

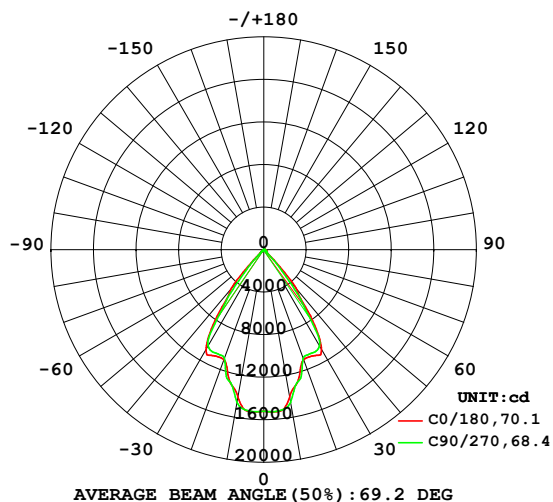
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

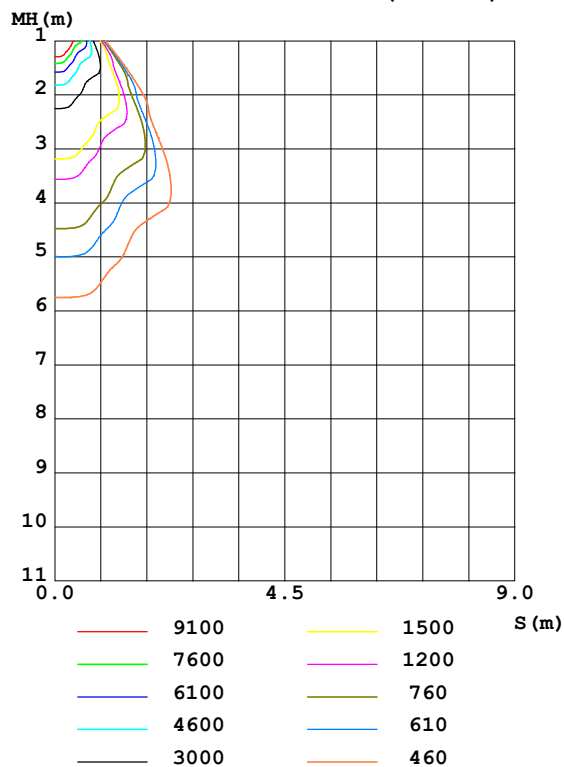
| | | |
|--|-------|------------------|
| Test:U:230.0V I:0.6508A P:149.35W PF:0.9978 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:15199.4x1 lm | | |
| NAME: LHB09-150-5070-L03902+GRID38 | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: | SUR.: | Shielding Angle: |

| DATA OF LAMP | | PHOTOMETRIC DATA Eff: 101.77 lm/W | | | |
|------------------|---------|-----------------------------------|--------|-------------------|----------|
| MODEL | / | I _{max} (cd) | 15307 | S/MH(C0/180) | 1.01 |
| NOMINAL POWER(W) | / | LOR(%) | 100.0 | S/MH(C90/270) | 0.99 |
| RATED VOLTAGE(V) | / | TOTAL FLUX(lm) | 15199 | η UP,DN(C0-180) | 0.0,50.0 |
| NOMINAL FLUX(lm) | 15199.4 | CIE CLASS | DIRECT | η UP,DN(C180-360) | 0.0,50.0 |
| LAMPS INSIDE | 1 | η up(%) | 0.0 | CIBSE SHR NOM | 1.00 |
| TEST VOLTAGE(V) | 230 | η down(%) | 100.0 | CIBSE SHR MAX | 1.05 |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-12

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
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 | 1406 | 1500 | 1457 | 1500 | 1406 | 1500 | 1457 | 1500 | 0- 10 | 1444 | 1444 | 9.5,9.5 |
| 20 | 1101 | 1089 | 1089 | 1089 | 1101 | 1089 | 1089 | 1089 | 10- 20 | 3594 | 5038 | 33.1,33.1 |
| 30 | 1088 | 812.9 | 1047 | 812.9 | 1088 | 812.9 | 1047 | 812.9 | 20- 30 | 4706 | 9744 | 64.1,64.1 |
| 40 | 474.2 | 363.8 | 293.6 | 363.8 | 474.2 | 363.8 | 293.6 | 363.8 | 30- 40 | 4285 | 14029 | 92.3,92.3 |
| 50 | 33.98 | 26.93 | 25.26 | 26.93 | 33.98 | 26.93 | 25.26 | 26.93 | 40- 50 | 934.1 | 14963 | 98.4,98.4 |
| 60 | 16.61 | 8.851 | 8.270 | 8.851 | 16.61 | 8.851 | 8.270 | 8.851 | 50- 60 | 154.2 | 15117 | 99.5,99.5 |
| 70 | 4.625 | 2.612 | 2.725 | 2.612 | 4.625 | 2.612 | 2.725 | 2.612 | 60- 70 | 59.66 | 15177 | 99.9,99.9 |
| 80 | 1.450 | 0.8729 | 0.7721 | 0.8729 | 1.450 | 0.8729 | 0.7721 | 0.8729 | 70- 80 | 18.14 | 15195 | 100,100 |
| 90 | 0.0257 | 0.0312 | 0.0208 | 0.0312 | 0.0257 | 0.0312 | 0.0208 | 0.0312 | 80- 90 | 4.518 | 15199 | 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:X10cd | | | | | | | | | UNIT:lm | | |

Conical surface Flux(90deg): 14787 lm

%lum = 97.3%

%lamp = 97.3%

Conical surface Flux(120deg): 15117 lm

%lum = 99.5%

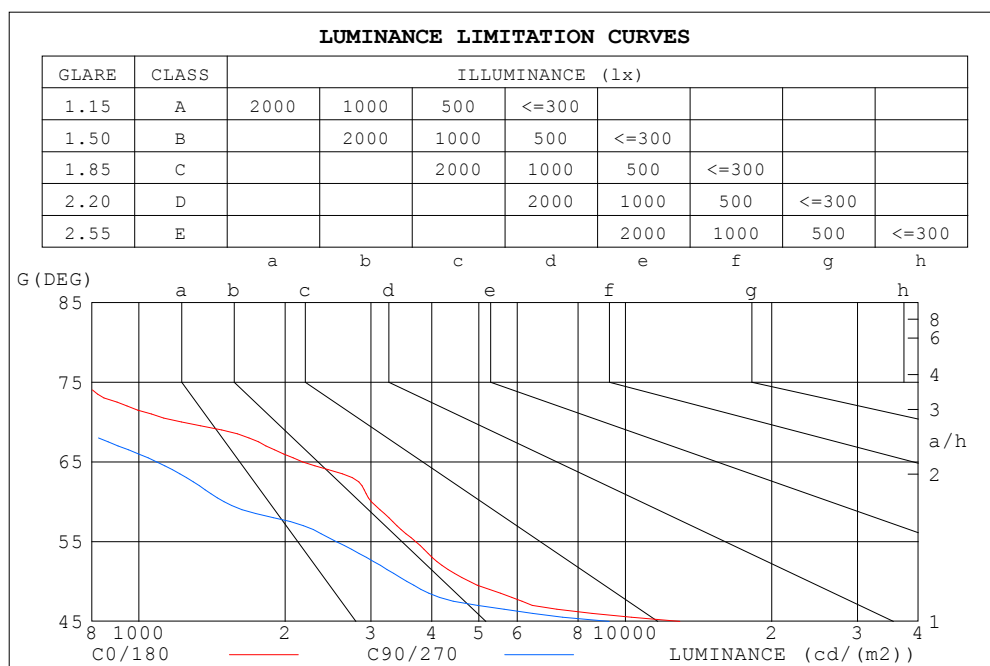
%lamp = 99.5%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



| LUMINANCE cd/(m2) | | |
|-------------------|--------|---------|
| G (DEG) | C0/180 | C90/270 |
| 85 | 627 | 365 |
| 80 | 756 | 402 |
| 75 | 764 | 523 |
| 70 | 1224 | 721 |
| 65 | 2172 | 1088 |
| 60 | 3007 | 1497 |
| 55 | 3710 | 2549 |
| 50 | 4784 | 3556 |
| 45 | 12950 | 9267 |

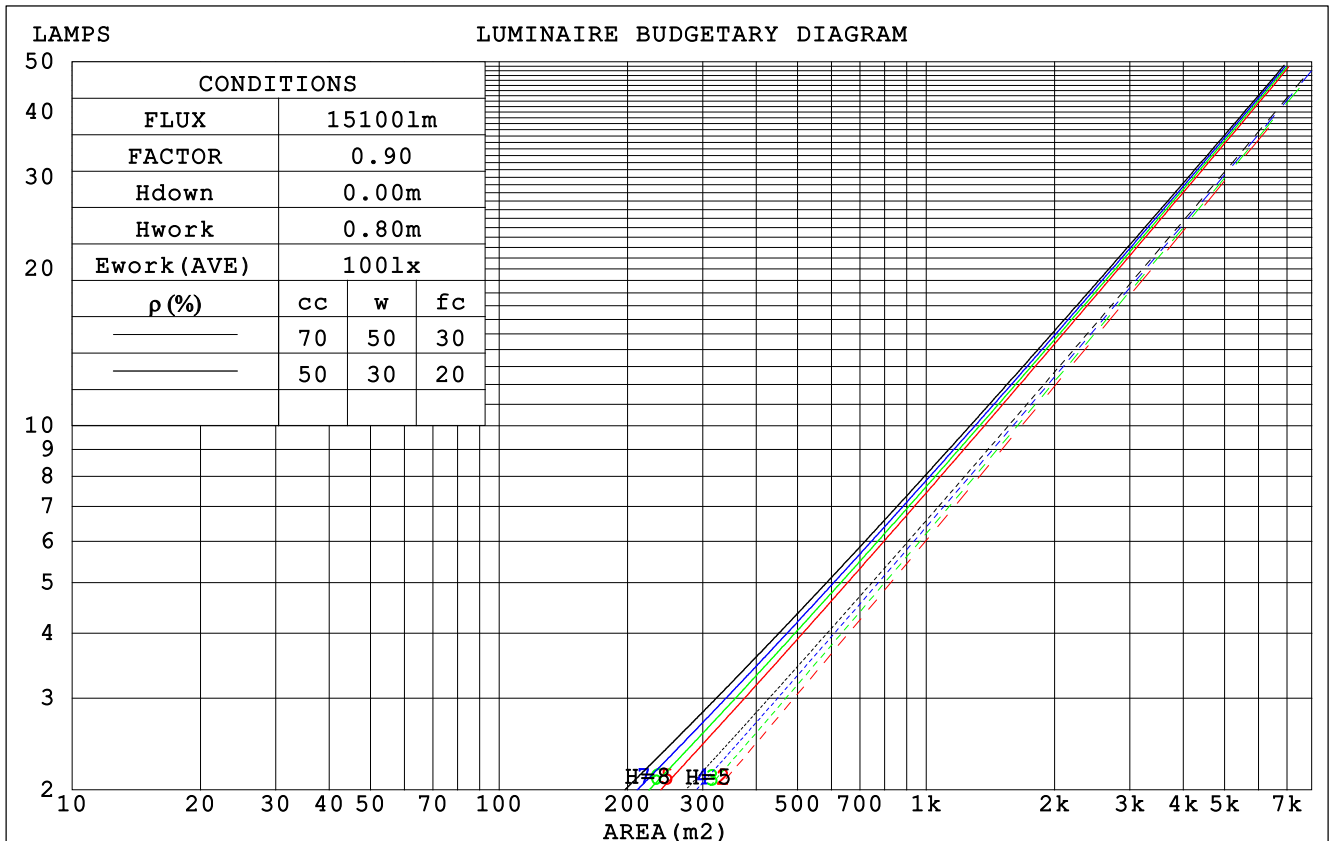
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4538]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| pcc | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 |
|-----------------|-----------------------|------|------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| p _w | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| p _{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 | 1.10 | 1.08 | 1.06 | 1.08 | 1.06 | 1.04 | 1.04 | 1.02 | 1.01 | 1.01 | .99 | .98 | .97 | .96 | .95 | .93 |
| 2.0 | 1.02 | .98 | .95 | 1.01 | .97 | .94 | .97 | .94 | .92 | .94 | .92 | .90 | .92 | .90 | .88 | .86 |
| 3.0 | .95 | .90 | .86 | .94 | .89 | .85 | .91 | .87 | .84 | .89 | .85 | .83 | .86 | .84 | .81 | .80 |
| 4.0 | .89 | .83 | .78 | .87 | .82 | .78 | .85 | .81 | .77 | .83 | .79 | .76 | .81 | .78 | .75 | .74 |
| 5.0 | .83 | .77 | .72 | .82 | .76 | .72 | .80 | .75 | .71 | .78 | .74 | .70 | .77 | .73 | .70 | .68 |
| 6.0 | .77 | .71 | .66 | .76 | .70 | .66 | .75 | .70 | .66 | .73 | .69 | .65 | .72 | .68 | .65 | .63 |
| 7.0 | .72 | .66 | .62 | .71 | .66 | .61 | .70 | .65 | .61 | .69 | .64 | .61 | .68 | .64 | .60 | .59 |
| 8.0 | .68 | .61 | .57 | .67 | .61 | .57 | .66 | .61 | .57 | .65 | .60 | .57 | .64 | .60 | .56 | .55 |
| 9.0 | .64 | .57 | .53 | .63 | .57 | .53 | .62 | .57 | .53 | .61 | .56 | .53 | .60 | .56 | .53 | .51 |
| 10.0 | .60 | .54 | .50 | .59 | .54 | .50 | .59 | .53 | .50 | .58 | .53 | .50 | .57 | .53 | .49 | .48 |



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-12

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

| 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 | .183 | .104 | .033 | .176 | .101 | .032 | .164 | .094 | .030 | .152 | .088 | .028 | .141 | .082 | .026 | |
| 2.0 | .176 | .097 | .030 | .171 | .094 | .029 | .160 | .089 | .028 | .150 | .084 | .026 | .141 | .080 | .025 | |
| 3.0 | .169 | .090 | .027 | .164 | .088 | .026 | .155 | .084 | .025 | .146 | .080 | .025 | .138 | .077 | .024 | |
| 4.0 | .161 | .084 | .025 | .157 | .082 | .024 | .149 | .079 | .024 | .142 | .076 | .023 | .135 | .073 | .022 | |
| 5.0 | .154 | .078 | .023 | .150 | .077 | .022 | .143 | .075 | .022 | .137 | .072 | .021 | .131 | .070 | .021 | |
| 6.0 | .147 | .074 | .021 | .144 | .073 | .021 | .138 | .071 | .021 | .132 | .069 | .020 | .127 | .067 | .020 | |
| 7.0 | .141 | .070 | .020 | .138 | .069 | .020 | .133 | .067 | .019 | .127 | .065 | .019 | .123 | .064 | .019 | |
| 8.0 | .135 | .066 | .019 | .132 | .065 | .018 | .127 | .064 | .018 | .123 | .062 | .018 | .119 | .061 | .018 | |
| 9.0 | .129 | .063 | .017 | .127 | .062 | .017 | .123 | .061 | .017 | .118 | .059 | .017 | .115 | .058 | .017 | |
| 10.0 | .124 | .059 | .017 | .122 | .059 | .016 | .118 | .058 | .016 | .114 | .057 | .016 | .111 | .056 | .016 | |

| 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 | .172 | .157 | .144 | .147 | .135 | .124 | .100 | .093 | .086 | .058 | .054 | .050 | .019 | .017 | .016 | |
| 2.0 | .157 | .132 | .112 | .134 | .114 | .097 | .092 | .079 | .068 | .053 | .046 | .040 | .017 | .015 | .013 | |
| 3.0 | .145 | .114 | .089 | .124 | .098 | .077 | .085 | .068 | .054 | .049 | .040 | .032 | .016 | .013 | .010 | |
| 4.0 | .135 | .099 | .071 | .116 | .086 | .062 | .080 | .060 | .044 | .046 | .035 | .026 | .015 | .011 | .008 | |
| 5.0 | .127 | .088 | .059 | .109 | .076 | .051 | .075 | .053 | .036 | .043 | .031 | .021 | .014 | .010 | .007 | |
| 6.0 | .120 | .078 | .049 | .103 | .068 | .042 | .071 | .048 | .030 | .041 | .028 | .018 | .013 | .009 | .006 | |
| 7.0 | .114 | .071 | .041 | .098 | .061 | .036 | .067 | .043 | .025 | .039 | .025 | .015 | .013 | .008 | .005 | |
| 8.0 | .108 | .065 | .035 | .093 | .056 | .031 | .064 | .039 | .022 | .037 | .023 | .013 | .012 | .008 | .004 | |
| 9.0 | .103 | .060 | .030 | .089 | .052 | .027 | .061 | .036 | .019 | .036 | .022 | .011 | .012 | .007 | .004 | |
| 10.0 | .099 | .055 | .027 | .085 | .048 | .023 | .059 | .034 | .017 | .034 | .020 | .010 | .011 | .007 | .003 | |

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:26.000m [K=0.4538]
 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 | 6.5 | 7.4 | 6.8 | 7.7 | 8.1 | 4.3 | 5.3 | 4.7 | 5.6 | 5.9 |
| 3H | 7.0 | 7.9 | 7.4 | 8.2 | 8.6 | 4.6 | 5.5 | 5.0 | 5.8 | 6.2 |
| 4H | 7.0 | 7.8 | 7.4 | 8.2 | 8.6 | 4.6 | 5.4 | 5.0 | 5.8 | 6.2 |
| 6H | 7.0 | 7.8 | 7.4 | 8.1 | 8.5 | 4.6 | 5.3 | 5.0 | 5.7 | 6.1 |
| 8H | 7.0 | 7.7 | 7.5 | 8.1 | 8.5 | 4.6 | 5.3 | 5.0 | 5.7 | 6.1 |
| 12H | 7.0 | 7.7 | 7.4 | 8.0 | 8.5 | 4.6 | 5.2 | 5.0 | 5.6 | 6.0 |
| 4H 2H | 6.4 | 7.2 | 6.8 | 7.5 | 7.9 | 4.4 | 5.2 | 4.8 | 5.5 | 5.9 |
| 3H | 6.9 | 7.6 | 7.4 | 8.0 | 8.4 | 4.7 | 5.4 | 5.1 | 5.8 | 6.2 |
| 4H | 7.0 | 7.6 | 7.4 | 8.0 | 8.4 | 4.8 | 5.4 | 5.2 | 5.8 | 6.2 |
| 6H | 7.1 | 7.5 | 7.5 | 8.0 | 8.5 | 4.8 | 5.3 | 5.3 | 5.7 | 6.2 |
| 8H | 7.1 | 7.5 | 7.5 | 8.0 | 8.4 | 4.8 | 5.2 | 5.3 | 5.7 | 6.2 |
| 12H | 7.0 | 7.4 | 7.5 | 7.9 | 8.4 | 4.8 | 5.2 | 5.3 | 5.6 | 6.1 |
| 8H 4H | 6.9 | 7.3 | 7.3 | 7.8 | 8.3 | 4.7 | 5.2 | 5.2 | 5.6 | 6.1 |
| 6H | 7.0 | 7.3 | 7.5 | 7.8 | 8.3 | 4.8 | 5.1 | 5.3 | 5.6 | 6.1 |
| 8H | 7.0 | 7.3 | 7.5 | 7.8 | 8.3 | 4.8 | 5.1 | 5.3 | 5.6 | 6.1 |
| 12H | 7.0 | 7.3 | 7.5 | 7.8 | 8.4 | 4.8 | 5.1 | 5.3 | 5.6 | 6.1 |
| 12H 4H | 6.8 | 7.2 | 7.3 | 7.7 | 8.2 | 4.7 | 5.1 | 5.2 | 5.6 | 6.0 |
| 6H | 6.9 | 7.2 | 7.4 | 7.7 | 8.2 | 4.7 | 5.0 | 5.3 | 5.5 | 6.1 |
| 8H | 7.0 | 7.2 | 7.5 | 7.7 | 8.3 | 4.8 | 5.0 | 5.3 | 5.5 | 6.1 |
| CIE190: 2010 | | | | | | | | | | |
| | | | | | | | | | | |

CIE190: 2010
Area: 0.1105 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

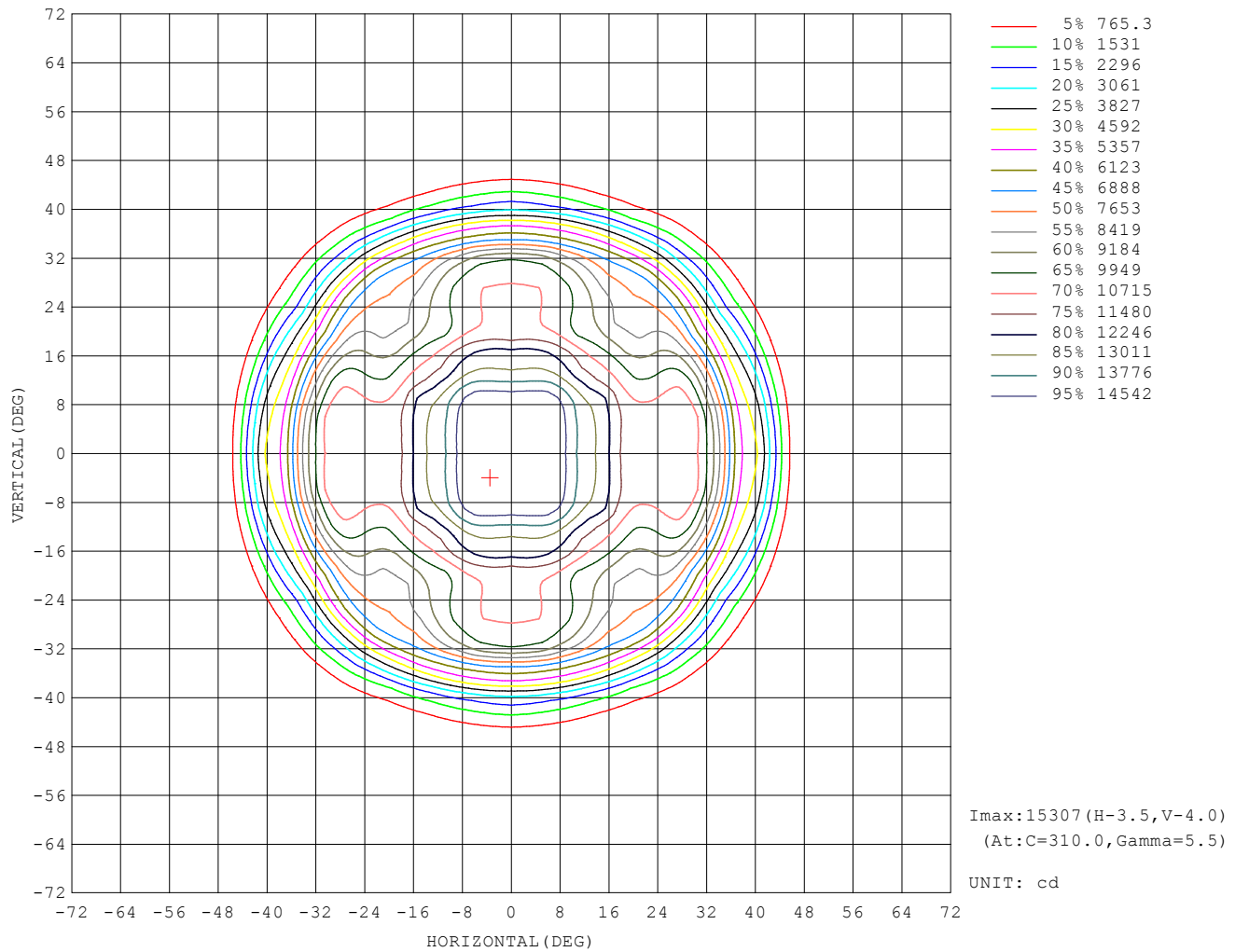
| REFLECTANCE | | | | | | | | | | |
|----------------------------------|--|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| Ceiling | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0 |
| Walls | 0.7 | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0 |
| Working plane | 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 | 73 |
| 0.80 | 94 | 88 | 85 | 94 | 88 | 84 | 92 | 87 | 84 | 80 |
| 1.00 | 99 | 93 | 90 | 98 | 93 | 89 | 97 | 93 | 89 | 85 |
| 1.25 | 103 | 98 | 94 | 102 | 97 | 94 | 100 | 96 | 93 | 89 |
| 1.50 | 106 | 101 | 98 | 105 | 100 | 97 | 102 | 99 | 96 | 92 |
| 2.00 | 109 | 104 | 101 | 107 | 103 | 100 | 104 | 101 | 99 | 94 |
| 2.50 | 110 | 106 | 103 | 109 | 105 | 102 | 105 | 103 | 101 | 95 |
| 3.00 | 112 | 108 | 106 | 110 | 107 | 105 | 107 | 104 | 102 | 96 |
| 4.00 | 114 | 111 | 109 | 112 | 109 | 107 | 108 | 106 | 105 | 98 |
| 5.00 | 115 | 113 | 111 | 113 | 111 | 109 | 109 | 107 | 106 | 99 |
| ROOM INDEX | UF (total) | | | | | | | | | Direct |
| According to DIN EN 13032-2 2004 | | | Suspended | | | | | SHRNOM = 1.25 | | |

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4538]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

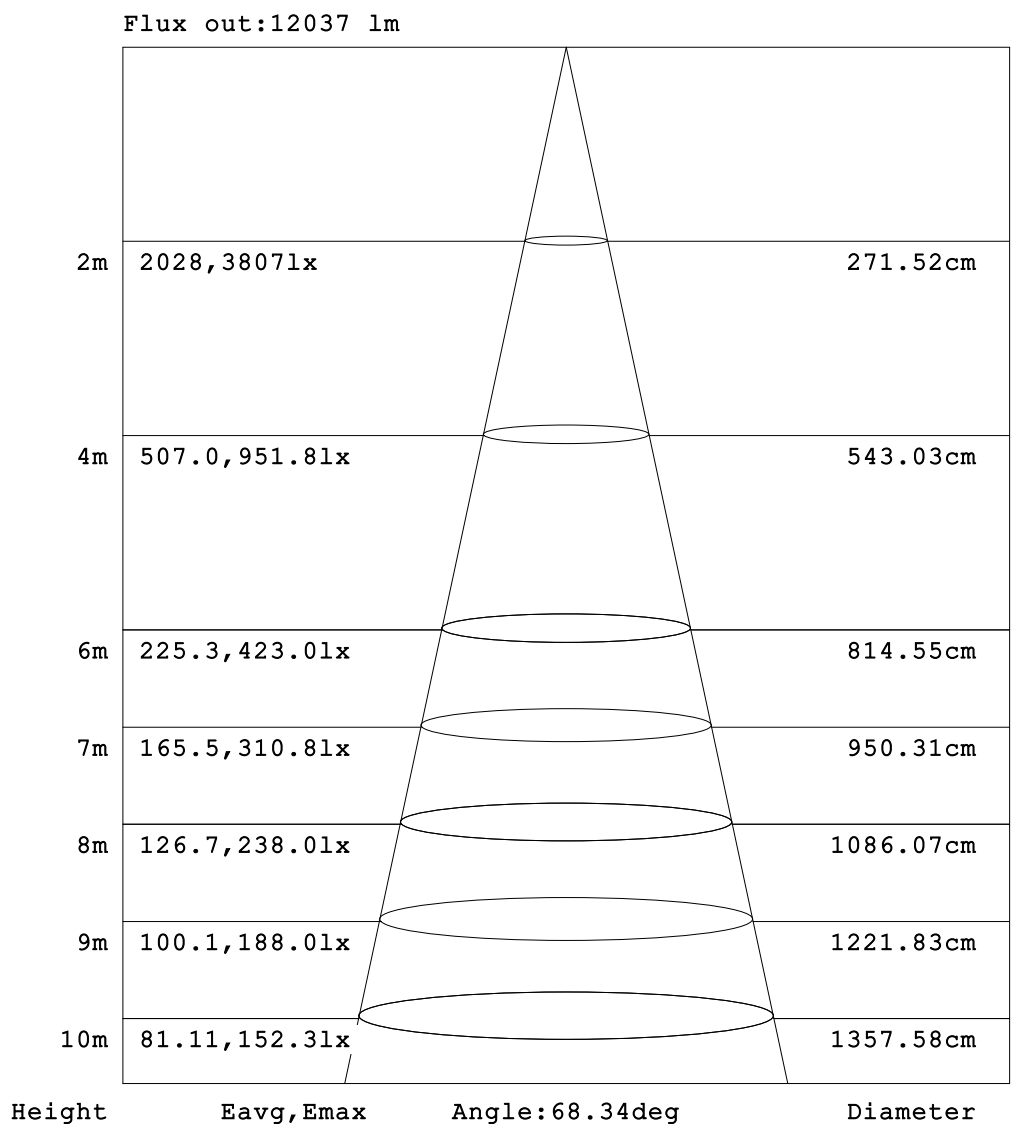
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
Remarks:

AAI Figure



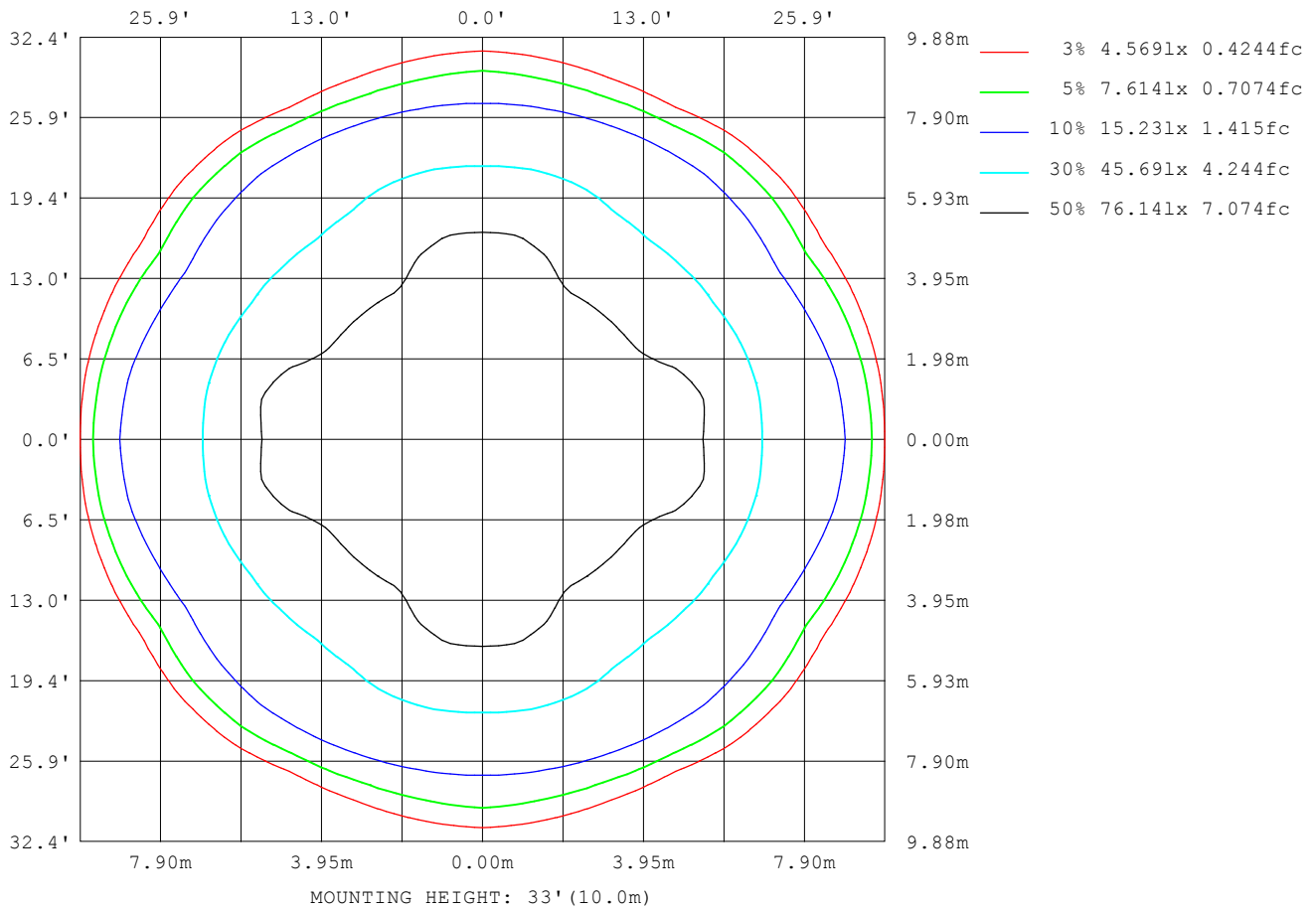
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

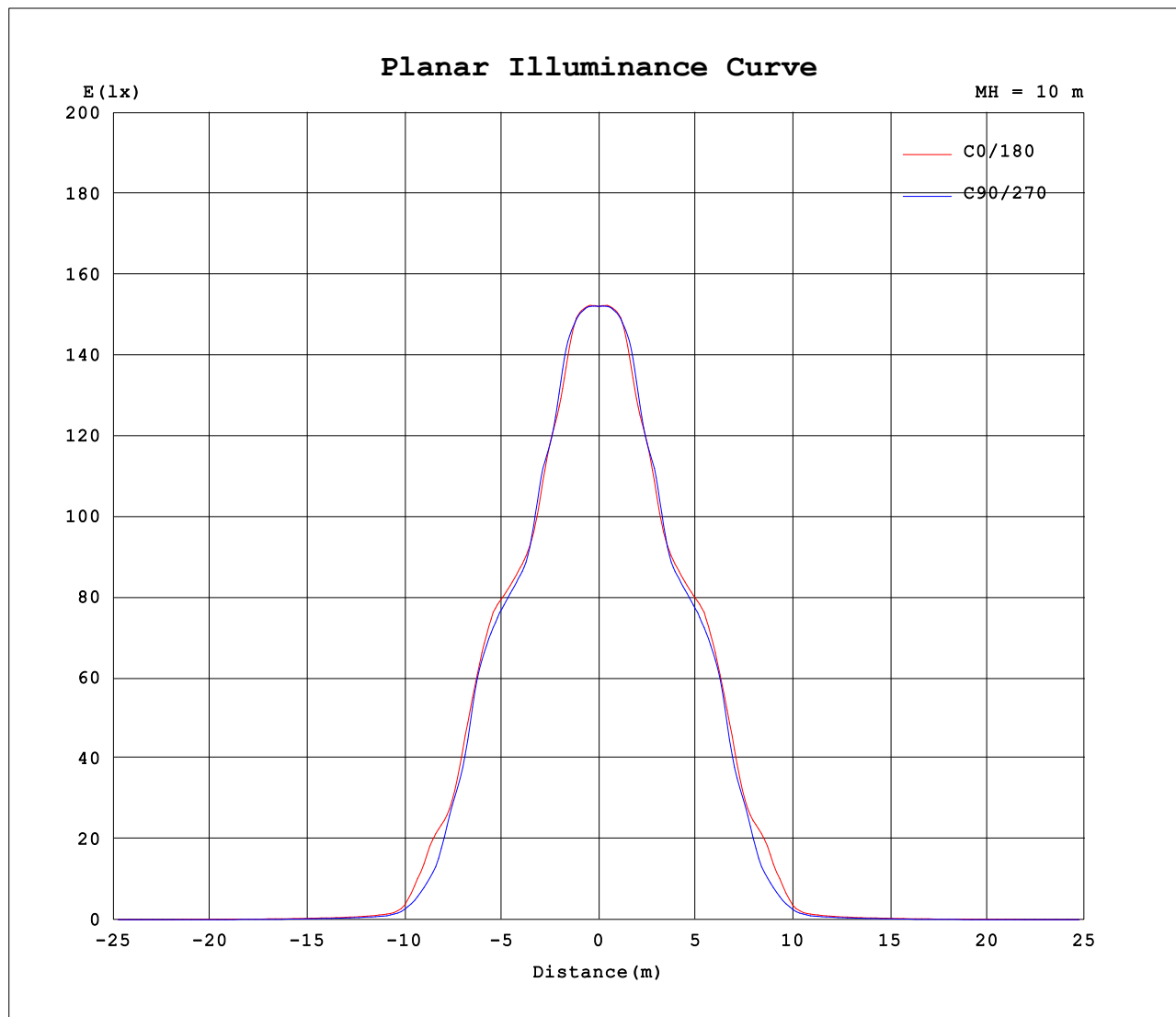
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 26.000m [K=0.4538]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-10-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 26.000m [K=0.4538]
Remarks: