

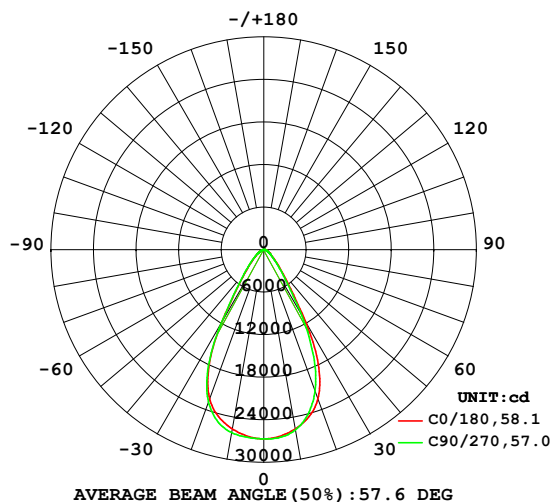
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

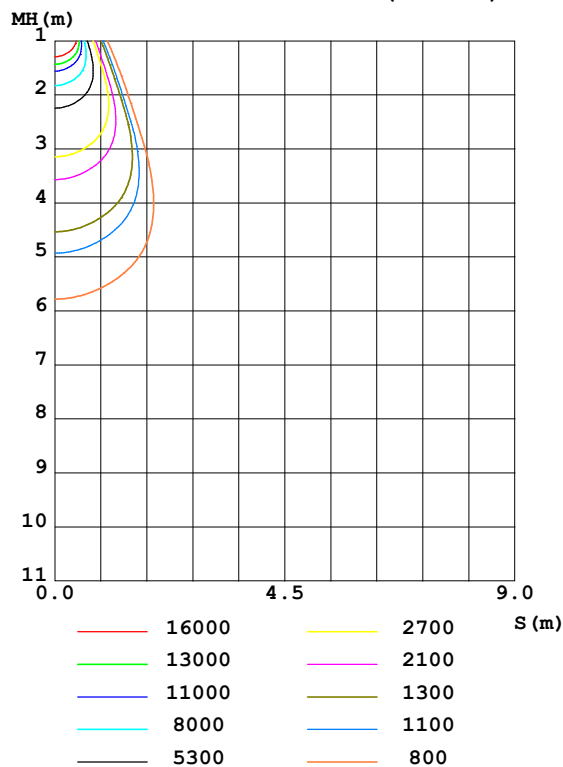
| | | |
|--|-------|------------------|
| Test:U:119.5V I:1.2948A P:154.65W PF:0.9995 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:25468.6x1 lm | | |
| NAME: HA04-150-5770-F01605 | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: | SUR.: | Shielding Angle: |

| DATA OF LAMP | | PHOTOMETRIC DATA Eff: 164.68 lm/W | | | |
|------------------|---------|-----------------------------------|--------|-------------------|----------|
| MODEL | / | I _{max} (cd) | 26704 | S/MH(C0/180) | 0.85 |
| NOMINAL POWER(W) | / | LOR(%) | 100.0 | S/MH(C90/270) | 0.85 |
| RATED VOLTAGE(V) | / | TOTAL FLUX(lm) | 25469 | η UP,DN(C0-180) | 0.0,48.8 |
| NOMINAL FLUX(lm) | 25468.6 | CIE CLASS | DIRECT | η UP,DN(C180-360) | 0.0,51.2 |
| LAMPS INSIDE | 1 | η up(%) | 0.0 | CIBSE SHR NOM | 0.75 |
| TEST VOLTAGE(V) | 120 | η down(%) | 100.0 | CIBSE SHR MAX | 0.85 |

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:LYJ
Test Date:2021-11-29

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=0.4536]
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 | 2567 | 2578 | 2581 | 2578 | 2567 | 2588 | 2620 | 2588 | 0- 10 | 2509 | 2509 | 9.85,9.85 |
| 20 | 2237 | 2163 | 2119 | 2163 | 2237 | 2247 | 2283 | 2247 | 10- 20 | 6839 | 9348 | 36.7,36.7 |
| 30 | 1201 | 1153 | 1077 | 1153 | 1201 | 1216 | 1211 | 1216 | 20- 30 | 8020 | 17367 | 68.2,68.2 |
| 40 | 383.9 | 359.1 | 353.6 | 359.1 | 383.9 | 391.7 | 408.5 | 391.7 | 30- 40 | 4182 | 21549 | 84.6,84.6 |
| 50 | 169.6 | 162.2 | 156.3 | 162.2 | 169.6 | 177.8 | 180.2 | 177.8 | 40- 50 | 1967 | 23516 | 92.3,92.3 |
| 60 | 83.09 | 80.74 | 74.89 | 80.74 | 83.09 | 90.02 | 85.57 | 90.02 | 50- 60 | 1084 | 24600 | 96.6,96.6 |
| 70 | 37.11 | 36.82 | 31.09 | 36.82 | 37.11 | 41.65 | 36.88 | 41.65 | 60- 70 | 587.4 | 25187 | 98.9,98.9 |
| 80 | 11.61 | 8.304 | 7.120 | 8.304 | 11.61 | 10.39 | 10.99 | 10.39 | 70- 80 | 243.4 | 25431 | 99.9,99.9 |
| 90 | 0.0451 | 0.0411 | 0.0359 | 0.0411 | 0.0451 | 0.0800 | 0.0903 | 0.0800 | 80- 90 | 37.76 | 25469 | 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): 22688 lm

%lum = 89.1%

%lamp = 89.1%

Conical surface Flux(120deg): 24600 lm

%lum = 96.6%

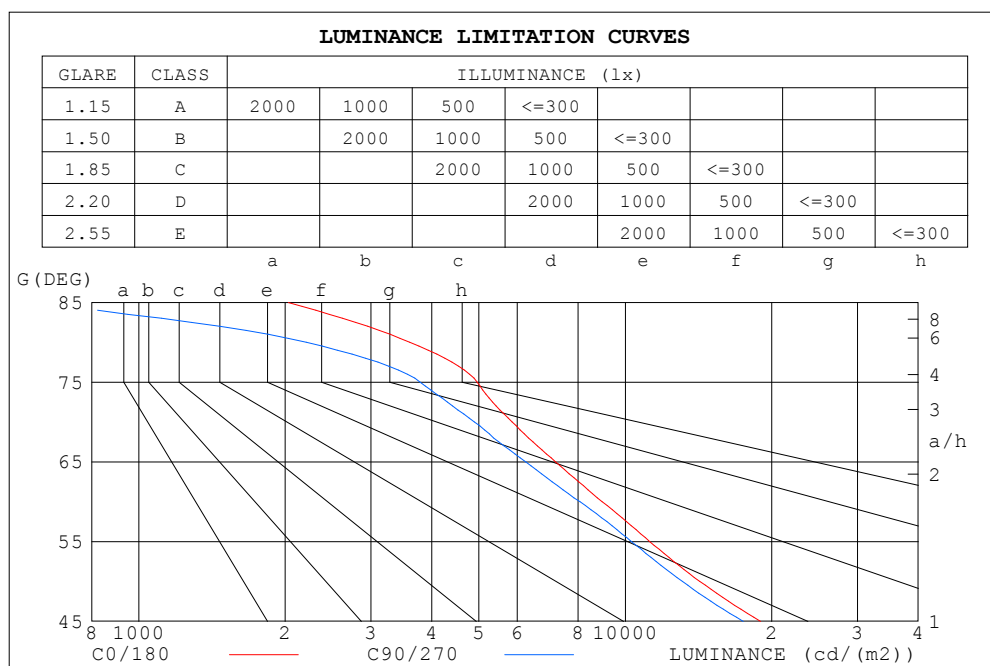
%lamp = 96.6%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-11-29

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=0.4536]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



| LUMINANCE cd/(m2) | | |
|-------------------|--------|---------|
| G (DEG) | C0/180 | C90/270 |
| 85 | 2030 | 723 |
| 80 | 3606 | 2208 |
| 75 | 4962 | 3792 |
| 70 | 5854 | 4896 |
| 65 | 7190 | 6244 |
| 60 | 8964 | 8067 |
| 55 | 11229 | 10299 |
| 50 | 14231 | 13099 |
| 45 | 18975 | 17484 |

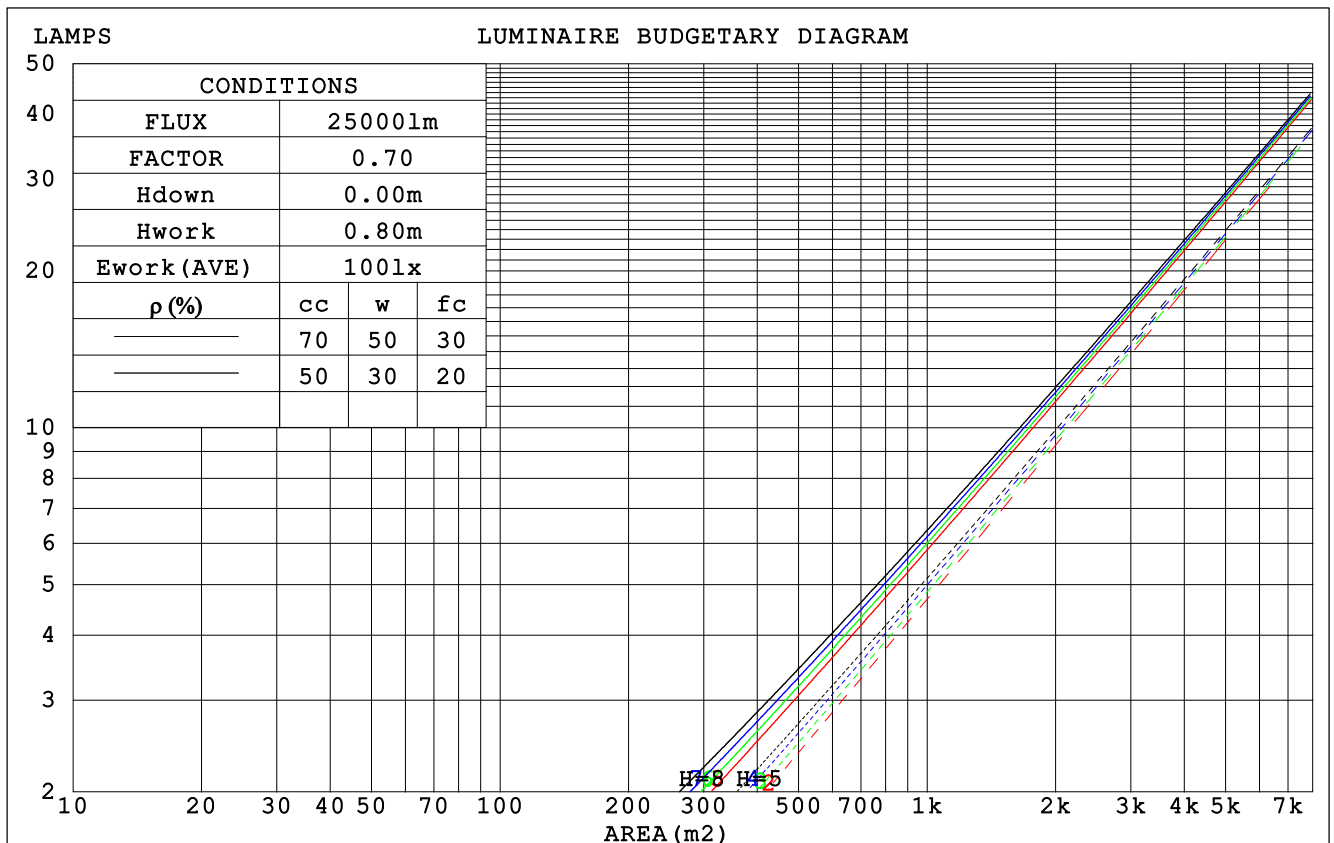
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-11-29

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=0.4536]
 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 | 1.07 | 1.05 | 1.08 | 1.05 | 1.03 | 1.04 | 1.02 | .00 | .00 | .98 | .97 | .96 | .95 | .94 | .92 |
| 2.0 | 1.01 | .97 | .93 | .00 | .96 | .92 | .96 | .93 | .90 | .93 | .91 | .88 | .91 | .88 | .86 | .85 |
| 3.0 | .94 | .89 | .84 | .93 | .88 | .84 | .90 | .86 | .82 | .87 | .84 | .81 | .85 | .82 | .80 | .78 |
| 4.0 | .87 | .81 | .77 | .86 | .81 | .76 | .84 | .79 | .75 | .82 | .78 | .75 | .80 | .77 | .74 | .72 |
| 5.0 | .81 | .75 | .71 | .80 | .75 | .70 | .79 | .74 | .70 | .77 | .72 | .69 | .75 | .71 | .68 | .67 |
| 6.0 | .76 | .70 | .65 | .75 | .69 | .65 | .74 | .69 | .65 | .72 | .68 | .64 | .71 | .67 | .64 | .62 |
| 7.0 | .71 | .65 | .61 | .71 | .65 | .60 | .69 | .64 | .60 | .68 | .63 | .60 | .67 | .63 | .59 | .58 |
| 8.0 | .67 | .61 | .57 | .67 | .61 | .56 | .65 | .60 | .56 | .64 | .60 | .56 | .63 | .59 | .56 | .54 |
| 9.0 | .63 | .57 | .53 | .63 | .57 | .53 | .62 | .57 | .53 | .61 | .56 | .53 | .60 | .56 | .52 | .51 |
| 10.0 | .60 | .54 | .50 | .59 | .54 | .50 | .59 | .53 | .50 | .58 | .53 | .49 | .57 | .53 | .49 | .48 |



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-11-29

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=0.4536]
 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 | .194 | .110 | .035 | .187 | .107 | .034 | .175 | .100 | .032 | .163 | .094 | .030 | .152 | .088 | .028 | | |
| 2.0 | .186 | .102 | .031 | .180 | .099 | .031 | .170 | .094 | .029 | .160 | .090 | .028 | .150 | .085 | .027 | | |
| 3.0 | .176 | .094 | .028 | .172 | .092 | .028 | .162 | .088 | .027 | .154 | .084 | .026 | .146 | .081 | .025 | | |
| 4.0 | .167 | .087 | .026 | .163 | .085 | .025 | .155 | .082 | .025 | .147 | .079 | .024 | .141 | .076 | .023 | | |
| 5.0 | .158 | .081 | .023 | .155 | .079 | .023 | .148 | .077 | .023 | .141 | .074 | .022 | .135 | .072 | .022 | | |
| 6.0 | .150 | .075 | .022 | .147 | .074 | .021 | .141 | .072 | .021 | .135 | .070 | .021 | .130 | .068 | .020 | | |
| 7.0 | .143 | .071 | .020 | .140 | .070 | .020 | .135 | .068 | .020 | .129 | .066 | .019 | .125 | .065 | .019 | | |
| 8.0 | .136 | .066 | .019 | .134 | .066 | .019 | .129 | .064 | .018 | .124 | .063 | .018 | .120 | .061 | .018 | | |
| 9.0 | .130 | .063 | .018 | .128 | .062 | .017 | .123 | .061 | .017 | .119 | .060 | .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 | .101 | .093 | .085 | .058 | .054 | .050 | .019 | .017 | .016 | | |
| 2.0 | .158 | .132 | .111 | .135 | .114 | .096 | .093 | .079 | .067 | .054 | .046 | .039 | .017 | .015 | .013 | | |
| 3.0 | .146 | .114 | .088 | .126 | .098 | .076 | .086 | .068 | .053 | .050 | .040 | .031 | .016 | .013 | .010 | | |
| 4.0 | .137 | .099 | .071 | .117 | .086 | .061 | .081 | .060 | .043 | .047 | .035 | .026 | .015 | .011 | .008 | | |
| 5.0 | .128 | .088 | .058 | .110 | .076 | .050 | .076 | .053 | .036 | .044 | .031 | .021 | .014 | .010 | .007 | | |
| 6.0 | .121 | .079 | .048 | .104 | .068 | .042 | .072 | .048 | .030 | .042 | .028 | .018 | .013 | .009 | .006 | | |
| 7.0 | .114 | .071 | .041 | .098 | .062 | .036 | .068 | .043 | .025 | .039 | .025 | .015 | .013 | .008 | .005 | | |
| 8.0 | .108 | .065 | .035 | .093 | .056 | .031 | .065 | .040 | .022 | .038 | .023 | .013 | .012 | .008 | .004 | | |
| 9.0 | .103 | .060 | .030 | .089 | .052 | .027 | .062 | .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: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2021-11-29

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=0.4536]
 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 | 15.8 | 17.0 | 16.2 | 17.3 | 17.6 | 15.4 | 16.5 | 15.8 | 16.8 | 17.1 |
| 3H | 16.7 | 17.7 | 17.1 | 18.0 | 18.4 | 16.1 | 17.1 | 16.5 | 17.5 | 17.8 |
| 4H | 17.0 | 17.9 | 17.4 | 18.3 | 18.6 | 16.3 | 17.2 | 16.7 | 17.6 | 18.0 |
| 6H | 17.1 | 17.9 | 17.5 | 18.3 | 18.7 | 16.4 | 17.2 | 16.8 | 17.6 | 18.0 |
| 8H | 17.1 | 17.9 | 17.6 | 18.3 | 18.7 | 16.3 | 17.1 | 16.8 | 17.5 | 17.9 |
| 12H | 17.1 | 17.8 | 17.5 | 18.2 | 18.7 | 16.3 | 17.0 | 16.7 | 17.4 | 17.8 |
| 4H 2H | 16.1 | 17.0 | 16.5 | 17.3 | 17.7 | 15.7 | 16.6 | 16.1 | 17.0 | 17.3 |
| 3H | 17.2 | 17.9 | 17.6 | 18.3 | 18.7 | 16.6 | 17.4 | 17.1 | 17.8 | 18.2 |
| 4H | 17.5 | 18.2 | 17.9 | 18.6 | 19.0 | 16.9 | 17.5 | 17.3 | 18.0 | 18.4 |
| 6H | 17.7 | 18.2 | 18.2 | 18.7 | 19.2 | 17.0 | 17.5 | 17.4 | 18.0 | 18.4 |
| 8H | 17.7 | 18.2 | 18.2 | 18.7 | 19.1 | 16.9 | 17.4 | 17.4 | 17.9 | 18.4 |
| 12H | 17.7 | 18.1 | 18.2 | 18.6 | 19.1 | 16.9 | 17.3 | 17.4 | 17.8 | 18.3 |
| 8H 4H | 17.5 | 18.0 | 18.0 | 18.5 | 19.0 | 16.9 | 17.4 | 17.4 | 17.9 | 18.4 |
| 6H | 17.7 | 18.1 | 18.2 | 18.6 | 19.1 | 17.0 | 17.4 | 17.5 | 17.9 | 18.4 |
| 8H | 17.8 | 18.1 | 18.3 | 18.6 | 19.1 | 17.0 | 17.4 | 17.5 | 17.9 | 18.4 |
| 12H | 17.8 | 18.1 | 18.3 | 18.6 | 19.2 | 17.0 | 17.3 | 17.5 | 17.8 | 18.4 |
| 12H 4H | 17.5 | 17.9 | 17.9 | 18.4 | 18.9 | 16.9 | 17.3 | 17.4 | 17.8 | 18.3 |
| 6H | 17.7 | 18.1 | 18.2 | 18.5 | 19.1 | 17.0 | 17.4 | 17.5 | 17.8 | 18.4 |
| 8H | 17.7 | 18.1 | 18.2 | 18.5 | 19.1 | 17.0 | 17.3 | 17.5 | 17.8 | 18.4 |
| CIE190: 2010 | | | | | | | | | | |
| | | | | | | | | | | |

CIE190: 2010
Area: 0.18564 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-11-29

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=0.4536]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

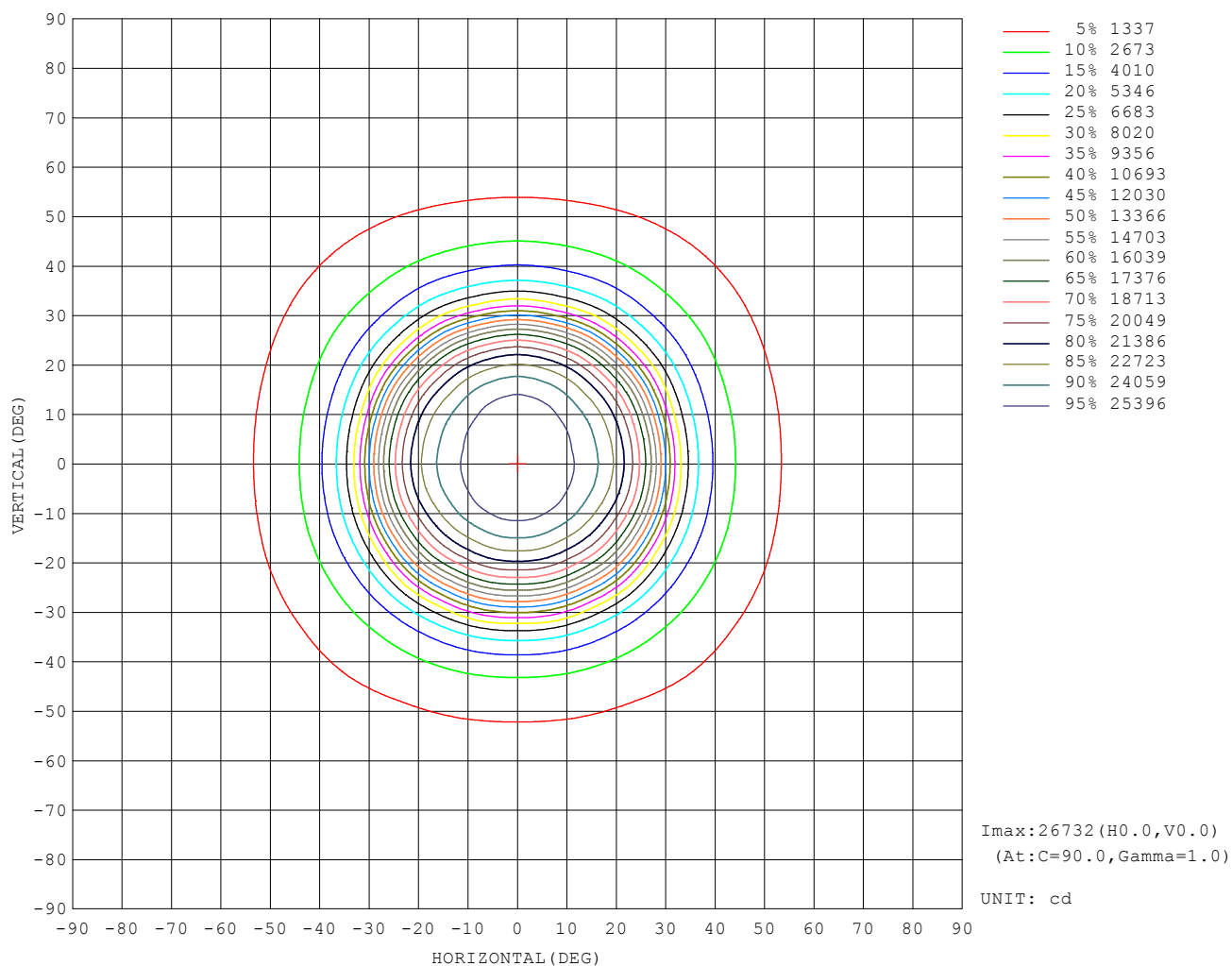
UTILIZATION FACTORS TABLE

| 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) $k(RI) \times RCR = 5$ | | | | | | | | | |
| $k = 0.60$ | 82 | 75 | 70 | 81 | 74 | 70 | 80 | 74 | 70 | 66 |
| 0.80 | 90 | 83 | 79 | 89 | 83 | 79 | 88 | 82 | 78 | 74 |
| 1.00 | 95 | 89 | 85 | 94 | 88 | 84 | 93 | 88 | 84 | 79 |
| 1.25 | 100 | 94 | 90 | 99 | 93 | 89 | 97 | 92 | 89 | 84 |
| 1.50 | 103 | 97 | 94 | 102 | 97 | 93 | 99 | 95 | 92 | 87 |
| 2.00 | 106 | 102 | 98 | 105 | 101 | 97 | 102 | 99 | 96 | 90 |
| 2.50 | 108 | 104 | 101 | 107 | 103 | 100 | 104 | 100 | 98 | 92 |
| 3.00 | 110 | 106 | 103 | 108 | 105 | 102 | 105 | 102 | 100 | 93 |
| 4.00 | 113 | 109 | 107 | 111 | 108 | 105 | 107 | 105 | 103 | 95 |
| 5.00 | 114 | 111 | 109 | 112 | 110 | 108 | 108 | 106 | 105 | 97 |
| 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: LYJ
 Test Date: 2021-11-29

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=0.4536]
 Remarks:

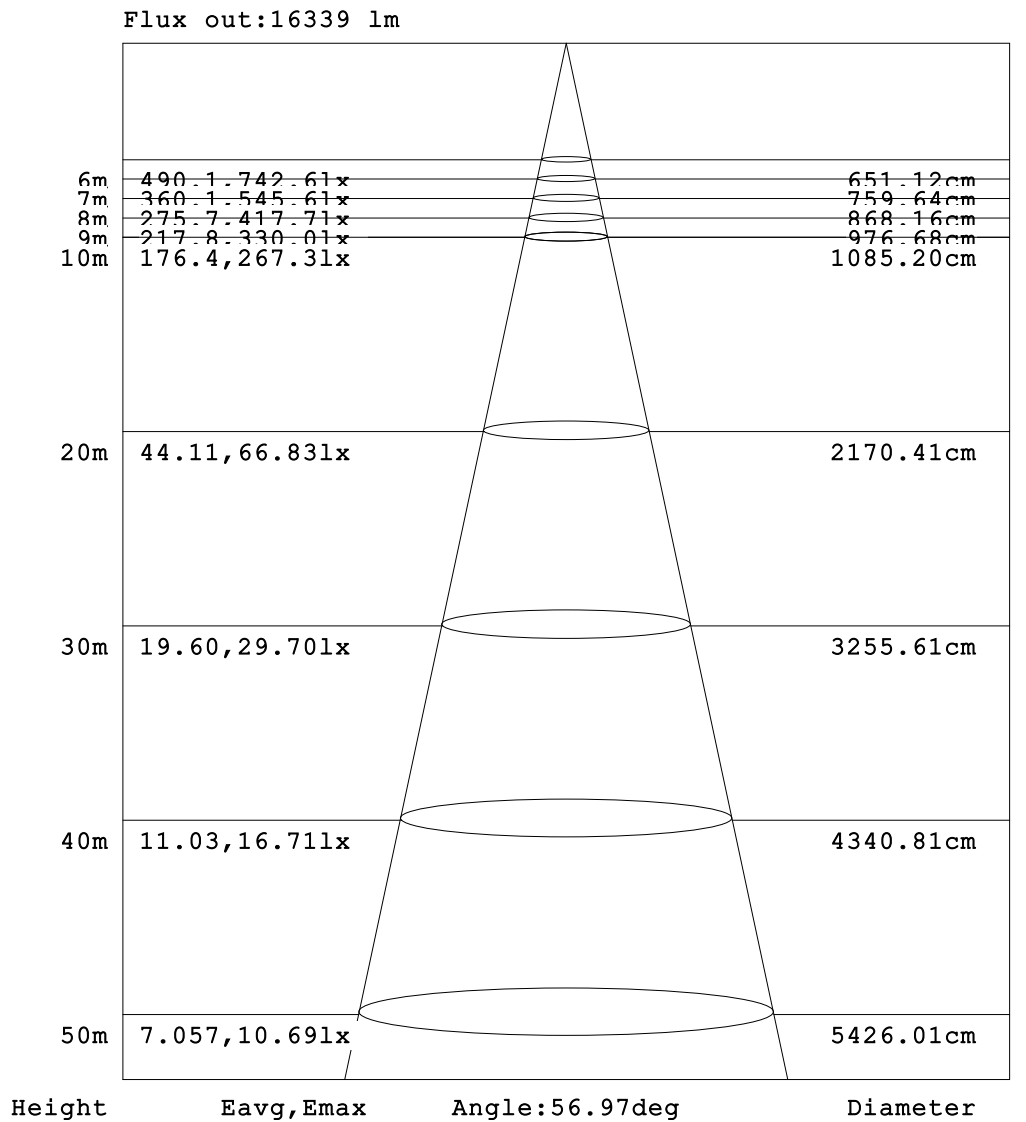
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-11-29

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=0.4536]
Remarks:

AAI Figure



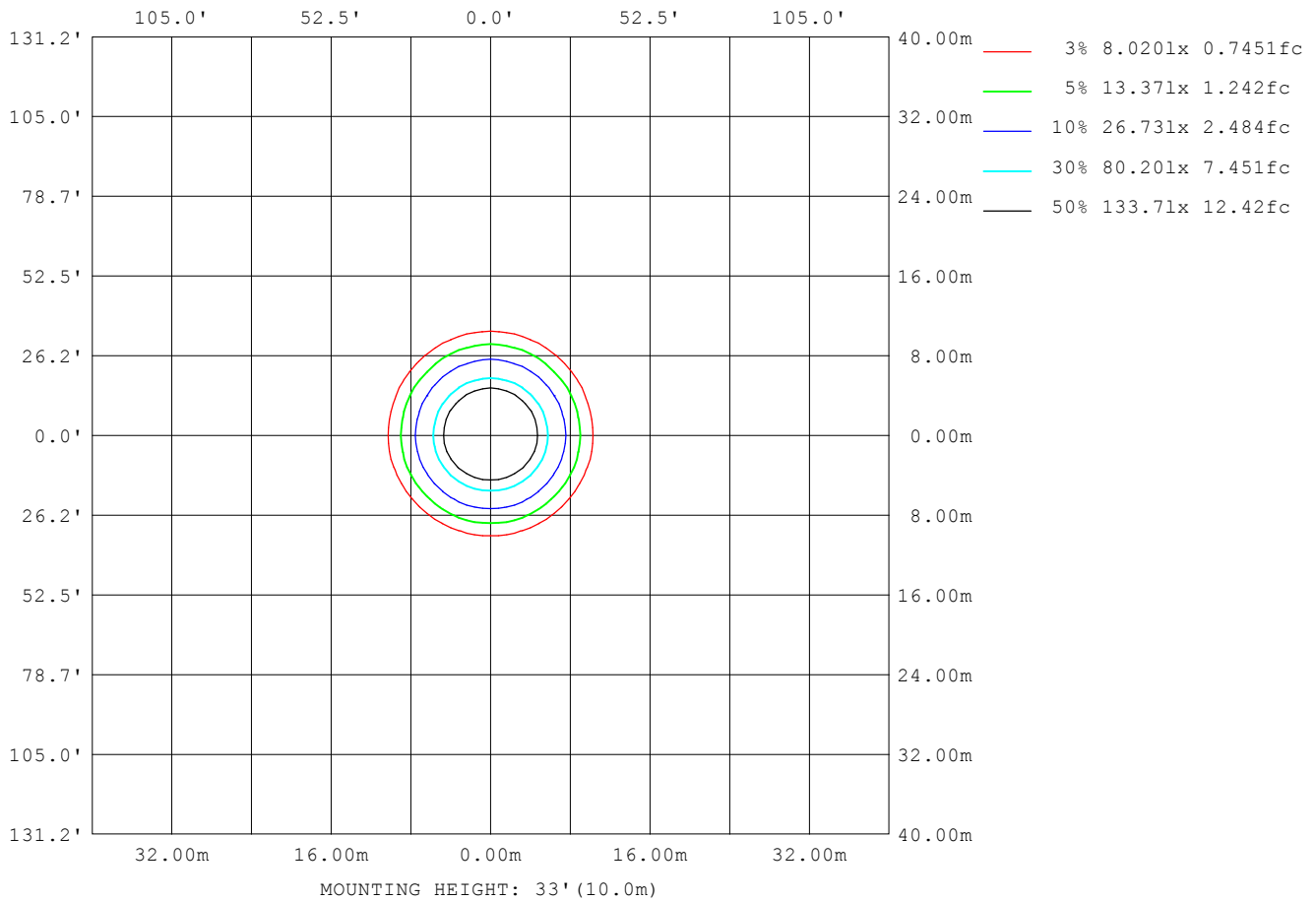
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-11-29

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=0.4536]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

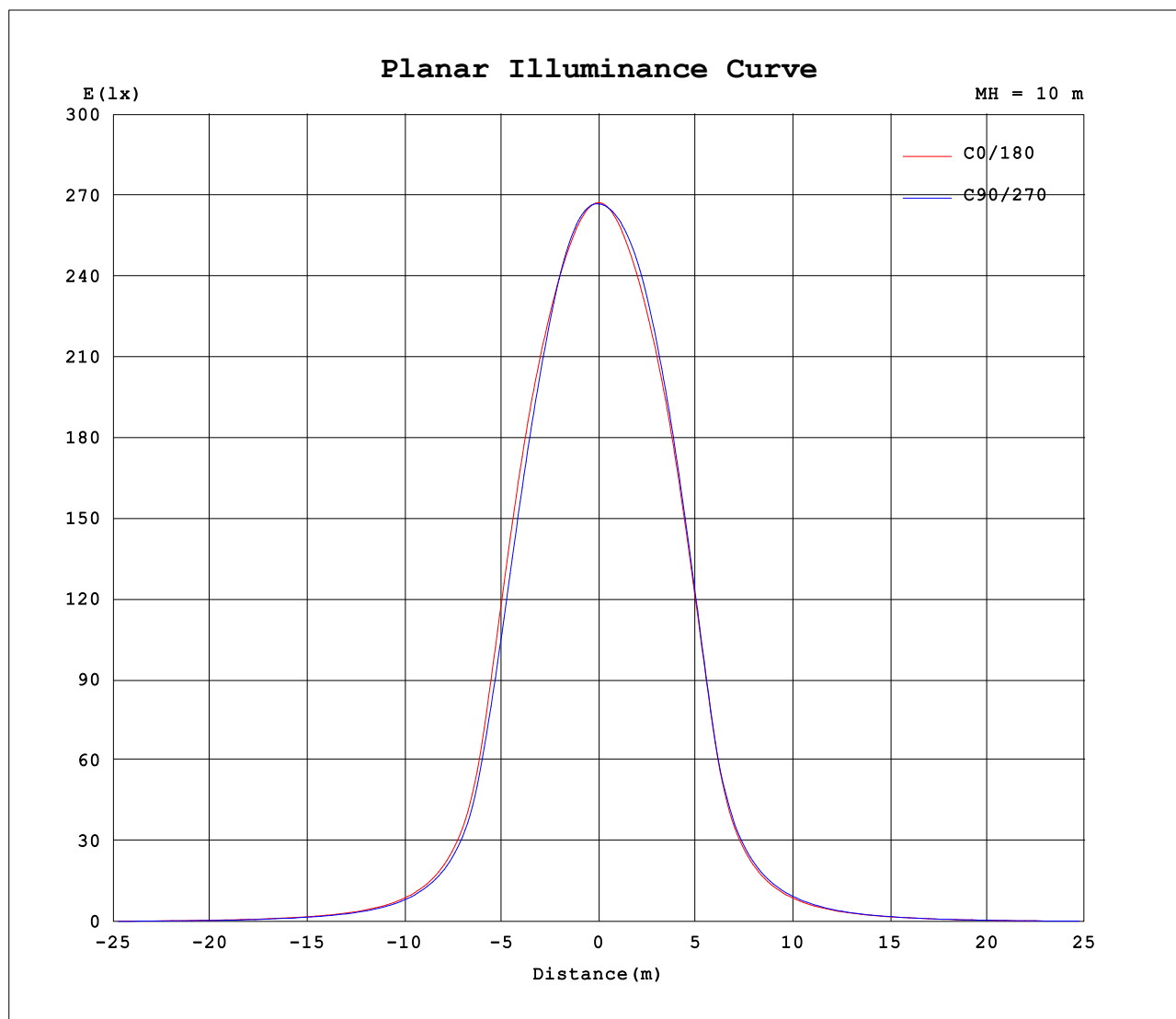
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-11-29

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=0.4536]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-11-29

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=0.4536]
Remarks: