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Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au



Report No.: 5 Test Time: 2018/3/16 09:23

# Luminaire Property

Luminaire Manufacturer: HAVIT COMMERCIAL
Luminaire Description: HCP-8920704 + HCP-8930704 (3000K) Voltage: 220 V
Current: 0.068 A Power: 6.86W
Power Factor: 0.459

# Photometric Results

CIE Class: Direct
Measurement Flux: 528.5 lm
Downward Ratio: 99%
Horizontal Diffuse Angle(50%): H102.8
Vertical Diffuse Angle(50%): V102.4
Luminaire Efficacy Rating (LER): 77.09
Max. Intensity: 222.75 cd
S/MH(C0/C180): 1.48

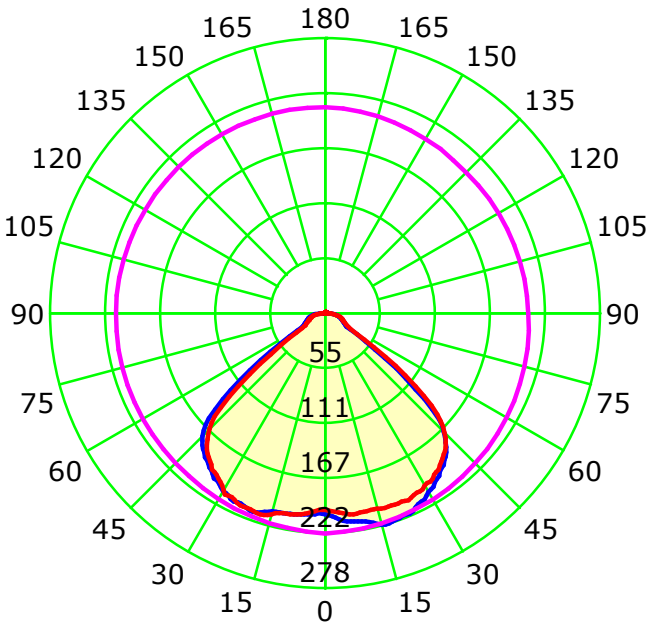
Total Rated Lamp Lumens: 528.5 lm
Efficiency: 100%
Upward Ratio: 1%

Central Intensity: 203.37 cd
Pos of Max. Intensity: H0 V16
S/MH(C90/C270): 1.49

Picture Of Luminaire



Luminous Intensity Distribution Curve




Unit: cd
Average Diffuse Angle(50%): 102.3°
C0-C180 C90-C270 G16

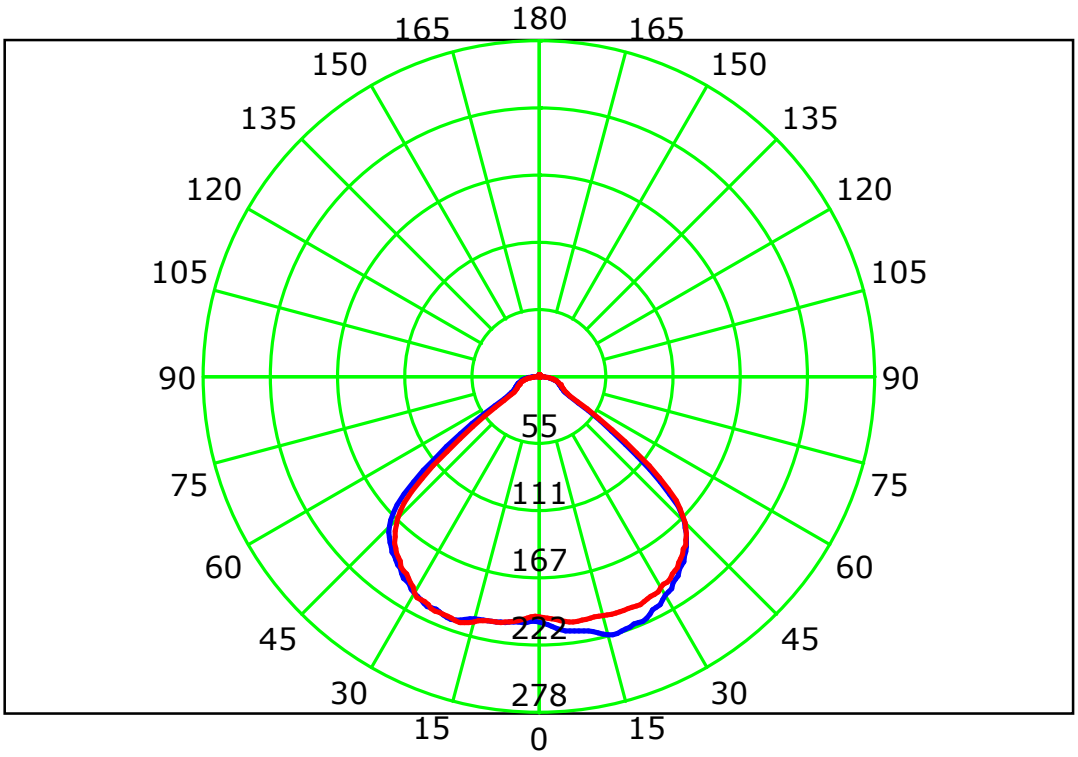
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

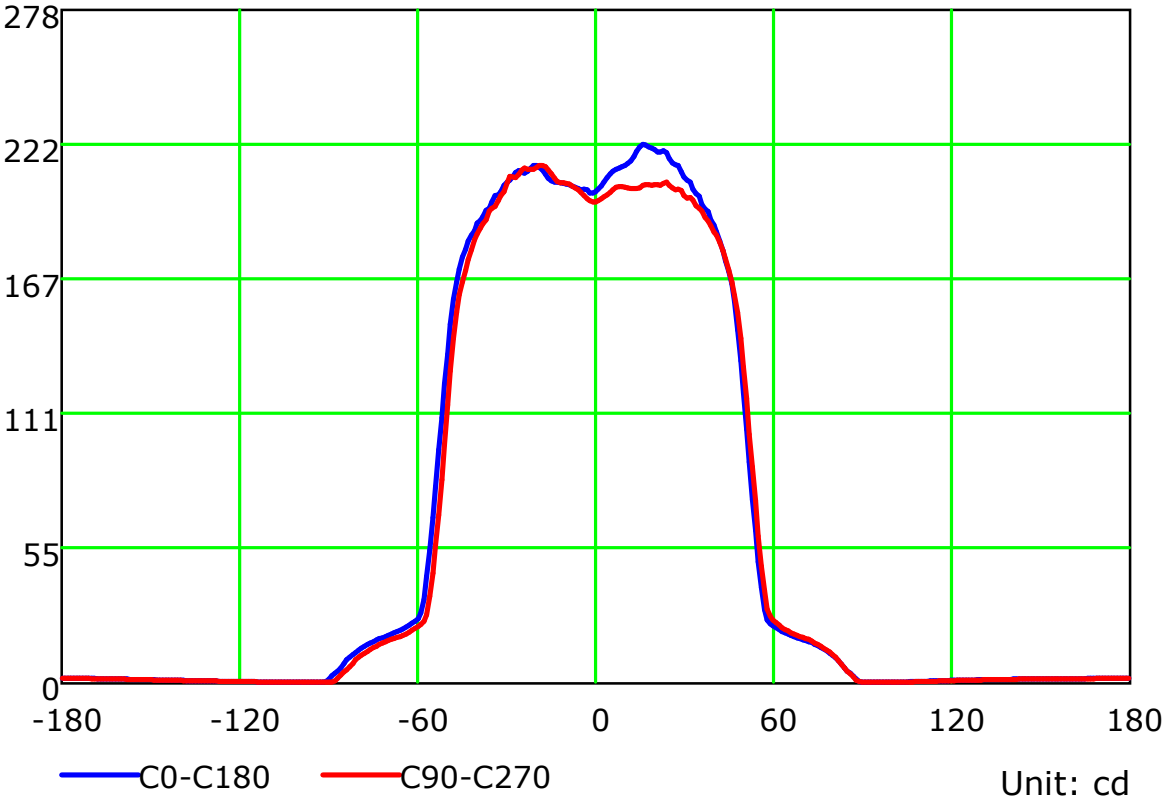
Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

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# Luminous Intensity Distribution Curve




C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

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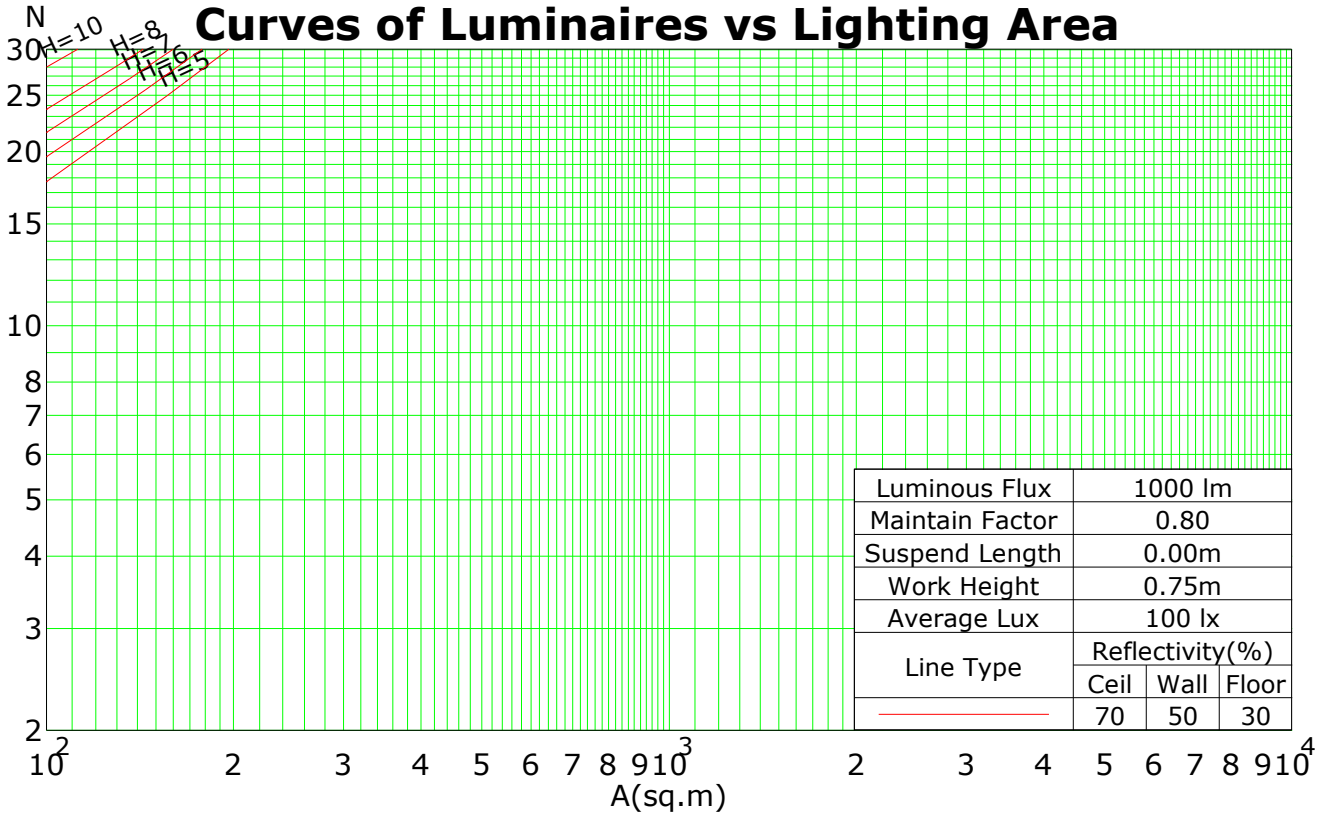


# Coefficients Of Utilization - Zonal Cavity Method

| RC | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW | 0.7 | 0.5 | 0.3 | 0.1 | 0.7 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0 |
| RCR | RF = 0.2 | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 101 | 101 | 101 | 99 |
| 1 | 110 | 107 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 87 |
| 2 | 102 | 95 | 89 | 85 | 100 | 93 | 88 | 84 | 90 | 85 | 81 | 86 | 83 | 80 | 83 | 80 | 78 | 76 |
| 3 | 94 | 85 | 78 | 73 | 92 | 84 | 77 | 72 | 81 | 75 | 71 | 78 | 73 | 69 | 75 | 71 | 68 | 66 |
| 4 | 87 | 77 | 69 | 63 | 85 | 75 | 68 | 63 | 73 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 58 |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 61 | 55 | 66 | 59 | 54 | 64 | 58 | 54 | 62 | 57 | 53 | 51 |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 54 | 49 | 60 | 53 | 48 | 58 | 52 | 48 | 57 | 51 | 47 | 45 |
| 7 | 70 | 57 | 49 | 44 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 42 | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 52 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 36 |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 34 | 33 |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 41 | 35 | 31 | 30 |

Spacing Criteria (0-180): 1.48
Spacing Criteria (90-270): 1.49
Spacing Criteria (Diagonal): 1.51

# Curves of Luminaires vs Lighting Area



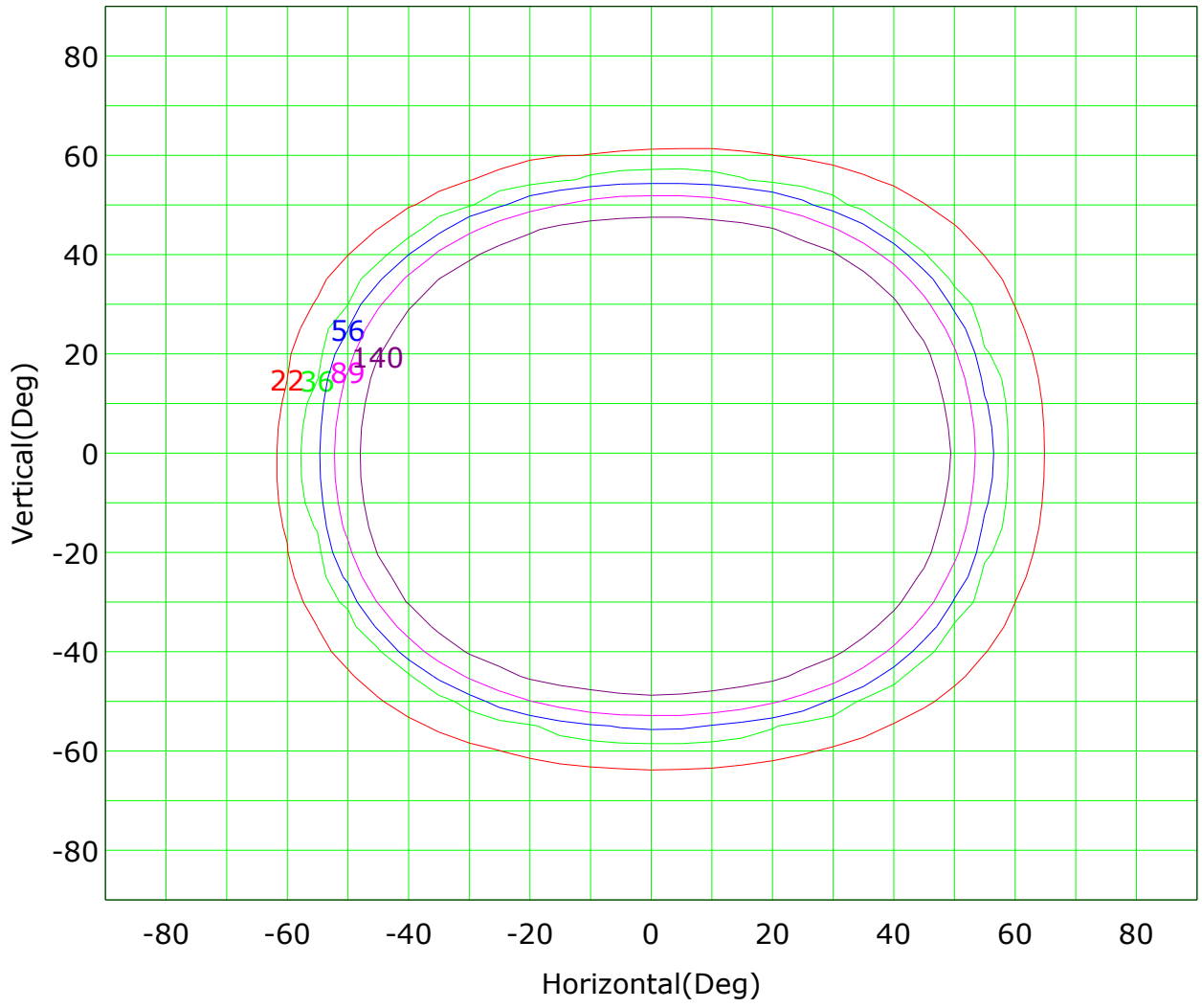

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

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# Isocandela (rectangle)




Imax (100%): 223 cd

| | | | |
|---|---|---|---|
| ( 10%): | 22 cd | ( 16%): | 36 cd |
| ( 25%): | 56 cd | ( 40%): | 89 cd |
| ( 63%): | 140 cd | (100%): | 223 cd |

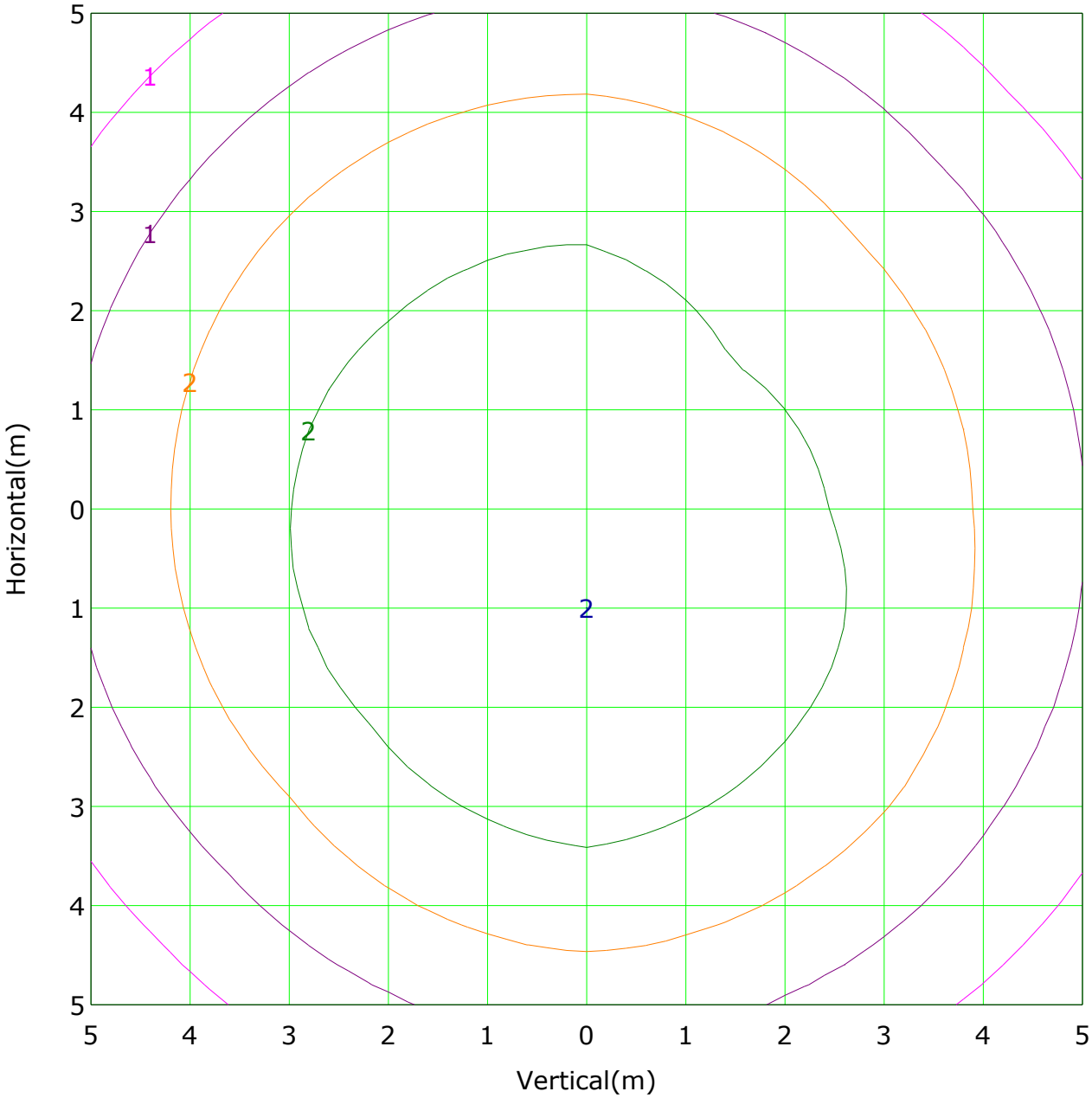
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

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Test Device: GPM-1800B
Distance: 8.030 m
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# IsoLux Plot




Mounting Height: 10.0m Max Lux(100%): 2.1 lx

| | |
|---|---|
| ( 30%): 0.6 lx | ( 40%): 0.8 lx |
| ( 50%): 1.0 lx | ( 60%): 1.2 lx |
| ( 70%): 1.5 lx | ( 80%): 1.7 lx |
| ( 90%): 1.9 lx | (100%): 2.1 lx |
| (120%): 2.5 lx | (150%): 3.1 lx |

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

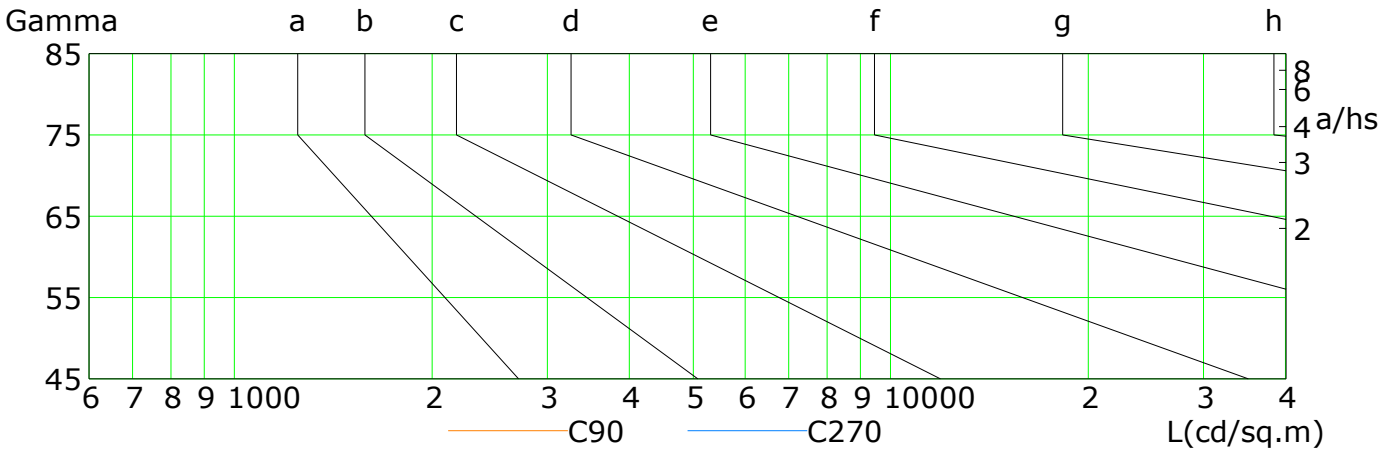
Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

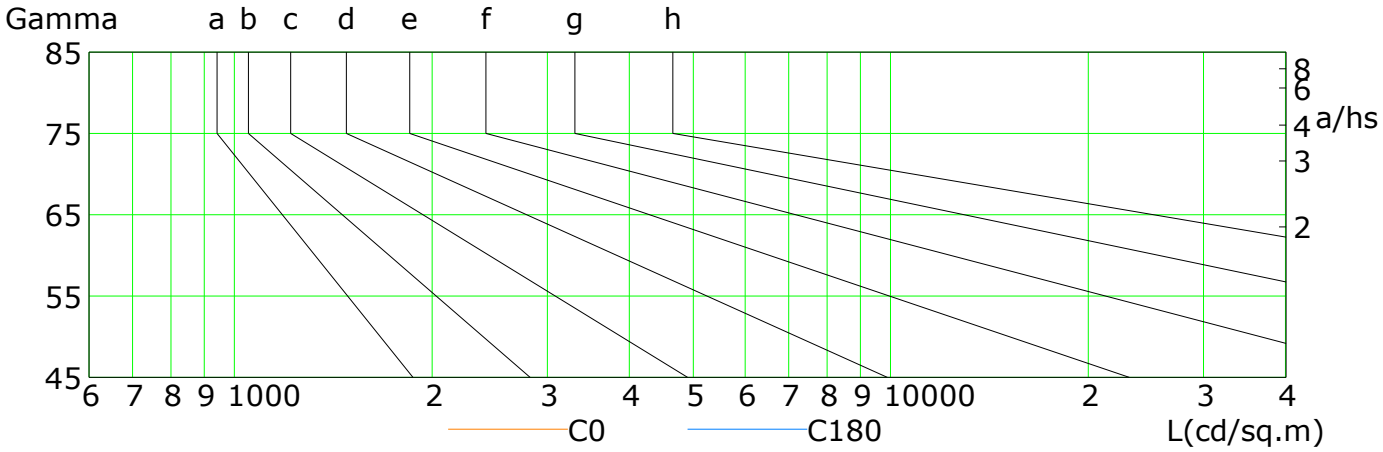
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# Lum Limit Curve

| Dazzle | Quality | 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 |




| L(cd/sq.m) | G45 | G50 | G55 | G60 | G65 | G70 | G75 | G80 | G85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 170 | 120 | 50 | 23 | 20 | 18 | 15 | 11 | 5 |
| C90 | 171 | 131 | 60 | 26 | 21 | 19 | 16 | 12 | 5 |
| C180 | 176 | 136 | 68 | 26 | 22 | 19 | 17 | 13 | 8 |
| C270 | 166 | 115 | 45 | 23 | 20 | 17 | 14 | 10 | 4 |

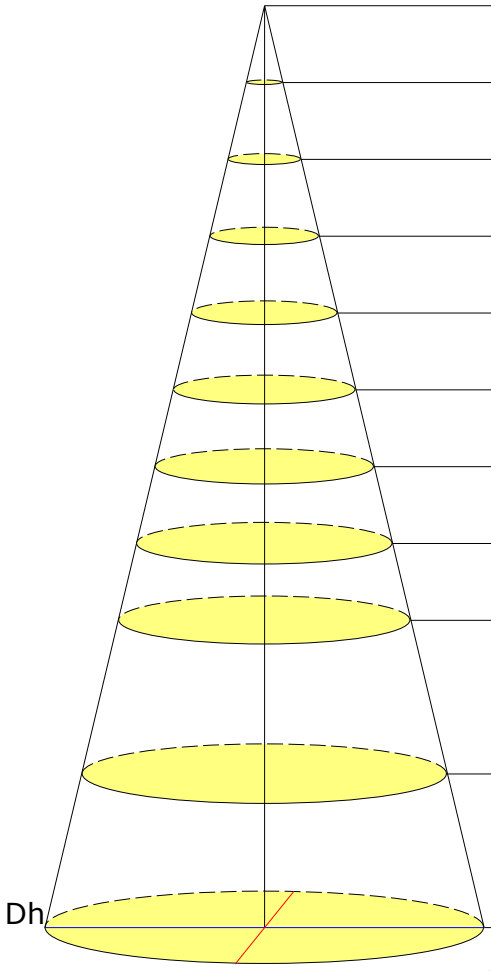
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

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# Illuminance at a Distance




| Dist(m) | Enadir(lx) | Dh/Dv_B(m) | S_B(sq.m) | Eav_B(lx) |
|---|---|---|---|---|
| 1.0 | 203.37 | 2.49/2.48 | 4.9 | 43.53 |
| 2.0 | 50.84 | 4.98/4.96 | 19.6 | 10.88 |
| 3.0 | 22.60 | 7.47/7.43 | 44.1 | 4.84 |
| 4.0 | 12.71 | 9.96/9.91 | 78.4 | 2.72 |
| 5.0 | 8.13 | 12.45/12.39 | 122.5 | 1.74 |
| 6.0 | 5.65 | 14.94/14.87 | 176.4 | 1.21 |
| 7.0 | 4.15 | 17.43/17.35 | 240.2 | 0.89 |
| 8.0 | 3.18 | 19.92/19.82 | 313.7 | 0.68 |
| 10.0 | 2.03 | 24.90/24.78 | 490.1 | 0.44 |
| 12.0 | 1.41 | 29.87/29.74 | 705.7 | 0.30 |

Beam Angle(B): H102.4 V102.2 Field Angle(F): H126.3 V126.9

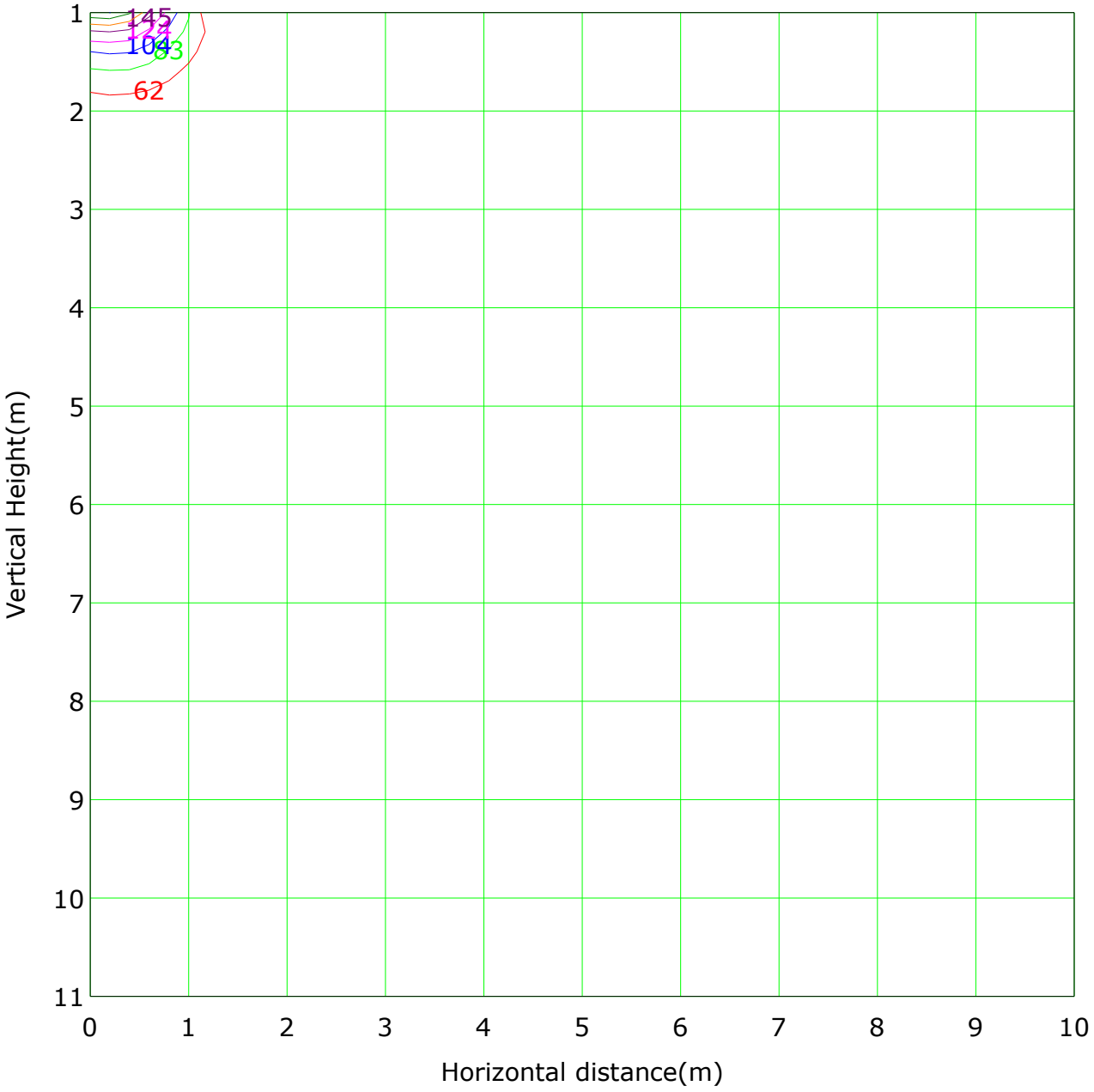
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

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# Vertical IsoLux Plot




Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 207.1 lx

| | |
|---|---|
| ( 30%): 62.1 lx | ( 40%): 82.8 lx |
| ( 50%): 103.5 lx | ( 60%): 124.2 lx |
| ( 70%): 144.9 lx | ( 80%): 165.6 lx |
| ( 90%): 186.3 lx | (100%): 207.1 lx |
| (120%): 248.5 lx | (150%): 310.6 lx |

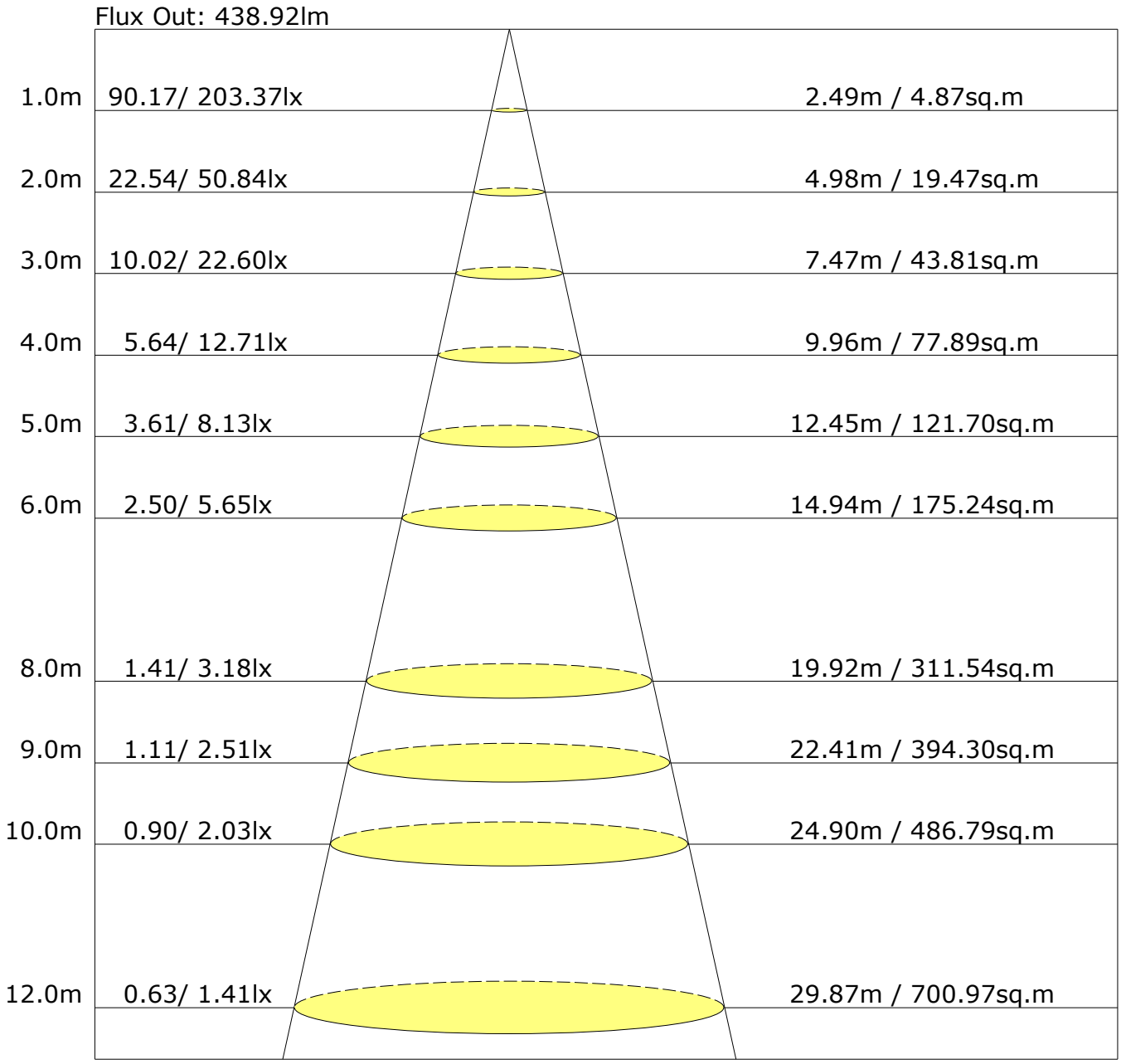
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

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# The Average Illuminance Effective Figure




C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

# UGR Table

| Reflectance: Ceiling (cavity) | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
|---|---|---|---|---|---|---|---|---|---|---|
| Wall | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference 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 | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 3H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 4H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 6H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 8H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 12H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| X=4H Y=2H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 3H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 4H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 6H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 8H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 12H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| X=8H Y=4H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 6H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 8H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 12H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| X=12H Y=4H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 6H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| 8H | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ | -1.$ |
| Variations with the observer position at spacings: | | | | | | | | | | |
| S=1.0H | -1.$/-1.$ | | | | | -1.$/-1.$ | | | | |
| S=1.5H | -1.$/-1.$ | | | | | -1.$/-1.$ | | | | |
| S=2.0H | -1.$/-1.$ | | | | | -1.$/-1.$ | | | | |

Calculate in accordance with CIE Pub.117. The table is revised with 528lm (8log(F/F0) = -2.2).

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

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# Candlepower Table

Unit: cd

| G\C | C0.0 | C45.0 | C90.0 | C135.0 | C180.0 | C225.0 | C270.0 | C315.0 | C360.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| G0.0 | 203.4 | 200.6 | 199.0 | 198.0 | 203.4 | 200.6 | 199.0 | 198.0 | 203.4 | |
| G1.0 | 204.3 | 201.5 | 199.5 | 197.7 | 202.8 | 200.1 | 198.9 | 198.6 | 204.3 | |
| G2.0 | 205.7 | 202.9 | 200.2 | 197.6 | 202.7 | 199.9 | 199.4 | 199.7 | 205.7 | |
| G3.0 | 207.3 | 204.4 | 201.1 | 197.6 | 204.0 | 200.5 | 200.4 | 201.2 | 207.3 | |
| G4.0 | 209.1 | 206.2 | 202.0 | 197.9 | 204.2 | 201.4 | 201.6 | 202.6 | 209.1 | |
| G5.0 | 210.6 | 207.7 | 203.1 | 198.4 | 204.1 | 202.4 | 202.9 | 203.9 | 210.6 | |
| G6.0 | 211.8 | 209.2 | 204.1 | 199.2 | 204.6 | 203.6 | 204.0 | 205.0 | 211.8 | |
| G7.0 | 212.6 | 210.4 | 205.0 | 199.7 | 205.1 | 204.3 | 205.0 | 205.8 | 212.6 | |
| G8.0 | 213.1 | 211.2 | 205.4 | 200.1 | 205.7 | 204.8 | 205.6 | 206.2 | 213.1 | |
| G9.0 | 213.5 | 211.8 | 205.4 | 200.2 | 206.2 | 205.1 | 206.3 | 206.2 | 213.5 | |
| G10.0 | 214.1 | 211.9 | 205.0 | 200.2 | 206.4 | 205.4 | 206.8 | 206.3 | 214.1 | |
| G11.0 | 215.0 | 212.2 | 204.8 | 200.0 | 206.6 | 205.8 | 206.9 | 206.8 | 215.0 | |
| G12.0 | 216.1 | 212.5 | 204.6 | 199.8 | 206.9 | 206.0 | 207.0 | 207.9 | 216.1 | |
| G13.0 | 217.9 | 213.3 | 204.6 | 199.8 | 207.1 | 206.6 | 207.5 | 209.2 | 217.9 | |
| G14.0 | 219.9 | 214.4 | 204.5 | 200.0 | 207.2 | 207.2 | 208.8 | 210.8 | 219.9 | |
| G15.0 | 221.8 | 215.3 | 204.9 | 200.6 | 207.7 | 208.6 | 210.7 | 212.9 | 221.8 | |
| G16.0 | 222.8 | 215.1 | 205.8 | 201.6 | 208.9 | 210.0 | 212.3 | 214.5 | 222.8 | |
| G17.0 | 222.6 | 214.1 | 206.3 | 202.8 | 210.5 | 211.6 | 213.5 | 215.1 | 222.6 | |
| G18.0 | 221.7 | 213.4 | 206.2 | 204.1 | 212.2 | 212.9 | 214.2 | 214.4 | 221.7 | |
| G19.0 | 221.2 | 213.0 | 206.0 | 205.0 | 213.3 | 214.3 | 214.3 | 213.4 | 221.2 | |
| G20.0 | 220.7 | 212.8 | 206.1 | 205.3 | 214.1 | 215.3 | 213.3 | 212.4 | 220.7 | |
| G21.0 | 219.8 | 212.5 | 206.1 | 205.0 | 214.0 | 214.8 | 212.5 | 211.6 | 219.8 | |
| G22.0 | 219.8 | 213.4 | 205.9 | 204.4 | 213.0 | 213.6 | 212.4 | 211.4 | 219.8 | |
| G23.0 | 220.4 | 214.8 | 206.6 | 203.9 | 211.8 | 212.8 | 212.5 | 212.4 | 220.4 | |
| G24.0 | 219.4 | 213.6 | 207.1 | 203.6 | 211.1 | 212.3 | 213.0 | 212.4 | 219.4 | |
| G25.0 | 217.1 | 211.2 | 205.8 | 203.7 | 211.3 | 212.1 | 212.2 | 210.4 | 217.1 | |
| G26.0 | 215.3 | 209.0 | 205.0 | 203.8 | 212.0 | 211.7 | 210.3 | 208.6 | 215.3 | |
| G27.0 | 214.3 | 208.8 | 204.2 | 202.3 | 211.2 | 209.5 | 209.2 | 207.7 | 214.3 | |
| G28.0 | 214.1 | 209.4 | 204.4 | 201.4 | 209.6 | 208.0 | 209.3 | 207.3 | 214.1 | |
| G29.0 | 211.6 | 208.2 | 203.9 | 200.2 | 208.0 | 207.4 | 209.7 | 204.7 | 211.6 | |
| G30.0 | 209.2 | 206.7 | 201.7 | 199.9 | 207.3 | 208.0 | 206.9 | 202.6 | 209.2 | |
| G31.0 | 208.1 | 205.5 | 200.6 | 197.4 | 206.0 | 205.7 | 203.4 | 202.1 | 208.1 | |
| G32.0 | 207.2 | 204.3 | 200.9 | 194.9 | 203.2 | 203.0 | 201.6 | 201.3 | 207.2 | |
| G33.0 | 204.3 | 200.9 | 199.8 | 194.0 | 201.9 | 201.8 | 199.6 | 197.6 | 204.3 | |
| G34.0 | 202.4 | 199.2 | 197.4 | 194.3 | 201.6 | 200.2 | 197.1 | 195.9 | 202.4 | |
| G35.0 | 201.5 | 199.5 | 196.4 | 192.5 | 199.0 | 197.2 | 196.4 | 194.9 | 201.5 | |
| G36.0 | 197.9 | 197.1 | 195.4 | 190.6 | 196.5 | 196.2 | 195.4 | 191.8 | 197.9 | |

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

# Candlepower Table (Continue 1)

Unit: cd

| G\C | C0.0 | C45.0 | C90.0 | C135.0 | C180.0 | C225.0 | C270.0 | C315.0 | C360.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| G37.0 | 196.2 | 194.6 | 192.6 | 189.7 | 195.6 | 194.9 | 191.5 | 190.1 | 196.2 | |
| G38.0 | 194.9 | 193.0 | 191.1 | 186.5 | 193.0 | 191.6 | 190.0 | 188.6 | 194.9 | |
| G39.0 | 191.5 | 189.6 | 189.3 | 185.2 | 191.2 | 190.3 | 188.1 | 185.3 | 191.5 | |
| G40.0 | 189.5 | 187.8 | 186.4 | 184.1 | 190.4 | 188.1 | 185.6 | 183.2 | 189.5 | |
| G41.0 | 186.6 | 185.7 | 185.2 | 181.0 | 187.0 | 185.9 | 183.3 | 179.1 | 186.6 | |
| G42.0 | 182.9 | 182.4 | 182.2 | 179.3 | 185.1 | 184.1 | 179.0 | 175.3 | 182.9 | |
| G43.0 | 178.9 | 179.2 | 179.0 | 176.7 | 182.7 | 180.0 | 175.2 | 171.6 | 178.9 | |
| G44.0 | 174.5 | 175.0 | 175.4 | 173.1 | 179.5 | 175.8 | 170.6 | 167.2 | 174.5 | |
| G45.0 | 170.3 | 170.4 | 171.0 | 169.5 | 176.1 | 171.3 | 166.0 | 162.6 | 170.3 | |
| G46.0 | 165.0 | 165.6 | 165.8 | 165.3 | 171.1 | 166.3 | 160.7 | 156.6 | 165.0 | |
| G47.0 | 157.8 | 159.5 | 160.3 | 160.7 | 165.8 | 160.2 | 153.5 | 148.7 | 157.8 | |
| G48.0 | 145.9 | 150.6 | 153.1 | 154.8 | 158.8 | 151.4 | 142.6 | 137.5 | 145.9 | |
| G49.0 | 133.1 | 138.4 | 142.5 | 146.5 | 148.3 | 139.3 | 129.1 | 124.2 | 133.1 | |
| G50.0 | 119.9 | 124.7 | 130.6 | 134.0 | 135.9 | 125.6 | 115.0 | 110.4 | 119.9 | |
| G51.0 | 105.0 | 110.4 | 117.6 | 121.5 | 123.8 | 112.2 | 98.6 | 96.3 | 105.0 | |
| G52.0 | 91.5 | 96.5 | 102.8 | 108.4 | 109.6 | 98.5 | 83.9 | 82.6 | 91.5 | |
| G53.0 | 75.7 | 82.8 | 89.2 | 95.1 | 96.4 | 85.2 | 69.4 | 69.3 | 75.7 | |
| G54.0 | 63.0 | 69.0 | 75.3 | 80.8 | 81.0 | 71.1 | 56.8 | 54.8 | 63.0 | |
| G55.0 | 49.9 | 55.5 | 60.5 | 67.9 | 68.2 | 58.9 | 45.1 | 43.5 | 49.9 | |
| G56.0 | 39.3 | 43.7 | 48.1 | 54.6 | 54.8 | 46.5 | 35.6 | 33.8 | 39.3 | |
| G57.0 | 30.1 | 33.9 | 38.1 | 42.9 | 43.8 | 35.9 | 28.1 | 27.0 | 30.1 | |
| G58.0 | 25.9 | 27.9 | 30.4 | 33.2 | 34.2 | 28.8 | 25.3 | 24.2 | 25.9 | |
| G59.0 | 24.3 | 25.7 | 27.3 | 27.8 | 28.6 | 26.2 | 24.0 | 23.0 | 24.3 | |
| G60.0 | 23.4 | 24.6 | 25.8 | 25.7 | 26.5 | 24.9 | 23.1 | 22.0 | 23.4 | |
| G61.0 | 22.6 | 23.7 | 24.7 | 24.6 | 25.5 | 23.9 | 22.3 | 21.3 | 22.6 | |
| G62.0 | 21.8 | 22.8 | 23.7 | 23.7 | 24.5 | 23.0 | 21.5 | 20.6 | 21.8 | |
| G63.0 | 21.1 | 22.0 | 22.8 | 22.8 | 23.6 | 22.1 | 20.8 | 20.1 | 21.1 | |
| G64.0 | 20.5 | 21.3 | 22.0 | 21.9 | 22.9 | 21.4 | 20.1 | 19.6 | 20.5 | |
| G65.0 | 20.0 | 20.6 | 21.3 | 21.2 | 22.2 | 20.8 | 19.6 | 19.1 | 20.0 | |
| G66.0 | 19.5 | 20.1 | 20.6 | 20.5 | 21.6 | 20.3 | 19.1 | 18.6 | 19.5 | |
| G67.0 | 19.0 | 19.6 | 20.0 | 19.9 | 21.0 | 19.9 | 18.7 | 18.1 | 19.0 | |
| G68.0 | 18.5 | 19.1 | 19.5 | 19.4 | 20.5 | 19.5 | 18.3 | 17.8 | 18.5 | |
| G69.0 | 18.1 | 18.7 | 19.1 | 19.0 | 20.0 | 19.0 | 17.8 | 17.4 | 18.1 | |
| G70.0 | 17.7 | 18.3 | 18.7 | 18.5 | 19.5 | 18.6 | 17.5 | 17.1 | 17.7 | |
| G71.0 | 17.4 | 17.9 | 18.3 | 18.1 | 19.0 | 18.2 | 16.9 | 16.6 | 17.4 | |
| G72.0 | 17.0 | 17.3 | 17.8 | 17.6 | 18.5 | 17.6 | 16.3 | 16.0 | 17.0 | |
| G73.0 | 16.5 | 16.7 | 17.0 | 17.0 | 18.1 | 16.9 | 15.7 | 15.4 | 16.5 | |

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

# Candlepower Table (Continue 2)

Unit: cd

| G\C | C0.0 | C45.0 | C90.0 | C135.0 | C180.0 | C225.0 | C270.0 | C315.0 | C360.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| G74.0 | 15.9 | 16.0 | 16.4 | 16.4 | 17.6 | 16.2 | 15.0 | 14.8 | 15.9 | |
| G75.0 | 15.2 | 15.3 | 15.7 | 15.7 | 17.0 | 15.5 | 14.4 | 14.2 | 15.2 | |
| G76.0 | 14.5 | 14.6 | 15.0 | 15.1 | 16.4 | 14.8 | 13.6 | 13.5 | 14.5 | |
| G77.0 | 13.8 | 13.9 | 14.2 | 14.4 | 15.7 | 14.1 | 12.9 | 12.8 | 13.8 | |
| G78.0 | 13.0 | 13.1 | 13.4 | 13.7 | 15.0 | 13.3 | 12.2 | 12.0 | 13.0 | |
| G79.0 | 12.0 | 12.3 | 12.5 | 12.9 | 14.2 | 12.5 | 11.3 | 11.3 | 12.0 | |
| G80.0 | 11.1 | 11.4 | 11.5 | 12.1 | 13.3 | 11.7 | 10.4 | 10.4 | 11.1 | |
| G81.0 | 10.3 | 10.3 | 10.4 | 11.2 | 12.4 | 10.9 | 9.4 | 9.3 | 10.3 | |
| G82.0 | 9.1 | 8.8 | 9.1 | 10.2 | 11.5 | 9.7 | 7.9 | 7.8 | 9.1 | |
| G83.0 | 7.6 | 7.1 | 7.6 | 8.8 | 10.6 | 8.2 | 6.5 | 6.2 | 7.6 | |
| G84.0 | 5.9 | 5.7 | 5.9 | 7.1 | 9.3 | 6.7 | 5.3 | 5.1 | 5.9 | |
| G85.0 | 4.5 | 4.8 | 4.7 | 5.8 | 7.7 | 5.4 | 4.3 | 4.4 | 4.5 | |
| G86.0 | 3.9 | 3.5 | 3.6 | 4.8 | 5.9 | 4.6 | 3.0 | 3.0 | 3.9 | |
| G87.0 | 2.6 | 1.8 | 2.1 | 3.6 | 4.6 | 3.4 | 1.6 | 1.4 | 2.6 | |
| G88.0 | 1.5 | 0.4 | 0.9 | 2.1 | 3.9 | 1.9 | 0.6 | 0.3 | 1.5 | |
| G89.0 | 0.4 | 0.2 | 0.4 | 0.6 | 2.8 | 0.6 | 0.2 | 0.1 | 0.4 | |
| G90.0 | 0.1 | 0.1 | 0.1 | 0.2 | 1.5 | 0.2 | 0.1 | 0.0 | 0.1 | |
| G91.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0.0 | 0.0 | 0.1 | |
| G92.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| G93.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| G94.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| G95.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| G96.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | |
| G97.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | |
| G98.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | |
| G99.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | |
| G100.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | |
| G101.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | |
| G102.0 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | |
| G103.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | |
| G104.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | |
| G105.0 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | |
| G106.0 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | |
| G107.0 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | |
| G108.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | |
| G109.0 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | |
| G110.0 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | |

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

# Candlepower Table (Continue 3)

Unit: cd

| G\C | C0.0 | C45.0 | C90.0 | C135.0 | C180.0 | C225.0 | C270.0 | C315.0 | C360.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| G111.0 | 0.5 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | |
| G112.0 | 0.5 | 0.5 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | |
| G113.0 | 0.6 | 0.5 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.3 | 0.6 | |
| G114.0 | 0.6 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.6 | |
| G115.0 | 0.6 | 0.6 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.6 | |
| G116.0 | 0.7 | 0.6 | 0.6 | 0.6 | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | |
| G117.0 | 0.7 | 0.7 | 0.6 | 0.6 | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | |
| G118.0 | 0.8 | 0.7 | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 0.3 | 0.8 | |
| G119.0 | 0.8 | 0.8 | 0.7 | 0.7 | 0.3 | 0.4 | 0.4 | 0.4 | 0.8 | |
| G120.0 | 0.8 | 0.8 | 0.8 | 0.7 | 0.4 | 0.4 | 0.4 | 0.4 | 0.8 | |
| G121.0 | 0.9 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.9 | |
| G122.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.9 | |
| G123.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.4 | 0.5 | 0.4 | 0.5 | 0.9 | |
| G124.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.5 | 0.5 | 0.5 | 0.5 | 0.9 | |
| G125.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | |
| G126.0 | 1.0 | 1.0 | 0.9 | 0.9 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | |
| G127.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | |
| G128.0 | 1.1 | 1.0 | 1.0 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 | 1.1 | |
| G129.0 | 1.1 | 1.0 | 1.0 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 | 1.1 | |
| G130.0 | 1.1 | 1.1 | 1.1 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 | 1.1 | |
| G131.0 | 1.1 | 1.1 | 1.1 | 1.1 | 0.6 | 0.6 | 0.6 | 0.6 | 1.1 | |
| G132.0 | 1.1 | 1.1 | 1.1 | 1.1 | 0.6 | 0.6 | 0.6 | 0.6 | 1.1 | |
| G133.0 | 1.2 | 1.1 | 1.1 | 1.1 | 0.7 | 0.7 | 0.7 | 0.7 | 1.2 | |
| G134.0 | 1.2 | 1.2 | 1.1 | 1.1 | 0.7 | 0.7 | 0.7 | 0.7 | 1.2 | |
| G135.0 | 1.2 | 1.2 | 1.2 | 1.2 | 0.7 | 0.7 | 0.7 | 0.7 | 1.2 | |
| G136.0 | 1.2 | 1.2 | 1.2 | 1.2 | 0.7 | 0.7 | 0.7 | 0.7 | 1.2 | |
| G137.0 | 1.3 | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 0.7 | 0.7 | 1.3 | |
| G138.0 | 1.3 | 1.3 | 1.2 | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 | 1.3 | |
| G139.0 | 1.3 | 1.3 | 1.3 | 1.3 | 0.8 | 0.8 | 0.8 | 0.8 | 1.3 | |
| G140.0 | 1.3 | 1.3 | 1.3 | 1.3 | 0.8 | 0.8 | 0.8 | 0.8 | 1.3 | |
| G141.0 | 1.3 | 1.3 | 1.3 | 1.3 | 0.9 | 0.9 | 0.9 | 0.9 | 1.3 | |
| G142.0 | 1.4 | 1.3 | 1.3 | 1.3 | 0.9 | 0.9 | 0.9 | 0.9 | 1.4 | |
| G143.0 | 1.4 | 1.3 | 1.3 | 1.3 | 0.9 | 0.9 | 0.9 | 0.9 | 1.4 | |
| G144.0 | 1.4 | 1.4 | 1.4 | 1.3 | 0.9 | 0.9 | 0.9 | 0.9 | 1.4 | |
| G145.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.0 | 1.0 | 1.0 | 1.0 | 1.4 | |
| G146.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.0 | 1.0 | 1.0 | 1.0 | 1.4 | |
| G147.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.0 | 1.0 | 1.0 | 1.0 | 1.4 | |

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

**HAVIT COMMERCIAL**
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au



# Candlepower Table (Continue 4)

Unit: cd

| G\C | C0.0 | C45.0 | C90.0 | C135.0 | C180.0 | C225.0 | C270.0 | C315.0 | C360.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| G148.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.1 | 1.1 | 1.0 | 1.0 | 1.4 | |
| G149.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.1 | 1.1 | 1.1 | 1.1 | 1.4 | |
| G150.0 | 1.5 | 1.4 | 1.4 | 1.4 | 1.1 | 1.1 | 1.1 | 1.1 | 1.5 | |
| G151.0 | 1.5 | 1.4 | 1.4 | 1.4 | 1.1 | 1.1 | 1.1 | 1.1 | 1.5 | |
| G152.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.2 | 1.2 | 1.1 | 1.1 | 1.5 | |
| G153.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.2 | 1.2 | 1.2 | 1.2 | 1.5 | |
| G154.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.2 | 1.2 | 1.2 | 1.2 | 1.5 | |
| G155.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.3 | 1.2 | 1.2 | 1.2 | 1.5 | |
| G156.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 | 1.2 | 1.5 | |
| G157.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.5 | |
| G158.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.5 | |
| G159.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.4 | 1.3 | 1.3 | 1.3 | 1.5 | |
| G160.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 | 1.3 | 1.5 | |
| G161.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 | 1.5 | |
| G162.0 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 | 1.6 | |
| G163.0 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.6 | |
| G164.0 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.6 | |
| G165.0 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.6 | |
| G166.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.5 | 1.6 | |
| G167.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.6 | |
| G168.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.6 | |
| G169.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.6 | |
| G170.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | |
| G171.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | |
| G172.0 | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 | |
| G173.0 | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 | |
| G174.0 | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | |
| G175.0 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | |
| G176.0 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | |
| G177.0 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | |
| G178.0 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | |
| G179.0 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.6 | 1.7 | |
| G180.0 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.6 | 1.7 | |
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C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 25
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector: