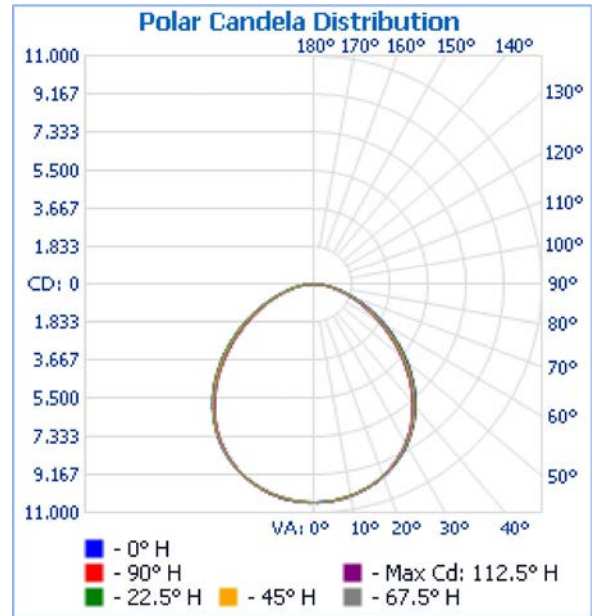


# Photometrics Pro

## Luminaire Photometric Report

**Filename:** 55231  
**Manufacturer:** P.Q.L., Inc.  
**Luminaire:** Flat High Bay 5000K (A1+B3)  
**Lamp Output:** 1 lamp(s), rated Lumens/lamp: 27495.75  
**Max Candela:** 10,523.6 at Horizontal: 112.5°, Vertical: 1°  
**Input Wattage:** 210.1  
**Luminous Opening:** Point  
**Test:** Goniophotometer test  
**Test Date:** 2016-11-11  
**Test Lab:** UL-CCIC (Suzhou) Co.,Ltd  
**Photometry :** Type C  
**CIE Class:** Direct



### Roadway Summary

|                        |                |
|------------------------|----------------|
| Cutoff Classification: | CUTOFF         |
| Distribution:          | Type VS        |
| Max Cd, 90 Deg Vert:   | 37.5           |
| Max Cd, 80 to <90 Deg: | 846.0          |
|                        | Lumens % Lamp  |
| Downward Street Side:  | 13,740.9 50%   |
| Downward House Side:   | 13,689.9 49.8% |
| Downward Total:        | 27,430.7 99.8% |
| Upward Street Side:    | 33.9 0.1%      |
| Upward House Side:     | 34.2 0.1%      |
| Upward Total:          | 68.1 0.2%      |
| Total Lumens:          | 27,498.8 100%  |

### Zonal Lumen Summary

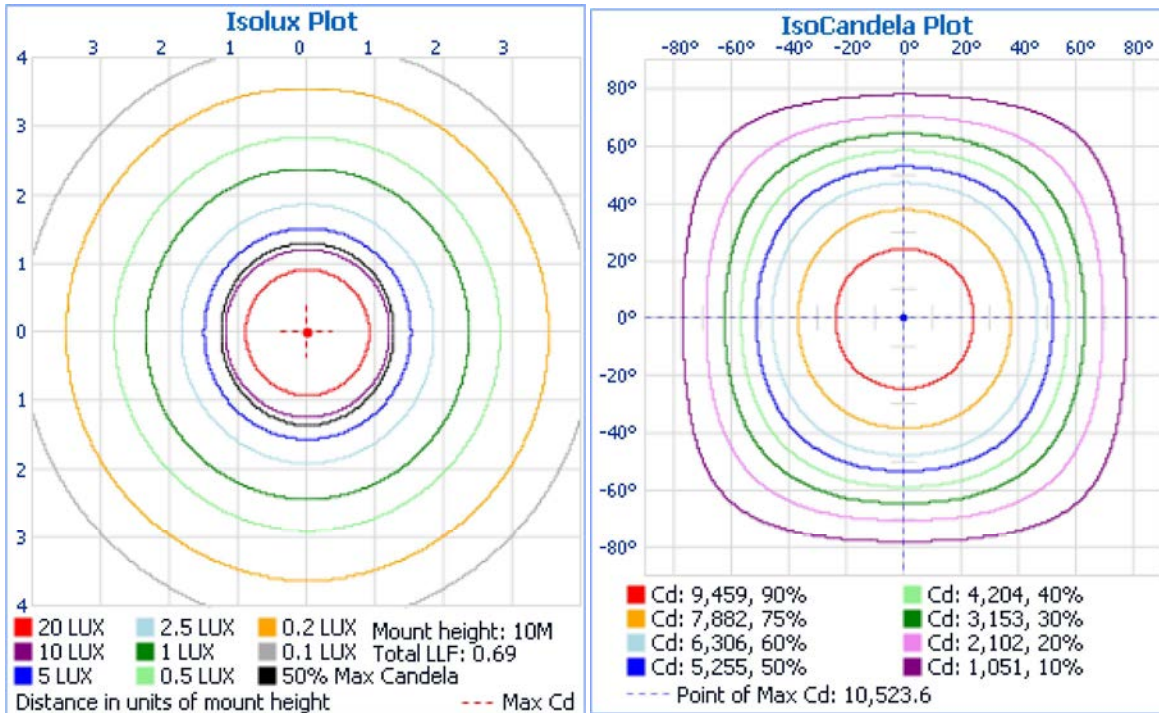
| Zone   | Lumens   | % Luminaire |
|--------|----------|-------------|
| 0-30   | 8,182.6  | 29.8%       |
| 0-40   | 13,342.9 | 48.5%       |
| 0-60   | 22,718.8 | 82.6%       |
| 60-90  | 4,708.8  | 17.1%       |
| 70-100 | 1,840.1  | 6.7%        |
| 90-120 | 26.0     | 0.1%        |
| 0-90   | 27,427.7 | 99.8%       |
| 90-180 | 68.1     | 0.2%        |
| 0-180  | 27,495.8 | 100%        |

### Flood Summary

|              | Efficiency | Lumens   | Horizontal Spread | Vertical Spread |
|--------------|------------|----------|-------------------|-----------------|
| Field (10%): | 97.5%      | 26,820.3 | 154.5             | 156             |
| Beam (50%):  | 71.2%      | 19,567.6 | 103.1             | 106.4           |
| Total:       | 100%       | 27,486.6 |                   |                 |

### Lumens Per Zone

| Zone  | Lumens  | % Total | Zone    | Lumens | % Total |
|-------|---------|---------|---------|--------|---------|
| 0-5   | 250.7   | 0.9%    | 90-95   | 6.6    | 0%      |
| 5-10  | 744.2   | 2.7%    | 95-100  | 4.3    | 0%      |
| 10-15 | 1,213.7 | 4.4%    | 100-105 | 3.8    | 0%      |
| 15-20 | 1,643.3 | 6.0%    | 105-110 | 3.7    | 0%      |
| 20-25 | 2,015.6 | 7.3%    | 110-115 | 3.9    | 0%      |
| 25-30 | 2,315.1 | 8.4%    | 115-120 | 3.8    | 0%      |
| 30-35 | 2,526.9 | 9.2%    | 120-125 | 3.9    | 0%      |
| 35-40 | 2,633.5 | 9.6%    | 125-130 | 4.4    | 0%      |
| 40-45 | 2,625.3 | 9.5%    | 130-135 | 4.7    | 0%      |
| 45-50 | 2,501.6 | 9.1%    | 135-140 | 4.9    | 0%      |
| 50-55 | 2,276.3 | 8.3%    | 140-145 | 4.9    | 0%      |
| 55-60 | 1,972.6 | 7.2%    | 145-150 | 4.6    | 0%      |
| 60-65 | 1,622.7 | 5.9%    | 150-155 | 4.1    | 0%      |
| 65-70 | 1,256.8 | 4.6%    | 155-160 | 3.4    | 0%      |
| 70-75 | 898.1   | 3.3%    | 160-165 | 2.8    | 0%      |
| 75-80 | 570.3   | 2.1%    | 165-170 | 2.3    | 0%      |
| 80-85 | 285.1   | 1.0%    | 170-175 | 1.5    | 0%      |
| 85-90 | 75.9    | 0.3%    | 175-180 | 0.5    | 0%      |



**Illuminance at a Distance**

|      | Center Beam LUX | Beam Width |       |
|------|-----------------|------------|-------|
| 0.7M | 23,646.38 LUX   | 1.8M       | 1.7M  |
| 1.3M | 5,911.59 LUX    | 3.6M       | 3.4M  |
| 2.0M | 2,627.38 LUX    | 5.3M       | 5.0M  |
| 2.7M | 1,477.90 LUX    | 7.1M       | 6.7M  |
| 3.3M | 945.86 LUX      | 8.9M       | 8.4M  |
| 4.0M | 656.84 LUX      | 10.7M      | 10.1M |

■ Vert. Spread: 106.4°    ■ Horiz. Spread: 103.1°

**Coefficients Of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance: 20%

| RCC %: | 80   |      |      |      | 70   |      |      |      | 50   |      |      |      | 30   |      |      |      | 10   |      |      |      | 0    |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RW %:  | 70   | 50   | 30   | 0    | 70   | 50   | 30   | 0    | 50   | 30   | 20   | 0    | 50   | 30   | 20   | 0    | 50   | 30   | 20   | 0    | 0    |
| RCR: 0 | 1.19 | 1.19 | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.00 | 1.11 | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | 1.02 | 1.00 | 1.00 |
| 1      | 1.09 | 1.05 | 1.01 | .97  | 1.07 | 1.03 | .99  | .86  | .98  | .95  | .93  | .94  | .92  | .90  | .91  | .89  | .87  | .87  | .87  | .85  | .85  |
| 2      | 1.00 | .92  | .86  | .80  | .97  | .90  | .84  | .73  | .87  | .82  | .77  | .83  | .79  | .76  | .80  | .77  | .74  | .74  | .74  | .72  | .72  |
| 3      | .91  | .81  | .73  | .67  | .89  | .80  | .72  | .63  | .77  | .71  | .65  | .74  | .69  | .64  | .71  | .67  | .63  | .63  | .63  | .61  | .61  |
| 4      | .84  | .72  | .64  | .57  | .82  | .71  | .63  | .54  | .68  | .62  | .56  | .66  | .60  | .55  | .64  | .59  | .55  | .55  | .55  | .52  | .52  |
| 5      | .77  | .65  | .56  | .50  | .75  | .64  | .56  | .47  | .62  | .54  | .49  | .60  | .53  | .48  | .58  | .52  | .48  | .48  | .48  | .46  | .46  |
| 6      | .71  | .59  | .50  | .44  | .70  | .58  | .49  | .42  | .56  | .48  | .43  | .54  | .48  | .43  | .52  | .47  | .42  | .42  | .42  | .40  | .40  |
| 7      | .66  | .53  | .45  | .39  | .65  | .52  | .44  | .37  | .51  | .43  | .38  | .49  | .43  | .38  | .48  | .42  | .38  | .38  | .38  | .36  | .36  |
| 8      | .62  | .49  | .40  | .34  | .60  | .48  | .40  | .34  | .47  | .39  | .34  | .45  | .39  | .34  | .44  | .38  | .34  | .34  | .34  | .32  | .32  |
| 9      | .58  | .45  | .37  | .31  | .56  | .44  | .36  | .30  | .43  | .36  | .31  | .42  | .35  | .31  | .41  | .35  | .30  | .30  | .30  | .29  | .29  |
| 10     | .54  | .41  | .33  | .28  | .53  | .41  | .33  | .28  | .40  | .33  | .28  | .39  | .32  | .28  | .38  | .32  | .28  | .28  | .28  | .26  | .26  |

Candela Table - Type C

|    | 0     | 22.5  | 45    | 67.5  | 90    | 112.5 | 135   | 157.5 | 180   | 202.5 | 225   | 247.5 | 270   | 292.5 | 315   | 337.5 | 360   |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0  | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 | 10510 |
| 1  | 10502 | 10490 | 10511 | 10522 | 10506 | 10524 | 10514 | 10484 | 10506 | 10484 | 10514 | 10524 | 10506 | 10522 | 10511 | 10490 | 10502 |
| 2  | 10485 | 10483 | 10504 | 10517 | 10510 | 10512 | 10496 | 10475 | 10504 | 10475 | 10496 | 10512 | 10510 | 10517 | 10504 | 10483 | 10485 |
| 3  | 10472 | 10481 | 10504 | 10509 | 10507 | 10501 | 10486 | 10471 | 10496 | 10471 | 10486 | 10501 | 10507 | 10509 | 10504 | 10481 | 10472 |
| 4  | 10491 | 10471 | 10482 | 10498 | 10489 | 10498 | 10478 | 10457 | 10483 | 10457 | 10478 | 10498 | 10489 | 10498 | 10482 | 10471 | 10491 |
| 5  | 10467 | 10459 | 10463 | 10470 | 10470 | 10486 | 10464 | 10445 | 10476 | 10445 | 10464 | 10486 | 10470 | 10470 | 10463 | 10459 | 10467 |
| 6  | 10456 | 10425 | 10457 | 10460 | 10464 | 10453 | 10444 | 10425 | 10457 | 10425 | 10444 | 10453 | 10464 | 10460 | 10457 | 10425 | 10456 |
| 7  | 10408 | 10406 | 10429 | 10446 | 10440 | 10424 | 10417 | 10403 | 10438 | 10403 | 10417 | 10424 | 10440 | 10446 | 10429 | 10406 | 10408 |
| 8  | 10395 | 10378 | 10411 | 10426 | 10414 | 10406 | 10391 | 10364 | 10418 | 10364 | 10391 | 10406 | 10414 | 10426 | 10411 | 10378 | 10395 |
| 9  | 10388 | 10359 | 10382 | 10395 | 10385 | 10364 | 10354 | 10347 | 10367 | 10347 | 10354 | 10364 | 10385 | 10395 | 10382 | 10359 | 10388 |
| 10 | 10338 | 10318 | 10348 | 10355 | 10351 | 10341 | 10331 | 10314 | 10323 | 10314 | 10331 | 10341 | 10351 | 10355 | 10348 | 10318 | 10338 |
| 11 | 10306 | 10285 | 10310 | 10319 | 10321 | 10306 | 10298 | 10283 | 10310 | 10283 | 10298 | 10306 | 10321 | 10319 | 10310 | 10285 | 10306 |
| 12 | 10274 | 10251 | 10268 | 10294 | 10270 | 10262 | 10246 | 10244 | 10243 | 10244 | 10246 | 10262 | 10270 | 10294 | 10268 | 10251 | 10274 |
| 13 | 10224 | 10200 | 10225 | 10229 | 10225 | 10233 | 10210 | 10195 | 10206 | 10195 | 10210 | 10233 | 10225 | 10229 | 10225 | 10200 | 10224 |
| 14 | 10192 | 10162 | 10180 | 10177 | 10172 | 10186 | 10170 | 10149 | 10158 | 10149 | 10170 | 10186 | 10172 | 10177 | 10180 | 10162 | 10192 |
| 15 | 10142 | 10118 | 10145 | 10126 | 10129 | 10142 | 10114 | 10103 | 10111 | 10103 | 10111 | 10142 | 10129 | 10126 | 10145 | 10118 | 10142 |
| 16 | 10092 | 10068 | 10079 | 10063 | 10075 | 10072 | 10057 | 10047 | 10040 | 10047 | 10057 | 10072 | 10075 | 10063 | 10079 | 10068 | 10092 |
| 17 | 10035 | 10016 | 10019 | 10011 | 10018 | 10019 | 10015 | 9995  | 9995  | 9995  | 10015 | 10019 | 10018 | 10011 | 10019 | 10016 | 10035 |
| 18 | 9975  | 9948  | 9946  | 9952  | 9946  | 9948  | 9946  | 9926  | 9946  | 9926  | 9946  | 9948  | 9946  | 9952  | 9946  | 9948  | 9975  |
| 19 | 9918  | 9892  | 9895  | 9879  | 9876  | 9891  | 9885  | 9873  | 9888  | 9873  | 9888  | 9885  | 9891  | 9876  | 9879  | 9895  | 9918  |
| 20 | 9850  | 9804  | 9814  | 9805  | 9805  | 9823  | 9827  | 9800  | 9825  | 9800  | 9827  | 9823  | 9805  | 9805  | 9814  | 9804  | 9850  |
| 21 | 9792  | 9744  | 9728  | 9728  | 9728  | 9730  | 9735  | 9739  | 9748  | 9739  | 9735  | 9730  | 9728  | 9728  | 9728  | 9744  | 9792  |
| 22 | 9714  | 9666  | 9665  | 9652  | 9654  | 9663  | 9655  | 9655  | 9657  | 9655  | 9655  | 9663  | 9654  | 9652  | 9665  | 9666  | 9714  |
| 23 | 9627  | 9590  | 9578  | 9571  | 9547  | 9575  | 9586  | 9582  | 9595  | 9582  | 9586  | 9575  | 9547  | 9571  | 9578  | 9590  | 9627  |
| 24 | 9548  | 9504  | 9486  | 9484  | 9462  | 9484  | 9495  | 9491  | 9524  | 9491  | 9495  | 9484  | 9462  | 9484  | 9486  | 9504  | 9548  |
| 25 | 9448  | 9425  | 9402  | 9391  | 9372  | 9389  | 9403  | 9406  | 9429  | 9406  | 9403  | 9389  | 9372  | 9391  | 9402  | 9425  | 9448  |
| 26 | 9365  | 9324  | 9309  | 9277  | 9278  | 9299  | 9311  | 9304  | 9334  | 9304  | 9311  | 9299  | 9278  | 9277  | 9309  | 9324  | 9365  |
| 27 | 9269  | 9218  | 9211  | 9182  | 9177  | 9184  | 9201  | 9224  | 9243  | 9224  | 9201  | 9184  | 9177  | 9182  | 9211  | 9218  | 9269  |
| 28 | 9184  | 9139  | 9111  | 9085  | 9056  | 9086  | 9099  | 9108  | 9127  | 9108  | 9099  | 9086  | 9056  | 9085  | 9111  | 9139  | 9184  |
| 29 | 9082  | 9038  | 9012  | 8974  | 8947  | 8989  | 9003  | 9014  | 9038  | 9014  | 9003  | 8989  | 8947  | 8974  | 9012  | 9038  | 9082  |
| 30 | 8962  | 8936  | 8895  | 8846  | 8843  | 8863  | 8898  | 8896  | 8924  | 8896  | 8898  | 8863  | 8843  | 8846  | 8895  | 8936  | 8962  |
| 31 | 8853  | 8824  | 8805  | 8748  | 8717  | 8736  | 8767  | 8792  | 8832  | 8792  | 8767  | 8736  | 8717  | 8748  | 8805  | 8824  | 8853  |
| 32 | 8730  | 8699  | 8667  | 8612  | 8591  | 8623  | 8649  | 8674  | 8680  | 8674  | 8649  | 8623  | 8591  | 8612  | 8667  | 8699  | 8730  |
| 33 | 8613  | 8568  | 8551  | 8490  | 8474  | 8496  | 8534  | 8547  | 8564  | 8547  | 8534  | 8496  | 8474  | 8490  | 8551  | 8568  | 8613  |
| 34 | 8485  | 8440  | 8423  | 8367  | 8342  | 8369  | 8398  | 8413  | 8411  | 8413  | 8398  | 8369  | 8342  | 8367  | 8423  | 8440  | 8485  |
| 35 | 8363  | 8324  | 8284  | 8228  | 8186  | 8219  | 8270  | 8282  | 8285  | 8282  | 8270  | 8219  | 8186  | 8228  | 8284  | 8324  | 8363  |
| 36 | 8219  | 8176  | 8161  | 8074  | 8047  | 8085  | 8125  | 8147  | 8149  | 8147  | 8125  | 8085  | 8047  | 8074  | 8161  | 8176  | 8219  |
| 37 | 8073  | 8043  | 8008  | 7937  | 7898  | 7925  | 7982  | 8004  | 8000  | 8004  | 7982  | 7925  | 7898  | 7937  | 8008  | 8043  | 8073  |
| 38 | 7920  | 7906  | 7857  | 7786  | 7741  | 7774  | 7834  | 7860  | 7844  | 7860  | 7834  | 7774  | 7741  | 7786  | 7857  | 7906  | 7920  |
| 39 | 7790  | 7743  | 7713  | 7630  | 7579  | 7605  | 7682  | 7711  | 7725  | 7711  | 7682  | 7605  | 7579  | 7630  | 7713  | 7743  | 7790  |
| 40 | 7624  | 7579  | 7557  | 7456  | 7410  | 7456  | 7530  | 7565  | 7573  | 7565  | 7530  | 7456  | 7410  | 7456  | 7557  | 7579  | 7624  |
| 41 | 7478  | 7436  | 7389  | 7286  | 7234  | 7286  | 7353  | 7397  | 7401  | 7397  | 7353  | 7286  | 7234  | 7286  | 7389  | 7436  | 7478  |
| 42 | 7317  | 7267  | 7226  | 7133  | 7055  | 7120  | 7188  | 7247  | 7249  | 7247  | 7188  | 7120  | 7055  | 7133  | 7226  | 7267  | 7317  |
| 43 | 7144  | 7111  | 7047  | 6932  | 6886  | 6941  | 7020  | 7078  | 7075  | 7078  | 7020  | 6941  | 6886  | 6932  | 7047  | 7111  | 7144  |
| 44 | 6992  | 6927  | 6867  | 6755  | 6704  | 6751  | 6849  | 6906  | 6897  | 6906  | 6849  | 6751  | 6704  | 6755  | 6867  | 6927  | 6992  |
| 45 | 6812  | 6748  | 6693  | 6585  | 6529  | 6575  | 6664  | 6734  | 6734  | 6734  | 6664  | 6575  | 6529  | 6585  | 6693  | 6748  | 6812  |
| 46 | 6640  | 6574  | 6496  | 6390  | 6335  | 6382  | 6494  | 6556  | 6562  | 6556  | 6494  | 6382  | 6335  | 6390  | 6496  | 6574  | 6640  |
| 47 | 6448  | 6400  | 6322  | 6197  | 6137  | 6204  | 6309  | 6369  | 6368  | 6369  | 6309  | 6204  | 6137  | 6197  | 6322  | 6400  | 6448  |
| 48 | 6284  | 6210  | 6129  | 6003  | 5943  | 5998  | 6119  | 6198  | 6199  | 6198  | 6119  | 5998  | 5943  | 6003  | 6129  | 6210  | 6284  |
| 49 | 6084  | 6020  | 5940  | 5822  | 5752  | 5825  | 5933  | 6010  | 6008  | 6010  | 5933  | 5825  | 5752  | 5822  | 5940  | 6020  | 6084  |
| 50 | 5915  | 5842  | 5723  | 5601  | 5558  | 5625  | 5734  | 5823  | 5832  | 5823  | 5734  | 5625  | 5558  | 5601  | 5723  | 5842  | 5915  |
| 51 | 5722  | 5661  | 5548  | 5414  | 5361  | 5434  | 5542  | 5634  | 5625  | 5634  | 5542  | 5434  | 5361  | 5414  | 5548  | 5661  | 5722  |
| 52 | 5540  | 5469  | 5352  | 5220  | 5158  | 5230  | 5351  | 5448  | 5441  | 5448  | 5351  | 5230  | 5158  | 5220  | 5352  | 5469  | 5540  |
| 53 | 5334  | 5258  | 5154  | 5009  | 4973  | 5039  | 5170  | 5247  | 5226  | 5247  | 5170  | 5039  | 4973  | 5009  | 5154  | 5258  | 5334  |
| 54 | 5148  | 5087  | 4963  | 4826  | 4783  | 4838  | 4957  | 5070  | 5032  | 5070  | 4957  | 4838  | 4783  | 4826  | 4963  | 5087  | 5148  |
| 55 | 4962  | 4876  | 4772  | 4640  | 4576  | 4633  | 4766  | 4867  | 4856  | 4867  | 4766  | 4633  | 4576  | 4640  | 4772  | 4876  | 4962  |
| 56 | 4762  | 4692  | 4573  | 4435  | 4389  | 4446  | 4578  | 4674  | 4659  | 4674  | 4578  | 4446  | 4389  | 4435  | 4573  | 4692  | 4762  |
| 57 | 4586  | 4498  | 4386  | 4246  | 4185  | 4252  | 4380  | 4476  | 4458  | 4476  | 4380  | 4252  | 4185  | 4246  | 4386  | 4498  | 4586  |
| 58 | 4391  | 4310  | 4185  | 4053  | 3993  | 4051  | 4176  | 4292  | 4265  | 4292  | 4176  | 4051  | 3993  | 4053  | 4185  | 4310  | 4391  |
| 59 | 4200  | 4108  | 3997  | 3866  | 3811  | 3863  | 3985  | 4096  | 4070  | 4096  | 3985  | 3863  | 3811  | 3866  | 3997  | 4108  | 4200  |
| 60 | 4013  | 3921  | 3806  | 3680  | 3626  | 3677  | 3800  | 3908  | 3882  | 3908  | 3800  | 3677  | 3626  | 3680  | 3806  | 3921  | 4013  |
| 61 | 3825  | 3732  | 3621  | 3500  | 3445  | 3493  | 3613  | 3724  | 3692  | 3724  | 3613  | 3493  | 3445  | 3500  | 3621  | 3732  | 3825  |
| 62 | 3640  | 3546  | 3435  | 3319  | 3268  | 3315  | 3430  | 3539  | 3508  | 3539  | 3430  | 3315  | 3268  | 3319  | 3435  | 3546  | 3640  |
| 63 | 3454  | 3360  | 3255  | 3144  | 3096  | 3138  | 3249  | 3357  | 3321  | 3357  | 3249  | 3138  | 3096  | 3144  | 3255  | 3360  | 3454  |
| 64 | 3274  | 3179  | 3080  | 2969  | 2925  | 2964  | 3073  | 3178  | 3138  | 3178  | 3073  | 2964  | 2925  | 2969  | 3080  | 3179  | 3274  |
| 65 | 3095  | 2999  | 2904  | 2802  | 2758  | 2797  | 2900  | 3000  | 2958  | 3000  | 2900  | 2797  | 2758  | 2802  | 2904  | 2999  | 3095  |
| 66 | 2917  | 2824  | 2732  | 2637  | 2596  | 2631  | 2733  | 2825  | 2784  | 2825  | 2733  | 2631  | 2596  | 2637  | 2732  | 2824  | 2917  |
| 67 | 2743  | 2651  | 2565  | 2476  | 2438  | 2472  | 2564  | 2652  | 2611  | 2652  | 2564  | 2472  | 2438  | 2476  | 2565  | 2651  | 2743  |
| 68 | 2572  | 2483  | 2400  | 2319  | 2282  | 2313  | 2401  | 2485  | 2441  | 2485  | 2401  | 2313  | 2282  | 2319  | 2400  | 2483  | 2572  |
| 69 | 2405  | 2317  | 2239  | 2164  | 2132  | 2161  | 2241  | 2319  | 2275  | 2319  | 2241  | 2161  | 2132  | 2164  | 2239  | 2317  | 2405  |
| 70 | 2241  | 2158  | 2084  | 2012  | 1985  | 2011  | 2082  | 2154  | 2114  | 2154  | 2082  | 2011  | 1985  | 2012  | 2084  | 2158  | 2241  |
| 71 | 2082  | 2002  | 1932  | 1869  | 1843  | 1862  | 1931  | 1997  | 1963  |       |       |       |       |       |       |       |       |

|     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 75  | 1487 | 1428 | 1377 | 1334 | 1315 | 1324 | 1367 | 1412 | 1386 | 1412 | 1367 | 1324 | 1315 | 1334 | 1377 | 1428 | 1487 |
| 76  | 1350 | 1295 | 1248 | 1211 | 1192 | 1202 | 1239 | 1278 | 1256 | 1278 | 1239 | 1202 | 1192 | 1211 | 1248 | 1295 | 1350 |
| 77  | 1216 | 1165 | 1124 | 1091 | 1075 | 1082 | 1113 | 1151 | 1129 | 1151 | 1113 | 1082 | 1075 | 1091 | 1124 | 1165 | 1216 |
| 78  | 1085 | 1039 | 1004 | 978  | 963  | 967  | 994  | 1027 | 1005 | 1027 | 994  | 967  | 963  | 978  | 1004 | 1039 | 1085 |
| 79  | 966  | 920  | 888  | 865  | 852  | 856  | 879  | 908  | 889  | 908  | 879  | 856  | 852  | 865  | 888  | 920  | 966  |
| 80  | 846  | 802  | 776  | 756  | 749  | 749  | 768  | 792  | 776  | 792  | 768  | 749  | 749  | 756  | 776  | 802  | 846  |
| 81  | 731  | 690  | 668  | 655  | 648  | 646  | 662  | 678  | 665  | 678  | 662  | 646  | 648  | 655  | 668  | 690  | 731  |
| 82  | 620  | 584  | 568  | 558  | 551  | 550  | 562  | 574  | 557  | 574  | 562  | 550  | 551  | 558  | 568  | 584  | 620  |
| 83  | 520  | 484  | 472  | 466  | 461  | 458  | 466  | 474  | 459  | 474  | 466  | 458  | 461  | 466  | 472  | 484  | 520  |
| 84  | 420  | 390  | 382  | 379  | 376  | 371  | 374  | 383  | 367  | 383  | 374  | 371  | 376  | 379  | 382  | 390  | 420  |
| 85  | 332  | 306  | 301  | 300  | 298  | 294  | 294  | 294  | 284  | 294  | 294  | 294  | 298  | 300  | 301  | 306  | 332  |
| 86  | 246  | 225  | 226  | 227  | 226  | 222  | 218  | 217  | 204  | 217  | 218  | 222  | 226  | 227  | 226  | 225  | 246  |
| 87  | 173  | 155  | 157  | 161  | 161  | 155  | 154  | 148  | 137  | 148  | 154  | 155  | 161  | 161  | 157  | 155  | 173  |
| 88  | 107  | 93   | 99   | 104  | 106  | 103  | 94   | 86   | 76   | 86   | 94   | 103  | 106  | 104  | 99   | 93   | 107  |
| 89  | 52   | 48   | 55   | 63   | 65   | 60   | 52   | 44   | 34   | 44   | 52   | 60   | 65   | 63   | 55   | 48   | 52   |
| 90  | 20   | 22   | 28   | 34   | 38   | 34   | 26   | 19   | 18   | 19   | 26   | 34   | 38   | 34   | 28   | 22   | 20   |
| 91  | 9    | 10   | 13   | 17   | 19   | 16   | 14   | 12   | 12   | 12   | 14   | 16   | 19   | 17   | 13   | 10   | 9    |
| 92  | 11   | 11   | 9    | 9    | 9    | 9    | 10   | 11   | 12   | 11   | 10   | 9    | 9    | 9    | 9    | 11   | 11   |
| 93  | 8    | 11   | 10   | 8    | 6    | 10   | 10   | 9    | 11   | 9    | 10   | 10   | 6    | 8    | 10   | 11   | 8    |
| 94  | 11   | 8    | 10   | 8    | 8    | 9    | 8    | 10   | 12   | 10   | 8    | 9    | 8    | 8    | 10   | 8    | 11   |
| 95  | 9    | 9    | 8    | 9    | 7    | 9    | 8    | 8    | 11   | 8    | 8    | 9    | 7    | 9    | 8    | 9    | 9    |
| 96  | 8    | 9    | 9    | 5    | 6    | 6    | 9    | 8    | 10   | 8    | 9    | 6    | 6    | 5    | 9    | 9    | 8    |
| 97  | 8    | 9    | 7    | 8    | 7    | 7    | 8    | 9    | 7    | 9    | 8    | 7    | 7    | 8    | 7    | 9    | 8    |
| 98  | 10   | 8    | 9    | 6    | 6    | 8    | 8    | 10   | 6    | 10   | 8    | 8    | 6    | 6    | 9    | 8    | 10   |
| 99  | 8    | 10   | 8    | 7    | 5    | 7    | 7    | 10   | 9    | 10   | 7    | 7    | 5    | 7    | 8    | 10   | 8    |
| 100 | 8    | 8    | 7    | 5    | 6    | 8    | 6    | 9    | 9    | 9    | 6    | 8    | 6    | 5    | 7    | 8    | 8    |
| 101 | 8    | 8    | 9    | 7    | 6    | 6    | 9    | 8    | 6    | 8    | 9    | 6    | 6    | 7    | 9    | 8    | 8    |
| 102 | 9    | 9    | 7    | 6    | 5    | 7    | 8    | 7    | 7    | 7    | 8    | 7    | 5    | 6    | 7    | 9    | 9    |
| 103 | 5    | 7    | 7    | 6    | 6    | 6    | 6    | 8    | 8    | 8    | 6    | 6    | 6    | 6    | 7    | 7    | 5    |
| 104 | 7    | 8    | 6    | 8    | 6    | 8    | 8    | 7    | 8    | 7    | 8    | 8    | 6    | 8    | 6    | 8    | 7    |
| 105 | 8    | 6    | 8    | 6    | 5    | 7    | 7    | 8    | 6    | 8    | 7    | 7    | 5    | 6    | 8    | 6    | 8    |
| 106 | 8    | 8    | 9    | 6    | 6    | 5    | 7    | 9    | 7    | 9    | 7    | 5    | 6    | 6    | 9    | 8    | 8    |
| 107 | 6    | 8    | 8    | 7    | 5    | 7    | 9    | 8    | 8    | 8    | 9    | 7    | 5    | 7    | 8    | 8    | 6    |
| 108 | 5    | 6    | 8    | 6    | 5    | 6    | 8    | 7    | 7    | 7    | 8    | 6    | 5    | 6    | 8    | 6    | 5    |
| 109 | 7    | 9    | 8    | 7    | 6    | 8    | 7    | 8    | 7    | 8    | 7    | 8    | 6    | 7    | 8    | 9    | 7    |
| 110 | 8    | 6    | 8    | 7    | 6    | 8    | 8    | 8    | 8    | 8    | 8    | 8    | 6    | 7    | 8    | 6    | 8    |
| 111 | 5    | 8    | 9    | 8    | 7    | 7    | 8    | 8    | 5    | 8    | 8    | 7    | 7    | 8    | 9    | 8    | 5    |
| 112 | 6    | 8    | 9    | 6    | 6    | 8    | 8    | 9    | 9    | 9    | 8    | 8    | 6    | 6    | 9    | 8    | 6    |
| 113 | 7    | 8    | 7    | 8    | 5    | 8    | 7    | 10   | 8    | 10   | 7    | 8    | 5    | 8    | 7    | 8    | 7    |
| 114 | 6    | 9    | 6    | 9    | 6    | 8    | 6    | 11   | 7    | 11   | 6    | 8    | 6    | 9    | 6    | 9    | 6    |
| 115 | 9    | 9    | 7    | 10   | 6    | 10   | 7    | 8    | 7    | 8    | 7    | 10   | 6    | 10   | 7    | 9    | 9    |
| 116 | 9    | 8    | 8    | 8    | 6    | 9    | 6    | 10   | 9    | 10   | 6    | 9    | 6    | 8    | 8    | 8    | 9    |
| 117 | 6    | 7    | 7    | 7    | 7    | 9    | 8    | 8    | 7    | 8    | 8    | 9    | 7    | 7    | 7    | 7    | 6    |
| 118 | 7    | 7    | 7    | 8    | 7    | 9    | 9    | 9    | 9    | 9    | 9    | 9    | 7    | 8    | 7    | 7    | 7    |
| 119 | 5    | 8    | 7    | 9    | 5    | 10   | 8    | 9    | 8    | 9    | 8    | 10   | 5    | 9    | 7    | 8    | 5    |
| 120 | 6    | 7    | 9    | 9    | 5    | 8    | 8    | 8    | 10   | 8    | 8    | 8    | 5    | 9    | 9    | 7    | 6    |
| 121 | 7    | 7    | 8    | 8    | 8    | 9    | 10   | 9    | 8    | 9    | 10   | 9    | 8    | 8    | 8    | 7    | 7    |
| 122 | 9    | 7    | 10   | 8    | 4    | 9    | 8    | 10   | 9    | 10   | 8    | 9    | 4    | 8    | 10   | 7    | 9    |
| 123 | 5    | 10   | 9    | 11   | 5    | 10   | 9    | 9    | 10   | 9    | 9    | 10   | 5    | 11   | 9    | 10   | 5    |
| 124 | 8    | 8    | 10   | 10   | 4    | 8    | 10   | 10   | 6    | 10   | 10   | 8    | 4    | 10   | 10   | 8    | 8    |
| 125 | 10   | 11   | 10   | 10   | 9    | 9    | 10   | 10   | 8    | 10   | 10   | 9    | 9    | 10   | 10   | 11   | 10   |
| 126 | 8    | 11   | 9    | 10   | 7    | 8    | 8    | 10   | 9    | 10   | 8    | 8    | 7    | 10   | 9    | 11   | 8    |
| 127 | 10   | 10   | 11   | 10   | 6    | 11   | 10   | 10   | 10   | 10   | 10   | 11   | 6    | 10   | 11   | 10   | 10   |
| 128 | 8    | 9    | 11   | 12   | 8    | 10   | 12   | 11   | 11   | 11   | 12   | 10   | 8    | 12   | 11   | 9    | 8    |
| 129 | 9    | 12   | 14   | 9    | 8    | 13   | 11   | 12   | 11   | 12   | 11   | 13   | 8    | 9    | 14   | 12   | 9    |
| 130 | 10   | 10   | 13   | 12   | 6    | 11   | 13   | 11   | 9    | 11   | 13   | 11   | 6    | 12   | 13   | 10   | 10   |
| 131 | 9    | 11   | 11   | 10   | 10   | 14   | 13   | 11   | 11   | 11   | 13   | 14   | 10   | 10   | 11   | 11   | 9    |
| 132 | 10   | 12   | 14   | 11   | 9    | 12   | 13   | 12   | 10   | 12   | 13   | 12   | 9    | 11   | 14   | 12   | 10   |
| 133 | 10   | 11   | 15   | 12   | 10   | 11   | 14   | 11   | 12   | 11   | 14   | 11   | 10   | 12   | 15   | 11   | 10   |
| 134 | 12   | 11   | 15   | 11   | 10   | 12   | 16   | 10   | 14   | 10   | 16   | 12   | 10   | 11   | 15   | 11   | 12   |
| 135 | 12   | 11   | 14   | 12   | 10   | 14   | 15   | 12   | 14   | 12   | 15   | 14   | 10   | 12   | 14   | 11   | 12   |
| 136 | 12   | 12   | 13   | 15   | 11   | 14   | 15   | 13   | 12   | 13   | 15   | 14   | 11   | 15   | 13   | 12   | 12   |
| 137 | 12   | 12   | 16   | 14   | 11   | 14   | 15   | 13   | 14   | 13   | 15   | 14   | 11   | 14   | 16   | 12   | 12   |
| 138 | 11   | 14   | 15   | 13   | 11   | 13   | 15   | 14   | 14   | 14   | 15   | 13   | 11   | 13   | 15   | 14   | 11   |
| 139 | 12   | 14   | 16   | 12   | 11   | 12   | 14   | 15   | 14   | 15   | 14   | 12   | 11   | 12   | 16   | 14   | 12   |
| 140 | 13   | 16   | 15   | 13   | 11   | 12   | 16   | 16   | 13   | 16   | 16   | 12   | 11   | 13   | 15   | 16   | 13   |
| 141 | 13   | 16   | 15   | 12   | 13   | 11   | 15   | 16   | 13   | 16   | 15   | 11   | 13   | 12   | 15   | 16   | 13   |
| 142 | 17   | 16   | 16   | 13   | 10   | 13   | 16   | 16   | 15   | 16   | 16   | 13   | 10   | 13   | 16   | 16   | 17   |
| 143 | 17   | 18   | 17   | 12   | 12   | 14   | 16   | 18   | 15   | 18   | 16   | 14   | 12   | 12   | 17   | 18   | 17   |
| 144 | 15   | 16   | 16   | 12   | 11   | 13   | 16   | 18   | 17   | 18   | 16   | 13   | 11   | 12   | 16   | 16   | 15   |
| 145 | 18   | 16   | 17   | 13   | 11   | 12   | 15   | 16   | 18   | 16   | 15   | 12   | 11   | 13   | 17   | 16   | 18   |
| 146 | 17   | 17   | 18   | 13   | 12   | 13   | 17   | 17   | 19   | 17   | 17   | 13   | 12   | 13   | 18   | 17   | 17   |
| 147 | 18   | 18   | 16   | 13   | 11   | 14   | 18   | 16   | 17   | 16   | 18   | 14   | 11   | 13   | 16   | 18   | 18   |
| 148 | 15   | 19   | 16   | 12   | 13   | 15   | 17   | 17   | 17   | 17   | 17   | 15   | 13   | 12   | 16   | 19   | 15   |
| 149 | 19   | 18   | 16   | 13   | 13   | 14   | 17   | 18   | 18   | 18   | 17   | 14   | 13   | 13   | 16   | 18   | 19   |
| 150 | 17   | 18   | 17   | 13   | 14   | 16   | 16   | 17   | 18   | 17   | 16   | 16   | 14   | 13   | 17   | 18   | 17   |
| 151 | 17   | 17   | 18   | 14   | 12   | 15   | 17   | 18   | 19   | 18   | 17   | 15   | 12   | 14   | 18   | 17   | 17   |
| 152 | 18   | 17   | 18   | 12   | 13   | 15   | 16   | 19   | 17   | 19   | 16   | 15   | 13   | 12   | 18   | 17   | 18   |



**Luminaire Report Summary**

IESNA:LM-63-2002  
[TEST] Goniophotometer test  
[TESTLAB] UL-CCIC (Suzhou) Co.,Ltd  
[TESTDATE] 2016-11-11  
[ISSUEDATE] 2016-11-11  
[MANUFAC] P.Q.L., Inc.  
[LUMCAT]  
[LUMINAIRE] 55231/5000K  
[LAMP]

FILE: CREATED USING ABSOLUTE PHOTOMETRY  
FILE: CANDELA MULTIPLIER: 1  
FILE: VERTICAL ANGLES: 181, HORIZONTAL ANGLES: 17  
FILE: COORDINATE SYSTEM: TYPE C  
FILE: UNIT OF MEASURE: STANDARD  
FILE: BALLAST FACTOR: 1

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Reported data calculated from manufacturer's data file, based on IES recommended methods.