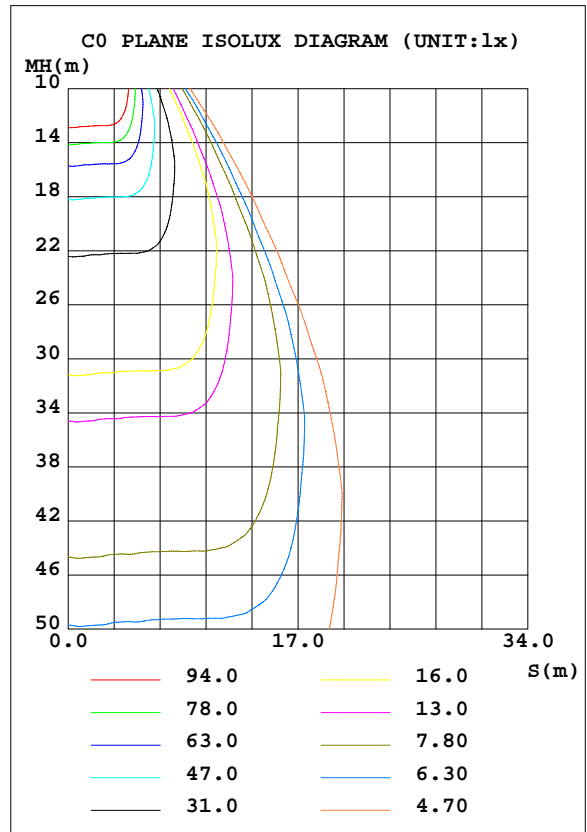
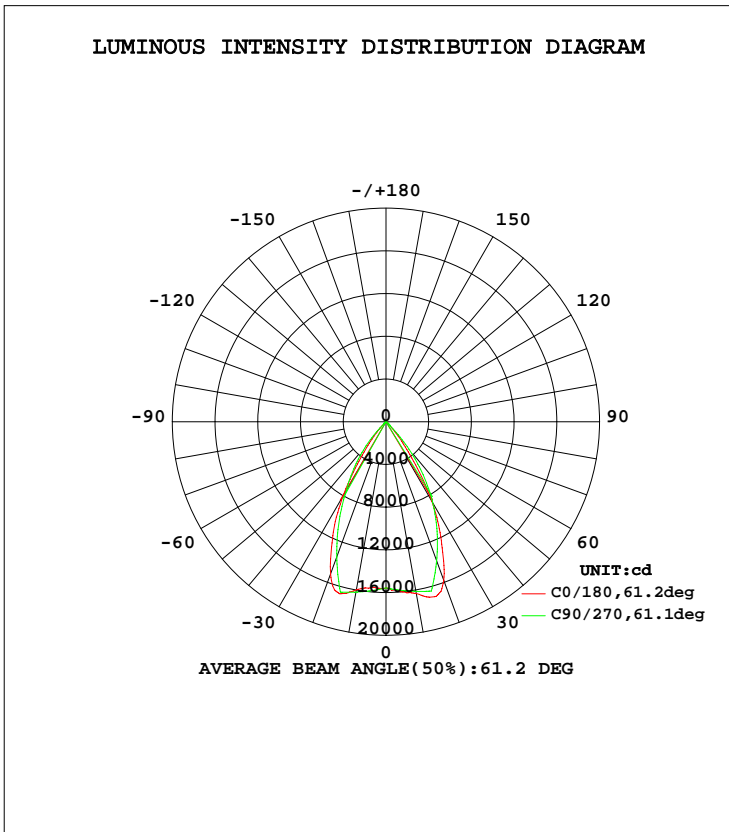


LUMINAIRE PHOTOMETRIC TEST REPORT

|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |

| DATA OF LAMP     |                | PHOTOMETRIC DATA Eff: 100.67 lm/W |        |                         |           |
|------------------|----------------|-----------------------------------|--------|-------------------------|-----------|
| MODEL            | QH-FLXH03-150W | Imax(cd)                          | 17013  | S/MH(C0/180)            | 0.90      |
| NOMINAL POWER(W) | 150W           | LOR(%)                            | 100.0  | S/MH(C90/270)           | 0.95      |
| RATED VOLTAGE(V) | 220            | TOTAL FLUX(lm)                    | 14909  | $\eta$ UP, DN(C0-180)   | 0.0, 48.4 |
| NOMINAL FLUX(lm) | 14909.3        | CIE CLASS                         | DIRECT | $\eta$ UP, DN(C180-360) | 0.0, 51.6 |
| LAMPS INSIDE     | 1              | $\eta$ up(%)                      | 0.0    | CIBSE SHR NOM           | 0.75      |
| TEST VOLTAGE(V)  | 220.1          | $\eta$ down(%)                    | 100.0  | CIBSE SHR MAX           | 0.90      |



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

| γ   | C0                       | C45    | C90    | C135   | C180   | C225   | C270   | C315   | γ       | Φ zone | Φ total | lum,lamp  |
|-----|--------------------------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|-----------|
| 5   | 1558                     | 1575   | 1588   | 1598   | 1598   | 1596   | 1584   | 1577   | 0- 5    | 377.2  | 377.2   | 2.53,2.53 |
| 10  | 1597                     | 1587   | 1620   | 1632   | 1633   | 1630   | 1613   | 1603   | 5- 10   | 1146   | 1523    | 10.2,10.2 |
| 15  | 1668                     | 1566   | 1651   | 1611   | 1698   | 1635   | 1641   | 1607   | 10- 15  | 1927   | 3450    | 23.1,23.1 |
| 20  | 1519                     | 1437   | 1348   | 1496   | 1582   | 1561   | 1387   | 1520   | 15- 20  | 2560   | 6010    | 40.3,40.3 |
| 25  | 1178                     | 1084   | 1045   | 1131   | 1228   | 1225   | 1132   | 1168   | 20- 25  | 2711   | 8721    | 58.5,58.5 |
| 30  | 803.1                    | 730.9  | 741.7  | 756.3  | 861.4  | 841.5  | 877.6  | 798.7  | 25- 30  | 2430   | 11151   | 74.8,74.8 |
| 35  | 417.5                    | 414.4  | 506.4  | 424.6  | 453.9  | 498.0  | 606.0  | 460.4  | 30- 35  | 1821   | 12972   | 87,87     |
| 40  | 179.4                    | 176.2  | 271.1  | 179.6  | 193.6  | 227.2  | 334.4  | 206.3  | 35- 40  | 1125   | 14096   | 94.5,94.5 |
| 45  | 38.54                    | 82.02  | 35.87  | 89.75  | 52.23  | 107.9  | 62.86  | 103.0  | 40- 45  | 535.2  | 14631   | 98.1,98.1 |
| 50  | 12.22                    | 29.06  | 25.21  | 29.85  | 13.71  | 41.86  | 43.43  | 35.16  | 45- 50  | 152.3  | 14784   | 99.2,99.2 |
| 55  | 6.709                    | 7.052  | 14.55  | 6.776  | 7.387  | 8.796  | 23.99  | 7.076  | 50- 55  | 59.52  | 14843   | 99.6,99.6 |
| 60  | 3.717                    | 4.466  | 3.892  | 4.274  | 4.042  | 5.543  | 4.561  | 4.470  | 55- 60  | 31.91  | 14875   | 99.8,99.8 |
| 65  | 2.060                    | 2.470  | 2.805  | 2.364  | 2.311  | 3.051  | 3.278  | 2.492  | 60- 65  | 16.20  | 14891   | 99.9,99.9 |
| 70  | 1.125                    | 1.275  | 1.718  | 1.235  | 1.276  | 1.570  | 1.995  | 1.305  | 65- 70  | 9.819  | 14901   | 99.9,99.9 |
| 75  | 0.5393                   | 0.7136 | 0.6309 | 0.7293 | 0.6407 | 0.8740 | 0.7116 | 0.7228 | 70- 75  | 5.514  | 14907   | 100,100   |
| 80  | 0.2004                   | 0.2265 | 0      | 0.2673 | 0.2558 | 0.2629 | 0      | 0.2140 | 75- 80  | 2.213  | 14909   | 100,100   |
| 85  | 0.0550                   | 0      | 0      | 0      | 0.0834 | 0      | 0      | 0      | 80- 85  | 0.4230 | 14909   | 100,100   |
| 90  | 0.0306                   | 0      | 0      | 0      | 0.0410 | 0      | 0      | 0      | 85- 90  | 0.0493 | 14909   | 100,100   |
| 95  |                          |        |        |        |        |        |        |        | 90- 95  |        |         |           |
| 100 |                          |        |        |        |        |        |        |        | 95-100  |        |         |           |
| 105 |                          |        |        |        |        |        |        |        | 100-105 |        |         |           |
| 110 |                          |        |        |        |        |        |        |        | 105-110 |        |         |           |
| 115 |                          |        |        |        |        |        |        |        | 110-115 |        |         |           |
| 120 |                          |        |        |        |        |        |        |        | 115-120 |        |         |           |
| 125 |                          |        |        |        |        |        |        |        | 120-125 |        |         |           |
| 130 |                          |        |        |        |        |        |        |        | 125-130 |        |         |           |
| 135 |                          |        |        |        |        |        |        |        | 130-135 |        |         |           |
| 140 |                          |        |        |        |        |        |        |        | 135-140 |        |         |           |
| 145 |                          |        |        |        |        |        |        |        | 140-145 |        |         |           |
| 150 |                          |        |        |        |        |        |        |        | 145-150 |        |         |           |
| 155 |                          |        |        |        |        |        |        |        | 150-155 |        |         |           |
| 160 |                          |        |        |        |        |        |        |        | 155-160 |        |         |           |
| 165 |                          |        |        |        |        |        |        |        | 160-165 |        |         |           |
| 170 |                          |        |        |        |        |        |        |        | 165-170 |        |         |           |
| 175 |                          |        |        |        |        |        |        |        | 170-175 |        |         |           |
| 180 |                          |        |        |        |        |        |        |        | 175-180 |        |         |           |
| DEG | LUMINOUS INTENSITY:×10cd |        |        |        |        |        |        |        | UNIT:lm |        |         |           |

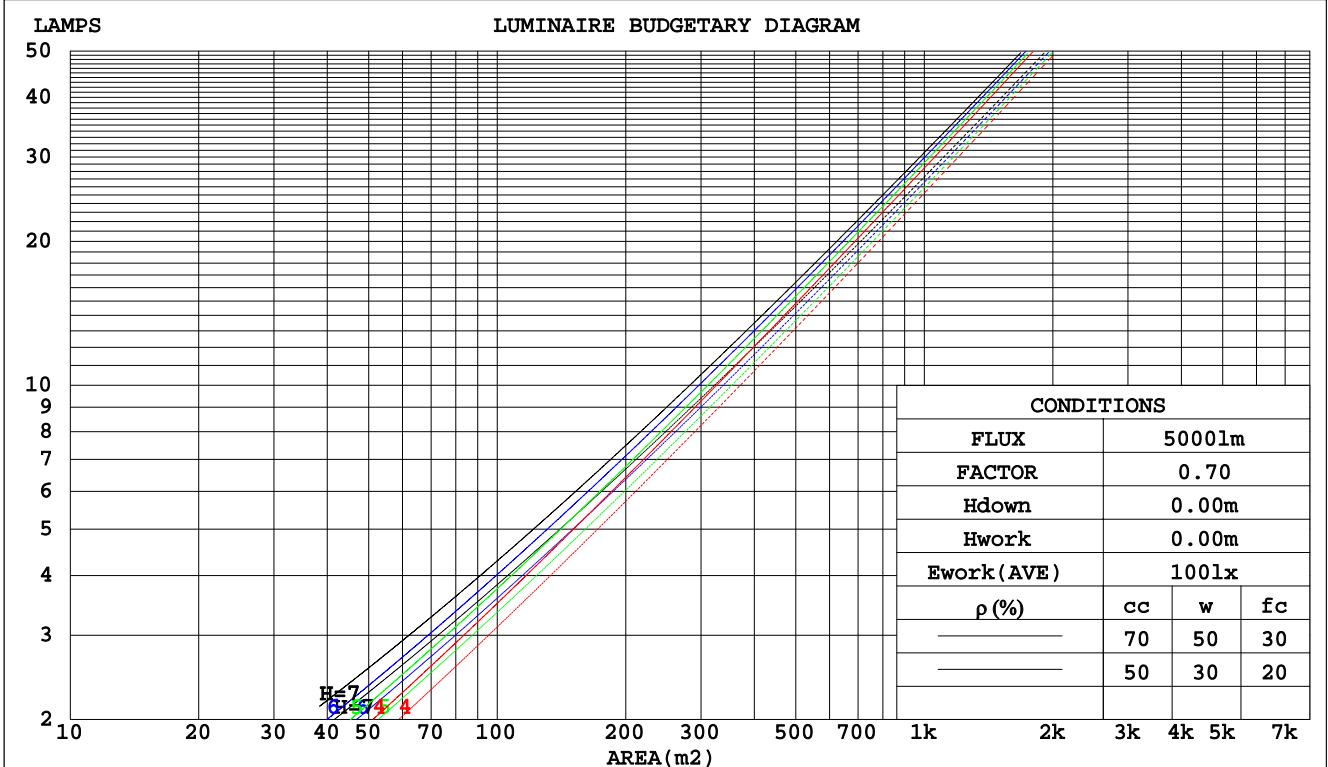
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |

| pcc  | 80%                             |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0   |
|------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| pw   | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0   |
| pfc  | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0   |
| RCR  | RCR:Room Cavity Ratio           |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
|      | Coefficients of Utilization(CU) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
| 0.0  | 1.19                            | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.11 | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | .00 |
| 1.0  | 1.11                            | 1.09 | 1.06 | 1.09 | 1.07 | 1.05 | 1.05 | 1.03 | 1.01 | 1.01 | .00  | .98  | .98  | .97  | .96  | .94 |
| 2.0  | 1.03                            | .00  | .96  | 1.02 | .98  | .95  | .99  | .96  | .93  | .96  | .93  | .91  | .93  | .91  | .89  | .88 |
| 3.0  | .97                             | .92  | .88  | .95  | .91  | .87  | .93  | .89  | .86  | .90  | .87  | .85  | .88  | .85  | .83  | .82 |
| 4.0  | .91                             | .85  | .81  | .89  | .84  | .81  | .87  | .83  | .80  | .85  | .82  | .79  | .83  | .80  | .78  | .76 |
| 5.0  | .85                             | .79  | .75  | .84  | .79  | .75  | .82  | .78  | .74  | .81  | .77  | .73  | .79  | .76  | .73  | .71 |
| 6.0  | .80                             | .74  | .70  | .79  | .74  | .70  | .78  | .73  | .69  | .76  | .72  | .69  | .75  | .71  | .68  | .67 |
| 7.0  | .75                             | .69  | .65  | .75  | .69  | .65  | .73  | .68  | .65  | .72  | .68  | .64  | .71  | .67  | .64  | .63 |
| 8.0  | .71                             | .65  | .61  | .70  | .65  | .61  | .69  | .64  | .61  | .68  | .64  | .60  | .67  | .63  | .60  | .59 |
| 9.0  | .67                             | .61  | .57  | .67  | .61  | .57  | .66  | .61  | .57  | .65  | .60  | .57  | .64  | .60  | .57  | .55 |
| 10.0 | .63                             | .58  | .54  | .63  | .58  | .54  | .62  | .57  | .54  | .61  | .57  | .54  | .61  | .57  | .54  | .52 |



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

WEC AND CCEC

|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |

| ρcc  | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|
| ρw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| ρfc  | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |
| 0.0  |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |
| 1.0  | .174                  | .099 | .031 | .167 | .095 | .030 | .155                            | .089 | .028 | .143 | .083 | .026 | .133 | .077 | .025 |   |
| 2.0  | .167                  | .091 | .028 | .161 | .089 | .027 | .150                            | .084 | .026 | .141 | .079 | .025 | .132 | .074 | .023 |   |
| 3.0  | .159                  | .085 | .025 | .154 | .083 | .025 | .145                            | .079 | .024 | .137 | .075 | .023 | .129 | .071 | .022 |   |
| 4.0  | .152                  | .079 | .023 | .147 | .077 | .023 | .140                            | .074 | .022 | .132 | .071 | .021 | .126 | .068 | .021 |   |
| 5.0  | .145                  | .074 | .021 | .141 | .072 | .021 | .134                            | .070 | .021 | .128 | .068 | .020 | .122 | .065 | .020 |   |
| 6.0  | .138                  | .069 | .020 | .135 | .068 | .020 | .129                            | .066 | .019 | .124 | .064 | .019 | .118 | .062 | .019 |   |
| 7.0  | .132                  | .065 | .019 | .130 | .065 | .018 | .124                            | .063 | .018 | .119 | .061 | .018 | .115 | .060 | .018 |   |
| 8.0  | .127                  | .062 | .017 | .124 | .061 | .017 | .120                            | .060 | .017 | .115 | .058 | .017 | .111 | .057 | .017 |   |
| 9.0  | .122                  | .059 | .016 | .120 | .058 | .016 | .115                            | .057 | .016 | .111 | .056 | .016 | .108 | .055 | .016 |   |
| 10.0 | .117                  | .056 | .016 | .115 | .056 | .016 | .111                            | .054 | .015 | .108 | .053 | .015 | .104 | .052 | .015 |   |

| ρcc  | 80%                   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|---|
| ρw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| ρfc  | 20%                   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |   |
| 0.0  | .190                  | .190 | .190 | .163 | .163 | .163 | .111                                       | .111 | .111 | .064 | .064 | .064 | .020 | .020 | .020 |   |
| 1.0  | .171                  | .157 | .145 | .146 | .135 | .125 | .100                                       | .093 | .086 | .058 | .054 | .050 | .018 | .017 | .016 |   |
| 2.0  | .156                  | .133 | .113 | .133 | .114 | .098 | .091                                       | .079 | .068 | .053 | .046 | .040 | .017 | .015 | .013 |   |
| 3.0  | .143                  | .114 | .090 | .123 | .098 | .078 | .084                                       | .068 | .055 | .049 | .040 | .032 | .016 | .013 | .011 |   |
| 4.0  | .133                  | .099 | .073 | .114 | .085 | .063 | .078                                       | .060 | .045 | .045 | .035 | .026 | .015 | .011 | .009 |   |
| 5.0  | .124                  | .087 | .060 | .107 | .075 | .052 | .073                                       | .053 | .037 | .043 | .031 | .022 | .014 | .010 | .007 |   |
| 6.0  | .117                  | .078 | .050 | .100 | .067 | .044 | .069                                       | .047 | .031 | .040 | .028 | .018 | .013 | .009 | .006 |   |
| 7.0  | .110                  | .070 | .042 | .095 | .061 | .037 | .066                                       | .043 | .026 | .038 | .025 | .016 | .012 | .008 | .005 |   |
| 8.0  | .105                  | .064 | .036 | .090 | .056 | .032 | .062                                       | .039 | .022 | .036 | .023 | .013 | .012 | .008 | .004 |   |
| 9.0  | .100                  | .059 | .031 | .086 | .051 | .027 | .060                                       | .036 | .019 | .035 | .021 | .012 | .011 | .007 | .004 |   |
| 10.0 | .095                  | .055 | .027 | .082 | .047 | .024 | .057                                       | .033 | .017 | .033 | .020 | .010 | .011 | .006 | .003 |   |

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

UGR(Unified Glare Rating) Table

|   |                  |      |      |      |       |                |      |                   |      |      |
|---|------------------|------|------|------|-------|----------------|------|-------------------|------|------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |                  |      |      |      |       |                |      |                   |      |      |
| NAME: LED FLOOD LIGHT   |                  |      |      |      | TYPE: |                |      | WEIGHT:5          |      |      |
| SPEC.:PHILIPS 3030  |                  |      |      |      | DIM.: |                |      | SERIAL No.:       |      |      |
| MFR.: QINHAN LIGHTING   |                  |      |      |      | SUR.: |                |      | PROTECTION ANGLE: |      |      |
| ceiling/cavity  | 0.7              | 0.7  | 0.5  | 0.5  | 0.3   | 0.7            | 0.7  | 0.5               | 0.5  | 0.3  |
| walls   | 0.5              | 0.3  | 0.5  | 0.3  | 0.3   | 0.5            | 0.3  | 0.5               | 0.3  | 0.3  |
| working plane   | 0.2              | 0.2  | 0.2  | 0.2  | 0.2   | 0.2            | 0.2  | 0.2               | 0.2  | 0.2  |
| Room dimensions   | Viewed crosswise |      |      |      |       | Viewed endwise |      |                   |      |      |
| x = 2H y = 2H   | 16.1             | 17.0 | 16.3 | 17.2 | 17.3  | 17.3           | 18.2 | 17.5              | 18.4 | 18.6 |
| 3H  | 15.9             | 16.8 | 16.2 | 17.0 | 17.2  | 17.1           | 18.0 | 17.4              | 18.2 | 18.4 |
| 4H  | 15.8             | 16.6 | 16.1 | 16.8 | 17.1  | 17.0           | 17.8 | 17.3              | 18.1 | 18.3 |
| 6H  | 15.7             | 16.5 | 16.0 | 16.7 | 17.0  | 16.9           | 17.7 | 17.2              | 17.9 | 18.2 |
| 8H  | 15.7             | 16.4 | 16.0 | 16.7 | 16.9  | 16.9           | 17.6 | 17.2              | 17.9 | 18.1 |
| 12H   | 15.6             | 16.3 | 16.0 | 16.6 | 16.9  | 16.9           | 17.6 | 17.2              | 17.8 | 18.1 |
| 4H 2H   | 15.8             | 16.6 | 16.1 | 16.8 | 17.1  | 17.0           | 17.8 | 17.3              | 18.1 | 18.3 |
| 3H  | 15.6             | 16.3 | 16.0 | 16.6 | 16.9  | 16.9           | 17.6 | 17.2              | 17.8 | 18.1 |
| 4H  | 15.6             | 16.2 | 15.9 | 16.5 | 16.8  | 16.8           | 17.4 | 17.1              | 17.7 | 18.0 |
| 6H  | 15.5             | 16.0 | 15.8 | 16.3 | 16.7  | 16.7           | 17.2 | 17.0              | 17.6 | 17.9 |
| 8H  | 15.4             | 15.9 | 15.8 | 16.3 | 16.6  | 16.6           | 17.1 | 17.0              | 17.5 | 17.9 |
| 12H   | 15.4             | 15.8 | 15.8 | 16.2 | 16.6  | 16.6           | 17.0 | 17.0              | 17.4 | 17.8 |
| 8H 4H   | 15.4             | 15.9 | 15.8 | 16.3 | 16.6  | 16.6           | 17.1 | 17.0              | 17.5 | 17.9 |
| 6H  | 15.3             | 15.7 | 15.7 | 16.1 | 16.5  | 16.5           | 16.9 | 16.9              | 17.3 | 17.7 |
| 8H  | 15.3             | 15.6 | 15.7 | 16.0 | 16.5  | 16.5           | 16.8 | 16.9              | 17.3 | 17.7 |
| 12H   | 15.2             | 15.5 | 15.7 | 16.0 | 16.4  | 16.4           | 16.7 | 16.9              | 17.2 | 17.6 |
| 12H 4H  | 15.4             | 15.8 | 15.8 | 16.2 | 16.6  | 16.6           | 17.0 | 17.0              | 17.4 | 17.8 |
| 6H  | 15.3             | 15.6 | 15.7 | 16.0 | 16.5  | 16.5           | 16.8 | 16.9              | 17.3 | 17.7 |
| 8H  | 15.2             | 15.5 | 15.7 | 16.0 | 16.4  | 16.4           | 16.7 | 16.9              | 17.2 | 17.6 |
| Variations with the observer position at spacings:                |                  |      |      |      |       |                |      |                   |      |      |
| S = 1.0H  | + 3.9 / -15.5    |      |      |      |       | + 3.6 / -15.3  |      |                   |      |      |
| 1.5H  | + 6.6 / -12.6    |      |      |      |       | + 6.3 / -13.5  |      |                   |      |      |
| 2.0H  | + 7.2 / - 5.7    |      |      |      |       | + 5.5 / - 6.4  |      |                   |      |      |

CIE Pub.117 Corrected 14909 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.4)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

UTILIZATION FACTORS TABLE

|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |

| REFLECTANCE                      |   |     |           |     |     |     |               |     |     |        |
|----------------------------------|---|-----|-----------|-----|-----|-----|---------------|-----|-----|--------|
| Ceiling                          | 0.8   | 0.8 | 0.8       | 0.7 | 0.7 | 0.7 | 0.5           | 0.5 | 0.5 | 0      |
| Walls                            | 0.7   | 0.5 | 0.3       | 0.7 | 0.5 | 0.3 | 0.7           | 0.5 | 0.3 | 0      |
| Working plane                    | 0.2   | 0.2 | 0.2       | 0.2 | 0.2 | 0.2 | 0.2           | 0.2 | 0.2 | 0      |
| ROOM INDEX                       | UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$ |     |           |     |     |     |               |     |     |        |
| k = 0.60                         | 88  | 82  | 78        | 88  | 82  | 78  | 87            | 81  | 78  | 75     |
| 0.80                             | 96  | 90  | 86        | 95  | 90  | 86  | 94            | 89  | 86  | 82     |
| 1.00                             | 100   | 94  | 91        | 99  | 94  | 91  | 98            | 94  | 90  | 86     |
| 1.25                             | 104   | 99  | 95        | 103 | 98  | 95  | 101           | 97  | 94  | 90     |
| 1.50                             | 106   | 102 | 99        | 105 | 101 | 98  | 103           | 100 | 97  | 93     |
| 2.00                             | 109   | 105 | 102       | 108 | 104 | 101 | 105           | 102 | 100 | 95     |
| 2.50                             | 111   | 107 | 104       | 109 | 106 | 103 | 106           | 103 | 101 | 95     |
| 3.00                             | 112   | 109 | 106       | 110 | 107 | 105 | 107           | 105 | 103 | 97     |
| 4.00                             | 114   | 111 | 109       | 112 | 110 | 108 | 108           | 107 | 105 | 98     |
| 5.00                             | 115   | 113 | 111       | 113 | 111 | 110 | 109           | 108 | 107 | 99     |
| ROOM INDEX                       | UF(total)   |     |           |     |     |     |               |     |     | Direct |
| According to DIN EN 13032-2 2004 |   |     | Suspended |     |     |     | SHRNOM = 1.25 |     |     |        |

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

ISOCANDELA DIAGRAM

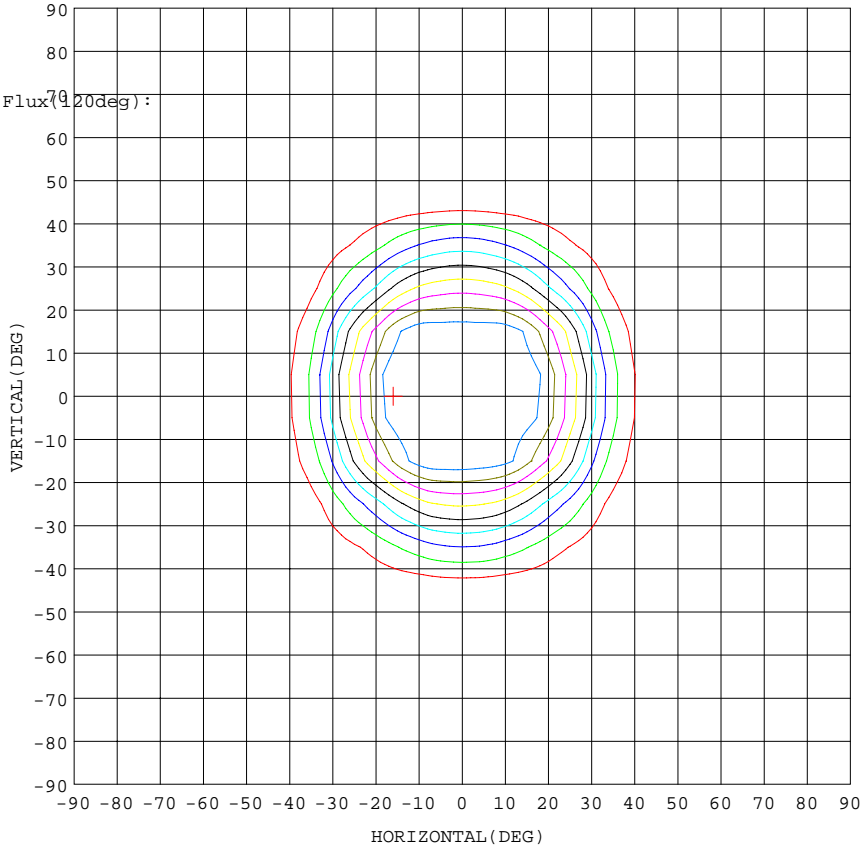
|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |

Conical surface Flux(90deg):

14631 lm  
 %lum = 98.1%  
 %lamp = 98.1%

Conical surface Flux(70deg):

14875 lm  
 %lum = 99.8%  
 %lamp = 99.8%



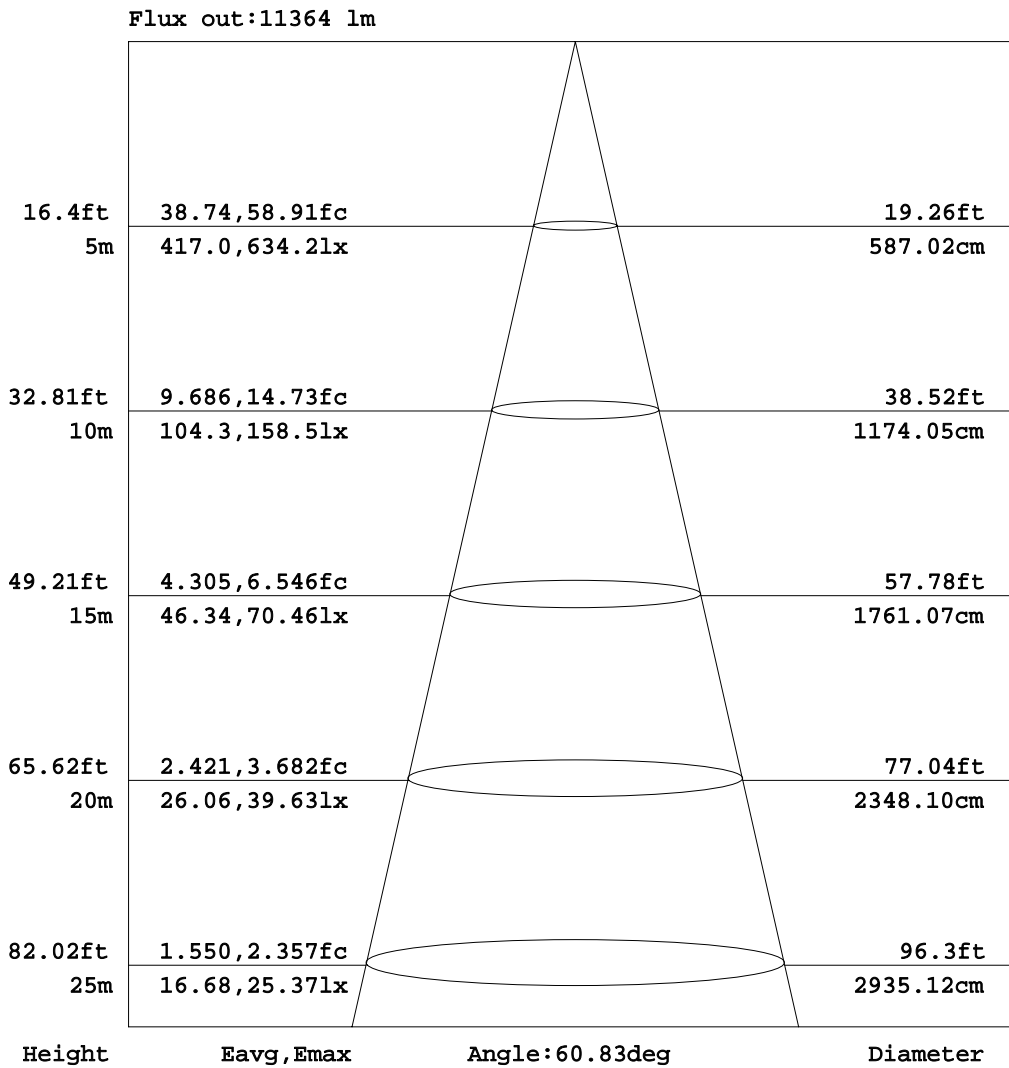
Imax:16994(H=-16.0,V0.0)  
 (At:C=180.0,Gamma=16.0)  
 UNIT: cd

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

AAI Figure

|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

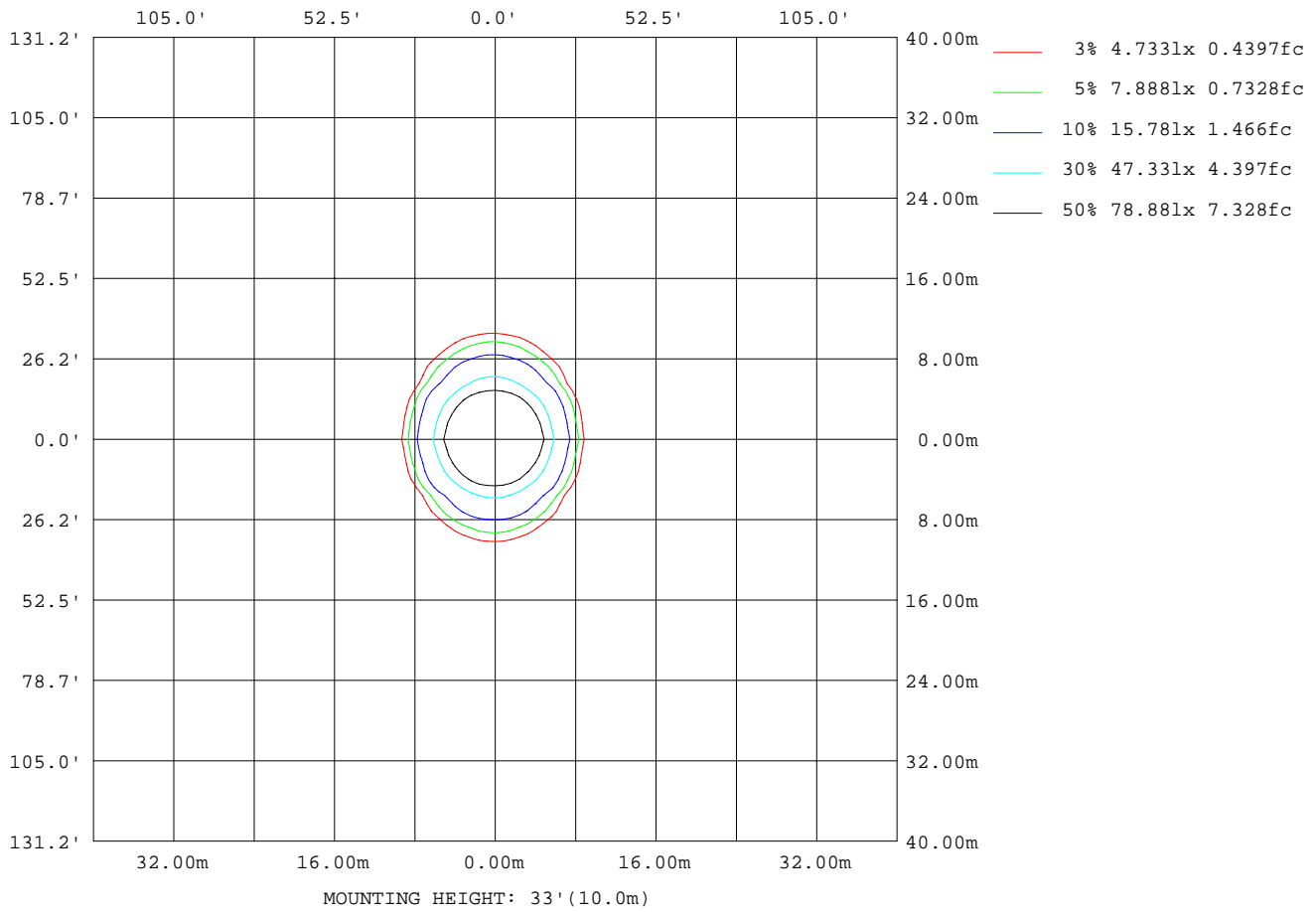
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60



ISOLUX DIAGRAM

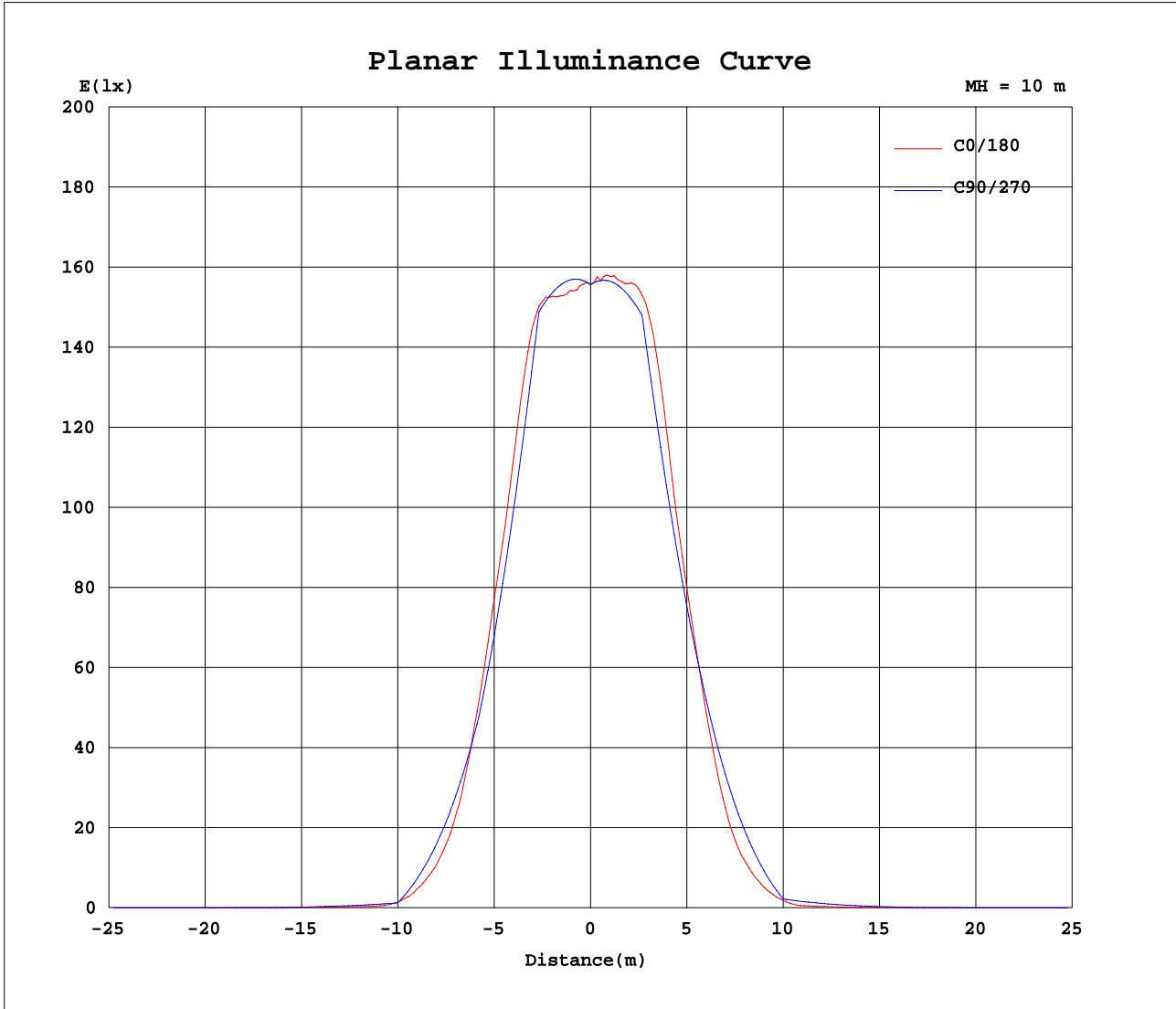
|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity: 65.0%  
 Test Distance: 8.000m [K=1.0000]  
 Remarks: 60







LUMINOUS DISTRIBUTION INTENSITY DATA

|   |       |                   |
|---|-------|-------------------|
| Test:U:220.1V I:0.6950A P:148.1W PF:0.9670 Lamp Flux:14909.3x1 lm |       |                   |
| NAME: LED FLOOD LIGHT   | TYPE: | WEIGHT:5          |
| SPEC.:PHILIPS 3030  | DIM.: | SERIAL No.:       |
| MFR.: QINHAN LIGHTING   | SUR.: | PROTECTION ANGLE: |

Table--4

UNIT: x10cd

| C( DEG)<br>γ (DEG) | 285  | 290  | 295  | 300  | 305  | 310  | 315  | 320  | 325  | 330  | 335  | 340  | 345  | 350  | 355  |  |  |  |  |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|
| 0                  | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 | 1556 |  |  |  |  |
| 5                  | 1589 | 1586 | 1584 | 1583 | 1582 | 1580 | 1577 | 1573 | 1571 | 1570 | 1568 | 1567 | 1565 | 1563 | 1561 |  |  |  |  |
| 10                 | 1611 | 1608 | 1606 | 1607 | 1607 | 1605 | 1603 | 1602 | 1601 | 1600 | 1599 | 1599 | 1599 | 1598 | 1598 |  |  |  |  |
| 15                 | 1635 | 1637 | 1635 | 1633 | 1627 | 1617 | 1607 | 1599 | 1596 | 1598 | 1600 | 1607 | 1618 | 1633 | 1650 |  |  |  |  |
| 20                 | 1407 | 1426 | 1452 | 1474 | 1495 | 1522 | 1520 | 1487 | 1464 | 1447 | 1439 | 1439 | 1446 | 1462 | 1486 |  |  |  |  |
| 25                 | 1132 | 1141 | 1148 | 1155 | 1161 | 1165 | 1168 | 1179 | 1201 | 1171 | 1148 | 1127 | 1116 | 1123 | 1144 |  |  |  |  |
| 30                 | 843  | 833  | 821  | 810  | 800  | 793  | 799  | 814  | 818  | 822  | 798  | 765  | 743  | 746  | 765  |  |  |  |  |
| 35                 | 574  | 554  | 524  | 489  | 449  | 452  | 460  | 473  | 470  | 452  | 430  | 407  | 387  | 383  | 394  |  |  |  |  |
| 40                 | 323  | 316  | 300  | 280  | 257  | 231  | 206  | 208  | 206  | 194  | 187  | 188  | 172  | 165  | 167  |  |  |  |  |
| 45                 | 83.4 | 93.6 | 110  | 119  | 119  | 114  | 103  | 75.6 | 47.8 | 56.0 | 63.8 | 54.8 | 38.4 | 33.7 | 35.3 |  |  |  |  |
| 50                 | 27.1 | 16.4 | 15.2 | 14.0 | 23.0 | 36.4 | 35.2 | 22.1 | 13.7 | 12.7 | 12.9 | 12.4 | 12.3 | 11.8 | 11.7 |  |  |  |  |
| 55                 | 15.5 | 10.5 | 9.94 | 9.27 | 8.55 | 7.82 | 7.08 | 7.54 | 7.58 | 7.30 | 6.86 | 6.72 | 6.65 | 6.57 | 6.43 |  |  |  |  |
| 60                 | 5.41 | 5.08 | 5.21 | 5.18 | 5.08 | 4.83 | 4.47 | 4.11 | 3.81 | 3.98 | 3.90 | 3.76 | 3.67 | 3.67 | 3.58 |  |  |  |  |
| 65                 | 2.95 | 2.76 | 2.60 | 2.42 | 2.27 | 2.42 | 2.49 | 2.44 | 2.31 | 2.17 | 2.14 | 2.12 | 2.06 | 2.04 | 2.01 |  |  |  |  |
| 70                 | 1.82 | 1.73 | 1.65 | 1.57 | 1.48 | 1.39 | 1.30 | 1.21 | 1.24 | 1.23 | 1.18 | 1.14 | 1.13 | 1.11 | 1.10 |  |  |  |  |
| 75                 | 0.72 | 0.74 | 0.75 | 0.75 | 0.75 | 0.74 | 0.72 | 0.69 | 0.65 | 0.59 | 0.57 | 0.56 | 0.53 | 0.53 | 0.52 |  |  |  |  |
| 80                 | 0.04 | 0.07 | 0.10 | 0.13 | 0.16 | 0.19 | 0.21 | 0.24 | 0.26 | 0.26 | 0.25 | 0.22 | 0.21 | 0.19 | 0.19 |  |  |  |  |
| 85                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.06 | 0.06 | 0.06 | 0.05 |  |  |  |  |
| 90                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2015-12-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.287  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: 60