

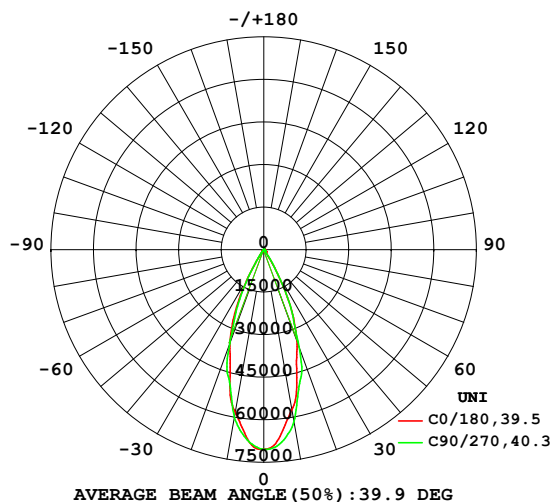
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

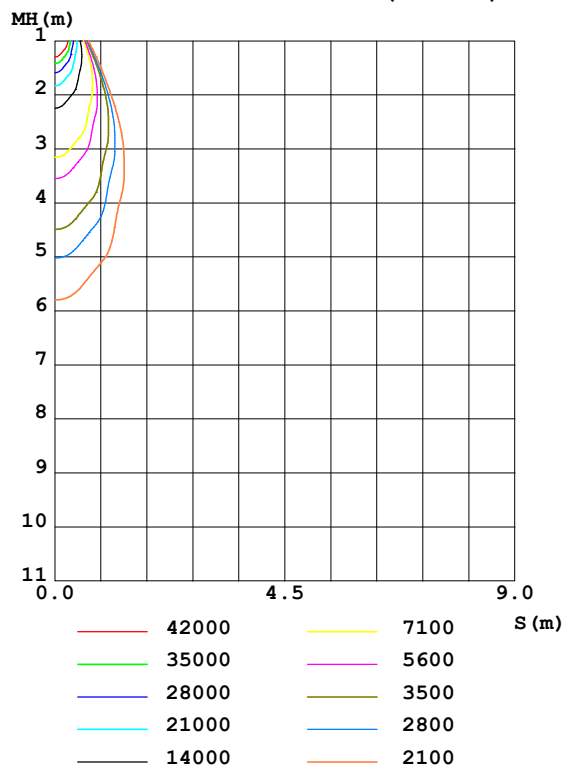
| | | |
|--|-------|------------------|
| Test:U:230.00V I:1.0448A P:239.50W PF:0.9967 Freq:50.00Hz UTHDi:0% ITHDi:0% Lamp Flux:30870.6x1 lm | | |
| NAME: LHB09-240-5070-L03901+GRID | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: | SUR.: | Shielding Angle: |

| DATA OF LAMP | | PHOTOMETRIC DATA Eff: 128.90 lm/W | | | |
|------------------|---------|-----------------------------------|--------|--------------------|----------|
| MODEL | / | I _{max} (cd) | 70484 | S/MH (C0/180) | 0.62 |
| NOMINAL POWER(W) | / | LOR(%) | 100.0 | S/MH (C90/270) | 0.64 |
| RATED VOLTAGE(V) | / | TOTAL FLUX (lm) | 30871 | η UP,DN (C0-180) | 0.0,50.5 |
| NOMINAL FLUX(lm) | 30870.6 | CIE CLASS | DIRECT | η UP,DN (C180-360) | 0.0,49.5 |
| LAMPS INSIDE | 1 | η up (%) | 0.0 | CIBSE SHR NOM | 0.50 |
| TEST VOLTAGE (V) | 230 | 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: LYJ
Test Date: 2021-04-05

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4557]
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 | 5734 | 5894 | 6161 | 5957 | 5827 | 5800 | 5993 | 5748 | 0- 10 | 6151 | 6151 | 19.9,19.9 |
| 20 | 3432 | 3184 | 3637 | 3192 | 3518 | 3085 | 3528 | 2992 | 10- 20 | 12856 | 19007 | 61.6,61.6 |
| 30 | 952.8 | 773.0 | 984.2 | 779.4 | 998.6 | 764.8 | 976.2 | 726.8 | 20- 30 | 9115 | 28122 | 91.1,91.1 |
| 40 | 115.3 | 90.55 | 73.54 | 84.91 | 115.2 | 93.56 | 73.15 | 84.92 | 30- 40 | 2021 | 30143 | 97.6,97.6 |
| 50 | 67.60 | 26.53 | 26.69 | 26.22 | 66.80 | 26.83 | 29.05 | 26.81 | 40- 50 | 393.2 | 30536 | 98.9,98.9 |
| 60 | 37.05 | 11.47 | 9.273 | 11.60 | 36.29 | 12.18 | 11.00 | 12.74 | 50- 60 | 208.6 | 30745 | 99.6,99.6 |
| 70 | 11.06 | 3.657 | 3.617 | 3.703 | 10.58 | 4.101 | 4.586 | 4.421 | 60- 70 | 94.77 | 30839 | 99.9,99.9 |
| 80 | 1.782 | 0.7667 | 0.5749 | 0.7826 | 1.743 | 0.8861 | 0.6491 | 0.9231 | 70- 80 | 28.15 | 30867 | 100,100 |
| 90 | 0.0085 | 0.0028 | 0.0057 | 0.0028 | 0.0057 | 0 | 0 | 0.0028 | 80- 90 | 3.256 | 30871 | 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:×10cd | | | | | | | | | UNIT:lm | | |

Conical surface Flux(90deg): 30374 lm

%lum = 98.4%

%lamp = 98.4%

Conical surface Flux(120deg): 30745 lm

%lum = 99.6%

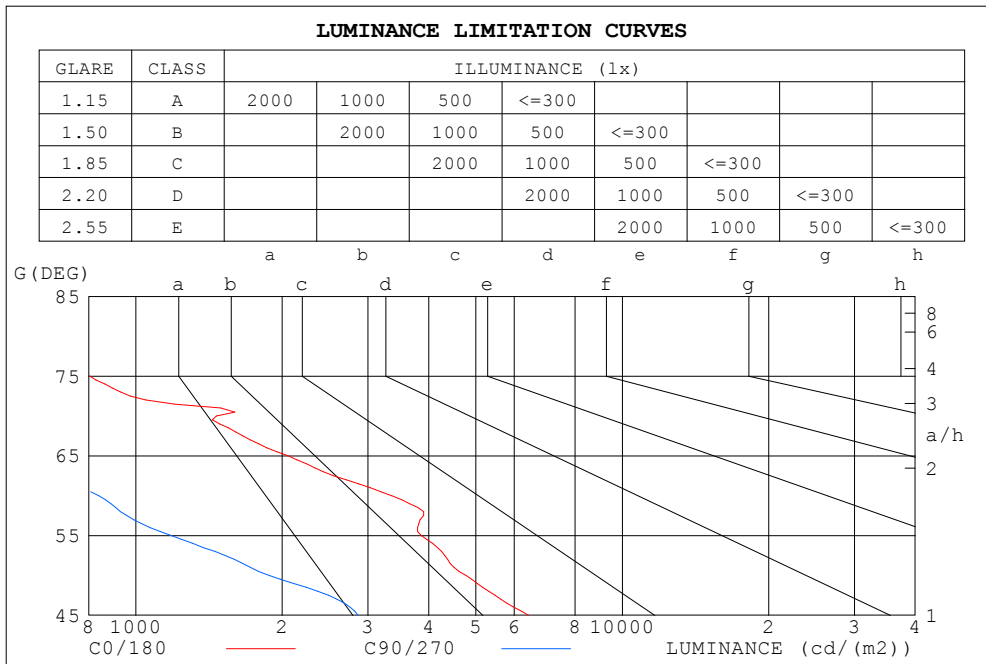
%lamp = 99.6%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4557]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



| LUMINANCE cd/(m2) | | |
|-------------------|--------|---------|
| G (DEG) | C0/180 | C90/270 |
| 85 | 235 | 84 |
| 80 | 465 | 150 |
| 75 | 803 | 322 |
| 70 | 1466 | 478 |
| 65 | 2053 | 576 |
| 60 | 3359 | 839 |
| 55 | 3861 | 1180 |
| 50 | 4767 | 1878 |
| 45 | 6424 | 2864 |

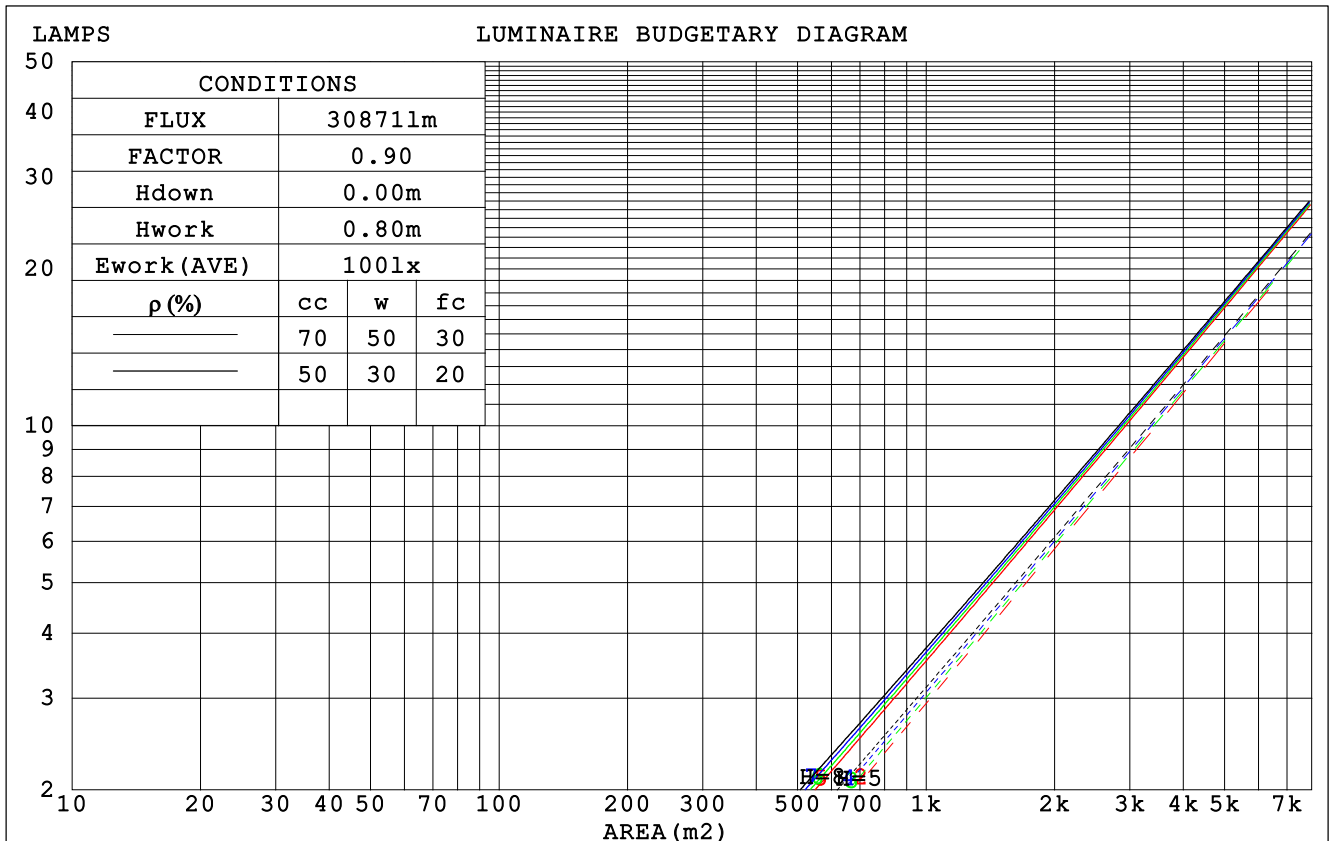
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-04-05

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4557]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| 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 | 1.04 | 1.03 | 1.02 | 1.01 | .00 | .99 | .98 | .97 | .95 |
| 2.0 | 1.06 | 1.02 | .99 | 1.04 | 1.01 | .98 | 1.01 | .98 | .96 | .98 | .96 | .94 | .95 | .94 | .92 | .91 |
| 3.0 | 1.00 | .96 | .93 | .99 | .95 | .92 | .96 | .93 | .90 | .94 | .91 | .89 | .92 | .90 | .88 | .86 |
| 4.0 | .95 | .91 | .87 | .94 | .90 | .87 | .92 | .88 | .86 | .90 | .87 | .85 | .88 | .86 | .84 | .82 |
| 5.0 | .91 | .86 | .82 | .90 | .85 | .82 | .88 | .84 | .81 | .86 | .83 | .81 | .85 | .82 | .80 | .79 |
| 6.0 | .87 | .82 | .78 | .86 | .81 | .78 | .84 | .80 | .77 | .83 | .80 | .77 | .82 | .79 | .76 | .75 |
| 7.0 | .83 | .78 | .74 | .82 | .77 | .74 | .81 | .77 | .74 | .80 | .76 | .73 | .79 | .76 | .73 | .72 |
| 8.0 | .79 | .74 | .71 | .79 | .74 | .71 | .78 | .74 | .71 | .77 | .73 | .70 | .76 | .73 | .70 | .69 |
| 9.0 | .76 | .71 | .68 | .76 | .71 | .68 | .75 | .71 | .68 | .74 | .70 | .67 | .73 | .70 | .67 | .66 |
| 10.0 | .73 | .68 | .65 | .73 | .68 | .65 | .72 | .68 | .65 | .71 | .67 | .65 | .71 | .67 | .65 | .63 |



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4557]
 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 | .154 | .088 | .028 | .148 | .084 | .027 | .135 | .078 | .025 | .124 | .071 | .023 | .113 | .066 | .021 | | |
| 2.0 | .145 | .080 | .024 | .140 | .077 | .024 | .129 | .072 | .022 | .120 | .067 | .021 | .111 | .063 | .020 | | |
| 3.0 | .137 | .073 | .022 | .132 | .071 | .021 | .123 | .067 | .020 | .115 | .063 | .019 | .108 | .060 | .018 | | |
| 4.0 | .129 | .067 | .020 | .125 | .066 | .019 | .118 | .063 | .019 | .111 | .060 | .018 | .105 | .057 | .017 | | |
| 5.0 | .123 | .063 | .018 | .119 | .061 | .018 | .113 | .059 | .017 | .107 | .056 | .017 | .101 | .054 | .016 | | |
| 6.0 | .117 | .059 | .017 | .114 | .058 | .017 | .108 | .056 | .016 | .103 | .054 | .016 | .098 | .052 | .015 | | |
| 7.0 | .112 | .055 | .016 | .109 | .054 | .015 | .104 | .053 | .015 | .100 | .051 | .015 | .095 | .049 | .015 | | |
| 8.0 | .107 | .052 | .015 | .105 | .051 | .015 | .100 | .050 | .014 | .096 | .049 | .014 | .092 | .047 | .014 | | |
| 9.0 | .102 | .050 | .014 | .100 | .049 | .014 | .097 | .048 | .014 | .093 | .047 | .013 | .089 | .045 | .013 | | |
| 10.0 | .098 | .047 | .013 | .097 | .047 | .013 | .093 | .046 | .013 | .090 | .045 | .013 | .087 | .044 | .013 | | |

| 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 | .170 | .158 | .147 | .145 | .135 | .126 | .099 | .093 | .087 | .057 | .054 | .051 | .018 | .017 | .016 | |
| 2.0 | .153 | .133 | .116 | .131 | .114 | .100 | .090 | .079 | .070 | .052 | .046 | .041 | .017 | .015 | .013 | |
| 3.0 | .139 | .113 | .093 | .119 | .098 | .081 | .082 | .068 | .057 | .047 | .040 | .033 | .015 | .013 | .011 | |
| 4.0 | .127 | .098 | .076 | .109 | .085 | .066 | .075 | .059 | .047 | .043 | .035 | .028 | .014 | .011 | .009 | |
| 5.0 | .118 | .086 | .063 | .101 | .075 | .055 | .070 | .052 | .039 | .040 | .031 | .023 | .013 | .010 | .008 | |
| 6.0 | .109 | .077 | .053 | .094 | .066 | .046 | .065 | .046 | .033 | .038 | .027 | .019 | .012 | .009 | .006 | |
| 7.0 | .102 | .069 | .045 | .088 | .060 | .039 | .061 | .042 | .028 | .035 | .025 | .017 | .011 | .008 | .005 | |
| 8.0 | .096 | .062 | .039 | .083 | .054 | .034 | .057 | .038 | .024 | .033 | .022 | .014 | .011 | .007 | .005 | |
| 9.0 | .091 | .057 | .034 | .079 | .049 | .029 | .054 | .035 | .021 | .032 | .020 | .012 | .010 | .007 | .004 | |
| 10.0 | .086 | .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:25.3DEG
 Operators:LYJ
 Test Date:2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4557]
 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 | 4.9 | 5.8 | 5.3 | 6.1 | 6.5 | 0.0 | 0.0 | 0.0 | 0.3 | 0.6 |
| 3H | 5.7 | 6.5 | 6.0 | 6.8 | 7.2 | 0.0 | 0.5 | 0.0 | 0.8 | 1.2 |
| 4H | 5.7 | 6.5 | 6.1 | 6.8 | 7.2 | 0.0 | 0.5 | 0.2 | 0.9 | 1.3 |
| 6H | 5.7 | 6.4 | 6.2 | 6.8 | 7.2 | 0.0 | 0.4 | 0.2 | 0.8 | 1.2 |
| 8H | 5.7 | 6.3 | 6.1 | 6.7 | 7.1 | 0.0 | 0.3 | 0.1 | 0.7 | 1.1 |
| 12H | 5.6 | 6.2 | 6.1 | 6.6 | 7.1 | 0.0 | 0.2 | 0.1 | 0.6 | 1.0 |
| 4H 2H | 4.7 | 5.5 | 5.1 | 5.8 | 6.2 | 0.0 | 0.2 | 0.0 | 0.5 | 0.9 |
| 3H | 5.5 | 6.1 | 5.9 | 6.5 | 6.9 | 0.0 | 0.6 | 0.5 | 1.1 | 1.5 |
| 4H | 5.6 | 6.2 | 6.1 | 6.6 | 7.0 | 0.2 | 0.7 | 0.6 | 1.1 | 1.6 |
| 6H | 5.7 | 6.1 | 6.1 | 6.6 | 7.0 | 0.2 | 0.6 | 0.6 | 1.1 | 1.5 |
| 8H | 5.6 | 6.0 | 6.1 | 6.5 | 7.0 | 0.1 | 0.5 | 0.6 | 1.0 | 1.5 |
| 12H | 5.6 | 5.9 | 6.0 | 6.4 | 6.9 | 0.0 | 0.4 | 0.5 | 0.9 | 1.4 |
| 8H 4H | 5.5 | 5.9 | 5.9 | 6.3 | 6.8 | 0.2 | 0.6 | 0.7 | 1.1 | 1.5 |
| 6H | 5.5 | 5.8 | 6.0 | 6.3 | 6.8 | 0.2 | 0.5 | 0.7 | 1.0 | 1.5 |
| 8H | 5.5 | 5.8 | 6.0 | 6.3 | 6.8 | 0.1 | 0.4 | 0.7 | 0.9 | 1.4 |
| 12H | 5.4 | 5.7 | 5.9 | 6.2 | 6.8 | 0.1 | 0.3 | 0.6 | 0.8 | 1.4 |
| 12H 4H | 5.4 | 5.8 | 5.9 | 6.3 | 6.7 | 0.1 | 0.5 | 0.6 | 1.0 | 1.5 |
| 6H | 5.4 | 5.7 | 6.0 | 6.2 | 6.7 | 0.1 | 0.4 | 0.7 | 0.9 | 1.4 |
| 8H | 5.4 | 5.7 | 5.9 | 6.2 | 6.7 | 0.1 | 0.3 | 0.6 | 0.8 | 1.4 |
| CIE190: 2010 | | | | | | | | | | |
| | | | | | | | | | | |

CIE190: 2010
Area: 0.221 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4557]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

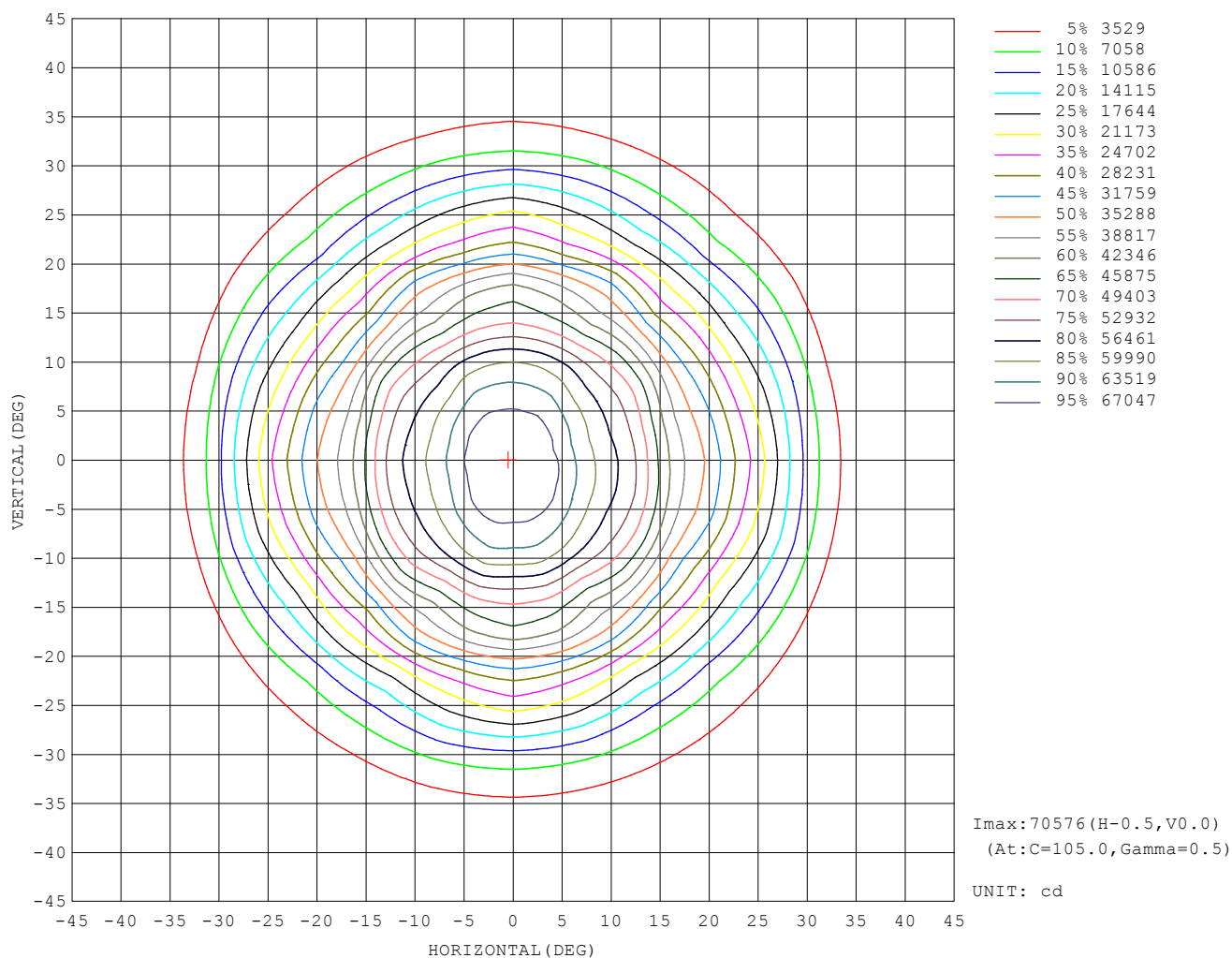
UTILIZATION FACTORS TABLE

| 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) $k(RI) \times RCR = 5$ | | | | | | | | | |
| $k = 0.60$ | 90 | 84 | 81 | 90 | 84 | 81 | 89 | 84 | 81 | 77 |
| 0.80 | 97 | 92 | 88 | 97 | 91 | 88 | 95 | 91 | 88 | 84 |
| 1.00 | 101 | 96 | 93 | 100 | 95 | 92 | 99 | 95 | 92 | 88 |
| 1.25 | 105 | 100 | 97 | 104 | 99 | 96 | 102 | 98 | 96 | 92 |
| 1.50 | 107 | 103 | 100 | 106 | 102 | 99 | 104 | 101 | 98 | 94 |
| 2.00 | 109 | 106 | 103 | 108 | 105 | 102 | 105 | 103 | 100 | 95 |
| 2.50 | 111 | 108 | 105 | 109 | 106 | 104 | 106 | 104 | 102 | 96 |
| 3.00 | 112 | 109 | 107 | 111 | 108 | 106 | 107 | 105 | 103 | 97 |
| 4.00 | 114 | 112 | 110 | 112 | 110 | 108 | 109 | 107 | 106 | 99 |
| 5.00 | 116 | 113 | 112 | 113 | 112 | 110 | 110 | 108 | 107 | 100 |
| 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: 2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
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 Remarks:

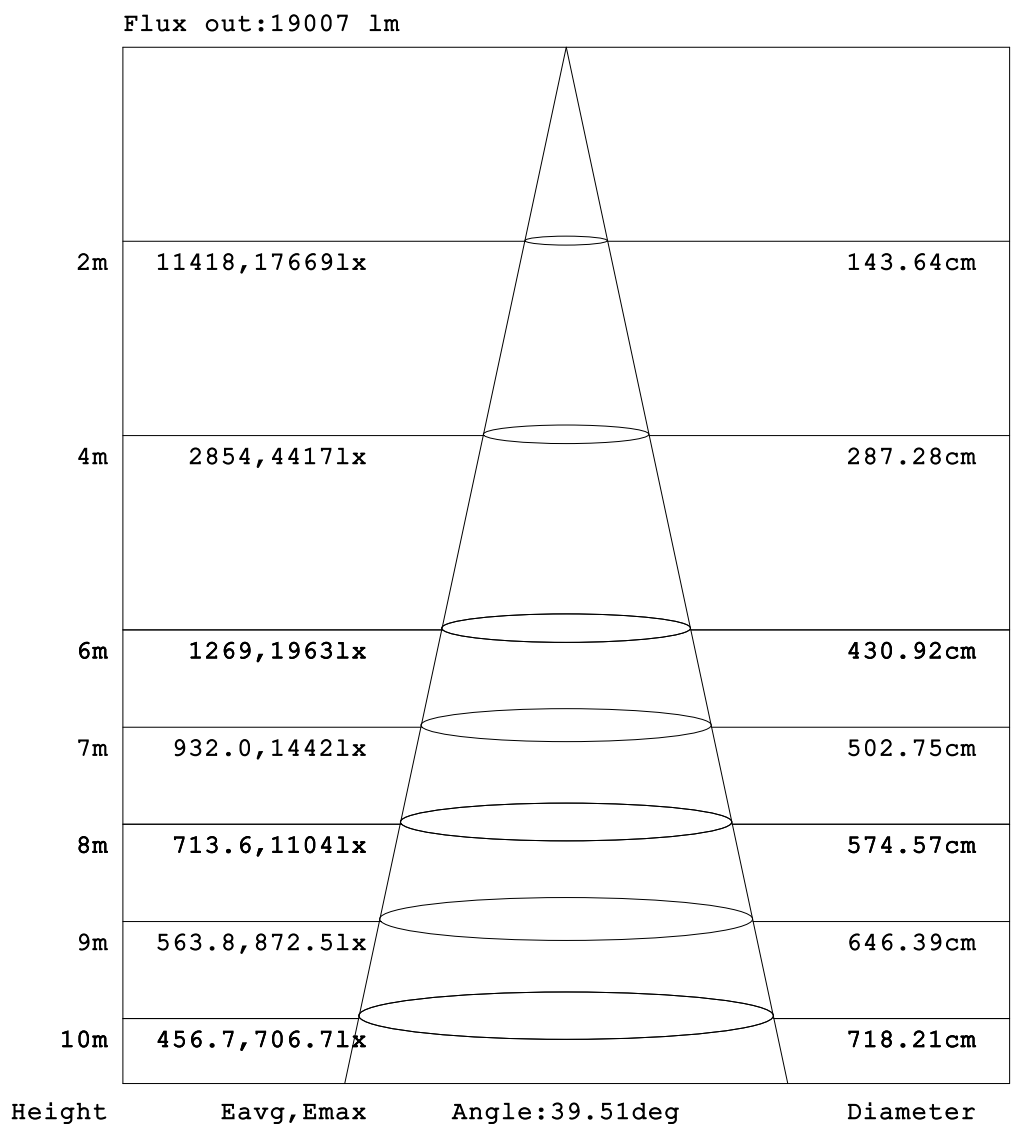
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4557]
Remarks:

AAI Figure



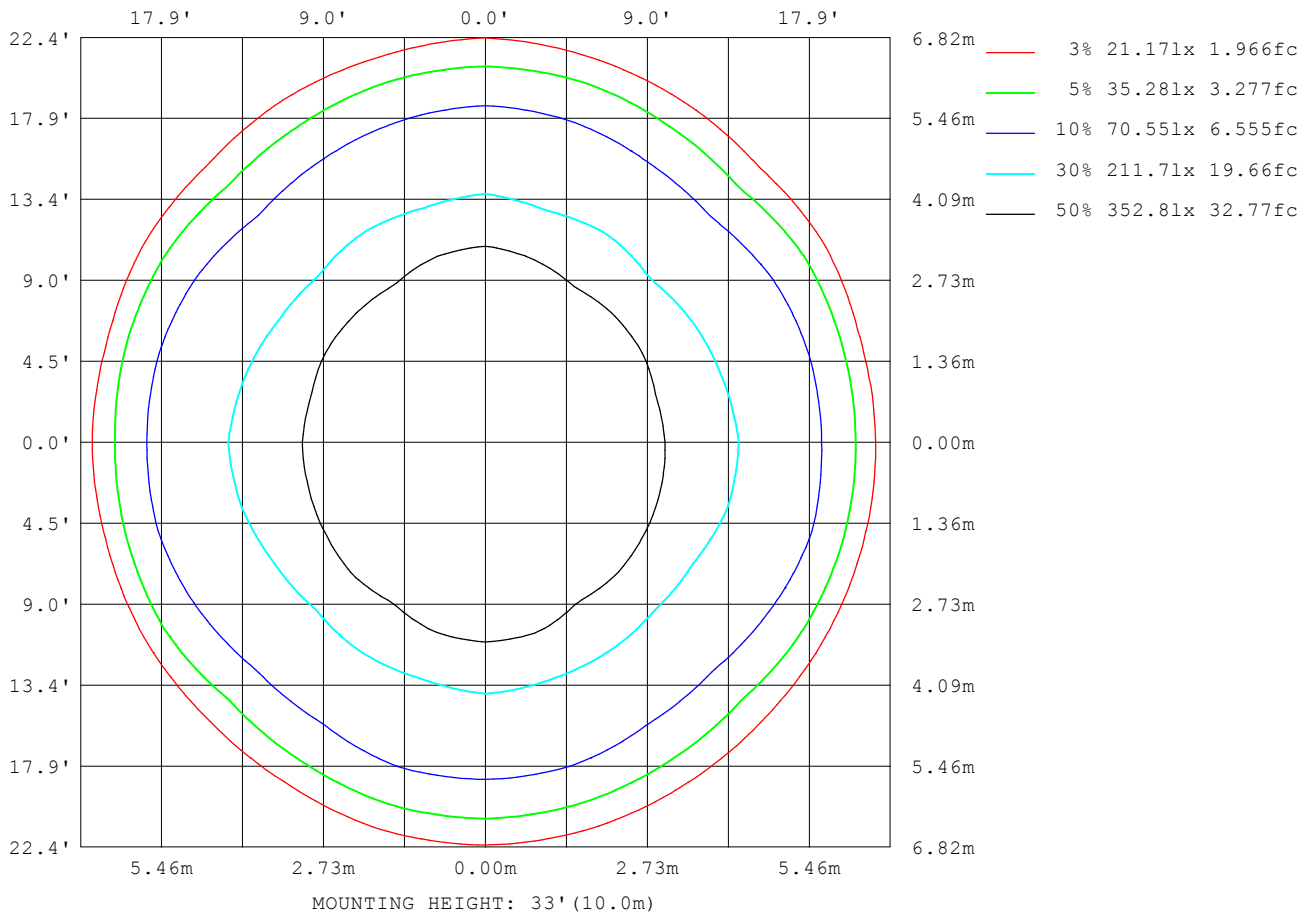
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4557]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

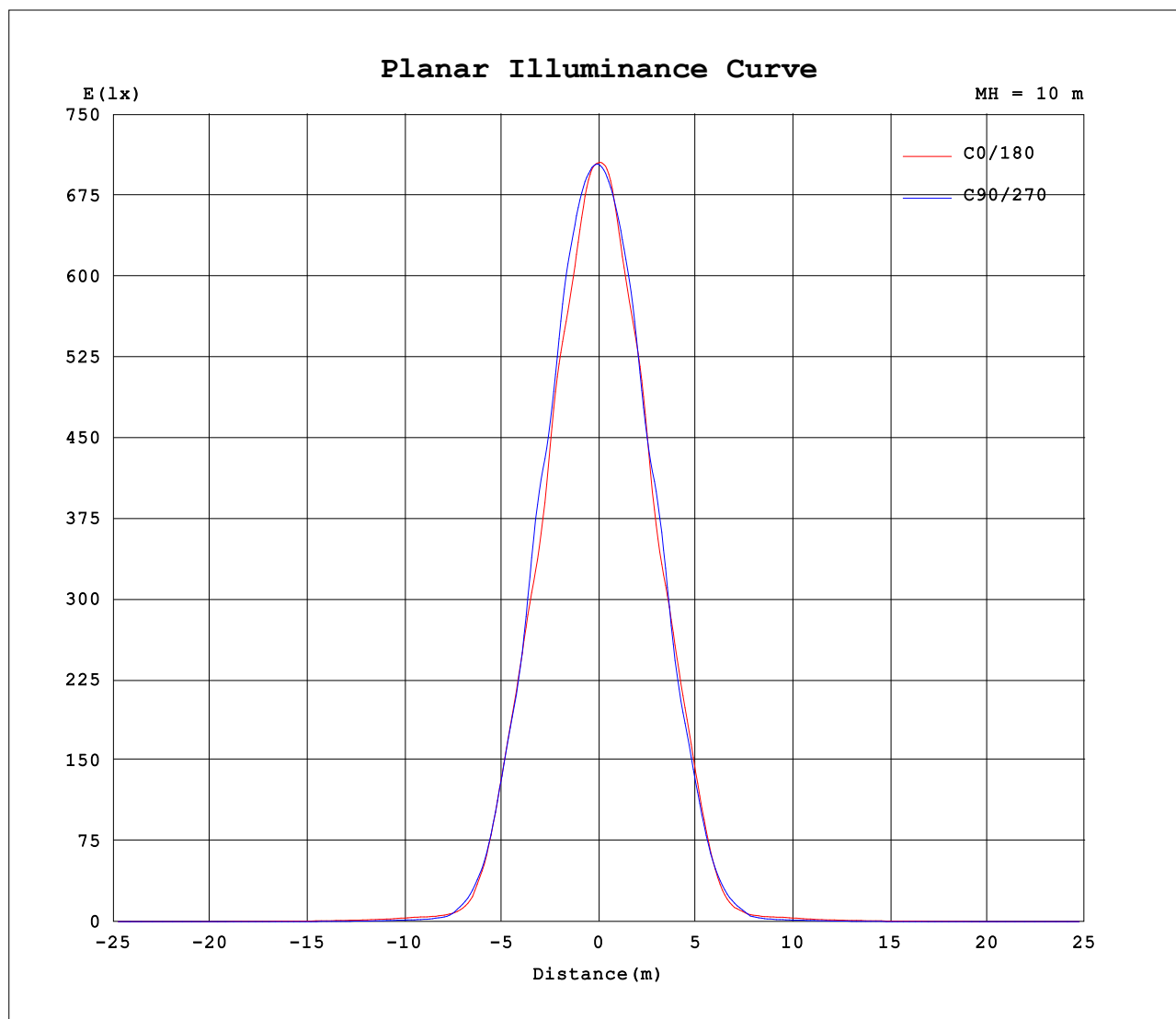
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-04-05

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4557]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-04-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4557]
Remarks: