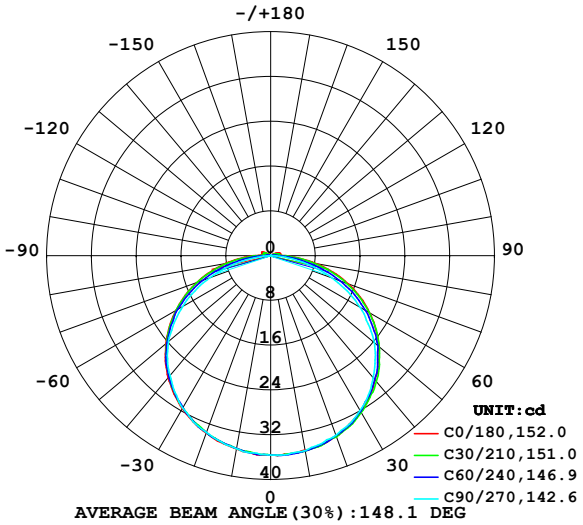
# LUMINAIRE PHOTOMETRIC TEST REPORT

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | Shielding Angle: |

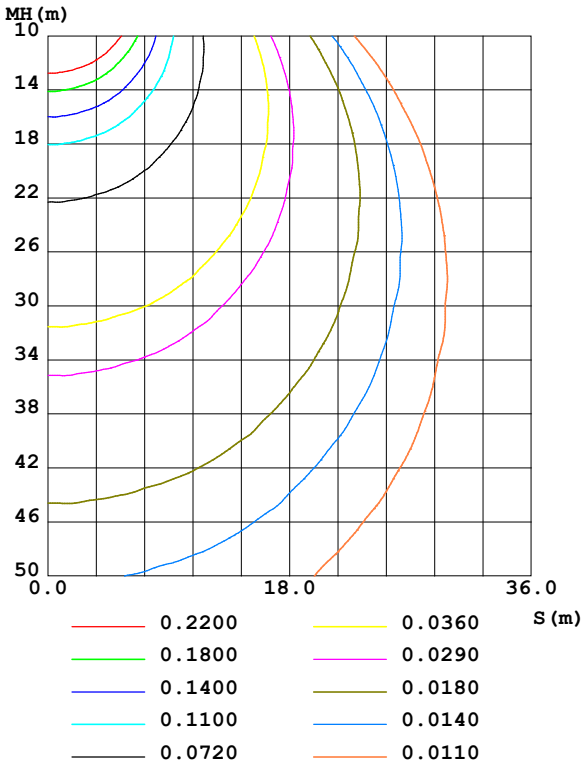
| DATA OF LAMP | | PHOTOMETRIC DATA | | Eff: 6.09 lm/W | |
|---|---|---|---|---|---|
| MODEL | HCP-3456251 | Imax(cd) | 35.72 | S/MH(C0/180) | 1.32 |
| NOMINAL POWER(W) | 20 | LOR(%) | 100.0 | S/MH(C90/270) | 1.31 |
| RATED VOLTAGE(V) | 24 | TOTAL FLUX(lm) | 121.83 | η UP,DN(C0-180) | 1.1,49.3 |
| NOMINAL FLUX(lm) | 121.827 | CIE CLASS | DIRECT | η UP,DN(C180-360) | 1.2,48.3 |
| LAMPS INSIDE | 1 | η up(%) | 2.3 | CIBSE SHR NOM | 1.50 |
| TEST VOLTAGE(V) | 24 | η down(%) | 97.7 | CIBSE SHR MAX | 1.55 |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM




AVERAGE BEAM ANGLE(30%):148.1 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)




C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [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 | 35.24 | 35.45 | 35.39 | 35.15 | 35.06 | 34.99 | 35.00 | 35.22 | 0- 10 | 3.381 | 3.381 | 2.78,2.78 |
| 20 | 34.31 | 34.33 | 34.14 | 33.95 | 33.73 | 33.60 | 33.60 | 33.92 | 10- 20 | 9.801 | 13.18 | 10.8,10.8 |
| 30 | 32.16 | 32.26 | 31.95 | 31.73 | 31.57 | 31.38 | 31.44 | 31.69 | 20- 30 | 15.22 | 28.40 | 23.3,23.3 |
| 40 | 28.98 | 29.15 | 28.52 | 28.89 | 28.53 | 28.26 | 28.00 | 28.48 | 30- 40 | 18.98 | 47.38 | 38.9,38.9 |
| 50 | 25.26 | 25.16 | 24.18 | 24.73 | 24.44 | 24.23 | 23.82 | 24.36 | 40- 50 | 20.62 | 68.00 | 55.8,55.8 |
| 60 | 20.36 | 19.94 | 18.43 | 19.58 | 19.49 | 19.31 | 18.11 | 19.39 | 50- 60 | 19.75 | 87.75 | 72,72 |
| 70 | 14.76 | 13.79 | 11.67 | 13.54 | 14.04 | 13.44 | 11.58 | 13.40 | 60- 70 | 16.29 | 104.0 | 85.4,85.4 |
| 80 | 8.251 | 7.111 | 4.657 | 7.092 | 8.182 | 7.019 | 4.456 | 6.867 | 70- 80 | 10.64 | 114.7 | 94.1,94.1 |
| 90 | 2.481 | 1.946 | 0.0203 | 1.939 | 2.780 | 1.925 | 0 | 1.866 | 80- 90 | 4.293 | 119.0 | 97.7,97.7 |
| 100 | 1.657 | 1.052 | 0 | 0.9562 | 1.382 | 0.9570 | 0 | 1.070 | 90-100 | 1.256 | 120.2 | 98.7,98.7 |
| 110 | 1.522 | 0.5204 | 0 | 0.8143 | 1.712 | 0.7810 | 0 | 0.5324 | 100-110 | 0.8831 | 121.1 | 99.4,99.4 |
| 120 | 0.6415 | 0.0929 | 0 | 0.3432 | 1.085 | 0.3117 | 0 | 0.1421 | 110-120 | 0.5199 | 121.6 | 99.8,99.8 |
| 130 | 0.0639 | 0 | 0 | 0.0862 | 0.3010 | 0.0960 | 0 | 0.0161 | 120-130 | 0.1296 | 121.8 | 100,100 |
| 140 | 0.0087 | 0.0044 | 0.0059 | 0.0292 | 0.1100 | 0.0539 | 0 | 0.0102 | 130-140 | 0.0314 | 121.8 | 100,100 |
| 150 | 0.0058 | 0.0073 | 0.0117 | 0.0088 | 0.0203 | 0.0349 | 0 | 0.0117 | 140-150 | 0.0120 | 121.8 | 100,100 |
| 160 | 0.0087 | 0.0087 | 0.0233 | 0.0117 | 0.0203 | 0.0189 | 0 | 0.0146 | 150-160 | 0.0055 | 121.8 | 100,100 |
| 170 | 0.0232 | 0.0189 | 0.0233 | 0.0219 | 0.0289 | 0.0233 | 0.0175 | 0.0219 | 160-170 | 0.0048 | 121.8 | 100,100 |
| 180 | 0.0232 | 0.0247 | 0.0263 | 0.0249 | 0.0232 | 0.0218 | 0.0233 | 0.0234 | 170-180 | 0.0022 | 121.8 | 100,100 |
| DEG | LUMINOUS INTENSITY:cd | | | | | | | | | UNIT:lm | | |

0 - 60 DEG Zonal Flux:87.753 %lum: 72.0%
0 - 60 DEG Zonal Flux:87.753 %lum: 72.0%
All measured values may vary less than 35 %
from the average measured value in the 0 to 130 deg. zone: 15.0%
All measured values in the 0 to 130 deg. zone
may vary less than 50% from the average value of itself: 21.7%

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

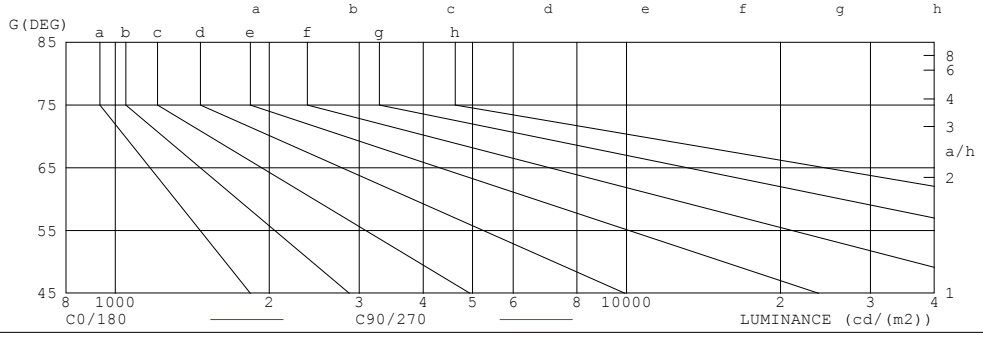
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## LUMINANCE LIMITATION CURVES

| | | |
|---|---|---|
| **NAME: HCP-3456251-R** | **TYPE: 2835 R** | **WEIGHT:** |
| **SPEC.:** | **DIM.: 1*0.012** | **SERIAL No.:** |
| **MFR.: HAVIT COMMERCIAL** | **SUR.:** | **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 | 567 | 186 |
| 80 | 478 | 268 |
| 75 | 450 | 312 |
| 70 | 434 | 341 |
| 65 | 421 | 358 |
| 60 | 409 | 368 |
| 55 | 402 | 371 |
| 50 | 395 | 376 |
| 45 | 386 | 372 |

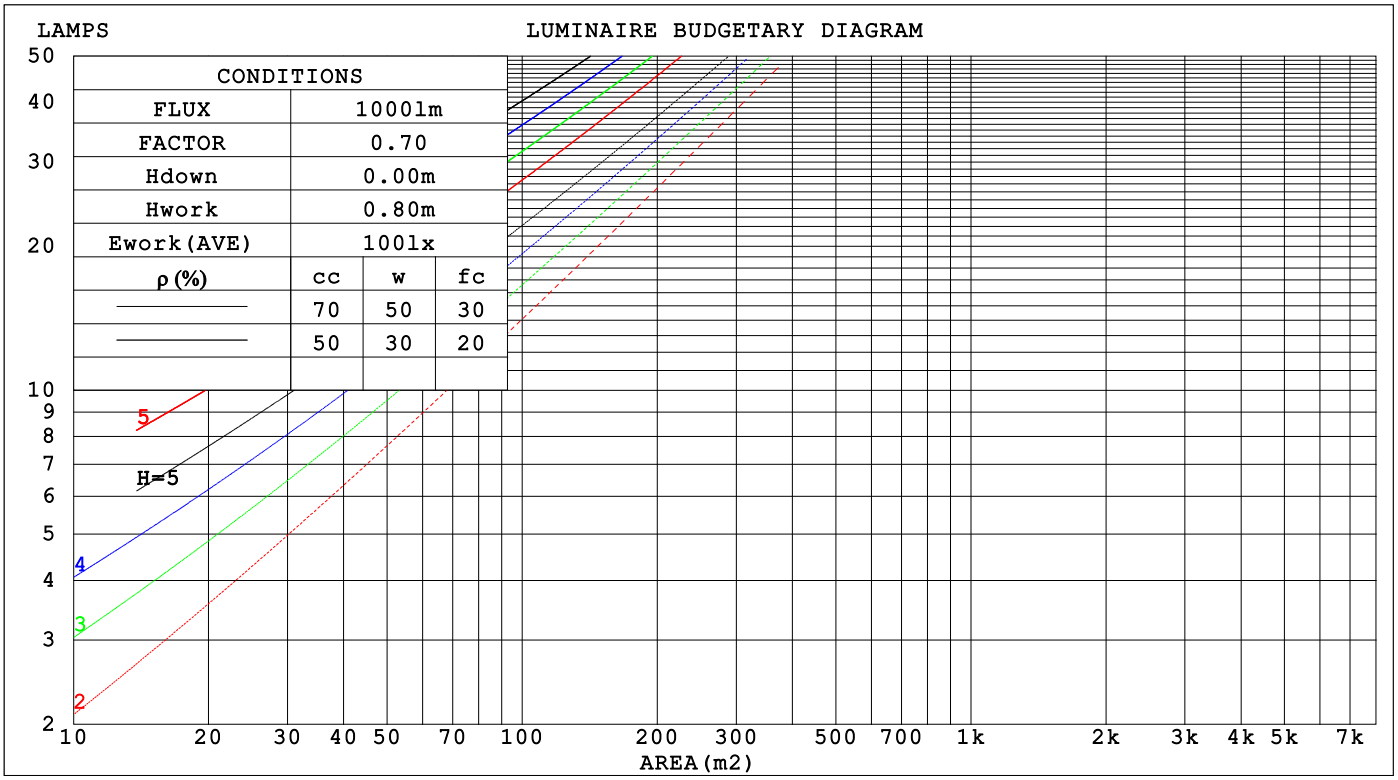
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | 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 | 1.18 | 1.18 | 1.18 | 1.15 | 1.15 | 1.15 | 1.10 | 1.10 | 1.10 | 1.05 | 1.05 | 1.05 | .00 | .00 | .00 | .98 |
| 1.0 | 1.02 | .97 | .93 | .99 | .95 | .91 | .94 | .91 | .88 | .90 | .87 | .84 | .86 | .84 | .82 | .79 |
| 2.0 | .88 | .80 | .74 | .86 | .79 | .73 | .82 | .76 | .71 | .78 | .73 | .69 | .74 | .71 | .67 | .65 |
| 3.0 | .76 | .68 | .61 | .75 | .67 | .60 | .71 | .64 | .59 | .68 | .62 | .57 | .65 | .60 | .56 | .54 |
| 4.0 | .67 | .58 | .51 | .66 | .57 | .50 | .63 | .55 | .49 | .60 | .54 | .48 | .58 | .52 | .48 | .45 |
| 5.0 | .60 | .50 | .43 | .58 | .50 | .43 | .56 | .48 | .42 | .54 | .47 | .42 | .52 | .46 | .41 | .39 |
| 6.0 | .54 | .44 | .38 | .53 | .44 | .37 | .50 | .43 | .37 | .48 | .42 | .36 | .47 | .41 | .36 | .34 |
| 7.0 | .48 | .39 | .33 | .47 | .39 | .33 | .46 | .38 | .32 | .44 | .37 | .32 | .42 | .36 | .32 | .29 |
| 8.0 | .44 | .35 | .29 | .43 | .35 | .29 | .42 | .34 | .29 | .40 | .33 | .28 | .39 | .33 | .28 | .26 |
| 9.0 | .40 | .32 | .26 | .40 | .32 | .26 | .38 | .31 | .26 | .37 | .30 | .26 | .36 | .30 | .25 | .23 |
| 10.0 | .37 | .29 | .24 | .37 | .29 | .24 | .35 | .28 | .23 | .34 | .28 | .23 | .33 | .27 | .23 | .21 |




C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## WEC AND CCEC

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | 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 | .341 | .194 | .061 | .333 | .190 | .060 | .318 | .183 | .058 | .305 | .176 | .056 | .292 | .169 | .055 | |
| 2.0 | .313 | .171 | .053 | .306 | .168 | .052 | .293 | .163 | .051 | .281 | .157 | .049 | .269 | .152 | .048 | |
| 3.0 | .285 | .152 | .045 | .279 | .150 | .045 | .268 | .145 | .044 | .257 | .141 | .043 | .247 | .137 | .042 | |
| 4.0 | .261 | .136 | .040 | .255 | .134 | .040 | .245 | .130 | .039 | .235 | .126 | .038 | .226 | .123 | .037 | |
| 5.0 | .240 | .122 | .035 | .235 | .120 | .035 | .225 | .117 | .035 | .217 | .114 | .034 | .209 | .111 | .033 | |
| 6.0 | .221 | .111 | .032 | .217 | .109 | .031 | .208 | .107 | .031 | .201 | .104 | .031 | .193 | .102 | .030 | |
| 7.0 | .205 | .101 | .029 | .201 | .100 | .029 | .193 | .098 | .028 | .186 | .096 | .028 | .180 | .093 | .027 | |
| 8.0 | .191 | .093 | .026 | .187 | .092 | .026 | .180 | .090 | .026 | .174 | .088 | .025 | .168 | .086 | .025 | |
| 9.0 | .178 | .086 | .024 | .175 | .085 | .024 | .169 | .084 | .024 | .163 | .082 | .023 | .158 | .080 | .023 | |
| 10.0 | .167 | .080 | .022 | .164 | .079 | .022 | .159 | .078 | .022 | .154 | .076 | .022 | .149 | .075 | .021 | |

| 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 | .208 | .208 | .208 | .178 | .178 | .178 | .121 | .121 | .121 | .070 | .070 | .070 | .022 | .022 | .022 | |
| 1.0 | .200 | .174 | .150 | .171 | .149 | .129 | .117 | .103 | .089 | .068 | .059 | .052 | .022 | .019 | .017 | |
| 2.0 | .193 | .150 | .114 | .165 | .129 | .098 | .113 | .089 | .068 | .065 | .052 | .040 | .021 | .017 | .013 | |
| 3.0 | .186 | .133 | .090 | .159 | .114 | .078 | .109 | .079 | .055 | .063 | .046 | .032 | .020 | .015 | .011 | |
| 4.0 | .178 | .119 | .075 | .153 | .103 | .065 | .105 | .072 | .046 | .061 | .042 | .027 | .020 | .014 | .009 | |
| 5.0 | .170 | .109 | .064 | .146 | .095 | .056 | .101 | .066 | .039 | .058 | .039 | .023 | .019 | .013 | .008 | |
| 6.0 | .163 | .101 | .056 | .140 | .087 | .049 | .097 | .061 | .035 | .056 | .036 | .021 | .018 | .012 | .007 | |
| 7.0 | .156 | .094 | .051 | .134 | .082 | .044 | .093 | .057 | .031 | .054 | .034 | .019 | .017 | .011 | .006 | |
| 8.0 | .149 | .088 | .046 | .129 | .077 | .041 | .089 | .054 | .029 | .052 | .032 | .017 | .017 | .010 | .006 | |
| 9.0 | .143 | .083 | .043 | .123 | .072 | .038 | .085 | .051 | .027 | .050 | .030 | .016 | .016 | .010 | .005 | |
| 10.0 | .137 | .079 | .041 | .118 | .069 | .035 | .082 | .048 | .025 | .048 | .029 | .015 | .016 | .009 | .005 | |

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## UGR(Unified Glare Rating) Table

| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
|---|---|---|
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | 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 | 17.2 | 18.7 | 17.5 | 19.0 | 19.2 | 16.8 | 18.3 | 17.1 | 18.6 | 18.9 |
| 3H | 19.1 | 20.6 | 19.5 | 20.9 | 21.2 | 18.4 | 19.9 | 18.8 | 20.1 | 20.4 |
| 4H | 20.0 | 21.4 | 20.4 | 21.7 | 22.0 | 19.0 | 20.4 | 19.4 | 20.7 | 21.0 |
| 6H | 20.8 | 22.1 | 21.2 | 22.5 | 22.8 | 19.5 | 20.8 | 19.8 | 21.1 | 21.4 |
| 8H | 21.2 | 22.4 | 21.6 | 22.8 | 23.1 | 19.6 | 20.8 | 20.0 | 21.2 | 21.5 |
| 12H | 21.5 | 22.7 | 21.9 | 23.0 | 23.4 | 19.6 | 20.8 | 20.0 | 21.2 | 21.5 |
| 4H 2H | 17.9 | 19.2 | 18.2 | 19.5 | 19.8 | 17.6 | 18.9 | 17.9 | 19.2 | 19.5 |
| 3H | 20.0 | 21.2 | 20.4 | 21.6 | 21.9 | 19.4 | 20.6 | 19.8 | 20.9 | 21.3 |
| 4H | 21.1 | 22.2 | 21.5 | 22.5 | 22.9 | 20.2 | 21.3 | 20.6 | 21.6 | 22.0 |
| 6H | 22.0 | 23.0 | 22.5 | 23.4 | 23.8 | 20.7 | 21.7 | 21.2 | 22.1 | 22.5 |
| 8H | 22.4 | 23.4 | 22.9 | 23.8 | 24.2 | 20.9 | 21.8 | 21.3 | 22.2 | 22.7 |
| 12H | 22.8 | 23.7 | 23.3 | 24.1 | 24.6 | 21.0 | 21.8 | 21.5 | 22.3 | 22.7 |
| 8H 4H | 21.4 | 22.3 | 21.8 | 22.7 | 23.2 | 20.6 | 21.5 | 21.1 | 21.9 | 22.4 |
| 6H | 22.5 | 23.3 | 23.0 | 23.8 | 24.2 | 21.4 | 22.1 | 21.8 | 22.6 | 23.1 |
| 8H | 23.1 | 23.8 | 23.6 | 24.3 | 24.8 | 21.6 | 22.3 | 22.1 | 22.8 | 23.3 |
| 12H | 23.6 | 24.2 | 24.2 | 24.7 | 25.3 | 21.8 | 22.4 | 22.3 | 22.9 | 23.4 |
| 12H 4H | 21.4 | 22.2 | 21.9 | 22.7 | 23.1 | 20.7 | 21.5 | 21.1 | 22.0 | 22.4 |
| 6H | 22.6 | 23.3 | 23.1 | 23.8 | 24.3 | 21.5 | 22.2 | 22.0 | 22.7 | 23.2 |
| 8H | 23.3 | 23.8 | 23.8 | 24.3 | 24.9 | 21.9 | 22.5 | 22.4 | 23.0 | 23.5 |
| Variations with the observer position at spacings(CIE Pub.117): | | | | | | | | | | |
| S = 1.0H | + 0.1 / - 0.1 | | | | | + 0.1 / - 0.2 | | | | |
| 1.5H | + 0.2 / - 0.3 | | | | | + 0.2 / - 0.3 | | | | |
| 2.0H | + 0.1 / - 0.3 | | | | | + 0.2 / - 0.4 | | | | |

CIE Pub.117, 121.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -7.3)
Area: 0.1 m2

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## UTILIZATION FACTORS TABLE

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | Shielding Angle: |

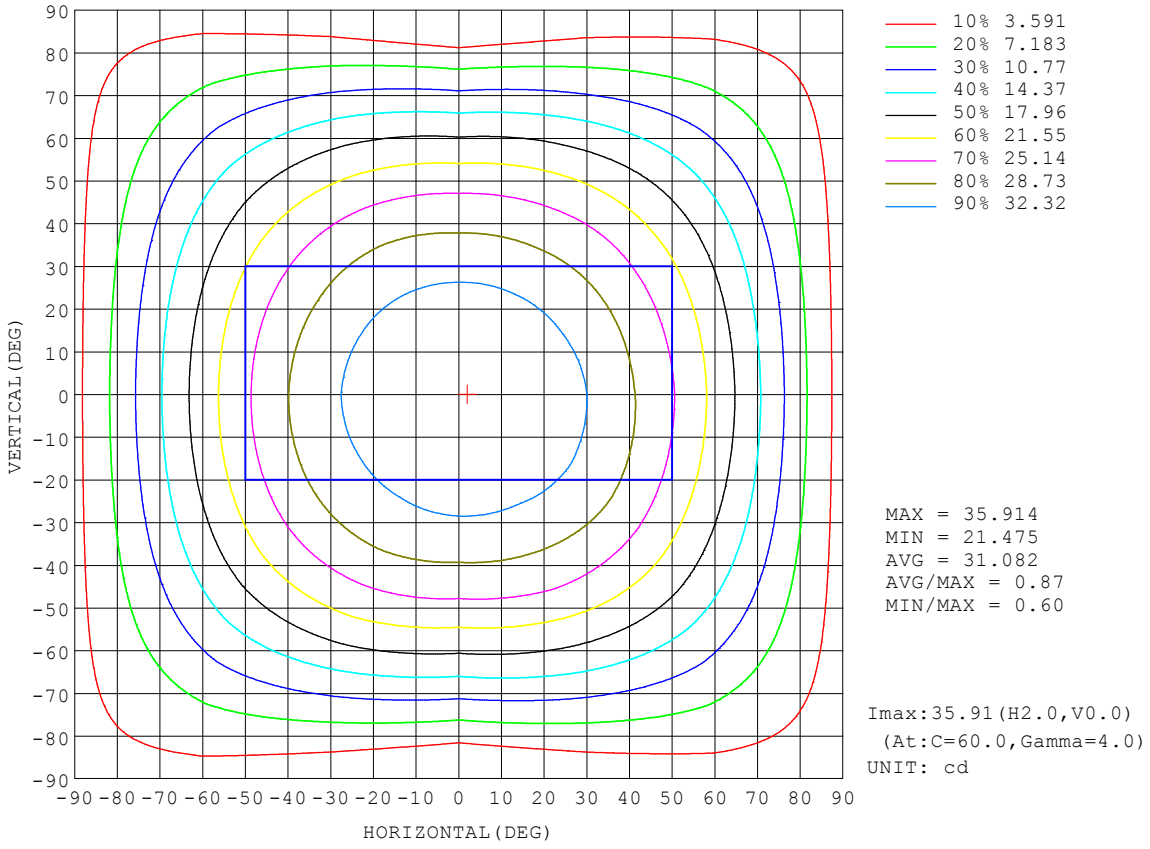
| REFLECTANCE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ceiling | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0 |
| Walls | 0.7 | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0 |
| Working plane | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0 |
| ROOM INDEX | UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5 | | | | | | | | | |
| k = 0.60 | 54 | 42 | 35 | 53 | 42 | 35 | 52 | 41 | 35 | 28 |
| 0.80 | 64 | 52 | 44 | 63 | 51 | 44 | 61 | 50 | 43 | 36 |
| 1.00 | 72 | 61 | 53 | 71 | 60 | 52 | 69 | 61 | 52 | 44 |
| 1.25 | 80 | 68 | 60 | 78 | 67 | 60 | 75 | 66 | 59 | 51 |
| 1.50 | 85 | 74 | 66 | 83 | 73 | 66 | 80 | 71 | 65 | 56 |
| 2.00 | 92 | 82 | 75 | 90 | 81 | 74 | 86 | 79 | 73 | 64 |
| 2.50 | 96 | 87 | 81 | 94 | 86 | 80 | 90 | 83 | 78 | 69 |
| 3.00 | 100 | 92 | 86 | 97 | 90 | 85 | 93 | 87 | 82 | 73 |
| 4.00 | 104 | 98 | 92 | 101 | 96 | 91 | 97 | 92 | 88 | 78 |
| 5.00 | 107 | 101 | 97 | 104 | 99 | 95 | 99 | 95 | 91 | 81 |
| ROOM INDEX | UF(total) | | | | | | | | | Direct |
| According to DIN EN 13032-2 2004 | | | | Suspended | | | | | SHRNOM = 1.25 | |

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## ISOCANDELA DIAGRAM

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | Shielding Angle: |

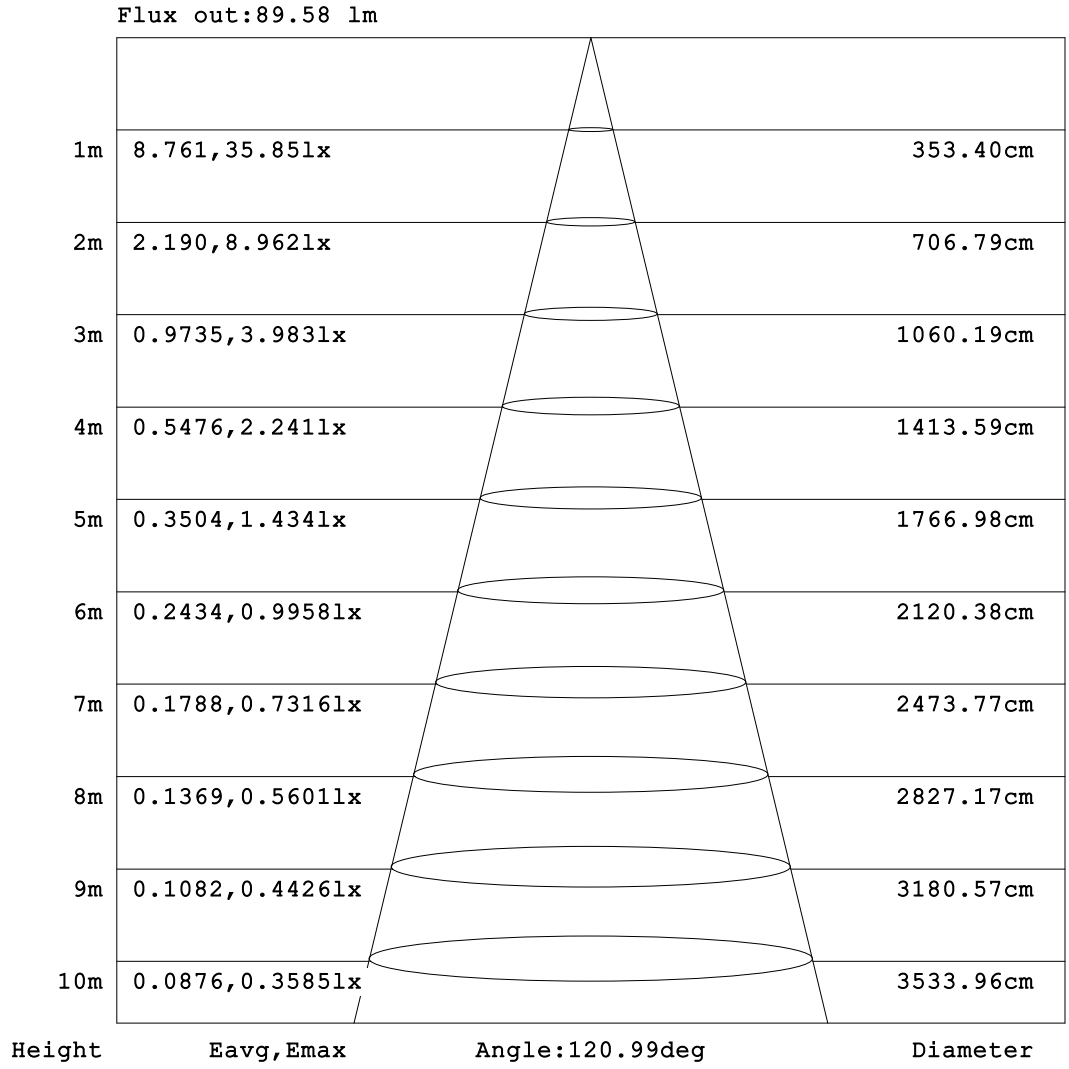



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## AAI Figure

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | Shielding Angle: |



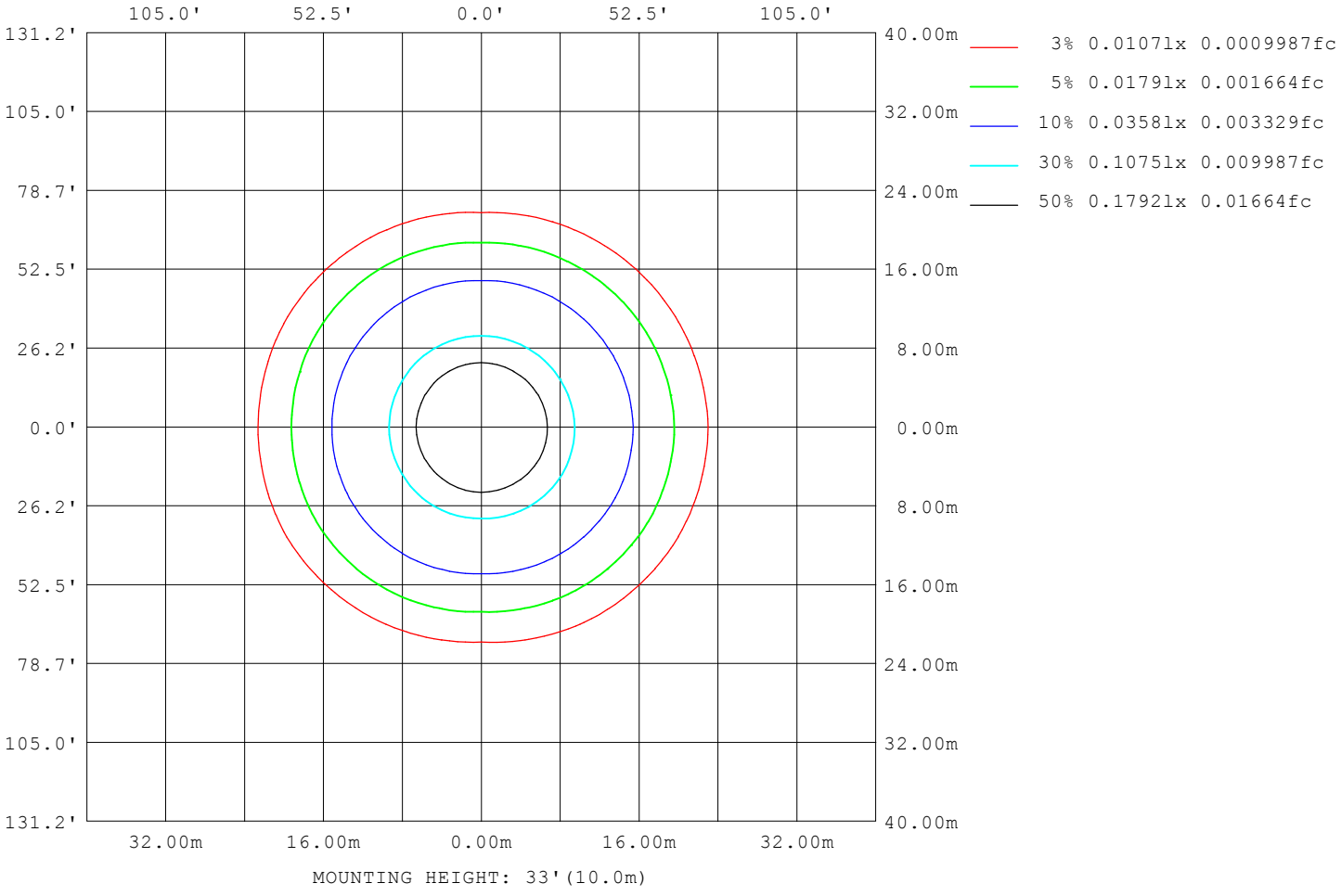

**Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.**

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## ISOLUX DIAGRAM

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | Shielding Angle: |




C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
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Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## LED Avg.L Report

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | Shielding Angle: |

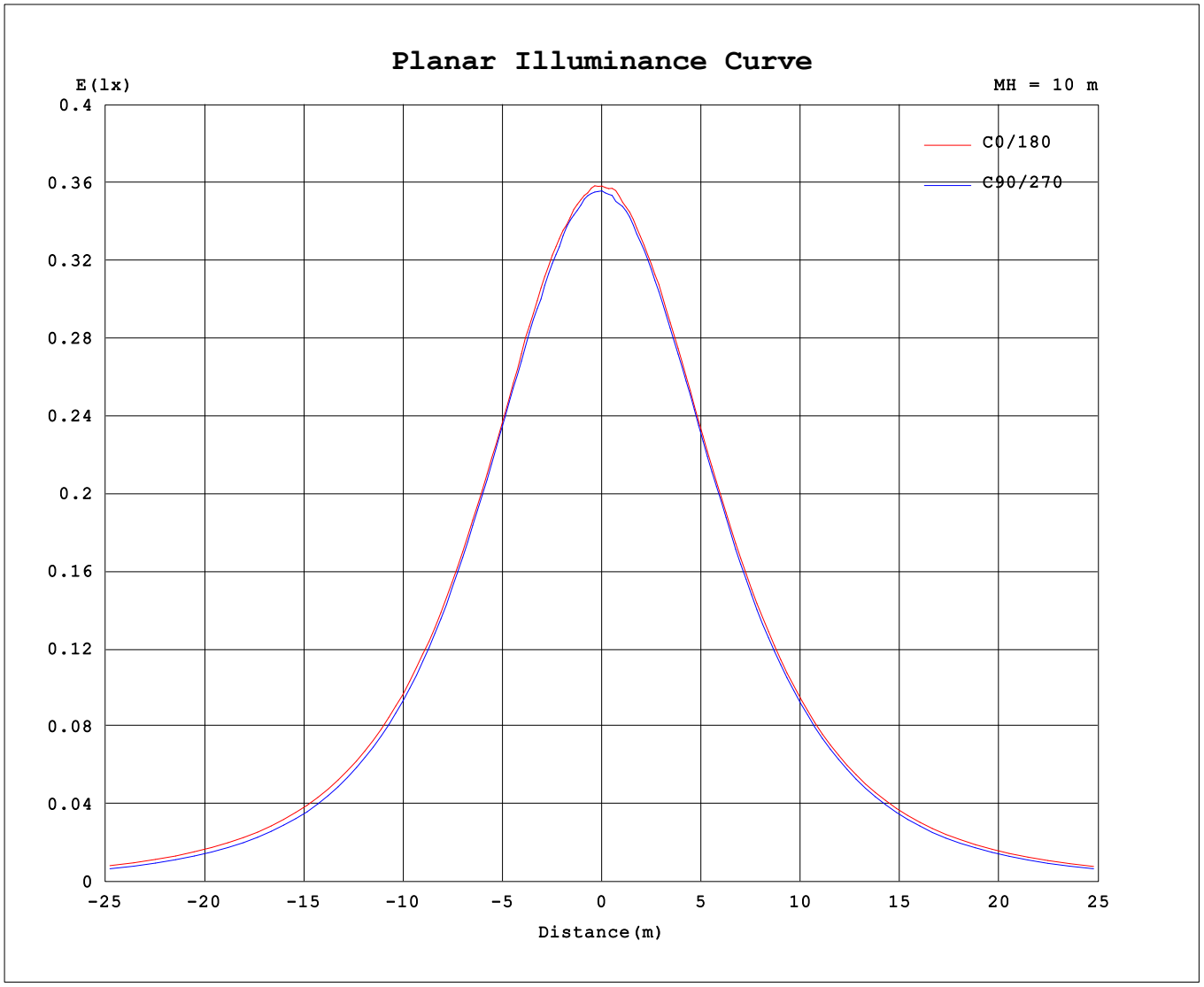
| AvgL | cd/m2 |
|---|---|
| L_0~180(65)av | 408 |
| L_0~180(75)av | 438 |
| L_0~180(85)av | 584 |
| L_90~270(65)av | 356 |
| L_90~270(75)av | 311 |
| L_90~270(85)av | 168 |
| L_45(65)av | 396 |
| L_45(75)av | 400 |
| L_45(85)av | 474 |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## Planar Illuminance Curve




C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JING
Test Date:2022-05-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.454
Humidity:65.0%
Test Distance:6.070m [K=1.0000]
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

| | | |
|---|---|---|
| NAME: HCP-3456251-R | TYPE: 2835 R | WEIGHT: |
| SPEC.: | DIM.: 1*0.012 | SERIAL No.: |
| MFR.: HAVIT COMMERCIAL | SUR.: | Shielding Angle: |

Table--1 UNIT: cd

| γ (DEG) \ C(DEG) | 0 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 | 35.6 |
| 5 | 35.6 | 35.6 | 35.7 | 35.6 | 35.6 | 35.5 | 35.5 | 35.4 | 35.5 | 35.4 | 35.5 | 35.5 |
| 10 | 35.2 | 35.5 | 35.4 | 35.4 | 35.2 | 35.1 | 35.1 | 35.0 | 35.0 | 35.0 | 35.2 | 35.2 |
| 15 | 35.0 | 35.1 | 35.0 | 34.8 | 34.7 | 34.6 | 34.5 | 34.4 | 34.4 | 34.4 | 34.6 | 34.7 |
| 20 | 34.3 | 34.4 | 34.2 | 34.1 | 34.0 | 33.9 | 33.7 | 33.6 | 33.6 | 33.6 | 33.8 | 34.0 |
| 25 | 33.3 | 33.6 | 33.4 | 33.2 | 33.0 | 32.9 | 32.8 | 32.6 | 32.7 | 32.7 | 32.8 | 32.9 |
| 30 | 32.2 | 32.4 | 32.2 | 31.9 | 31.8 | 31.7 | 31.6 | 31.4 | 31.4 | 31.4 | 31.6 | 31.8 |
| 35 | 30.8 | 30.9 | 30.7 | 30.5 | 30.5 | 30.4 | 30.1 | 29.9 | 29.9 | 29.8 | 29.9 | 30.3 |
| 40 | 29.0 | 29.4 | 28.9 | 28.5 | 28.9 | 28.8 | 28.5 | 28.2 | 28.3 | 28.0 | 28.3 | 28.7 |
| 45 | 27.1 | 27.5 | 27.0 | 26.4 | 27.0 | 26.8 | 26.6 | 26.3 | 26.5 | 26.1 | 26.4 | 26.8 |
| 50 | 25.3 | 25.3 | 25.0 | 24.2 | 24.7 | 24.7 | 24.4 | 24.3 | 24.2 | 23.8 | 24.2 | 24.5 |
| 55 | 22.9 | 23.1 | 22.3 | 21.3 | 22.3 | 22.4 | 22.1 | 22.0 | 21.7 | 21.1 | 21.8 | 22.3 |
| 60 | 20.4 | 20.3 | 19.6 | 18.4 | 19.3 | 19.8 | 19.5 | 19.5 | 19.1 | 18.1 | 19.0 | 19.8 |
| 65 | 17.7 | 17.5 | 16.5 | 15.1 | 16.3 | 17.0 | 16.8 | 16.8 | 16.1 | 14.9 | 16.0 | 17.0 |
| 70 | 14.8 | 14.4 | 13.2 | 11.7 | 13.0 | 14.1 | 14.0 | 13.9 | 12.9 | 11.6 | 12.8 | 14.0 |
| 75 | 11.6 | 11.2 | 9.69 | 8.09 | 9.58 | 11.0 | 11.1 | 10.9 | 9.62 | 8.00 | 9.40 | 10.8 |
| 80 | 8.25 | 7.92 | 6.30 | 4.66 | 6.27 | 7.91 | 8.18 | 7.78 | 6.26 | 4.46 | 6.16 | 7.58 |
| 85 | 4.91 | 4.72 | 3.39 | 1.63 | 3.39 | 4.90 | 5.27 | 4.78 | 3.38 | 1.30 | 3.28 | 4.46 |
| 90 | 2.48 | 2.35 | 1.54 | 0.02 | 1.43 | 2.44 | 2.78 | 2.40 | 1.45 | 0.00 | 1.52 | 2.21 |
| 95 | 1.66 | 1.56 | 1.01 | 0.00 | 0.84 | 1.34 | 1.55 | 1.39 | 0.83 | 0.00 | 0.99 | 1.59 |
| 100 | 1.66 | 1.44 | 0.67 | 0.00 | 0.65 | 1.26 | 1.38 | 1.28 | 0.63 | 0.00 | 0.66 | 1.48 |
| 105 | 1.66 | 1.34 | 0.29 | 0.00 | 0.46 | 1.37 | 1.54 | 1.34 | 0.43 | 0.00 | 0.31 | 1.38 |
| 110 | 1.52 | 1.00 | 0.04 | 0.00 | 0.24 | 1.39 | 1.71 | 1.38 | 0.18 | 0.00 | 0.06 | 1.01 |
| 115 | 1.10 | 0.62 | 0.00 | 0.00 | 0.15 | 1.12 | 1.59 | 1.10 | 0.08 | 0.00 | 0.00 | 0.66 |
| 120 | 0.64 | 0.19 | 0.00 | 0.00 | 0.08 | 0.60 | 1.09 | 0.58 | 0.04 | 0.00 | 0.00 | 0.28 |
| 125 | 0.22 | 0.01 | 0.00 | 0.00 | 0.05 | 0.28 | 0.52 | 0.28 | 0.02 | 0.00 | 0.00 | 0.08 |
| 130 | 0.06 | 0.00 | 0.00 | 0.00 | 0.02 | 0.15 | 0.30 | 0.18 | 0.01 | 0.00 | 0.00 | 0.03 |
| 135 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.11 | 0.16 | 0.13 | 0.01 | 0.00 | 0.01 | 0.01 |
| 140 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.06 | 0.11 | 0.10 | 0.01 | 0.00 | 0.01 | 0.01 |
| 145 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.02 | 0.06 | 0.07 | 0.01 | 0.00 | 0.01 | 0.01 |
| 150 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.05 | 0.02 | 0.00 | 0.01 | 0.01 |
| 155 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 | 0.01 | 0.01 |
| 160 | 0.01 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 | 0.02 | 0.01 |
| 165 | 0.02 | 0.02 | 0.00 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 |
| 170 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 |
| 175 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 |
| 180 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |

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