

GONIOPHOTOMETERS SYSTEM TEST REPORT

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LED Spotlight KENZO Series K1X70-18W-930-30D

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|                     |         |                          |
|---------------------|---------|--------------------------|
| Light Output Ratio: | 100.0%  |                          |
| Luminaire Power:    | 20.26 W |                          |
| SHR Nominal:        | 0.50    | Calculated using the TM5 |
| SHR Maximum:        | 0.50    | fine grid method.        |

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C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Meng Yongjian  
Test Date: 2017-05-19

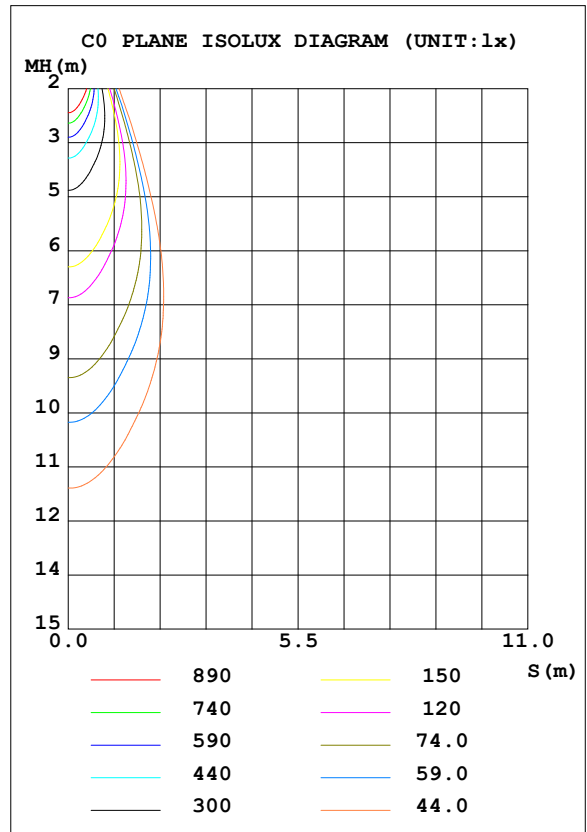
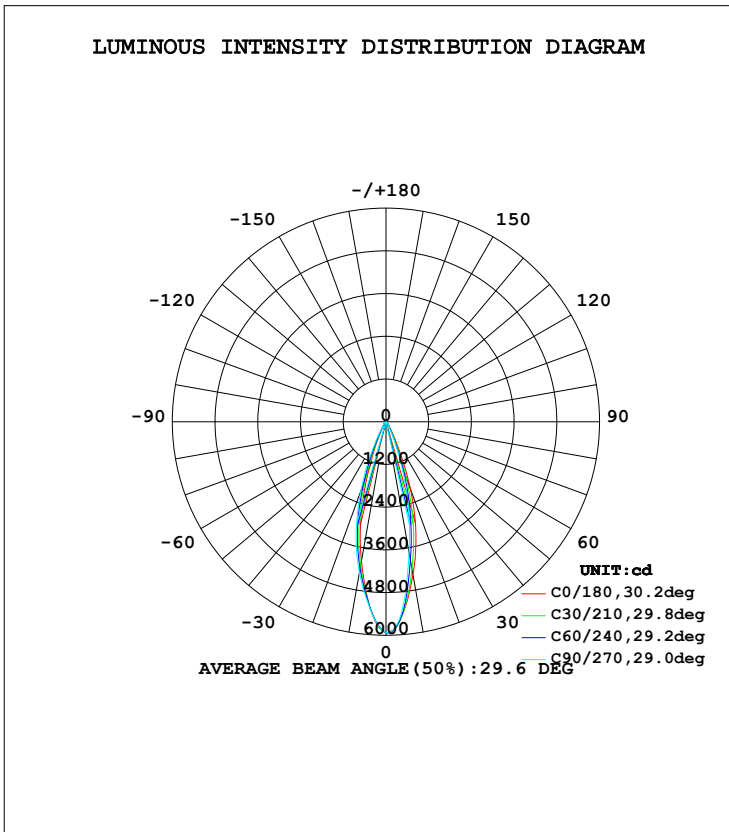
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity: 52%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

| DATA OF LAMP      |               | PHOTOMETRIC DATA Eff: 88.72 lm/W |        |                     |           |
|-------------------|---------------|----------------------------------|--------|---------------------|-----------|
| MODEL             | CITIZEN-3000K | I <sub>max</sub> (cd)            | 5939   | S/MH (C0/180)       | 0.47      |
| NOMINAL POWER (W) | 21            | LOR (%)                          | 100.0  | S/MH (C90/270)      | 0.53      |
| RATED VOLTAGE (V) | 220           | TOTAL FLUX (lm)                  | 1797.5 | η UP, DN (C0-180)   | 0.0, 45.5 |
| NOMINAL FLUX (lm) | 1797.51       | CIE CLASS                        | DIRECT | η UP, DN (C180-360) | 0.0, 54.5 |
| LAMPS INSIDE      | 1             | η up (%)                         | 0.0    | CIBSE SHR NOM       | 0.50      |
| TEST VOLTAGE (V)  | 220           | η down (%)                       | 100.0  | CIBSE SHR MAX       | 0.50      |



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Temperature: 25.3DEG  
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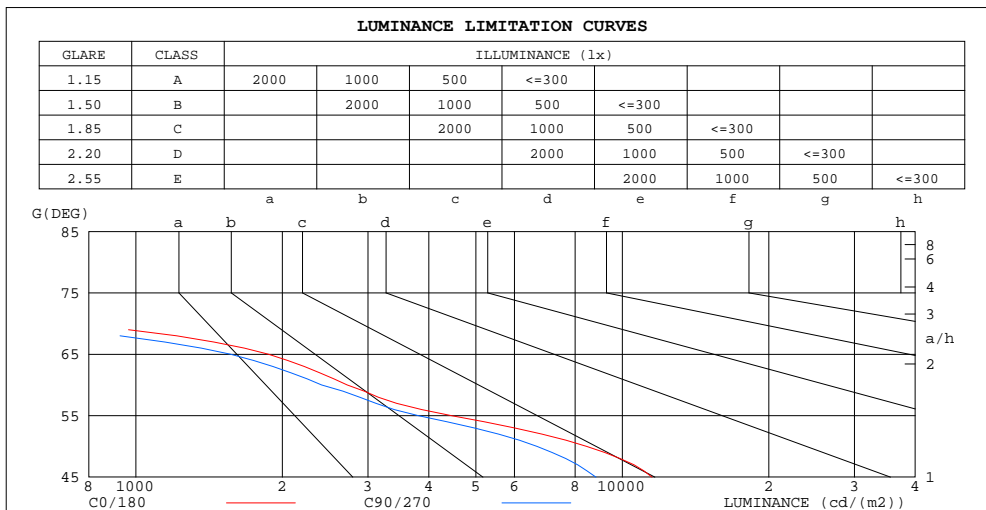
γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity: 52%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

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**ZONAL FLUX DIAGRAM  
AND LUMINANCE LIMITATION CURVES**

**ZONAL FLUX DIAGRAM:**

| $\gamma$ | C0                    | C45    | C90    | C135   | C180   | C225   | C270   | C315   | $\gamma$ | $\Phi$ zone | $\Phi$ total | $\Phi$ lum,lamp |
|----------|-----------------------|--------|--------|--------|--------|--------|--------|--------|----------|-------------|--------------|-----------------|
| 10       | 4366                  | 4109   | 3740   | 3723   | 3983   | 4127   | 4303   | 4414   | 0- 10    | 465.5       | 465.5        | 25.9,25.9       |
| 20       | 2023                  | 1519   | 1213   | 1145   | 1397   | 1703   | 2068   | 2241   | 10- 20   | 781.1       | 1247         | 69.4,69.4       |
| 30       | 347.9                 | 268.4  | 223.4  | 219.4  | 239.8  | 282.4  | 393.1  | 433.6  | 20- 30   | 359.7       | 1606         | 89.4,89.4       |
| 40       | 105.2                 | 95.71  | 86.78  | 82.39  | 88.46  | 101.6  | 122.5  | 123.1  | 30- 40   | 105.2       | 1712         | 95.2,95.2       |
| 50       | 51.57                 | 47.38  | 40.79  | 39.27  | 43.86  | 47.57  | 54.90  | 56.63  | 40- 50   | 56.43       | 1768         | 98.4,98.4       |
| 60       | 12.91                 | 12.62  | 11.44  | 10.89  | 10.88  | 11.72  | 12.70  | 13.14  | 50- 60   | 22.39       | 1790         | 99.6,99.6       |
| 70       | 2.380                 | 2.256  | 1.600  | 1.174  | 1.087  | 1.283  | 1.830  | 2.224  | 60- 70   | 6.605       | 1797         | 100,100         |
| 80       | 0.1773                | 0.1442 | 0.1488 | 0.1180 | 0.1070 | 0.1357 | 0.1376 | 0.1750 | 70- 80   | 0.4307      | 1797         | 100,100         |
| 90       | 0.0896                | 0.0765 | 0.0809 | 0.0809 | 0.0612 | 0.0590 | 0.0634 | 0.0853 | 80- 90   | 0.1078      | 1798         | 100,100         |
| 100      |                       |        |        |        |        |        |        |        | 90-100   |             |              |                 |
| 110      |                       |        |        |        |        |        |        |        | 100-110  |             |              |                 |
| 120      |                       |        |        |        |        |        |        |        | 110-120  |             |              |                 |
| 130      |                       |        |        |        |        |        |        |        | 120-130  |             |              |                 |
| 140      |                       |        |        |        |        |        |        |        | 130-140  |             |              |                 |
| 150      |                       |        |        |        |        |        |        |        | 140-150  |             |              |                 |
| 160      |                       |        |        |        |        |        |        |        | 150-160  |             |              |                 |
| 170      |                       |        |        |        |        |        |        |        | 160-170  |             |              |                 |
| 180      |                       |        |        |        |        |        |        |        | 170-180  |             |              |                 |
| DEG      | LUMINOUS INTENSITY:cd |        |        |        |        |        |        |        |          | UNIT:lm     |              |                 |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G(DEG)            | C0/180 | C90/270 |
| 85                | 145    | 122     |
| 80                | 107    | 90      |
| 75                | 110    | 91      |
| 70                | 732    | 493     |
| 65                | 1873   | 1564    |
| 60                | 2719   | 2409    |
| 55                | 4457   | 3810    |
| 50                | 8446   | 6680    |
| 45                | 11502  | 8823    |

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-05-19

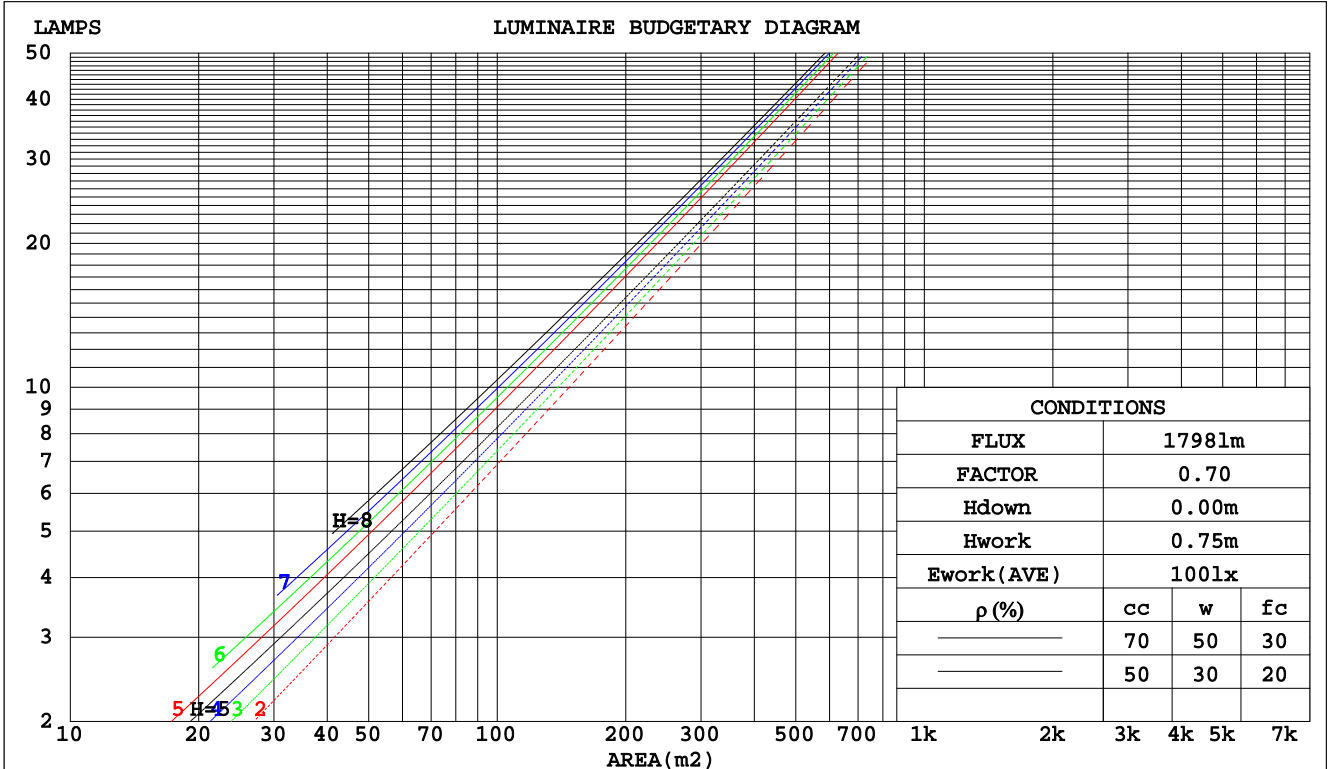
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity:52%  
Test Distance:5.850m [K=1.0000]  
Remarks:

GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

| 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           |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      | 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 | 1.00 |
| 1.0  | 1.12                            | 1.10 | 1.08 | 1.10 | 1.08 | 1.07 | 1.06 | 1.05 | 1.03 | 1.02 | 1.01 | 1.00 | .99  | .98  | .97  | .96  |
| 2.0  | 1.06                            | 1.03 | 1.00 | 1.04 | 1.01 | .99  | 1.01 | .99  | .97  | .98  | .96  | .95  | .96  | .94  | .93  | .91  |
| 3.0  | 1.01                            | .97  | .94  | .99  | .96  | .93  | .97  | .94  | .91  | .95  | .92  | .90  | .92  | .90  | .89  | .87  |
| 4.0  | .96                             | .92  | .88  | .95  | .91  | .88  | .93  | .89  | .87  | .91  | .88  | .86  | .89  | .87  | .85  | .83  |
| 5.0  | .92                             | .87  | .84  | .91  | .87  | .83  | .89  | .86  | .83  | .88  | .84  | .82  | .86  | .84  | .81  | .80  |
| 6.0  | .88                             | .83  | .80  | .87  | .83  | .80  | .86  | .82  | .79  | .85  | .81  | .79  | .83  | .80  | .78  | .77  |
| 7.0  | .84                             | .80  | .76  | .84  | .79  | .76  | .83  | .79  | .76  | .82  | .78  | .75  | .81  | .77  | .75  | .74  |
| 8.0  | .81                             | .77  | .73  | .81  | .76  | .73  | .80  | .76  | .73  | .79  | .75  | .73  | .78  | .75  | .72  | .71  |
| 9.0  | .78                             | .74  | .71  | .78  | .73  | .70  | .77  | .73  | .70  | .76  | .73  | .70  | .76  | .72  | .70  | .69  |
| 10.0 | .76                             | .71  | .68  | .75  | .71  | .68  | .75  | .71  | .68  | .74  | .70  | .68  | .73  | .70  | .67  | .66  |



C Range: 0 - 360DEG  
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γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity:52%  
Test Distance:5.850m [K=1.0000]  
Remarks:

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WEC AND CCEC

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

| 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  | .150                  | .085 | .027 | .143 | .082 | .026 | .131                            | .075 | .024 | .120 | .069 | .022 | .109 | .063 | .020 |   |
| 2.0  | .141                  | .077 | .024 | .135 | .075 | .023 | .125                            | .070 | .022 | .116 | .065 | .020 | .107 | .060 | .019 |   |
| 3.0  | .133                  | .071 | .021 | .128 | .069 | .021 | .119                            | .065 | .020 | .111 | .061 | .019 | .104 | .057 | .018 |   |
| 4.0  | .125                  | .065 | .019 | .121 | .063 | .019 | .114                            | .060 | .018 | .107 | .057 | .017 | .100 | .055 | .017 |   |
| 5.0  | .118                  | .060 | .017 | .115 | .059 | .017 | .109                            | .057 | .017 | .103 | .054 | .016 | .097 | .052 | .016 |   |
| 6.0  | .112                  | .056 | .016 | .109 | .055 | .016 | .104                            | .053 | .015 | .099 | .051 | .015 | .094 | .049 | .015 |   |
| 7.0  | .107                  | .053 | .015 | .104 | .052 | .015 | .100                            | .050 | .014 | .095 | .049 | .014 | .091 | .047 | .014 |   |
| 8.0  | .102                  | .050 | .014 | .100 | .049 | .014 | .096                            | .048 | .014 | .092 | .046 | .013 | .088 | .045 | .013 |   |
| 9.0  | .098                  | .047 | .013 | .096 | .047 | .013 | .092                            | .045 | .013 | .088 | .044 | .013 | .085 | .043 | .012 |   |
| 10.0 | .094                  | .045 | .012 | .092 | .044 | .012 | .088                            | .043 | .012 | .085 | .042 | .012 | .082 | .041 | .012 |   |

| 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  | .169                  | .158 | .147 | .145 | .135 | .127 | .099                                       | .093 | .087 | .057 | .054 | .051 | .018 | .017 | .016 |   |
| 2.0  | .152                  | .133 | .116 | .130 | .114 | .101 | .089                                       | .079 | .070 | .051 | .046 | .041 | .017 | .015 | .013 |   |
| 3.0  | .138                  | .113 | .094 | .118 | .098 | .081 | .081                                       | .068 | .057 | .047 | .040 | .034 | .015 | .013 | .011 |   |
| 4.0  | .126                  | .098 | .077 | .108 | .085 | .067 | .074                                       | .059 | .047 | .043 | .035 | .028 | .014 | .011 | .009 |   |
| 5.0  | .116                  | .086 | .064 | .100 | .075 | .056 | .069                                       | .052 | .039 | .040 | .031 | .023 | .013 | .010 | .008 |   |
| 6.0  | .108                  | .076 | .054 | .093 | .066 | .047 | .064                                       | .046 | .033 | .037 | .027 | .020 | .012 | .009 | .006 |   |
| 7.0  | .101                  | .068 | .046 | .087 | .059 | .040 | .060                                       | .042 | .028 | .035 | .024 | .017 | .011 | .008 | .006 |   |
| 8.0  | .094                  | .062 | .039 | .081 | .054 | .034 | .056                                       | .038 | .024 | .033 | .022 | .015 | .011 | .007 | .005 |   |
| 9.0  | .089                  | .056 | .034 | .077 | .049 | .030 | .053                                       | .034 | .021 | .031 | .020 | .013 | .010 | .007 | .004 |   |
| 10.0 | .084                  | .052 | .030 | .073 | .045 | .026 | .050                                       | .032 | .019 | .029 | .019 | .011 | .010 | .006 | .004 |   |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
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γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity:52%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

GONIOPHOTOMETERS SYSTEM TEST REPORT

UGR(Unified Glare Rating) Table

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

|  |                  |      |      |      |      |                |      |      |      |      |
|--|------------------|------|------|------|------|----------------|------|------|------|------|
| 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                                      | 12.5             | 13.2 | 12.7 | 13.4 | 13.5 | 11.5           | 12.3 | 11.7 | 12.4 | 12.6 |
| 3H   | 12.4             | 13.1 | 12.6 | 13.3 | 13.5 | 11.4           | 12.1 | 11.7 | 12.3 | 12.5 |
| 4H   | 12.3             | 13.0 | 12.6 | 13.2 | 13.4 | 11.4           | 12.0 | 11.6 | 12.2 | 12.4 |
| 6H   | 12.2             | 12.8 | 12.5 | 13.1 | 13.3 | 11.3           | 11.9 | 11.6 | 12.1 | 12.4 |
| 8H   | 12.2             | 12.8 | 12.5 | 13.0 | 13.3 | 11.2           | 11.8 | 11.5 | 12.1 | 12.3 |
| 12H  | 12.1             | 12.7 | 12.4 | 13.0 | 13.2 | 11.2           | 11.8 | 11.5 | 12.0 | 12.3 |
| 4H 2H  | 12.3             | 13.0 | 12.6 | 13.2 | 13.4 | 11.4           | 12.1 | 11.7 | 12.3 | 12.5 |
| 3H   | 12.3             | 12.8 | 12.6 | 13.1 | 13.4 | 11.4           | 11.9 | 11.7 | 12.2 | 12.5 |
| 4H   | 12.2             | 12.7 | 12.5 | 13.0 | 13.3 | 11.3           | 11.8 | 11.6 | 12.1 | 12.4 |
| 6H   | 12.1             | 12.5 | 12.4 | 12.9 | 13.2 | 11.2           | 11.6 | 11.5 | 12.0 | 12.3 |
| 8H   | 12.0             | 12.4 | 12.4 | 12.8 | 13.2 | 11.1           | 11.5 | 11.5 | 11.9 | 12.3 |
| 12H  | 12.0             | 12.4 | 12.4 | 12.7 | 13.1 | 11.1           | 11.4 | 11.5 | 11.8 | 12.2 |
| 8H 4H  | 12.0             | 12.4 | 12.4 | 12.8 | 13.2 | 11.1           | 11.5 | 11.5 | 11.9 | 12.3 |
| 6H   | 11.9             | 12.3 | 12.3 | 12.7 | 13.1 | 11.0           | 11.4 | 11.4 | 11.8 | 12.2 |
| 8H   | 11.8             | 12.2 | 12.3 | 12.6 | 13.0 | 10.9           | 11.3 | 11.4 | 11.7 | 12.1 |
| 12H  | 11.8             | 12.1 | 12.3 | 12.5 | 13.0 | 10.9           | 11.2 | 11.4 | 11.6 | 12.1 |
| 12H 4H   | 12.0             | 12.4 | 12.4 | 12.7 | 13.1 | 11.1           | 11.5 | 11.5 | 11.8 | 12.2 |
| 6H   | 11.8             | 12.2 | 12.3 | 12.6 | 13.0 | 10.9           | 11.3 | 11.4 | 11.7 | 12.1 |
| 8H   | 11.8             | 12.1 | 12.3 | 12.5 | 13.0 | 10.9           | 11.2 | 11.4 | 11.6 | 12.1 |
| Variations with the observer position at spacings: |                  |      |      |      |      |                |      |      |      |      |
| S = 1.0H   | + 2.3 / - 4.6    |      |      |      |      | + 2.0 / - 4.6  |      |      |      |      |
| 1.5H   | + 2.5 / - 3.8    |      |      |      |      | + 2.0 / - 3.1  |      |      |      |      |
| 2.0H   | + 4.3 / - 5.2    |      |      |      |      | + 3.7 / - 4.7  |      |      |      |      |

CIE Pub.117 Corrected 1798 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.0)

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Meng Yongjian  
 Test Date:2017-05-19

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity:52%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

**GONIOPHOTOMETERS SYSTEM TEST REPORT**

**UTILIZATION FACTORS TABLE**

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

| 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                         | 89  | 82  | 79        | 88  | 82  | 79  | 87            | 82  | 78  | 75     |
| 0.80                             | 96  | 90  | 87        | 95  | 90  | 86  | 94            | 89  | 86  | 83     |
| 1.00                             | 100   | 95  | 91        | 99  | 94  | 91  | 98            | 94  | 90  | 87     |
| 1.25                             | 104   | 99  | 96        | 103 | 98  | 95  | 101           | 97  | 94  | 90     |
| 1.50                             | 107   | 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 | 96     |
| 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: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Meng Yongjian  
 Test Date:2017-05-19

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity:52%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

**GONIOPHOTOMETERS SYSTEM TEST REPORT**

**ISOCANDELA DIAGRAM**

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

Conical surface Flux(90deg):

1743.3 lm

%lum = 97.0%

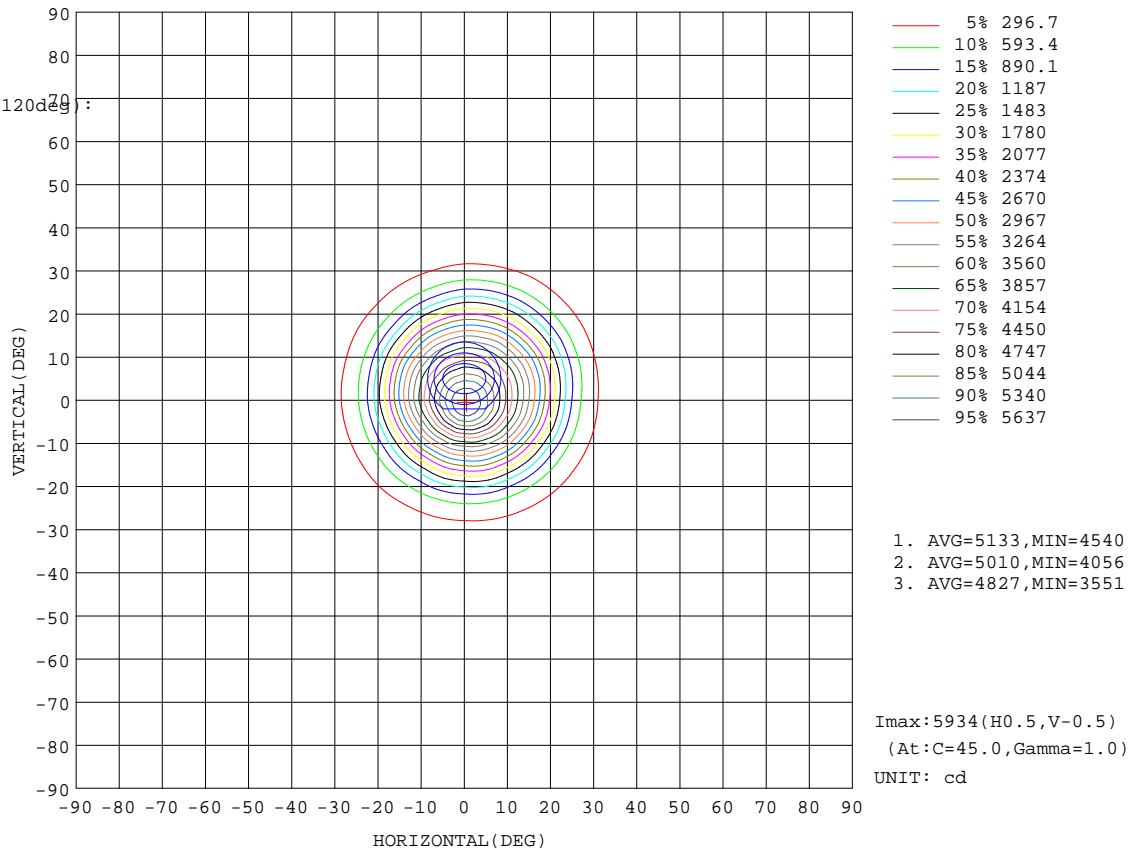
%lamp = 97.0%

Conical surface Flux(120deg):

1790.4 lm

%lum = 99.6%

%lamp = 99.6%



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-05-19

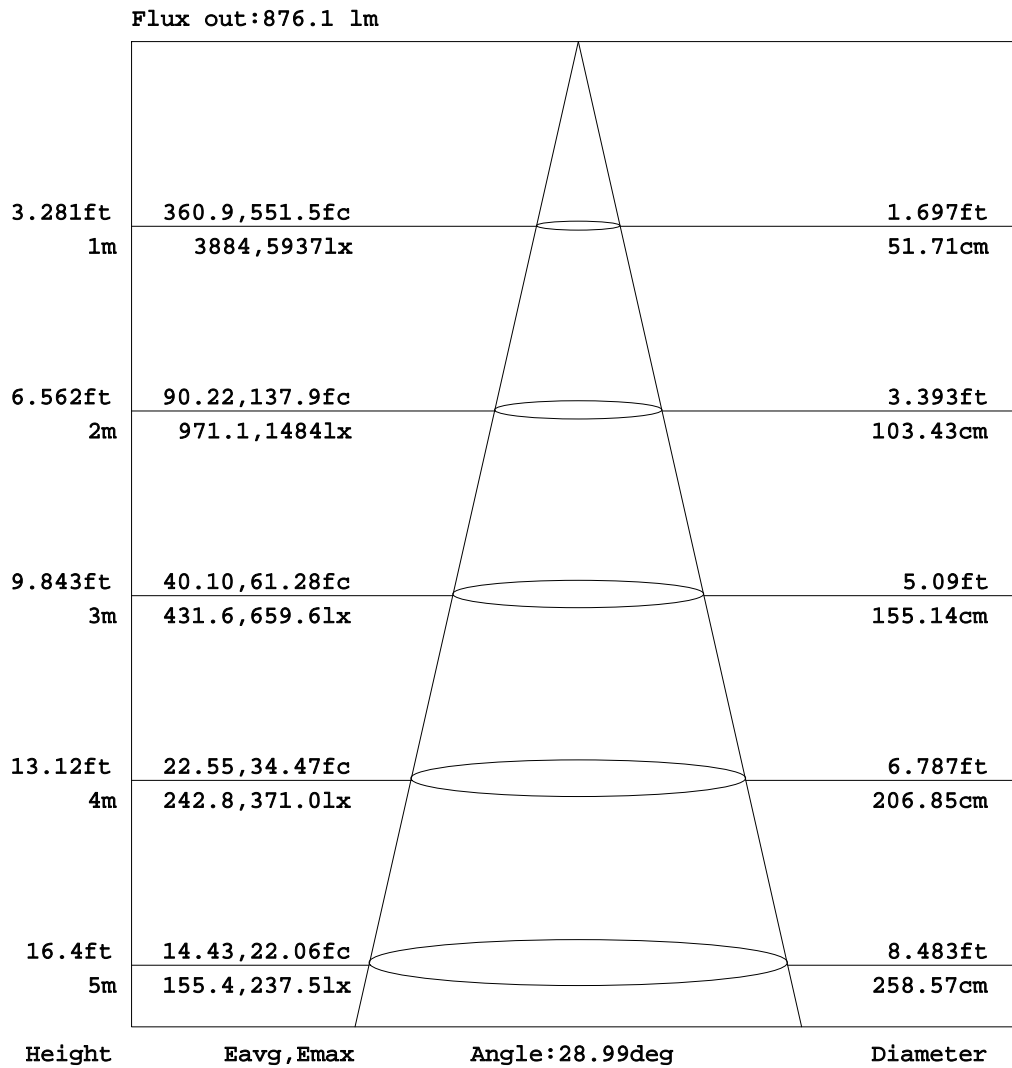
γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity:52%  
Test Distance:5.850m [K=1.0000]  
Remarks:



GONIOPHOTOMETERS SYSTEM TEST REPORT

AAI Figure

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |



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

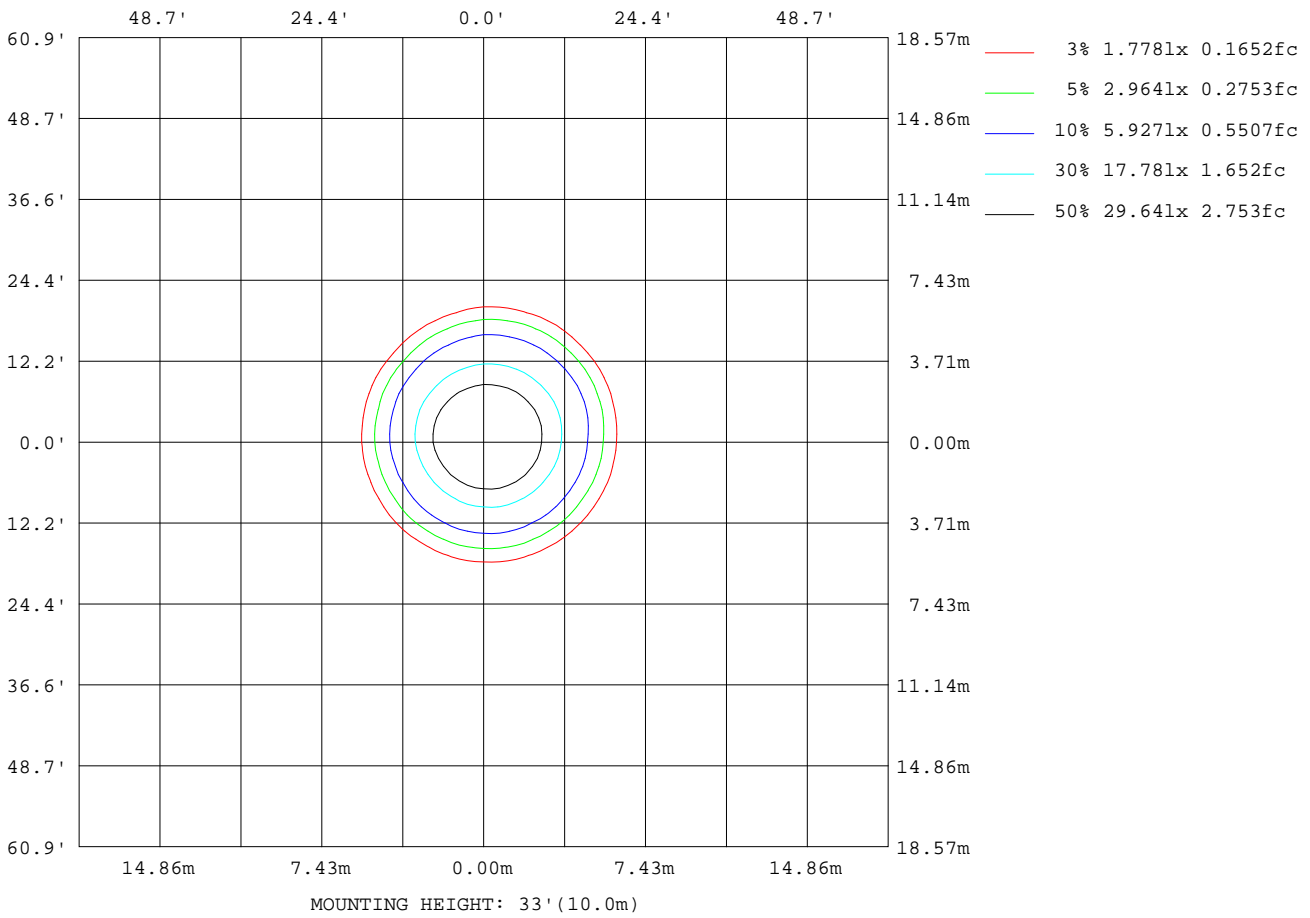
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-05-19

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity:52%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**GONIOPHOTOMETERS SYSTEM TEST REPORT**

**ISOLUX DIAGRAM**

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

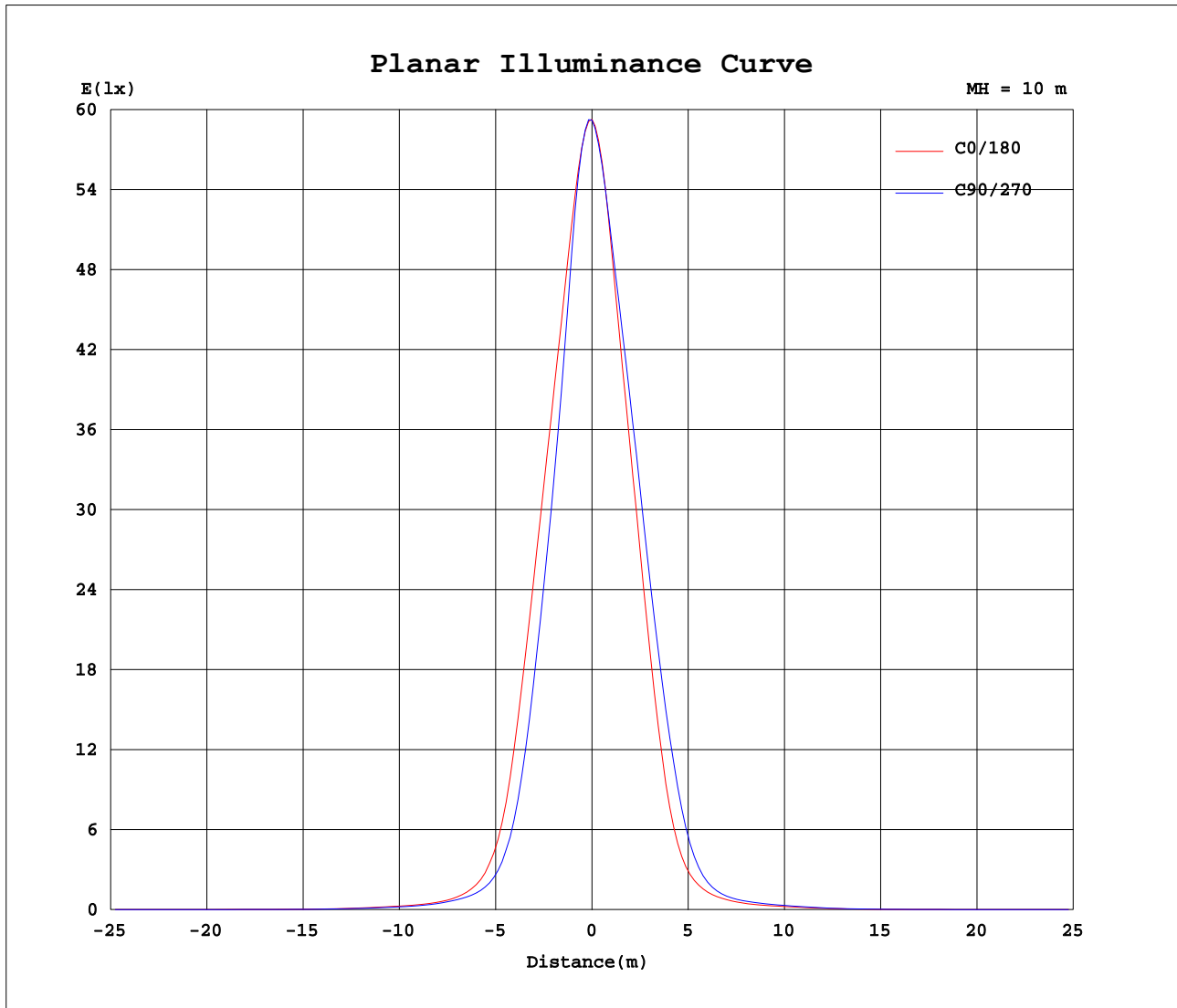


C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Meng Yongjian  
 Test Date:2017-05-19

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity:52%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

GONIOPHOTOMETERS SYSTEM TEST REPORT

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Meng Yongjian  
 Test Date: 2017-05-19

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity: 52%  
 Test Distance: 5.850m [K=1.0000]  
 Remarks:

# GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINOUS DISTRIBUTION INTENSITY DATA

|   |                     |             |
|---|---------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                     |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight      | SERIAL No.: |
| SPEC.:3000K   | DIM.: φ110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                     |             |

Table--1

UNIT: cd

| C (DEG) \ γ (DEG) | 0    | 15   | 30   | 45   | 60   | 75   | 90   | 105  | 120  | 135  | 150  | 165  | 180  | 195  | 210  | 225  | 240  | 255  | 270  |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0                 | 5927 | 5923 | 5928 | 5921 | 5926 | 5918 | 5922 | 5916 | 5917 | 5915 | 5913 | 5914 | 5927 | 5923 | 5928 | 5921 | 5926 | 5918 | 5922 |
| 5                 | 5417 | 5451 | 5421 | 5437 | 5388 | 5374 | 5302 | 5300 | 5222 | 5212 | 5162 | 5191 | 5225 | 5193 | 5218 | 5198 | 5227 | 5212 | 5253 |
| 10                | 4366 | 4321 | 4203 | 4109 | 3954 | 3861 | 3740 | 3737 | 3683 | 3723 | 3756 | 3864 | 3983 | 4011 | 4106 | 4127 | 4202 | 4213 | 4303 |
| 15                | 3261 | 3154 | 2957 | 2816 | 2641 | 2547 | 2411 | 2376 | 2305 | 2352 | 2395 | 2523 | 2690 | 2801 | 2922 | 2983 | 3093 | 3137 | 3236 |
| 20                | 2023 | 1869 | 1668 | 1519 | 1382 | 1322 | 1213 | 1183 | 1118 | 1145 | 1163 | 1245 | 1397 | 1483 | 1628 | 1703 | 1837 | 1941 | 2068 |
| 25                | 879  | 791  | 685  | 622  | 564  | 518  | 484  | 464  | 456  | 463  | 464  | 492  | 536  | 590  | 648  | 695  | 801  | 886  | 1019 |
| 30                | 348  | 323  | 290  | 268  | 246  | 236  | 223  | 220  | 214  | 219  | 218  | 224  | 240  | 248  | 269  | 282  | 313  | 342  | 393  |
| 35                | 174  | 168  | 158  | 153  | 146  | 142  | 136  | 135  | 131  | 130  | 128  | 132  | 137  | 139  | 146  | 151  | 162  | 170  | 185  |
| 40                | 105  | 101  | 97.8 | 95.7 | 92.2 | 89.6 | 86.8 | 85.8 | 83.6 | 82.4 | 82.4 | 84.8 | 88.5 | 91.1 | 96.4 | 102  | 108  | 115  | 122  |
| 45                | 77.3 | 72.8 | 69.3 | 67.2 | 64.8 | 61.6 | 59.3 | 59.3 | 59.0 | 58.4 | 60.0 | 63.7 | 67.6 | 69.3 | 73.8 | 77.6 | 81.4 | 85.5 | 90.0 |
| 50                | 51.6 | 50.2 | 48.1 | 47.4 | 45.1 | 42.9 | 40.8 | 40.8 | 40.1 | 39.3 | 39.7 | 41.7 | 43.9 | 43.5 | 46.2 | 47.6 | 49.8 | 51.6 | 54.9 |
| 55                | 24.3 | 24.3 | 23.7 | 24.0 | 23.1 | 22.2 | 20.8 | 20.8 | 19.9 | 19.1 | 18.8 | 19.4 | 20.2 | 19.5 | 20.4 | 20.6 | 21.6 | 22.2 | 23.8 |
| 60                | 12.9 | 12.9 | 12.5 | 12.6 | 12.1 | 12.0 | 11.4 | 11.3 | 11.0 | 10.9 | 10.6 | 10.6 | 10.9 | 11.0 | 11.5 | 11.7 | 12.2 | 12.4 | 12.7 |
| 65                | 7.52 | 7.50 | 7.22 | 7.17 | 6.83 | 6.68 | 6.28 | 6.17 | 5.88 | 5.80 | 5.49 | 5.44 | 5.63 | 5.72 | 6.17 | 6.39 | 6.83 | 6.92 | 7.21 |
| 70                | 2.38 | 2.43 | 2.29 | 2.26 | 2.00 | 1.90 | 1.60 | 1.49 | 1.25 | 1.17 | 1.00 | 1.01 | 1.09 | 1.07 | 1.23 | 1.28 | 1.55 | 1.62 | 1.83 |
| 75                | 0.27 | 0.25 | 0.26 | 0.23 | 0.24 | 0.22 | 0.22 | 0.20 | 0.21 | 0.19 | 0.20 | 0.19 | 0.18 | 0.21 | 0.19 | 0.22 | 0.21 | 0.23 | 0.22 |
| 80                | 0.18 | 0.15 | 0.16 | 0.14 | 0.16 | 0.13 | 0.15 | 0.13 | 0.14 | 0.12 | 0.14 | 0.11 | 0.11 | 0.13 | 0.11 | 0.14 | 0.12 | 0.15 | 0.14 |
| 85                | 0.12 | 0.10 | 0.11 | 0.09 | 0.11 | 0.08 | 0.10 | 0.08 | 0.10 | 0.08 | 0.09 | 0.08 | 0.07 | 0.08 | 0.06 | 0.09 | 0.07 | 0.10 | 0.08 |
| 90                | 0.09 | 0.08 | 0.09 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-05-19

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity:52%  
Test Distance:5.850m [K=1.0000]  
Remarks:



**GONIOPHOTOMETERS SYSTEM TEST REPORT**

**LUMINOUS DISTRIBUTION INTENSITY DATA**

|   |                           |             |
|---|---------------------------|-------------|
| Test:U:220.7V I:0.0979A P:20.26W PF:0.9377 Lamp Flux:1797.51x1 lm |                           |             |
| NAME: K1X70-18W-930-30D   | TYPE:Spotlight            | SERIAL No.: |
| SPEC.:3000K   | DIM.: $\phi$ 110mm*H138mm |             |
| MFR.: NEKO LIGHTING AG  |                           |             |

Table--2

UNIT: cd

| C (DEG)<br>$\gamma$ (DEG) | 285  | 300  | 315  | 330  | 345  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------------|------|------|------|------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 0                         | 5916 | 5917 | 5915 | 5913 | 5914 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5                         | 5265 | 5326 | 5345 | 5403 | 5410 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10                        | 4324 | 4409 | 4414 | 4450 | 4421 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15                        | 3285 | 3383 | 3398 | 3431 | 3380 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20                        | 2141 | 2211 | 2241 | 2267 | 2187 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25                        | 1073 | 1117 | 1117 | 1115 | 1025 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30                        | 418  | 439  | 434  | 425  | 389  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35                        | 191  | 197  | 196  | 194  | 185  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40                        | 125  | 125  | 123  | 119  | 112  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 45                        | 91.8 | 92.4 | 90.5 | 87.9 | 82.7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50                        | 55.6 | 57.4 | 56.6 | 56.9 | 54.6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 55                        | 24.0 | 25.3 | 25.1 | 26.0 | 25.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 60                        | 12.9 | 13.3 | 13.1 | 13.5 | 13.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 65                        | 7.35 | 7.72 | 7.69 | 7.92 | 7.76 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 70                        | 1.91 | 2.17 | 2.22 | 2.47 | 2.47 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 75                        | 0.25 | 0.24 | 0.27 | 0.26 | 0.28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 80                        | 0.16 | 0.15 | 0.17 | 0.16 | 0.18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 85                        | 0.11 | 0.10 | 0.12 | 0.10 | 0.12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 90                        | 0.08 | 0.08 | 0.09 | 0.08 | 0.09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                         |  |
|-------------------------|--|
| C Range: 0 - 360DEG     | $\gamma$ Range: 0 - 90DEG                        |
| C Interval: 15.0DEG     | $\gamma$ Interval: 1.0DEG                        |
| Test Speed: HIGH        | Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288 |
| Temperature:25.3DEG     | Humidity:52%                                     |
| Operators:Meng Yongjian | Test Distance:5.850m [K=1.0000]                  |
| Test Date:2017-05-19    | Remarks:   |

GONIOPHOTOMETERS SYSTEM TEST REPORT

Photometric Data Table [cd]

|      |        |        |        |        |        |        |        |        |        |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| G/C  | 0.0    | 15.0   | 30.0   | 45.0   | 60.0   | 75.0   | 90.0   | 105.0  | 120.0  | 135.0  |
| 0.0  | 5927   | 5923   | 5928   | 5921   | 5926   | 5918   | 5922   | 5916   | 5917   | 5915   |
| 3.0  | 5738   | 5773   | 5763   | 5781   | 5759   | 5765   | 5730   | 5727   | 5678   | 5669   |
| 6.0  | 5224   | 5249   | 5202   | 5208   | 5132   | 5098   | 5002   | 4998   | 4920   | 4927   |
| 9.0  | 4577   | 4556   | 4461   | 4387   | 4236   | 4163   | 4037   | 4038   | 3972   | 4021   |
| 12.0 | 3935   | 3858   | 3712   | 3594   | 3423   | 3310   | 3189   | 3166   | 3118   | 3170   |
| 15.0 | 3261   | 3154   | 2957   | 2816   | 2641   | 2547   | 2411   | 2376   | 2305   | 2352   |
| 18.0 | 2529   | 2394   | 2179   | 2023   | 1868   | 1785   | 1660   | 1625   | 1548   | 1580   |
| 21.0 | 1764   | 1613   | 1422   | 1304   | 1164   | 1105   | 1017   | 992.7  | 938.8  | 962.1  |
| 24.0 | 1060   | 954.4  | 828.7  | 755.6  | 668.7  | 628.5  | 590.8  | 559.7  | 554.2  | 553.8  |
| 27.0 | 599.8  | 539.8  | 467.4  | 427.0  | 387.0  | 364.4  | 342.1  | 332.5  | 324.8  | 333.1  |
| 30.0 | 347.9  | 322.6  | 290.2  | 268.4  | 246.5  | 235.5  | 223.4  | 219.6  | 213.9  | 219.4  |
| 33.0 | 223.9  | 213.1  | 197.0  | 186.3  | 175.1  | 169.9  | 163.2  | 160.2  | 156.8  | 157.0  |
| 36.0 | 155.1  | 150.6  | 143.2  | 138.8  | 133.5  | 130.1  | 125.3  | 123.1  | 120.4  | 118.5  |
| 39.0 | 114.5  | 110.8  | 107.3  | 104.9  | 101.2  | 98.33  | 95.30  | 93.84  | 91.31  | 89.97  |
| 42.0 | 91.89  | 86.97  | 83.61  | 81.67  | 78.82  | 75.86  | 73.40  | 72.78  | 71.87  | 70.74  |
| 45.0 | 77.25  | 72.79  | 69.35  | 67.23  | 64.81  | 61.63  | 59.26  | 59.30  | 59.04  | 58.42  |
| 48.0 | 62.91  | 60.53  | 57.61  | 56.28  | 53.57  | 50.96  | 48.63  | 48.71  | 48.32  | 47.56  |
| 51.0 | 45.75  | 44.78  | 43.19  | 42.73  | 40.73  | 38.78  | 36.71  | 36.65  | 35.85  | 35.00  |
| 54.0 | 29.03  | 29.04  | 28.12  | 28.50  | 27.16  | 26.04  | 24.34  | 24.28  | 23.25  | 22.49  |
| 57.0 | 17.77  | 17.80  | 17.46  | 17.86  | 17.42  | 16.87  | 16.12  | 16.12  | 15.63  | 15.14  |
| 60.0 | 12.91  | 12.90  | 12.54  | 12.62  | 12.08  | 11.97  | 11.44  | 11.34  | 10.99  | 10.89  |
| 63.0 | 9.574  | 9.521  | 9.207  | 9.138  | 8.800  | 8.662  | 8.253  | 8.157  | 7.827  | 7.789  |
| 66.0 | 6.460  | 6.481  | 6.238  | 6.184  | 5.832  | 5.683  | 5.266  | 5.176  | 4.868  | 4.767  |
| 69.0 | 3.288  | 3.381  | 3.168  | 3.130  | 2.842  | 2.748  | 2.421  | 2.295  | 2.001  | 1.909  |
| 72.0 | 0.9004 | 0.9707 | 0.8696 | 0.8443 | 0.6874 | 0.6377 | 0.4932 | 0.4292 | 0.3409 | 0.3142 |
| 75.0 | 0.2716 | 0.2512 | 0.2563 | 0.2337 | 0.2388 | 0.2163 | 0.2234 | 0.2032 | 0.2123 | 0.1901 |
| 78.0 | 0.2013 | 0.1792 | 0.1947 | 0.1683 | 0.1817 | 0.1638 | 0.1772 | 0.1508 | 0.1663 | 0.1420 |
| 81.0 | 0.1641 | 0.1420 | 0.1553 | 0.1332 | 0.1488 | 0.1223 | 0.1357 | 0.1136 | 0.1313 | 0.1049 |
| 84.0 | 0.1291 | 0.1027 | 0.1247 | 0.0983 | 0.1182 | 0.0917 | 0.1073 | 0.0831 | 0.1050 | 0.0765 |
| 87.0 | 0.1051 | 0.0831 | 0.0985 | 0.0765 | 0.0919 | 0.0765 | 0.0876 | 0.0809 | 0.0853 | 0.0766 |
| 90.0 | 0.0896 | 0.0831 | 0.0853 | 0.0765 | 0.0765 | 0.0765 | 0.0809 | 0.0809 | 0.0809 | 0.0809 |
| G/C  | 150.0  | 165.0  | 180.0  | 195.0  | 210.0  | 225.0  | 240.0  | 255.0  | 270.0  | 285.0  |
| 0.0  | 5913   | 5914   | 5923   | 5928   | 5921   | 5926   | 5918   | 5922   | 5916   | 5915   |
| 3.0  | 5622   | 5619   | 5630   | 5596   | 5603   | 5579   | 5594   | 5578   | 5606   | 5607   |
| 6.0  | 4888   | 4934   | 4984   | 4966   | 5004   | 4983   | 5022   | 5014   | 5063   | 5080   |
| 9.0  | 4033   | 4124   | 4224   | 4248   | 4327   | 4335   | 4402   | 4419   | 4494   | 4515   |
| 12.0 | 3209   | 3334   | 3481   | 3545   | 3646   | 3690   | 3779   | 3790   | 3898   | 3925   |
| 15.0 | 2395   | 2523   | 2690   | 2801   | 2922   | 2983   | 3093   | 3137   | 3236   | 3285   |
| 18.0 | 1613   | 1722   | 1889   | 2007   | 2150   | 2212   | 2347   | 2426   | 2536   | 2596   |
| 21.0 | 973.6  | 1044   | 1162   | 1242   | 1391   | 1459   | 1602   | 1706   | 1842   | 1911   |
| 24.0 | 567.2  | 595.0  | 652.8  | 703.7  | 789.5  | 846.1  | 972.3  | 1063   | 1209   | 1266   |
| 27.0 | 332.9  | 346.8  | 374.6  | 397.5  | 441.1  | 474.6  | 544.3  | 607.1  | 701.8  | 745.8  |
| 30.0 | 218.1  | 224.2  | 239.8  | 248.3  | 269.0  | 282.4  | 313.1  | 342.5  | 393.1  | 417.8  |
| 33.0 | 154.8  | 159.0  | 166.5  | 170.9  | 181.5  | 188.2  | 203.8  | 216.9  | 238.4  | 247.0  |
| 36.0 | 117.0  | 119.1  | 123.6  | 125.6  | 133.4  | 136.3  | 145.9  | 153.6  | 166.0  | 170.9  |
| 39.0 | 89.47  | 91.46  | 95.04  | 97.68  | 102.9  | 108.1  | 114.2  | 122.0  | 131.5  | 133.5  |
| 42.0 | 71.55  | 74.69  | 78.77  | 81.20  | 86.44  | 91.27  | 96.45  | 102.6  | 108.8  | 110.8  |
| 45.0 | 59.98  | 63.73  | 67.58  | 69.31  | 73.79  | 77.57  | 81.42  | 85.53  | 90.05  | 91.77  |
| 48.0 | 48.62  | 51.49  | 54.40  | 54.69  | 58.14  | 60.28  | 63.26  | 65.93  | 69.67  | 70.72  |
| 51.0 | 35.14  | 36.81  | 38.52  | 37.97  | 40.17  | 41.28  | 43.34  | 44.72  | 47.74  | 48.35  |
| 54.0 | 22.03  | 22.92  | 23.86  | 23.04  | 24.24  | 24.57  | 25.92  | 26.65  | 28.62  | 29.06  |
| 57.0 | 14.89  | 15.14  | 15.50  | 15.15  | 15.65  | 15.88  | 16.41  | 16.78  | 17.57  | 17.76  |
| 60.0 | 10.61  | 10.59  | 10.88  | 11.01  | 11.51  | 11.72  | 12.20  | 12.37  | 12.70  | 12.86  |
| 63.0 | 7.492  | 7.470  | 7.697  | 7.822  | 8.271  | 8.546  | 8.951  | 9.095  | 9.366  | 9.526  |
| 66.0 | 4.478  | 4.431  | 4.587  | 4.673  | 5.082  | 5.281  | 5.736  | 5.793  | 6.066  | 6.219  |
| 69.0 | 1.694  | 1.674  | 1.791  | 1.762  | 2.003  | 2.086  | 2.415  | 2.489  | 2.710  | 2.770  |
| 72.0 | 0.3020 | 0.2904 | 0.3119 | 0.3259 | 0.3316 | 0.3507 | 0.4161 | 0.4594 | 0.5568 | 0.6004 |
| 75.0 | 0.2036 | 0.1857 | 0.1813 | 0.2058 | 0.1879 | 0.2168 | 0.2074 | 0.2321 | 0.2249 | 0.2475 |
| 78.0 | 0.1619 | 0.1398 | 0.1333 | 0.1597 | 0.1377 | 0.1663 | 0.1486 | 0.1794 | 0.1638 | 0.1882 |
| 81.0 | 0.1248 | 0.1005 | 0.0982 | 0.1203 | 0.0983 | 0.1247 | 0.1113 | 0.1400 | 0.1266 | 0.1510 |
| 84.0 | 0.0985 | 0.0765 | 0.0699 | 0.0919 | 0.0699 | 0.0941 | 0.0764 | 0.1094 | 0.0960 | 0.1182 |
| 87.0 | 0.0831 | 0.0765 | 0.0612 | 0.0700 | 0.0568 | 0.0722 | 0.0634 | 0.0853 | 0.0699 | 0.0963 |
| 90.0 | 0.0765 | 0.0765 | 0.0612 | 0.0612 | 0.0568 | 0.0590 | 0.0590 | 0.0612 | 0.0634 | 0.0787 |
| G/C  | 300.0  | 315.0  | 330.0  | 345.0  |        |        |        |        |        |        |
| 0.0  | 5917   | 5915   | 5913   | 5914   |        |        |        |        |        |        |
| 3.0  | 5655   | 5671   | 5716   | 5727   |        |        |        |        |        |        |
| 6.0  | 5141   | 5164   | 5224   | 5228   |        |        |        |        |        |        |
| 9.0  | 4592   | 4600   | 4647   | 4626   |        |        |        |        |        |        |
| 12.0 | 4009   | 4026   | 4055   | 4019   |        |        |        |        |        |        |
| 15.0 | 3383   | 3398   | 3431   | 3380   |        |        |        |        |        |        |
| 18.0 | 2695   | 2714   | 2756   | 2692   |        |        |        |        |        |        |
| 21.0 | 1980   | 1999   | 2023   | 1935   |        |        |        |        |        |        |

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: Meng Yongjian

Test Date: 2017-05-19

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288

Humidity: 52%

Test Distance: 5.850m [K=1.0000]

Remarks:

GONIOPHOTOMETERS SYSTEM TEST REPORT

Photometric Data Table [cd]

|      |        |        |        |        |
|------|--------|--------|--------|--------|
| 24.0 | 1326   | 1318   | 1333   | 1227   |
| 27.0 | 777.7  | 774.6  | 768.1  | 698.1  |
| 30.0 | 439.3  | 433.6  | 425.2  | 388.9  |
| 33.0 | 258.9  | 256.0  | 254.1  | 240.3  |
| 36.0 | 175.6  | 174.2  | 172.1  | 163.9  |
| 39.0 | 135.2  | 132.4  | 129.7  | 121.4  |
| 42.0 | 110.6  | 108.8  | 104.9  | 98.25  |
| 45.0 | 92.38  | 90.51  | 87.92  | 82.70  |
| 48.0 | 72.25  | 71.19  | 70.57  | 67.30  |
| 51.0 | 50.14  | 49.55  | 50.04  | 48.23  |
| 54.0 | 30.57  | 30.34  | 31.26  | 30.49  |
| 57.0 | 18.30  | 18.14  | 18.57  | 18.33  |
| 60.0 | 13.25  | 13.14  | 13.45  | 13.26  |
| 63.0 | 9.874  | 9.871  | 10.06  | 9.873  |
| 66.0 | 6.601  | 6.543  | 6.830  | 6.702  |
| 69.0 | 3.077  | 3.113  | 3.450  | 3.435  |
| 72.0 | 0.7262 | 0.7325 | 0.9411 | 0.9687 |
| 75.0 | 0.2402 | 0.2671 | 0.2620 | 0.2781 |
| 78.0 | 0.1726 | 0.1991 | 0.1835 | 0.2013 |
| 81.0 | 0.1333 | 0.1597 | 0.1398 | 0.1662 |
| 84.0 | 0.1027 | 0.1291 | 0.1092 | 0.1313 |
| 87.0 | 0.0765 | 0.1050 | 0.0831 | 0.1050 |
| 90.0 | 0.0765 | 0.0853 | 0.0809 | 0.0853 |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Meng Yongjian  
 Test Date: 2017-05-19

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity: 52%  
 Test Distance: 5.850m [K=1.0000]  
 Remarks: