

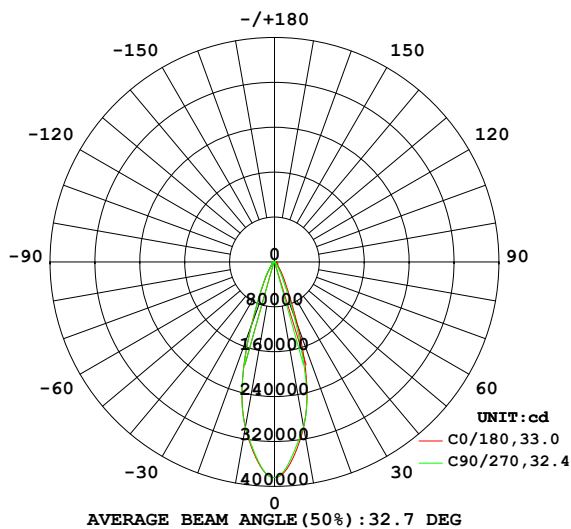
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

| | | |
|--|-------|------------------|
| Test:U:230.0V I:4.272A P:960.0W PF:0.977 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:138888x1 lm | | |
| NAME: SP04-960-5770-F04003Z+L130 | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: | SUR.: | Shielding Angle: |

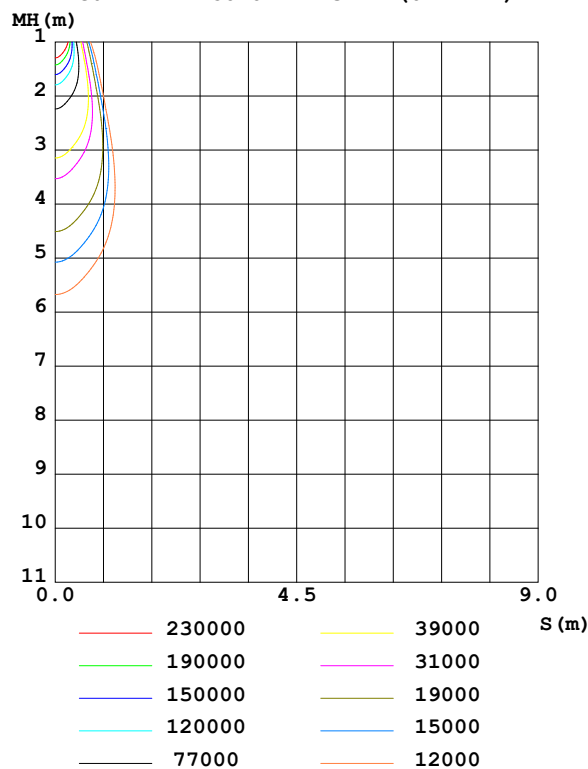
| DATA OF LAMP | | PHOTOMETRIC DATA Eff: 144.67 lm/W | | | |
|-------------------|--------|-----------------------------------|--------|--------------------|----------|
| MODEL | / | I _{max} (cd) | 384227 | S/MH (C0/180) | 0.52 |
| NOMINAL POWER (W) | / | LOR (%) | 100.0 | S/MH (C90/270) | 0.52 |
| RATED VOLTAGE (V) | / | TOTAL FLUX (lm) | 138888 | η UP,DN (C0-180) | 0.0,46.8 |
| NOMINAL FLUX (lm) | 138888 | CIE CLASS | DIRECT | η UP,DN (C180-360) | 0.0,53.2 |
| LAMPS INSIDE | 1 | η up (%) | 0.0 | CIBSE SHR NOM | 0.50 |
| TEST VOLTAGE (V) | / | η down (%) | 100.0 | CIBSE SHR MAX | 0.50 |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE (50%) : 32.7 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: LYJ
Test Date: 2023-03-07

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

| γ | C0 | C45 | C90 | C135 | C180 | C225 | C270 | C315 | γ | Φ zone | Φ total | %lum, lamp |
|----------|---------------------------|--------|--------|--------|-------|-------|-------|-------|----------|-------------|--------------|------------|
| 10 | 2992 | 2994 | 2977 | 2994 | 2992 | 2986 | 2991 | 2986 | 0- 10 | 31928 | 31928 | 23,23 |
| 20 | 1210 | 1185 | 1015 | 1185 | 1210 | 1219 | 1204 | 1219 | 10- 20 | 58310 | 90238 | 65,65 |
| 30 | 309.0 | 280.0 | 190.5 | 280.0 | 309.0 | 363.5 | 332.0 | 363.5 | 20- 30 | 26984 | 117223 | 84.4,84.4 |
| 40 | 100.7 | 74.10 | 40.55 | 74.10 | 100.7 | 128.6 | 111.0 | 128.6 | 30- 40 | 10846 | 128068 | 92.2,92.2 |
| 50 | 59.99 | 27.28 | 6.674 | 27.28 | 59.99 | 70.46 | 61.89 | 70.46 | 40- 50 | 5137 | 133205 | 95.9,95.9 |
| 60 | 38.11 | 4.191 | 0.3373 | 4.191 | 38.11 | 40.59 | 36.45 | 40.59 | 50- 60 | 3191 | 136396 | 98.2,98.2 |
| 70 | 17.77 | 0.4337 | 0.1816 | 0.4337 | 17.77 | 18.56 | 14.44 | 18.56 | 60- 70 | 1729 | 138125 | 99.5,99.5 |
| 80 | 3.773 | 0.1175 | 0.0251 | 0.1175 | 3.773 | 4.865 | 4.593 | 4.865 | 70- 80 | 655.6 | 138781 | 99.9,99.9 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 80- 90 | 107.0 | 138888 | 100,100 |
| 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90-100 | 0 | 138888 | 100,100 |
| 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100-110 | 0 | 138888 | 100,100 |
| 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110-120 | 0 | 138888 | 100,100 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120-130 | 0 | 138888 | 100,100 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 130-140 | 0 | 138888 | 100,100 |
| 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 140-150 | 0 | 138888 | 100,100 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 150-160 | 0 | 138888 | 100,100 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 160-170 | 0 | 138888 | 100,100 |
| 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170-180 | 0 | 138888 | 100,100 |
| DEG | LUMINOUS INTENSITY:X100cd | | | | | | | | | UNIT:lm | | |

Conical surface Flux(90deg): 1.3095e+005 lm

%lum = 94.3%

%lamp = 94.3%

Conical surface Flux(120deg): 1.364e+005 lm

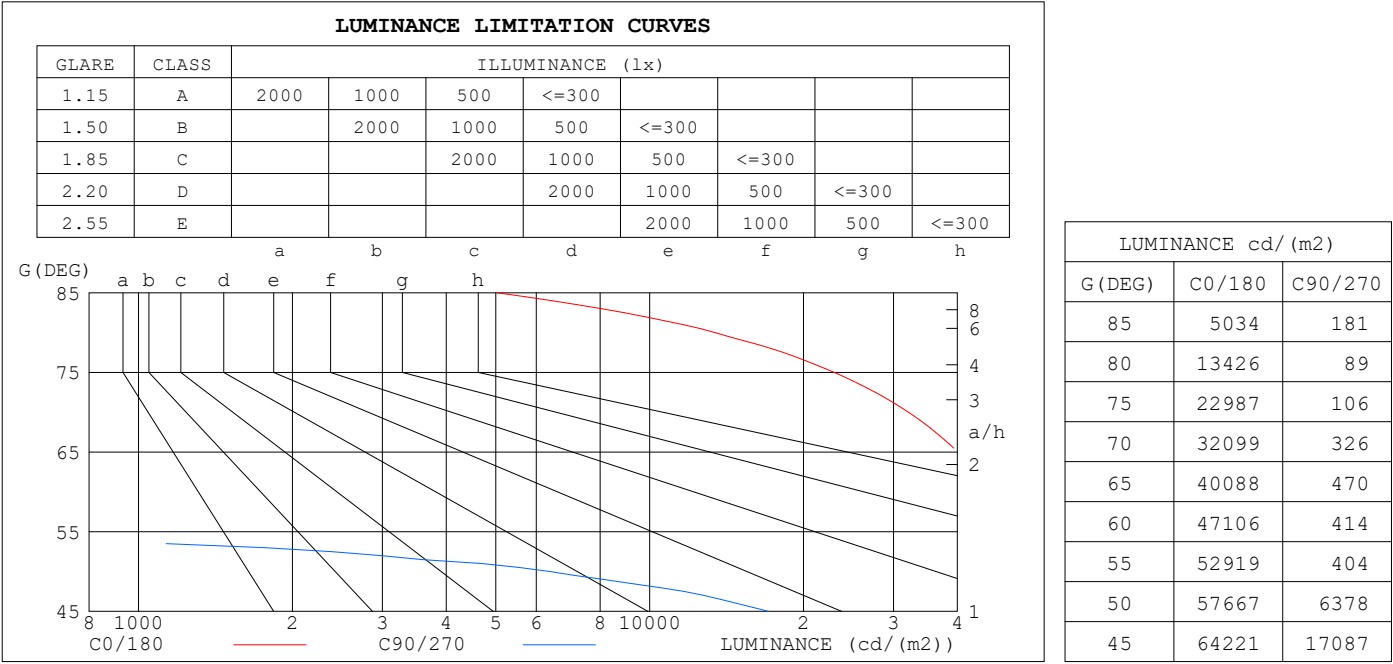
%lum = 98.2%

%lamp = 98.2%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:LYJ
Test Date:2023-03-07

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

LUMINANCE LIMITATION CURVES



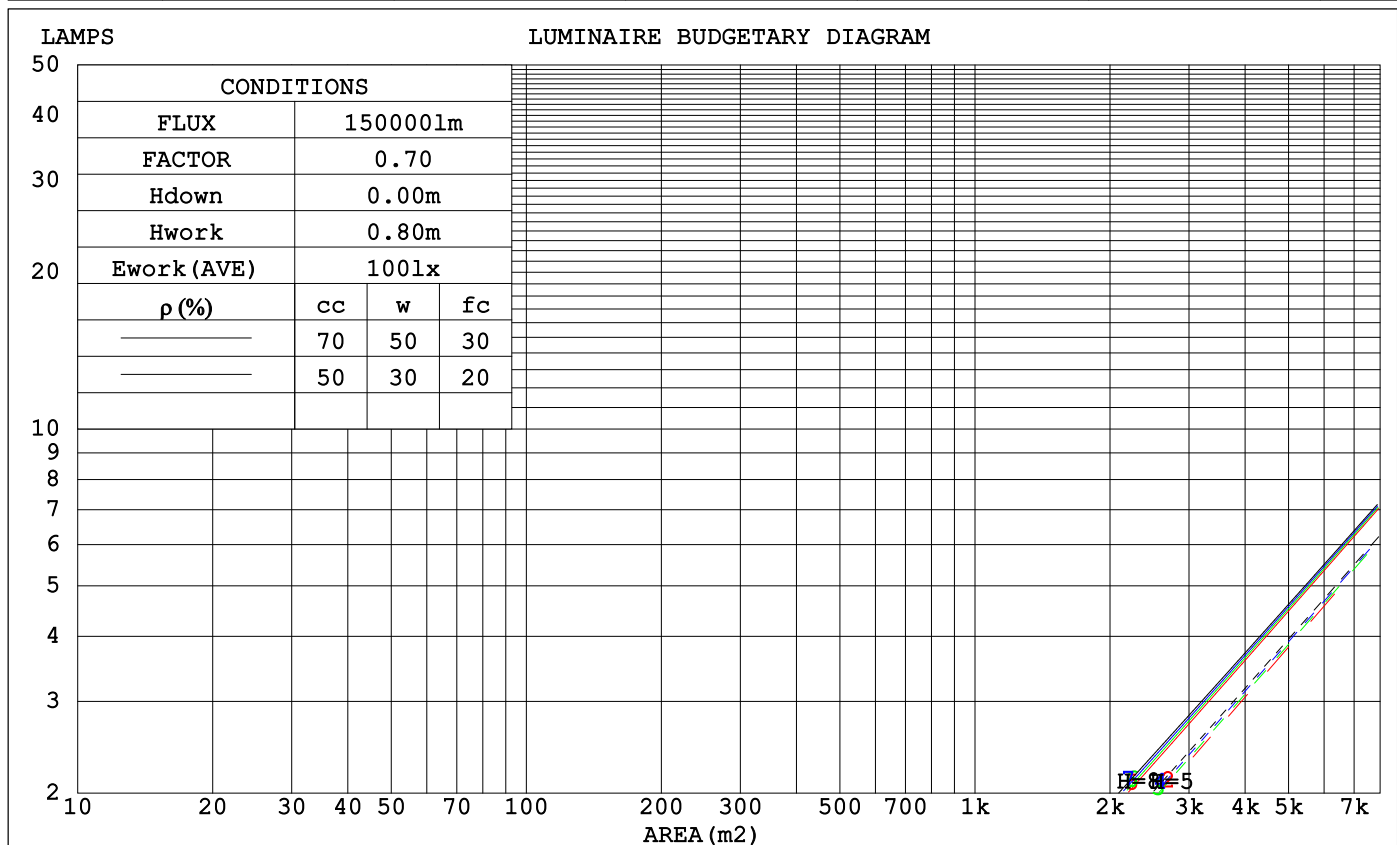
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2023-03-07

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| | | | | | | | | | | | | | | | | |
|-------------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|------|
| ρ_{cc} | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 |
| ρ_w | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| ρ_{fc} | 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 | 1.09 | 1.07 | 1.09 | 1.07 | 1.06 | 1.05 | 1.04 | 1.02 | 1.02 | 1.01 | .99 | .98 | .97 | .97 | .95 |
| 2.0 | 1.05 | 1.01 | .98 | 1.03 | 1.00 | .97 | 1.00 | .97 | .95 | .97 | .95 | .93 | .94 | .93 | .91 | .90 |
| 3.0 | .99 | .95 | .91 | .98 | .94 | .91 | .95 | .92 | .89 | .93 | .90 | .88 | .91 | .88 | .87 | .85 |
| 4.0 | .94 | .89 | .86 | .93 | .89 | .85 | .91 | .87 | .84 | .89 | .86 | .83 | .87 | .85 | .82 | .81 |
| 5.0 | .90 | .85 | .81 | .89 | .84 | .81 | .87 | .83 | .80 | .85 | .82 | .79 | .84 | .81 | .78 | .77 |
| 6.0 | .85 | .80 | .77 | .85 | .80 | .77 | .83 | .79 | .76 | .82 | .78 | .76 | .81 | .78 | .75 | .74 |
| 7.0 | .82 | .77 | .73 | .81 | .76 | .73 | .80 | .76 | .73 | .79 | .75 | .72 | .78 | .74 | .72 | .71 |
| 8.0 | .78 | .73 | .70 | .78 | .73 | .70 | .77 | .73 | .70 | .76 | .72 | .69 | .75 | .72 | .69 | .68 |
| 9.0 | .75 | .70 | .67 | .75 | .70 | .67 | .74 | .70 | .67 | .73 | .69 | .67 | .73 | .69 | .66 | .65 |
| 10.0 | .73 | .68 | .65 | .72 | .68 | .64 | .71 | .67 | .64 | .71 | .67 | .64 | .70 | .67 | .64 | .63 |



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:LYJ
Test Date:2023-03-07

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

| ρ_{cc} | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 | |
|-------------|-----------------------|------|------|------|------|------|----------------------------------|------|------|------|------|------|------|------|------|---|--|
| ρ_w | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 | |
| ρ_{fc} | 20% | | | 20% | | | 20% | | | 20% | | | 20% | | | 0 | |
| RCR | RCR:Room Cavity Ratio | | | | | | Wall Exitance Coefficients (WEC) | | | | | | | | | | |
| 0.0 | | | | | | | | | | | | | | | | | |
| 1.0 | .161 | .092 | .029 | .155 | .088 | .028 | .142 | .082 | .026 | .131 | .075 | .024 | .120 | .070 | .022 | | |
| 2.0 | .152 | .083 | .026 | .146 | .081 | .025 | .136 | .076 | .023 | .126 | .071 | .022 | .118 | .066 | .021 | | |
| 3.0 | .143 | .076 | .023 | .138 | .074 | .022 | .129 | .070 | .021 | .121 | .066 | .020 | .114 | .063 | .019 | | |
| 4.0 | .134 | .070 | .021 | .131 | .068 | .020 | .123 | .065 | .019 | .116 | .062 | .019 | .109 | .059 | .018 | | |
| 5.0 | .127 | .065 | .019 | .124 | .063 | .018 | .117 | .061 | .018 | .111 | .059 | .017 | .105 | .056 | .017 | | |
| 6.0 | .120 | .060 | .017 | .117 | .059 | .017 | .112 | .057 | .017 | .106 | .055 | .016 | .101 | .053 | .016 | | |
| 7.0 | .114 | .056 | .016 | .112 | .056 | .016 | .107 | .054 | .016 | .102 | .052 | .015 | .098 | .051 | .015 | | |
| 8.0 | .109 | .053 | .015 | .106 | .052 | .015 | .102 | .051 | .015 | .098 | .050 | .014 | .094 | .048 | .014 | | |
| 9.0 | .104 | .050 | .014 | .102 | .050 | .014 | .098 | .048 | .014 | .094 | .047 | .014 | .091 | .046 | .013 | | |
| 10.0 | .099 | .048 | .013 | .098 | .047 | .013 | .094 | .046 | .013 | .091 | .045 | .013 | .088 | .044 | .013 | | |

| ρ_{cc} | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 |
|-------------|-----------------------|------|------|------|------|------|---|------|------|------|------|------|------|------|------|---|
| ρ_w | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| ρ_{fc} | 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 | .170 | .157 | .146 | .145 | .135 | .126 | .100 | .093 | .087 | .057 | .054 | .051 | .018 | .017 | .016 | |
| 2.0 | .154 | .133 | .115 | .132 | .114 | .099 | .090 | .079 | .069 | .052 | .046 | .041 | .017 | .015 | .013 | |
| 3.0 | .140 | .113 | .092 | .120 | .098 | .080 | .082 | .068 | .056 | .048 | .040 | .033 | .015 | .013 | .011 | |
| 4.0 | .129 | .098 | .075 | .110 | .085 | .065 | .076 | .059 | .046 | .044 | .035 | .027 | .014 | .011 | .009 | |
| 5.0 | .119 | .086 | .063 | .102 | .075 | .054 | .070 | .052 | .038 | .041 | .031 | .023 | .013 | .010 | .008 | |
| 6.0 | .111 | .077 | .053 | .095 | .067 | .046 | .066 | .047 | .032 | .038 | .027 | .019 | .012 | .009 | .006 | |
| 7.0 | .103 | .069 | .045 | .089 | .060 | .039 | .061 | .042 | .028 | .036 | .025 | .016 | .012 | .008 | .005 | |
| 8.0 | .097 | .062 | .039 | .084 | .054 | .034 | .058 | .038 | .024 | .034 | .022 | .014 | .011 | .007 | .005 | |
| 9.0 | .092 | .057 | .033 | .079 | .049 | .029 | .055 | .035 | .021 | .032 | .021 | .012 | .010 | .007 | .004 | |
| 10.0 | .087 | .052 | .029 | .075 | .045 | .026 | .052 | .032 | .018 | .030 | .019 | .011 | .010 | .006 | .004 | |

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:LYJ
 Test Date:2023-03-07

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4556]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UGR(Unified Glare Rating) Table

| | | | | | | | | | | |
|-----------------|------------------|------|------|------|------|----------------|------|------|------|------|
| 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 | 18.5 | 19.5 | 18.8 | 19.8 | 20.1 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 3H | 19.4 | 20.3 | 19.8 | 20.6 | 21.0 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 4H | 19.5 | 20.4 | 20.0 | 20.7 | 21.1 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 6H | 19.6 | 20.3 | 20.0 | 20.7 | 21.1 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 8H | 19.5 | 20.2 | 20.0 | 20.6 | 21.0 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 12H | 19.5 | 20.2 | 19.9 | 20.5 | 21.0 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 4H 2H | 18.2 | 19.0 | 18.6 | 19.3 | 19.7 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 3H | 19.1 | 19.7 | 19.5 | 20.1 | 20.6 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 4H | 19.2 | 19.8 | 19.7 | 20.2 | 20.7 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 6H | 19.3 | 19.8 | 19.7 | 20.2 | 20.7 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 8H | 19.2 | 19.7 | 19.7 | 20.1 | 20.6 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 12H | 19.2 | 19.6 | 19.7 | 20.1 | 20.5 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 8H 4H | 19.0 | 19.5 | 19.5 | 20.0 | 20.4 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 6H | 19.1 | 19.4 | 19.6 | 19.9 | 20.4 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 8H | 19.0 | 19.3 | 19.6 | 19.9 | 20.4 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 12H | 19.0 | 19.3 | 19.5 | 19.8 | 20.3 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 12H 4H | 19.0 | 19.4 | 19.5 | 19.9 | 20.3 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 6H | 19.0 | 19.3 | 19.5 | 19.8 | 20.3 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 8H | 19.0 | 19.2 | 19.5 | 19.7 | 20.3 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| CIE190: 2010 | | | | | | | | | | |
| | | | | | | | | | | |

CIE190: 2010
Area: 0.1627 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2023-03-07

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

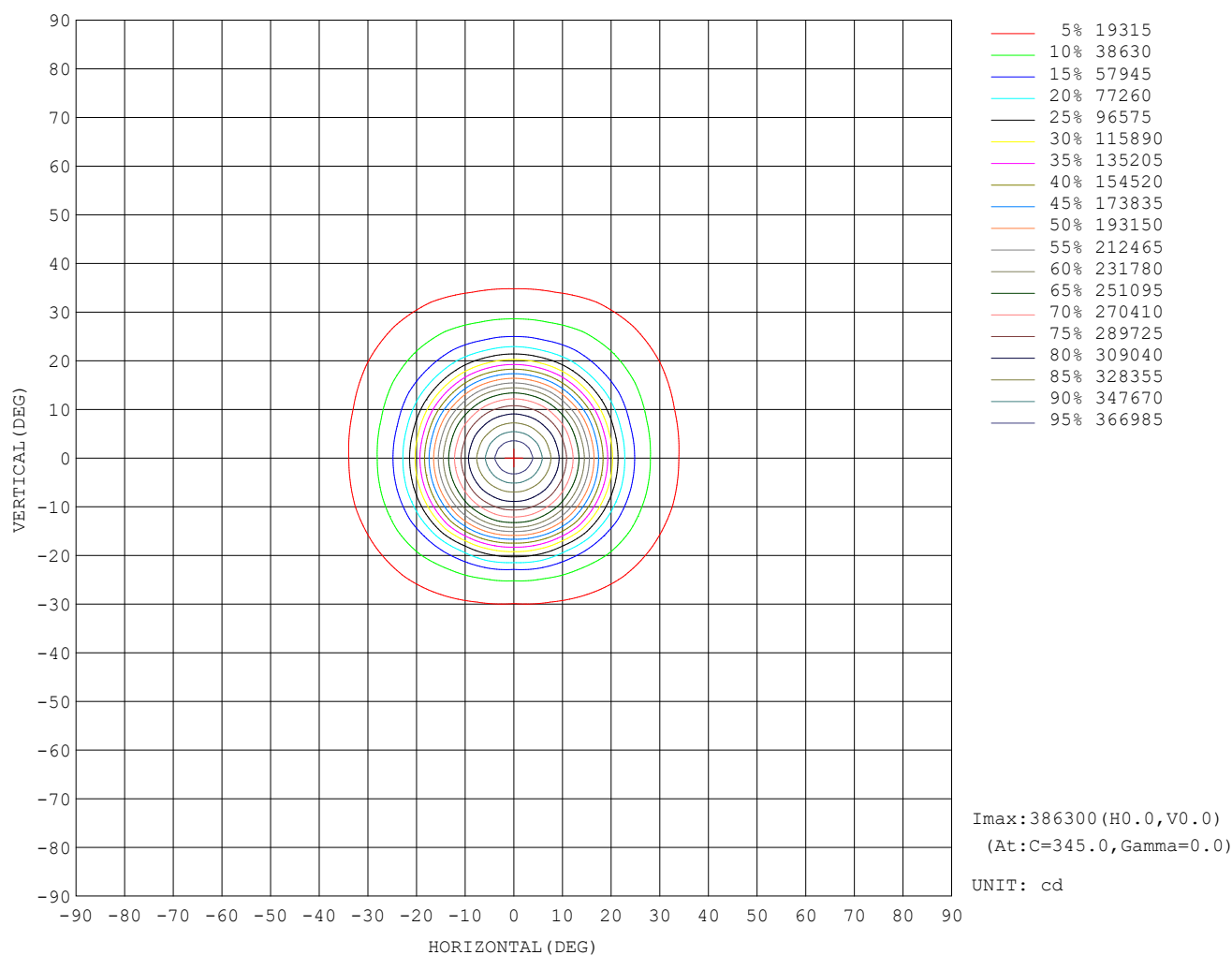
UTILIZATION FACTORS TABLE

| 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) $k(RI) \times RCR = 5$ | | | | | | | | | |
| $k = 0.60$ | 87 | 80 | 76 | 86 | 80 | 76 | 85 | 80 | 76 | 72 |
| 0.80 | 94 | 88 | 84 | 93 | 88 | 84 | 92 | 87 | 84 | 80 |
| 1.00 | 99 | 93 | 89 | 98 | 92 | 89 | 96 | 92 | 88 | 84 |
| 1.25 | 103 | 97 | 94 | 102 | 97 | 93 | 100 | 96 | 93 | 88 |
| 1.50 | 105 | 101 | 97 | 104 | 100 | 97 | 102 | 98 | 96 | 91 |
| 2.00 | 108 | 104 | 101 | 107 | 103 | 100 | 104 | 101 | 98 | 93 |
| 2.50 | 110 | 106 | 103 | 108 | 105 | 102 | 105 | 102 | 100 | 94 |
| 3.00 | 112 | 108 | 105 | 110 | 107 | 104 | 106 | 104 | 102 | 96 |
| 4.00 | 114 | 111 | 109 | 112 | 109 | 107 | 108 | 106 | 104 | 97 |
| 5.00 | 115 | 113 | 111 | 113 | 111 | 109 | 109 | 107 | 106 | 98 |
| 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: 25.3°C
 Operators: LYJ
 Test Date: 2023-03-07

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4556]
 Remarks:

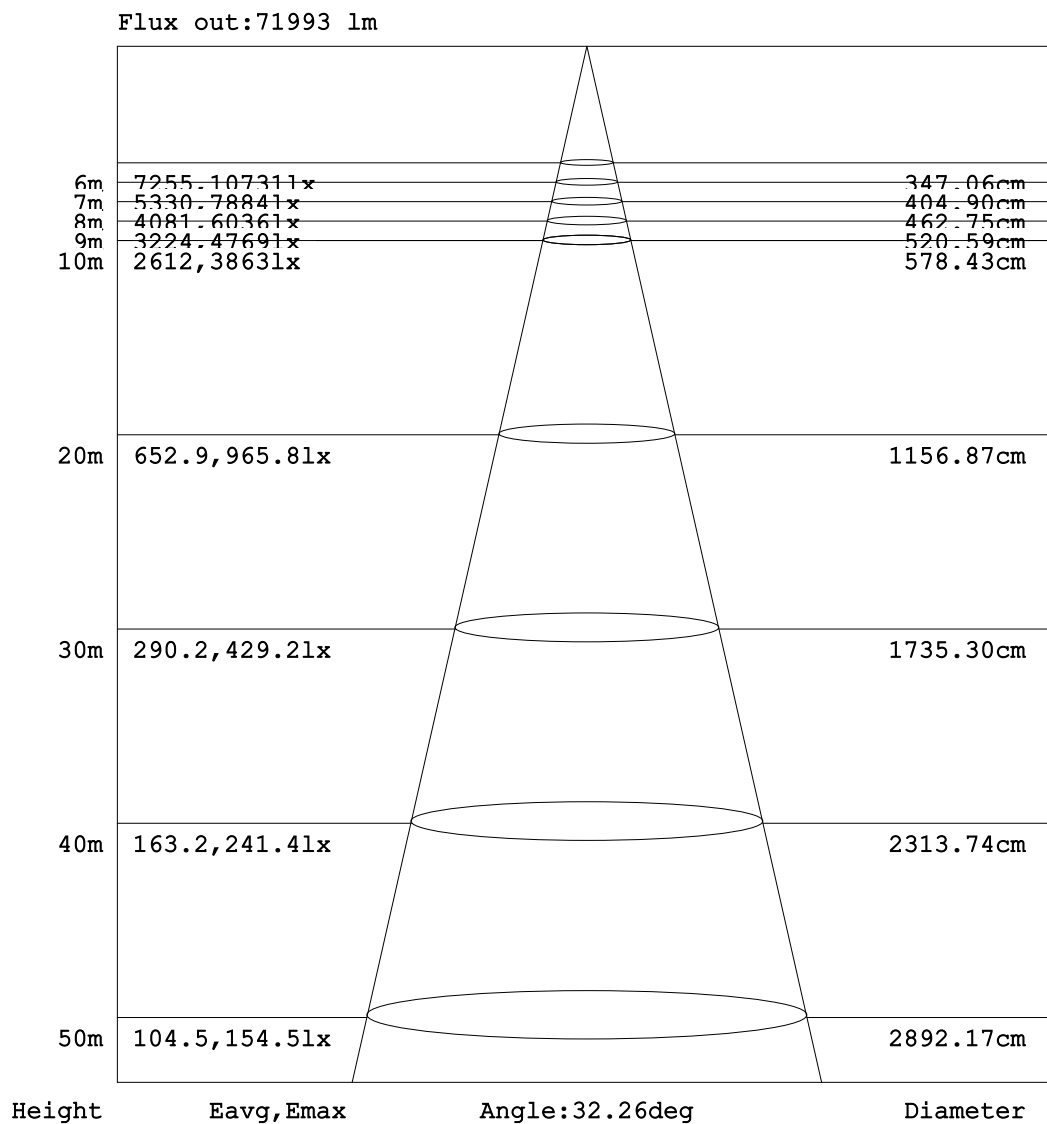
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:LYJ
Test Date:2023-03-07

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

AAI Figure



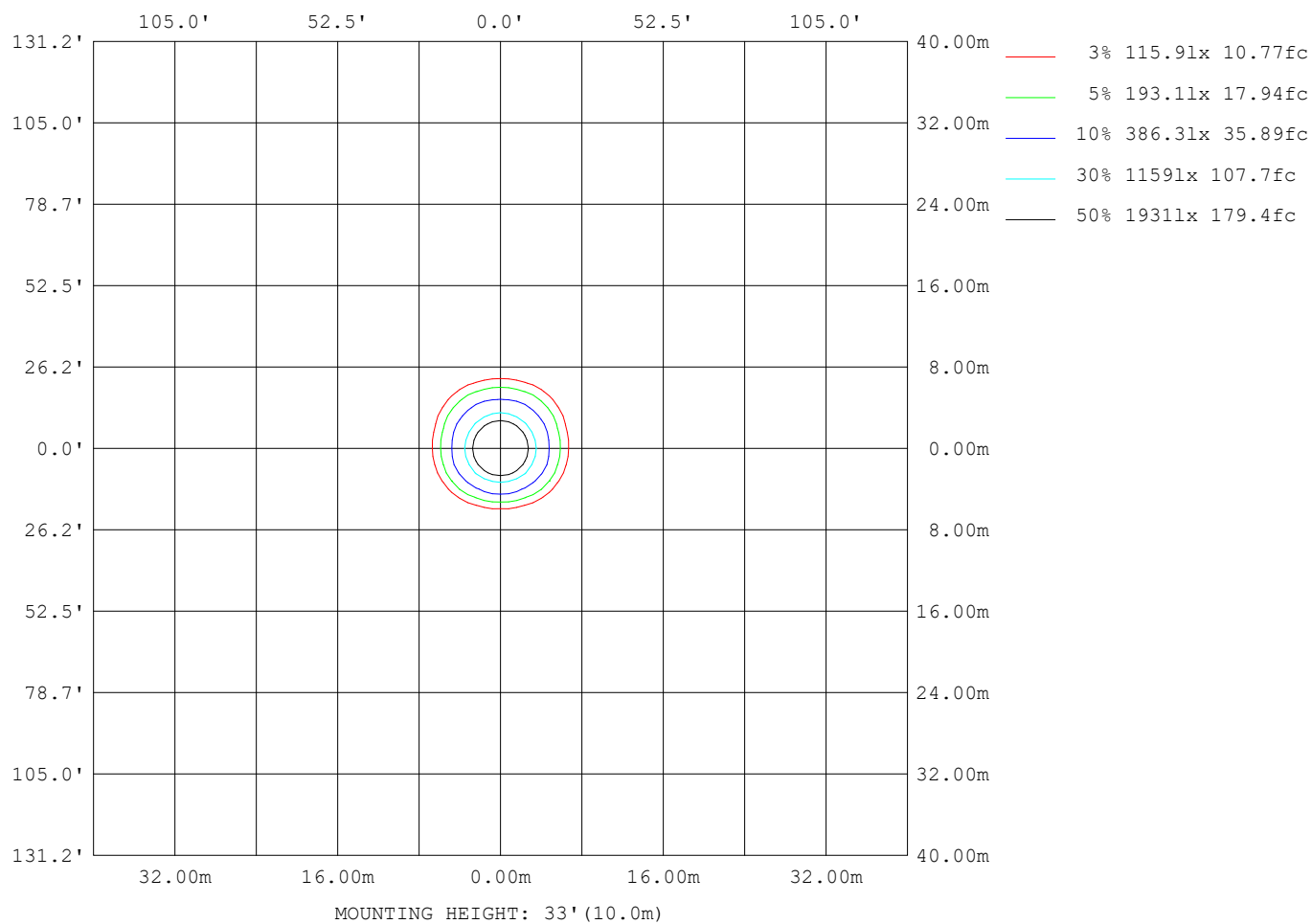
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:LYJ
Test Date:2023-03-07

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

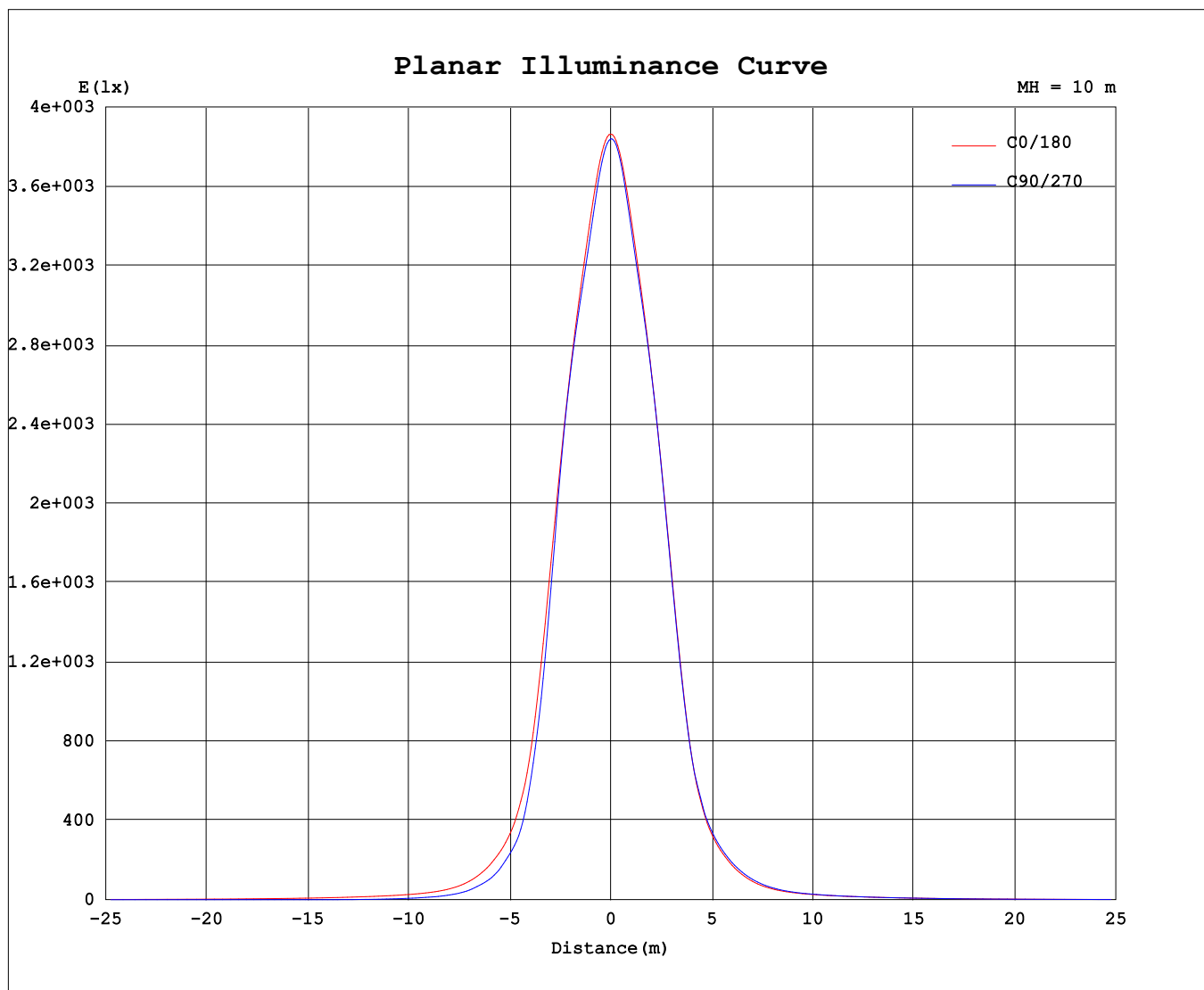
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: LYJ
Test Date: 2023-03-07

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: LYJ
Test Date: 2023-03-07

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks: