

# 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-B-H-835-F-F-KPL2008-50.009.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

[TEST] KPL2008-50.009 Family Correlation File  
[TESTLAB] Northern Lights Testing Laboratories  
[ISSUEDATE] 1/18/2024  
[TESTDATE] 11/27/2024  
[MANUFAC] Finelite, Inc.  
[LUMCAT] HP3-P-ID-4ft-B-H-835-F-F  
[LUMINAIRE] HP3 Series  
[LAMPCAT] 320 LM561B+ LEDs with 80 CRI  
[OTHER]INPUT ELECTRICAL: 277.0 VOLTS, 50.8 WATTS  
[ABSOLUTELUMENS]6646  
[LAMP] Samsung  
[BALLAST] Osram  
[BALLASTCAT] x2 @ 700mA

**CHARACTERISTICS**

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 6649            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 131             |
| Total Luminaire Watts           | 50.8            |
| 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  | 2.403    | 2.341     | 2.660     | 2.517     | 3.030     | 3.206     | 2.438     | 3.206      | 3.030      | 2.517      |
| 92.5  | 33.674   | 35.053    | 35.095    | 34.107    | 34.825    | 33.069    | 35.010    | 33.069     | 34.825     | 34.107     |
| 95.0  | 70.407   | 70.609    | 71.697    | 70.966    | 71.773    | 67.996    | 67.197    | 67.996     | 71.773     | 70.966     |
| 97.5  | 101.846  | 102.065   | 100.241   | 99.207    | 98.900    | 98.581    | 99.896    | 98.581     | 98.900     | 99.207     |
| 100.0 | 139.377  | 138.272   | 135.277   | 134.688   | 134.403   | 132.894   | 132.822   | 132.894    | 134.403    | 134.688    |
| 102.5 | 175.859  | 175.544   | 173.043   | 171.812   | 169.493   | 168.303   | 168.261   | 168.303    | 169.493    | 171.812    |
| 105.0 | 214.222  | 214.562   | 212.180   | 210.037   | 208.197   | 206.751   | 207.650   | 206.751    | 208.197    | 210.037    |
| 107.5 | 257.224  | 255.014   | 251.812   | 249.682   | 248.064   | 246.842   | 245.131   | 246.842    | 248.064    | 249.682    |
| 110.0 | 299.193  | 298.151   | 295.445   | 291.919   | 288.592   | 288.655   | 288.125   | 288.655    | 288.592    | 291.919    |
| 112.5 | 339.809  | 343.809   | 339.565   | 335.002   | 332.573   | 329.346   | 329.984   | 329.346    | 332.573    | 335.002    |
| 115.0 | 383.634  | 389.517   | 383.760   | 389.139   | 376.113   | 372.121   | 373.886   | 372.121    | 376.113    | 389.139    |
| 117.5 | 432.713  | 435.948   | 428.847   | 427.460   | 422.292   | 418.216   | 419.939   | 418.216    | 422.292    | 427.460    |
| 120.0 | 479.018  | 483.304   | 477.253   | 474.858   | 469.185   | 465.152   | 464.563   | 465.152    | 469.185    | 474.858    |
| 122.5 | 529.441  | 531.080   | 526.542   | 522.633   | 514.902   | 514.860   | 510.028   | 514.860    | 514.902    | 522.633    |
| 125.0 | 577.427  | 581.755   | 577.259   | 573.098   | 562.341   | 563.687   | 559.358   | 563.687    | 562.341    | 573.098    |
| 127.5 | 628.017  | 631.716   | 625.749   | 620.160   | 613.815   | 613.101   | 609.781   | 613.101    | 613.815    | 620.160    |
| 130.0 | 676.423  | 682.223   | 676.970   | 671.760   | 664.196   | 663.103   | 662.473   | 663.103    | 664.196    | 671.760    |
| 132.5 | 725.334  | 733.108   | 724.955   | 721.804   | 713.989   | 713.148   | 717.098   | 713.148    | 713.989    | 721.804    |

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**CANDELA TABULATION - (Cont.)**

|       |          |          |          |          |          |          |          |          |          |          |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 135.0 | 773.824  | 783.783  | 774.202  | 771.975  | 767.185  | 765.294  | 768.698  | 765.294  | 767.185  | 771.975  |
| 137.5 | 825.087  | 831.853  | 820.969  | 819.288  | 820.255  | 814.708  | 819.709  | 814.708  | 820.255  | 819.288  |
| 140.0 | 872.232  | 883.497  | 870.386  | 868.957  | 869.584  | 865.974  | 870.135  | 865.974  | 869.584  | 868.957  |
| 142.5 | 918.451  | 928.913  | 918.793  | 917.197  | 917.448  | 913.663  | 915.092  | 913.663  | 917.448  | 917.197  |
| 145.0 | 966.441  | 973.794  | 964.293  | 962.405  | 963.165  | 961.861  | 963.583  | 961.861  | 963.165  | 962.405  |
| 147.5 | 1009.551 | 1018.500 | 1010.311 | 1010.269 | 1010.227 | 1006.400 | 1008.715 | 1006.400 | 1010.227 | 1010.269 |
| 150.0 | 1053.839 | 1062.287 | 1051.148 | 1051.532 | 1051.783 | 1049.092 | 1052.744 | 1049.092 | 1051.783 | 1051.532 |
| 152.5 | 1090.564 | 1103.341 | 1092.921 | 1094.266 | 1092.921 | 1089.553 | 1094.174 | 1089.553 | 1092.921 | 1094.266 |
| 155.0 | 1127.958 | 1142.665 | 1130.691 | 1130.440 | 1130.942 | 1125.101 | 1131.410 | 1125.101 | 1130.942 | 1130.440 |
| 157.5 | 1163.172 | 1179.684 | 1166.489 | 1163.380 | 1164.099 | 1164.768 | 1164.099 | 1164.768 | 1164.099 | 1163.380 |
| 160.0 | 1196.956 | 1211.579 | 1195.778 | 1192.836 | 1194.474 | 1189.185 | 1192.168 | 1189.185 | 1194.474 | 1192.836 |
| 162.5 | 1222.927 | 1238.637 | 1222.969 | 1220.863 | 1222.584 | 1215.991 | 1219.735 | 1215.991 | 1222.584 | 1220.863 |
| 165.0 | 1247.043 | 1261.332 | 1247.252 | 1244.779 | 1246.116 | 1240.575 | 1244.862 | 1240.575 | 1246.116 | 1244.779 |
| 167.5 | 1266.873 | 1281.922 | 1268.093 | 1265.828 | 1266.998 | 1262.552 | 1267.215 | 1262.552 | 1266.998 | 1265.828 |
| 170.0 | 1283.268 | 1299.696 | 1285.240 | 1282.883 | 1285.365 | 1280.284 | 1285.615 | 1280.284 | 1285.365 | 1282.883 |
| 172.5 | 1296.203 | 1313.517 | 1299.228 | 1296.671 | 1299.353 | 1294.022 | 1299.654 | 1294.022 | 1299.353 | 1296.671 |
| 175.0 | 1305.704 | 1323.394 | 1309.272 | 1306.414 | 1309.230 | 1304.693 | 1310.241 | 1304.693 | 1309.230 | 1306.414 |
| 177.5 | 1311.587 | 1329.110 | 1314.904 | 1312.130 | 1315.280 | 1310.409 | 1316.542 | 1310.409 | 1315.280 | 1312.130 |
| 180.0 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 |

**Vert.  
Angles**

**Horizontal Angles**

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

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**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  | 2.660    | 2.341    | 2.403    | 2.341    | 2.660    | 2.517    | 3.030    | 3.206    | 2.438    | 3.206    |
| 92.5  | 35.095   | 35.053   | 33.674   | 35.053   | 35.095   | 34.107   | 34.825   | 33.069   | 35.010   | 33.069   |
| 95.0  | 71.697   | 70.609   | 70.407   | 70.609   | 71.697   | 70.966   | 71.773   | 67.996   | 67.197   | 67.996   |
| 97.5  | 100.241  | 102.065  | 101.846  | 102.065  | 100.241  | 99.207   | 98.900   | 98.581   | 99.896   | 98.581   |
| 100.0 | 135.277  | 138.272  | 139.377  | 138.272  | 135.277  | 134.688  | 134.403  | 132.894  | 132.822  | 132.894  |
| 102.5 | 173.043  | 175.544  | 175.859  | 175.544  | 173.043  | 171.812  | 169.493  | 168.303  | 168.261  | 168.303  |
| 105.0 | 212.180  | 214.562  | 214.222  | 214.562  | 212.180  | 210.037  | 208.197  | 206.751  | 207.650  | 206.751  |
| 107.5 | 251.812  | 255.014  | 257.224  | 255.014  | 251.812  | 249.682  | 248.064  | 246.842  | 245.131  | 246.842  |
| 110.0 | 295.445  | 298.151  | 299.193  | 298.151  | 295.445  | 291.919  | 288.592  | 288.655  | 288.125  | 288.655  |
| 112.5 | 339.565  | 343.809  | 339.809  | 343.809  | 339.565  | 335.002  | 332.573  | 329.346  | 329.984  | 329.346  |
| 115.0 | 383.760  | 389.517  | 383.634  | 389.517  | 383.760  | 389.139  | 376.113  | 372.121  | 373.886  | 372.121  |
| 117.5 | 428.847  | 435.948  | 432.713  | 435.948  | 428.847  | 427.460  | 422.292  | 418.216  | 419.939  | 418.216  |
| 120.0 | 477.253  | 483.304  | 479.018  | 483.304  | 477.253  | 474.858  | 469.185  | 465.152  | 464.563  | 465.152  |
| 122.5 | 526.542  | 531.080  | 529.441  | 531.080  | 526.542  | 522.633  | 514.902  | 514.860  | 510.028  | 514.860  |
| 125.0 | 577.259  | 581.755  | 577.427  | 581.755  | 577.259  | 573.098  | 562.341  | 563.687  | 559.358  | 563.687  |
| 127.5 | 625.749  | 631.716  | 628.017  | 631.716  | 625.749  | 620.160  | 613.815  | 613.101  | 609.781  | 613.101  |
| 130.0 | 676.970  | 682.223  | 676.423  | 682.223  | 676.970  | 671.760  | 664.196  | 663.103  | 662.473  | 663.103  |
| 132.5 | 724.955  | 733.108  | 725.334  | 733.108  | 724.955  | 721.804  | 713.989  | 713.148  | 717.098  | 713.148  |
| 135.0 | 774.202  | 783.783  | 773.824  | 783.783  | 774.202  | 771.975  | 767.185  | 765.294  | 768.698  | 765.294  |
| 137.5 | 820.969  | 831.853  | 825.087  | 831.853  | 820.969  | 819.288  | 820.255  | 814.708  | 819.709  | 814.708  |
| 140.0 | 870.386  | 883.497  | 872.232  | 883.497  | 870.386  | 868.957  | 869.584  | 865.974  | 870.135  | 865.974  |
| 142.5 | 918.793  | 928.913  | 918.451  | 928.913  | 918.793  | 917.197  | 917.448  | 913.663  | 915.092  | 913.663  |
| 145.0 | 964.293  | 973.794  | 966.441  | 973.794  | 964.293  | 962.405  | 963.165  | 961.861  | 963.583  | 961.861  |
| 147.5 | 1010.311 | 1018.500 | 1009.551 | 1018.500 | 1010.311 | 1010.269 | 1010.227 | 1006.400 | 1008.715 | 1006.400 |
| 150.0 | 1051.148 | 1062.287 | 1053.839 | 1062.287 | 1051.148 | 1051.532 | 1051.783 | 1049.092 | 1052.744 | 1049.092 |
| 152.5 | 1092.921 | 1103.341 | 1090.564 | 1103.341 | 1092.921 | 1094.266 | 1092.921 | 1089.553 | 1094.174 | 1089.553 |
| 155.0 | 1130.691 | 1142.665 | 1127.958 | 1142.665 | 1130.691 | 1130.440 | 1130.942 | 1125.101 | 1131.410 | 1125.101 |
| 157.5 | 1166.489 | 1179.684 | 1163.172 | 1179.684 | 1166.489 | 1163.380 | 1164.099 | 1164.768 | 1164.099 | 1164.768 |
| 160.0 | 1195.778 | 1211.579 | 1196.956 | 1211.579 | 1195.778 | 1192.836 | 1194.474 | 1189.185 | 1192.168 | 1189.185 |
| 162.5 | 1222.969 | 1238.637 | 1222.927 | 1238.637 | 1222.969 | 1220.863 | 1222.584 | 1215.991 | 1219.735 | 1215.991 |
| 165.0 | 1247.252 | 1261.332 | 1247.043 | 1261.332 | 1247.252 | 1244.779 | 1246.116 | 1240.575 | 1244.862 | 1240.575 |
| 167.5 | 1268.093 | 1281.922 | 1266.873 | 1281.922 | 1268.093 | 1265.828 | 1266.998 | 1262.552 | 1267.215 | 1262.552 |
| 170.0 | 1285.240 | 1299.696 | 1283.268 | 1299.696 | 1285.240 | 1282.883 | 1285.365 | 1280.284 | 1285.615 | 1280.284 |
| 172.5 | 1299.228 | 1313.517 | 1296.203 | 1313.517 | 1299.228 | 1296.671 | 1299.353 | 1294.022 | 1299.654 | 1294.022 |
| 175.0 | 1309.272 | 1323.394 | 1305.704 | 1323.394 | 1309.272 | 1306.414 | 1309.230 | 1304.693 | 1310.241 | 1304.693 |
| 177.5 | 1314.904 | 1329.110 | 1311.587 | 1329.110 | 1314.904 | 1312.130 | 1315.280 | 1310.409 | 1316.542 | 1310.409 |
| 180.0 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 |

**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   |

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  | 3.030    | 2.517    | 2.660    | 2.341    | 2.403    |
| 92.5  | 34.825   | 34.107   | 35.095   | 35.053   | 33.674   |
| 95.0  | 71.773   | 70.966   | 71.697   | 70.609   | 70.407   |
| 97.5  | 98.900   | 99.207   | 100.241  | 102.065  | 101.846  |
| 100.0 | 134.403  | 134.688  | 135.277  | 138.272  | 139.377  |
| 102.5 | 169.493  | 171.812  | 173.043  | 175.544  | 175.859  |
| 105.0 | 208.197  | 210.037  | 212.180  | 214.562  | 214.222  |
| 107.5 | 248.064  | 249.682  | 251.812  | 255.014  | 257.224  |
| 110.0 | 288.592  | 291.919  | 295.445  | 298.151  | 299.193  |
| 112.5 | 332.573  | 335.002  | 339.565  | 343.809  | 339.809  |
| 115.0 | 376.113  | 389.139  | 383.760  | 389.517  | 383.634  |
| 117.5 | 422.292  | 427.460  | 428.847  | 435.948  | 432.713  |
| 120.0 | 469.185  | 474.858  | 477.253  | 483.304  | 479.018  |
| 122.5 | 514.902  | 522.633  | 526.542  | 531.080  | 529.441  |
| 125.0 | 562.341  | 573.098  | 577.259  | 581.755  | 577.427  |
| 127.5 | 613.815  | 620.160  | 625.749  | 631.716  | 628.017  |
| 130.0 | 664.196  | 671.760  | 676.970  | 682.223  | 676.423  |
| 132.5 | 713.989  | 721.804  | 724.955  | 733.108  | 725.334  |
| 135.0 | 767.185  | 771.975  | 774.202  | 783.783  | 773.824  |
| 137.5 | 820.255  | 819.288  | 820.969  | 831.853  | 825.087  |
| 140.0 | 869.584  | 868.957  | 870.386  | 883.497  | 872.232  |
| 142.5 | 917.448  | 917.197  | 918.793  | 928.913  | 918.451  |
| 145.0 | 963.165  | 962.405  | 964.293  | 973.794  | 966.441  |
| 147.5 | 1010.227 | 1010.269 | 1010.311 | 1018.500 | 1009.551 |
| 150.0 | 1051.783 | 1051.532 | 1051.148 | 1062.287 | 1053.839 |
| 152.5 | 1092.921 | 1094.266 | 1092.921 | 1103.341 | 1090.564 |
| 155.0 | 1130.942 | 1130.440 | 1130.691 | 1142.665 | 1127.958 |
| 157.5 | 1164.099 | 1163.380 | 1166.489 | 1179.684 | 1163.172 |
| 160.0 | 1194.474 | 1192.836 | 1195.778 | 1211.579 | 1196.956 |
| 162.5 | 1222.584 | 1220.863 | 1222.969 | 1238.637 | 1222.927 |
| 165.0 | 1246.116 | 1244.779 | 1247.252 | 1261.332 | 1247.043 |
| 167.5 | 1266.998 | 1265.828 | 1268.093 | 1281.922 | 1266.873 |

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : HP3-P-ID-4FT-B-H-835-F-F-KPL2008-50.009.IES**

**CANDELA TABULATION - (Cont.)**

|              |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|
| <b>170.0</b> | 1285.365 | 1282.883 | 1285.240 | 1299.696 | 1283.268 |
| <b>172.5</b> | 1299.353 | 1296.671 | 1299.228 | 1313.517 | 1296.203 |
| <b>175.0</b> | 1309.230 | 1306.414 | 1309.272 | 1323.394 | 1305.704 |
| <b>177.5</b> | 1315.280 | 1312.130 | 1314.904 | 1329.110 | 1311.587 |
| <b>180.0</b> | 1317.862 | 1317.862 | 1317.862 | 1317.862 | 1317.862 |

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HP3-P-ID-4FT-B-H-835-F-F-KPL2008-50.009.IES**

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 486.02  | N.A.  | 7.30   |
| 0-30    | 1003.61 | N.A.  | 15.10  |
| 0-40    | 1590.25 | N.A.  | 23.90  |
| 0-60    | 2640.04 | N.A.  | 39.70  |
| 0-80    | 3200.38 | N.A.  | 48.10  |
| 0-90    | 3266.57 | N.A.  | 49.10  |
| 10-90   | 3138.56 | N.A.  | 47.20  |
| 20-40   | 1104.23 | N.A.  | 16.60  |
| 20-50   | 1672.22 | N.A.  | 25.20  |
| 40-70   | 1403.2  | N.A.  | 21.10  |
| 60-80   | 560.33  | N.A.  | 8.40   |
| 70-80   | 206.93  | N.A.  | 3.10   |
| 80-90   | 66.19   | N.A.  | 1.00   |
| 90-110  | 297.77  | N.A.  | 4.50   |
| 90-120  | 675.59  | N.A.  | 10.20  |
| 90-130  | 1186.56 | N.A.  | 17.80  |
| 90-150  | 2385.58 | N.A.  | 35.90  |
| 90-180  | 3382.41 | N.A.  | 50.90  |
| 110-180 | 3084.64 | N.A.  | 46.40  |
| 0-180   | 6648.98 | 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   | 66.19  |
| 90-100  | 74.48  |
| 100-110 | 223.29 |
| 110-120 | 377.82 |
| 120-130 | 510.97 |
| 130-140 | 595.50 |
| 140-150 | 603.52 |
| 150-160 | 520.81 |
| 160-170 | 351.72 |
| 170-180 | 124.30 |

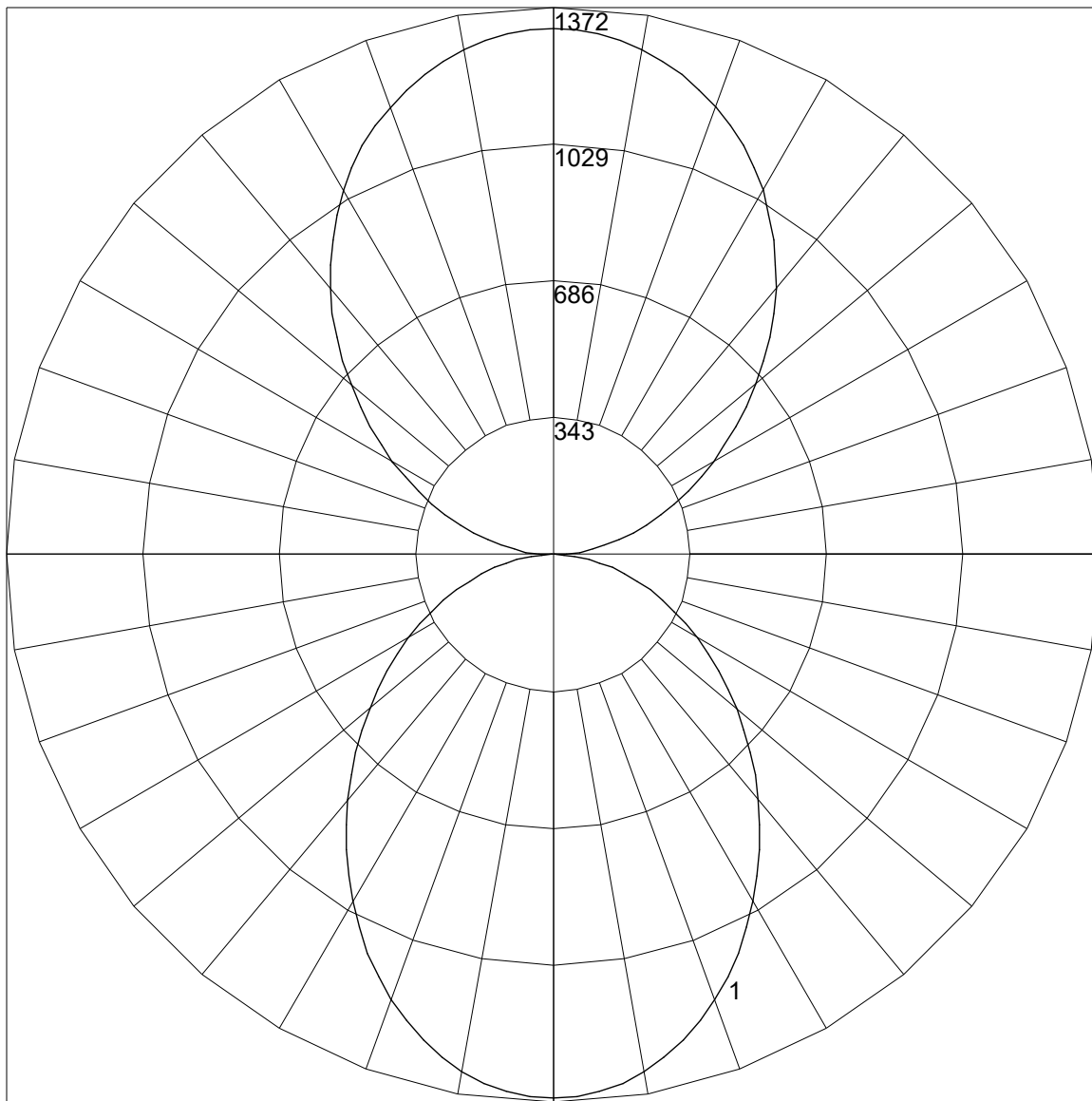


COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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  | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 83 | 83 | 83 | 69 | 69 | 69 | 55 | 55 | 55 | 49 |
| 1  | 98  | 93  | 89  | 86  | 90 | 86 | 83 | 80 | 73 | 70 | 68 | 60 | 59 | 57 | 49 | 48 | 47 | 41 |
| 2  | 89  | 82  | 75  | 70  | 82 | 75 | 70 | 66 | 64 | 60 | 57 | 53 | 50 | 48 | 43 | 41 | 40 | 35 |
| 3  | 81  | 72  | 65  | 59  | 75 | 66 | 60 | 55 | 56 | 52 | 48 | 47 | 44 | 41 | 38 | 36 | 34 | 30 |
| 4  | 74  | 64  | 56  | 50  | 68 | 59 | 52 | 47 | 50 | 45 | 41 | 42 | 38 | 35 | 34 | 32 | 29 | 26 |
| 5  | 68  | 57  | 49  | 43  | 63 | 53 | 46 | 40 | 45 | 39 | 35 | 38 | 34 | 30 | 31 | 28 | 26 | 22 |
| 6  | 63  | 51  | 43  | 37  | 58 | 47 | 40 | 35 | 41 | 35 | 31 | 34 | 30 | 27 | 28 | 25 | 23 | 20 |
| 7  | 58  | 46  | 38  | 33  | 54 | 43 | 36 | 31 | 37 | 31 | 27 | 31 | 27 | 24 | 26 | 23 | 20 | 18 |
| 8  | 54  | 42  | 34  | 29  | 50 | 39 | 32 | 27 | 34 | 28 | 24 | 29 | 24 | 21 | 24 | 21 | 18 | 16 |
| 9  | 50  | 38  | 31  | 26  | 46 | 36 | 29 | 24 | 31 | 25 | 22 | 26 | 22 | 19 | 22 | 19 | 16 | 14 |
| 10 | 47  | 35  | 28  | 23  | 43 | 33 | 26 | 22 | 28 | 23 | 20 | 24 | 20 | 17 | 20 | 17 | 15 | 13 |

POLAR GRAPH



Maximum Candela = 1371.795 Located At Horizontal Angle = 15, Vertical Angle = 2.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)