
LED Downlight FUSION Series LE-FF2-4W-830-40D
Specular



| | | |
|---------------------|---------|--------------------------|
| Light Output Ratio: | 100.0% | |
| Luminaire Power: | 5.787 W | |
| SHR Nominal: | 0.50 | Calculated using the TM5 |
| SHR Maximum: | 0.65 | fine grid method. |

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Cao Chengpei
Test Date: 2016-06-24

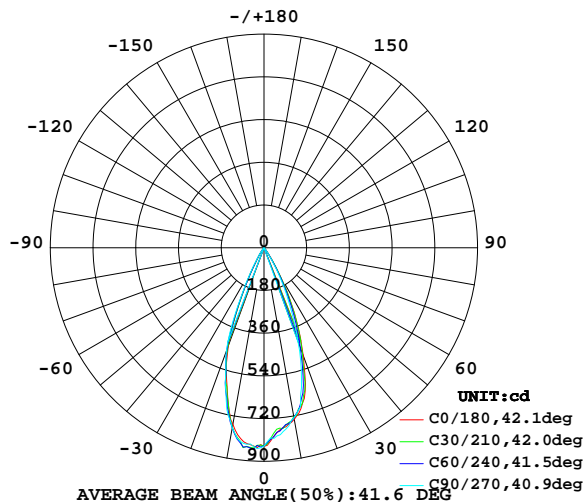
γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity: 53.0%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

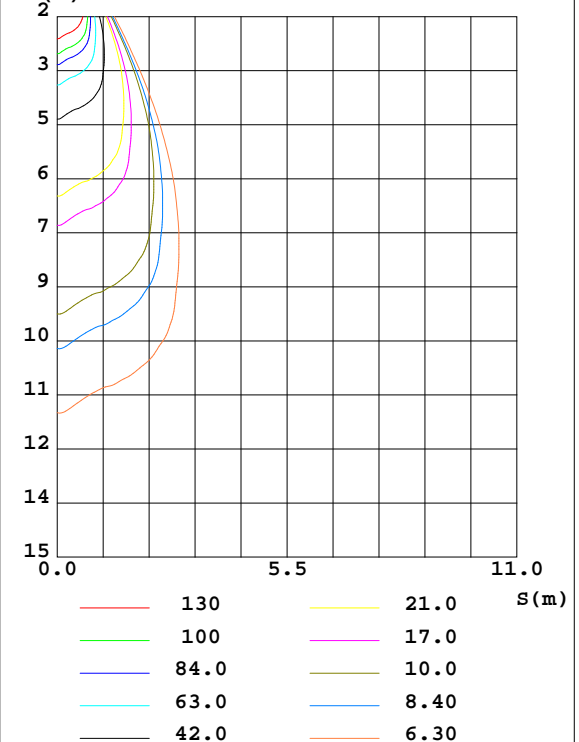
| | | |
|---|-------------------------|-------------|
| Test:U:220.6V I:0.0334A P:5.787W PF:0.7855 Lamp Flux:385.973x1 lm | | |
| NAME: FF2-4W-830-40D Specular | TYPE:Downlight | SERIAL No.: |
| SPEC.:3000K | DIM.: L70mm*W45mm*H60mm | |
| MFR.: | | |

| DATA OF LAMP | | PHOTOMETRIC DATA Eff: 66.69 lm/W | | | |
|------------------|------------|----------------------------------|--------|-------------------|----------|
| MODEL | CREE-3000K | I _{max} (cd) | 850.5 | S/MH(C0/180) | 0.62 |
| NOMINAL POWER(W) | 6.0 | LOR(%) | 100.0 | S/MH(C90/270) | 0.64 |
| RATED VOLTAGE(V) | 220 | TOTAL FLUX(lm) | 385.97 | η UP,DN(C0-180) | 0.0,50.0 |
| NOMINAL FLUX(lm) | 385.973 | CIE CLASS | DIRECT | η UP,DN(C180-360) | 0.0,50.0 |
| LAMPS INSIDE | 1 | η up(%) | 0.0 | CIBSE SHR NOM | 0.50 |
| TEST VOLTAGE(V) | 220 | η down(%) | 100.0 | CIBSE SHR MAX | 0.65 |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Cao Chengpei
 Test Date:2016-06-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
 Humidity:53.0%
 Test Distance:5.850m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

| γ | C0 | C45 | C90 | C135 | C180 | C225 | C270 | C315 | γ | Φ zone | Φ total | $\%lum, lamp$ |
|----------|-----------------------|--------|--------|--------|--------|--------|--------|--------|----------|-------------|--------------|---------------|
| 10 | 734.0 | 726.1 | 727.1 | 736.1 | 756.4 | 767.2 | 771.4 | 758.9 | 0- 10 | 75.30 | 75.30 | 19.5,19.5 |
| 20 | 484.2 | 471.1 | 419.6 | 412.3 | 440.3 | 446.2 | 463.4 | 475.0 | 10- 20 | 169.9 | 245.2 | 63.5,63.5 |
| 30 | 135.6 | 133.9 | 104.0 | 81.01 | 74.02 | 70.41 | 87.79 | 115.0 | 20- 30 | 115.1 | 360.3 | 93.3,93.3 |
| 40 | 12.26 | 12.03 | 9.542 | 6.612 | 5.976 | 5.953 | 7.756 | 10.96 | 30- 40 | 22.85 | 383.1 | 99.3,99.3 |
| 50 | 0.9744 | 0.8408 | 0.7400 | 0.7217 | 0.7258 | 0.6054 | 0.6598 | 0.8421 | 40- 50 | 1.957 | 385.1 | 99.8,99.8 |
| 60 | 0.4158 | 0.3534 | 0.3390 | 0.3300 | 0.3362 | 0.2984 | 0.2937 | 0.3666 | 50- 60 | 0.4673 | 385.6 | 99.9,99.9 |
| 70 | 0.1727 | 0.1596 | 0.1684 | 0.1533 | 0.1469 | 0.1534 | 0.1384 | 0.1747 | 60- 70 | 0.2307 | 385.8 | 100,100 |
| 80 | 0.1023 | 0.0830 | 0.0981 | 0.0724 | 0.0660 | 0.0853 | 0.0702 | 0.1044 | 70- 80 | 0.1271 | 385.9 | 100,100 |
| 90 | 0.0341 | 0.0341 | 0.0320 | 0.0320 | 0.0213 | 0.0234 | 0.0213 | 0.0277 | 80- 90 | 0.0581 | 386.0 | 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 | 257 | 233 |
| 80 | 187 | 179 |
| 75 | 162 | 157 |
| 70 | 160 | 156 |
| 65 | 192 | 176 |
| 60 | 264 | 215 |
| 55 | 371 | 274 |
| 50 | 481 | 365 |
| 45 | 1042 | 601 |

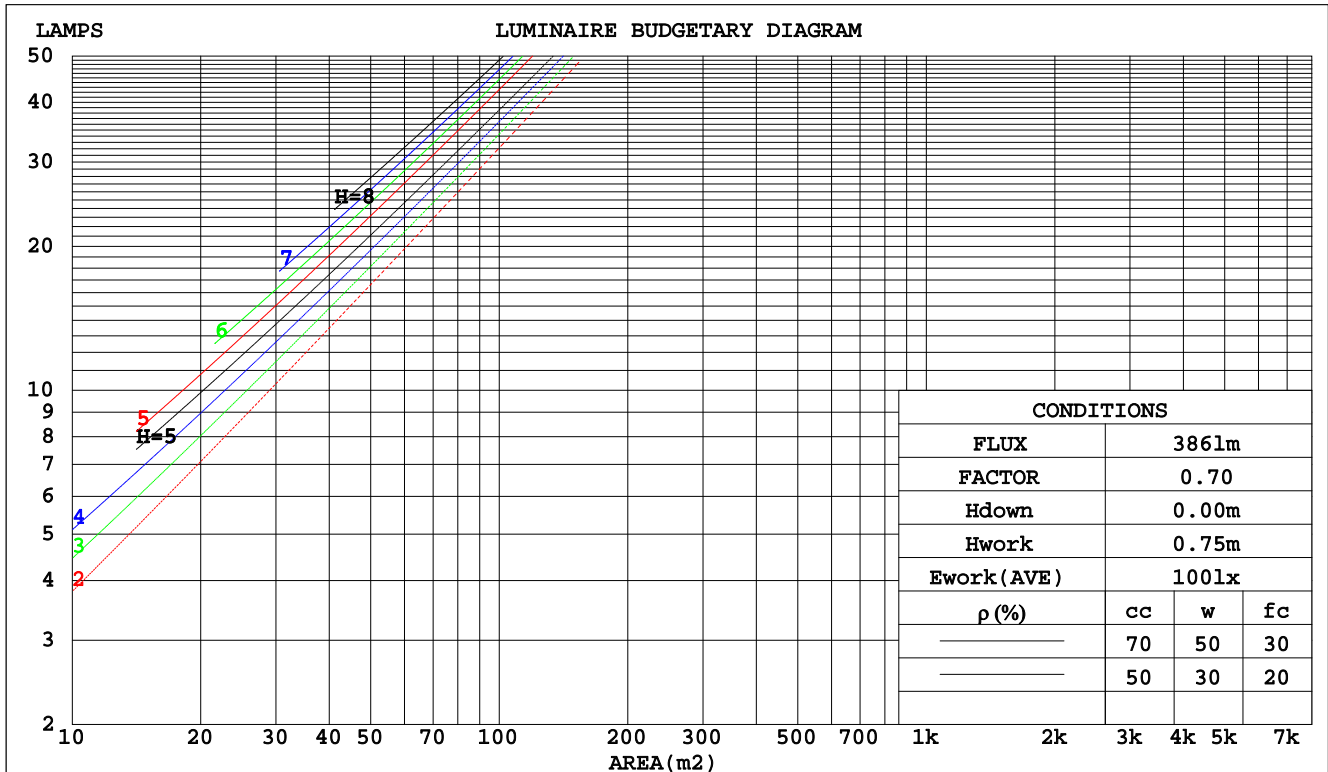
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Cao Chengpei
Test Date:2016-06-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity:53.0%
Test Distance:5.850m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| | | |
|---|-------------------------|-------------|
| Test:U:220.6V I:0.0334A P:5.787W PF:0.7855 Lamp Flux:385.973x1 lm | | |
| NAME: FF2-4W-830-40D Specular | TYPE:Downlight | SERIAL No.: |
| SPEC.:3000K | DIM.: L70mm*W45mm*H60mm | |
| MFR.: | | |

| 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 | 1.00 |
| 1.0 | 1.12 | 1.10 | 1.08 | 1.10 | 1.08 | 1.06 | 1.06 | 1.05 | 1.03 | 1.02 | 1.01 | 1.00 | .99 | .98 | .97 | .96 |
| 2.0 | 1.06 | 1.03 | .00 | 1.04 | 1.01 | .99 | 1.01 | .99 | .97 | .98 | .96 | .95 | .96 | .94 | .93 | .91 |
| 3.0 | 1.01 | .97 | .93 | .99 | .96 | .93 | .97 | .94 | .91 | .94 | .92 | .90 | .92 | .90 | .88 | .87 |
| 4.0 | .96 | .91 | .88 | .95 | .91 | .87 | .93 | .89 | .86 | .91 | .88 | .85 | .89 | .87 | .84 | .83 |
| 5.0 | .91 | .87 | .83 | .90 | .86 | .83 | .89 | .85 | .82 | .87 | .84 | .81 | .86 | .83 | .81 | .79 |
| 6.0 | .87 | .82 | .79 | .87 | .82 | .79 | .85 | .81 | .78 | .84 | .80 | .78 | .83 | .80 | .77 | .76 |
| 7.0 | .84 | .79 | .75 | .83 | .78 | .75 | .82 | .78 | .75 | .81 | .77 | .74 | .80 | .76 | .74 | .73 |
| 8.0 | .80 | .75 | .72 | .80 | .75 | .72 | .79 | .75 | .72 | .78 | .74 | .71 | .77 | .74 | .71 | .70 |
| 9.0 | .77 | .72 | .69 | .76 | .72 | .69 | .76 | .72 | .69 | .75 | .71 | .68 | .74 | .71 | .68 | .67 |
| 10.0 | .74 | .69 | .66 | .74 | .69 | .66 | .73 | .69 | .66 | .72 | .68 | .66 | .72 | .68 | .66 | .65 |



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Cao Chengpei
 Test Date:2016-06-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
 Humidity:53.0%
 Test Distance:5.850m [K=1.0000]
 Remarks:

WEC AND CCEC

| | | |
|---|-------------------------|-------------|
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| NAME: FF2-4W-830-40D Specular | TYPE:Downlight | SERIAL No.: |
| SPEC.:3000K | DIM.: L70mm*W45mm*H60mm | |
| MFR.: | | |

| 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 | | | | | | Wall Exitance Coefficients(WEC) | | | | | | | | | | |
| 0.0 | | | | | | | | | | | | | | | | | |
| 1.0 | .151 | .086 | .027 | .145 | .082 | .026 | .132 | .076 | .024 | .121 | .070 | .022 | .110 | .064 | .021 | | |
| 2.0 | .142 | .078 | .024 | .136 | .075 | .023 | .126 | .070 | .022 | .116 | .065 | .020 | .108 | .061 | .019 | | |
| 3.0 | .134 | .071 | .021 | .129 | .069 | .021 | .120 | .065 | .020 | .112 | .061 | .019 | .105 | .058 | .018 | | |
| 4.0 | .126 | .066 | .019 | .122 | .064 | .019 | .115 | .061 | .018 | .108 | .058 | .018 | .102 | .055 | .017 | | |
| 5.0 | .120 | .061 | .018 | .117 | .060 | .017 | .110 | .057 | .017 | .104 | .055 | .016 | .099 | .053 | .016 | | |
| 6.0 | .114 | .057 | .016 | .111 | .056 | .016 | .106 | .054 | .016 | .101 | .052 | .015 | .096 | .050 | .015 | | |
| 7.0 | .109 | .054 | .015 | .107 | .053 | .015 | .102 | .051 | .015 | .097 | .050 | .015 | .093 | .048 | .014 | | |
| 8.0 | .105 | .051 | .014 | .102 | .050 | .014 | .098 | .049 | .014 | .094 | .048 | .014 | .090 | .046 | .014 | | |
| 9.0 | .101 | .049 | .014 | .099 | .048 | .013 | .095 | .047 | .013 | .091 | .046 | .013 | .088 | .045 | .013 | | |
| 10.0 | .097 | .046 | .013 | .095 | .046 | .013 | .091 | .045 | .013 | .088 | .044 | .012 | .085 | .043 | .012 | | |

| 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 | | | | | | 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 | .126 | .099 | .093 | .087 | .057 | .054 | .051 | .018 | .017 | .016 | |
| 2.0 | .152 | .133 | .116 | .130 | .114 | .100 | .089 | .079 | .070 | .052 | .046 | .041 | .017 | .015 | .013 | |
| 3.0 | .138 | .113 | .094 | .118 | .098 | .081 | .081 | .068 | .057 | .047 | .040 | .034 | .015 | .013 | .011 | |
| 4.0 | .127 | .098 | .077 | .109 | .085 | .067 | .075 | .059 | .047 | .043 | .035 | .028 | .014 | .011 | .009 | |
| 5.0 | .117 | .086 | .064 | .100 | .075 | .055 | .069 | .052 | .039 | .040 | .031 | .023 | .013 | .010 | .008 | |
| 6.0 | .109 | .076 | .053 | .093 | .066 | .047 | .064 | .046 | .033 | .037 | .027 | .020 | .012 | .009 | .006 | |
| 7.0 | .102 | .069 | .045 | .087 | .059 | .040 | .060 | .042 | .028 | .035 | .025 | .017 | .011 | .008 | .006 | |
| 8.0 | .096 | .062 | .039 | .082 | .054 | .034 | .057 | .038 | .024 | .033 | .022 | .014 | .011 | .007 | .005 | |
| 9.0 | .090 | .057 | .034 | .078 | .049 | .030 | .054 | .035 | .021 | .031 | .020 | .013 | .010 | .007 | .004 | |
| 10.0 | .086 | .052 | .030 | .074 | .045 | .026 | .051 | .032 | .018 | .030 | .019 | .011 | .010 | .006 | .004 | |

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Cao Chengpei
 Test Date:2016-06-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
 Humidity:53.0%
 Test Distance:5.850m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

| | | | | | | | | | | |
|---|------------------|------|------|------|-------------------------|----------------|-----|-------------|-----|-----|
| Test:U:220.6V I:0.0334A P:5.787W PF:0.7855 Lamp Flux:385.973x1 lm | | | | | | | | | | |
| NAME: FF2-4W-830-40D Specular | | | | | TYPE:Downlight | | | SERIAL No.: | | |
| SPEC.:3000K | | | | | DIM.: L70mm*W45mm*H60mm | | | | | |
| MFR.: | | | | | | | | | | |
| 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 | 9.9 | 10.6 | 10.1 | 10.8 | 10.9 | 8.3 | 9.1 | 8.5 | 9.3 | 9.4 |
| 3H | 9.7 | 10.4 | 10.0 | 10.6 | 10.8 | 8.2 | 8.9 | 8.4 | 9.1 | 9.3 |
| 4H | 9.6 | 10.3 | 9.9 | 10.5 | 10.7 | 8.1 | 8.8 | 8.4 | 9.0 | 9.2 |
| 6H | 9.5 | 10.2 | 9.8 | 10.4 | 10.6 | 8.0 | 8.7 | 8.3 | 8.9 | 9.1 |
| 8H | 9.5 | 10.1 | 9.8 | 10.4 | 10.6 | 8.0 | 8.6 | 8.3 | 8.8 | 9.1 |
| 12H | 9.5 | 10.0 | 9.8 | 10.3 | 10.6 | 7.9 | 8.5 | 8.3 | 8.8 | 9.1 |
| 4H 2H | 9.6 | 10.3 | 9.9 | 10.5 | 10.7 | 8.1 | 8.8 | 8.4 | 9.0 | 9.2 |
| 3H | 9.5 | 10.0 | 9.8 | 10.3 | 10.6 | 7.9 | 8.5 | 8.3 | 8.8 | 9.0 |
| 4H | 9.4 | 9.9 | 9.7 | 10.2 | 10.5 | 7.9 | 8.4 | 8.2 | 8.7 | 9.0 |
| 6H | 9.3 | 9.7 | 9.6 | 10.1 | 10.4 | 7.8 | 8.2 | 8.1 | 8.6 | 8.9 |
| 8H | 9.2 | 9.7 | 9.6 | 10.0 | 10.4 | 7.7 | 8.1 | 8.1 | 8.5 | 8.9 |
| 12H | 9.2 | 9.6 | 9.6 | 9.9 | 10.3 | 7.7 | 8.1 | 8.1 | 8.4 | 8.8 |
| 8H 4H | 9.2 | 9.6 | 9.6 | 10.0 | 10.4 | 7.7 | 8.1 | 8.1 | 8.5 | 8.8 |
| 6H | 9.1 | 9.5 | 9.5 | 9.9 | 10.3 | 7.6 | 8.0 | 8.0 | 8.4 | 8.8 |
| 8H | 9.1 | 9.4 | 9.5 | 9.8 | 10.2 | 7.6 | 7.9 | 8.0 | 8.3 | 8.7 |
| 12H | 9.0 | 9.3 | 9.5 | 9.7 | 10.2 | 7.5 | 7.8 | 8.0 | 8.2 | 8.7 |
| 12H 4H | 9.2 | 9.6 | 9.6 | 9.9 | 10.3 | 7.6 | 8.0 | 8.1 | 8.4 | 8.8 |
| 6H | 9.1 | 9.4 | 9.5 | 9.8 | 10.2 | 7.5 | 7.9 | 8.0 | 8.3 | 8.7 |
| 8H | 9.0 | 9.3 | 9.5 | 9.7 | 10.2 | 7.5 | 7.8 | 8.0 | 8.2 | 8.7 |
| Variations with the observer position at spacings: | | | | | | | | | | |
| S = 1.0H | + 4.3 / -11.0 | | | | | + 3.8 / -10.2 | | | | |
| 1.5H | + 7.0 / -10.2 | | | | | + 6.5 / - 9.2 | | | | |
| 2.0H | + 4.5 / - 2.1 | | | | | + 2.4 / - 1.2 | | | | |

CIE Pub.117 Corrected 386.0 lm Total Lamp Luminous Flux.(8log(F/F0) = -3.3)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Cao Chengpei
Test Date:2016-06-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity:53.0%
Test Distance:5.850m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

| | | |
|---|-------------------------|-------------|
| Test:U:220.6V I:0.0334A P:5.787W PF:0.7855 Lamp Flux:385.973x1 lm | | |
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| SPEC.:3000K | DIM.: L70mm*W45mm*H60mm | |
| MFR.: | | |

| 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) $k(RI) \times RCR = 5$ | | | | | | | | | |
| $k = 0.60$ | 91 | 85 | 82 | 91 | 85 | 82 | 90 | 85 | 82 | 79 |
| 0.80 | 98 | 93 | 90 | 97 | 93 | 89 | 96 | 92 | 89 | 86 |
| 1.00 | 102 | 97 | 94 | 101 | 96 | 93 | 99 | 96 | 93 | 89 |
| 1.25 | 105 | 101 | 98 | 104 | 100 | 97 | 102 | 99 | 96 | 93 |
| 1.50 | 108 | 104 | 101 | 107 | 103 | 100 | 104 | 101 | 99 | 95 |
| 2.00 | 110 | 106 | 103 | 108 | 105 | 102 | 106 | 103 | 101 | 96 |
| 2.50 | 111 | 108 | 105 | 110 | 107 | 104 | 107 | 104 | 102 | 97 |
| 3.00 | 113 | 110 | 107 | 111 | 108 | 106 | 108 | 106 | 104 | 98 |
| 4.00 | 115 | 112 | 110 | 113 | 110 | 109 | 109 | 107 | 106 | 99 |
| 5.00 | 116 | 114 | 112 | 114 | 112 | 111 | 110 | 109 | 107 | 100 |
| ROOM INDEX | UF(total) | | | | | | | | | Direct |
| According to DIN EN 13032-2 2004 | | | Suspended | | | | | SHRNOM = 1.25 | | |

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ISOCANDELA DIAGRAM

| | | |
|---|-------------------------|-------------|
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| MFR.: | | |

Conical surface Flux(90deg):

384.69 lm

%lum = 99.7%

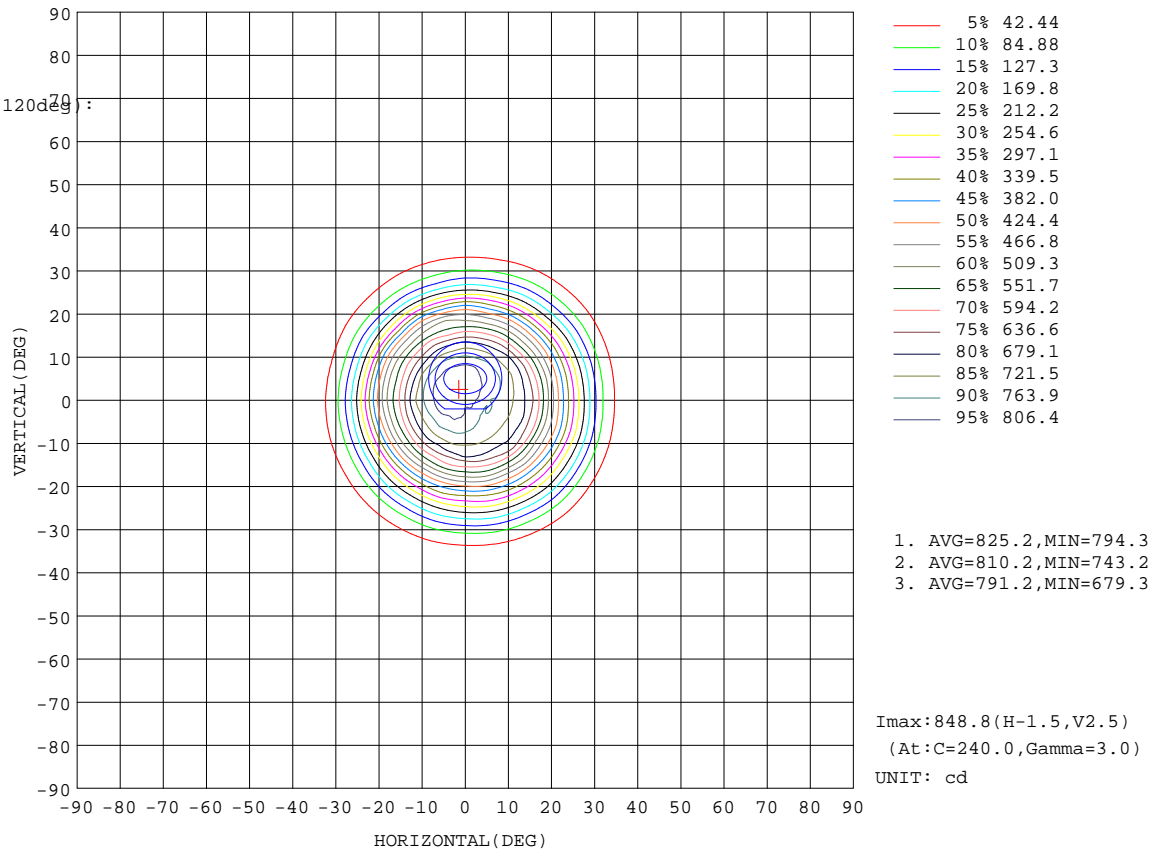
%lamp = 99.7%

Conical surface Flux(120deg):

385.56 lm

%lum = 99.9%

%lamp = 99.9%

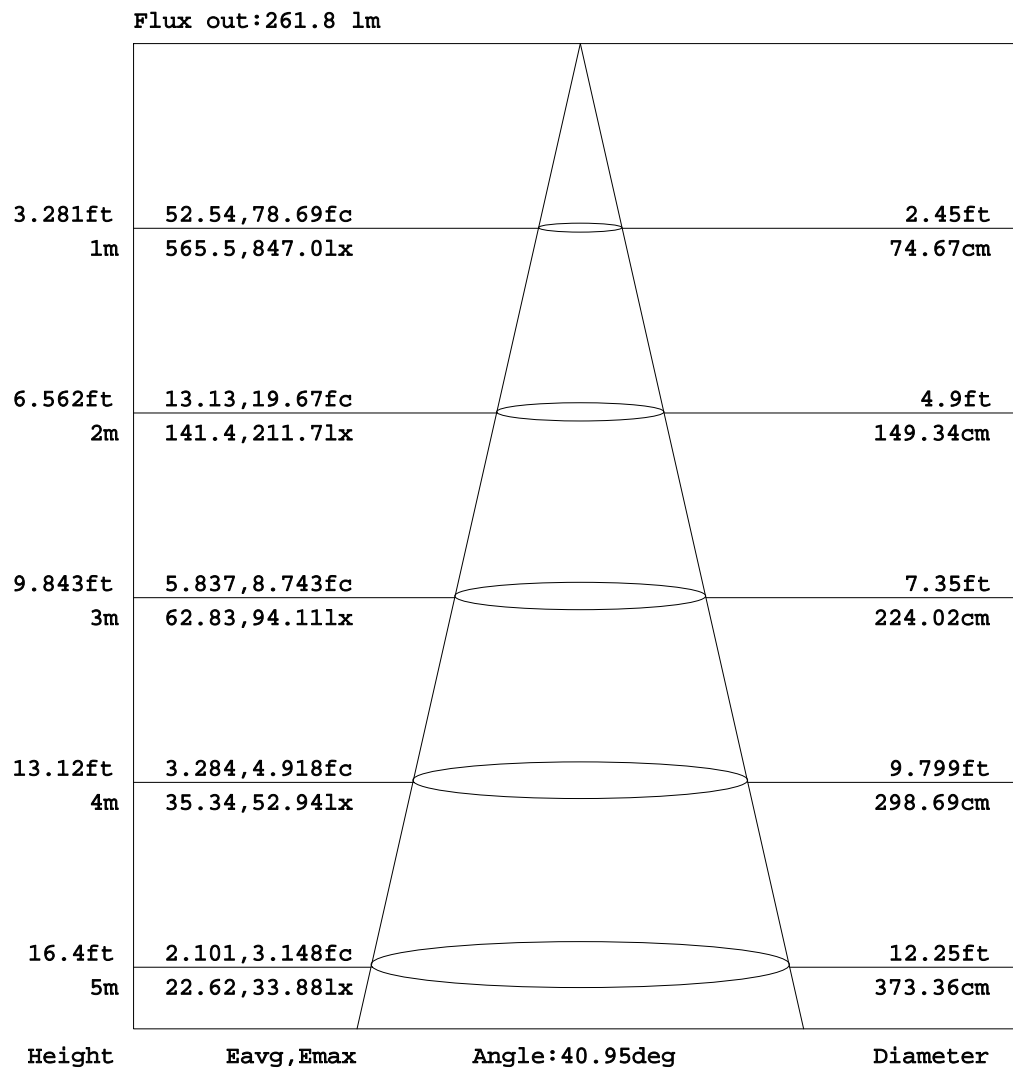


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AAI Figure

| | | |
|---|-------------------------|-------------|
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| MFR.: | | |



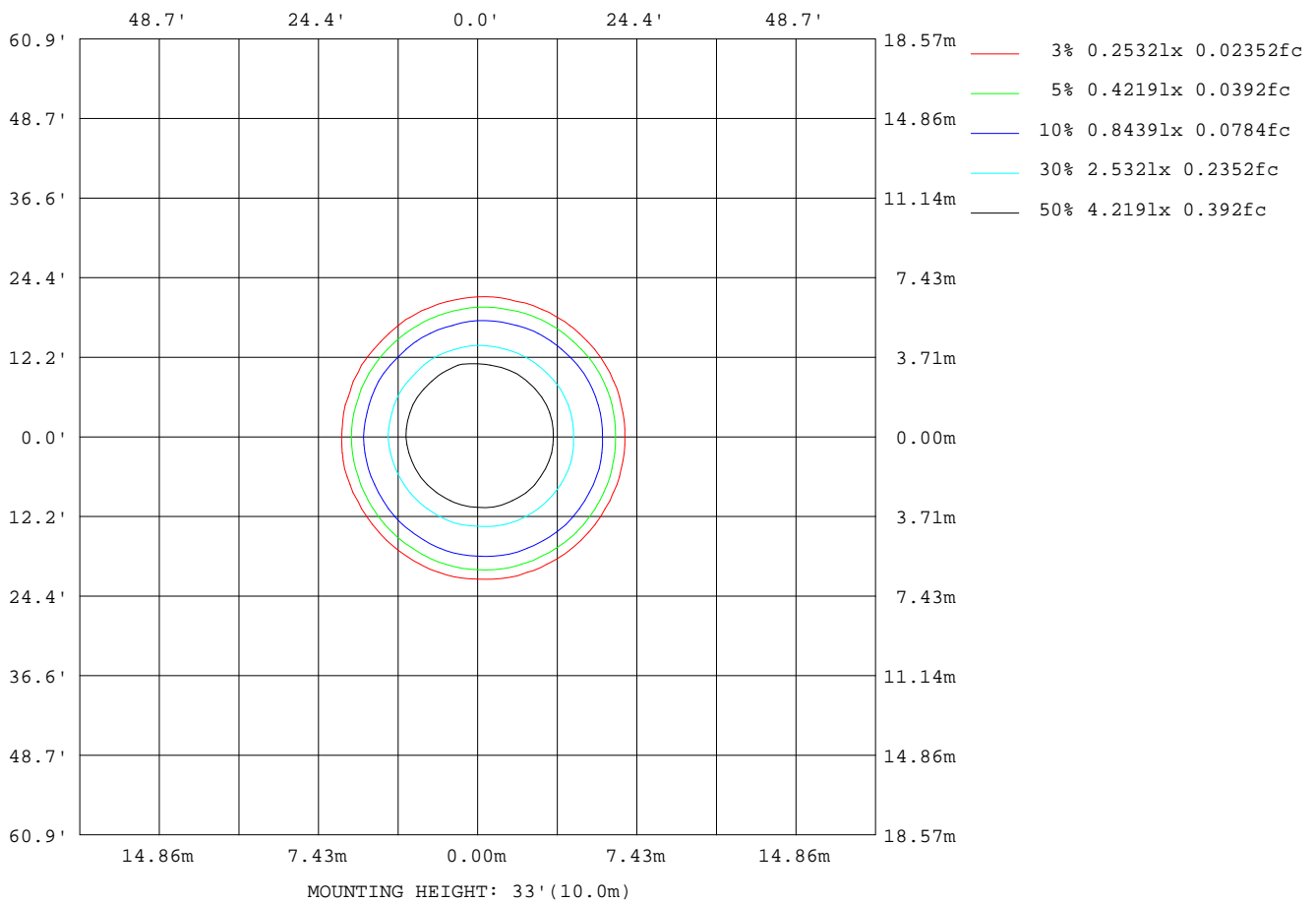
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Cao Chengpei
Test Date:2016-06-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity:53.0%
Test Distance:5.850m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

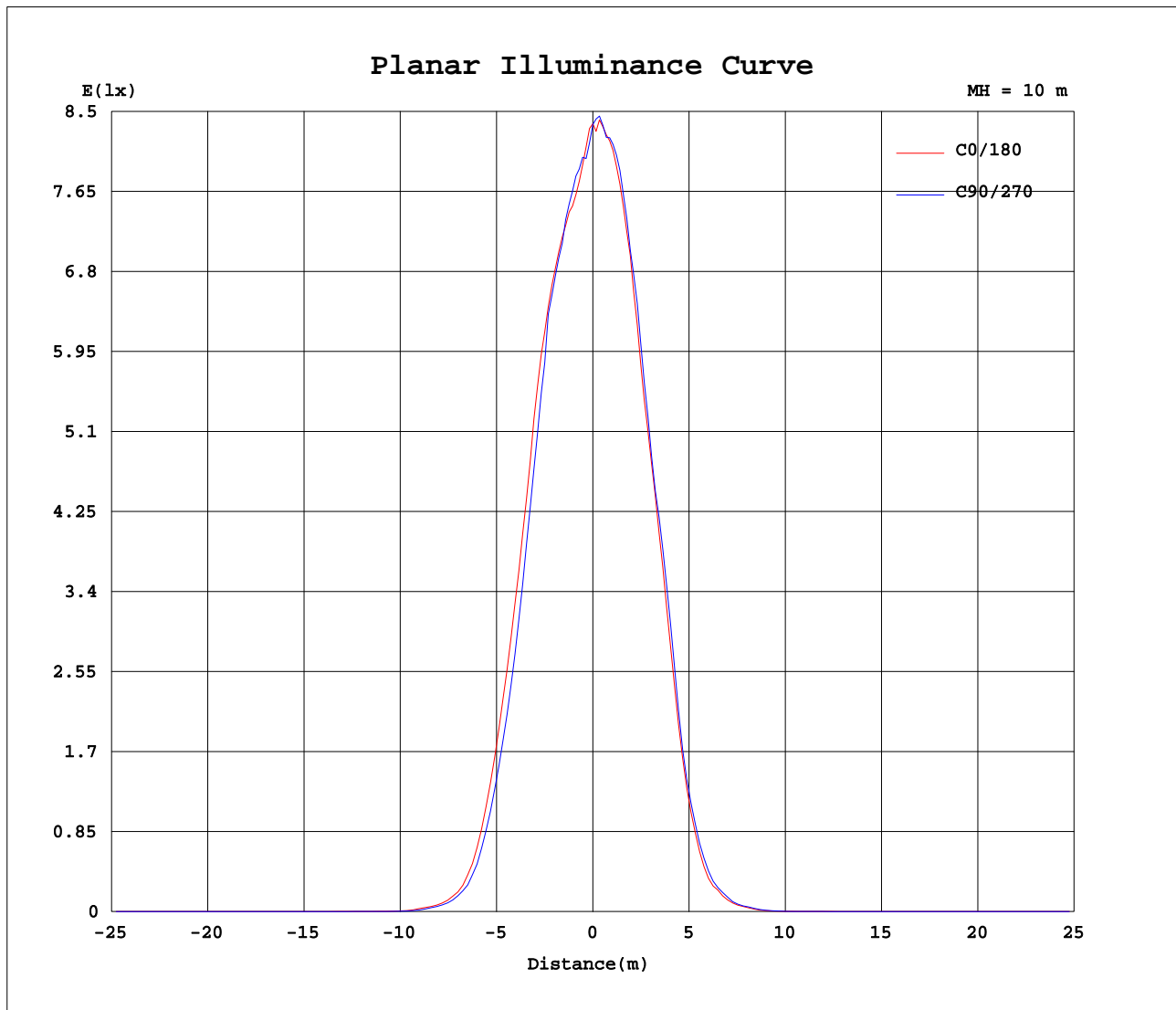
| | | |
|---|-------------------------|-------------|
| Test:U:220.6V I:0.0334A P:5.787W PF:0.7855 Lamp Flux:385.973x1 lm | | |
| NAME: FF2-4W-830-40D Specular | TYPE:Downlight | SERIAL No.: |
| SPEC.:3000K | DIM.: L70mm*W45mm*H60mm | |
| MFR.: | | |



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Cao Chengpei
 Test Date: 2016-06-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.288
 Humidity: 53.0%
 Test Distance: 5.850m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Cao Chengpei
Test Date: 2016-06-24

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity: 53.0%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

| | | |
|---|-------------------------|-------------|
| Test:U:220.6V I:0.0334A P:5.787W PF:0.7855 Lamp Flux:385.973xl lm | | |
| NAME: FF2-4W-830-40D Specular | TYPE:Downlight | SERIAL No.: |
| SPEC.:3000K | DIM.: L70mm*W45mm*H60mm | |
| MFR.: | | |

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Cao Chengpei
Test Date: 2016-06-24

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity:53.0%
Test Distance:5.850m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

| | | |
|---|-------------------------|-------------|
| Test:U:220.6V I:0.0334A P:5.787W PF:0.7855 Lamp Flux:385.973x1 lm | | |
| NAME: FF2-4W-830-40D Specular | TYPE:Downlight | SERIAL No.: |
| SPEC.:3000K | DIM.: L70mm*W45mm*H60mm | |
| MFR.: | | |

Table--2

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Cao Chengpei
Test Date: 2016-06-24

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity:53.0%
Test Distance:5.850m [K=1.0000]
Remarks:

```

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 | 837.1 | 838.1 | 834.8 | 838.7 | 834.8 | 839.3 | 836.0 | 839.6 | 837.4 | 839.2 |
| 3.0 | 796.5 | 795.0 | 783.4 | 793.2 | 796.8 | 798.2 | 804.7 | 816.7 | 807.4 | 815.3 |
| 6.0 | 762.1 | 767.7 | 766.1 | 752.7 | 762.1 | 772.5 | 778.3 | 788.5 | 793.6 | 795.6 |
| 9.0 | 744.1 | 735.0 | 739.0 | 741.9 | 739.9 | 737.3 | 737.2 | 745.9 | 748.7 | 757.6 |
| 12.0 | 711.2 | 708.3 | 696.1 | 708.7 | 699.6 | 695.2 | 699.7 | 695.9 | 680.3 | 688.0 |
| 15.0 | 656.9 | 651.3 | 643.9 | 659.0 | 634.0 | 618.9 | 611.1 | 604.6 | 590.3 | 599.5 |
| 18.0 | 557.3 | 554.9 | 542.5 | 539.1 | 524.9 | 518.2 | 500.2 | 492.8 | 483.4 | 489.1 |
| 21.0 | 445.3 | 453.1 | 439.9 | 430.3 | 413.9 | 405.7 | 382.0 | 374.3 | 369.6 | 367.6 |
| 24.0 | 337.1 | 345.1 | 334.1 | 322.2 | 309.1 | 297.4 | 274.9 | 267.8 | 255.8 | 251.6 |
| 27.0 | 231.7 | 238.0 | 227.4 | 225.1 | 208.6 | 197.7 | 183.7 | 174.6 | 161.5 | 156.3 |
| 30.0 | 135.6 | 141.5 | 134.7 | 133.9 | 120.9 | 114.1 | 104.0 | 96.63 | 86.23 | 81.01 |
| 33.0 | 66.48 | 66.06 | 65.64 | 62.96 | 59.41 | 53.93 | 48.29 | 46.44 | 42.23 | 39.23 |
| 36.0 | 31.26 | 32.17 | 30.66 | 30.99 | 28.46 | 27.00 | 23.49 | 22.03 | 19.64 | 18.38 |
| 39.0 | 14.91 | 15.32 | 15.03 | 15.06 | 13.87 | 13.11 | 11.88 | 11.30 | 10.05 | 9.334 |
| 42.0 | 8.136 | 8.475 | 7.792 | 7.469 | 6.088 | 5.319 | 4.217 | 3.809 | 3.117 | 2.870 |
| 45.0 | 2.322 | 2.482 | 2.270 | 2.152 | 1.804 | 1.647 | 1.339 | 1.270 | 1.146 | 1.107 |
| 48.0 | 1.117 | 1.086 | 1.051 | 0.9962 | 0.9488 | 0.8983 | 0.8785 | 0.8706 | 0.8827 | 0.8515 |
| 51.0 | 0.9104 | 0.8600 | 0.8168 | 0.7727 | 0.7485 | 0.6939 | 0.6824 | 0.6726 | 0.6994 | 0.6727 |
| 54.0 | 0.7313 | 0.6834 | 0.6440 | 0.6088 | 0.5907 | 0.5407 | 0.5352 | 0.5216 | 0.5523 | 0.5344 |
| 57.0 | 0.5587 | 0.5194 | 0.4969 | 0.4662 | 0.4627 | 0.4194 | 0.4264 | 0.4066 | 0.4371 | 0.4215 |
| 60.0 | 0.4158 | 0.3874 | 0.3796 | 0.3534 | 0.3603 | 0.3257 | 0.3390 | 0.3194 | 0.3518 | 0.3300 |
| 63.0 | 0.3093 | 0.2873 | 0.2901 | 0.2703 | 0.2878 | 0.2554 | 0.2708 | 0.2554 | 0.2793 | 0.2618 |
| 66.0 | 0.2346 | 0.2129 | 0.2303 | 0.2108 | 0.2282 | 0.2023 | 0.2196 | 0.2023 | 0.2260 | 0.2044 |
| 69.0 | 0.1834 | 0.1661 | 0.1855 | 0.1682 | 0.1876 | 0.1618 | 0.1833 | 0.1618 | 0.1854 | 0.1618 |
| 72.0 | 0.1514 | 0.1341 | 0.1535 | 0.1320 | 0.1577 | 0.1341 | 0.1535 | 0.1321 | 0.1578 | 0.1341 |
| 75.0 | 0.1321 | 0.1086 | 0.1322 | 0.1129 | 0.1343 | 0.1107 | 0.1279 | 0.1107 | 0.1364 | 0.1128 |
| 78.0 | 0.1151 | 0.0916 | 0.1151 | 0.0958 | 0.1151 | 0.0916 | 0.1108 | 0.0916 | 0.1172 | 0.0894 |
| 81.0 | 0.0959 | 0.0766 | 0.0981 | 0.0745 | 0.0981 | 0.0745 | 0.0896 | 0.0702 | 0.0960 | 0.0660 |
| 84.0 | 0.0810 | 0.0596 | 0.0768 | 0.0617 | 0.0747 | 0.0574 | 0.0725 | 0.0532 | 0.0725 | 0.0468 |
| 87.0 | 0.0618 | 0.0362 | 0.0618 | 0.0362 | 0.0576 | 0.0320 | 0.0491 | 0.0320 | 0.0491 | 0.0320 |
| 90.0 | 0.0341 | 0.0341 | 0.0362 | 0.0341 | 0.0341 | 0.0320 | 0.0320 | 0.0320 | 0.0320 | 0.0320 |
| | | | | | | | | | | |
| G/C | 150.0 | 165.0 | 180.0 | 195.0 | 210.0 | 225.0 | 240.0 | 255.0 | 270.0 | 285.0 |
| 0.0 | 837.7 | 836.1 | 837.1 | 838.1 | 834.8 | 838.7 | 834.8 | 839.3 | 836.0 | 839.2 |
| 3.0 | 820.8 | 840.5 | 837.0 | 840.4 | 844.9 | 846.6 | 850.5 | 837.4 | 838.6 | 844.1 |
| 6.0 | 810.1 | 817.3 | 822.0 | 828.9 | 847.0 | 842.9 | 844.2 | 836.6 | 828.6 | 825.1 |
| 9.0 | 752.4 | 766.5 | 778.1 | 784.9 | 792.0 | 792.4 | 794.2 | 788.7 | 791.6 | 790.8 |
| 12.0 | 689.3 | 690.5 | 703.9 | 700.5 | 710.1 | 705.2 | 716.5 | 711.4 | 723.6 | 723.6 |
| 15.0 | 597.5 | 597.6 | 602.6 | 606.6 | 606.7 | 611.6 | 627.1 | 612.8 | 623.6 | 629.0 |
| 18.0 | 496.5 | 497.6 | 513.8 | 515.3 | 517.0 | 510.5 | 521.9 | 533.5 | 520.1 | 524.0 |
| 21.0 | 374.1 | 381.0 | 396.5 | 396.1 | 405.0 | 394.9 | 419.8 | 415.5 | 425.5 | 414.5 |
| 24.0 | 246.0 | 252.0 | 260.9 | 253.2 | 256.4 | 257.2 | 267.3 | 270.8 | 280.5 | 289.6 |
| 27.0 | 148.0 | 148.0 | 149.7 | 144.5 | 147.8 | 141.9 | 148.2 | 149.6 | 163.6 | 169.7 |
| 30.0 | 73.09 | 72.45 | 74.02 | 70.31 | 72.42 | 70.41 | 74.99 | 78.56 | 87.79 | 93.83 |
| 33.0 | 37.16 | 38.52 | 39.06 | 36.99 | 38.77 | 36.92 | 40.79 | 42.12 | 43.63 | 45.28 |
| 36.0 | 16.79 | 16.82 | 17.32 | 16.49 | 17.08 | 16.70 | 17.72 | 18.02 | 20.21 | 22.26 |
| 39.0 | 8.298 | 8.399 | 8.833 | 8.483 | 8.797 | 8.768 | 9.324 | 9.497 | 10.62 | 11.26 |
| 42.0 | 2.562 | 2.604 | 2.670 | 2.489 | 2.538 | 2.503 | 2.782 | 3.005 | 3.553 | 3.832 |
| 45.0 | 1.089 | 1.116 | 1.085 | 1.013 | 0.9300 | 0.8848 | 0.8765 | 0.9157 | 1.097 | 1.215 |
| 48.0 | 0.8464 | 0.8728 | 0.8450 | 0.7908 | 0.7194 | 0.6970 | 0.6577 | 0.7098 | 0.7620 | 0.8334 |
| 51.0 | 0.6738 | 0.7046 | 0.6789 | 0.6310 | 0.5704 | 0.5607 | 0.5278 | 0.5756 | 0.6108 | 0.6673 |
| 54.0 | 0.5394 | 0.5685 | 0.5428 | 0.5073 | 0.4534 | 0.4540 | 0.4257 | 0.4647 | 0.4789 | 0.5244 |
| 57.0 | 0.4349 | 0.4556 | 0.4321 | 0.4050 | 0.3640 | 0.3688 | 0.3384 | 0.3709 | 0.3725 | 0.4093 |
| 60.0 | 0.3475 | 0.3619 | 0.3362 | 0.3219 | 0.2873 | 0.2984 | 0.2703 | 0.2984 | 0.2937 | 0.3240 |
| 63.0 | 0.2772 | 0.2831 | 0.2596 | 0.2516 | 0.2235 | 0.2409 | 0.2150 | 0.2451 | 0.2299 | 0.2579 |
| 66.0 | 0.2217 | 0.2214 | 0.2022 | 0.2067 | 0.1767 | 0.1961 | 0.1724 | 0.2004 | 0.1831 | 0.2089 |
| 69.0 | 0.1833 | 0.1767 | 0.1617 | 0.1662 | 0.1426 | 0.1620 | 0.1384 | 0.1620 | 0.1469 | 0.1705 |
| 72.0 | 0.1556 | 0.1405 | 0.1277 | 0.1407 | 0.1150 | 0.1386 | 0.1150 | 0.1449 | 0.1256 | 0.1513 |
| 75.0 | 0.1280 | 0.1171 | 0.1043 | 0.1193 | 0.0958 | 0.1215 | 0.0958 | 0.1194 | 0.1043 | 0.1279 |
| 78.0 | 0.1087 | 0.0936 | 0.0851 | 0.1023 | 0.0809 | 0.1044 | 0.0788 | 0.1065 | 0.0894 | 0.1108 |
| 81.0 | 0.0853 | 0.0617 | 0.0595 | 0.0789 | 0.0596 | 0.0810 | 0.0575 | 0.0831 | 0.0639 | 0.0895 |
| 84.0 | 0.0639 | 0.0383 | 0.0340 | 0.0533 | 0.0361 | 0.0576 | 0.0361 | 0.0639 | 0.0404 | 0.0682 |
| 87.0 | 0.0406 | 0.0341 | 0.0213 | 0.0320 | 0.0255 | 0.0363 | 0.0213 | 0.0363 | 0.0255 | 0.0427 |
| 90.0 | 0.0320 | 0.0320 | 0.0213 | 0.0234 | 0.0213 | 0.0234 | 0.0213 | 0.0213 | 0.0213 | 0.0234 |
| | | | | | | | | | | |
| G/C | 300.0 | 315.0 | 330.0 | 345.0 | | | | | | |
| 0.0 | 837.4 | 839.2 | 837.7 | 836.1 | | | | | | |
| 3.0 | 824.5 | 819.7 | 820.8 | 810.7 | | | | | | |
| 6.0 | 812.9 | 798.5 | 788.8 | 773.7 | | | | | | |
| 9.0 | 785.8 | 780.3 | 767.2 | 755.7 | | | | | | |
| 12.0 | 725.5 | 720.0 | 725.2 | 715.3 | | | | | | |
| 15.0 | 642.7 | 651.9 | 653.1 | 658.8 | | | | | | |
| 18.0 | 533.0 | 540.4 | 555.1 | 558.7 | | | | | | |
| 21.0 | 434.2 | 437.4 | 449.3 | 451.3 | | | | | | |

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: Cao Chengpei

Test Date: 2016-06-24

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.288

Humidity: 53.0%

Test Distance: 5.850m [K=1.0000]

Remarks:

Photometric Data Table [cd]

| | | | | |
|------|--------|--------|--------|--------|
| 24.0 | 307.0 | 314.3 | 334.2 | 339.2 |
| 27.0 | 189.7 | 200.5 | 221.5 | 229.0 |
| 30.0 | 106.2 | 115.0 | 130.6 | 135.9 |
| 33.0 | 51.29 | 58.30 | 63.20 | 67.42 |
| 36.0 | 25.15 | 27.43 | 31.44 | 32.06 |
| 39.0 | 12.10 | 13.13 | 14.53 | 14.96 |
| 42.0 | 4.692 | 5.478 | 6.836 | 7.596 |
| 45.0 | 1.554 | 1.747 | 2.082 | 2.225 |
| 48.0 | 0.9003 | 0.9762 | 0.9833 | 1.040 |
| 51.0 | 0.7172 | 0.7824 | 0.7832 | 0.8463 |
| 54.0 | 0.5555 | 0.6140 | 0.6172 | 0.6800 |
| 57.0 | 0.4278 | 0.4754 | 0.4682 | 0.5181 |
| 60.0 | 0.3257 | 0.3666 | 0.3490 | 0.3901 |
| 63.0 | 0.2532 | 0.2878 | 0.2618 | 0.2964 |
| 66.0 | 0.2001 | 0.2260 | 0.2022 | 0.2345 |
| 69.0 | 0.1618 | 0.1833 | 0.1639 | 0.1876 |
| 72.0 | 0.1321 | 0.1577 | 0.1320 | 0.1577 |
| 75.0 | 0.1086 | 0.1322 | 0.1107 | 0.1364 |
| 78.0 | 0.0937 | 0.1172 | 0.0937 | 0.1172 |
| 81.0 | 0.0724 | 0.0980 | 0.0787 | 0.1002 |
| 84.0 | 0.0510 | 0.0725 | 0.0574 | 0.0831 |
| 87.0 | 0.0277 | 0.0512 | 0.0319 | 0.0597 |
| 90.0 | 0.0234 | 0.0277 | 0.0256 | 0.0298 |

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Cao Chengpei
Test Date: 2016-06-24

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity: 53.0%
Test Distance: 5.850m [K=1.0000]
Remarks: