

Report No.:

Test Time: 2023/2/21 17:01

Luminaire Property

Luminaire Manufacturer:

Luminaire Category: 大炮

Lamp Catalog: G

Luminous Width (mm): 70

Voltage: 219.2 V

Power: 8.98 W

Luminaire Description: HD30°+3M

Luminous Length (mm): 270

Luminous Height (mm): 20

Current: 0.100 A

Power Factor: 0.409

Photometric Results

CIE Class: Direct

Measurement Flux: 451 lm

Downward Ratio: 97%

Horizontal Diffuse Angle(10%,50%): H84.7,H32.7

Vertical Diffuse Angle(10%,50%): V75.5,V33.3

Luminaire Efficacy Rating (LER): 50

Max. Intensity: 763.56 cd

Total Rated Lamp Lumens: 451.0 lm

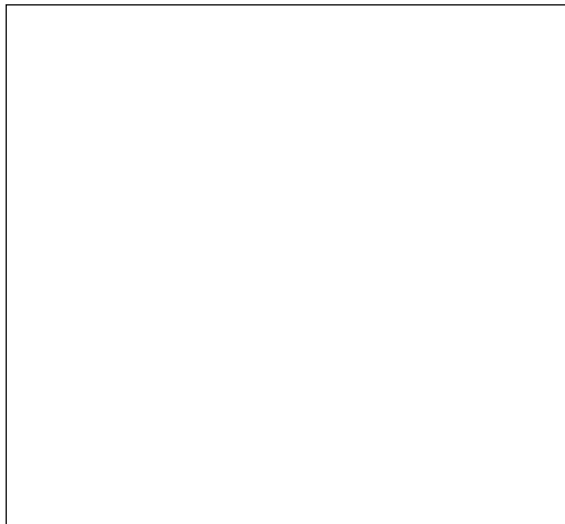
Efficiency: 100%

Upward Ratio: 3%

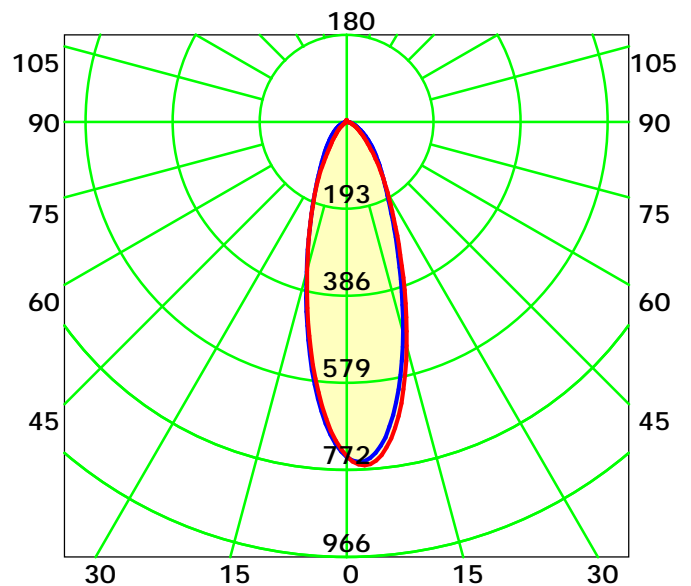
Central Intensity: 743.87 cd

Pos of Max. Intensity: H60 V3

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 33.0° Unit: cd

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature: 25

Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0

Test Device: GPM-1800B

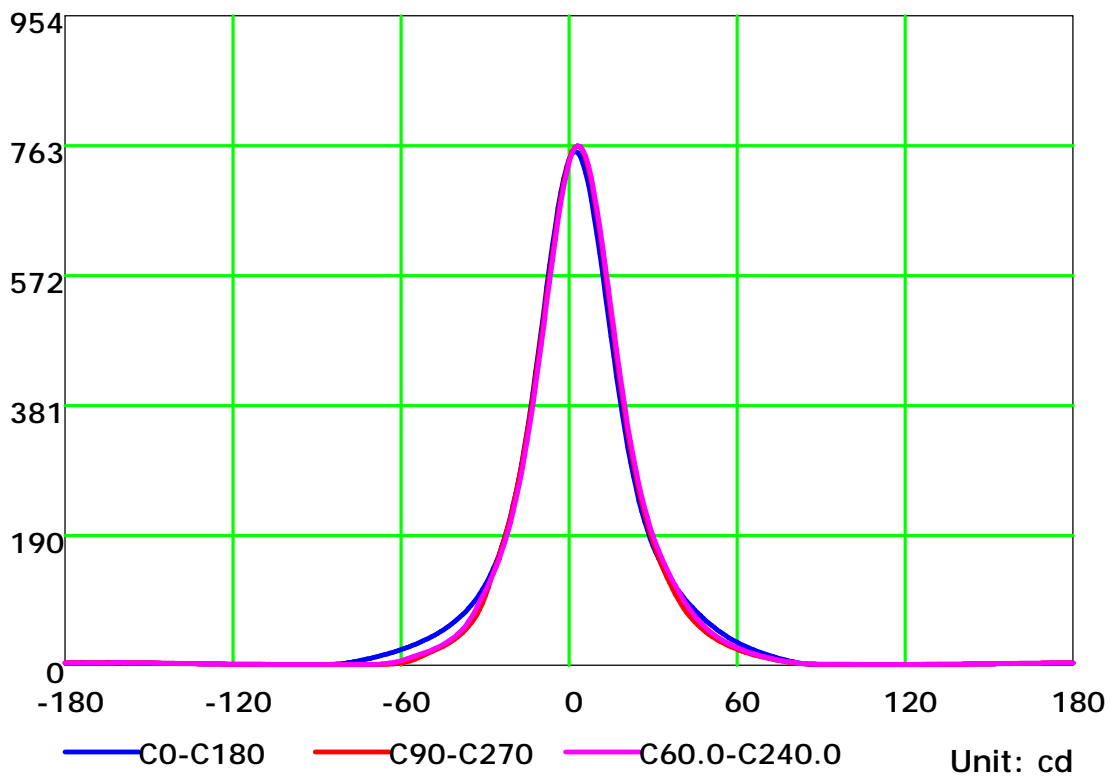
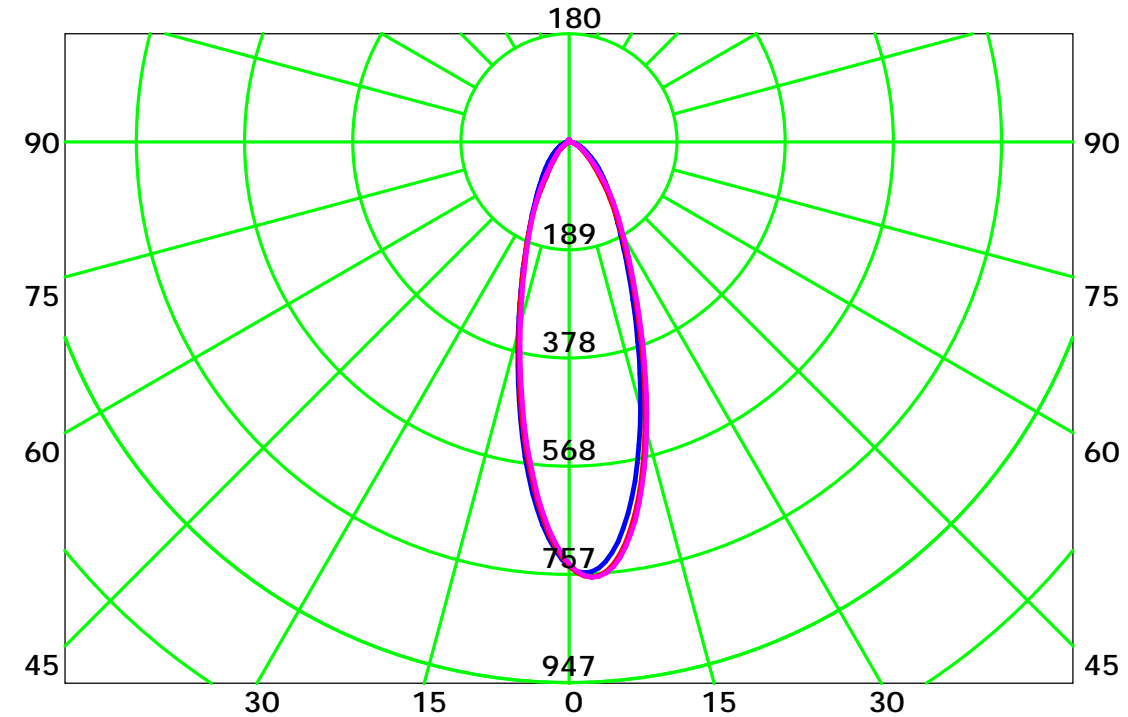
Distance: 9.028 m

Humidity: 60%

Inspector:



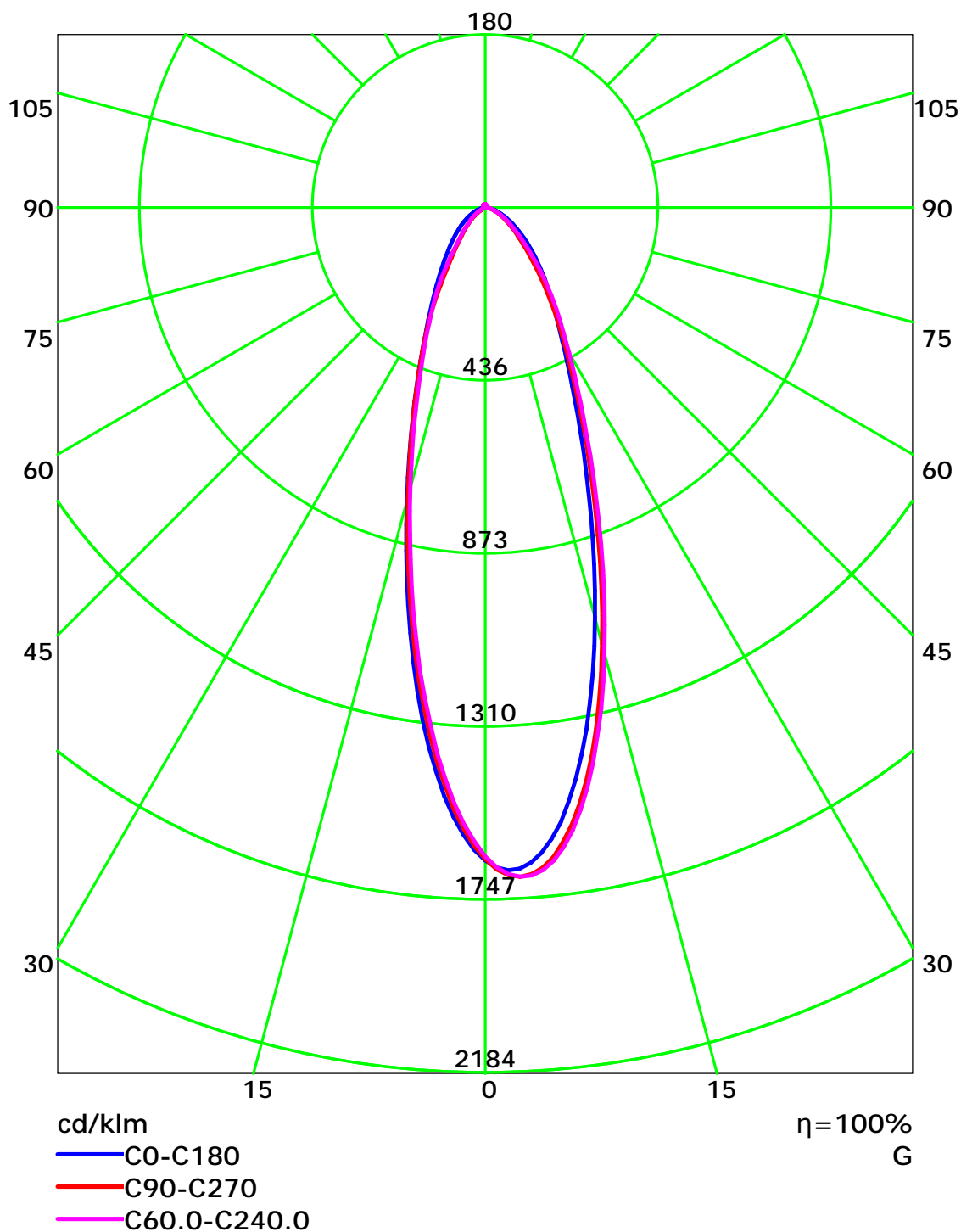
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Luminous Intensity Distribution Curve(cd/klm)



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

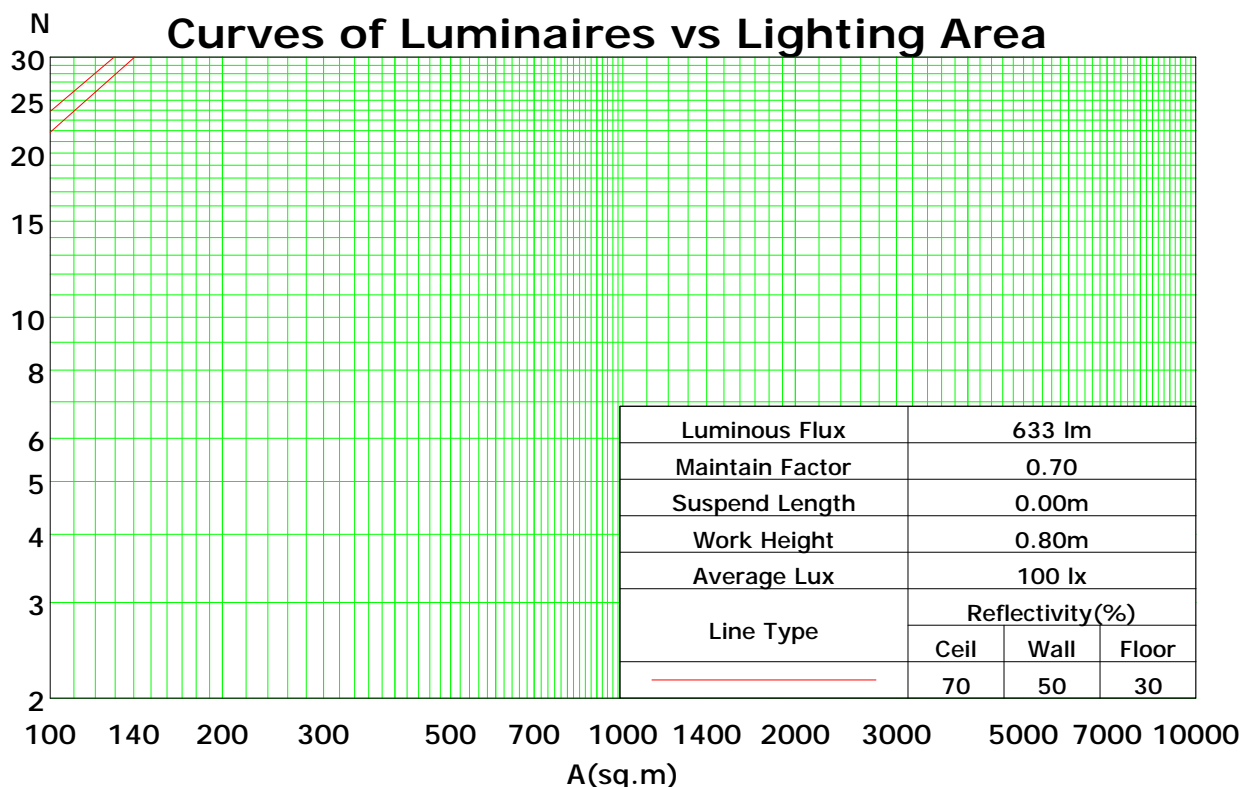
Coefficients Of Utilization - Zonal Cavity Method

| | | | | | | | | | | | | | | | | | | |
|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| 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 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 109 | 109 | 109 | 104 | 104 | 104 | 99 | 99 | 99 | 97 |
| 1 | 112 | 108 | 106 | 103 | 109 | 106 | 103 | 101 | 101 | 99 | 97 | 97 | 95 | 94 | 93 | 92 | 91 | 89 |
| 2 | 105 | 100 | 95 | 91 | 103 | 98 | 93 | 90 | 94 | 90 | 87 | 90 | 87 | 85 | 87 | 85 | 83 | 81 |
| 3 | 99 | 92 | 86 | 82 | 97 | 90 | 85 | 81 | 87 | 83 | 79 | 84 | 81 | 78 | 82 | 79 | 76 | 74 |
| 4 | 94 | 85 | 79 | 74 | 92 | 84 | 78 | 74 | 81 | 76 | 73 | 79 | 75 | 71 | 77 | 73 | 70 | 68 |
| 5 | 89 | 79 | 73 | 68 | 87 | 78 | 72 | 68 | 76 | 71 | 67 | 74 | 70 | 66 | 72 | 68 | 65 | 63 |
| 6 | 84 | 74 | 68 | 63 | 82 | 73 | 67 | 63 | 71 | 66 | 62 | 70 | 65 | 61 | 68 | 64 | 61 | 59 |
| 7 | 80 | 70 | 63 | 59 | 78 | 69 | 63 | 59 | 67 | 62 | 58 | 66 | 61 | 57 | 64 | 60 | 57 | 55 |
| 8 | 76 | 66 | 59 | 55 | 74 | 65 | 59 | 55 | 64 | 58 | 54 | 62 | 58 | 54 | 61 | 57 | 54 | 52 |
| 9 | 72 | 62 | 56 | 52 | 71 | 62 | 56 | 52 | 60 | 55 | 51 | 59 | 54 | 51 | 58 | 54 | 51 | 49 |
| 10 | 69 | 59 | 53 | 49 | 68 | 58 | 53 | 49 | 57 | 52 | 48 | 56 | 52 | 48 | 55 | 51 | 48 | 47 |

Spacing Criteria (0-180): 0.54

Spacing Criteria (90-270): 0.55

Spacing Criteria (Diagonal): 0.60



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature: 25

Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0

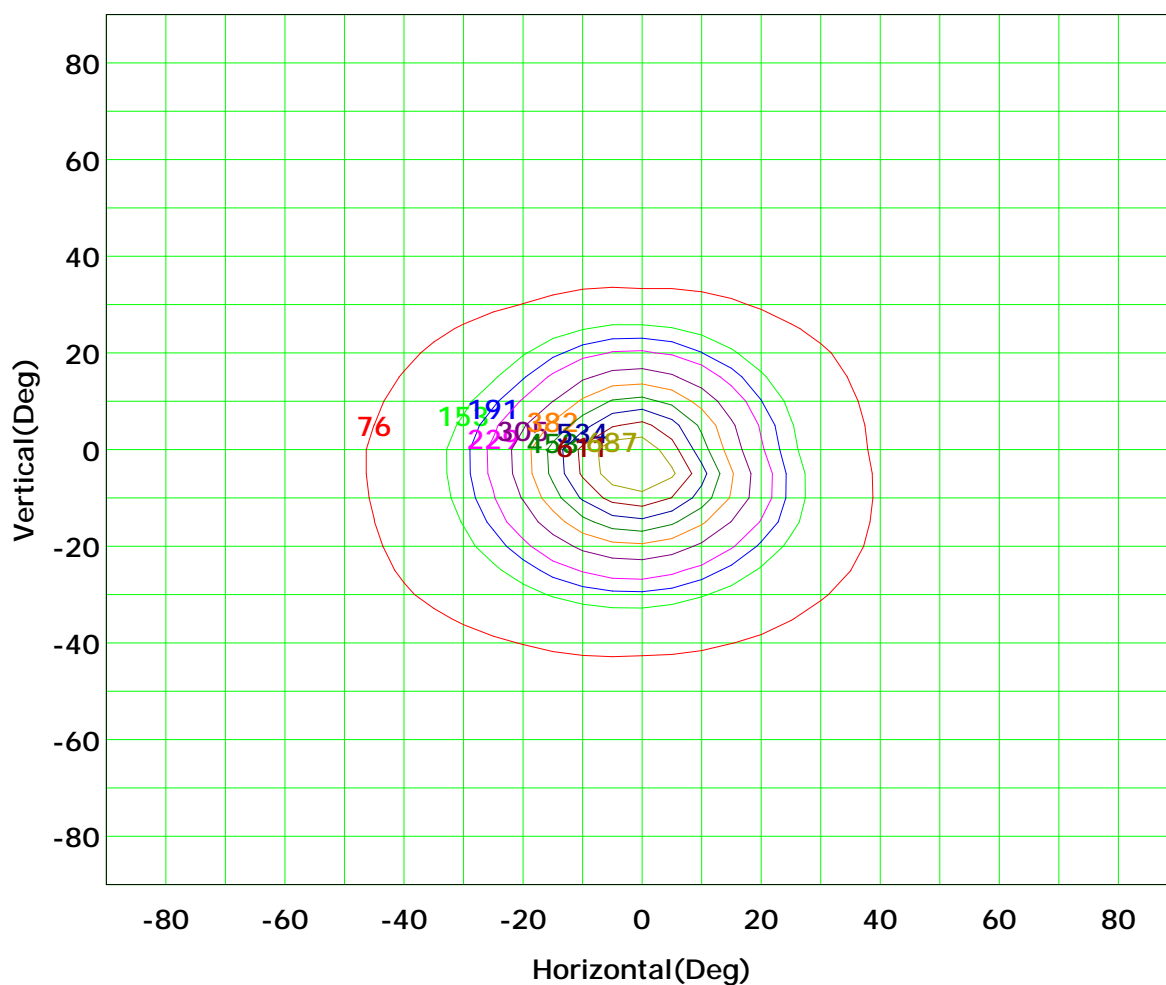
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

Isocandela (rectangle)



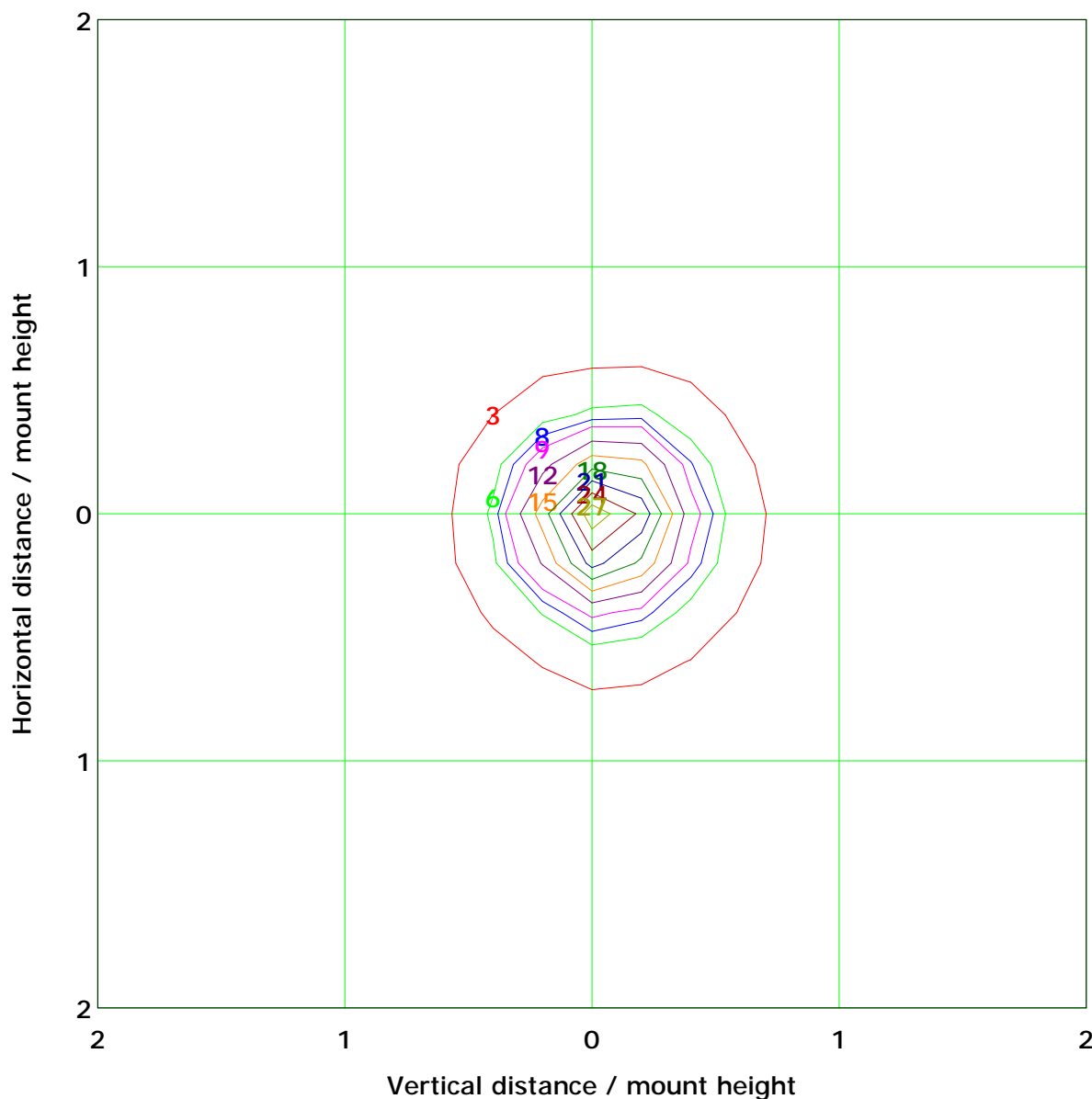
I_{max} (100%): 764 cd

| | |
|----------------|----------------|
| (10%): 76 cd | (20%): 153 cd |
| (25%): 191 cd | (30%): 229 cd |
| (40%): 305 cd | (50%): 382 cd |
| (60%): 458 cd | (70%): 534 cd |
| (80%): 611 cd | (90%): 687 cd |

C Plane (°): 0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

IsoLux Plot



| | |
|---|-----------------|
| Mounting Height: 5.0m Max Lux(100%): 30.4 lx | |
| (10%): 3.0 lx | (20%): 6.1 lx |
| (25%): 7.6 lx | (30%): 9.1 lx |
| (40%): 12.2 lx | (50%): 15.2 lx |
| (60%): 18.3 lx | (70%): 21.3 lx |
| (80%): 24.3 lx | (90%): 27.4 lx |

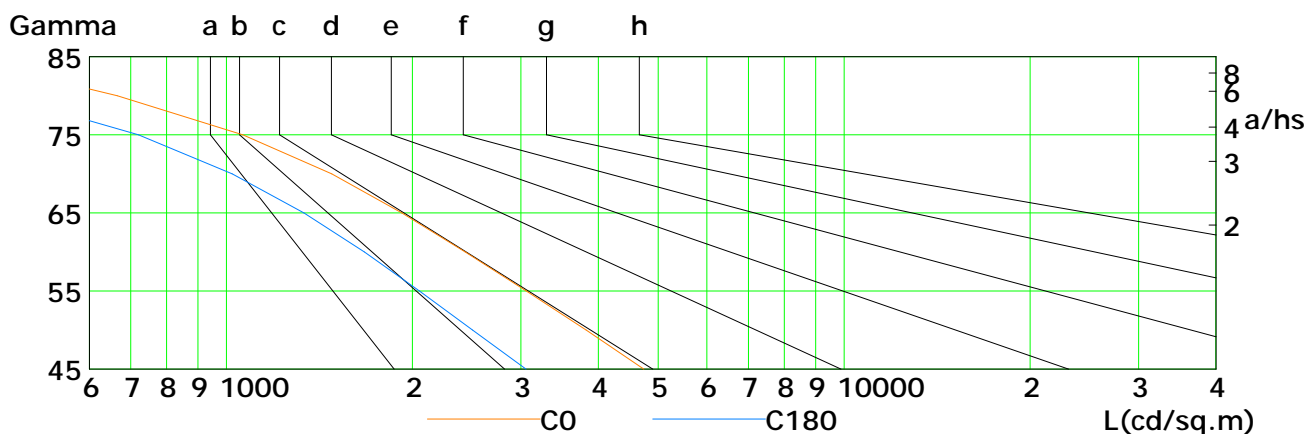
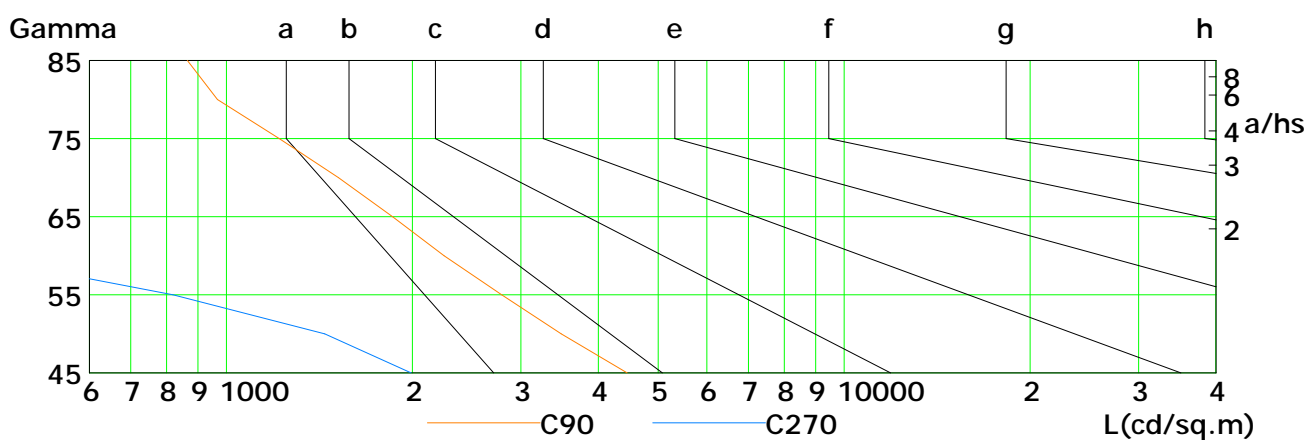
C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

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

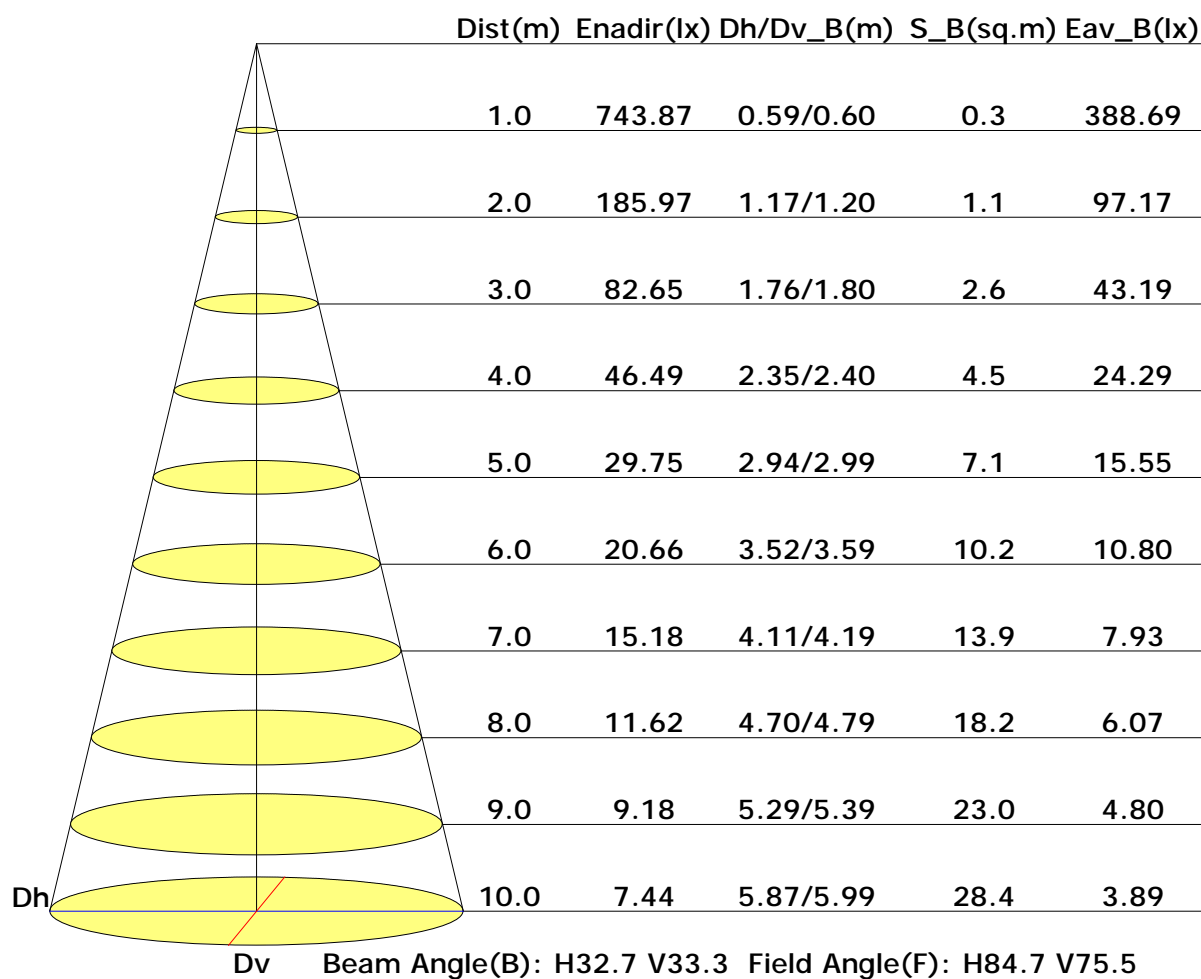


| L(cd/sq.m) | G45 | G50 | G55 | G60 | G65 | G70 | G75 | G80 | G85 |
|------------|------|------|------|------|------|------|------|-----|-----|
| C0 | 4740 | 3823 | 3059 | 2436 | 1924 | 1481 | 1063 | 666 | 366 |
| C90 | 4455 | 3483 | 2790 | 2253 | 1858 | 1519 | 1219 | 968 | 865 |
| C180 | 3058 | 2504 | 2055 | 1673 | 1335 | 1022 | 720 | 435 | 270 |
| C270 | 1991 | 1443 | 820 | 387 | 225 | 207 | 253 | 352 | 549 |

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

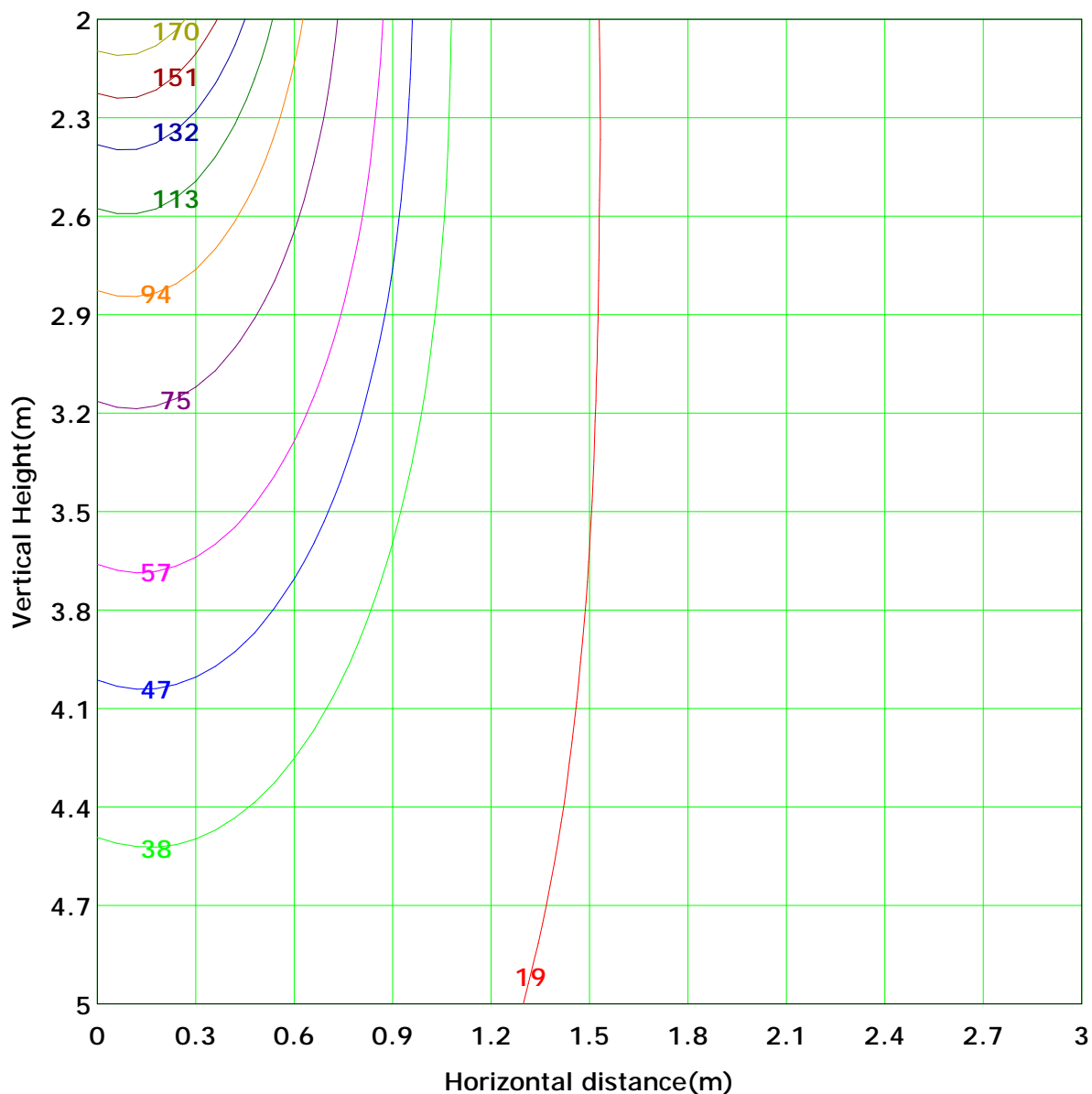
Illuminance at a Distance



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Vertical IsoLux Plot



| | | |
|------------------|------------------|-------------------|
| Lowest(m): 2.0m | Highest(m): 5.0m | Max Lux: 188.4 lx |
| (10%): 18.8 lx | (20%): 37.7 lx | (30%): 56.5 lx |
| (25%): 47.1 lx | (40%): 75.4 lx | (50%): 94.2 lx |
| (60%): 113.1 lx | (70%): 131.9 lx | (80%): 150.7 lx |
| (90%): 169.6 lx | | |

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Area Flux Table

Unit: lm

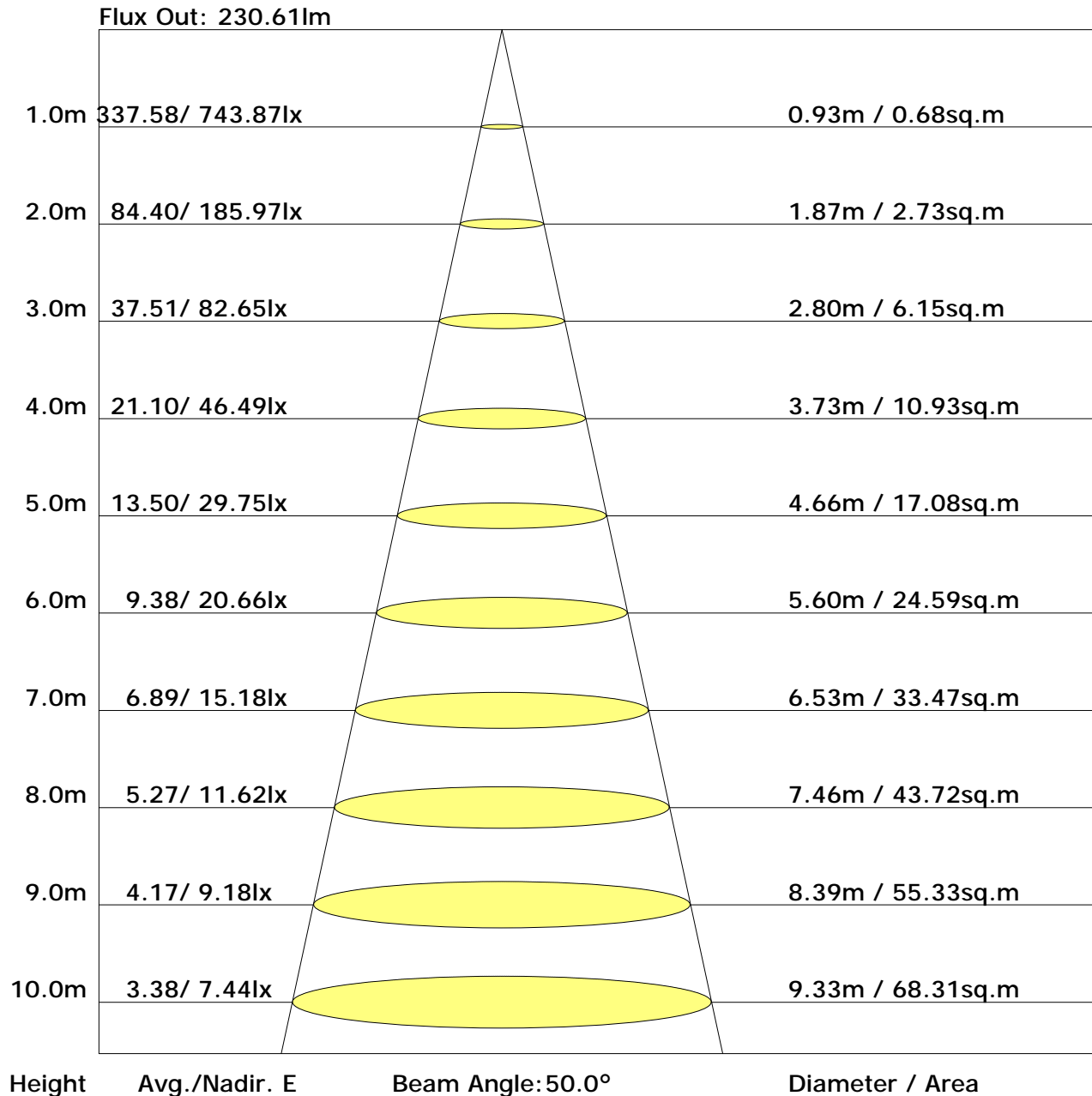
| Vertical plane | Horizontal plane | | | | | | | | | | | | | | | | | Flux(T) | Flux(E) |
|----------------|------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|
| | -90 | -80 | -70 | -60 | -50 | -40 | -30 | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| -90 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -80 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -70 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -60 | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| -50 | 0.0 | 0.0 | 0.1 | 0.2 | 0.3 | 0.5 | 0.5 | 0.8 | 0.8 | 1.0 | 1.2 | 1.2 | 1.4 | 1.4 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| -40 | 0.0 | 0.0 | 0.1 | 0.3 | 0.5 | 0.9 | 1.2 | 1.4 | 1.9 | 2.2 | 2.4 | 2.4 | 2.7 | 2.7 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| -30 | 0.0 | 0.0 | 0.2 | 0.4 | 0.8 | 1.4 | 2.3 | 3.5 | 4.7 | 6.2 | 7.4 | 7.7 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 |
| -20 | 0.0 | 0.1 | 0.2 | 0.6 | 1.0 | 1.9 | 3.4 | 5.0 | 7.4 | 10.1 | 13.9 | 17.9 | 21.2 | 23.5 | 25.7 | 27.1 | 28.2 | 29.0 | 29.0 |
| -10 | 0.0 | 0.1 | 0.2 | 0.6 | 1.1 | 2.2 | 4.4 | 6.2 | 9.4 | 12.6 | 16.6 | 20.1 | 24.1 | 27.7 | 31.2 | 34.2 | 36.7 | 38.7 | 39.0 |
| 0 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 10 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 20 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 30 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 40 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 50 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 60 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 70 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 80 | 0.0 | 0.1 | 0.2 | 0.6 | 1.2 | 2.4 | 4.6 | 7.0 | 9.4 | 11.4 | 13.9 | 16.6 | 19.2 | 21.7 | 24.2 | 26.7 | 29.2 | 31.7 | 34.2 |
| 90 | 0.1 | 0.6 | 2.1 | 5.0 | 9.7 | 17.2 | 30.2 | 54.3 | 83.6 | 88.0 | 63.0 | 37.3 | 22.3 | 12.7 | 6.4 | 2.8 | 0.9 | 0.1 | 0.0 |
| Flux(T) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.8 | 23.5 | 48.2 | 77.7 | 82.2 | 57.1 | 31.2 | 15.7 | 3.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Flux(E) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.8 | 23.5 | 48.2 | 77.7 | 82.2 | 57.1 | 31.2 | 15.7 | 3.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Flux(T)Flux(E) | | | | | | | | | | | | | | | | | | | |
| Flux(E) | | | | | | | | | | | | | | | | | | | |

C Plane (°): 0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:



The Average Illuminance Effective Figure



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
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 | 16.1 | 17.3 | 16.6 | 17.7 | 18.1 | 14.4 | 15.5 | 14.8 | 15.9 | 16.3 |
| 3H | 17.2 | 18.2 | 17.7 | 18.6 | 19.1 | 15.2 | 16.2 | 15.7 | 16.6 | 17.1 |
| 4H | 17.5 | 18.5 | 18.0 | 18.9 | 19.4 | 15.5 | 16.4 | 15.9 | 16.8 | 17.3 |
| 6H | 17.7 | 18.6 | 18.2 | 19.0 | 19.5 | 15.6 | 16.5 | 16.1 | 16.9 | 17.4 |
| 8H | 17.8 | 18.6 | 18.3 | 19.0 | 19.5 | 15.6 | 16.4 | 16.1 | 16.9 | 17.4 |
| 12H | 17.8 | 18.6 | 18.3 | 19.0 | 19.5 | 15.6 | 16.4 | 16.1 | 16.8 | 17.4 |
| X=4H Y=2H | 16.1 | 17.1 | 16.6 | 17.5 | 18.0 | 14.8 | 15.7 | 15.3 | 16.2 | 16.6 |
| 3H | 17.3 | 18.1 | 17.8 | 18.6 | 19.1 | 15.8 | 16.6 | 16.3 | 17.0 | 17.5 |
| 4H | 17.7 | 18.4 | 18.2 | 18.9 | 19.4 | 16.1 | 16.8 | 16.6 | 17.3 | 17.8 |
| 6H | 18.0 | 18.6 | 18.5 | 19.1 | 19.6 | 16.3 | 16.9 | 16.8 | 17.4 | 18.0 |
| 8H | 18.0 | 18.6 | 18.6 | 19.1 | 19.6 | 16.3 | 16.9 | 16.9 | 17.4 | 17.9 |
| 12H | 18.1 | 18.6 | 18.6 | 19.1 | 19.7 | 16.4 | 16.8 | 16.9 | 17.4 | 17.9 |
| X=8H Y=4H | 17.7 | 18.2 | 18.2 | 18.7 | 19.3 | 16.2 | 16.8 | 16.8 | 17.3 | 17.9 |
| 6H | 17.9 | 18.4 | 18.5 | 19.0 | 19.5 | 16.5 | 16.9 | 17.1 | 17.5 | 18.1 |
| 8H | 18.0 | 18.4 | 18.6 | 19.0 | 19.6 | 16.6 | 17.0 | 17.1 | 17.5 | 18.1 |
| 12H | 18.1 | 18.5 | 18.7 | 19.0 | 19.7 | 16.6 | 17.0 | 17.2 | 17.5 | 18.2 |
| X=12H Y=4H | 17.6 | 18.1 | 18.2 | 18.6 | 19.2 | 16.2 | 16.7 | 16.8 | 17.3 | 17.8 |
| 6H | 17.9 | 18.3 | 18.5 | 18.8 | 19.5 | 16.5 | 16.9 | 17.1 | 17.4 | 18.0 |
| 8H | 18.0 | 18.4 | 18.6 | 18.9 | 19.6 | 16.6 | 16.9 | 17.2 | 17.5 | 18.1 |

Calculate in accordance with CIE 190:2010

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Utilisation Factor Table(Floor cavity)

| Utilisation Factors UF(F) | | | SHR NOM = 0.75 | | | | | | | | |
|--|------|-------|----------------|------|------|------|------|------|------|------|------|
| 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 | 0.77 | 0.84 | 0.89 | 0.93 | 0.98 | 1.01 | 1.04 | 1.06 | 1.08 |
| | 0.30 | | 0.71 | 0.79 | 0.84 | 0.88 | 0.94 | 0.98 | 1.00 | 1.04 | 1.06 |
| | 0.20 | | 0.68 | 0.75 | 0.81 | 0.85 | 0.90 | 0.94 | 0.97 | 1.01 | 1.04 |
| 0.50 | 0.50 | 0.20 | 0.75 | 0.82 | 0.87 | 0.90 | 0.95 | 0.97 | 0.99 | 1.02 | 1.04 |
| | 0.30 | | 0.70 | 0.78 | 0.83 | 0.86 | 0.91 | 0.94 | 0.97 | 1.00 | 1.02 |
| | 0.20 | | 0.67 | 0.74 | 0.79 | 0.83 | 0.88 | 0.92 | 0.94 | 0.98 | 1.00 |
| 0.30 | 0.50 | 0.20 | 0.74 | 0.80 | 0.84 | 0.87 | 0.91 | 0.94 | 0.96 | 0.98 | 0.99 |
| | 0.30 | | 0.70 | 0.76 | 0.81 | 0.84 | 0.89 | 0.92 | 0.94 | 0.96 | 0.98 |
| | 0.20 | | 0.66 | 0.73 | 0.78 | 0.82 | 0.86 | 0.89 | 0.92 | 0.95 | 0.96 |
| 0.00 | 0.00 | 0.00 | 0.64 | 0.71 | 0.75 | 0.78 | 0.83 | 0.85 | 0.87 | 0.90 | 0.91 |
| Rating:9W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 | | | | | | | | | | | |

Utilisation Factor Table(Wall)

| Utilisation Factors UF(W) | | | SHR NOM = 0.75 | | | | | | | | |
|---|------|-------|----------------|------|------|------|------|------|------|------|------|
| 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 | 0.69 | 0.56 | 0.47 | 0.41 | 0.32 | 0.27 | 0.23 | 0.18 | 0.14 |
| | 0.30 | | 0.57 | 0.48 | 0.41 | 0.36 | 0.29 | 0.25 | 0.21 | 0.17 | 0.14 |
| | 0.20 | | 0.49 | 0.42 | 0.37 | 0.32 | 0.27 | 0.23 | 0.20 | 0.16 | 0.13 |
| 0.50 | 0.50 | 0.20 | 0.65 | 0.53 | 0.44 | 0.38 | 0.30 | 0.29 | 0.21 | 0.16 | 0.13 |
| | 0.30 | | 0.55 | 0.46 | 0.39 | 0.34 | 0.27 | 0.23 | 0.20 | 0.15 | 0.13 |
| | 0.20 | | 0.48 | 0.40 | 0.35 | 0.31 | 0.25 | 0.21 | 0.18 | 0.15 | 0.12 |
| 0.30 | 0.50 | 0.20 | 0.62 | 0.50 | 0.42 | 0.36 | 0.28 | 0.23 | 0.19 | 0.15 | 0.12 |
| | 0.30 | | 0.53 | 0.44 | 0.37 | 0.32 | 0.26 | 0.21 | 0.18 | 0.14 | 0.12 |
| | 0.20 | | 0.47 | 0.39 | 0.34 | 0.30 | 0.24 | 0.20 | 0.17 | 0.14 | 0.11 |
| 0.00 | 0.00 | 0.00 | 0.33 | 0.27 | 0.23 | 0.19 | 0.15 | 0.13 | 0.11 | 0.08 | 0.07 |
| Rating: 9W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 | | | | | | | | | | | |

Utilisation Factor Table(Ceiling cavity)

| Utilisation Factors UF(C) | | | SHR NOM = 0.75 | | | | | | | | |
|--|------|-------|----------------|------|------|------|------|------|------|------|------|
| 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 | 0.19 | 0.20 | 0.20 | 0.22 | 0.22 | 0.23 | 0.24 | 0.24 |
| | 0.30 | | 0.12 | 0.14 | 0.16 | 0.17 | 0.18 | 0.20 | 0.20 | 0.22 | 0.23 |
| | 0.20 | | 0.09 | 0.11 | 0.12 | 0.14 | 0.16 | 0.17 | 0.18 | 0.20 | 0.21 |
| 0.50 | 0.50 | 0.20 | 0.16 | 0.18 | 0.19 | 0.20 | 0.21 | 0.21 | 0.22 | 0.23 | 0.23 |
| | 0.30 | | 0.12 | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 |
| | 0.20 | | 0.09 | 0.11 | 0.12 | 0.13 | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 |
| 0.30 | 0.50 | 0.20 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.21 | 0.22 | 0.22 |
| | 0.30 | | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 |
| | 0.20 | | 0.09 | 0.10 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.19 | 0.20 |
| 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| Rating:9W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 | | | | | | | | | | | |

Zonal Lumen

| Gamma [°] | I _{mean} [cd] | Zonal Flux [lm] | Sum Zonal Flux [lm] | Rel Zonal Flux [%] | Sum Rel Zonal Flux [%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 0.0-1.0 | 743.8 | 0.7 | 0.7 | 0.16 | 0.16 |
| 1.0-2.0 | 739.7 | 2.1 | 2.8 | 0.47 | 0.63 |
| 2.0-3.0 | 731.3 | 3.5 | 6.3 | 0.78 | 1.40 |
| 3.0-4.0 | 719.0 | 4.8 | 11.1 | 1.07 | 2.47 |
| 4.0-5.0 | 703.2 | 6.1 | 17.2 | 1.34 | 3.81 |
| 5.0-6.0 | 684.0 | 7.2 | 24.4 | 1.59 | 5.41 |
| 6.0-7.0 | 662.0 | 8.2 | 32.6 | 1.82 | 7.23 |
| 7.0-8.0 | 637.6 | 9.1 | 41.7 | 2.02 | 9.25 |
| 8.0-9.0 | 611.2 | 9.9 | 51.6 | 2.20 | 11.45 |
| 9.0-10.0 | 583.3 | 10.6 | 62.2 | 2.34 | 13.79 |
| 10.0-11.0 | 554.5 | 11.1 | 73.3 | 2.46 | 16.25 |
| 11.0-12.0 | 524.9 | 11.5 | 84.8 | 2.54 | 18.79 |
| 12.0-13.0 | 495.1 | 11.8 | 96.5 | 2.61 | 21.40 |
| 13.0-14.0 | 465.8 | 11.9 | 108.4 | 2.64 | 24.04 |
| 14.0-15.0 | 436.7 | 12.0 | 120.4 | 2.66 | 26.70 |
| 15.0-16.0 | 408.3 | 12.0 | 132.4 | 2.65 | 29.35 |
| 16.0-17.0 | 381.4 | 11.9 | 144.3 | 2.63 | 31.99 |
| 17.0-18.0 | 355.6 | 11.7 | 156.0 | 2.60 | 34.59 |
| 18.0-19.0 | 330.9 | 11.5 | 167.5 | 2.55 | 37.14 |
| 19.0-20.0 | 307.6 | 11.3 | 178.8 | 2.50 | 39.64 |
| 20.0-21.0 | 286.0 | 11.0 | 189.7 | 2.43 | 42.07 |
| 21.0-22.0 | 265.8 | 10.7 | 200.4 | 2.37 | 44.44 |
| 22.0-23.0 | 247.3 | 10.4 | 210.8 | 2.30 | 46.74 |
| 23.0-24.0 | 230.2 | 10.1 | 220.9 | 2.23 | 48.97 |
| 24.0-25.0 | 214.2 | 9.7 | 230.6 | 2.16 | 51.13 |
| 25.0-26.0 | 199.7 | 9.4 | 240.0 | 2.09 | 53.22 |
| 26.0-27.0 | 186.3 | 9.1 | 249.2 | 2.02 | 55.24 |
| 27.0-28.0 | 173.9 | 8.8 | 258.0 | 1.95 | 57.19 |
| 28.0-29.0 | 162.5 | 8.5 | 266.5 | 1.88 | 59.08 |
| 29.0-30.0 | 151.9 | 8.2 | 274.7 | 1.82 | 60.90 |
| 30.0-31.0 | 142.0 | 7.9 | 282.6 | 1.75 | 62.65 |
| 31.0-32.0 | 132.9 | 7.6 | 290.2 | 1.69 | 64.34 |
| 32.0-33.0 | 124.5 | 7.3 | 297.5 | 1.63 | 65.96 |
| 33.0-34.0 | 116.6 | 7.1 | 304.6 | 1.56 | 67.53 |
| 34.0-35.0 | 109.3 | 6.8 | 311.4 | 1.51 | 69.03 |
| 35.0-36.0 | 102.6 | 6.5 | 317.9 | 1.45 | 70.48 |

C Plane (°): 0.0-360.0: 30.0
 Test Lab:
 Test Type: TYPE C
 Temperature: 25
 Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0
 Test Device: GPM-1800B
 Distance: 9.028 m
 Humidity: 60%
 Inspector:

Zonal Lumen (Continue 1)

| Gamma [°] | I _{mean} [cd] | Zonal Flux [lm] | Sum Zonal Flux [lm] | Rel Zonal Flux [%] | Sum Rel Zonal Flux [%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 36.0-37.0 | 96.4 | 6.3 | 324.2 | 1.39 | 71.88 |
| 37.0-38.0 | 90.6 | 6.0 | 330.2 | 1.34 | 73.22 |
| 38.0-39.0 | 85.2 | 5.8 | 336.0 | 1.29 | 74.51 |
| 39.0-40.0 | 80.1 | 5.6 | 341.6 | 1.24 | 75.75 |
| 40.0-41.0 | 75.4 | 5.4 | 347.0 | 1.19 | 76.94 |
| 41.0-42.0 | 70.9 | 5.2 | 352.2 | 1.14 | 78.08 |
| 42.0-43.0 | 66.7 | 4.9 | 357.1 | 1.10 | 79.18 |
| 43.0-44.0 | 62.7 | 4.7 | 361.8 | 1.05 | 80.23 |
| 44.0-45.0 | 59.0 | 4.5 | 366.4 | 1.00 | 81.23 |
| 45.0-46.0 | 55.4 | 4.3 | 370.7 | 0.96 | 82.19 |
| 46.0-47.0 | 52.0 | 4.1 | 374.8 | 0.92 | 83.11 |
| 47.0-48.0 | 48.8 | 3.9 | 378.8 | 0.88 | 83.99 |
| 48.0-49.0 | 45.8 | 3.8 | 382.5 | 0.83 | 84.82 |
| 49.0-50.0 | 42.9 | 3.6 | 386.1 | 0.79 | 85.61 |
| 50.0-51.0 | 40.2 | 3.4 | 389.5 | 0.75 | 86.37 |
| 51.0-52.0 | 37.6 | 3.2 | 392.8 | 0.72 | 87.08 |
| 52.0-53.0 | 35.2 | 3.1 | 395.8 | 0.68 | 87.76 |
| 53.0-54.0 | 32.9 | 2.9 | 398.7 | 0.64 | 88.40 |
| 54.0-55.0 | 30.7 | 2.7 | 401.4 | 0.61 | 89.01 |
| 55.0-56.0 | 28.6 | 2.6 | 404.0 | 0.57 | 89.58 |
| 56.0-57.0 | 26.6 | 2.4 | 406.5 | 0.54 | 90.12 |
| 57.0-58.0 | 24.7 | 2.3 | 408.7 | 0.51 | 90.63 |
| 58.0-59.0 | 23.0 | 2.2 | 410.9 | 0.48 | 91.11 |
| 59.0-60.0 | 21.3 | 2.0 | 412.9 | 0.45 | 91.55 |
| 60.0-61.0 | 19.8 | 1.9 | 414.8 | 0.42 | 91.97 |
| 61.0-62.0 | 18.4 | 1.8 | 416.6 | 0.39 | 92.36 |
| 62.0-63.0 | 17.1 | 1.7 | 418.2 | 0.37 | 92.73 |
| 63.0-64.0 | 15.9 | 1.6 | 419.8 | 0.34 | 93.08 |
| 64.0-65.0 | 14.7 | 1.5 | 421.2 | 0.32 | 93.40 |
| 65.0-66.0 | 13.6 | 1.4 | 422.6 | 0.30 | 93.70 |
| 66.0-67.0 | 12.6 | 1.3 | 423.9 | 0.28 | 93.98 |
| 67.0-68.0 | 11.7 | 1.2 | 425.1 | 0.26 | 94.25 |
| 68.0-69.0 | 10.8 | 1.1 | 426.2 | 0.24 | 94.49 |
| 69.0-70.0 | 9.9 | 1.0 | 427.2 | 0.23 | 94.72 |
| 70.0-71.0 | 9.1 | 0.9 | 428.1 | 0.21 | 94.93 |
| 71.0-72.0 | 8.3 | 0.9 | 429.0 | 0.19 | 95.12 |

C Plane (°): 0.0-360.0: 30.0
 Test Lab:
 Test Type: TYPE C
 Temperature: 25
 Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0
 Test Device: GPM-1800B
 Distance: 9.028 m
 Humidity: 60%
 Inspector:

Zonal Lumen (Continue 2)

| Gamma [°] | I _{mean} [cd] | Zonal Flux [lm] | Sum Zonal Flux [lm] | Rel Zonal Flux [%] | Sum Rel Zonal Flux [%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 72.0-73.0 | 7.6 | 0.8 | 429.8 | 0.18 | 95.29 |
| 73.0-74.0 | 7.0 | 0.7 | 430.5 | 0.16 | 95.46 |
| 74.0-75.0 | 6.3 | 0.7 | 431.2 | 0.15 | 95.60 |
| 75.0-76.0 | 5.7 | 0.6 | 431.8 | 0.13 | 95.74 |
| 76.0-77.0 | 5.2 | 0.6 | 432.4 | 0.12 | 95.86 |
| 77.0-78.0 | 4.7 | 0.5 | 432.9 | 0.11 | 95.97 |
| 78.0-79.0 | 4.2 | 0.5 | 433.3 | 0.10 | 96.07 |
| 79.0-80.0 | 3.8 | 0.4 | 433.7 | 0.09 | 96.16 |
| 80.0-81.0 | 3.4 | 0.4 | 434.1 | 0.08 | 96.25 |
| 81.0-82.0 | 3.1 | 0.3 | 434.4 | 0.07 | 96.32 |
| 82.0-83.0 | 2.8 | 0.3 | 434.7 | 0.07 | 96.39 |
| 83.0-84.0 | 2.5 | 0.3 | 435.0 | 0.06 | 96.45 |
| 84.0-85.0 | 2.3 | 0.3 | 435.2 | 0.06 | 96.50 |
| 85.0-86.0 | 2.1 | 0.2 | 435.5 | 0.05 | 96.56 |
| 86.0-87.0 | 2.0 | 0.2 | 435.7 | 0.05 | 96.61 |
| 87.0-88.0 | 1.9 | 0.2 | 435.9 | 0.05 | 96.65 |
| 88.0-89.0 | 1.9 | 0.2 | 436.1 | 0.05 | 96.70 |
| 89.0-90.0 | 1.9 | 0.2 | 436.3 | 0.05 | 96.74 |
| 90.0-91.0 | 1.8 | 0.2 | 436.5 | 0.04 | 96.79 |
| 91.0-92.0 | 1.9 | 0.2 | 436.7 | 0.05 | 96.83 |
| 92.0-93.0 | 1.9 | 0.2 | 436.9 | 0.05 | 96.88 |
| 93.0-94.0 | 1.9 | 0.2 | 437.1 | 0.05 | 96.93 |
| 94.0-95.0 | 1.9 | 0.2 | 437.3 | 0.04 | 96.97 |
| 95.0-96.0 | 1.8 | 0.2 | 437.5 | 0.04 | 97.01 |
| 96.0-97.0 | 1.8 | 0.2 | 437.7 | 0.04 | 97.06 |
| 97.0-98.0 | 1.8 | 0.2 | 437.9 | 0.04 | 97.10 |
| 98.0-99.0 | 1.8 | 0.2 | 438.1 | 0.04 | 97.15 |
| 99.0-100.0 | 1.8 | 0.2 | 438.3 | 0.04 | 97.19 |
| 100.0-101.0 | 1.8 | 0.2 | 438.5 | 0.04 | 97.23 |
| 101.0-102.0 | 1.8 | 0.2 | 438.7 | 0.04 | 97.27 |
| 102.0-103.0 | 1.8 | 0.2 | 438.9 | 0.04 | 97.32 |
| 103.0-104.0 | 1.8 | 0.2 | 439.1 | 0.04 | 97.36 |
| 104.0-105.0 | 1.8 | 0.2 | 439.3 | 0.04 | 97.40 |
| 105.0-106.0 | 1.8 | 0.2 | 439.5 | 0.04 | 97.44 |
| 106.0-107.0 | 1.8 | 0.2 | 439.7 | 0.04 | 97.48 |
| 107.0-108.0 | 1.8 | 0.2 | 439.8 | 0.04 | 97.52 |

C Plane (°): 0.0-360.0: 30.0
 Test Lab:
 Test Type: TYPE C
 Temperature: 25
 Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0
 Test Device: GPM-1800B
 Distance: 9.028 m
 Humidity: 60%
 Inspector:

Zonal Lumen (Continue 3)

| Gamma [°] | I _{mean} [cd] | Zonal Flux [lm] | Sum Zonal Flux [lm] | Rel Zonal Flux [%] | Sum Rel Zonal Flux [%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 108.0-109.0 | 1.8 | 0.2 | 440.0 | 0.04 | 97.56 |
| 109.0-110.0 | 1.8 | 0.2 | 440.2 | 0.04 | 97.61 |
| 110.0-111.0 | 1.8 | 0.2 | 440.4 | 0.04 | 97.65 |
| 111.0-112.0 | 1.8 | 0.2 | 440.6 | 0.04 | 97.69 |
| 112.0-113.0 | 1.8 | 0.2 | 440.8 | 0.04 | 97.73 |
| 113.0-114.0 | 1.9 | 0.2 | 441.0 | 0.04 | 97.77 |
| 114.0-115.0 | 1.9 | 0.2 | 441.2 | 0.04 | 97.81 |
| 115.0-116.0 | 1.9 | 0.2 | 441.3 | 0.04 | 97.86 |
| 116.0-117.0 | 1.9 | 0.2 | 441.5 | 0.04 | 97.90 |
| 117.0-118.0 | 1.9 | 0.2 | 441.7 | 0.04 | 97.94 |
| 118.0-119.0 | 2.0 | 0.2 | 441.9 | 0.04 | 97.98 |
| 119.0-120.0 | 2.0 | 0.2 | 442.1 | 0.04 | 98.02 |
| 120.0-121.0 | 2.0 | 0.2 | 442.3 | 0.04 | 98.06 |
| 121.0-122.0 | 2.0 | 0.2 | 442.5 | 0.04 | 98.11 |
| 122.0-123.0 | 2.1 | 0.2 | 442.7 | 0.04 | 98.15 |
| 123.0-124.0 | 2.1 | 0.2 | 442.9 | 0.04 | 98.19 |
| 124.0-125.0 | 2.1 | 0.2 | 443.0 | 0.04 | 98.23 |
| 125.0-126.0 | 2.1 | 0.2 | 443.2 | 0.04 | 98.28 |
| 126.0-127.0 | 2.2 | 0.2 | 443.4 | 0.04 | 98.32 |
| 127.0-128.0 | 2.2 | 0.2 | 443.6 | 0.04 | 98.36 |
| 128.0-129.0 | 2.2 | 0.2 | 443.8 | 0.04 | 98.40 |
| 129.0-130.0 | 2.3 | 0.2 | 444.0 | 0.04 | 98.45 |
| 130.0-131.0 | 2.3 | 0.2 | 444.2 | 0.04 | 98.49 |
| 131.0-132.0 | 2.3 | 0.2 | 444.4 | 0.04 | 98.53 |
| 132.0-133.0 | 2.4 | 0.2 | 444.6 | 0.04 | 98.58 |
| 133.0-134.0 | 2.5 | 0.2 | 444.8 | 0.04 | 98.62 |
| 134.0-135.0 | 2.5 | 0.2 | 445.0 | 0.04 | 98.66 |
| 135.0-136.0 | 2.6 | 0.2 | 445.2 | 0.04 | 98.71 |
| 136.0-137.0 | 2.6 | 0.2 | 445.4 | 0.04 | 98.75 |
| 137.0-138.0 | 2.7 | 0.2 | 445.6 | 0.04 | 98.79 |
| 138.0-139.0 | 2.7 | 0.2 | 445.8 | 0.04 | 98.84 |
| 139.0-140.0 | 2.8 | 0.2 | 446.0 | 0.04 | 98.88 |
| 140.0-141.0 | 2.8 | 0.2 | 446.2 | 0.04 | 98.92 |
| 141.0-142.0 | 2.9 | 0.2 | 446.4 | 0.04 | 98.97 |
| 142.0-143.0 | 2.9 | 0.2 | 446.6 | 0.04 | 99.01 |
| 143.0-144.0 | 3.0 | 0.2 | 446.7 | 0.04 | 99.05 |

C Plane (°): 0.0-360.0: 30.0
 Test Lab:
 Test Type: TYPE C
 Temperature: 25
 Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0
 Test Device: GPM-1800B
 Distance: 9.028 m
 Humidity: 60%
 Inspector:

Zonal Lumen (Continue 4)

| Gamma [°] | I _{mean} [cd] | Zonal Flux [lm] | Sum Zonal Flux [lm] | Rel Zonal Flux [%] | Sum Rel Zonal Flux [%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 144.0-145.0 | 3.0 | 0.2 | 446.9 | 0.04 | 99.10 |
| 145.0-146.0 | 3.1 | 0.2 | 447.1 | 0.04 | 99.14 |
| 146.0-147.0 | 3.1 | 0.2 | 447.3 | 0.04 | 99.18 |
| 147.0-148.0 | 3.2 | 0.2 | 447.5 | 0.04 | 99.22 |
| 148.0-149.0 | 3.2 | 0.2 | 447.7 | 0.04 | 99.26 |
| 149.0-150.0 | 3.3 | 0.2 | 447.9 | 0.04 | 99.30 |
| 150.0-151.0 | 3.3 | 0.2 | 448.1 | 0.04 | 99.34 |
| 151.0-152.0 | 3.4 | 0.2 | 448.2 | 0.04 | 99.38 |
| 152.0-153.0 | 3.5 | 0.2 | 448.4 | 0.04 | 99.42 |
| 153.0-154.0 | 3.5 | 0.2 | 448.6 | 0.04 | 99.46 |
| 154.0-155.0 | 3.6 | 0.2 | 448.7 | 0.04 | 99.50 |
| 155.0-156.0 | 3.6 | 0.2 | 448.9 | 0.04 | 99.53 |
| 156.0-157.0 | 3.6 | 0.2 | 449.1 | 0.04 | 99.57 |
| 157.0-158.0 | 3.7 | 0.2 | 449.2 | 0.03 | 99.60 |
| 158.0-159.0 | 3.7 | 0.1 | 449.4 | 0.03 | 99.64 |
| 159.0-160.0 | 3.8 | 0.1 | 449.5 | 0.03 | 99.67 |
| 160.0-161.0 | 3.8 | 0.1 | 449.7 | 0.03 | 99.70 |
| 161.0-162.0 | 3.8 | 0.1 | 449.8 | 0.03 | 99.73 |
| 162.0-163.0 | 3.9 | 0.1 | 449.9 | 0.03 | 99.76 |
| 163.0-164.0 | 3.9 | 0.1 | 450.0 | 0.03 | 99.78 |
| 164.0-165.0 | 3.9 | 0.1 | 450.2 | 0.03 | 99.81 |
| 165.0-166.0 | 3.9 | 0.1 | 450.3 | 0.02 | 99.83 |
| 166.0-167.0 | 4.0 | 0.1 | 450.4 | 0.02 | 99.86 |
| 167.0-168.0 | 4.0 | 0.1 | 450.5 | 0.02 | 99.88 |
| 168.0-169.0 | 4.0 | 0.1 | 450.5 | 0.02 | 99.90 |
| 169.0-170.0 | 4.0 | 0.1 | 450.6 | 0.02 | 99.91 |
| 170.0-171.0 | 4.0 | 0.1 | 450.7 | 0.02 | 99.93 |
| 171.0-172.0 | 4.0 | 0.1 | 450.8 | 0.01 | 99.94 |
| 172.0-173.0 | 4.0 | 0.1 | 450.8 | 0.01 | 99.96 |
| 173.0-174.0 | 4.0 | 0.1 | 450.9 | 0.01 | 99.97 |
| 174.0-175.0 | 4.1 | 0.0 | 450.9 | 0.01 | 99.98 |
| 175.0-176.0 | 4.1 | 0.0 | 451.0 | 0.01 | 99.99 |
| 176.0-177.0 | 4.1 | 0.0 | 451.0 | 0.01 | 99.99 |
| 177.0-178.0 | 4.1 | 0.0 | 451.0 | 0.00 | 100.00 |
| 178.0-179.0 | 4.1 | 0.0 | 451.0 | 0.00 | 100.00 |
| 179.0-180.0 | 4.1 | 0.0 | 451.0 | 0.00 | 100.00 |

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector: