| 160.0 | 1346.013 | 1363.800 | 1347.339 | 1363.800 | 1346.013 | 1342.702 | 1344.545 | 1338.591 | 1341.949 | 1338.591 |
| 162.5 | 1376.620 | 1394.257 | 1376.573 | 1394.257 | 1376.620 | 1374.250 | 1376.187 | 1368.766 | 1372.980 | 1368.766 |
| 165.0 | 1403.954 | 1419.804 | 1403.719 | 1419.804 | 1403.954 | 1401.170 | 1402.675 | 1396.439 | 1401.264 | 1396.439 |
| 167.5 | 1427.413 | 1442.980 | 1426.040 | 1442.980 | 1427.413 | 1424.864 | 1426.181 | 1421.177 | 1426.425 | 1421.177 |
| 170.0 | 1446.714 | 1462.987 | 1444.495 | 1462.987 | 1446.714 | 1444.062 | 1446.855 | 1441.137 | 1447.138 | 1441.137 |
| 172.5 | 1462.460 | 1478.545 | 1459.055 | 1478.545 | 1462.460 | 1459.582 | 1462.601 | 1456.600 | 1462.940 | 1456.600 |
| 175.0 | 1473.766 | 1489.663 | 1469.750 | 1489.663 | 1473.766 | 1470.549 | 1473.719 | 1468.612 | 1474.858 | 1468.612 |
| 177.5 | 1480.106 | 1496.096 | 1476.372 | 1496.096 | 1480.106 | 1476.983 | 1480.529 | 1475.046 | 1481.950 | 1475.046 |
| 180.0 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 |

Vert.  
Angles

Horizontal Angles

|      | <u>300</u> | <u>315</u> | <u>330</u> | <u>345</u> | <u>360</u> |
|------|------------|------------|------------|------------|------------|
| 0.0  | 1360.808   | 1360.808   | 1360.808   | 1360.808   | 1360.808   |
| 2.5  | 1357.084   | 1355.898   | 1355.146   | 1371.795   | 1351.496   |
| 5.0  | 1348.524   | 1348.430   | 1348.195   | 1364.891   | 1344.978   |
| 7.5  | 1334.998   | 1335.280   | 1336.362   | 1353.350   | 1335.045   |
| 10.0 | 1316.261   | 1318.302   | 1323.269   | 1344.639   | 1326.053   |
| 12.5 | 1291.956   | 1301.127   | 1301.268   | 1320.428   | 1300.609   |
| 15.0 | 1265.656   | 1273.172   | 1273.407   | 1293.611   | 1276.107   |
| 17.5 | 1236.046   | 1239.498   | 1243.138   | 1264.048   | 1248.105   |
| 20.0 | 1198.591   | 1202.513   | 1211.073   | 1232.124   | 1217.365   |
| 22.5 | 1154.834   | 1162.641   | 1174.511   | 1194.424   | 1183.588   |
| 25.0 | 1109.807   | 1121.865   | 1134.639   | 1159.142   | 1151.335   |
| 27.5 | 1065.777   | 1080.008   | 1093.534   | 1115.149   | 1103.853   |

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP3-P-ID-4FT-H-H-835-F-F-KPL2008-50.005.IES**

**CANDELA TABULATION - (Cont.)**

|       |          |          |          |          |          |
|-------|----------|----------|----------|----------|----------|
| 30.0  | 1017.476 | 1033.984 | 1047.520 | 1064.827 | 1061.657 |
| 32.5  | 969.092  | 987.923  | 998.749  | 1024.484 | 1015.783 |
| 35.0  | 927.567  | 936.554  | 953.534  | 976.946  | 971.029  |
| 37.5  | 868.396  | 886.560  | 904.249  | 926.054  | 924.114  |
| 40.0  | 817.646  | 835.004  | 853.498  | 875.018  | 871.424  |
| 42.5  | 767.556  | 785.767  | 802.273  | 822.848  | 821.855  |
| 45.0  | 716.002  | 736.577  | 751.759  | 773.422  | 771.814  |
| 47.5  | 665.818  | 685.305  | 701.813  | 720.353  | 720.353  |
| 50.0  | 615.162  | 634.270  | 649.737  | 670.311  | 668.609  |
| 52.5  | 568.289  | 585.033  | 599.695  | 619.182  | 617.337  |
| 55.0  | 522.410  | 536.647  | 552.208  | 568.667  | 569.567  |
| 57.5  | 476.152  | 489.916  | 502.497  | 517.397  | 521.228  |
| 60.0  | 430.415  | 442.334  | 456.760  | 468.774  | 472.038  |
| 62.5  | 383.489  | 397.041  | 410.833  | 422.468  | 425.495  |
| 65.0  | 343.750  | 356.156  | 366.619  | 375.761  | 378.991  |
| 67.5  | 303.315  | 312.159  | 322.878  | 331.258  | 333.151  |
| 70.0  | 265.391  | 272.032  | 278.818  | 288.170  | 291.206  |
| 72.5  | 225.405  | 231.615  | 238.885  | 239.622  | 247.020  |
| 75.0  | 190.446  | 192.968  | 199.859  | 205.161  | 207.110  |
| 77.5  | 154.348  | 157.058  | 162.110  | 167.100  | 169.990  |
| 80.0  | 120.526  | 123.907  | 126.154  | 130.306  | 132.549  |
| 82.5  | 90.326   | 91.735   | 94.005   | 95.675   | 96.753   |
| 85.0  | 57.827   | 58.834   | 59.383   | 61.578   | 62.689   |
| 87.5  | 26.544   | 28.029   | 29.055   | 30.413   | 32.759   |
| 90.0  | 3.411    | 2.833    | 2.994    | 2.635    | 2.705    |
| 92.5  | 39.201   | 38.392   | 39.504   | 39.457   | 37.905   |
| 95.0  | 80.790   | 79.882   | 80.705   | 79.480   | 79.253   |
| 97.5  | 111.326  | 111.671  | 112.835  | 114.888  | 114.642  |
| 100.0 | 151.289  | 151.610  | 152.273  | 155.645  | 156.888  |
| 102.5 | 190.788  | 193.398  | 194.784  | 197.599  | 197.953  |
| 105.0 | 234.354  | 236.425  | 238.838  | 241.519  | 241.137  |
| 107.5 | 279.230  | 281.051  | 283.449  | 287.053  | 289.541  |
| 110.0 | 324.850  | 328.595  | 332.564  | 335.610  | 336.783  |
| 112.5 | 374.357  | 377.090  | 382.227  | 387.005  | 382.502  |
| 115.0 | 423.368  | 438.030  | 431.975  | 438.455  | 431.833  |
| 117.5 | 475.348  | 481.165  | 482.727  | 490.720  | 487.078  |
| 120.0 | 528.133  | 534.518  | 537.214  | 544.025  | 539.201  |
| 122.5 | 579.593  | 588.296  | 592.695  | 597.804  | 595.959  |
| 125.0 | 632.993  | 645.101  | 649.785  | 654.845  | 649.974  |
| 127.5 | 690.933  | 698.076  | 704.366  | 711.083  | 706.920  |
| 130.0 | 747.645  | 756.158  | 762.023  | 767.936  | 761.408  |
| 132.5 | 803.693  | 812.490  | 816.037  | 825.214  | 816.463  |
| 135.0 | 863.572  | 868.965  | 871.471  | 882.255  | 871.045  |
| 137.5 | 923.310  | 922.222  | 924.114  | 936.365  | 928.750  |
| 140.0 | 978.836  | 978.131  | 979.739  | 994.497  | 981.818  |
| 142.5 | 1032.714 | 1032.432 | 1034.229 | 1045.620 | 1033.843 |
| 145.0 | 1084.175 | 1083.319 | 1085.445 | 1096.140 | 1087.862 |
| 147.5 | 1137.150 | 1137.197 | 1137.244 | 1146.462 | 1136.388 |
| 150.0 | 1183.927 | 1183.645 | 1183.212 | 1195.750 | 1186.241 |
| 152.5 | 1230.233 | 1231.747 | 1230.233 | 1241.962 | 1227.581 |
| 155.0 | 1273.031 | 1272.466 | 1272.749 | 1286.228 | 1269.673 |
| 157.5 | 1310.354 | 1309.545 | 1313.044 | 1327.897 | 1309.310 |
| 160.0 | 1344.545 | 1342.702 | 1346.013 | 1363.800 | 1347.339 |
| 162.5 | 1376.187 | 1374.250 | 1376.620 | 1394.257 | 1376.573 |
| 165.0 | 1402.675 | 1401.170 | 1403.954 | 1419.804 | 1403.719 |
| 167.5 | 1426.181 | 1424.864 | 1427.413 | 1442.980 | 1426.040 |

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : HP3-P-ID-4FT-H-H-835-F-F-KPL2008-50.005.IES**

**CANDELA TABULATION - (Cont.)**

|              |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|
| <b>170.0</b> | 1446.855 | 1444.062 | 1446.714 | 1462.987 | 1444.495 |
| <b>172.5</b> | 1462.601 | 1459.582 | 1462.460 | 1478.545 | 1459.055 |
| <b>175.0</b> | 1473.719 | 1470.549 | 1473.766 | 1489.663 | 1469.750 |
| <b>177.5</b> | 1480.529 | 1476.983 | 1480.106 | 1496.096 | 1476.372 |
| <b>180.0</b> | 1483.436 | 1483.436 | 1483.436 | 1483.436 | 1483.436 |

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP3-P-ID-4FT-H-H-835-F-F-KPL2008-50.005.IES**

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 486.02  | N.A.  | 6.90   |
| 0-30    | 1003.61 | N.A.  | 14.20  |
| 0-40    | 1590.25 | N.A.  | 22.50  |
| 0-60    | 2640.04 | N.A.  | 37.30  |
| 0-80    | 3200.38 | N.A.  | 45.20  |
| 0-90    | 3266.62 | N.A.  | 46.20  |
| 10-90   | 3138.61 | N.A.  | 44.40  |
| 20-40   | 1104.23 | N.A.  | 15.60  |
| 20-50   | 1672.22 | N.A.  | 23.60  |
| 40-70   | 1403.2  | N.A.  | 19.80  |
| 60-80   | 560.33  | N.A.  | 7.90   |
| 70-80   | 206.93  | N.A.  | 2.90   |
| 80-90   | 66.24   | N.A.  | 0.90   |
| 90-110  | 335.19  | N.A.  | 4.70   |
| 90-120  | 760.47  | N.A.  | 10.80  |
| 90-130  | 1335.64 | N.A.  | 18.90  |
| 90-150  | 2685.3  | N.A.  | 38.00  |
| 90-180  | 3807.37 | N.A.  | 53.80  |
| 110-180 | 3472.19 | N.A.  | 49.10  |
| 0-180   | 7073.99 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 128.01 |
| 10-20   | 358.01 |
| 20-30   | 517.59 |
| 30-40   | 586.64 |
| 40-50   | 567.99 |
| 50-60   | 481.81 |
| 60-70   | 353.40 |
| 70-80   | 206.93 |
| 80-90   | 66.24  |
| 90-100  | 83.84  |
| 100-110 | 251.35 |
| 110-120 | 425.28 |
| 120-130 | 575.17 |
| 130-140 | 670.32 |
| 140-150 | 679.35 |
| 150-160 | 586.24 |
| 160-170 | 395.91 |
| 170-180 | 139.92 |

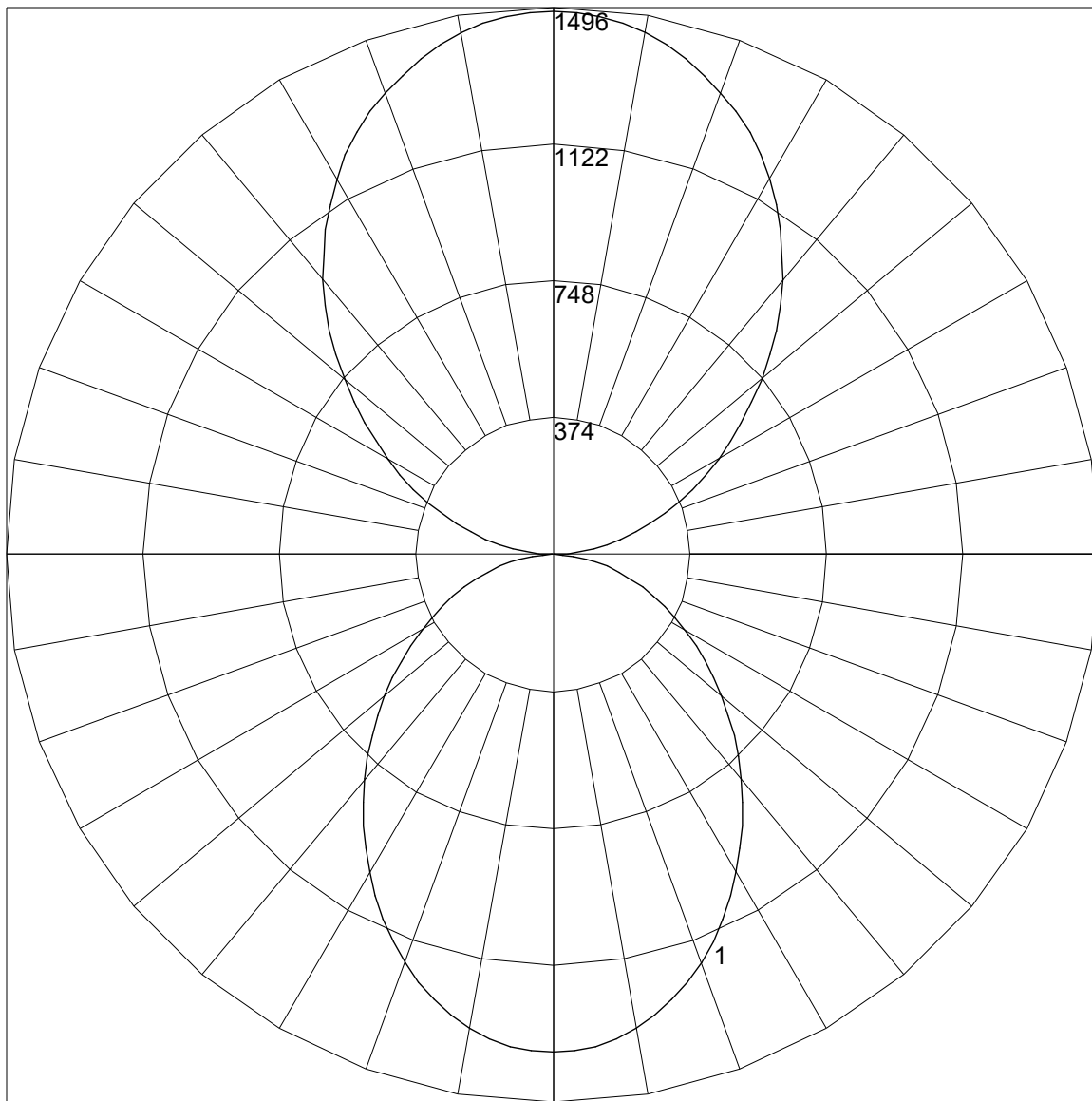


COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

| RC | 80  |     |     |     | 70 |    |    |    | 50 |    |    | 30 |    |    | 10 |    |    | 0  |
|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RW | 70  | 50  | 30  | 10  | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |
| 0  | 106 | 106 | 106 | 106 | 98 | 98 | 98 | 98 | 81 | 81 | 81 | 66 | 66 | 66 | 53 | 53 | 53 | 46 |
| 1  | 97  | 93  | 89  | 85  | 89 | 85 | 82 | 79 | 71 | 69 | 67 | 58 | 57 | 55 | 47 | 45 | 44 | 39 |
| 2  | 88  | 81  | 75  | 70  | 81 | 75 | 69 | 65 | 62 | 59 | 55 | 51 | 49 | 46 | 41 | 39 | 38 | 33 |
| 3  | 81  | 71  | 64  | 58  | 74 | 66 | 59 | 54 | 55 | 51 | 47 | 45 | 42 | 39 | 36 | 34 | 32 | 28 |
| 4  | 74  | 63  | 55  | 49  | 67 | 58 | 51 | 46 | 49 | 44 | 40 | 41 | 37 | 34 | 33 | 30 | 28 | 24 |
| 5  | 68  | 56  | 48  | 42  | 62 | 52 | 45 | 40 | 44 | 39 | 34 | 37 | 32 | 29 | 30 | 27 | 24 | 21 |
| 6  | 62  | 51  | 43  | 37  | 57 | 47 | 40 | 35 | 40 | 34 | 30 | 33 | 29 | 26 | 27 | 24 | 21 | 18 |
| 7  | 58  | 46  | 38  | 32  | 53 | 42 | 35 | 30 | 36 | 31 | 27 | 30 | 26 | 23 | 25 | 21 | 19 | 16 |
| 8  | 54  | 41  | 34  | 29  | 49 | 39 | 32 | 27 | 33 | 27 | 24 | 28 | 23 | 20 | 23 | 19 | 17 | 15 |
| 9  | 50  | 38  | 30  | 25  | 46 | 35 | 29 | 24 | 30 | 25 | 21 | 25 | 21 | 18 | 21 | 18 | 16 | 13 |
| 10 | 47  | 35  | 28  | 23  | 43 | 32 | 26 | 22 | 28 | 23 | 19 | 23 | 19 | 17 | 19 | 16 | 14 | 12 |

POLAR GRAPH



Maximum Candela = 1496.096 Located At Horizontal Angle = 15, Vertical Angle = 177.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)