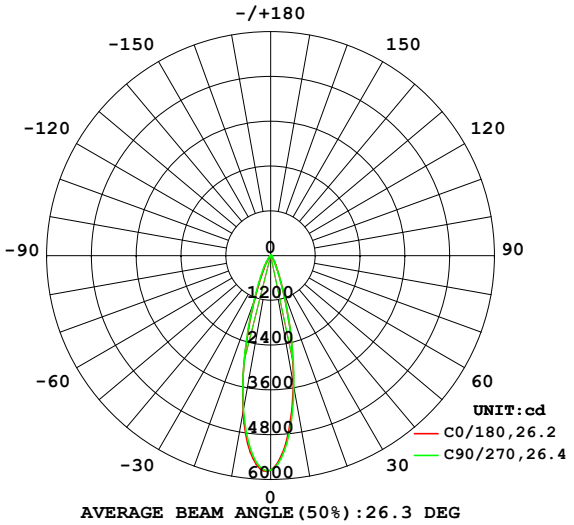
**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

# LUMINAIRE PHOTOMETRIC TEST REPORT

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

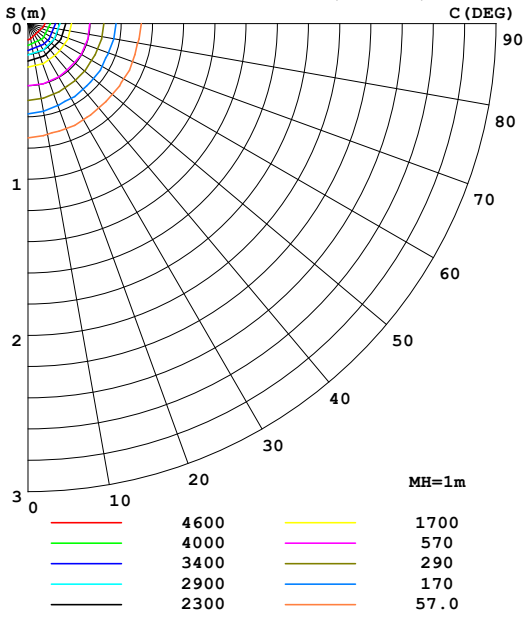
| DATA OF LAMP | | PHOTOMETRIC DATA | | Eff: 82.37 lm/W | |
|---|---|---|---|---|---|
| MODEL | | Imax(cd) | 5787 | S/MH(C0/180) | 0.47 |
| NOMINAL POWER(W) | 19 | LOR(%) | 100.0 | S/MH(C90/270) | 0.47 |
| RATED VOLTAGE(V) | 240 | TOTAL FLUX(lm) | 1502.1 | η UP,DN(C0-180) | 0.0,45.2 |
| NOMINAL FLUX(lm) | 1502.15 | CIE CLASS | DIRECT | η UP,DN(C180-360) | 0.0,54.8 |
| LAMPS INSIDE | 1 | η up(%) | 0.0 | CIBSE SHR NOM | 0.00 |
| TEST VOLTAGE(V) | 240.31 | η down(%) | 100.0 | CIBSE SHR MAX | 0.30 |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM




AVERAGE BEAM ANGLE(50%):26.3 DEG

PLANAR ISOLUX DIAGRAM(UNIT:lx)




C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

| γ | C0 | C45 | C90 | C135 | C180 | C225 | C270 | C315 | γ | Φ zone | Φ total | %lum,lamp |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 3511 | 3435 | 3591 | 3937 | 4252 | 4359 | 4200 | 3822 | 0- 10 | 454.4 | 454.4 | 30.3,30.3 |
| 20 | 943.9 | 841.6 | 942.7 | 1110 | 1279 | 1368 | 1341 | 1147 | 10- 20 | 635.4 | 1090 | 72.6,72.6 |
| 30 | 252.7 | 215.9 | 229.4 | 267.2 | 298.9 | 320.3 | 346.3 | 316.1 | 20- 30 | 258.6 | 1348 | 89.8,89.8 |
| 40 | 52.94 | 47.96 | 53.51 | 65.24 | 75.28 | 76.67 | 80.54 | 66.61 | 30- 40 | 95.80 | 1444 | 96.1,96.1 |
| 50 | 16.86 | 17.16 | 18.64 | 19.90 | 20.83 | 19.93 | 19.51 | 17.47 | 40- 50 | 25.71 | 1470 | 97.9,97.9 |
| 60 | 12.57 | 12.88 | 13.76 | 14.19 | 13.89 | 13.58 | 13.80 | 13.04 | 50- 60 | 13.81 | 1484 | 98.8,98.8 |
| 70 | 7.342 | 7.406 | 8.013 | 8.770 | 9.025 | 8.787 | 8.360 | 7.742 | 60- 70 | 10.85 | 1495 | 99.5,99.5 |
| 80 | 2.753 | 2.695 | 3.087 | 3.688 | 4.031 | 3.933 | 3.622 | 3.094 | 70- 80 | 5.979 | 1501 | 99.9,99.9 |
| 90 | 0.0709 | 0.0504 | 0.0734 | 0.0466 | 0.0786 | 0.1788 | 0.0531 | 0.0489 | 80- 90 | 1.609 | 1502 | 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 | | |

Conical surface Flux(90deg): 1460.4 lm

%lum = 97.2%
%lamp = 97.2%

Conical surface Flux(120deg): 1483.7 lm

%lum = 98.8%
%lamp = 98.8%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

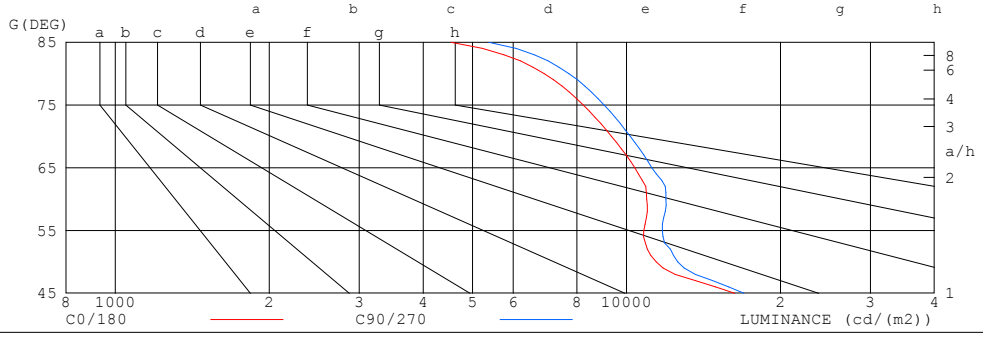
**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## LUMINANCE LIMITATION CURVES

| | | |
|---|---|---|
| **Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz**<br>**UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm** | | |
| **NAME: HCP-10X2501-5000K RA90 24D WHITE** | **TYPE:** | **WEIGHT:** |
| **SPEC.:** | **DIM.:** | **SERIAL No.:** |
| **MFR.: Havit Commercial** | **SUR.: 55mm** | **Shielding Angle:** |

**LUMINANCE LIMITATION CURVES**

| GLARE | CLASS | ILLUMINANCE (lx) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.50 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.20 | D | | | | 2000 | 1000 | 500 | <=300 | |
| 2.55 | E | | | | | 2000 | 1000 | 500 | <=300 |
| | | a | b | c | d | e | f | g | h |




| LUMINANCE cd/(m2) | | |
|---|---|---|
| G(DEG) | C0/180 | C90/270 |
| 85 | 4535 | 5378 |
| 80 | 6905 | 7718 |
| 75 | 8224 | 9035 |
| 70 | 9350 | 10171 |
| 65 | 10373 | 11206 |
| 60 | 10947 | 11946 |
| 55 | 10807 | 11751 |
| 50 | 11426 | 12590 |
| 45 | 16271 | 16968 |

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

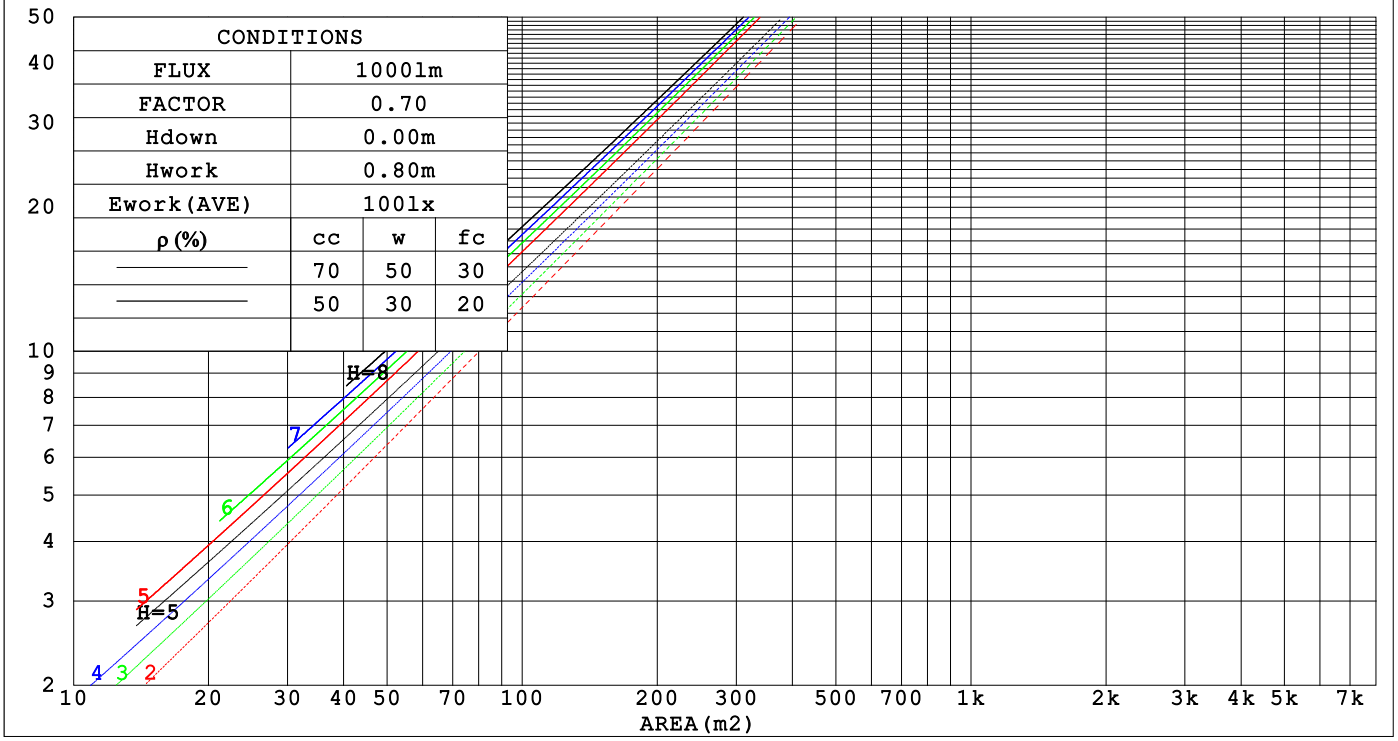
## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

| ρcc | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ρw | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| ρfc | 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 | 1.07 | 1.06 | 1.05 | 1.03 | 1.02 | 1.01 | 1.00 | .99 | .98 | .97 | .96 |
| 2.0 | 1.06 | 1.03 | 1.00 | 1.05 | 1.02 | .99 | 1.02 | .99 | .97 | .99 | .97 | .95 | .96 | .94 | .93 | .92 |
| 3.0 | 1.01 | .97 | .94 | .00 | .96 | .93 | .97 | .94 | .92 | .95 | .93 | .91 | .93 | .91 | .89 | .88 |
| 4.0 | .97 | .92 | .89 | .96 | .92 | .89 | .94 | .90 | .88 | .92 | .89 | .87 | .90 | .88 | .86 | .84 |
| 5.0 | .93 | .88 | .85 | .92 | .88 | .84 | .90 | .87 | .84 | .89 | .86 | .83 | .87 | .85 | .82 | .81 |
| 6.0 | .89 | .85 | .81 | .88 | .84 | .81 | .87 | .83 | .80 | .86 | .82 | .80 | .85 | .82 | .79 | .78 |
| 7.0 | .86 | .81 | .78 | .85 | .81 | .78 | .84 | .80 | .77 | .83 | .80 | .77 | .82 | .79 | .77 | .76 |
| 8.0 | .83 | .78 | .75 | .82 | .78 | .75 | .81 | .77 | .75 | .80 | .77 | .74 | .80 | .76 | .74 | .73 |
| 9.0 | .80 | .76 | .73 | .80 | .75 | .72 | .79 | .75 | .72 | .78 | .75 | .72 | .77 | .74 | .72 | .71 |
| 10.0 | .78 | .73 | .70 | .77 | .73 | .70 | .76 | .73 | .70 | .76 | .72 | .70 | .75 | .72 | .70 | .69 |

LAMPS

LUMINAIRE BUDGETARY DIAGRAM




C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

## WEC AND CCEC

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

| ρcc | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ρw | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| ρfc | 20% | | | 20% | | | 20% | | | 20% | | | 20% | | | 0 |
| RCR | RCR:Room Cavity Ratio | | | | | | Wall Exitance Coeffcients(WEC) | | | | | | | | | |
| 0.0 | | | | | | | | | | | | | | | | |
| 1.0 | .149 | .085 | .027 | .143 | .081 | .026 | .130 | .075 | .024 | .119 | .068 | .022 | .108 | .063 | .020 | |
| 2.0 | .139 | .076 | .023 | .134 | .074 | .023 | .123 | .069 | .021 | .114 | .064 | .020 | .105 | .059 | .019 | |
| 3.0 | .130 | .069 | .021 | .125 | .067 | .020 | .117 | .063 | .019 | .109 | .060 | .018 | .101 | .056 | .017 | |
| 4.0 | .122 | .063 | .019 | .118 | .062 | .018 | .111 | .059 | .018 | .104 | .056 | .017 | .097 | .053 | .016 | |
| 5.0 | .115 | .058 | .017 | .111 | .057 | .017 | .105 | .055 | .016 | .099 | .052 | .016 | .094 | .050 | .015 | |
| 6.0 | .109 | .054 | .016 | .106 | .053 | .015 | .100 | .051 | .015 | .095 | .049 | .015 | .090 | .048 | .014 | |
| 7.0 | .103 | .051 | .014 | .101 | .050 | .014 | .096 | .048 | .014 | .091 | .047 | .014 | .087 | .045 | .013 | |
| 8.0 | .098 | .048 | .013 | .096 | .047 | .013 | .092 | .046 | .013 | .088 | .045 | .013 | .084 | .043 | .013 | |
| 9.0 | .094 | .045 | .013 | .092 | .045 | .013 | .088 | .044 | .012 | .085 | .042 | .012 | .081 | .041 | .012 | |
| 10.0 | .090 | .043 | .012 | .088 | .043 | .012 | .085 | .042 | .012 | .082 | .041 | .012 | .079 | .040 | .011 | |

| ρcc | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ρw | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| ρfc | 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 | .127 | .099 | .093 | .088 | .057 | .054 | .051 | .018 | .017 | .016 | |
| 2.0 | .152 | .133 | .116 | .130 | .114 | .101 | .089 | .079 | .070 | .051 | .046 | .041 | .016 | .015 | .013 | |
| 3.0 | .137 | .113 | .094 | .118 | .098 | .082 | .081 | .068 | .057 | .047 | .040 | .034 | .015 | .013 | .011 | |
| 4.0 | .125 | .098 | .077 | .108 | .085 | .067 | .074 | .059 | .047 | .043 | .035 | .028 | .014 | .011 | .009 | |
| 5.0 | .115 | .086 | .064 | .099 | .074 | .056 | .068 | .052 | .040 | .040 | .031 | .023 | .013 | .010 | .008 | |
| 6.0 | .107 | .076 | .054 | .092 | .066 | .047 | .063 | .046 | .033 | .037 | .027 | .020 | .012 | .009 | .007 | |
| 7.0 | .099 | .068 | .046 | .085 | .059 | .040 | .059 | .041 | .029 | .034 | .024 | .017 | .011 | .008 | .006 | |
| 8.0 | .093 | .061 | .040 | .080 | .053 | .035 | .055 | .037 | .025 | .032 | .022 | .015 | .010 | .007 | .005 | |
| 9.0 | .087 | .056 | .035 | .075 | .049 | .030 | .052 | .034 | .021 | .030 | .020 | .013 | .010 | .007 | .004 | |
| 10.0 | .082 | .051 | .030 | .071 | .044 | .027 | .049 | .031 | .019 | .029 | .018 | .011 | .009 | .006 | .004 | |

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## UGR(Unified Glare Rating) Table

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

| 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 | 14.6 | 15.3 | 14.8 | 15.5 | 15.7 | 14.6 | 15.3 | 14.8 | 15.4 | 15.6 |
| | 3H | 15.2 | 15.9 | 15.4 | 16.0 | 16.2 | 15.2 | 15.9 | 15.5 | 16.1 | 16.3 |
| | 4H | 15.4 | 16.1 | 15.7 | 16.3 | 16.5 | 15.5 | 16.1 | 15.8 | 16.4 | 16.6 |
| | 6H | 15.6 | 16.2 | 15.9 | 16.4 | 16.7 | 15.7 | 16.3 | 16.0 | 16.5 | 16.8 |
| | 8H | 15.6 | 16.2 | 15.9 | 16.4 | 16.7 | 15.8 | 16.3 | 16.0 | 16.6 | 16.8 |
| | 12H | 15.6 | 16.2 | 15.9 | 16.4 | 16.7 | 15.8 | 16.3 | 16.1 | 16.6 | 16.9 |
| 4H | 2H | 14.8 | 15.4 | 15.1 | 15.6 | 15.8 | 14.7 | 15.4 | 15.0 | 15.6 | 15.8 |
| | 3H | 15.5 | 16.1 | 15.8 | 16.3 | 16.6 | 15.6 | 16.1 | 15.9 | 16.4 | 16.7 |
| | 4H | 15.9 | 16.4 | 16.2 | 16.7 | 17.0 | 16.0 | 16.5 | 16.3 | 16.8 | 17.1 |
| | 6H | 16.1 | 16.5 | 16.5 | 16.9 | 17.2 | 16.2 | 16.7 | 16.6 | 17.0 | 17.4 |
| | 8H | 16.2 | 16.6 | 16.5 | 16.9 | 17.3 | 16.3 | 16.7 | 16.7 | 17.1 | 17.4 |
| | 12H | 16.2 | 16.5 | 16.6 | 16.9 | 17.3 | 16.3 | 16.7 | 16.7 | 17.1 | 17.5 |
| 8H | 4H | 15.9 | 16.4 | 16.3 | 16.7 | 17.1 | 16.0 | 16.4 | 16.4 | 16.8 | 17.2 |
| | 6H | 16.2 | 16.6 | 16.7 | 17.0 | 17.4 | 16.4 | 16.7 | 16.8 | 17.1 | 17.5 |
| | 8H | 16.3 | 16.7 | 16.8 | 17.1 | 17.5 | 16.5 | 16.8 | 16.9 | 17.2 | 17.7 |
| | 12H | 16.4 | 16.6 | 16.8 | 17.1 | 17.6 | 16.6 | 16.8 | 17.0 | 17.3 | 17.7 |
| 12H | 4H | 15.9 | 16.3 | 16.3 | 16.7 | 17.1 | 16.0 | 16.4 | 16.4 | 16.8 | 17.1 |
| | 6H | 16.2 | 16.5 | 16.7 | 17.0 | 17.4 | 16.4 | 16.7 | 16.8 | 17.1 | 17.5 |
| | 8H | 16.3 | 16.6 | 16.8 | 17.1 | 17.5 | 16.5 | 16.8 | 17.0 | 17.2 | 17.7 |

| Variations with the observer position at spacings(CIE Pub.117): | | |
|---|---|---|
| S = 1.0H | + 1.4 / - 1.1 | + 1.2 / - 1.0 |
| 1.5H | + 2.9 / - 1.1 | + 2.6 / - 0.8 |
| 2.0H | + 0.6 / - 0.4 | + 0.6 / - 0.5 |

CIE Pub.117, 1502 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 1.4)
Area: 0.0023 m2

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## UTILIZATION FACTORS TABLE

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

| 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) x RCR = 5 | | | | | | | | | |
| k = 0.60 | 89 | 83 | 80 | 89 | 83 | 80 | 88 | 83 | 79 | 76 |
| 0.80 | 96 | 91 | 87 | 96 | 90 | 87 | 95 | 90 | 87 | 83 |
| 1.00 | 100 | 95 | 92 | 100 | 95 | 91 | 98 | 94 | 91 | 87 |
| 1.25 | 104 | 99 | 96 | 103 | 99 | 95 | 101 | 97 | 95 | 91 |
| 1.50 | 107 | 102 | 99 | 105 | 101 | 98 | 103 | 100 | 97 | 93 |
| 2.00 | 109 | 105 | 102 | 108 | 104 | 101 | 105 | 102 | 100 | 95 |
| 2.50 | 111 | 107 | 104 | 109 | 106 | 103 | 106 | 103 | 101 | 95 |
| 3.00 | 112 | 109 | 106 | 110 | 107 | 105 | 107 | 105 | 103 | 97 |
| 4.00 | 114 | 111 | 109 | 112 | 110 | 108 | 108 | 107 | 105 | 98 |
| 5.00 | 115 | 113 | 111 | 113 | 111 | 110 | 109 | 108 | 107 | 99 |
| ROOM INDEX | UF(total) | | | | | | | | | Direct |
| According to DIN EN 13032-2 2004 | | | | Suspended | | | | | SHRNOM = 1.25 | |

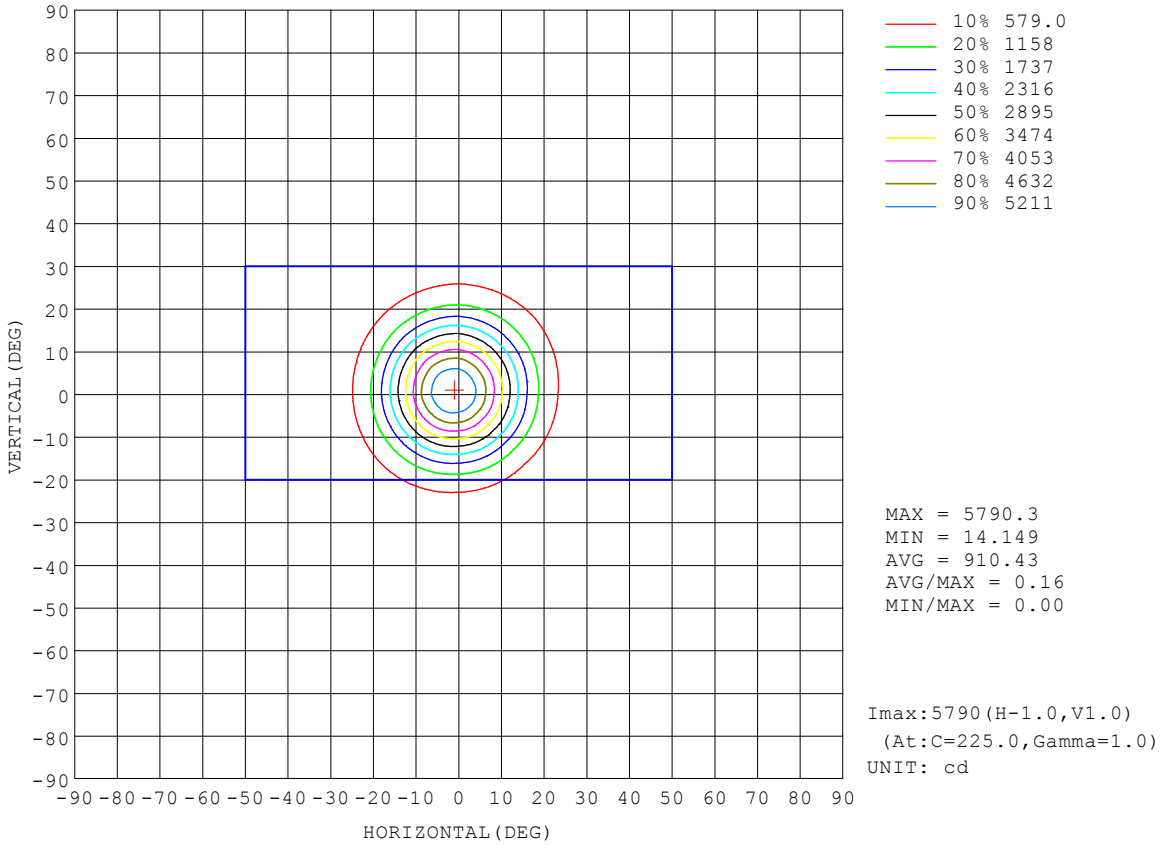
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## ISOCANDELA DIAGRAM

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |




C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

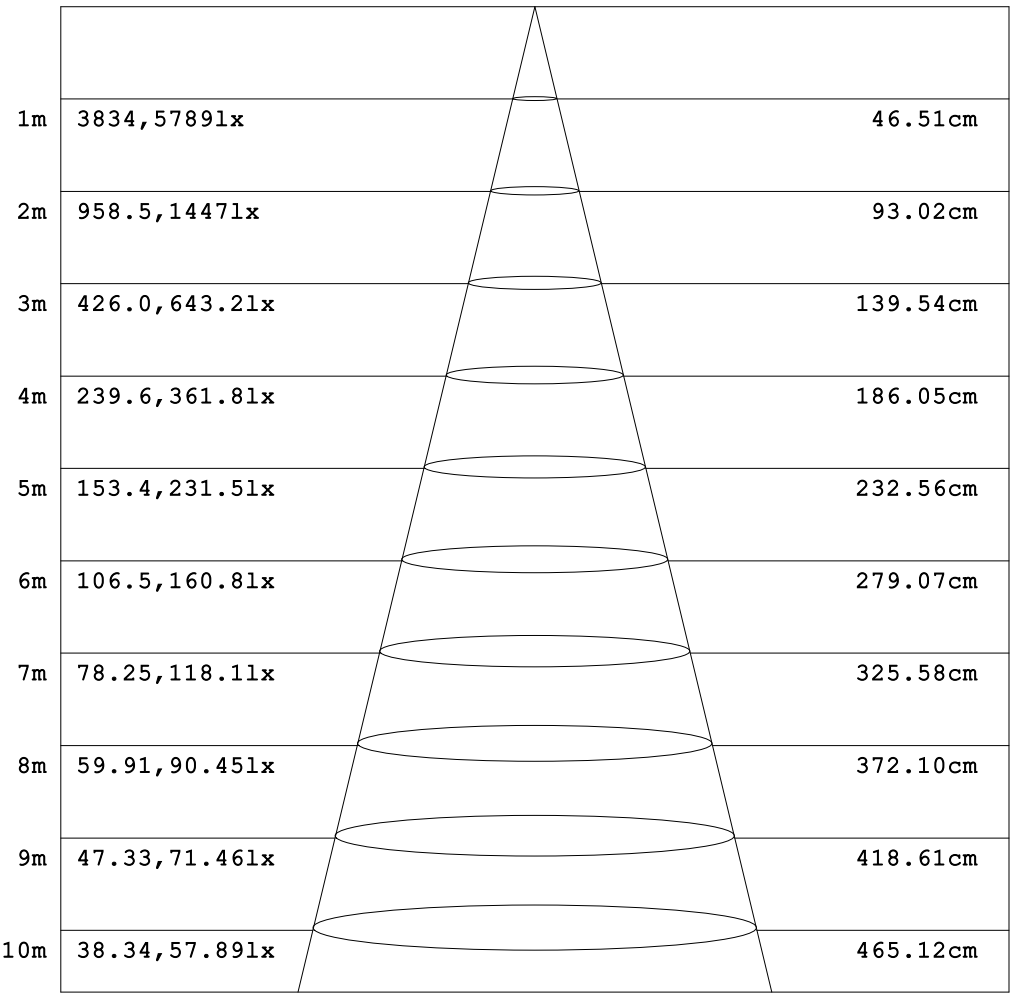
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## AAI Figure

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

Flux out:748.8 lm




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

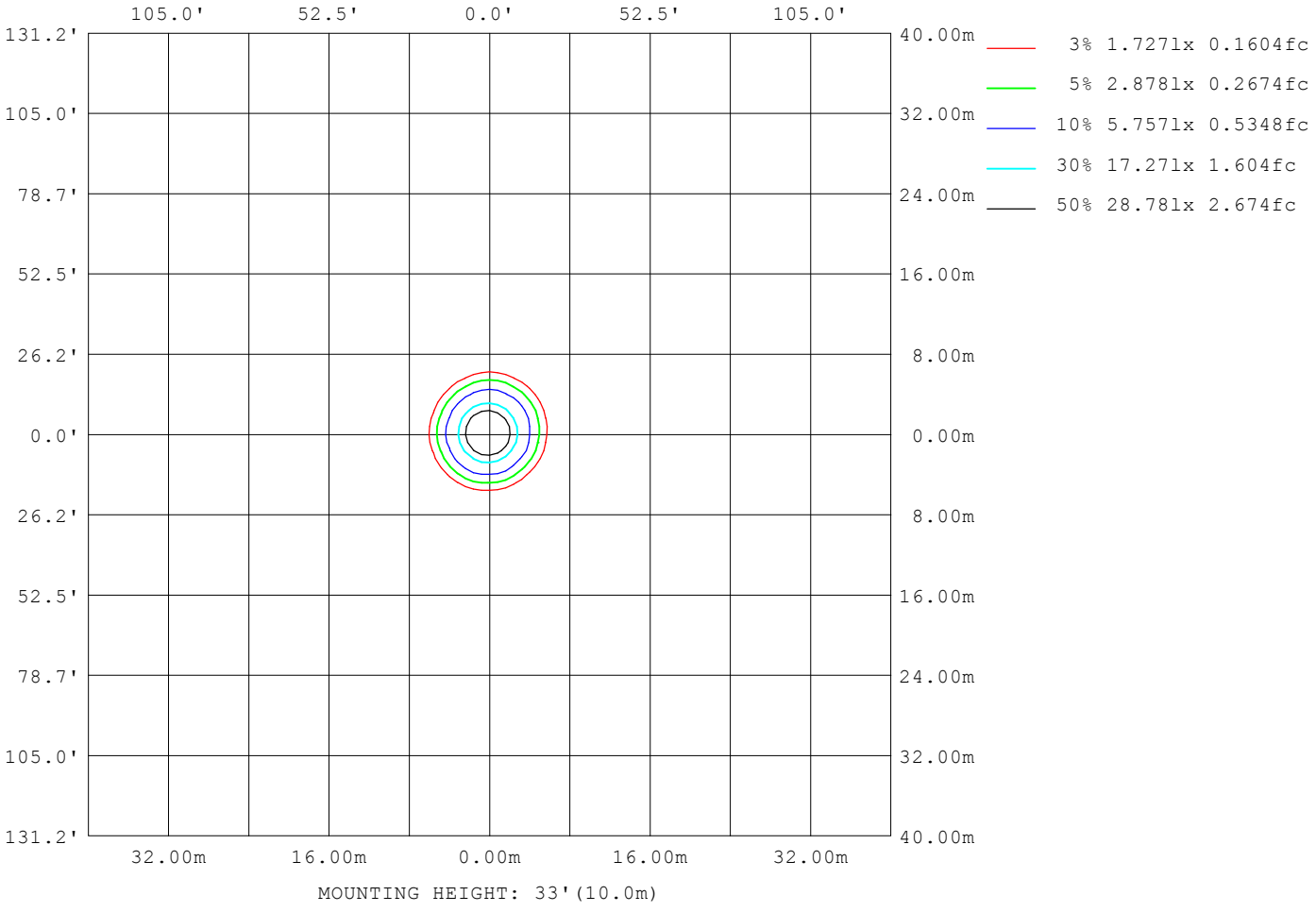
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## ISOLUX DIAGRAM

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |




C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

## LED Avg.L Report

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

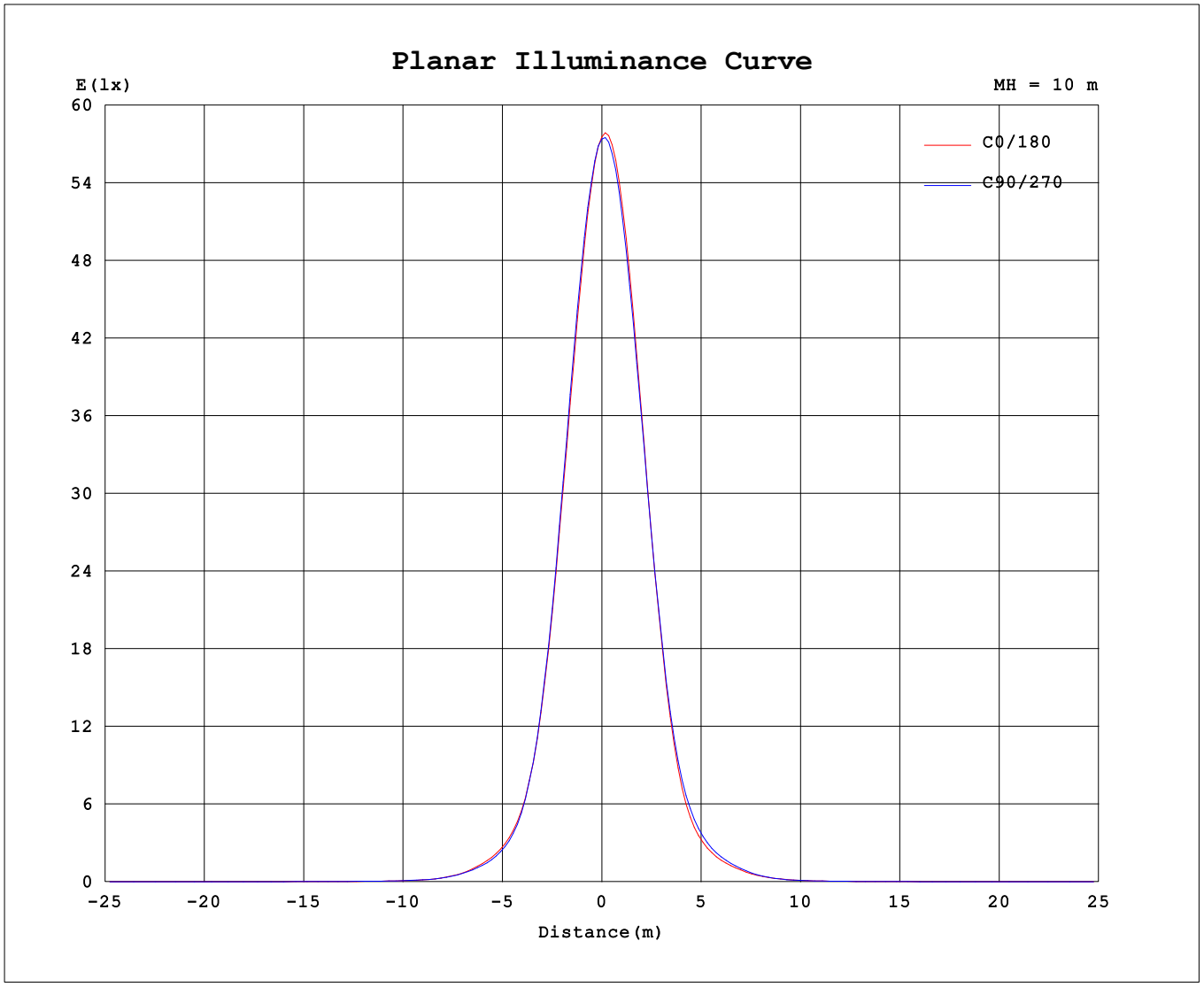
| AvgL | cd/m2 |
|---|---|
| L_0~180(65)av | 11283 |
| L_0~180(75)av | 9465 |
| L_0~180(85)av | 7132 |
| L_90~270(65)av | 11454 |
| L_90~270(75)av | 9425 |
| L_90~270(85)av | 6890 |
| L_45(65)av | 11332 |
| L_45(75)av | 9431 |
| L_45(85)av | 6880 |

**Standard: GB/T 29293-2012**

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

## Planar Illuminance Curve




C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## LUMINOUS DISTRIBUTION INTENSITY DATA

| | | |
|---|---|---|
| Test:U:240.3V I:0.0783A P:18.2W PF:0.9698 Freq:49.99Hz<br>UTHDi:0.20% ITHDi:10.86% KDisp:0.9802 Lamp Flux:1502.15x1 lm | | |
| NAME: HCP-10X2501-5000K RA90 24D WHITE | TYPE: | WEIGHT: |
| SPEC.: | DIM.: | SERIAL No.: |
| MFR.: Havit Commercial | SUR.: 55mm | Shielding Angle: |

Table--1 UNIT: cd

| C(DEG) / γ (DEG) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
|---|---|---|---|---|---|---|---|---|
| 0 | 5746 | 5746 | 5746 | 5746 | 5746 | 5746 | 5746 | 5746 |
| 5 | 4958 | 4913 | 5042 | 5277 | 5462 | 5511 | 5398 | 5141 |
| 10 | 3511 | 3435 | 3591 | 3937 | 4252 | 4359 | 4200 | 3822 |
| 15 | 1991 | 1913 | 2029 | 2347 | 2637 | 2786 | 2655 | 2307 |
| 20 | 944 | 842 | 943 | 1110 | 1279 | 1368 | 1341 | 1147 |
| 25 | 458 | 398 | 430 | 510 | 565 | 616 | 651 | 583 |
| 30 | 253 | 216 | 229 | 267 | 299 | 320 | 346 | 316 |
| 35 | 126 | 109 | 121 | 144 | 168 | 176 | 188 | 163 |
| 40 | 52.9 | 48.0 | 53.5 | 65.2 | 75.3 | 76.7 | 80.5 | 66.6 |
| 45 | 26.4 | 25.8 | 27.6 | 31.3 | 34.1 | 33.6 | 32.4 | 28.7 |
| 50 | 16.9 | 17.2 | 18.6 | 19.9 | 20.8 | 19.9 | 19.5 | 17.5 |
| 55 | 14.2 | 14.6 | 15.5 | 15.7 | 15.4 | 15.1 | 15.4 | 14.7 |
| 60 | 12.6 | 12.9 | 13.8 | 14.2 | 13.9 | 13.6 | 13.8 | 13.0 |
| 65 | 10.1 | 10.2 | 10.9 | 11.7 | 11.9 | 11.6 | 11.4 | 10.5 |
| 70 | 7.34 | 7.41 | 8.01 | 8.77 | 9.03 | 8.79 | 8.36 | 7.74 |
| 75 | 4.89 | 4.89 | 5.39 | 6.08 | 6.38 | 6.22 | 5.84 | 5.26 |
| 80 | 2.75 | 2.70 | 3.09 | 3.69 | 4.03 | 3.93 | 3.62 | 3.09 |
| 85 | 0.91 | 0.79 | 1.08 | 1.57 | 1.95 | 1.93 | 1.68 | 1.22 |
| 90 | 0.07 | 0.05 | 0.07 | 0.05 | 0.08 | 0.18 | 0.05 | 0.05 |

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

**Photometric Filename: HCP-10X2501-5000K RA90 24D WHITE**

## Photometric Data Table [cd]

| G/C | 0.0 | 45.0 | 90.0 | 135.0 | 180.0 | 225.0 | 270.0 | 315.0 |
|---|---|---|---|---|---|---|---|---|
| 0.0 | 5746 | 5746 | 5746 | 5746 | 5746 | 5746 | 5746 | 5746 |
| 3.0 | 5388 | 5364 | 5438 | 5581 | 5708 | 5739 | 5659 | 5495 |
| 6.0 | 4701 | 4644 | 4792 | 5062 | 5283 | 5343 | 5212 | 4917 |
| 9.0 | 3826 | 3750 | 3915 | 4246 | 4549 | 4642 | 4486 | 4117 |
| 12.0 | 2883 | 2794 | 2943 | 3293 | 3613 | 3750 | 3593 | 3206 |
| 15.0 | 1991 | 1913 | 2029 | 2347 | 2637 | 2786 | 2655 | 2307 |
| 18.0 | 1280 | 1185 | 1297 | 1541 | 1761 | 1876 | 1807 | 1542 |
| 21.0 | 797.4 | 712.5 | 787.9 | 938.3 | 1077 | 1158 | 1150 | 991.1 |
| 24.0 | 521.0 | 454.5 | 493.9 | 586.9 | 655.1 | 713.8 | 744.4 | 662.7 |
| 27.0 | 358.0 | 306.8 | 329.3 | 389.8 | 431.1 | 468.1 | 498.3 | 450.7 |
| 30.0 | 252.7 | 215.9 | 229.4 | 267.2 | 298.9 | 320.3 | 346.3 | 316.1 |
| 33.0 | 172.1 | 148.9 | 159.3 | 190.7 | 214.6 | 225.7 | 244.2 | 220.3 |
| 36.0 | 106.6 | 93.04 | 102.2 | 124.5 | 143.1 | 151.0 | 161.5 | 138.7 |
| 39.0 | 63.66 | 56.27 | 63.40 | 76.73 | 89.07 | 92.68 | 96.76 | 81.85 |
| 42.0 | 37.90 | 35.88 | 39.02 | 47.22 | 53.61 | 53.40 | 54.40 | 44.88 |
| 45.0 | 26.41 | 25.77 | 27.64 | 31.25 | 34.08 | 33.58 | 32.38 | 28.75 |
| 48.0 | 19.14 | 19.54 | 21.00 | 23.39 | 24.72 | 24.50 | 23.60 | 20.73 |
| 51.0 | 16.12 | 16.44 | 17.92 | 18.57 | 19.20 | 18.25 | 17.80 | 16.69 |
| 54.0 | 14.57 | 14.93 | 15.96 | 16.14 | 15.89 | 15.71 | 15.82 | 15.08 |
| 57.0 | 13.67 | 13.99 | 14.82 | 15.14 | 14.76 | 14.45 | 14.70 | 14.12 |
| 60.0 | 12.57 | 12.88 | 13.76 | 14.19 | 13.89 | 13.58 | 13.80 | 13.04 |
| 63.0 | 11.18 | 11.39 | 12.26 | 12.91 | 12.75 | 12.44 | 12.41 | 11.71 |
| 66.0 | 9.514 | 9.641 | 10.32 | 11.11 | 11.30 | 11.00 | 10.67 | 9.955 |
| 69.0 | 7.869 | 7.951 | 8.573 | 9.339 | 9.588 | 9.333 | 8.913 | 8.278 |
| 72.0 | 6.319 | 6.359 | 6.927 | 7.658 | 7.932 | 7.726 | 7.310 | 6.709 |
| 75.0 | 4.887 | 4.892 | 5.386 | 6.085 | 6.382 | 6.217 | 5.835 | 5.264 |
| 78.0 | 3.571 | 3.536 | 3.970 | 4.609 | 4.941 | 4.818 | 4.467 | 3.925 |
| 81.0 | 2.359 | 2.291 | 2.659 | 3.241 | 3.594 | 3.508 | 3.212 | 2.698 |
| 84.0 | 1.254 | 1.151 | 1.464 | 1.973 | 2.344 | 2.312 | 2.047 | 1.574 |
| 87.0 | 0.2359 | 0.1032 | 0.3266 | 0.7948 | 1.181 | 1.197 | 0.9836 | 0.5496 |
| 90.0 | 0.0709 | 0.0504 | 0.0734 | 0.0466 | 0.0786 | 0.1788 | 0.0531 | 0.0489 |

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-11-21

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks: