# Photometic Test Report

ATC MIDDLE EAST FZCO

rafeed® LED Eseries

2022

OUR BEAUTIFUL WORLD WITH
**LIGHTS.**

## Luminaire Property

Luminaire Manufacturer: ATC

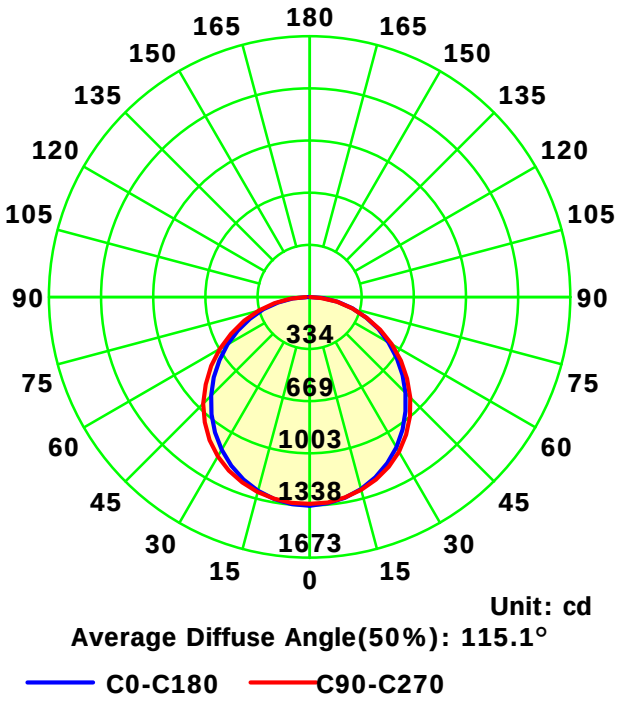
**Luminaire Description: 595-595-40W-6000k** **Luminous Length (mm): 545**
**Luminous Width (mm): 545** **Voltage: 231.1 V**
**Current: 0.183 A** **Power: 40.99 W**
**Power Factor: 0.971**

## Photometric Results

**CIE Class: Direct** **Total Rated Lamp Lumens: 4001.1 lm**
**Measurement Flux: 4001.1 lm** **Efficiency: 100%**
**Downward Ratio: 100%** **Upward Ratio: 0%**
**Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 166.3, 166.8, 166.5, 166.6**
**Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 112.7, 117.6, 115.2, 115.2**
**Luminaire Efficacy Rating (LER): 97.66** **Central Intensity: 1338.41 cd**
**Max. Intensity: 1338.42 cd** **Pos of Max. Intensity: H0 V0**
**S/MH(C0/C180): 1.25** **S/MH(C90/C270): 1.30**

**Picture Of Luminaire**

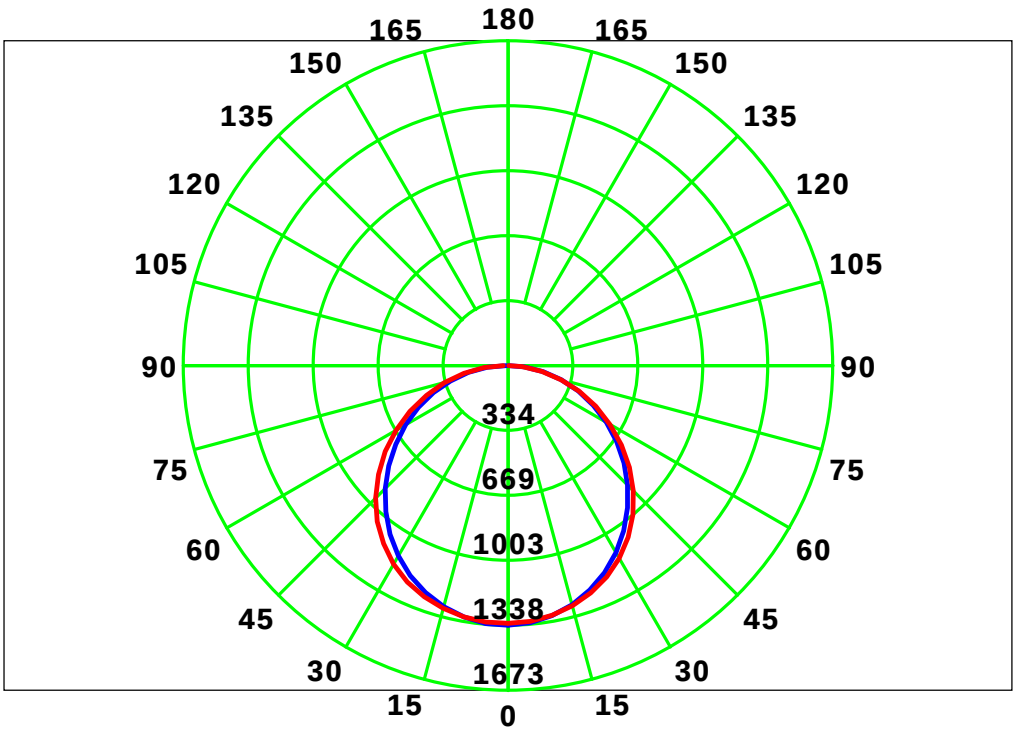
**Luminous Intensity Distribution Curve**

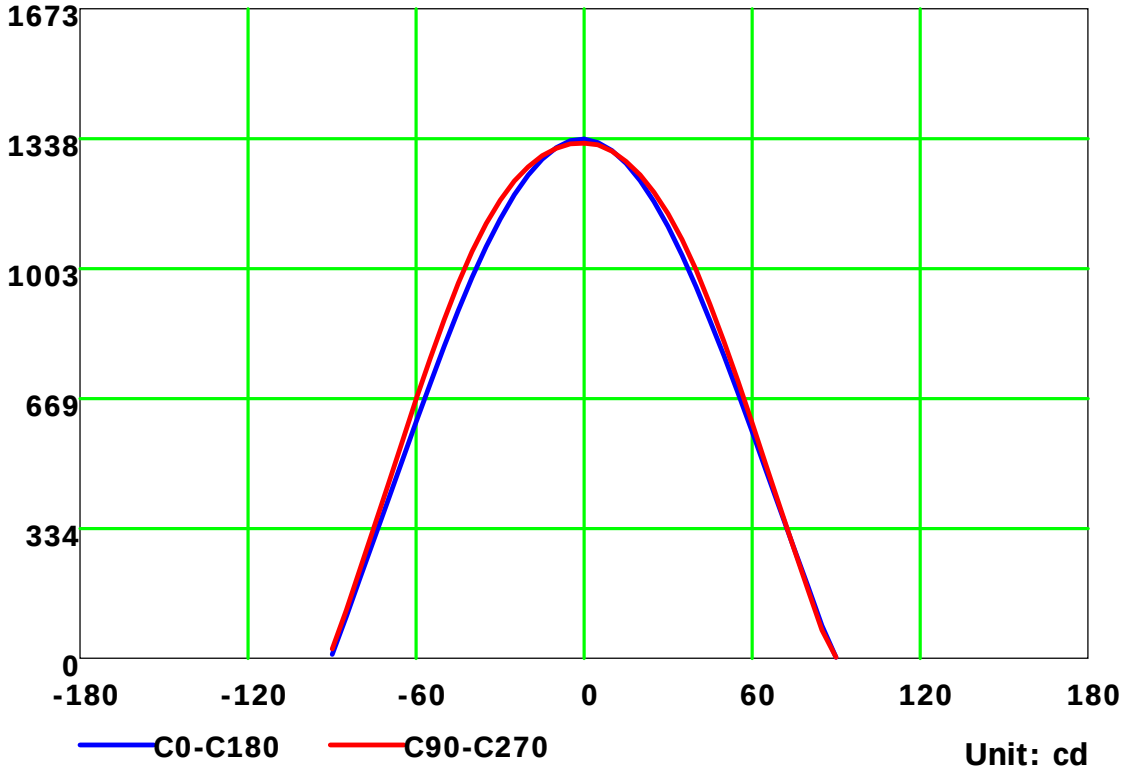



**Unit: cd**
**Average Diffuse Angle(50%): 115.1°**
**C0-C180** **C90-C270**

**C Plane (°):0.0-360.0: 90.0** **Gamma Plane (°):0.0-90.0:5.0**
**Test Lab:** **Test Device: GPM-1600L**
**Test Type: TYPE C** **Distance: 7.884 m**
**Temperature:** **Humidity:**
**Operator:**ATC **Inspector:**

# Luminous Intensity Distribution Curve




C Plane (°):0.0-360.0: 90.0
Test Lab:
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Temperature:
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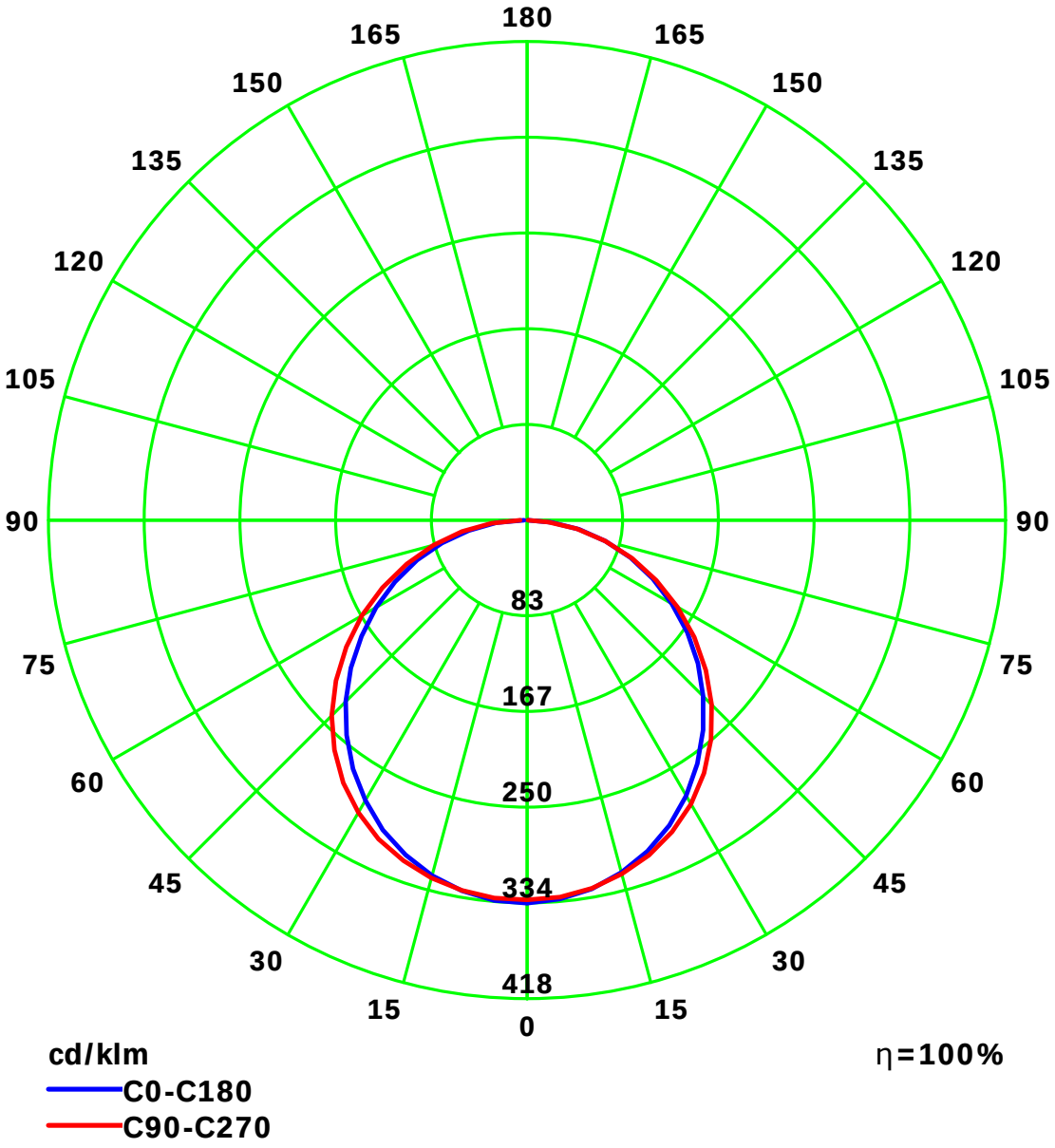
Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# Luminous Intensity Distribution Curve(cd/klm)




C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
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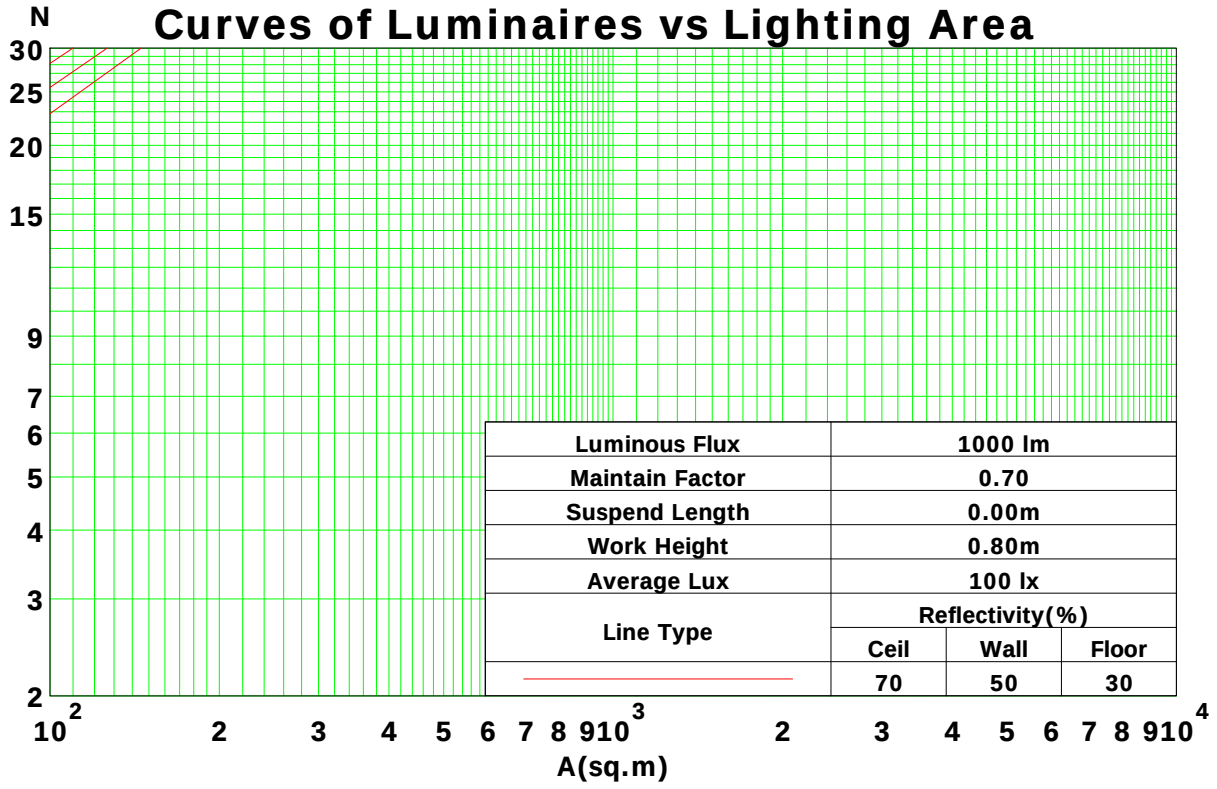
Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# 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 | 102 | 102 | 102 | 100 |
| 1 | 108 | 103 | 99 | 94 | 105 | 101 | 97 | 93 | 96 | 93 | 90 | 93 | 90 | 87 | 89 | 87 | 85 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 81 | 75 | 84 | 78 | 74 | 81 | 76 | 72 | 77 | 74 | 70 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 62 | 74 | 67 | 61 | 71 | 65 | 60 | 68 | 63 | 59 | 57 |
| 4 | 81 | 69 | 60 | 53 | 79 | 68 | 59 | 53 | 65 | 58 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 48 |
| 5 | 75 | 62 | 52 | 46 | 73 | 61 | 52 | 45 | 58 | 51 | 45 | 56 | 50 | 44 | 54 | 49 | 44 | 42 |
| 6 | 69 | 55 | 46 | 40 | 67 | 54 | 46 | 40 | 53 | 45 | 39 | 51 | 44 | 39 | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 41 | 35 | 48 | 40 | 35 | 46 | 39 | 34 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 30 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 27 | 26 |
| 10 | 52 | 39 | 31 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 30 | 25 | 35 | 29 | 25 | 23 |

**Spacing Criteria (0-180): 1.25**
**Spacing Criteria (90-270): 1.30**
**Spacing Criteria (Diagonal): 1.39**

## Curves of Luminaires vs Lighting Area




C Plane (°):0.0-360.0: 90.0
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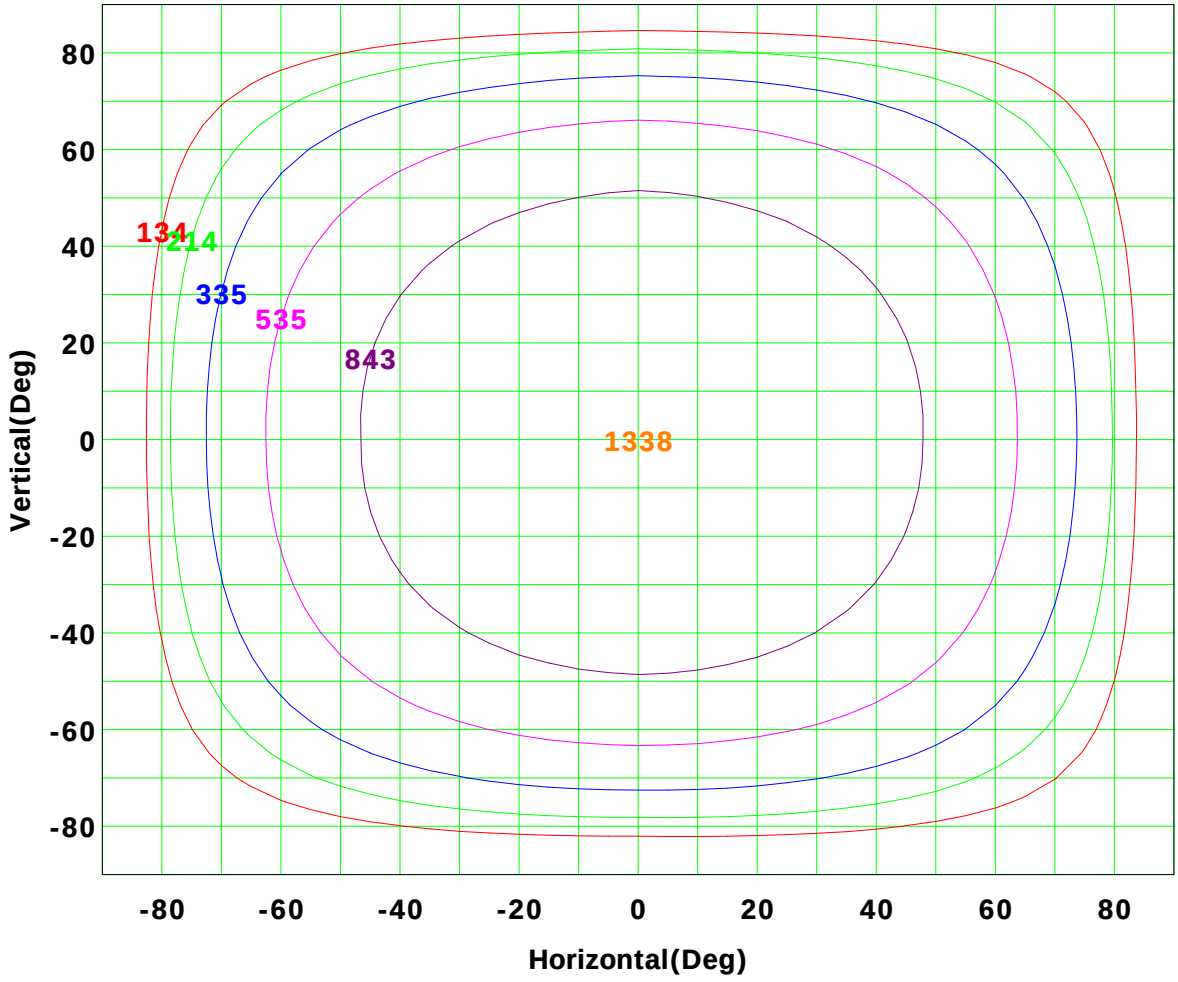
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# Isocandela (rectangle)




**Imax (100%): 1338 cd**

| | |
|---|---|
| ( 10%): 134 cd | ( 16%): 214 cd |
| ( 25%): 335 cd | ( 40%): 535 cd |
| ( 63%): 843 cd | (100%): 1338 cd |

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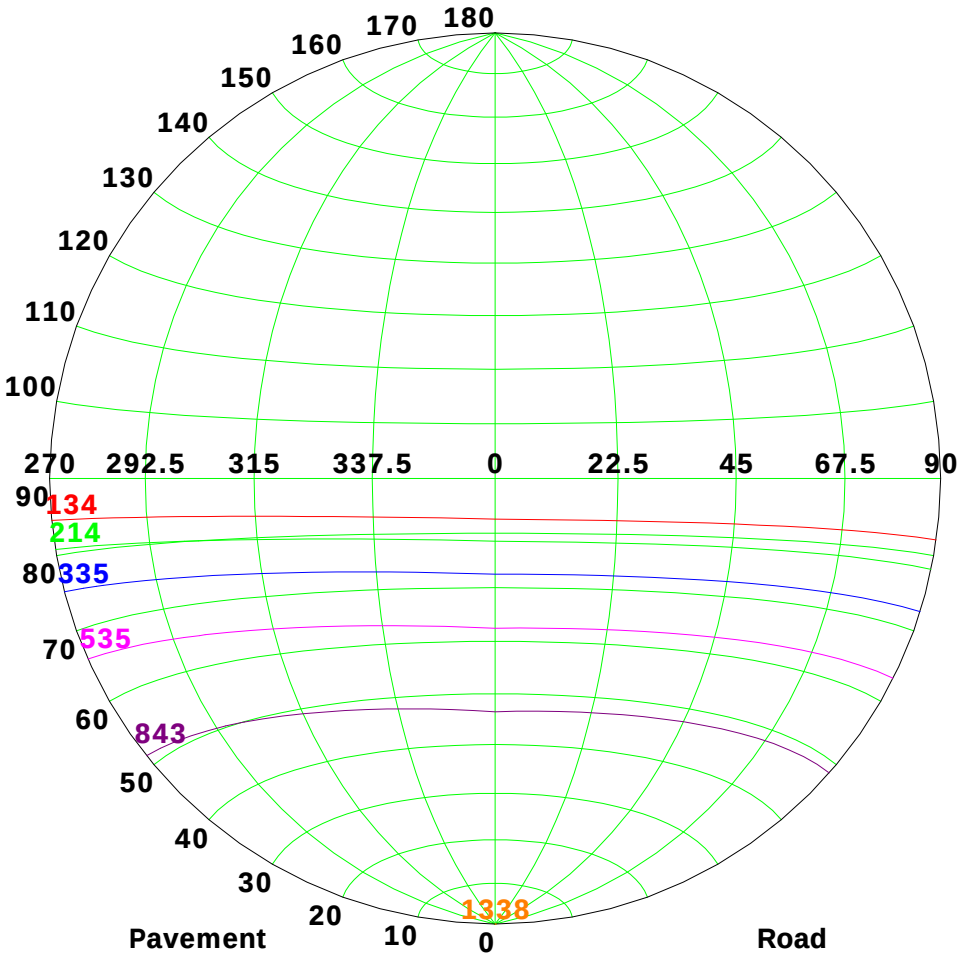
**Test Lab:**
**Test Type: TYPE C**
**Temperature:**
**Operator:**ATC

**Gamma Plane (°):0.0-90.0:5.0**
**Test Device: GPM-1600L**
**Distance: 7.884 m**
**Humidity:**
**Inspector:**

# Isocandela (sphere)

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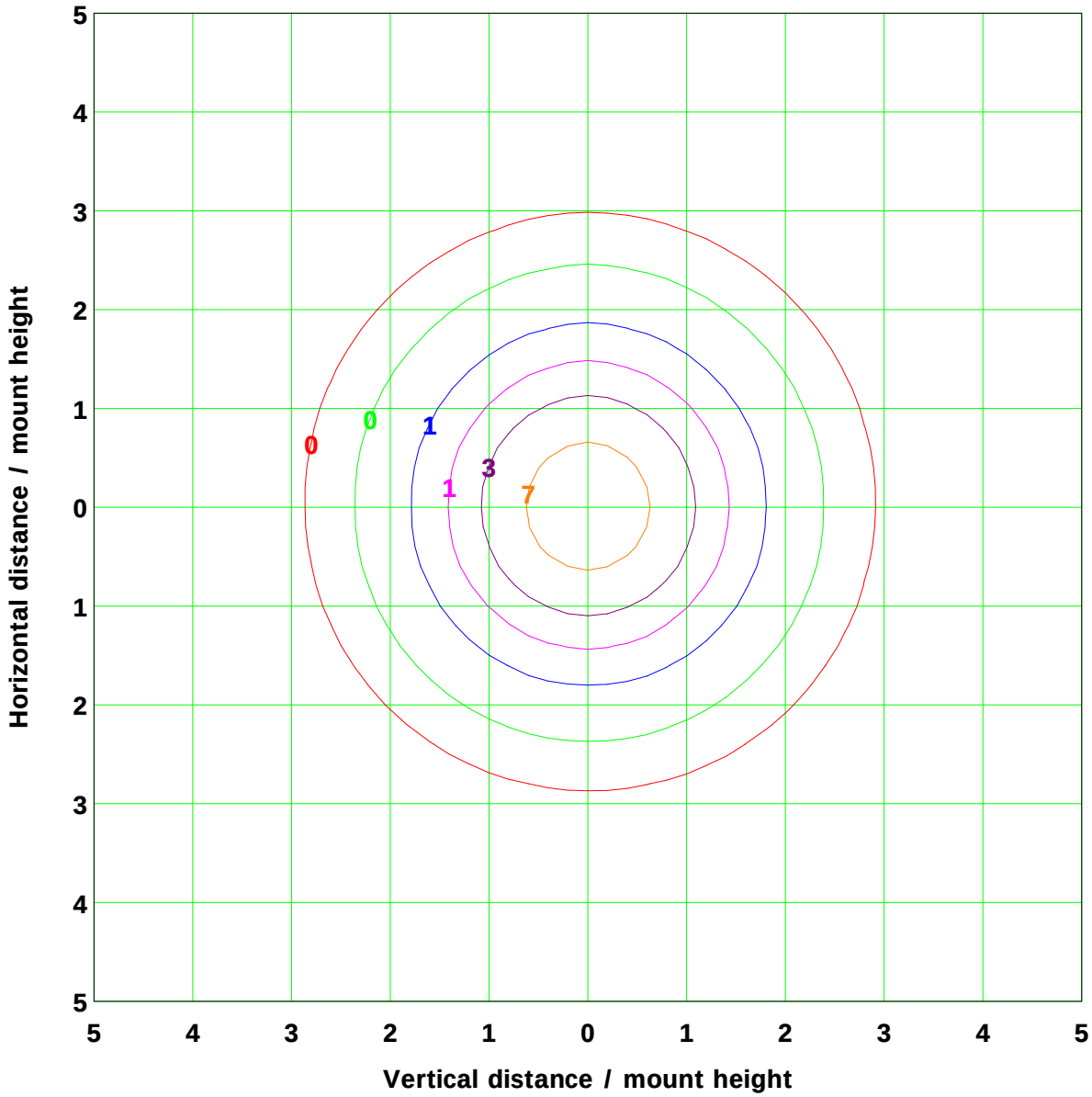
**Test Lab:**
**Test Type: TYPE C**
**Temperature:**
**Operator:**ATC

**Gamma Plane (°):0.0-90.0:5.0**
**Test Device: GPM-1600L**
**Distance: 7.884 m**
**Humidity:**
**Inspector:**

# IsoLux Plot




Mounting Height: 10.0m  Max Lux(100%): 13.4 lx

( 1%): 0.1 lx
( 2%): 0.3 lx
( 5%): 0.7 lx
( 10%): 1.3 lx
( 20%): 2.7 lx
( 50%): 6.7 lx
(100%): 13.4 lx

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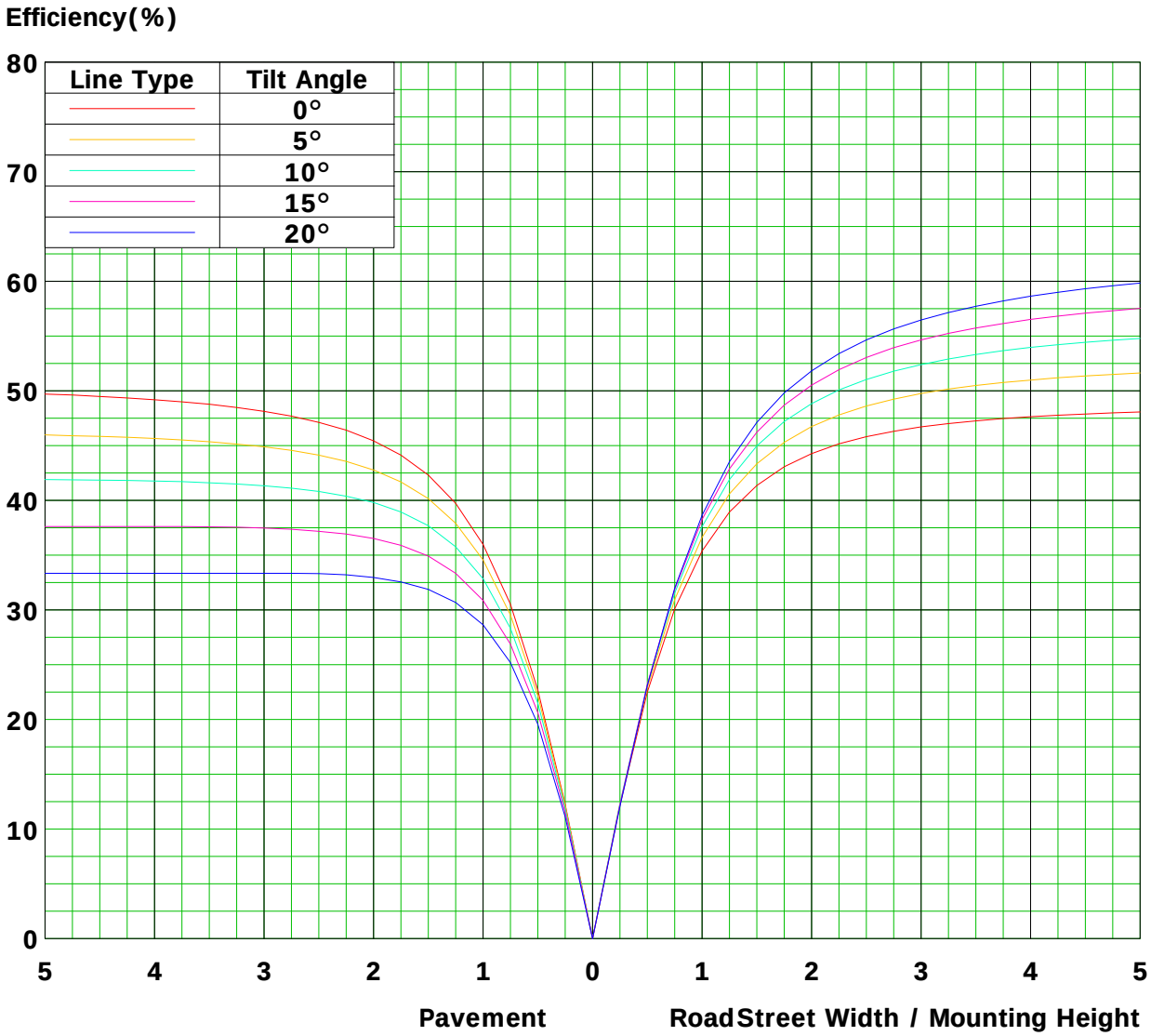
C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

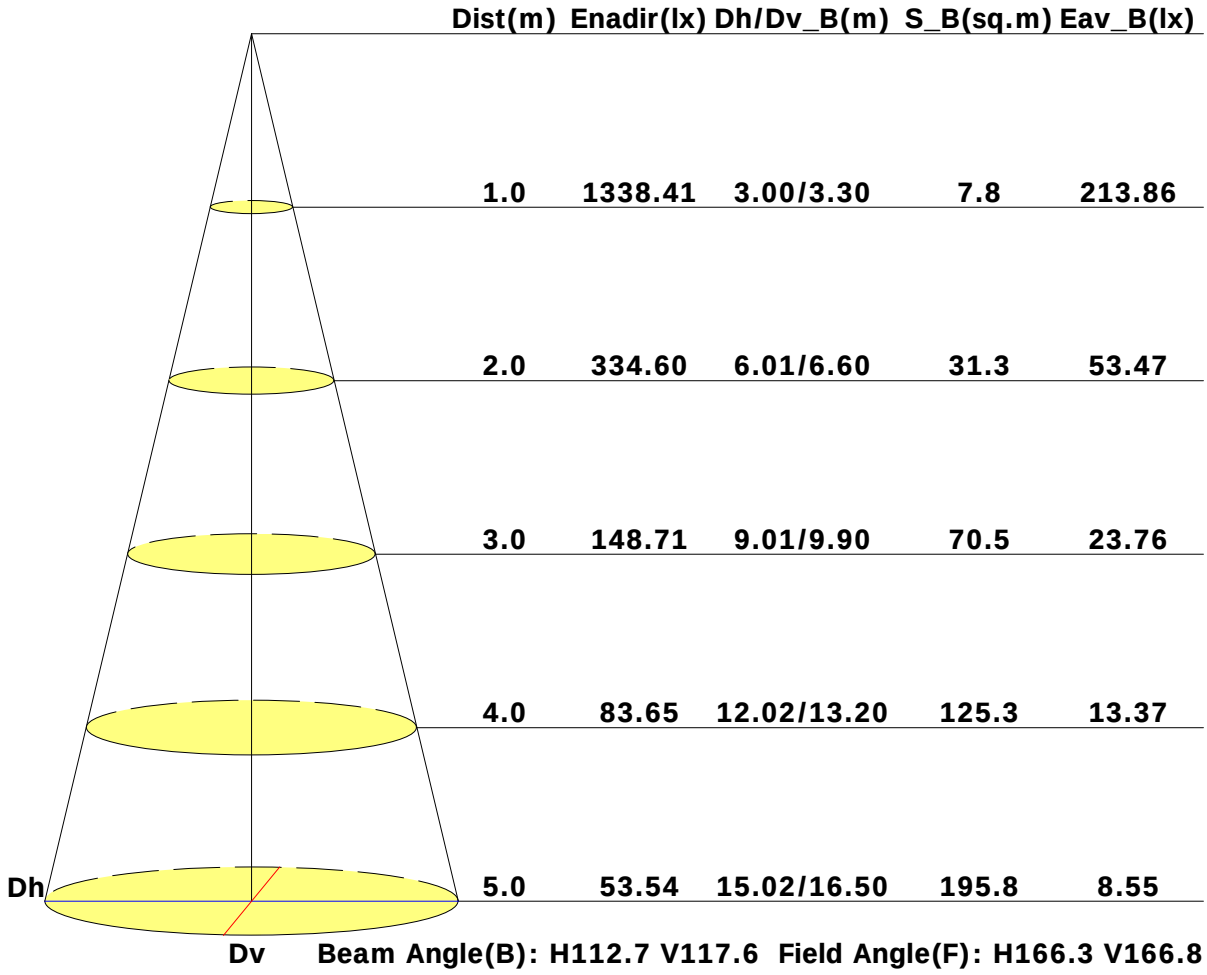
# Roadway CU Curve




C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

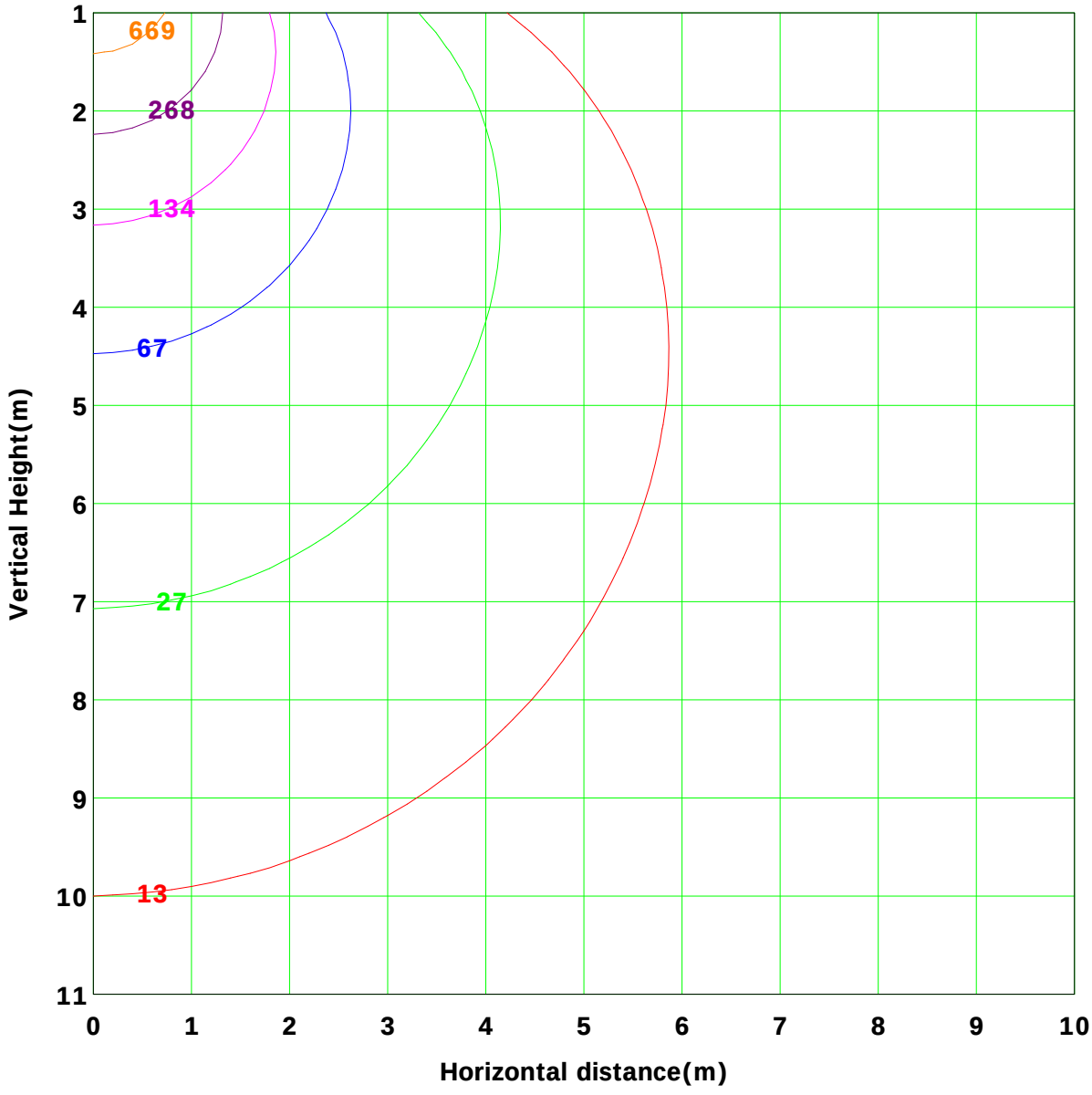
# Illuminance at a Distance




C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# Vertical IsoLux Plot




Lowest(m): 1.0m  Highest(m): 11.0m  Max Lux: 1338.4 lx

( 1%): 13.4 lx
( 2%): 26.8 lx
( 5%): 66.9 lx
( 10%): 133.8 lx
( 20%): 267.7 lx
( 50%): 669.2 lx
(100%):1338.4 lx

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C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

rafeed LED E series

# Area Flux Table

Unit: lm

| Vertical plane | -90 | -80 | -70 | -60 | -50 | -40 | -30 | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | Flux(T) | Flux(E) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -90 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 4.5 | 2.0 |
| -80 | 0.3 | 0.7 | 1.1 | 1.5 | 1.8 | 2.1 | 2.4 | 2.3 | 2.5 | 2.5 | 2.4 | 2.3 | 2.0 | 1.8 | 1.4 | 1.0 | 0.7 | 0.3 | 0.1 | 29.1 | 26.2 |
| -70 | 0.7 | 1.8 | 2.9 | 3.8 | 4.7 | 5.5 | 6.4 | 6.1 | 6.6 | 6.6 | 6.4 | 6.0 | 5.3 | 4.6 | 3.7 | 2.7 | 1.6 | 0.6 | 0.3 | 76.0 | 73.1 |
| -60 | 1.3 | 3.3 | 5.2 | 7.1 | 8.8 | 10.2 | 11.3 | 11.3 | 12.4 | 12.4 | 12.1 | 11.1 | 10.0 | 8.5 | 6.8 | 4.9 | 2.9 | 1.0 | 0.6 | 141.2 | 138.3 |
| -50 | 1.9 | 5.0 | 8.0 | 11.0 | 13.6 | 15.9 | 17.6 | 17.3 | 19.3 | 19.2 | 18.8 | 17.3 | 15.4 | 13.1 | 10.4 | 7.4 | 4.4 | 1.5 | 0.7 | 218.4 | 215.5 |
| -40 | 2.5 | 6.7 | 10.9 | 15.0 | 18.6 | 21.8 | 24.2 | 23.7 | 26.4 | 26.3 | 25.7 | 23.7 | 21.2 | 17.9 | 14.1 | 10.1 | 5.9 | 1.9 | 0.7 | 298.2 | 295.3 |
| -30 | 3.1 | 8.3 | 13.5 | 18.6 | 23.2 | 27.1 | 30.0 | 29.5 | 32.8 | 32.7 | 31.9 | 29.5 | 26.3 | 22.3 | 17.5 | 12.4 | 7.2 | 2.2 | 1.0 | 370.3 | 367.5 |
| -20 | 3.5 | 9.5 | 15.6 | 21.5 | 26.8 | 31.2 | 34.4 | 33.8 | 37.6 | 37.5 | 36.5 | 33.8 | 30.2 | 25.6 | 20.1 | 14.1 | 8.1 | 2.4 | 1.4 | 424.6 | 421.7 |
| -10 | 3.8 | 10.2 | 16.7 | 23.1 | 28.9 | 33.5 | 36.9 | 36.1 | 40.0 | 39.9 | 38.9 | 36.1 | 32.4 | 27.4 | 21.5 | 15.1 | 8.6 | 2.5 | 1.5 | 454.1 | 451.3 |
| 0 | 3.8 | 10.1 | 16.7 | 23.1 | 28.8 | 33.5 | 36.8 | 36.0 | 39.9 | 39.9 | 38.9 | 36.0 | 32.3 | 27.3 | 21.4 | 15.0 | 8.5 | 2.5 | 1.5 | 453.1 | 450.2 |
| 10 | 3.4 | 9.4 | 15.4 | 21.3 | 26.6 | 31.0 | 34.2 | 33.6 | 37.3 | 37.2 | 36.3 | 33.6 | 30.1 | 25.4 | 19.9 | 14.0 | 8.0 | 2.3 | 1.5 | 421.6 | 418.7 |
| 20 | 2.9 | 8.1 | 13.3 | 18.4 | 23.0 | 26.8 | 29.7 | 29.2 | 32.4 | 32.3 | 31.6 | 29.2 | 26.0 | 22.0 | 17.3 | 12.2 | 7.0 | 2.1 | 1.3 | 365.5 | 362.5 |
| 30 | 2.3 | 6.5 | 10.6 | 14.7 | 18.3 | 21.4 | 23.7 | 23.3 | 25.9 | 25.8 | 25.3 | 23.3 | 20.8 | 17.6 | 13.8 | 9.8 | 5.6 | 1.7 | 1.2 | 292.3 | 289.4 |
| 40 | 1.7 | 4.7 | 7.8 | 10.7 | 13.3 | 15.5 | 17.2 | 16.9 | 18.8 | 18.7 | 18.3 | 16.9 | 15.1 | 12.8 | 10.1 | 7.2 | 4.1 | 1.3 | 0.9 | 212.2 | 209.3 |
| 50 | 1.1 | 3.0 | 5.0 | 6.8 | 8.5 | 9.9 | 11.0 | 10.8 | 12.0 | 11.9 | 11.7 | 10.8 | 9.6 | 8.2 | 6.5 | 4.6 | 2.7 | 0.8 | 0.5 | 135.7 | 132.7 |
| 60 | 0.6 | 1.6 | 2.6 | 3.6 | 4.5 | 5.2 | 5.8 | 5.7 | 6.3 | 6.3 | 6.1 | 5.7 | 5.1 | 4.3 | 3.4 | 2.5 | 1.4 | 0.5 | 0.2 | 71.5 | 68.5 |
| 70 | 0.2 | 0.6 | 1.0 | 1.3 | 1.6 | 1.9 | 2.1 | 2.1 | 2.3 | 2.3 | 2.3 | 2.1 | 1.9 | 1.6 | 1.3 | 0.9 | 0.5 | 0.2 | 0.1 | 26.3 | 23.1 |
| 80 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 3.6 | 1.1 |
| 90 | 33.4 | 89.6 | 146.7 | 201.8 | 251.7 | 293.1 | 324.0 | 343.9 | 353.1 | 352.9 | 351.9 | 340.4 | 318.0 | 284.4 | 240.7 | 189.5 | 134.1 | 77.3 | 23.9 | 3998 | |
| Flux(E) | 15.5 | 86.1 | 145.5 | 201.1 | 251.3 | 292.8 | 323.7 | 343.7 | 352.9 | 352.1 | 351.9 | 340.6 | 317.7 | 284.0 | 240.3 | 188.8 | 132.7 | 72.6 | 5.6 | | 3947 |

Horizontal plane

-90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90

C Plane (°):0.0-360.0: 90.0
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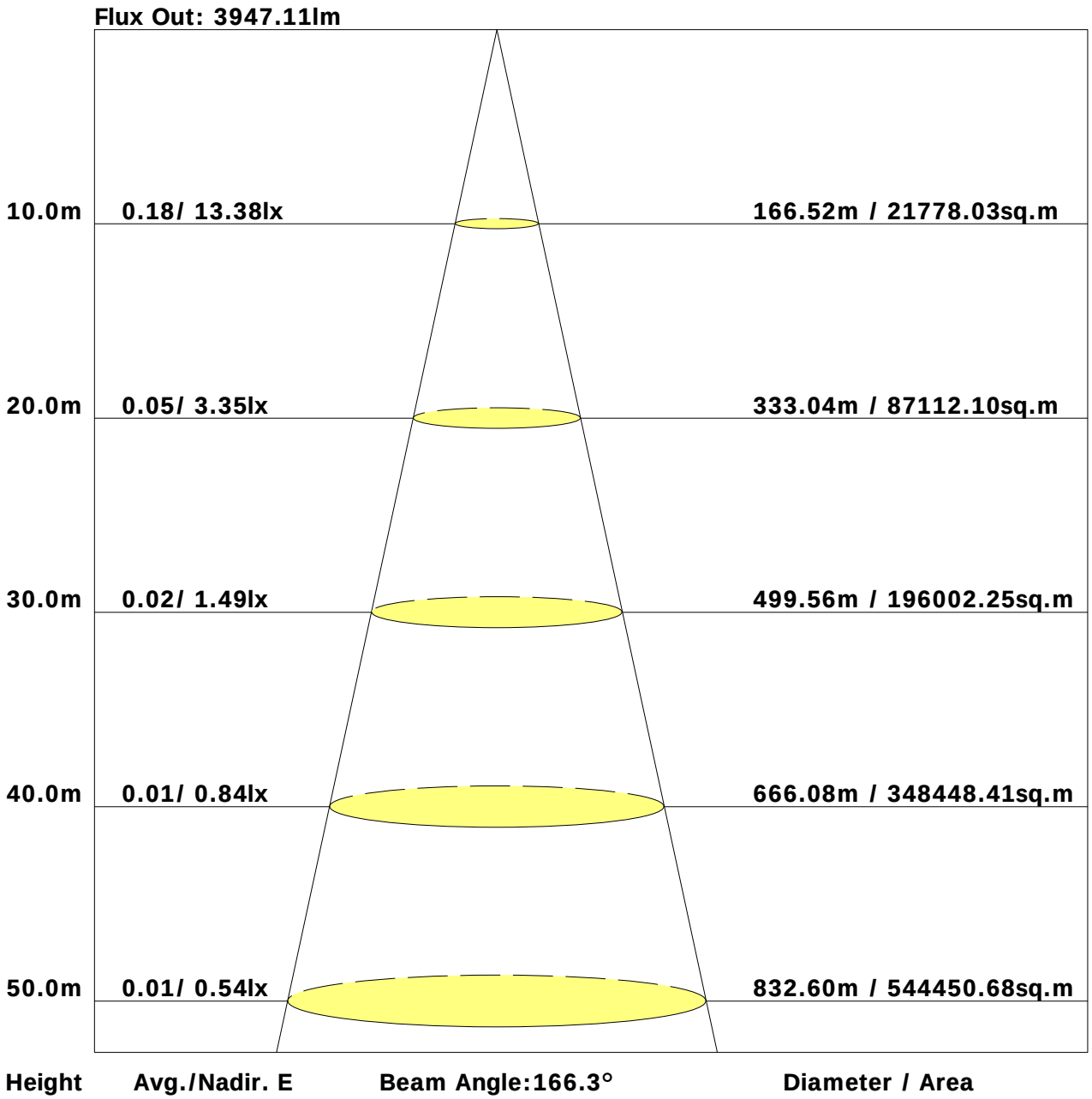
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# The Average Illuminance Effective Figure

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Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
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 | 17.4 | 18.8 | 17.7 | 19.1 | 19.3 | 17.7 | 19.2 | 18.0 | 19.4 | 19.6 |
| 3H | 19.1 | 20.4 | 19.4 | 20.6 | 20.9 | 19.5 | 20.8 | 19.8 | 21.0 | 21.3 |
| 4H | 19.8 | 21.0 | 20.1 | 21.3 | 21.6 | 20.2 | 21.4 | 20.6 | 21.7 | 22.0 |
| 6H | 20.4 | 21.5 | 20.8 | 21.8 | 22.2 | 20.8 | 22.0 | 21.2 | 22.3 | 22.6 |
| 8H | 20.6 | 21.7 | 21.0 | 22.0 | 22.4 | 21.1 | 22.2 | 21.5 | 22.5 | 22.8 |
| 12H | 20.7 | 21.8 | 21.1 | 22.1 | 22.5 | 21.3 | 22.3 | 21.6 | 22.7 | 23.0 |
| X=4H Y=2H | 18.2 | 19.4 | 18.5 | 19.7 | 20.0 | 18.4 | 19.6 | 18.8 | 19.9 | 20.2 |
| 3H | 20.0 | 21.1 | 20.4 | 21.4 | 21.8 | 20.3 | 21.4 | 20.7 | 21.7 | 22.1 |
| 4H | 20.9 | 21.8 | 21.3 | 22.2 | 22.6 | 21.2 | 22.2 | 21.6 | 22.6 | 22.9 |
| 6H | 21.6 | 22.5 | 22.0 | 22.9 | 23.3 | 22.0 | 22.9 | 22.4 | 23.2 | 23.6 |
| 8H | 21.9 | 22.7 | 22.3 | 23.1 | 23.5 | 22.3 | 23.1 | 22.8 | 23.5 | 23.9 |
| 12H | 22.1 | 22.8 | 22.6 | 23.2 | 23.7 | 22.6 | 23.3 | 23.0 | 23.7 | 24.1 |
| X=8H Y=4H | 21.3 | 22.1 | 21.7 | 22.5 | 22.9 | 21.6 | 22.4 | 22.0 | 22.8 | 23.2 |
| 6H | 22.2 | 22.8 | 22.7 | 23.3 | 23.7 | 22.5 | 23.2 | 23.0 | 23.6 | 24.1 |
| 8H | 22.6 | 23.1 | 23.1 | 23.6 | 24.1 | 22.9 | 23.5 | 23.4 | 24.0 | 24.4 |
| 12H | 22.9 | 23.4 | 23.4 | 23.8 | 24.3 | 23.3 | 23.8 | 23.8 | 24.2 | 24.7 |
| X=12H Y=4H | 21.3 | 22.0 | 21.8 | 22.5 | 22.9 | 21.6 | 22.3 | 22.1 | 22.7 | 23.2 |
| 6H | 22.3 | 22.9 | 22.8 | 23.3 | 23.8 | 22.6 | 23.2 | 23.1 | 23.6 | 24.1 |
| 8H | 22.7 | 23.2 | 23.2 | 23.7 | 24.2 | 23.1 | 23.6 | 23.6 | 24.0 | 24.5 |
| Variations with the observer position at spacings: | | | | | | | | | | |
| S=1.0H | +0.2/-0.2 | | | | | +0.2/-0.1 | | | | |
| S=1.5H | +0.4/-0.4 | | | | | +0.3/-0.3 | | | | |
| S=2.0H | +0.5/-0.8 | | | | | +0.5/-0.7 | | | | |

Calculate in accordance with CIE Pub.117. The table is revised with 4001lm (8log(F/F0) = 4.8).

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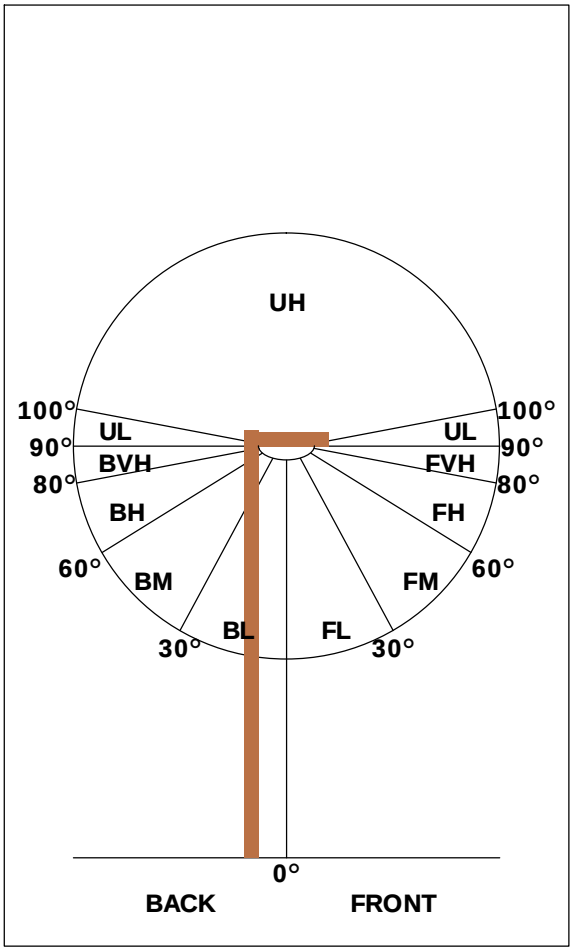


| ZONE | LUMENS | % LAMP LUMENS |
|---|---|---|
| FORWARD LIGHT | 1962 | 49.0 |
| FL ( 0°-30°) | 519 | 13.0 |
| FM (30°-60°) | 994 | 24.9 |
| FH (60°-80°) | 400 | 10.0 |
| FVH (80°-90°) | 49 | 1.2 |
| BACK LIGHT | 2039 | 51.0 |
| BL ( 0°-30°) | 523 | 13.1 |
| BM (30°-60°) | 1024 | 25.6 |
| BH (60°-80°) | 430 | 10.7 |
| BVH (80°-90°) | 62 | 1.5 |
| UP LIGHT | 0 | 0.0 |
| UL (90°-100°) | 0 | 0.0 |
| UH (100°-180°) | 0 | 0.0 |
| TRAPPED LIGHT | NA | NA |

| BUG(Backlight,Uplight,Glare) Rating Base On TM-15-07 | |
|---|---|
| Asymmetrical Luminaire Types<br>(Type I,II,III,IV) | B2 U1 G1 |
| Quadrilateral Symmetrical Luminaire Types<br>(Type V,Area Light) | B2 U1 G1 |

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Gamma Plane (°):0.0-90.0:5.0
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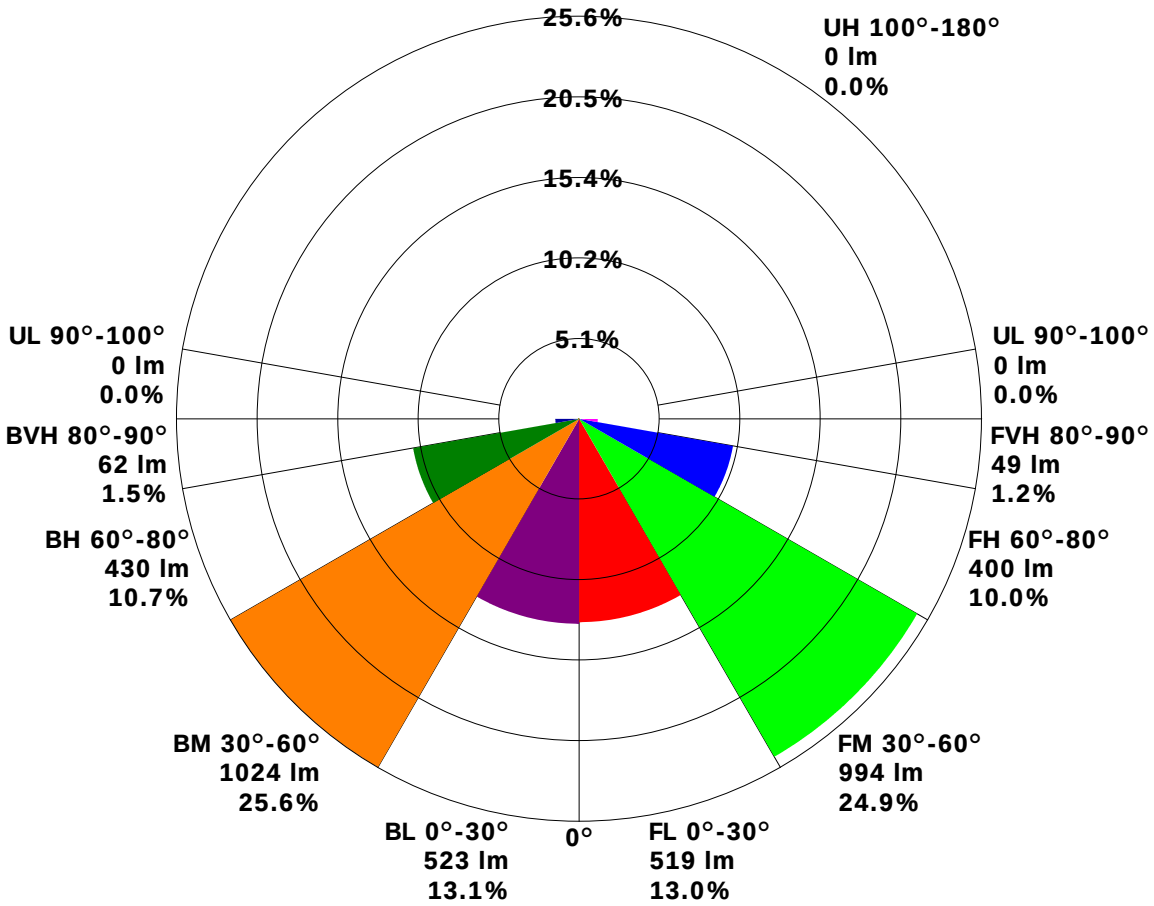
Inspector:

# LCS Graph




Scale= MAX LCS%

Trapped Light:NA,NA

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C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# Utilisation Factor Table(Floor cavity)

| Utilisation Factors UF(F) | | | SHR NOM = 1.25 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Room Reflectance | | | Room Index(RI) | | | | | | | | |
| Ceiling | Wall | Floor | 0.75 | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |
| 0.70 | 0.50 | 0.20 | 0.55 | 0.65 | 0.73 | 0.78 | 0.86 | 0.91 | 0.95 | 0.99 | 1.02 |
| | 0.30 | | 0.47 | 0.57 | 0.65 | 0.71 | 0.79 | 0.85 | 0.89 | 0.95 | 0.99 |
| | 0.20 | | 0.41 | 0.51 | 0.59 | 0.65 | 0.74 | 0.80 | 0.85 | 0.91 | 0.95 |
| 0.50 | 0.50 | 0.20 | 0.53 | 0.63 | 0.70 | 0.75 | 0.83 | 0.87 | 0.91 | 0.95 | 0.98 |
| | 0.30 | | 0.46 | 0.56 | 0.64 | 0.69 | 0.77 | 0.82 | 0.86 | 0.92 | 0.95 |
| | 0.20 | | 0.41 | 0.51 | 0.58 | 0.64 | 0.72 | 0.78 | 0.82 | 0.88 | 0.92 |
| 0.30 | 0.50 | 0.20 | 0.52 | 0.61 | 0.68 | 0.73 | 0.80 | 0.84 | 0.87 | 0.92 | 0.94 |
| | 0.30 | | 0.45 | 0.55 | 0.62 | 0.68 | 0.75 | 0.80 | 0.84 | 0.89 | 0.92 |
| | 0.20 | | 0.41 | 0.50 | 0.58 | 0.63 | 0.71 | 0.76 | 0.80 | 0.86 | 0.89 |
| 0.00 | 0.00 | 0.00 | 0.38 | 0.48 | 0.55 | 0.60 | 0.67 | 0.73 | 0.76 | 0.81 | 0.85 |

**Rating:41W Photometrically tested without ceiling board.**

**Multiply UF values by service correction factors**

**Calculate in accordance with CIBSE Technical Memorandum NO.5 1980**

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**C Plane (°):0.0-360.0: 90.0**
**Test Lab:**
**Test Type: TYPE C**
**Temperature:**
**Operator:**ATC

**Gamma Plane (°):0.0-90.0:5.0**
**Test Device: GPM-1600L**
**Distance: 7.884 m**
**Humidity:**
**Inspector:**

# Utilisation Factor Table(Wall)

| Utilisation Factors UF(W) | | | SHR NOM = 1.25 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Room Reflectance | | | Room Index(RI) | | | | | | | | |
| Ceiling | Wall | Floor | 0.75 | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |
| 0.70 | 0.50 | 0.20 | 1.02 | 0.85 | 0.73 | 0.64 | 0.51 | 0.43 | 0.37 | 0.29 | 0.23 |
| | 0.30 | | 0.85 | 0.73 | 0.63 | 0.56 | 0.46 | 0.39 | 0.34 | 0.27 | 0.22 |
| | 0.20 | | 0.73 | 0.64 | 0.56 | 0.51 | 0.42 | 0.36 | 0.32 | 0.25 | 0.21 |
| 0.50 | 0.50 | 0.20 | 0.99 | 0.82 | 0.70 | 0.61 | 0.49 | 0.44 | 0.35 | 0.27 | 0.22 |
| | 0.30 | | 0.84 | 0.71 | 0.62 | 0.55 | 0.45 | 0.38 | 0.33 | 0.26 | 0.21 |
| | 0.20 | | 0.73 | 0.63 | 0.55 | 0.50 | 0.41 | 0.35 | 0.31 | 0.25 | 0.21 |
| 0.30 | 0.50 | 0.20 | 0.96 | 0.79 | 0.67 | 0.59 | 0.47 | 0.39 | 0.33 | 0.26 | 0.21 |
| | 0.30 | | 0.82 | 0.69 | 0.60 | 0.53 | 0.43 | 0.37 | 0.32 | 0.25 | 0.21 |
| | 0.20 | | 0.72 | 0.62 | 0.54 | 0.49 | 0.40 | 0.34 | 0.30 | 0.24 | 0.20 |
| 0.00 | 0.00 | 0.00 | 0.62 | 0.52 | 0.45 | 0.40 | 0.33 | 0.28 | 0.24 | 0.19 | 0.16 |

**Rating:41W Photometrically tested without ceiling board.**

**Multiply UF values by service correction factors**

**Calculate in accordance with CIBSE Technical Memorandum NO.5 1980**

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**C Plane (°):0.0-360.0: 90.0**
**Test Lab:**
**Test Type: TYPE C**
**Temperature:**
**Operator:**ATC

**Gamma Plane (°):0.0-90.0:5.0**
**Test Device: GPM-1600L**
**Distance: 7.884 m**
**Humidity:**
**Inspector:**

# Utilisation Factor Table(Ceiling cavity)

| Utilisation Factors UF(C) | | | SHR NOM = 1.25 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Room Reflectance | | | Room Index(RI) | | | | | | | | |
| Ceiling | Wall | Floor | 0.75 | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |
| 0.70 | 0.50 | 0.20 | 0.17 | 0.18 | 0.19 | 0.19 | 0.20 | 0.21 | 0.21 | 0.22 | 0.22 |
| | 0.30 | | 0.10 | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| | 0.20 | | 0.04 | 0.06 | 0.08 | 0.09 | 0.11 | 0.12 | 0.14 | 0.15 | 0.17 |
| 0.50 | 0.50 | 0.20 | 0.16 | 0.17 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.21 | 0.21 |
| | 0.30 | | 0.09 | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| | 0.20 | | 0.04 | 0.06 | 0.07 | 0.09 | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 |
| 0.30 | 0.50 | 0.20 | 0.16 | 0.17 | 0.17 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.20 |
| | 0.30 | | 0.09 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 |
| | 0.20 | | 0.04 | 0.06 | 0.07 | 0.09 | 0.10 | 0.12 | 0.13 | 0.15 | 0.16 |
| 0.00 | 0.00 | 0.00 | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Rating:41W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# Zonal Lumen

| Gamma [°] | Imean [cd] | Zonal Flux [lm] | Sum Zonal Flux [lm] | Rel Zonal Flux [%] | Sum Rel Zonal Flux [%] |
|---|---|---|---|---|---|
| 0.0-5.0 | 1330.4 | 31.8 | 31.8 | 0.80 | 0.80 |
| 5.0-10.0 | 1319.6 | 94.4 | 126.2 | 2.36 | 3.15 |
| 10.0-15.0 | 1297.8 | 154.0 | 280.2 | 3.85 | 7.00 |
| 15.0-20.0 | 1265.7 | 208.6 | 488.8 | 5.21 | 12.22 |
| 20.0-25.0 | 1224.0 | 256.8 | 745.6 | 6.42 | 18.63 |
| 25.0-30.0 | 1171.8 | 296.6 | 1042.2 | 7.41 | 26.05 |
| 30.0-35.0 | 1108.9 | 326.6 | 1368.8 | 8.16 | 34.21 |
| 35.0-40.0 | 1036.1 | 345.7 | 1714.5 | 8.64 | 42.85 |
| 40.0-45.0 | 954.5 | 353.5 | 2068.0 | 8.83 | 51.69 |
| 45.0-50.0 | 865.1 | 349.6 | 2417.6 | 8.74 | 60.42 |
| 50.0-55.0 | 769.0 | 334.4 | 2752.0 | 8.36 | 68.78 |
| 55.0-60.0 | 668.5 | 309.0 | 3061.1 | 7.72 | 76.51 |
| 60.0-65.0 | 565.4 | 274.9 | 3336.0 | 6.87 | 83.38 |
| 65.0-70.0 | 460.8 | 233.4 | 3569.3 | 5.83 | 89.21 |
| 70.0-75.0 | 356.0 | 186.1 | 3755.4 | 4.65 | 93.86 |
| 75.0-80.0 | 251.8 | 134.8 | 3890.2 | 3.37 | 97.23 |
| 80.0-85.0 | 149.1 | 81.0 | 3971.2 | 2.03 | 99.25 |
| 85.0-90.0 | 54.6 | 29.9 | 4001.1 | 0.75 | 100.00 |
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C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# Candlepower Table

Unit: cd

| G\C | C0.0 | C90.0 | C180.0 | C270.0 | C360.0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| G0.0 | 1338.4 | 1327.3 | 1338.4 | 1327.3 | 1338.4 | | | | | |
| G5.0 | 1329.0 | 1323.0 | 1334.0 | 1325.9 | 1329.0 | | | | | |
| G10.0 | 1308.7 | 1306.7 | 1315.5 | 1314.4 | 1308.7 | | | | | |
| G15.0 | 1275.4 | 1280.5 | 1286.0 | 1295.0 | 1275.4 | | | | | |
| G20.0 | 1231.2 | 1246.1 | 1245.2 | 1266.5 | 1231.2 | | | | | |
| G25.0 | 1177.5 | 1201.4 | 1194.6 | 1229.9 | 1177.5 | | | | | |
| G30.0 | 1113.1 | 1145.8 | 1132.0 | 1180.5 | 1113.1 | | | | | |
| G35.0 | 1038.9 | 1079.3 | 1061.2 | 1120.7 | 1038.9 | | | | | |
| G40.0 | 957.3 | 1001.1 | 981.7 | 1049.0 | 957.3 | | | | | |
| G45.0 | 870.5 | 912.6 | 896.9 | 966.8 | 870.5 | | | | | |
| G50.0 | 779.8 | 816.5 | 804.4 | 873.5 | 779.8 | | | | | |
| G55.0 | 683.7 | 714.2 | 707.5 | 772.7 | 683.7 | | | | | |
| G60.0 | 585.0 | 607.0 | 609.8 | 667.8 | 585.0 | | | | | |
| G65.0 | 484.8 | 499.2 | 510.3 | 559.0 | 484.8 | | | | | |
| G70.0 | 384.9 | 390.3 | 409.5 | 448.5 | 384.9 | | | | | |
| G75.0 | 284.2 | 282.0 | 308.7 | 339.7 | 284.2 | | | | | |
| G80.0 | 185.0 | 176.0 | 208.1 | 231.0 | 185.0 | | | | | |
| G85.0 | 85.5 | 73.6 | 108.6 | 125.2 | 85.5 | | | | | |
| G90.0 | 3.6 | 3.7 | 11.3 | 25.5 | 3.6 | | | | | |
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C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:ATC

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.884 m
Humidity:
Inspector:

# ATC MIDDLE EAST FZCO

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