

Report No.:

Test Time: 22/01/2021 12:10

## Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-DW11-03 + LLD-03-FK

Lamp Description: F52-400-60822 90cm

Number of Lamps: 1

Lumens per Lamp: 1434 lm

Voltage: 24.0 V

Current: 0.532 A

Power: 12.77 W

Power Factor: 1.000

## Photometric Results

CIE Class: Direct

Measurement Flux: 908.3 lm

Downward Ratio: 63.27%

Total Rated Lamp Lumens: 1434.0 lm

Efficiency: 63.34%

Upward Ratio: 0.07%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 154.6, 121.6, 130.0, 129.6

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 113.4, 43.0, 72.4, 72.1

Luminaire Efficacy Rating (LER): 71.18

Central Intensity: 513.14 cd

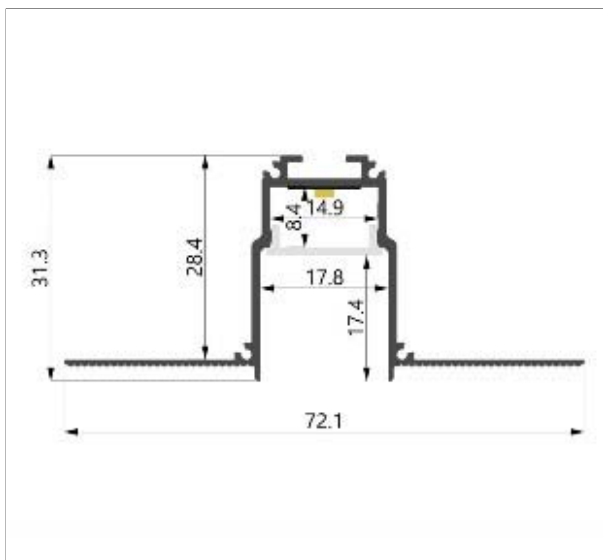
Max. Intensity: 549.66 cd

Pos of Max. Intensity: H90 V16

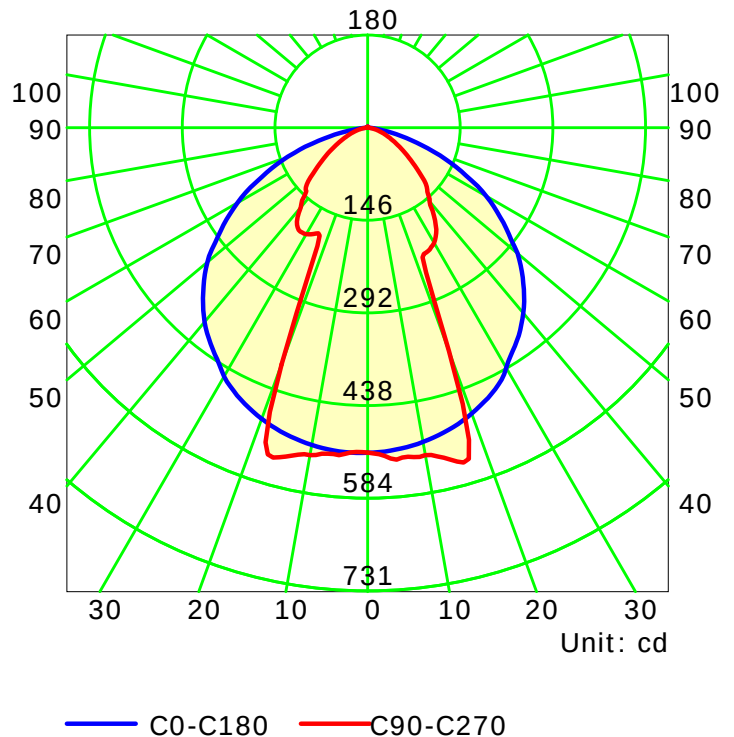
S/MH(C0/C180): 1.28

S/MH(C90/C270): 0.76

Picture Of Luminaire



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

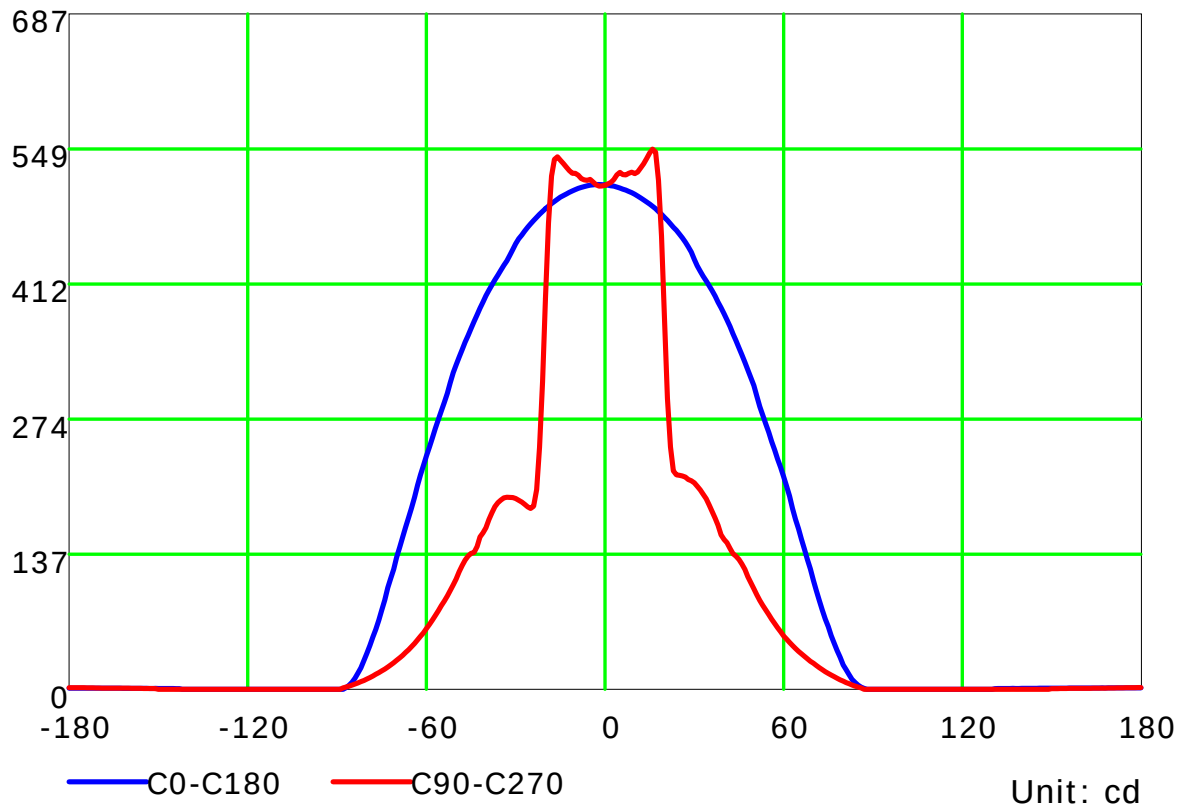
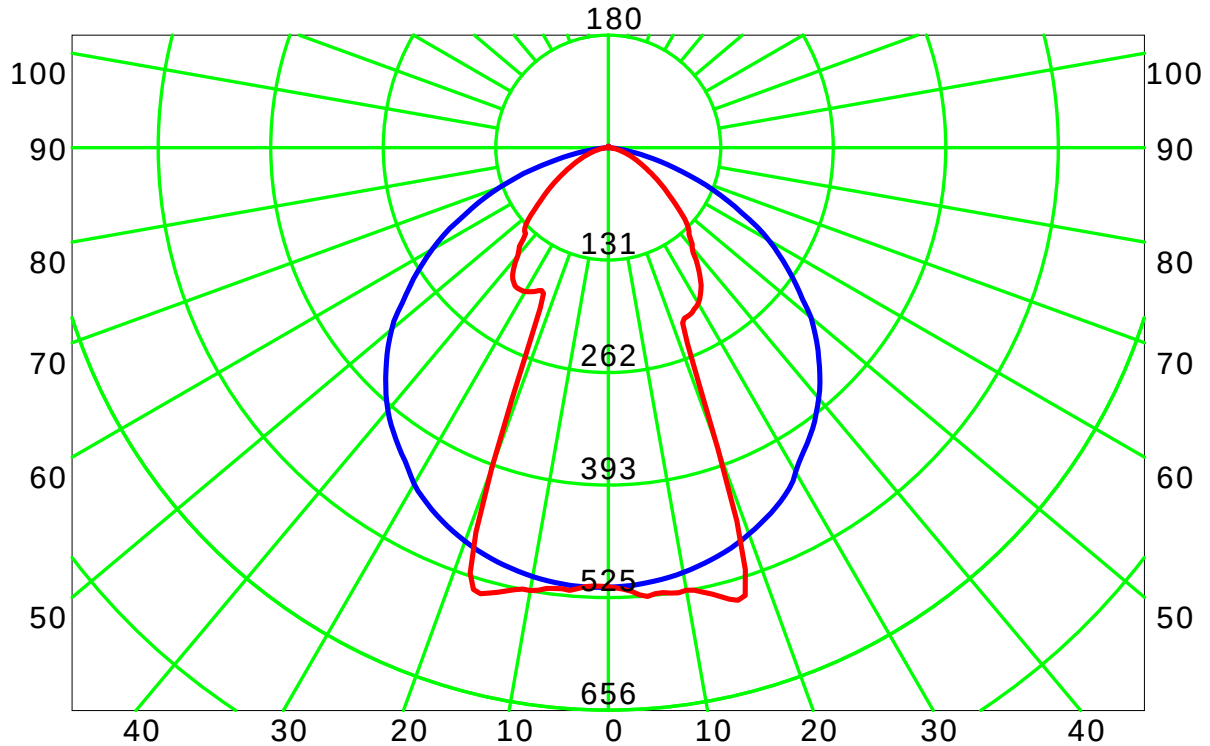
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

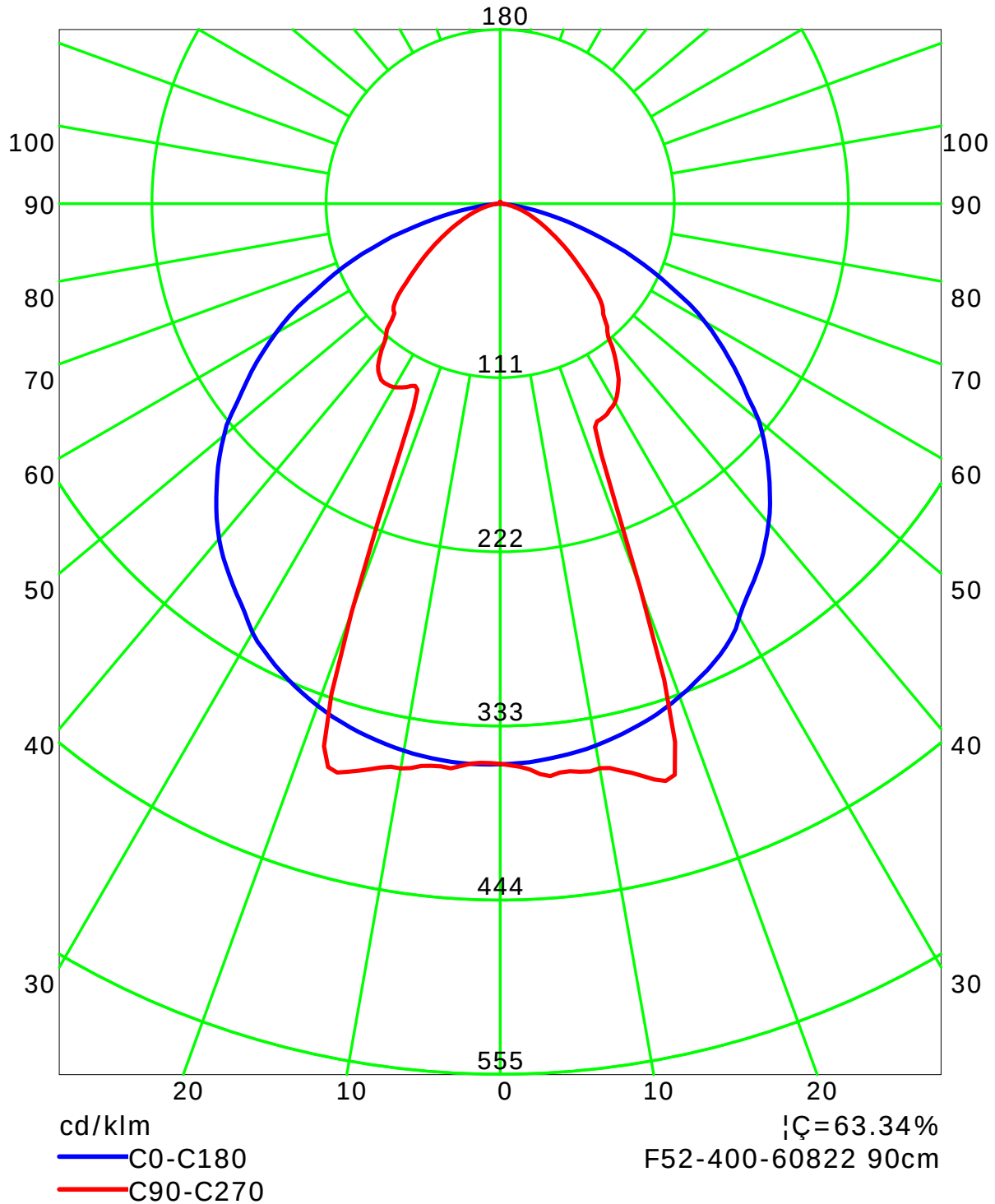
## Luminous Intensity Distribution Curve



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

Gamma Plane (°): 0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

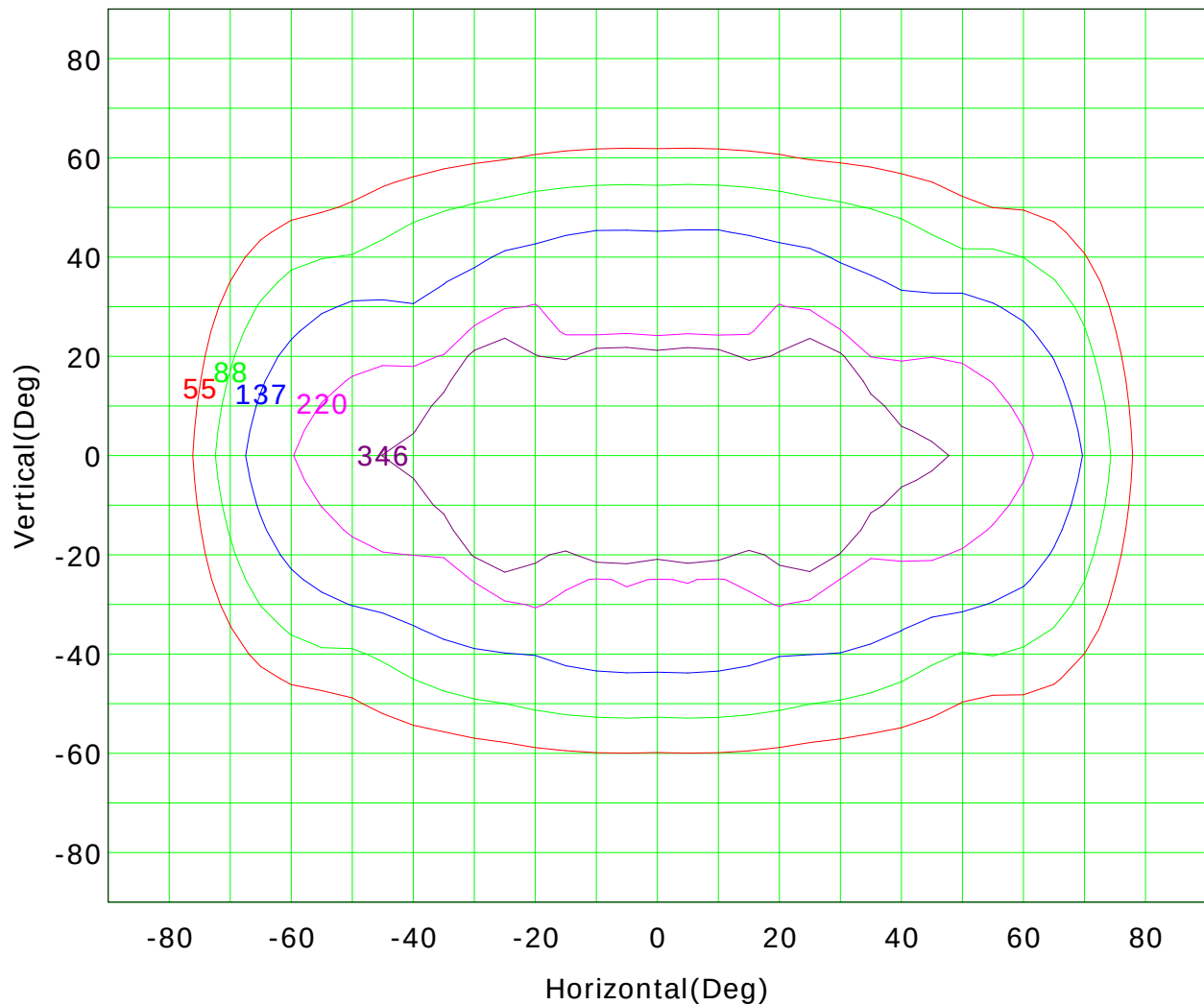
## Luminous Intensity Distribution Curve(cd / klm)



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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

## Isocandela (rectangle)



I<sub>max</sub> (100%): 550 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 55 cd  | ( 16%): | 88 cd  |
| ( 25%): | 137 cd | ( 40%): | 220 cd |
| ( 63%): | 346 cd | (100%): | 550 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

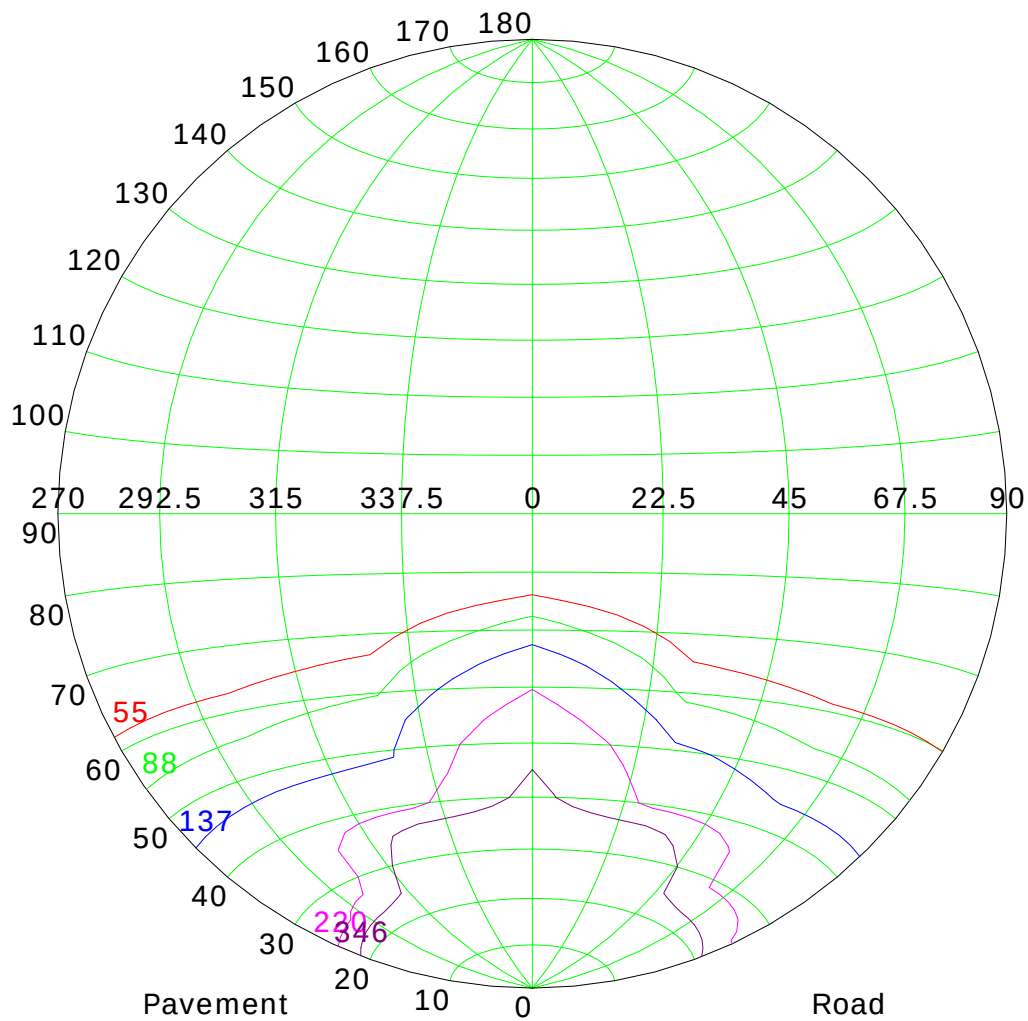
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## Isocandela (sphere)



I<sub>max</sub> (100%): 550 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 55 cd  | ( 16%): | 88 cd  |
| ( 25%): | 137 cd | ( 40%): | 220 cd |
| ( 63%): | 346 cd | (100%): | 550 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

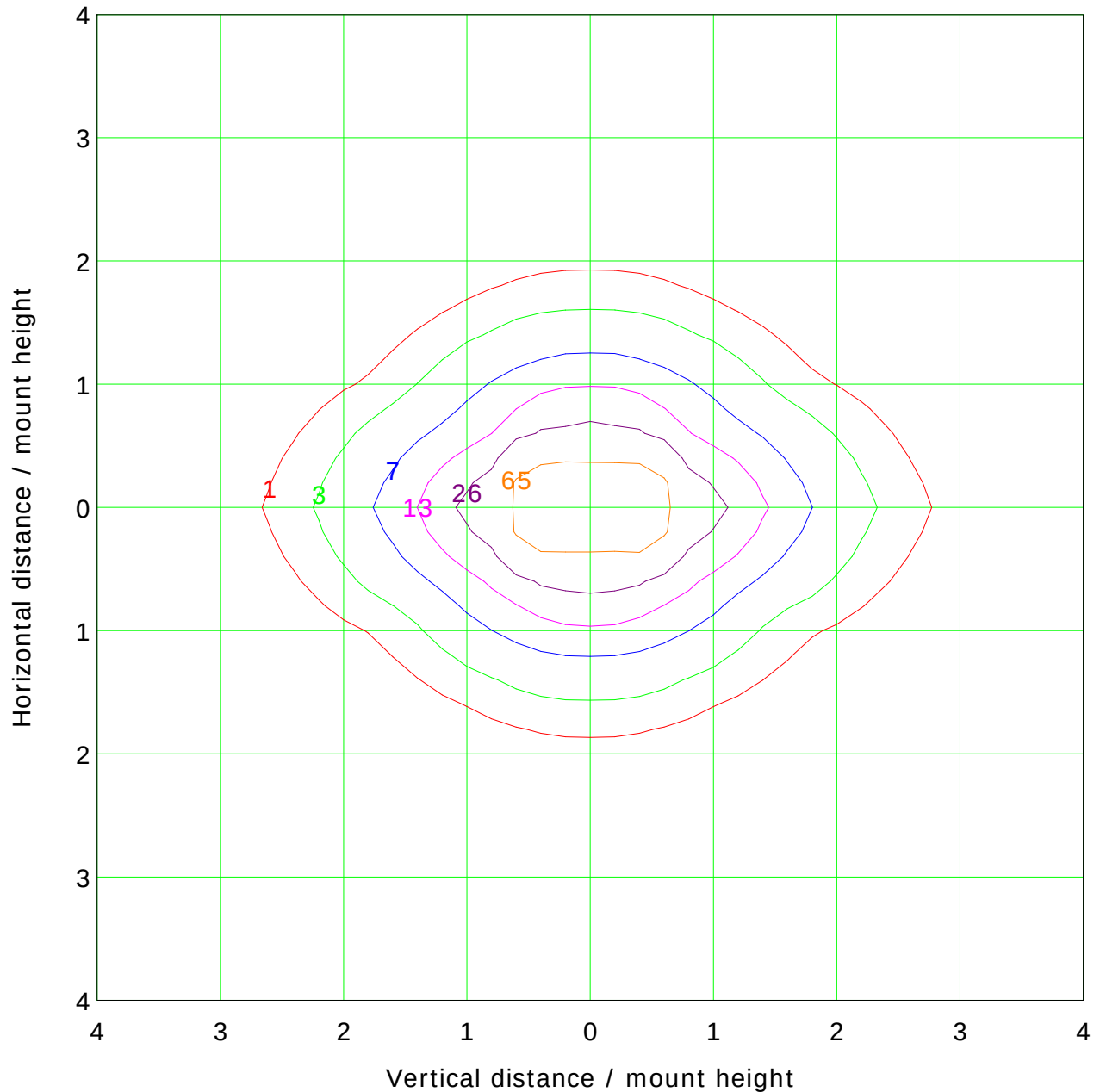
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## IsoLux Plot



|                       |          |                         |         |
|-----------------------|----------|-------------------------|---------|
| Mounting Height: 2.0m |          | Max Lux(100%): 130.0 lx |         |
| — ( 1%):              | 1.3 lx   | — ( 2%):                | 2.6 lx  |
| — ( 5%):              | 6.5 lx   | — ( 10%):               | 13.0 lx |
| — ( 20%):             | 26.0 lx  | — ( 50%):               | 65.0 lx |
| — (100%):             | 130.0 lx |                         |         |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

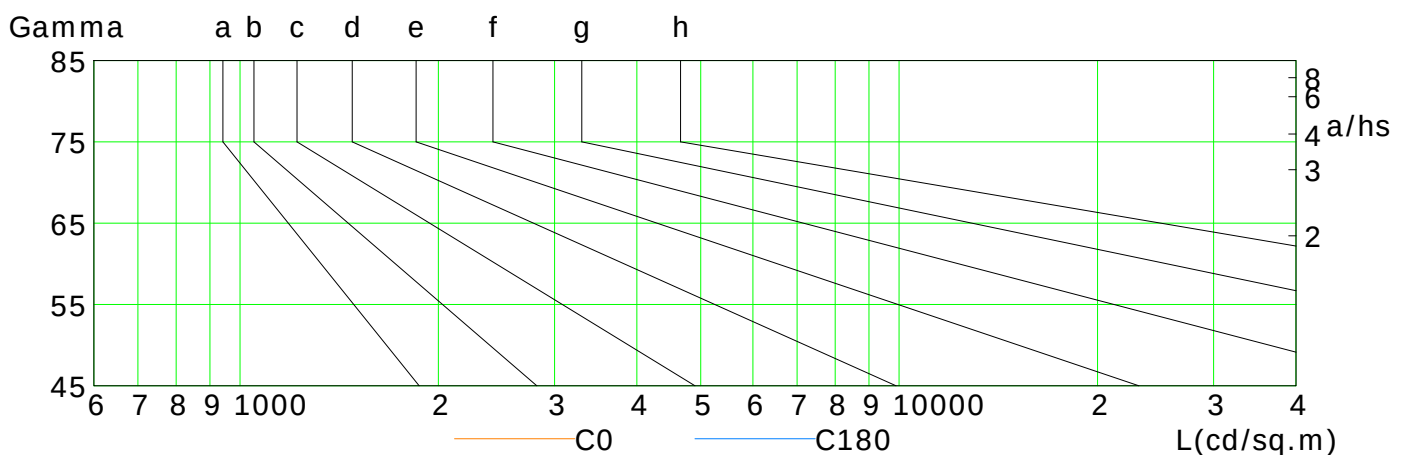
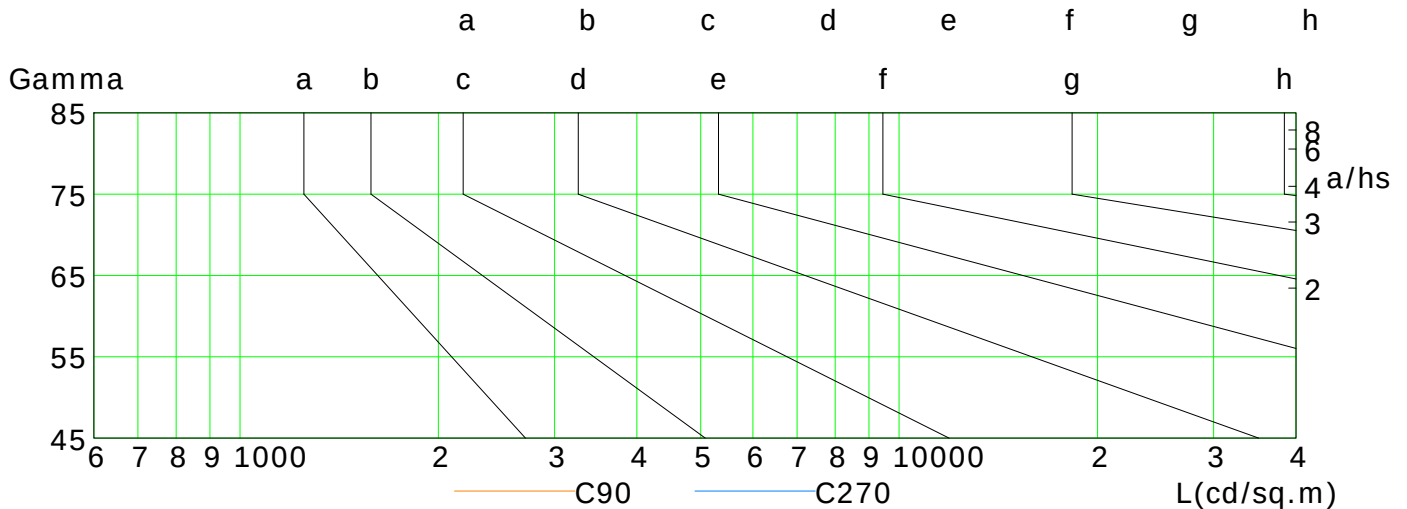
Distance: 7.979 m

Humidity:

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 |



| L(cd/sq.m) | G45 | G50 | G55 | G60 | G65 | G70 | G75 | G80 | G85 |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| C0         | 347 | 309 | 261 | 216 | 163 | 111 | 64  | 25  | 4   |
| C90        | 132 | 102 | 76  | 54  | 39  | 27  | 16  | 8   | 2   |
| C180       | 367 | 330 | 283 | 237 | 184 | 134 | 81  | 37  | 7   |
| C270       | 138 | 112 | 85  | 62  | 43  | 29  | 19  | 11  | 4   |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

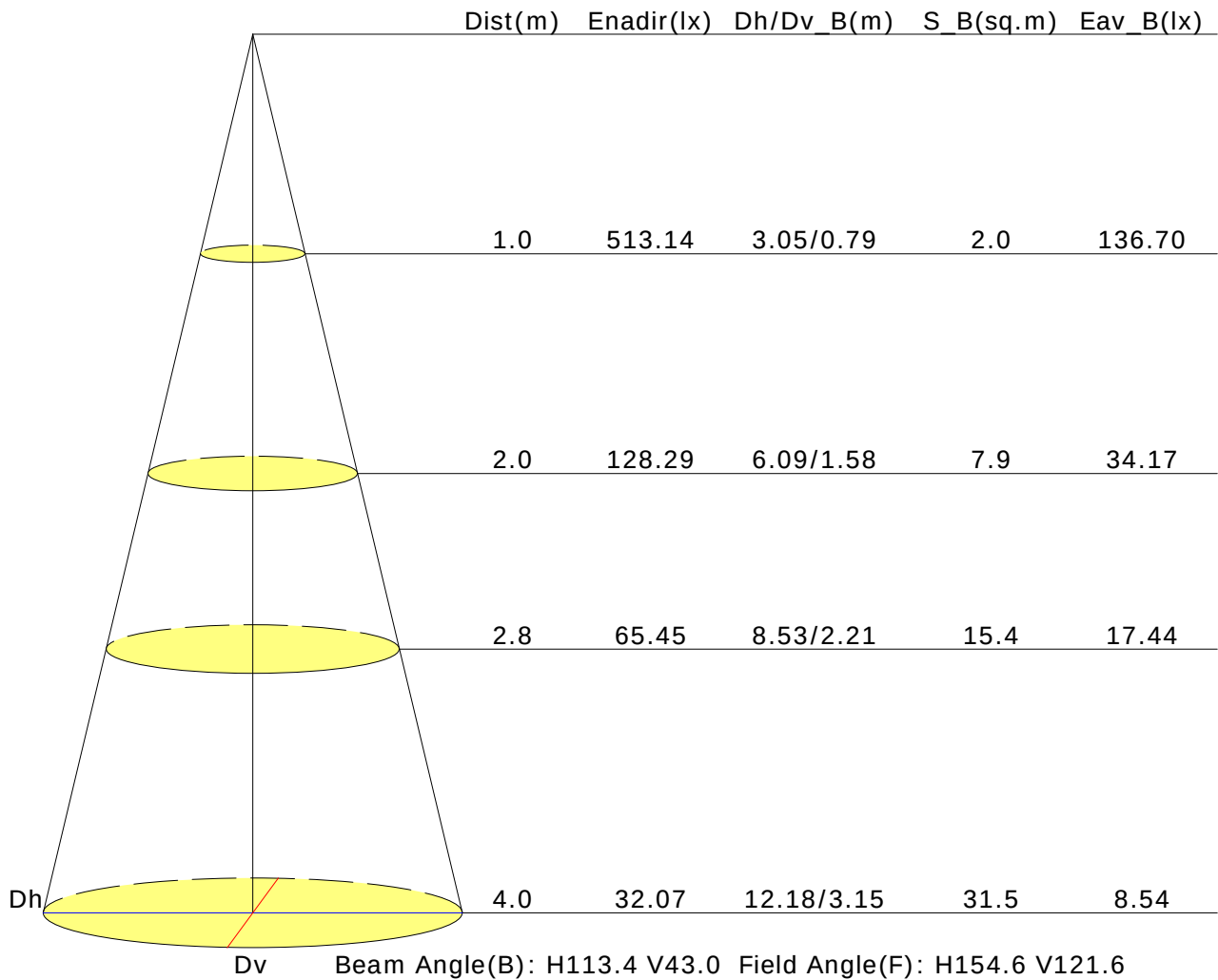
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

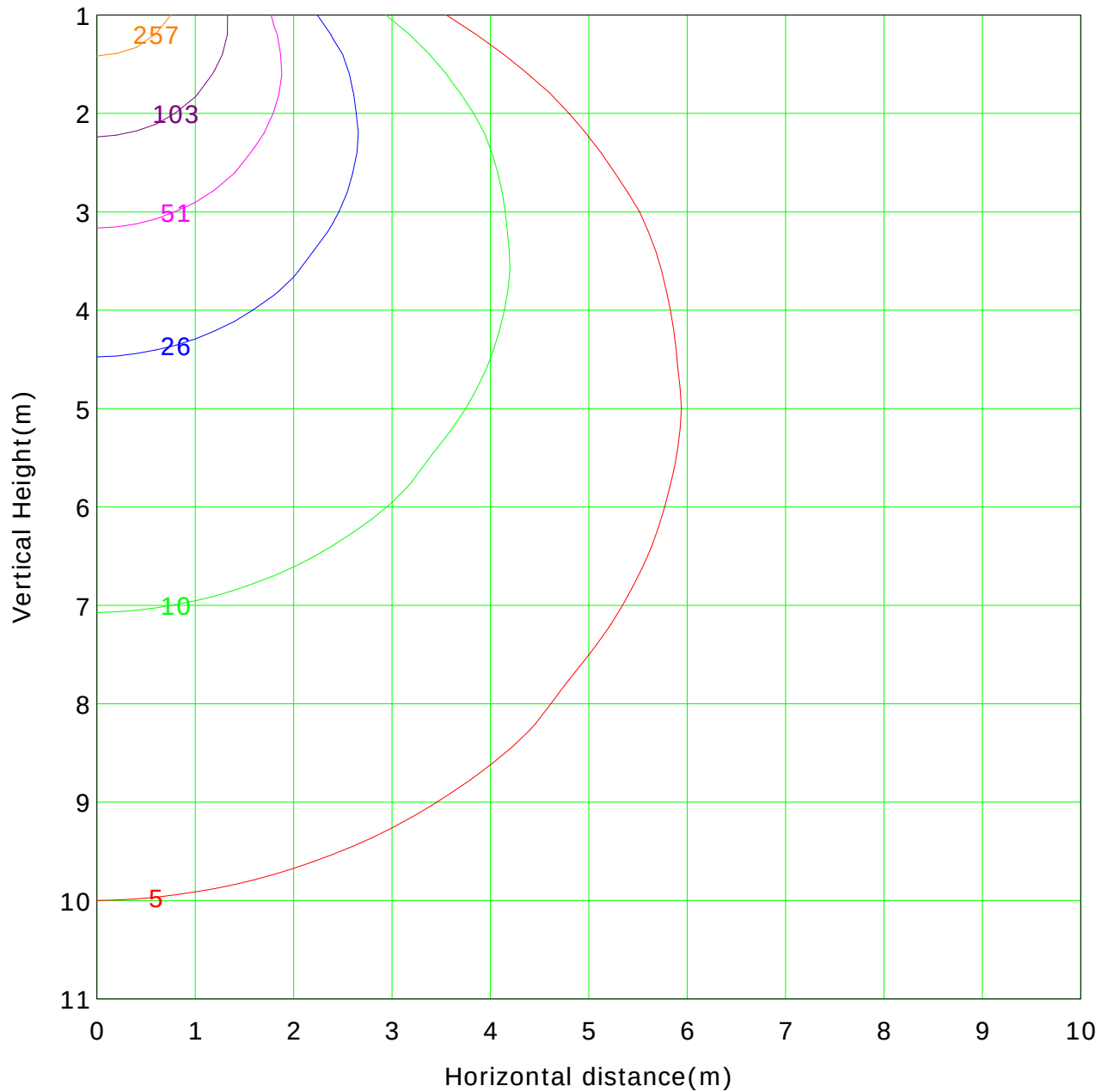
Inspector:

## Illuminance at a Distance





## Vertical IsoLux Plot



Lowest(m): 1.0m    Highest(m): 11.0m    Max Lux: 513.1 lx

|                    |                    |
|--------------------|--------------------|
| — ( 1%): 5.1 lx    | — ( 2%): 10.3 lx   |
| — ( 5%): 25.7 lx   | — ( 10%): 51.3 lx  |
| — ( 20%): 102.6 lx | — ( 50%): 256.6 lx |
| — (100%): 513.1 lx |                    |

Report No.:

Test Time: 22/01/2021 11:06

## Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-DW11-03 + LLD-03-FH

Lamp Description: F52-400-60822 90cm

Number of Lamps: 1

Lumens per Lamp: 1434 lm

Voltage: 24.0 V

Current: 0.528 A

Power: 12.67 W

Power Factor: 1.000

## Photometric Results

CIE Class: Direct

Measurement Flux: 864.3 lm

Downward Ratio: 60.23%

Total Rated Lamp Lumens: 1434.0 lm

Efficiency: 60.27%

Upward Ratio: 0.04%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 152.3, 125.7, 133.6, 133.8

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 101.3, 48.2, 70.4, 70.3

Luminaire Efficacy Rating (LER): 68.27

Central Intensity: 504.5 cd

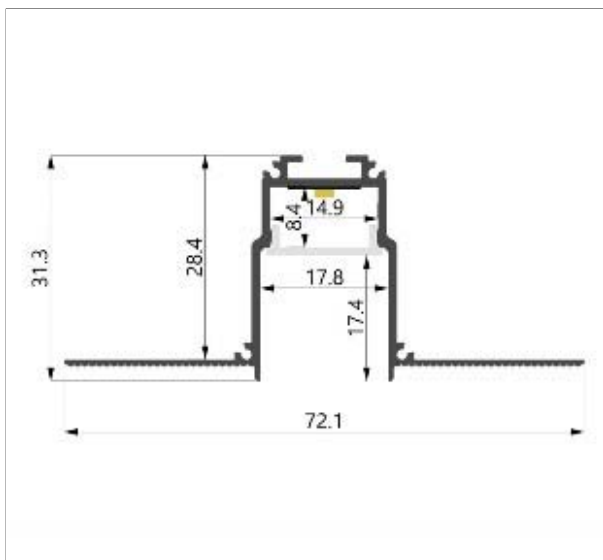
Max. Intensity: 510.08 cd

Pos of Max. Intensity: H90 V5

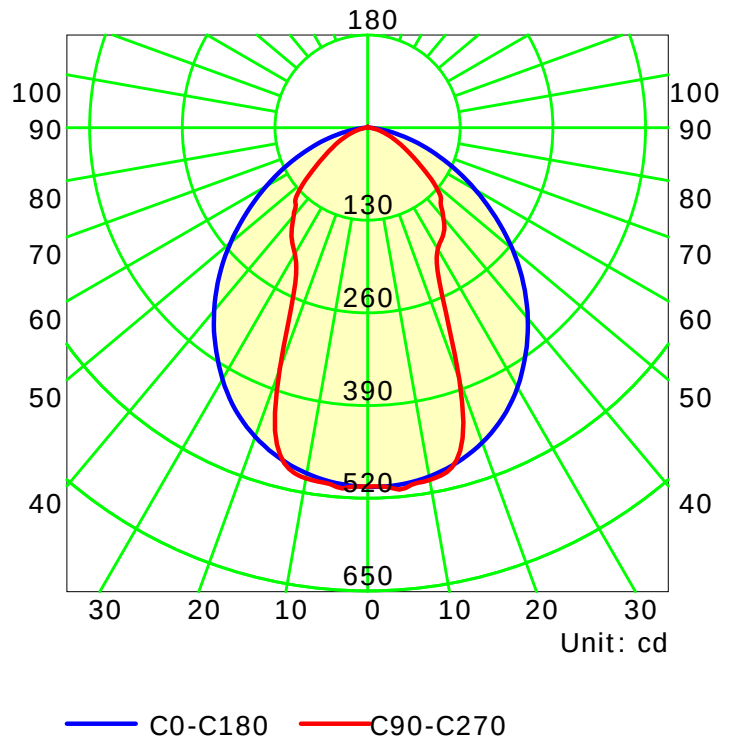
S/MH(C0/C180): 1.22

S/MH(C90/C270): 0.80

Picture Of Luminaire



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

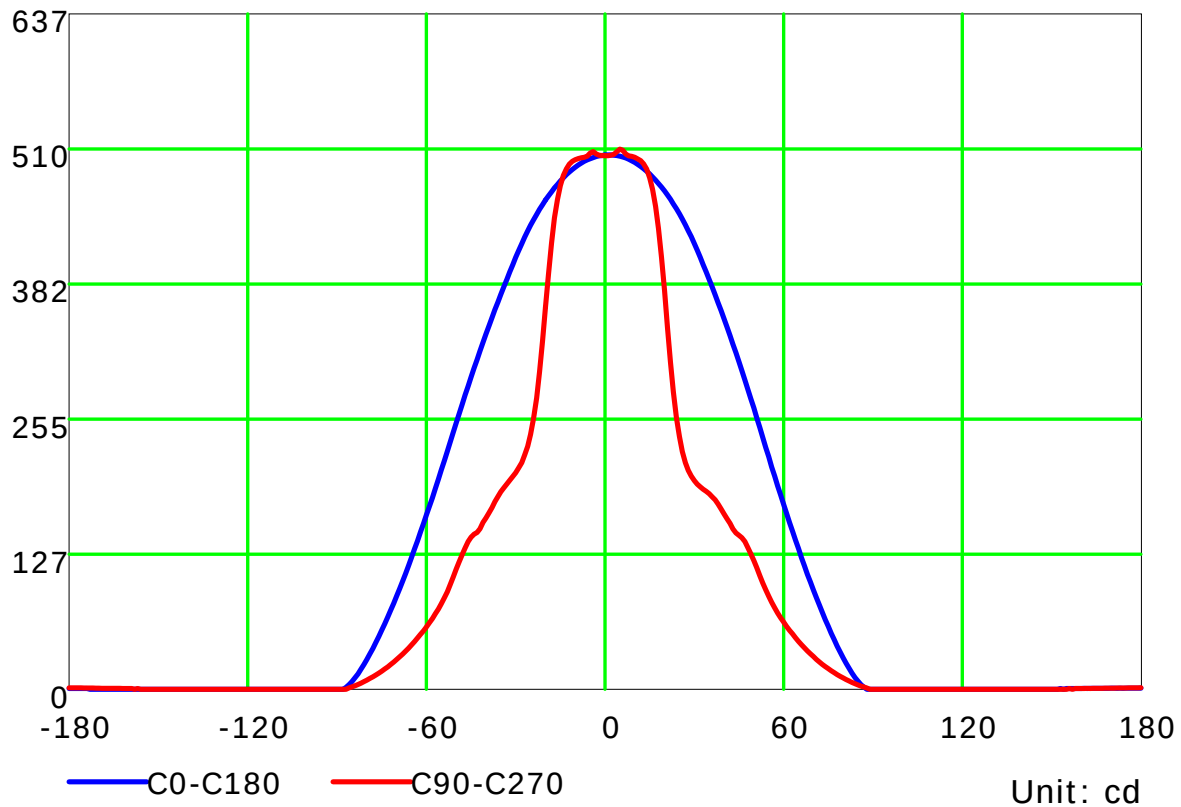
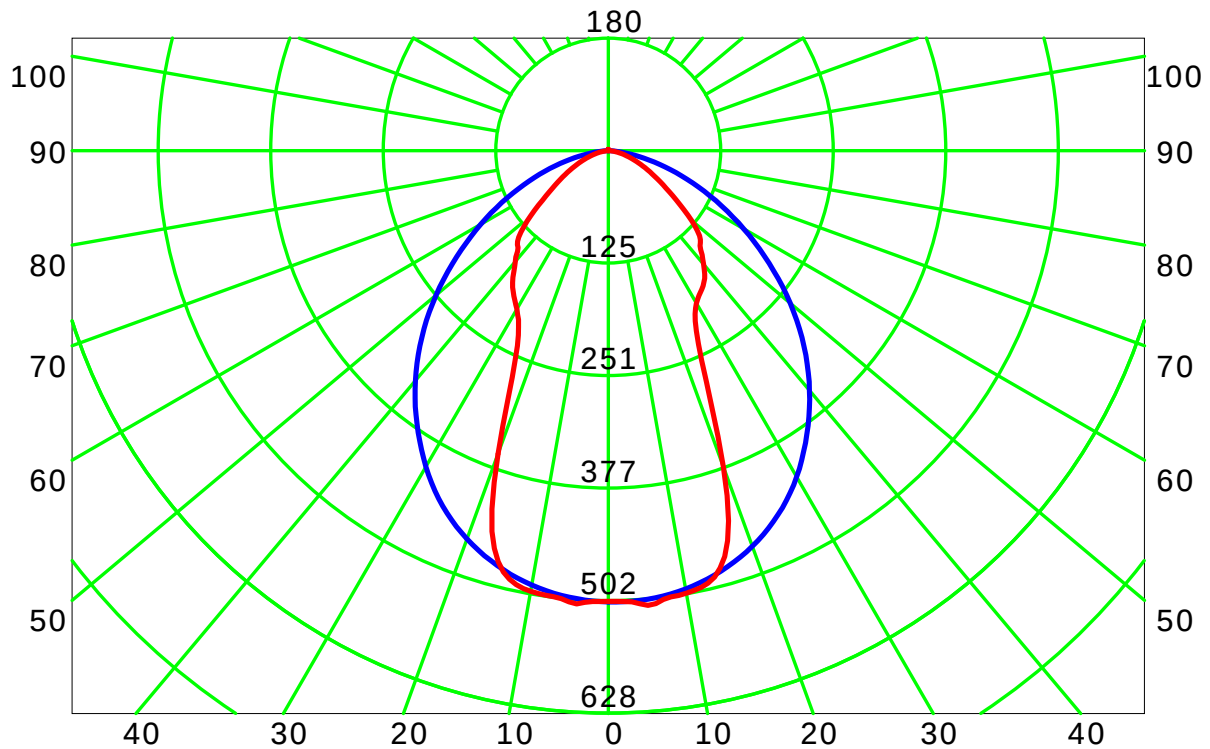
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## Luminous Intensity Distribution Curve



C Plane (°): 0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°): 0.0-180.0: 1.0

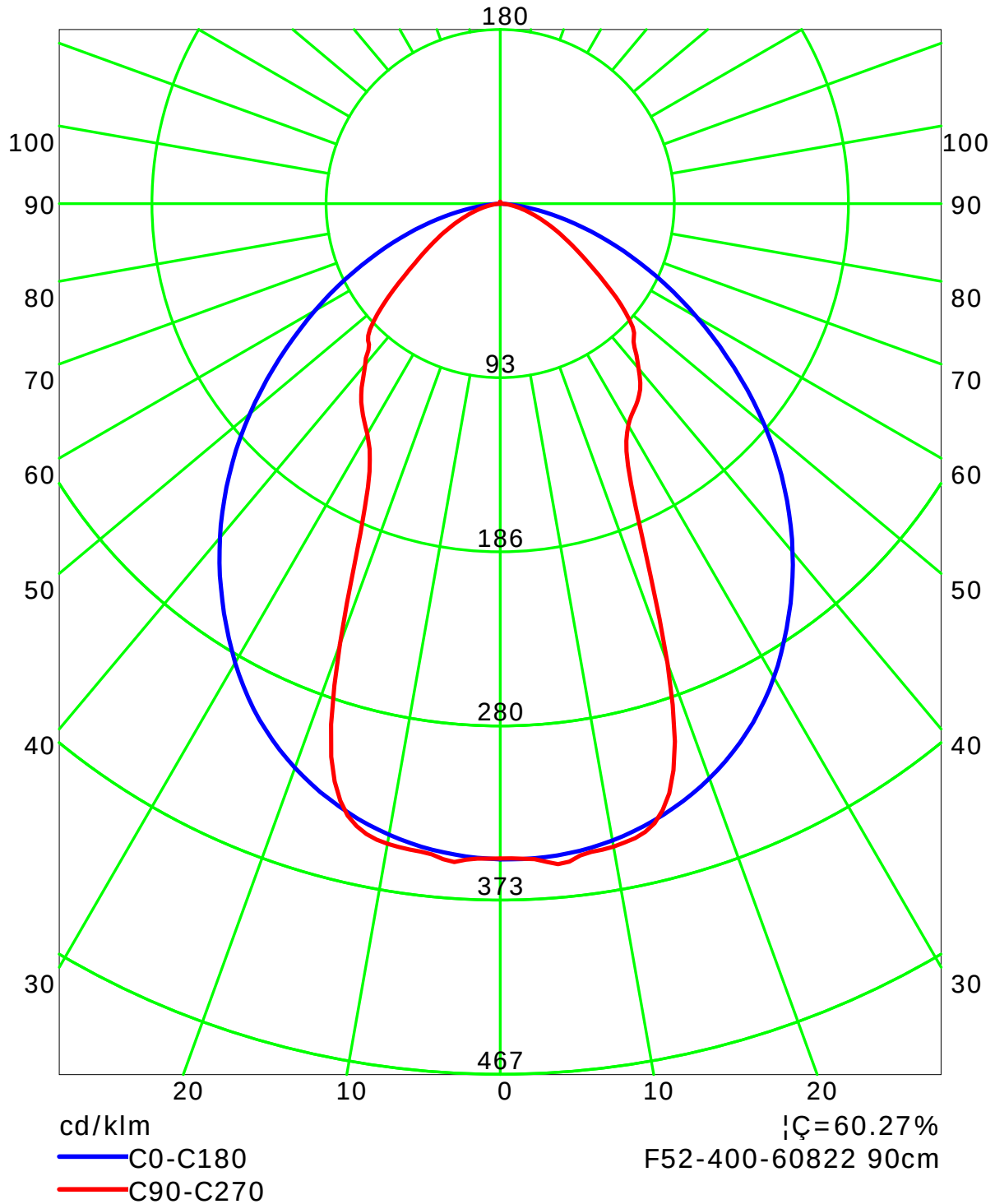
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

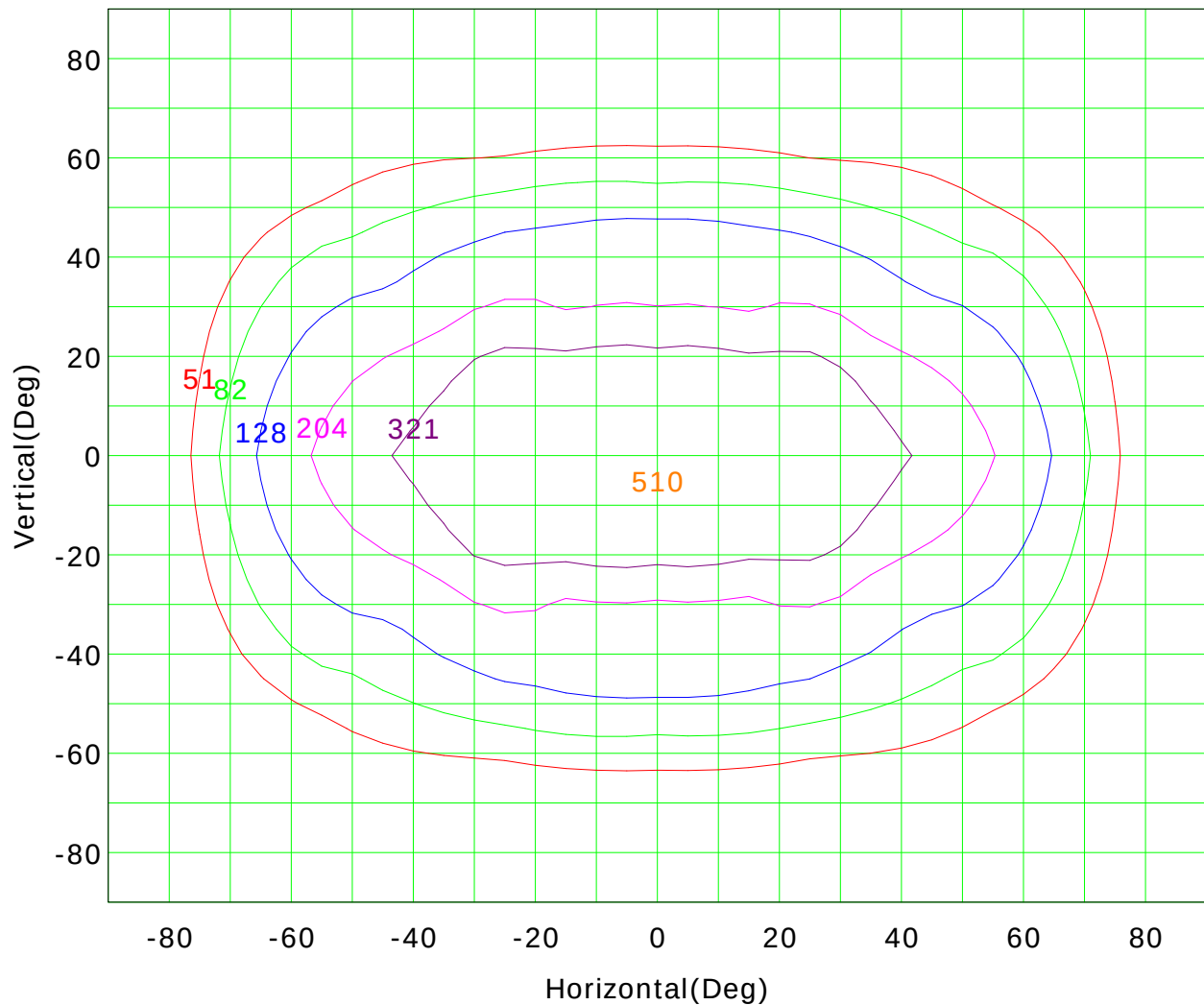
## Luminous Intensity Distribution Curve(cd / klm)



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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

## Isocandela (rectangle)



I<sub>max</sub> (100%): 510 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 51 cd  | ( 16%): | 82 cd  |
| ( 25%): | 128 cd | ( 40%): | 204 cd |
| ( 63%): | 321 cd | (100%): | 510 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

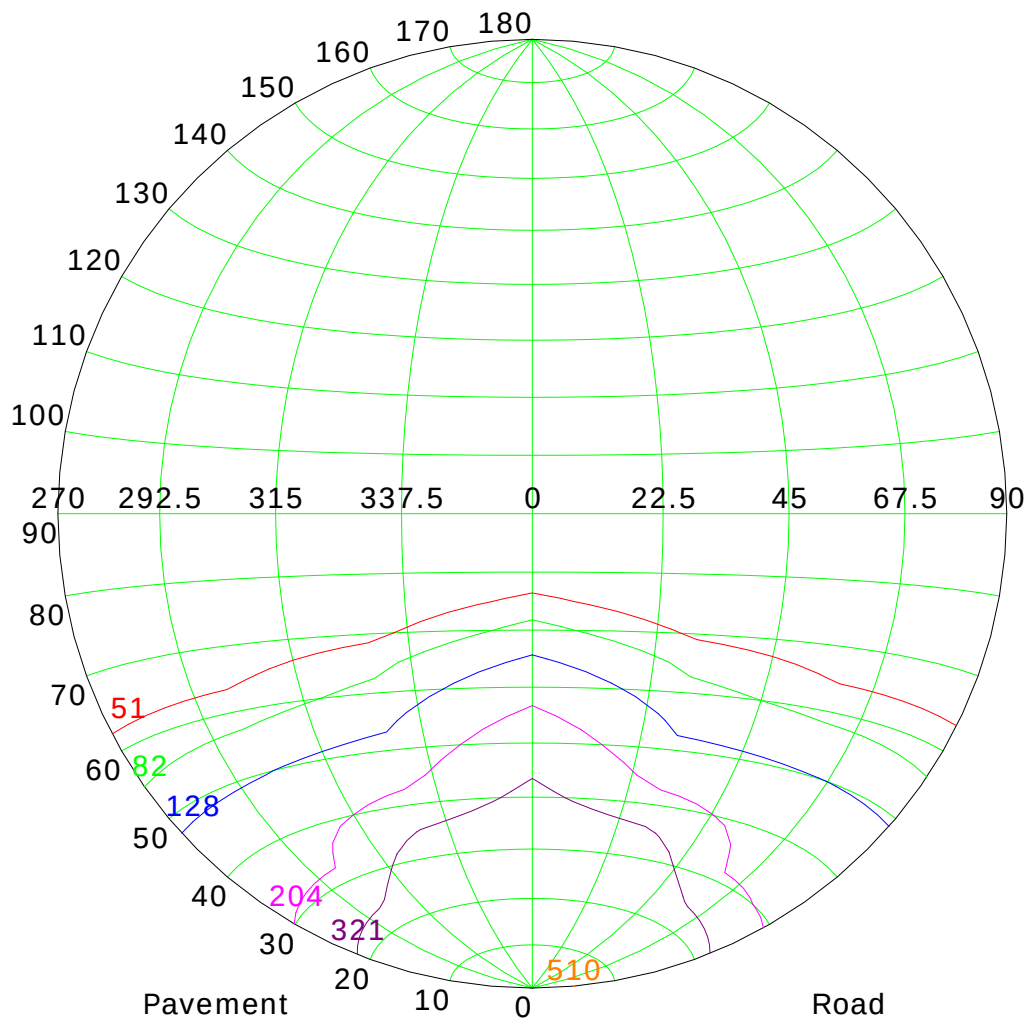
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## Isocandela (sphere)



Imax (100%): 510 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 51 cd  | ( 16%): | 82 cd  |
| ( 25%): | 128 cd | ( 40%): | 204 cd |
| ( 63%): | 321 cd | (100%): | 510 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

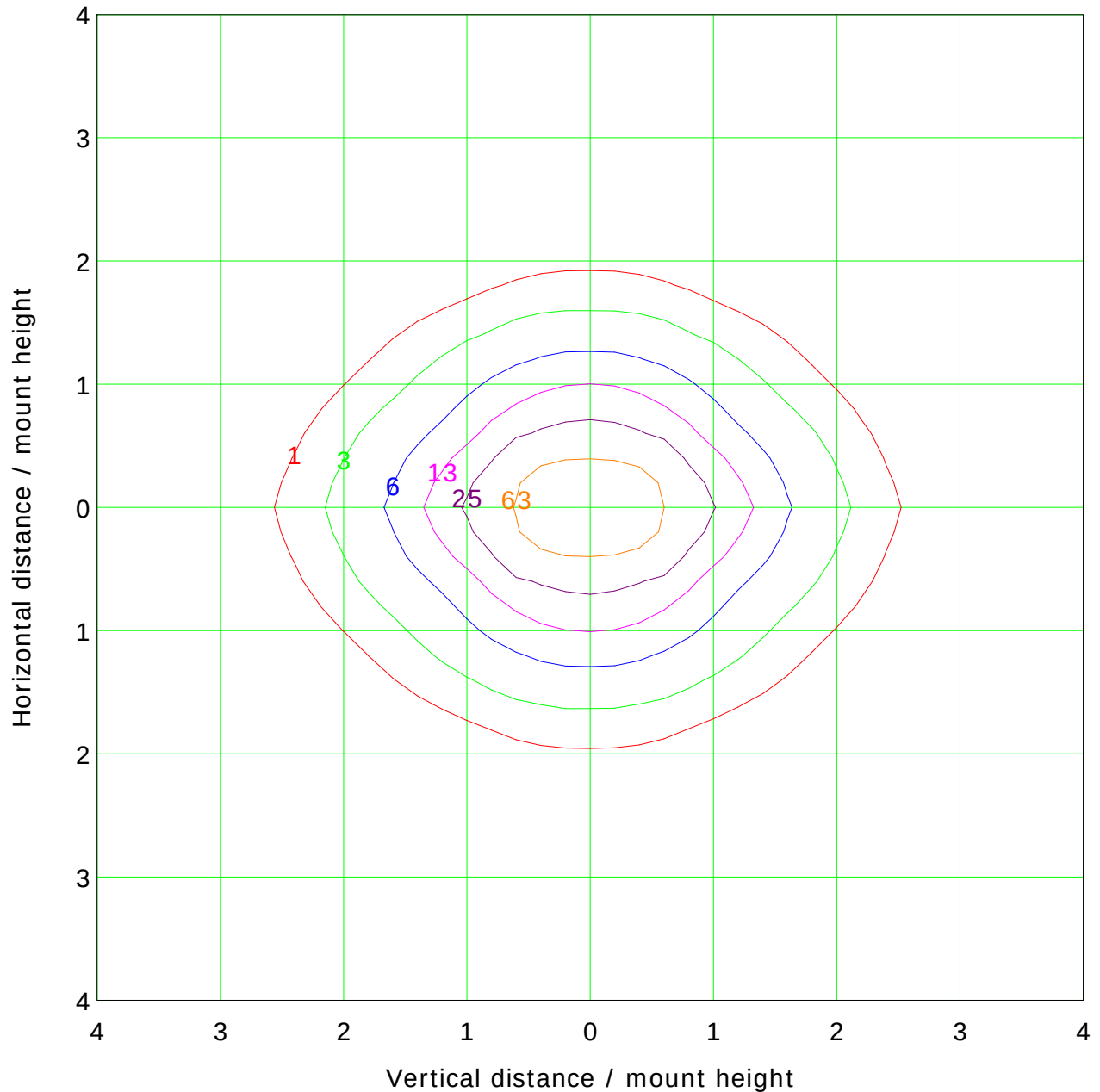
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## IsoLux Plot



|                       |          |                         |         |
|-----------------------|----------|-------------------------|---------|
| Mounting Height: 2.0m |          | Max Lux(100%): 126.1 lx |         |
| — ( 1%):              | 1.3 lx   | — ( 2%):                | 2.5 lx  |
| — ( 5%):              | 6.3 lx   | — ( 10%):               | 12.6 lx |
| — ( 20%):             | 25.2 lx  | — ( 50%):               | 63.1 lx |
| — (100%):             | 126.1 lx |                         |         |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

Distance: 7.979 m

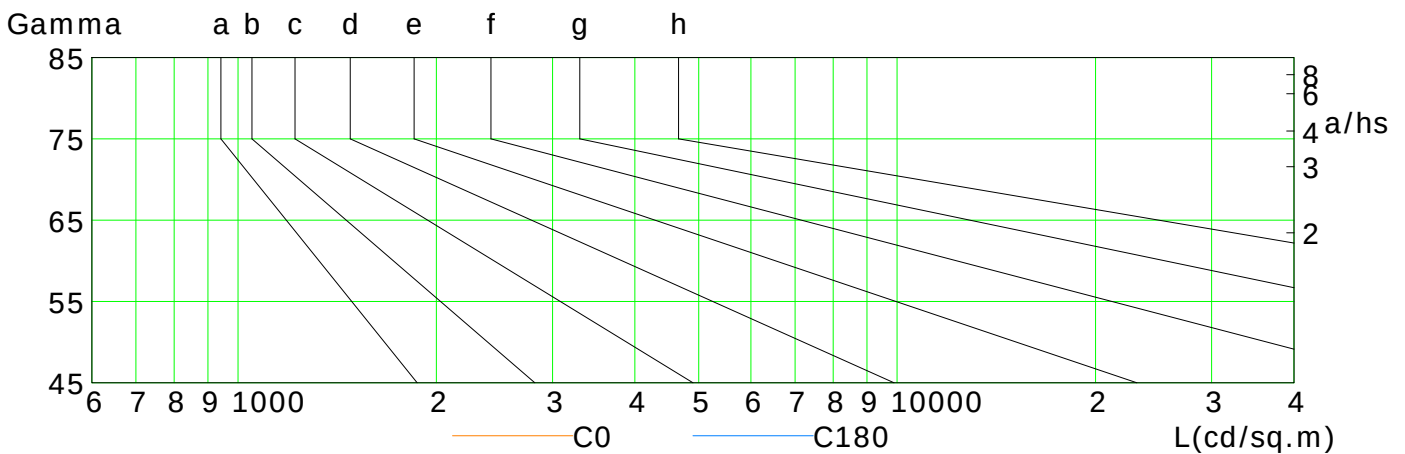
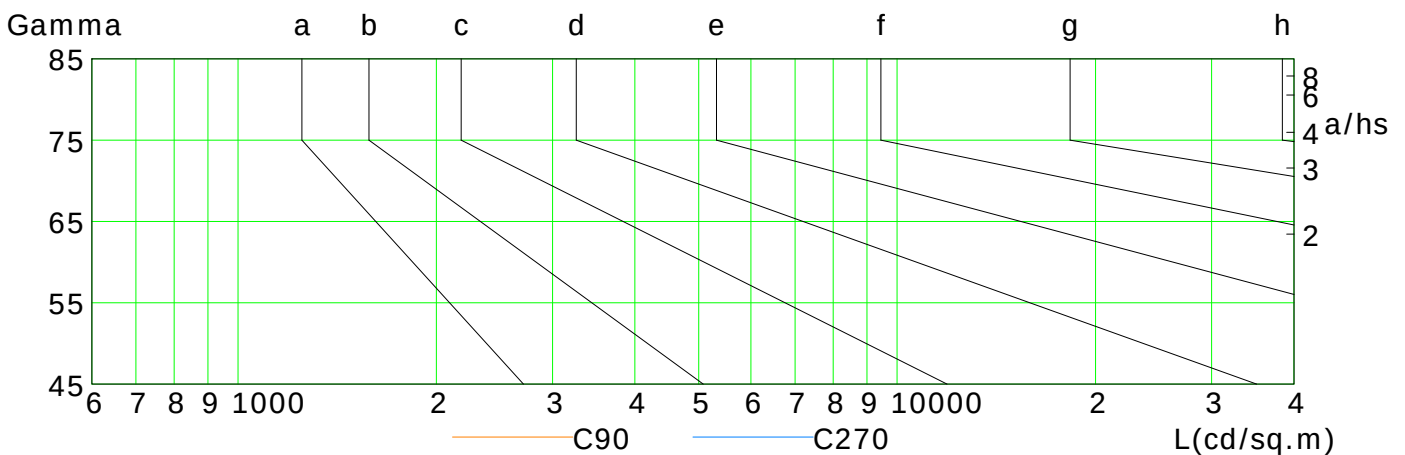
Humidity:

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         | 309 | 266 | 220 | 175 | 133 | 94  | 59  | 30  | 8   |
| C90        | 145 | 122 | 88  | 64  | 45  | 31  | 20  | 11  | 4   |
| C180       | 295 | 251 | 207 | 165 | 124 | 88  | 56  | 28  | 7   |
| C270       | 144 | 113 | 81  | 59  | 42  | 28  | 17  | 9   | 2   |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

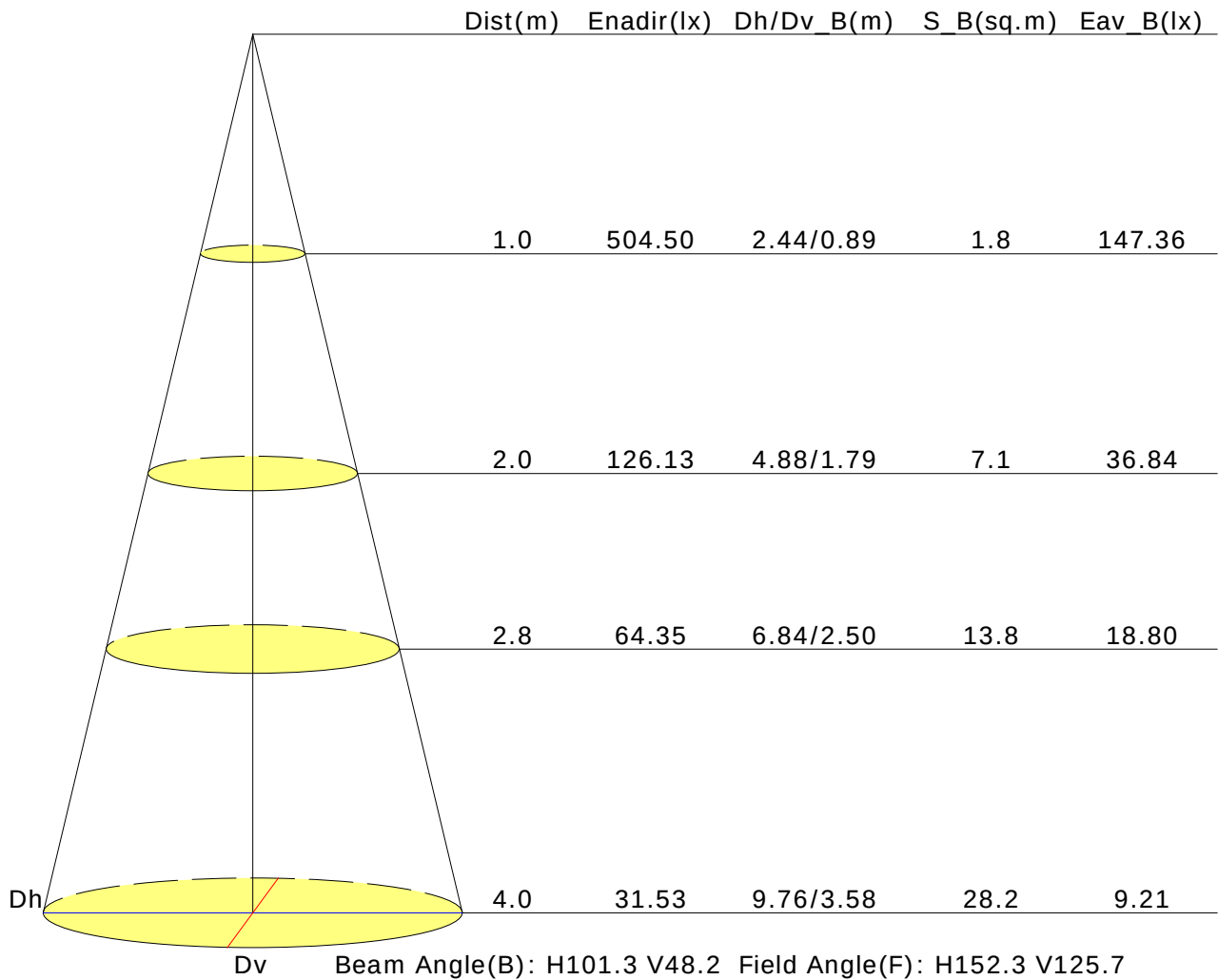
Distance: 7.979 m

Humidity:

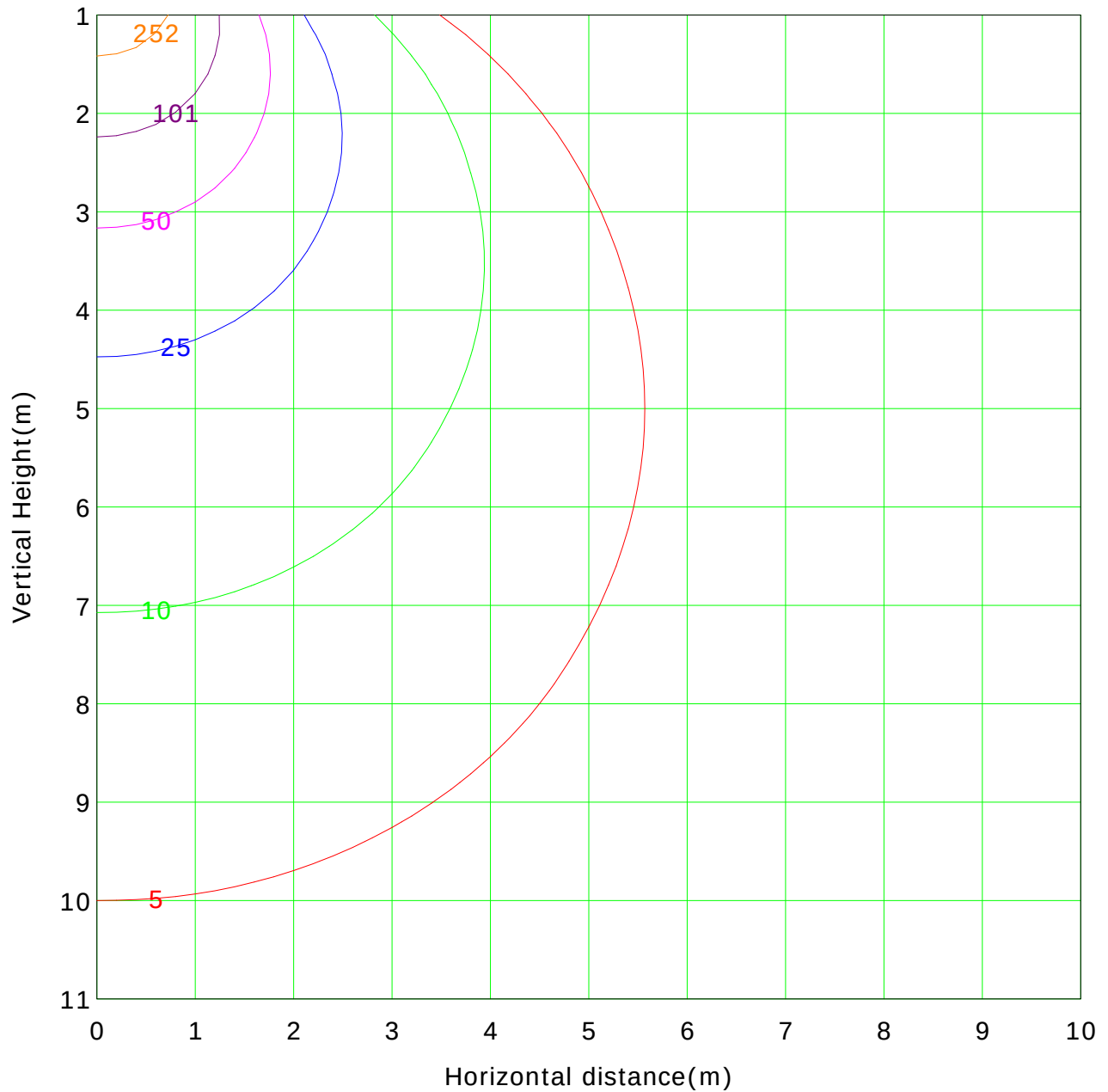
Inspector:



## Illuminance at a Distance



## Vertical IsoLux Plot



Lowest(m): 1.0m    Highest(m): 11.0m    Max Lux: 504.5 lx

|                  |                  |
|------------------|------------------|
| ( 1%): 5.0 lx    | ( 2%): 10.1 lx   |
| ( 5%): 25.2 lx   | ( 10%): 50.5 lx  |
| ( 20%): 100.9 lx | ( 50%): 252.3 lx |
| (100%): 504.5 lx |                  |

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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

Report No.:

Test Time: 21/01/2021 12:39

## Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-DW11-03 + LLD-03-M

Lamp Description: F52-400-60822 90cm

Number of Lamps: 1

Lumens per Lamp: 1434 lm

Voltage: 24.0 V

Current: 0.530 A

Power: 12.72 W

Power Factor: 1.000

## Photometric Results

CIE Class: Direct

Measurement Flux: 716.9 lm

Downward Ratio: 49.84%

Total Rated Lamp Lumens: 1434.0 lm

Efficiency: 49.99%

Upward Ratio: 0.16%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 158.9, 137.1, 143.0, 143.0

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 110.9, 72.7, 86.1, 86.2

Luminaire Efficacy Rating (LER): 56.41

Central Intensity: 337.27 cd

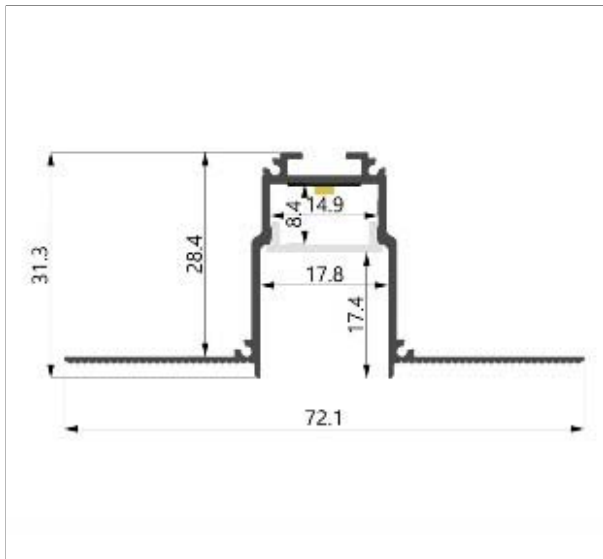
Max. Intensity: 338.62 cd

Pos of Max. Intensity: H270 V4

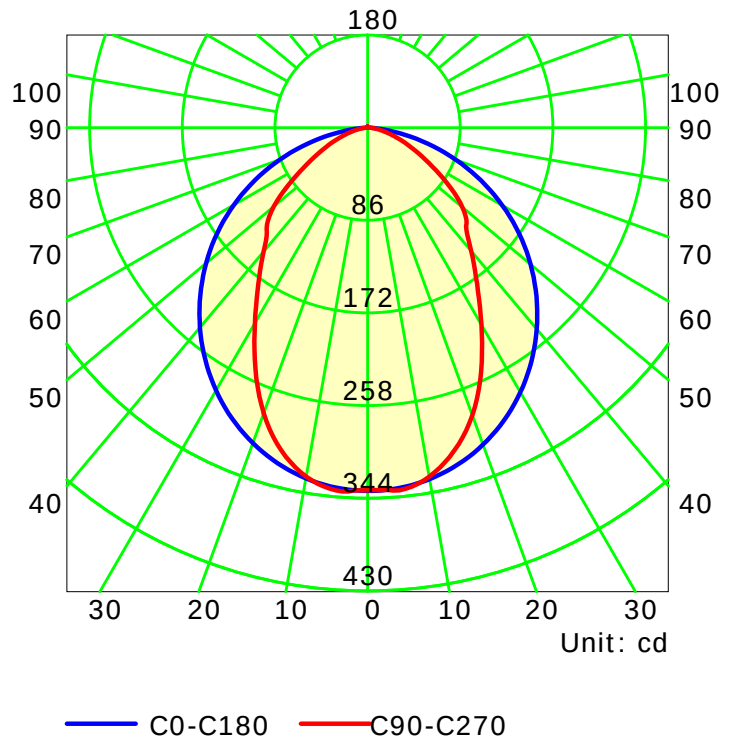
S/MH(C0/C180): 1.25

S/MH(C90/C270): 1.00

Picture Of Luminaire



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

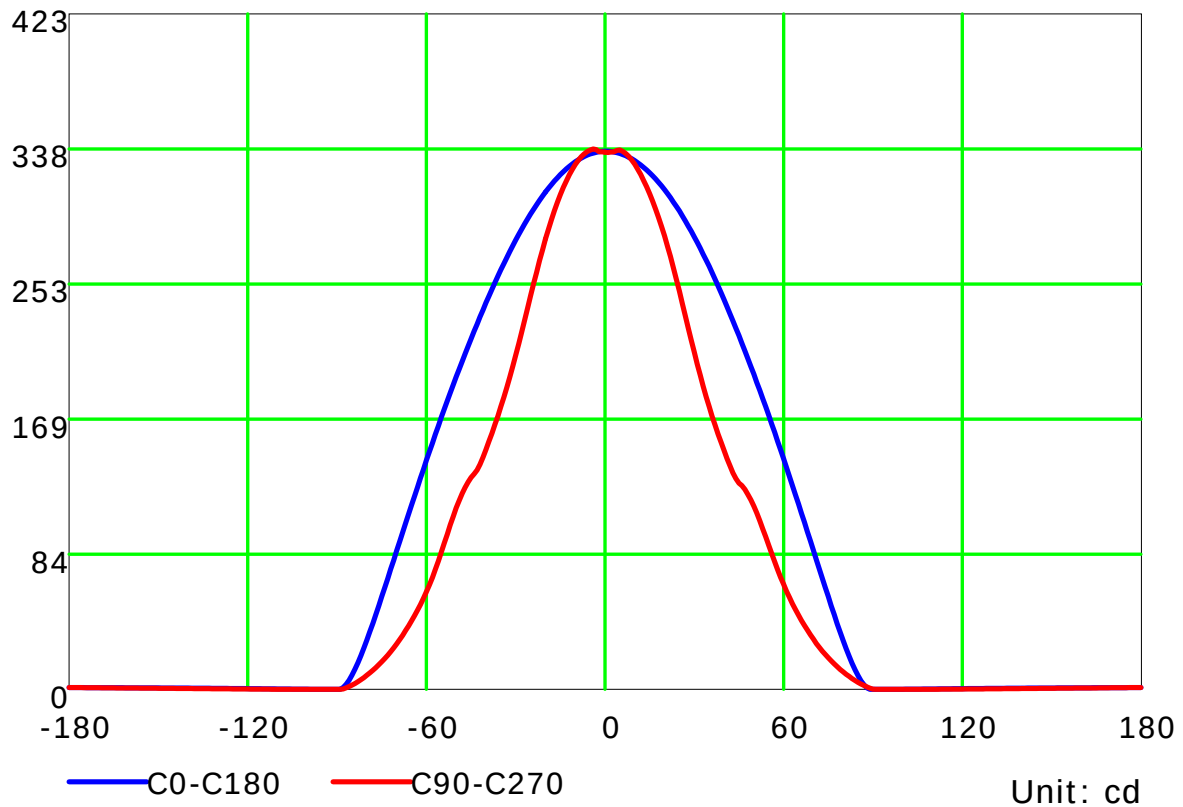
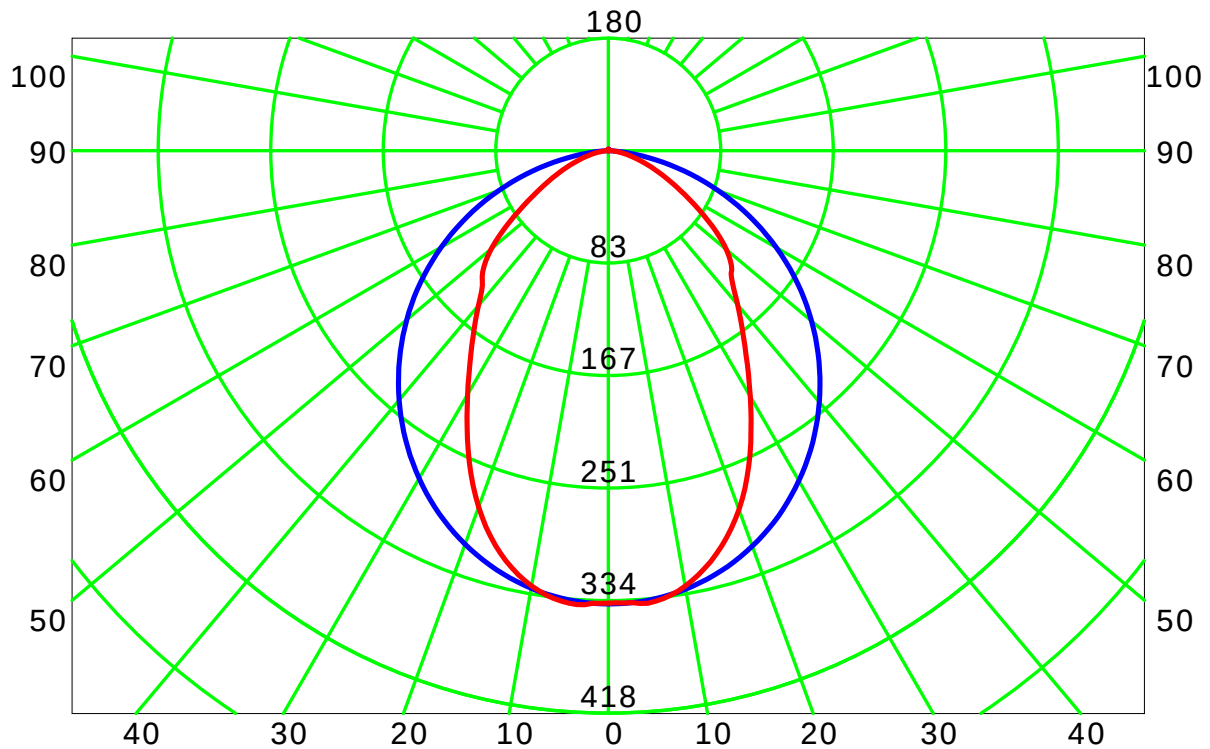
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

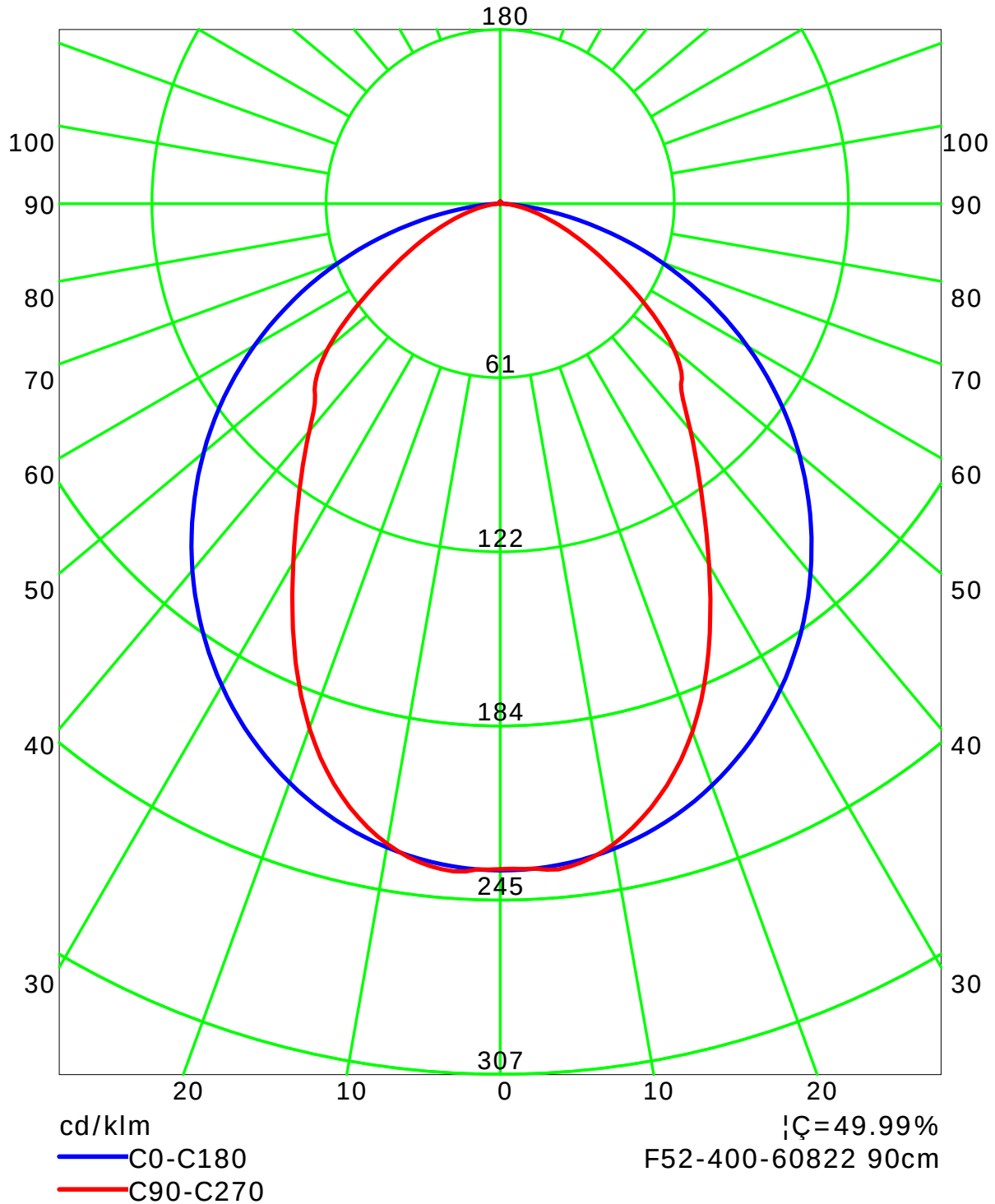
## Luminous Intensity Distribution Curve



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

Gamma Plane (°): 0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

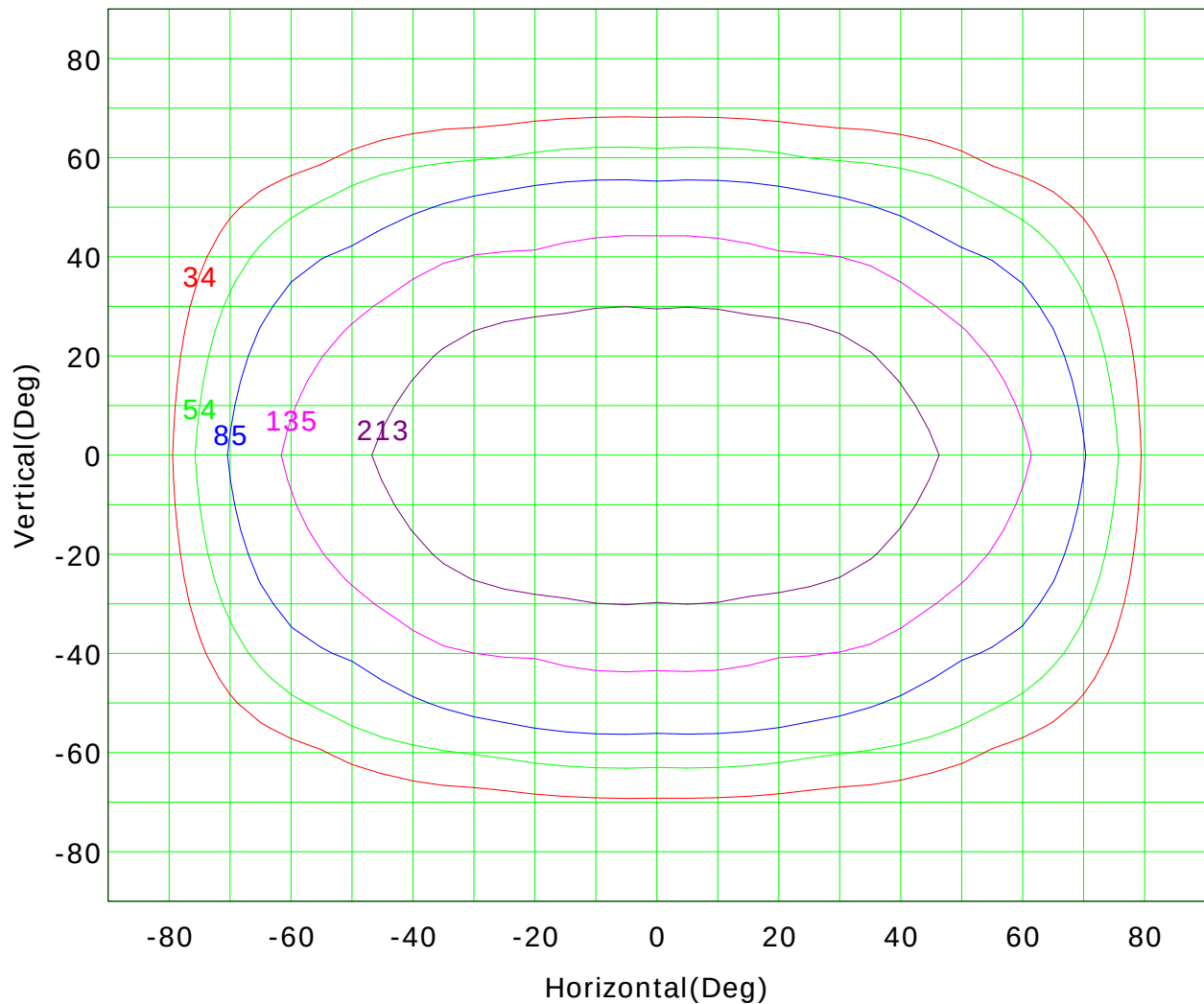
## Luminous Intensity Distribution Curve(cd / klm)



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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

## Isocandela (rectangle)



I<sub>max</sub> (100%): 339 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 34 cd  | ( 16%): | 54 cd  |
| ( 25%): | 85 cd  | ( 40%): | 135 cd |
| ( 63%): | 213 cd | (100%): | 339 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

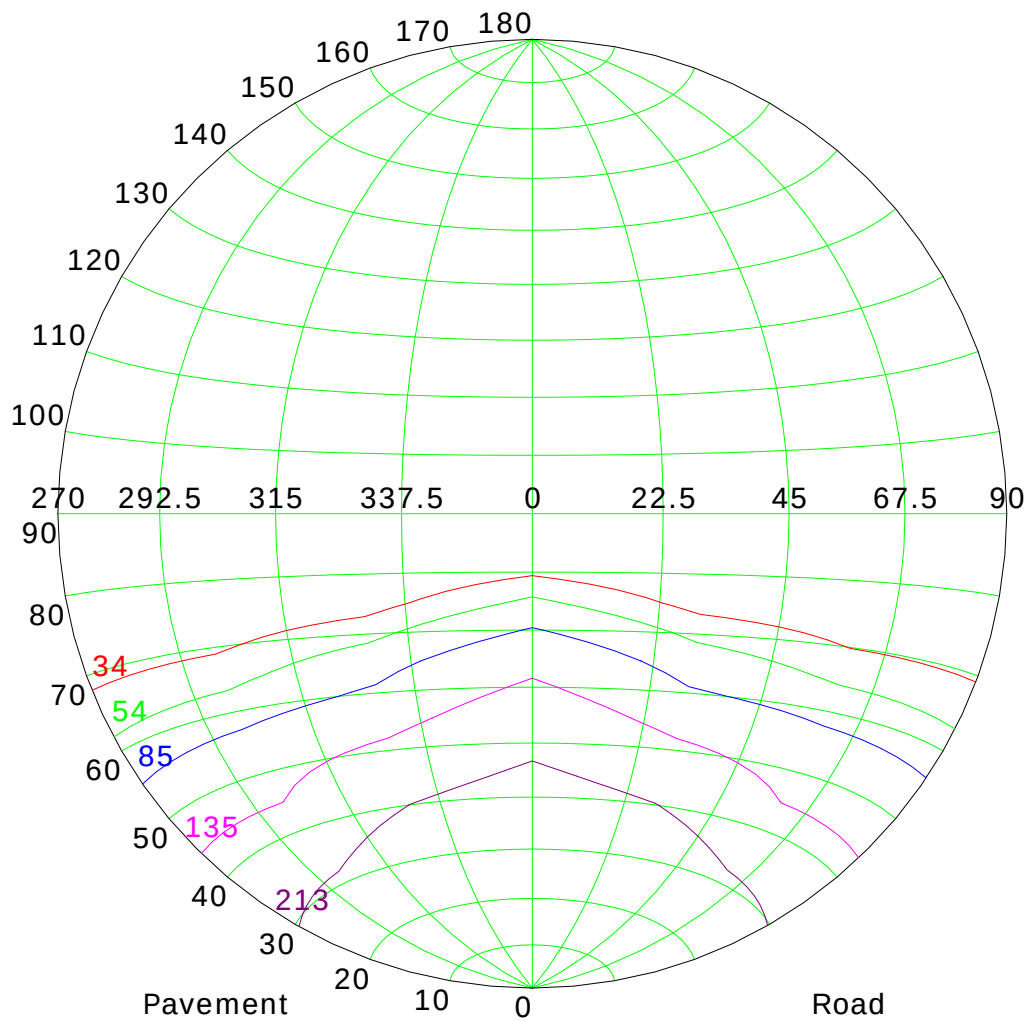
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## Isocandela (sphere)



I<sub>max</sub> (100%): 339 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 34 cd  | ( 16%): | 54 cd  |
| ( 25%): | 85 cd  | ( 40%): | 135 cd |
| ( 63%): | 213 cd | (100%): | 339 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

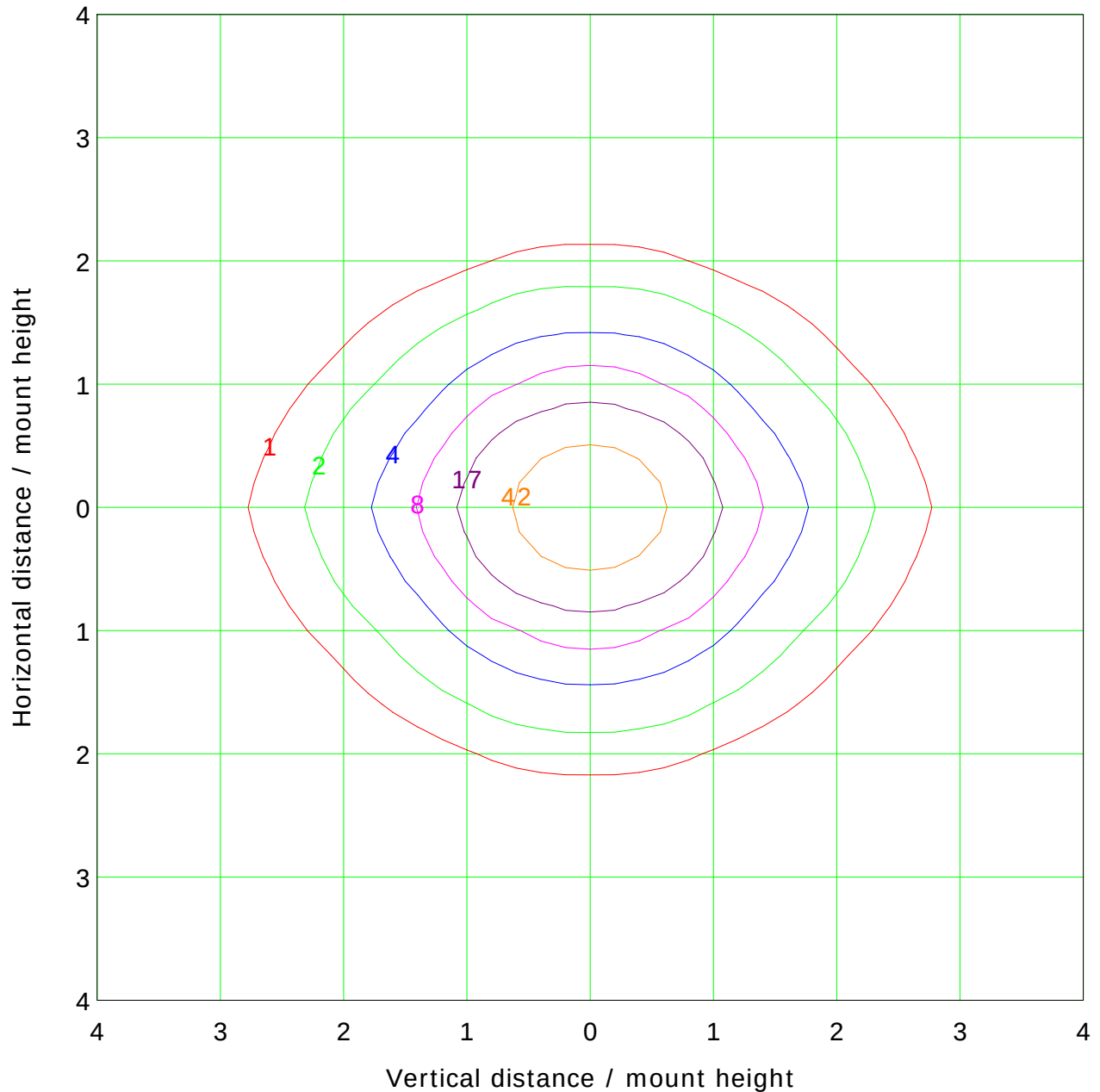
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## IsoLux Plot



|                       |         |                        |         |
|-----------------------|---------|------------------------|---------|
| Mounting Height: 2.0m |         | Max Lux(100%): 84.3 lx |         |
| — ( 1%):              | 0.8 lx  | — ( 2%):               | 1.7 lx  |
| — ( 5%):              | 4.2 lx  | — ( 10%):              | 8.4 lx  |
| — ( 20%):             | 16.9 lx | — ( 50%):              | 42.2 lx |
| — (100%):             | 84.3 lx |                        |         |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

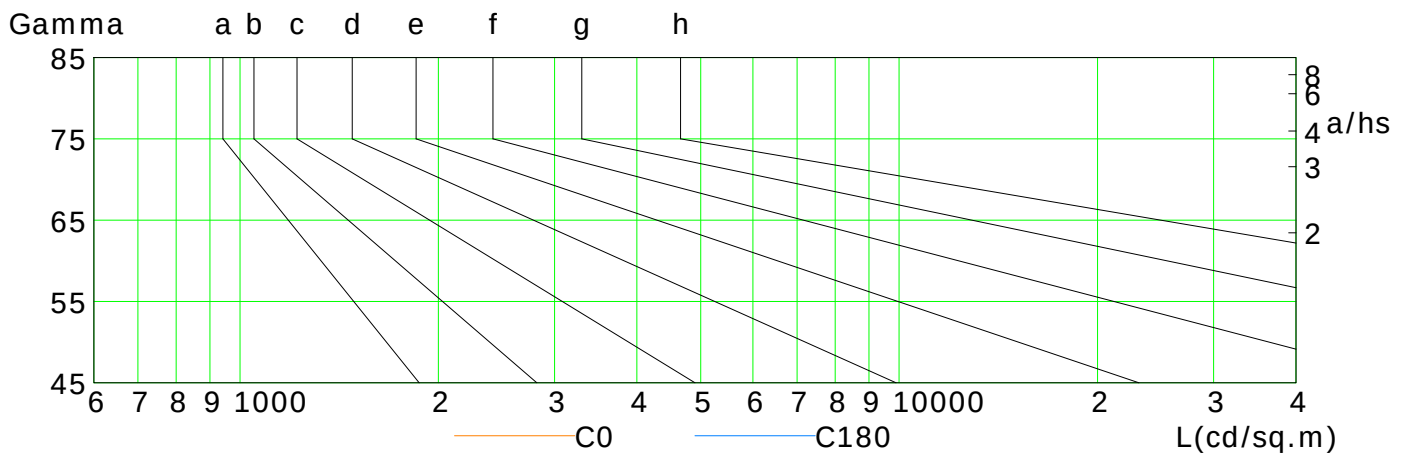
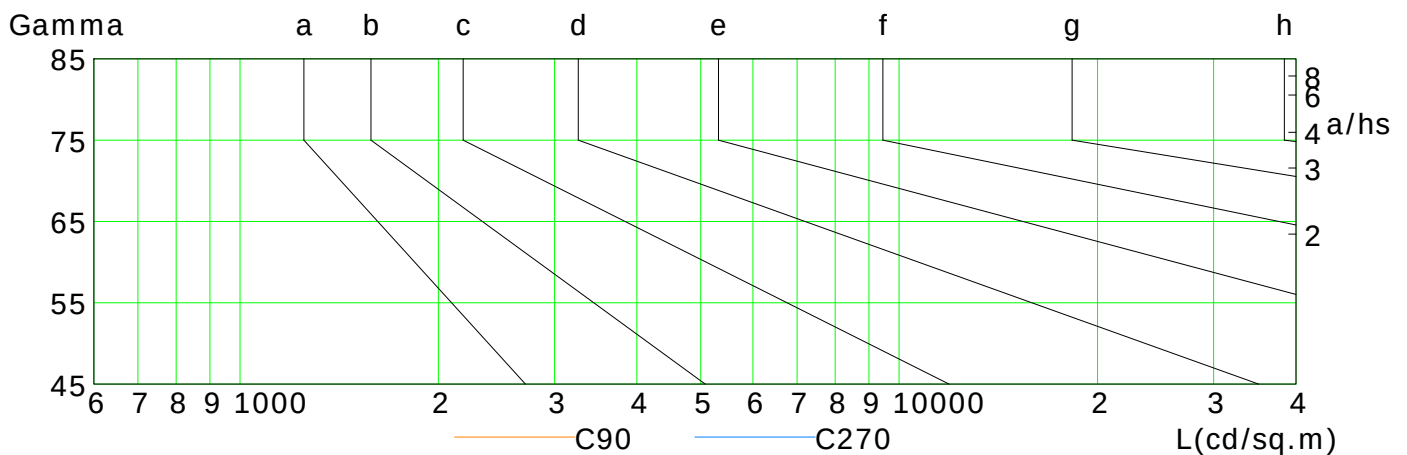
Inspector:



## 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         | 222 | 198 | 172 | 144 | 116 | 87  | 58  | 31  | 9   |
| C90        | 129 | 115 | 90  | 66  | 46  | 32  | 20  | 11  | 4   |
| C180       | 220 | 196 | 170 | 144 | 115 | 87  | 58  | 31  | 9   |
| C270       | 133 | 114 | 86  | 61  | 43  | 28  | 17  | 9   | 3   |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

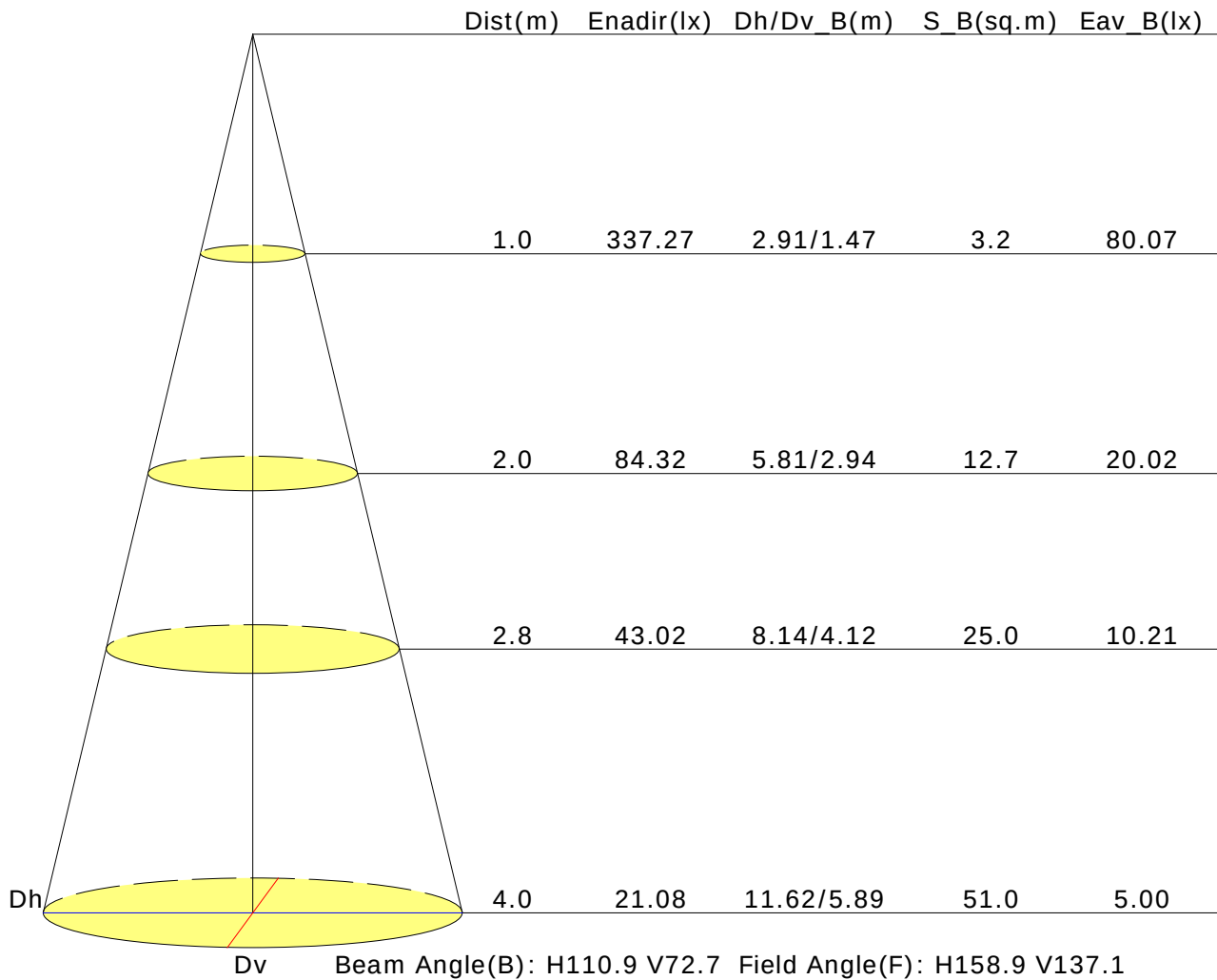
Test Device: GPM-1800B

Distance: 7.979 m

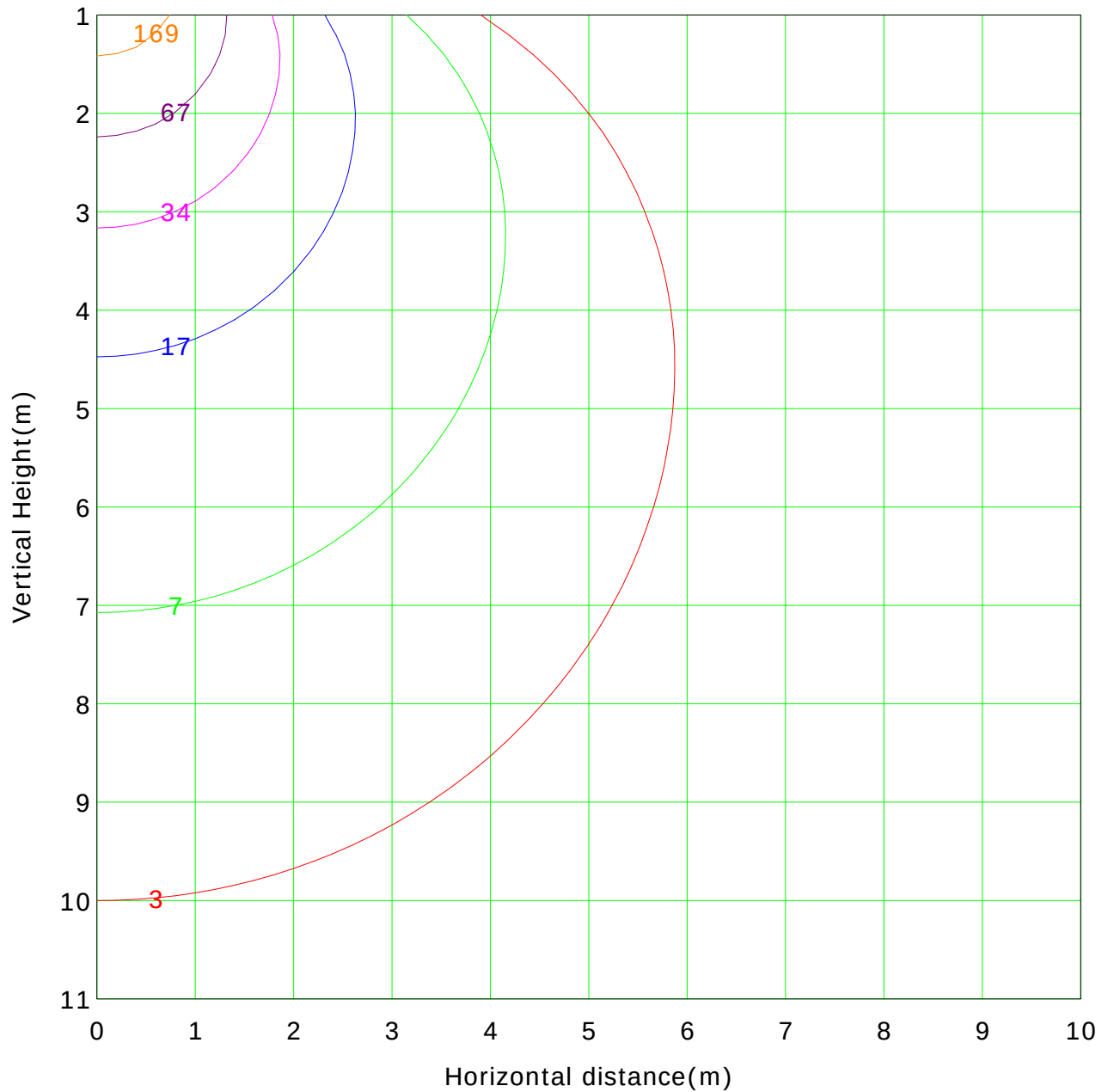
Humidity:

Inspector:

## Illuminance at a Distance



## Vertical IsoLux Plot



Lowest(m): 1.0m    Highest(m): 11.0m    Max Lux: 337.3 lx

|                  |                  |
|------------------|------------------|
| ( 1%): 3.4 lx    | ( 2%): 6.7 lx    |
| ( 5%): 16.9 lx   | ( 10%): 33.7 lx  |
| ( 20%): 67.5 lx  | ( 50%): 168.6 lx |
| (100%): 337.3 lx |                  |

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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

Report No.:

Test Time: 21/01/2021 14:33

## Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-DW11-03 + LLD-03-FS

Lamp Description: F52-400-60822 90cm

Number of Lamps: 1

Lumens per Lamp: 1434 lm

Voltage: 24.0 V

Current: 0.532 A

Power: 12.77 W

Power Factor: 1.000

## Photometric Results

CIE Class: Direct

Measurement Flux: 660.7 lm

Downward Ratio: 45.93%

Total Rated Lamp Lumens: 1434.0 lm

Efficiency: 46.07%

Upward Ratio: 0.14%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 161.6, 136.6, 142.9, 142.9

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 108.5, 70.9, 84.1, 84.4

Luminaire Efficacy Rating (LER): 51.79

Central Intensity: 317 cd

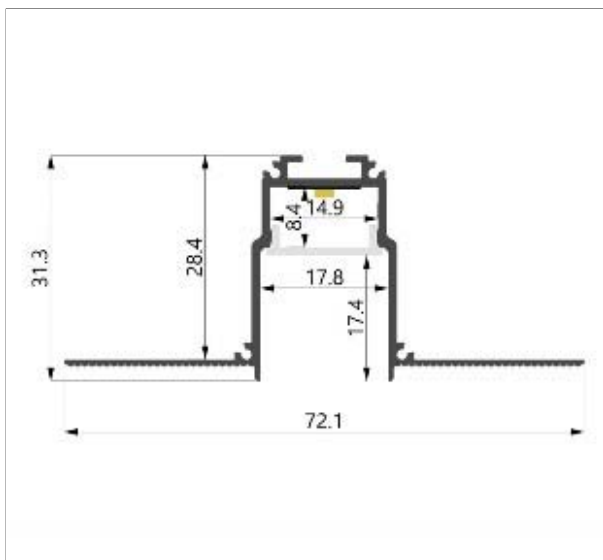
Max. Intensity: 318.58 cd

Pos of Max. Intensity: H270 V5

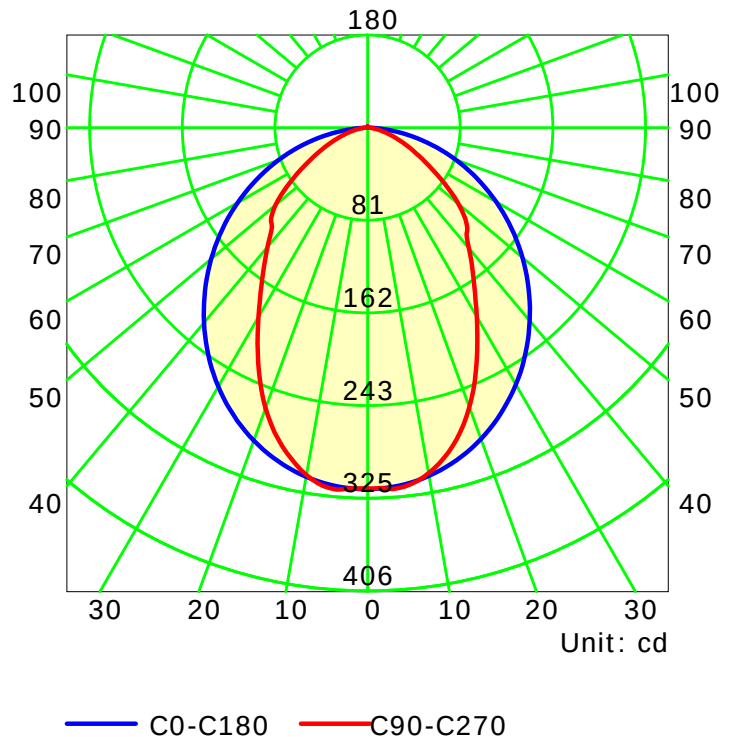
S/MH(C0/C180): 1.23

S/MH(C90/C270): 0.98

Picture Of Luminaire



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

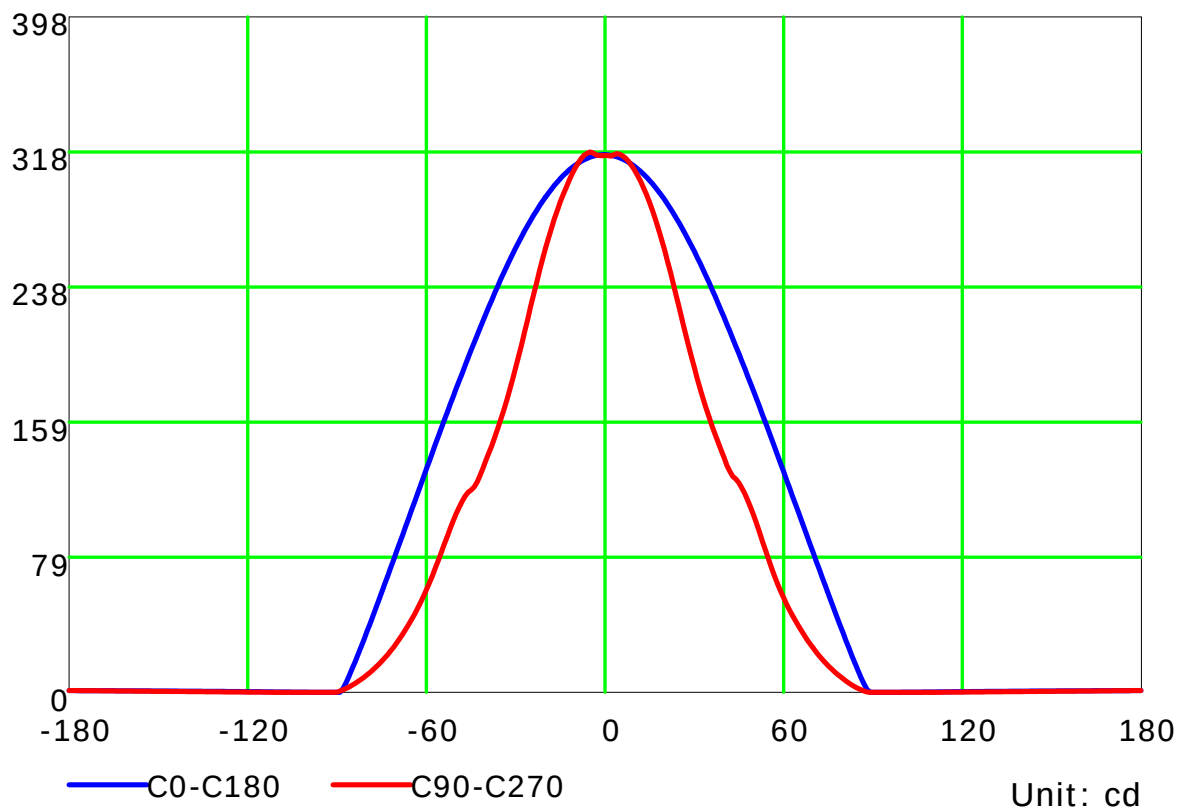
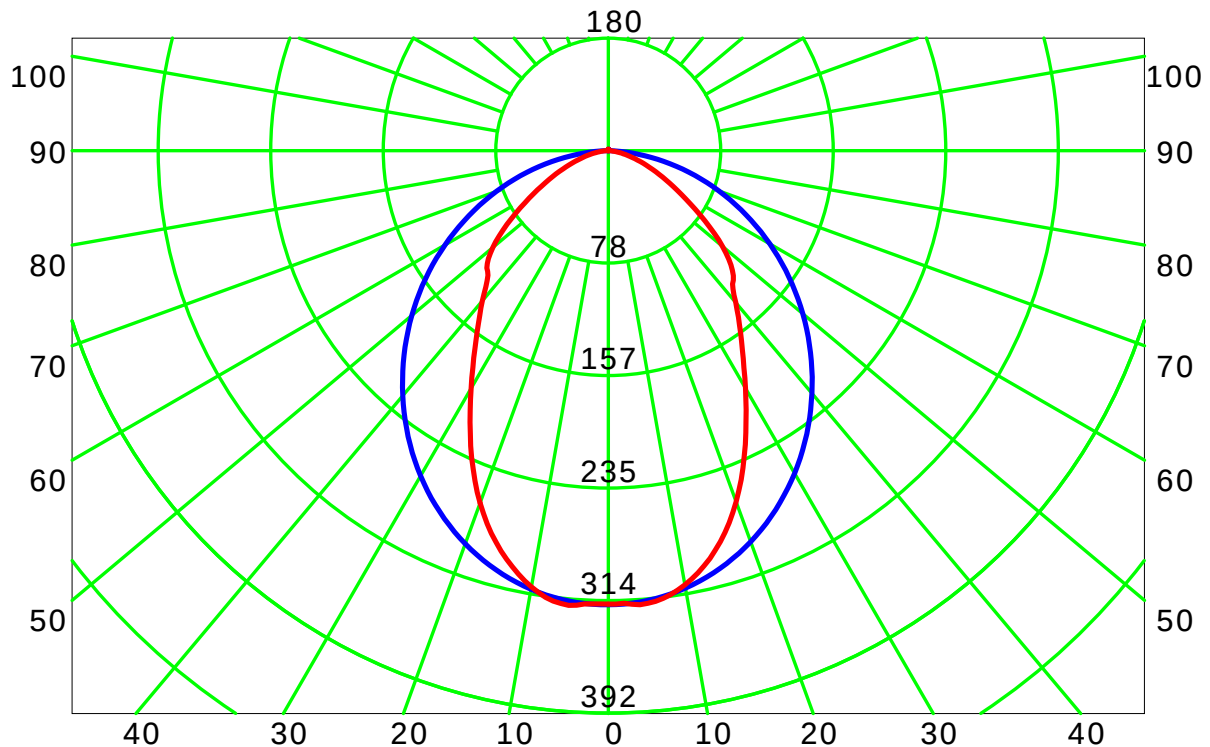
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

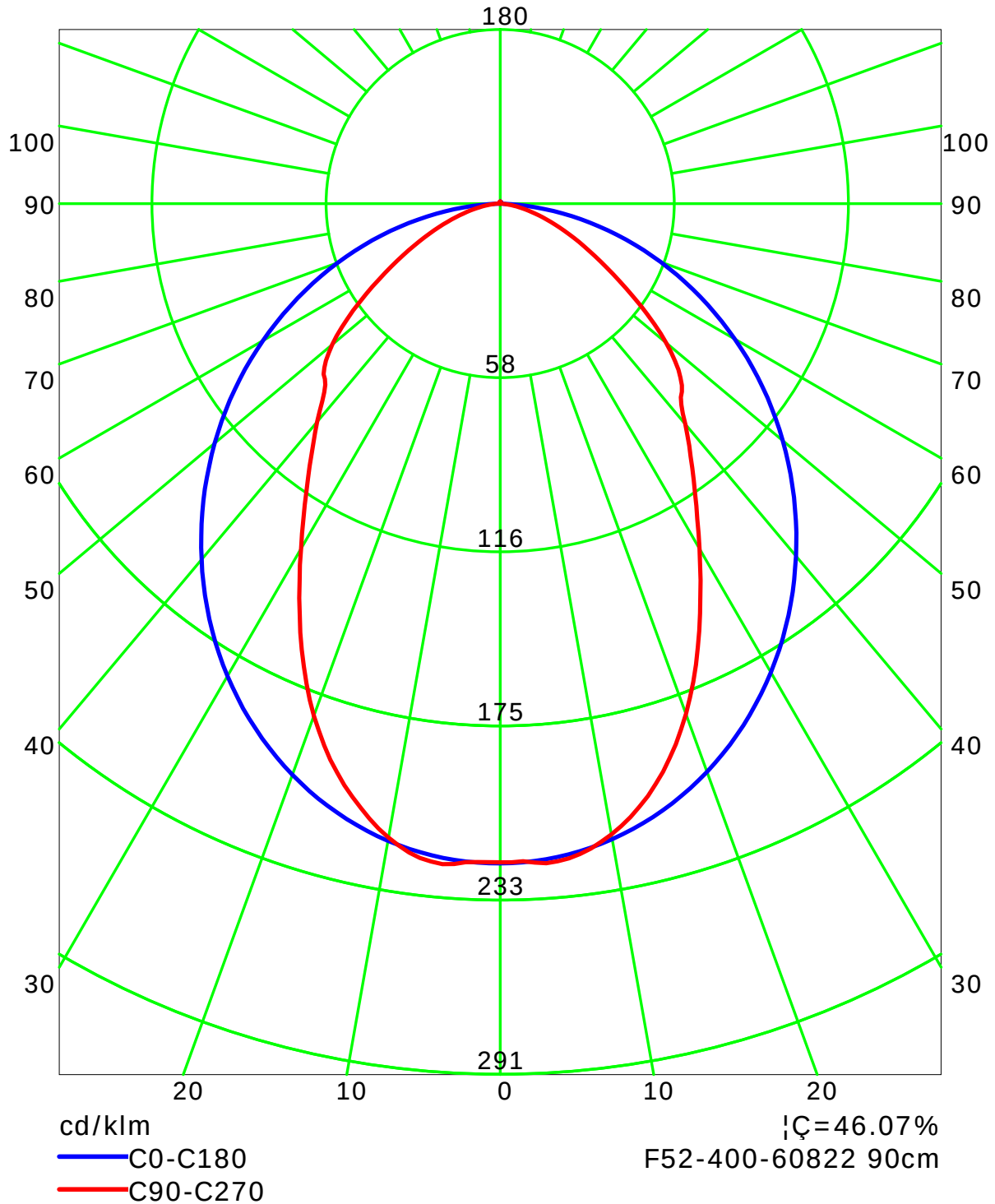
## Luminous Intensity Distribution Curve



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

Gamma Plane (°): 0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

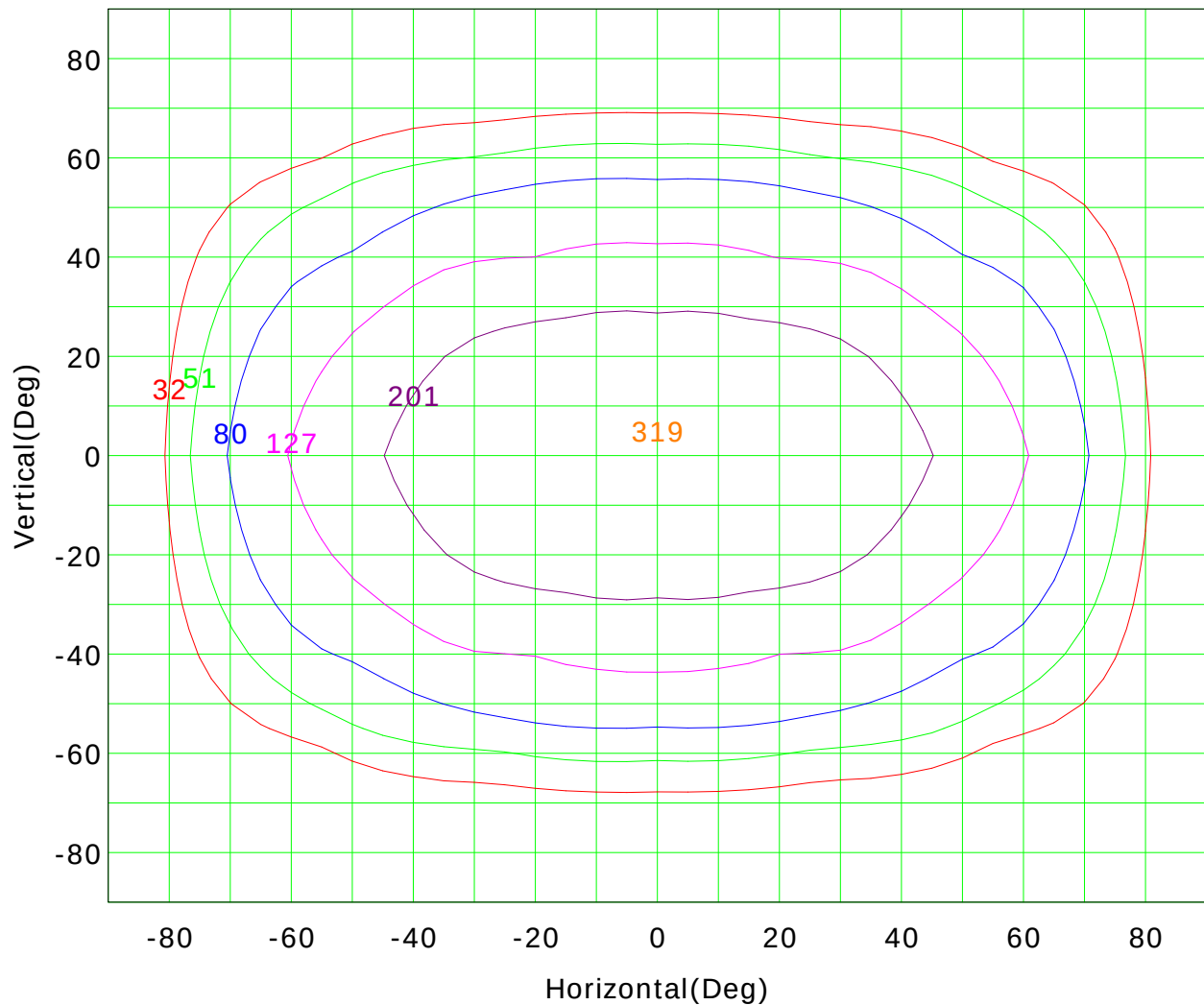
## Luminous Intensity Distribution Curve(cd / klm)



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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

## Isocandela (rectangle)



I<sub>max</sub> (100%): 319 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 32 cd  | ( 16%): | 51 cd  |
| ( 25%): | 80 cd  | ( 40%): | 127 cd |
| ( 63%): | 201 cd | (100%): | 319 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

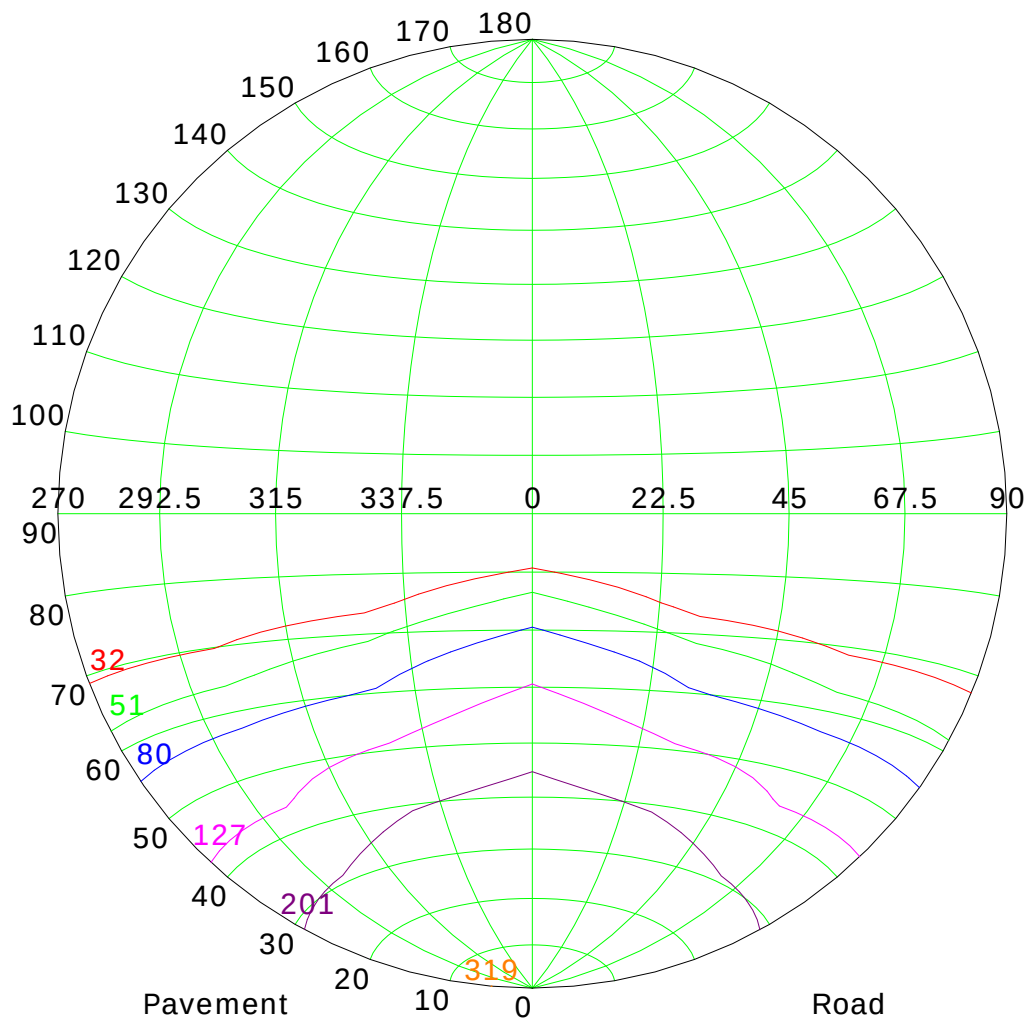
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## Isocandela (sphere)



Imax (100%): 319 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 32 cd  | ( 16%): | 51 cd  |
| ( 25%): | 80 cd  | ( 40%): | 127 cd |
| ( 63%): | 201 cd | (100%): | 319 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

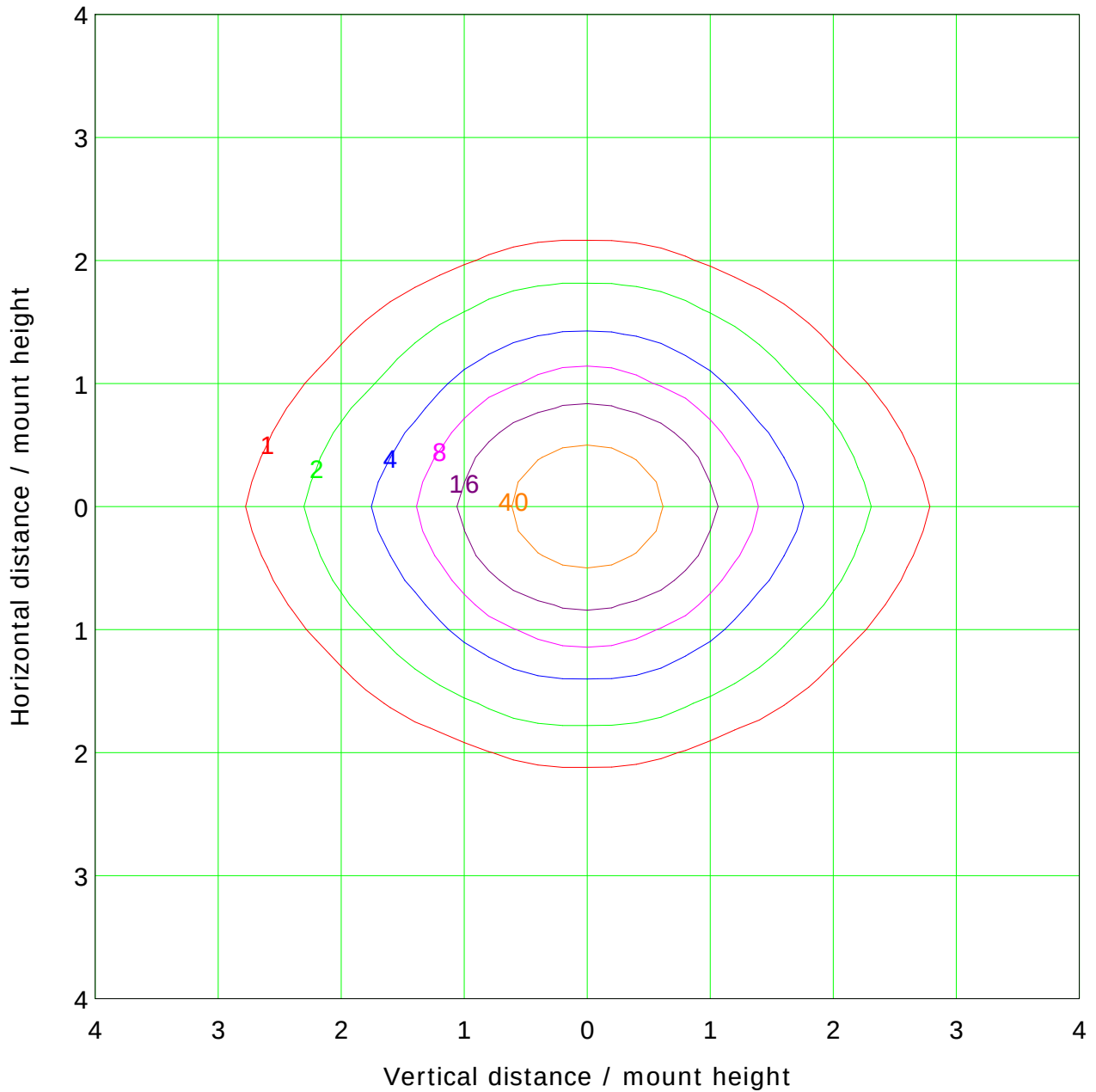
Distance: 7.979 m

Humidity:

Inspector:



## IsoLux Plot



|                       |         |                        |         |
|-----------------------|---------|------------------------|---------|
| Mounting Height: 2.0m |         | Max Lux(100%): 79.3 lx |         |
| — ( 1%):              | 0.8 lx  | — ( 2%):               | 1.6 lx  |
| — ( 5%):              | 4.0 lx  | — ( 10%):              | 7.9 lx  |
| — ( 20%):             | 15.9 lx | — ( 50%):              | 39.6 lx |
| — (100%):             | 79.3 lx |                        |         |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

Distance: 7.979 m

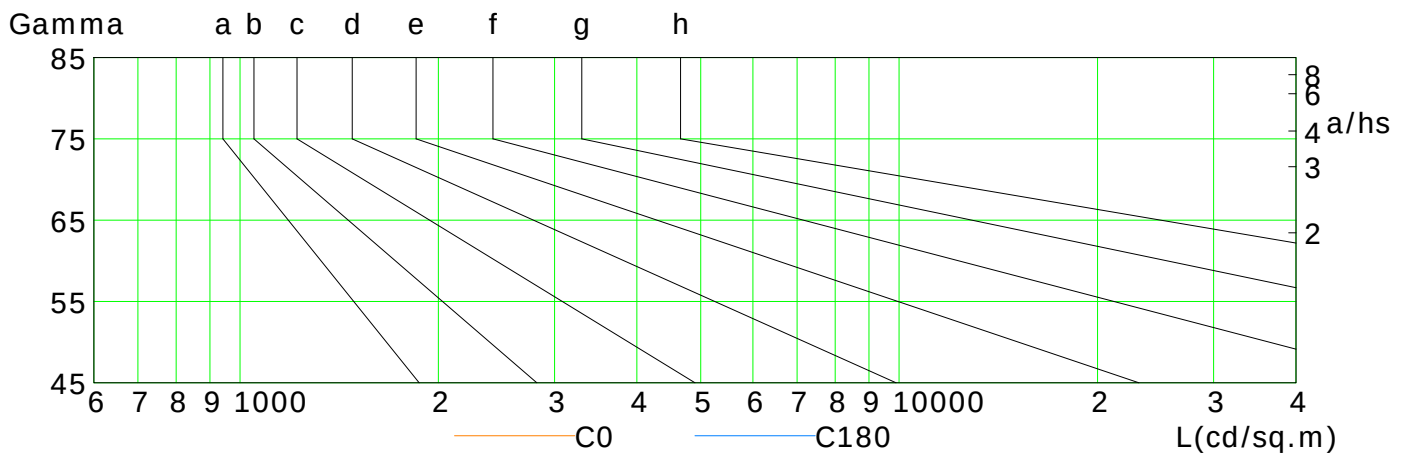
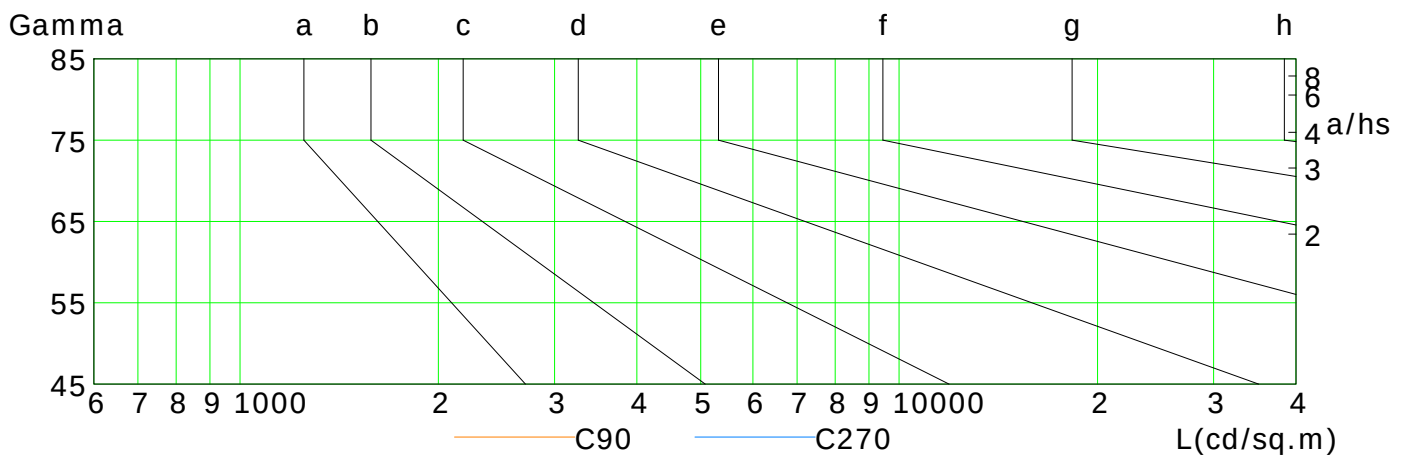
Humidity:

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         | 200 | 177 | 154 | 130 | 106 | 82  | 58  | 35  | 13  |
| C90        | 123 | 104 | 78  | 56  | 39  | 26  | 16  | 8   | 2   |
| C180       | 202 | 179 | 156 | 132 | 107 | 83  | 59  | 36  | 14  |
| C270       | 119 | 105 | 82  | 60  | 43  | 29  | 18  | 10  | 4   |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

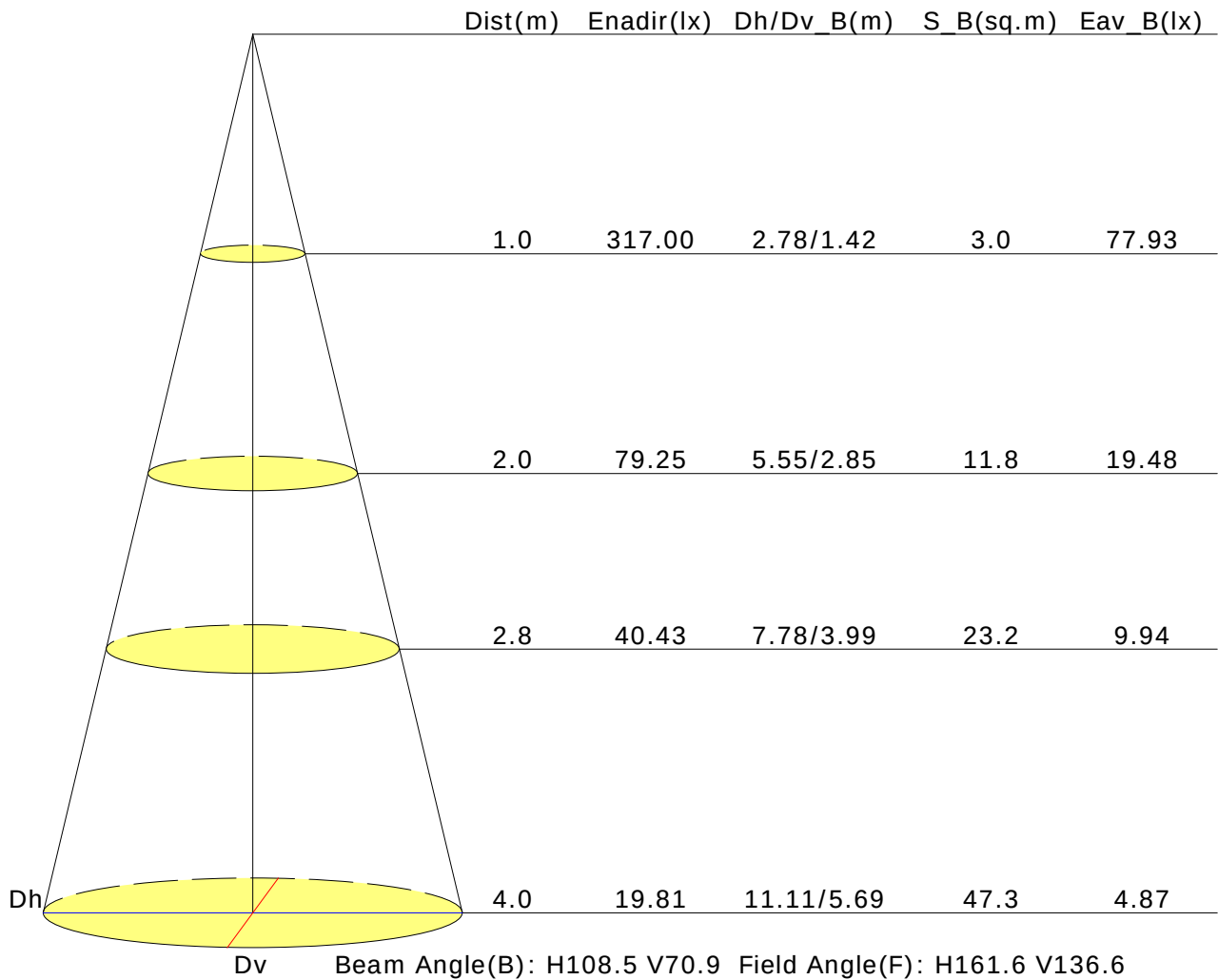
Test Device: GPM-1800B

Distance: 7.979 m

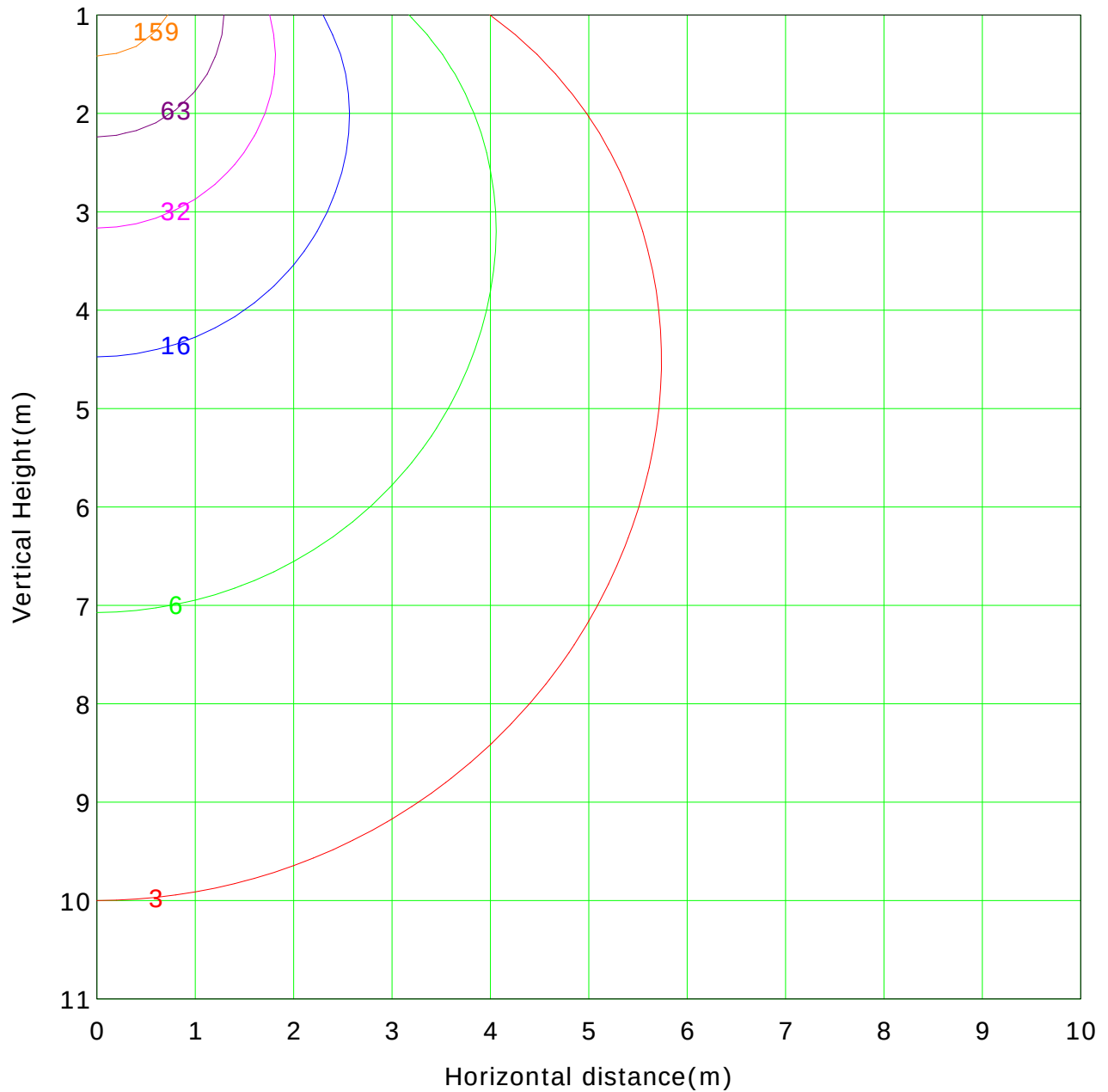
Humidity:

Inspector:

## Illuminance at a Distance



## Vertical IsoLux Plot



Lowest(m): 1.0m   Highest(m): 11.0m   Max Lux: 317.0 lx

|                  |                  |
|------------------|------------------|
| ( 1%): 3.2 lx    | ( 2%): 6.3 lx    |
| ( 5%): 15.9 lx   | ( 10%): 31.7 lx  |
| ( 20%): 63.4 lx  | ( 50%): 158.5 lx |
| (100%): 317.0 lx |                  |

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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

Report No.:

Test Time: 22/01/2021 14:39

## Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-DW11-03 + LLD-03-XK-L1

Lamp Description: F52-400-60822 90cm

Number of Lamps: 1

Lumens per Lamp: 1434 lm

Voltage: 24.0 V

Current: 0.532 A

Power: 12.77 W

Power Factor: 1.000

## Photometric Results

CIE Class: Direct

Measurement Flux: 1037.2 lm

Downward Ratio: 72.22%

Total Rated Lamp Lumens: 1434.0 lm

Efficiency: 72.33%

Upward Ratio: 0.11%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 147.1, 102.1, 106.9, 106.8

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 125.5, 34.4, 50.1, 50.1

Luminaire Efficacy Rating (LER): 81.27

Central Intensity: 766.58 cd

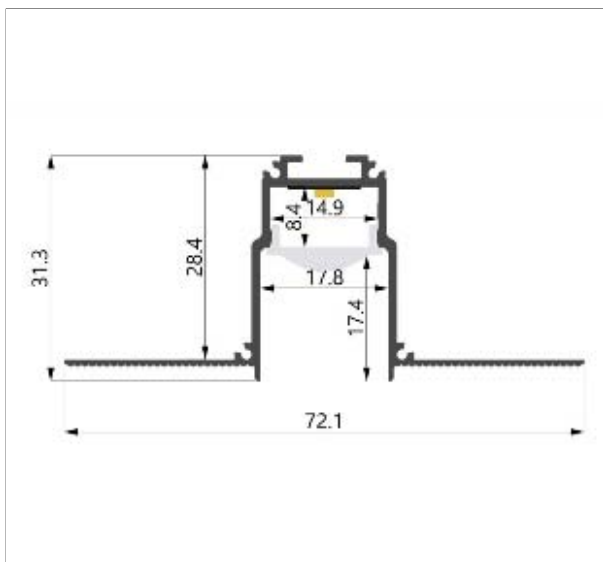
Max. Intensity: 776.49 cd

Pos of Max. Intensity: H120 V5

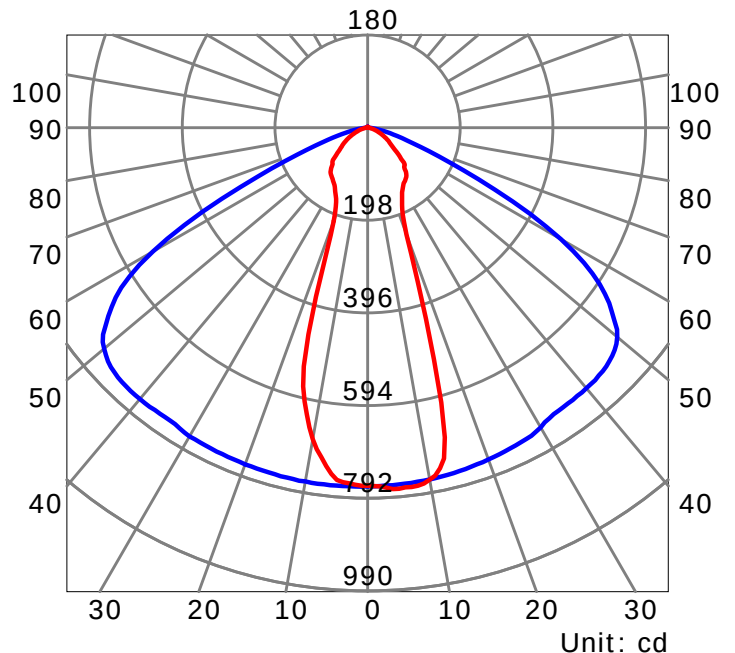
S/MH(C0/C180): 1.49

S/MH(C90/C270): 0.60

Picture Of Luminaire



Luminous Intensity Distribution Curve



— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

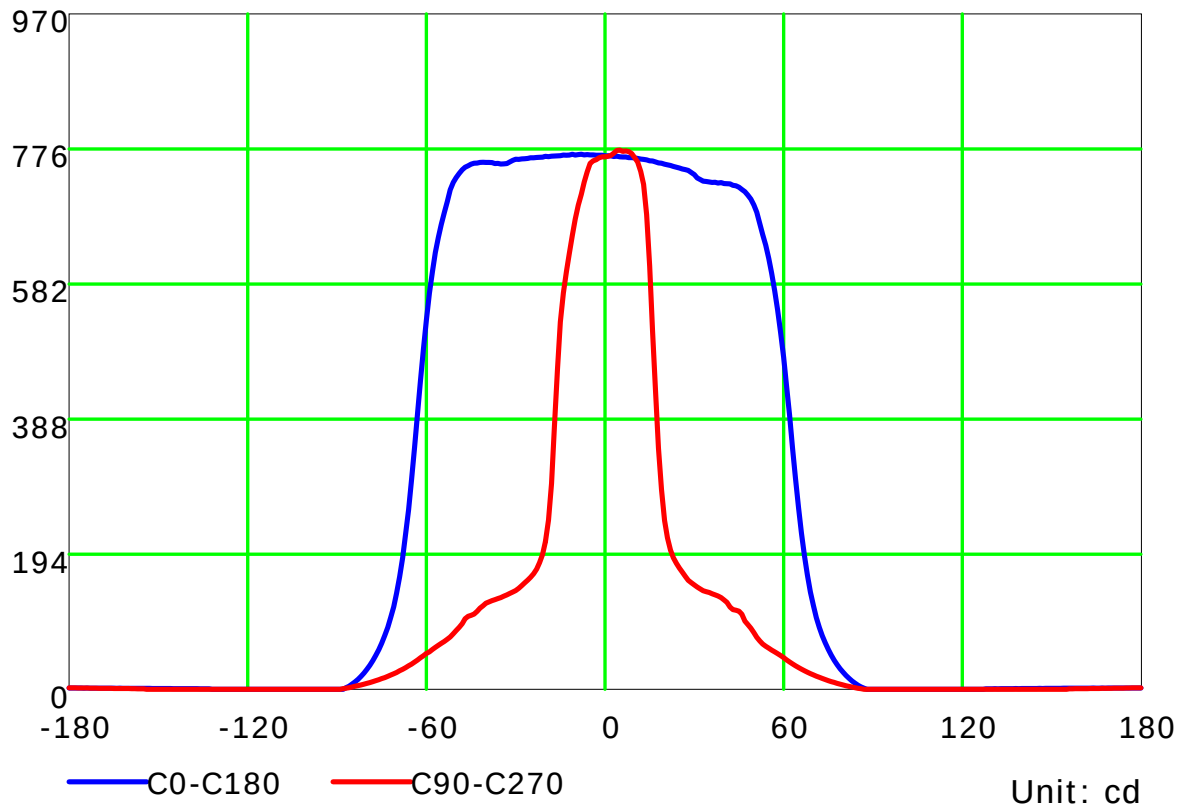
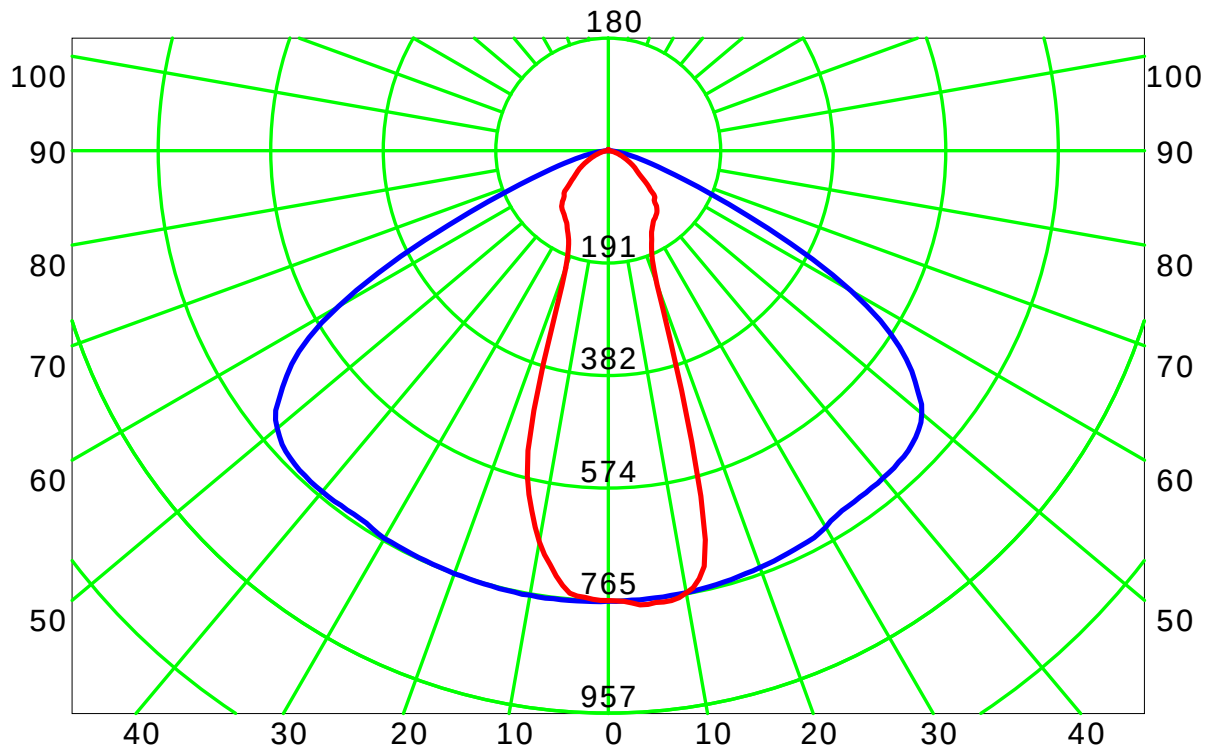
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

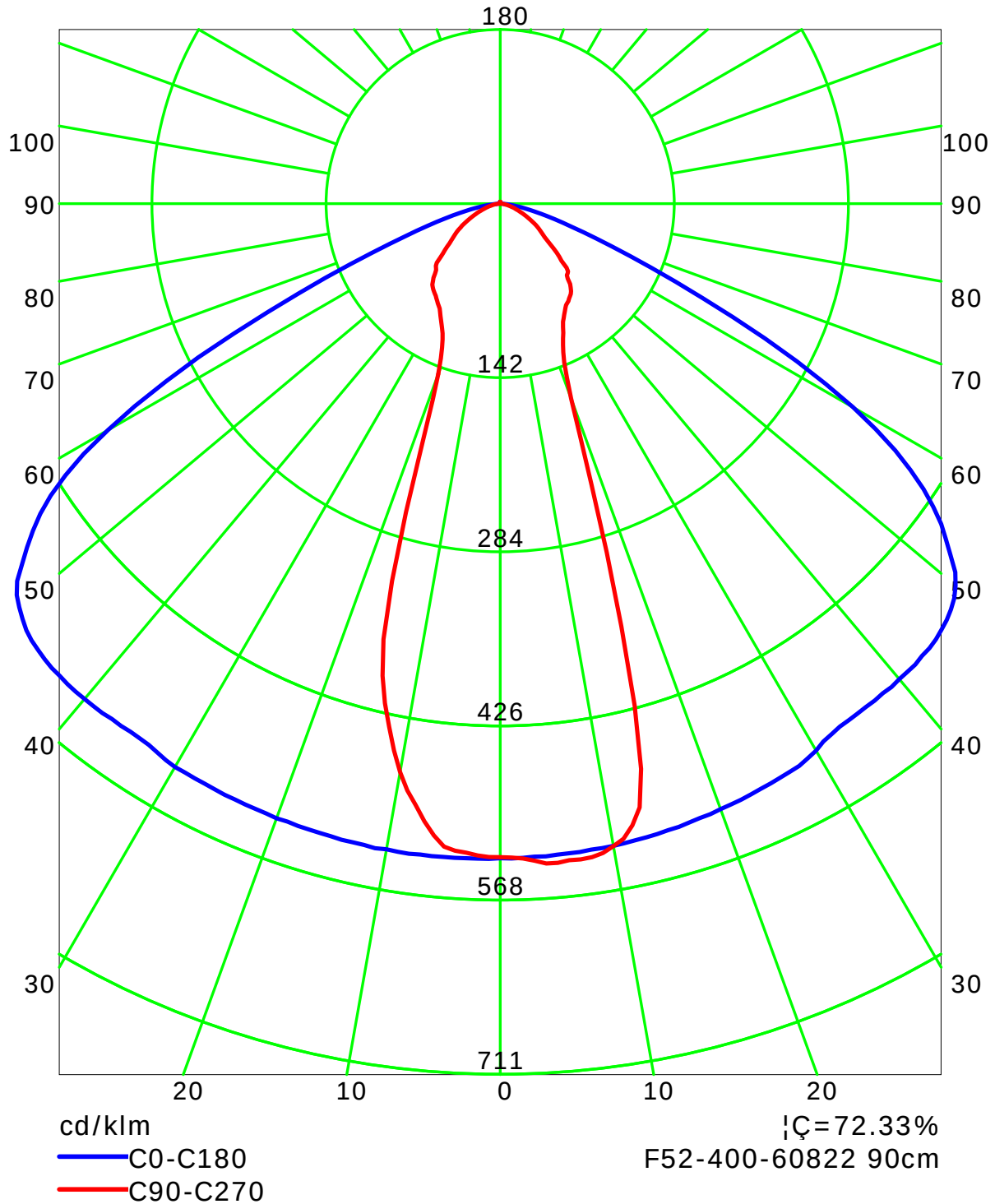
## Luminous Intensity Distribution Curve



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

Gamma Plane (°): 0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

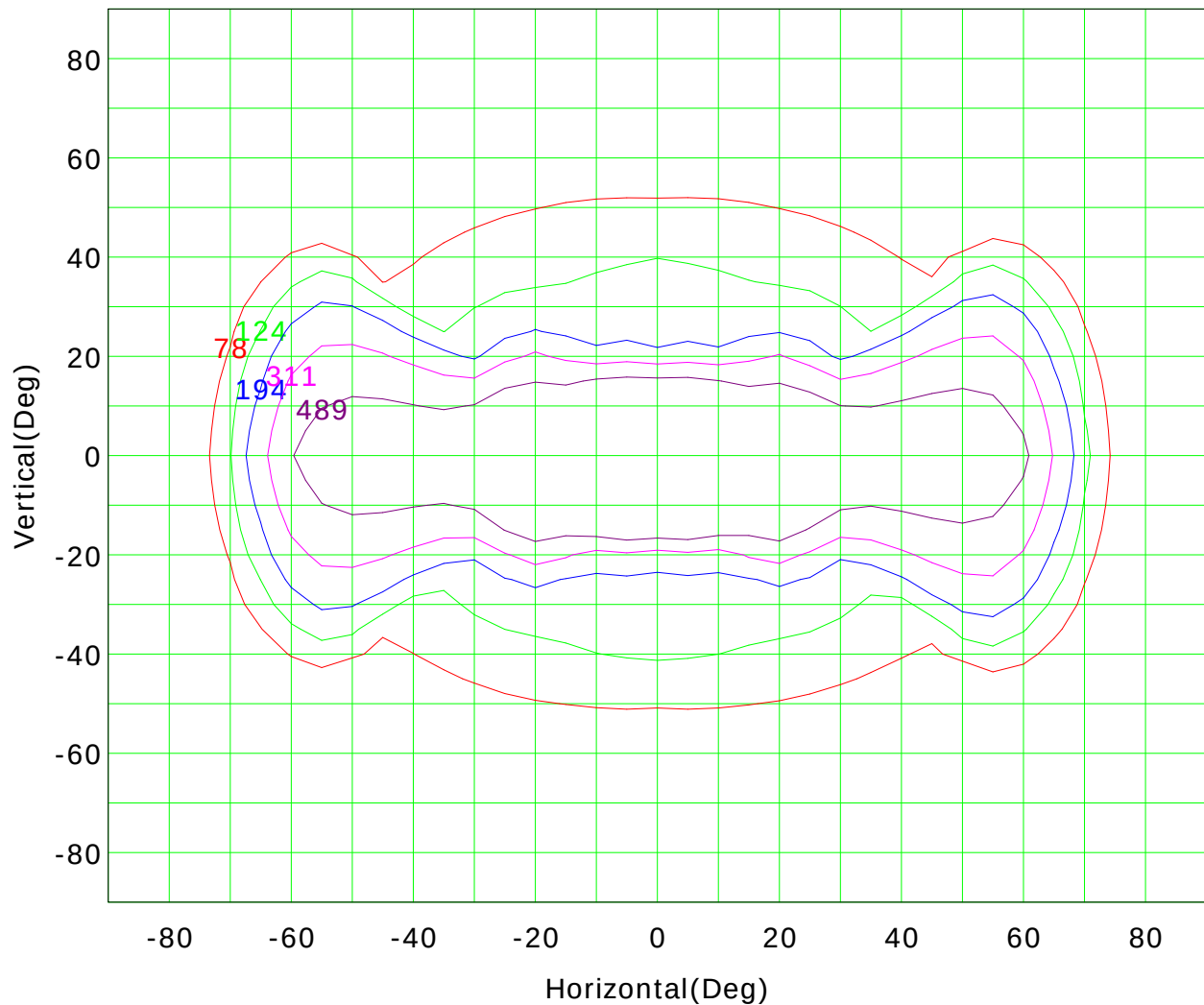
## Luminous Intensity Distribution Curve(cd / klm)



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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

## Isocandela (rectangle)



I<sub>max</sub> (100%): 776 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 78 cd  | ( 16%): | 124 cd |
| ( 25%): | 194 cd | ( 40%): | 311 cd |
| ( 63%): | 489 cd | (100%): | 776 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

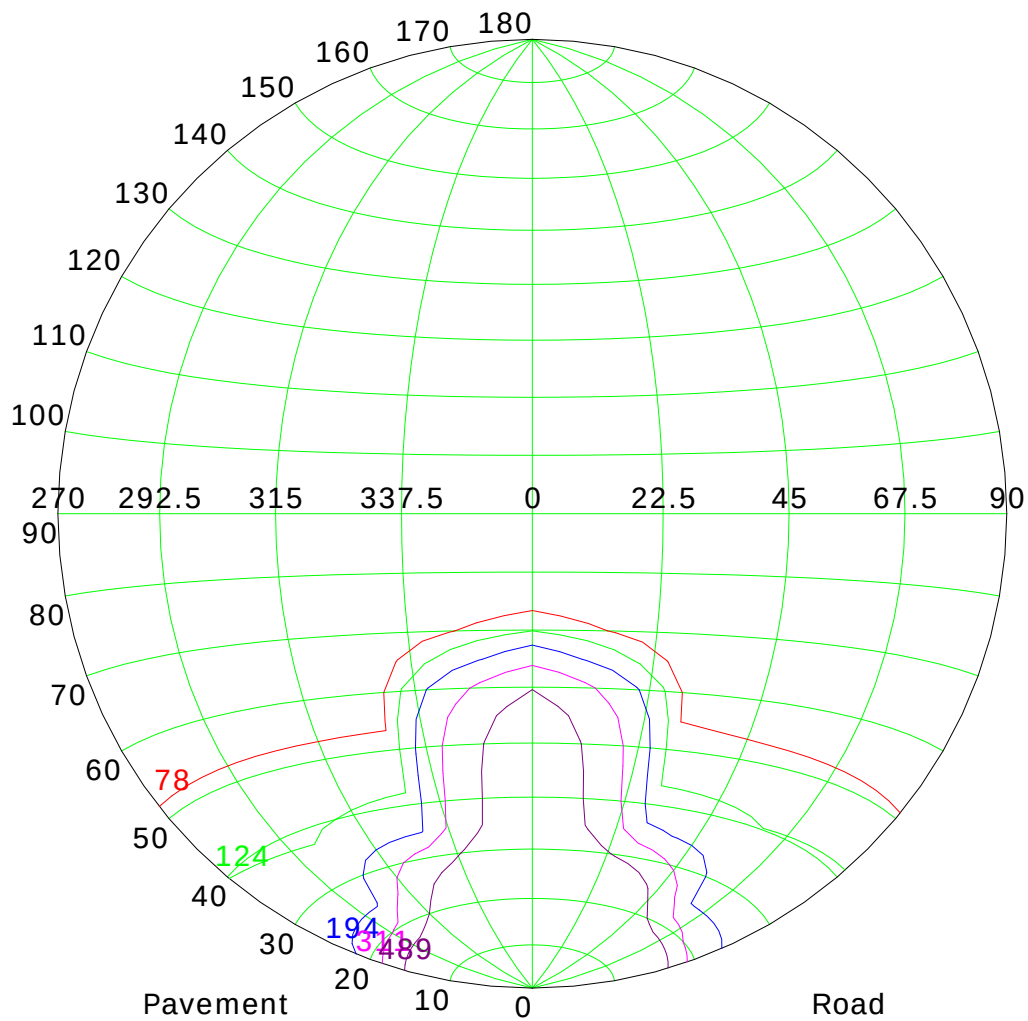
Distance: 7.979 m

Humidity:

Inspector:



## Isocandela (sphere)



I<sub>max</sub> (100%): 776 cd

|         |        |         |        |
|---------|--------|---------|--------|
| ( 10%): | 78 cd  | ( 16%): | 124 cd |
| ( 25%): | 194 cd | ( 40%): | 311 cd |
| ( 63%): | 489 cd | (100%): | 776 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

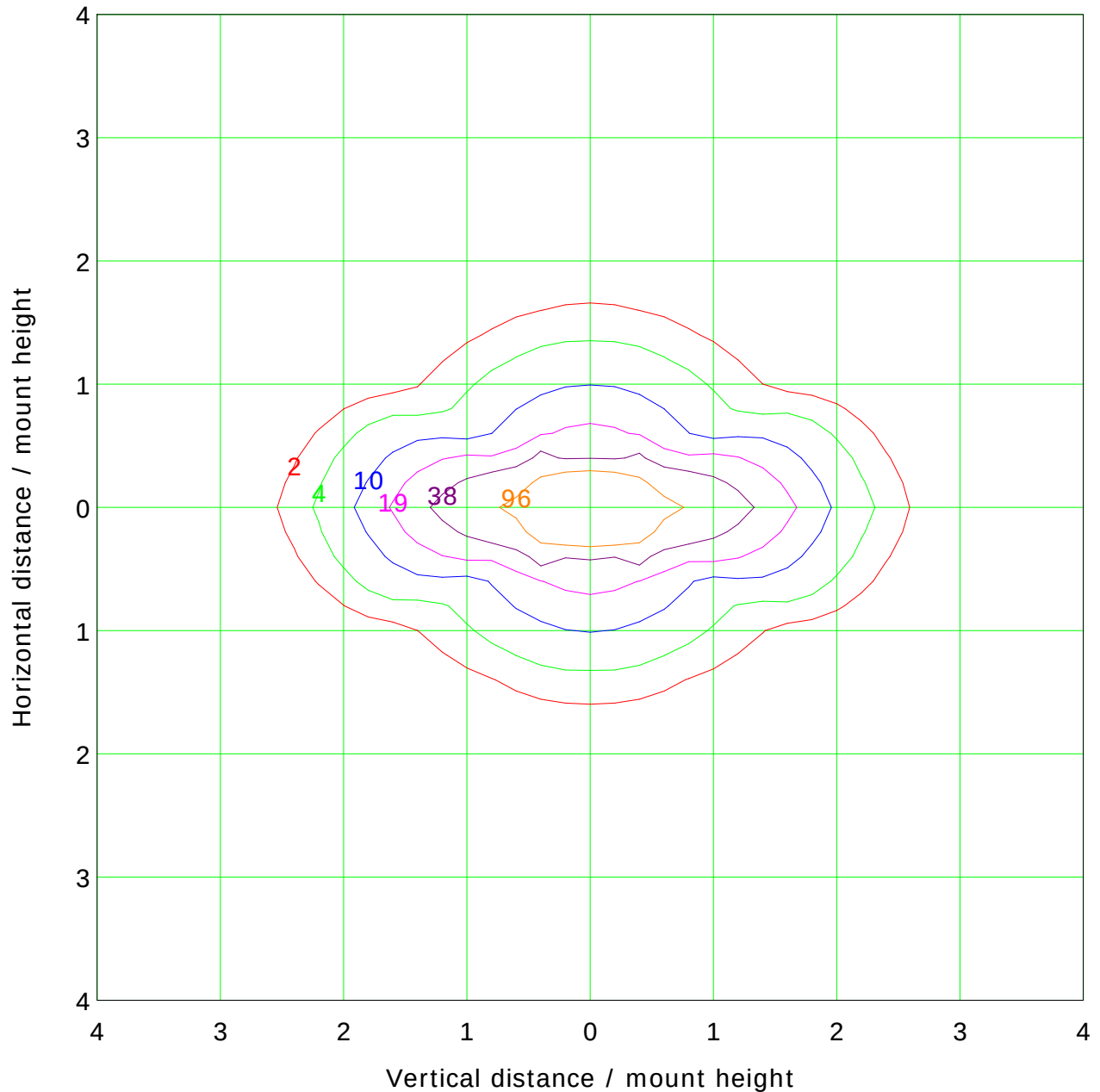
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## IsoLux Plot



|                       |          |                         |         |
|-----------------------|----------|-------------------------|---------|
| Mounting Height: 2.0m |          | Max Lux(100%): 192.2 lx |         |
| — ( 1%):              | 1.9 lx   | — ( 2%):                | 3.8 lx  |
| — ( 5%):              | 9.6 lx   | — ( 10%):               | 19.2 lx |
| — ( 20%):             | 38.4 lx  | — ( 50%):               | 96.1 lx |
| — (100%):             | 192.2 lx |                         |         |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

Distance: 7.979 m

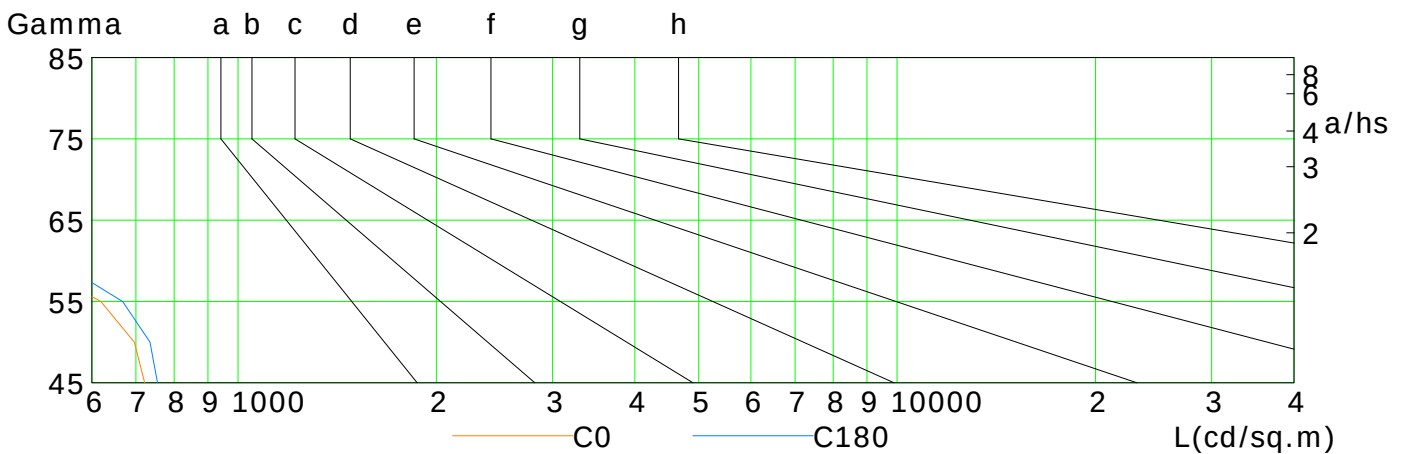
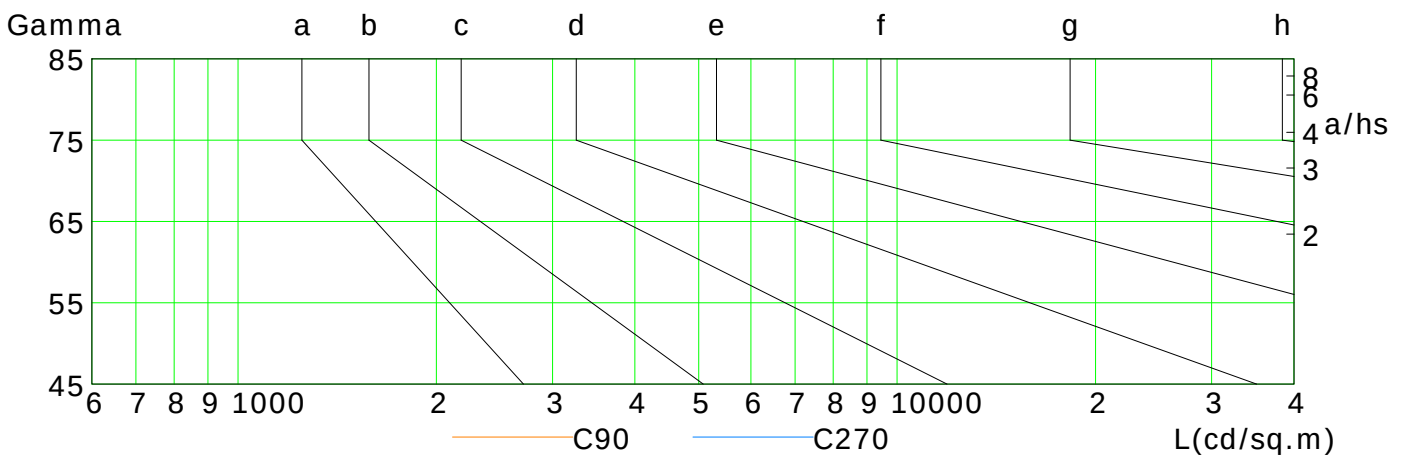
Humidity:

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         | 722 | 696 | 619 | 477 | 261 | 120 | 57  | 25  | 6   |
| C90        | 112 | 82  | 59  | 46  | 31  | 21  | 13  | 6   | 2   |
| C180       | 755 | 735 | 668 | 530 | 300 | 138 | 66  | 29  | 7   |
| C270       | 106 | 85  | 66  | 52  | 36  | 24  | 16  | 9   | 3   |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

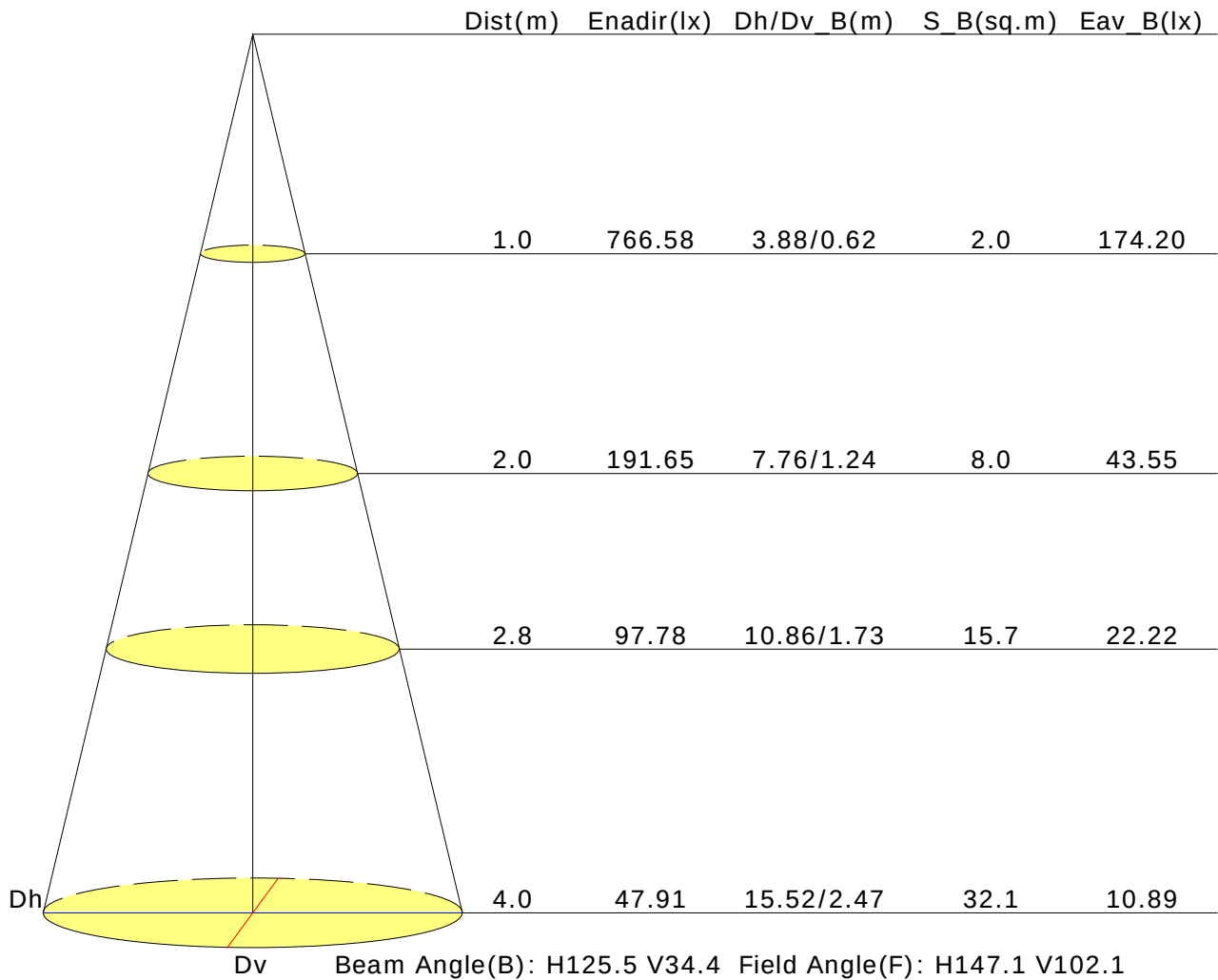
Test Device: GPM-1800B

Distance: 7.979 m

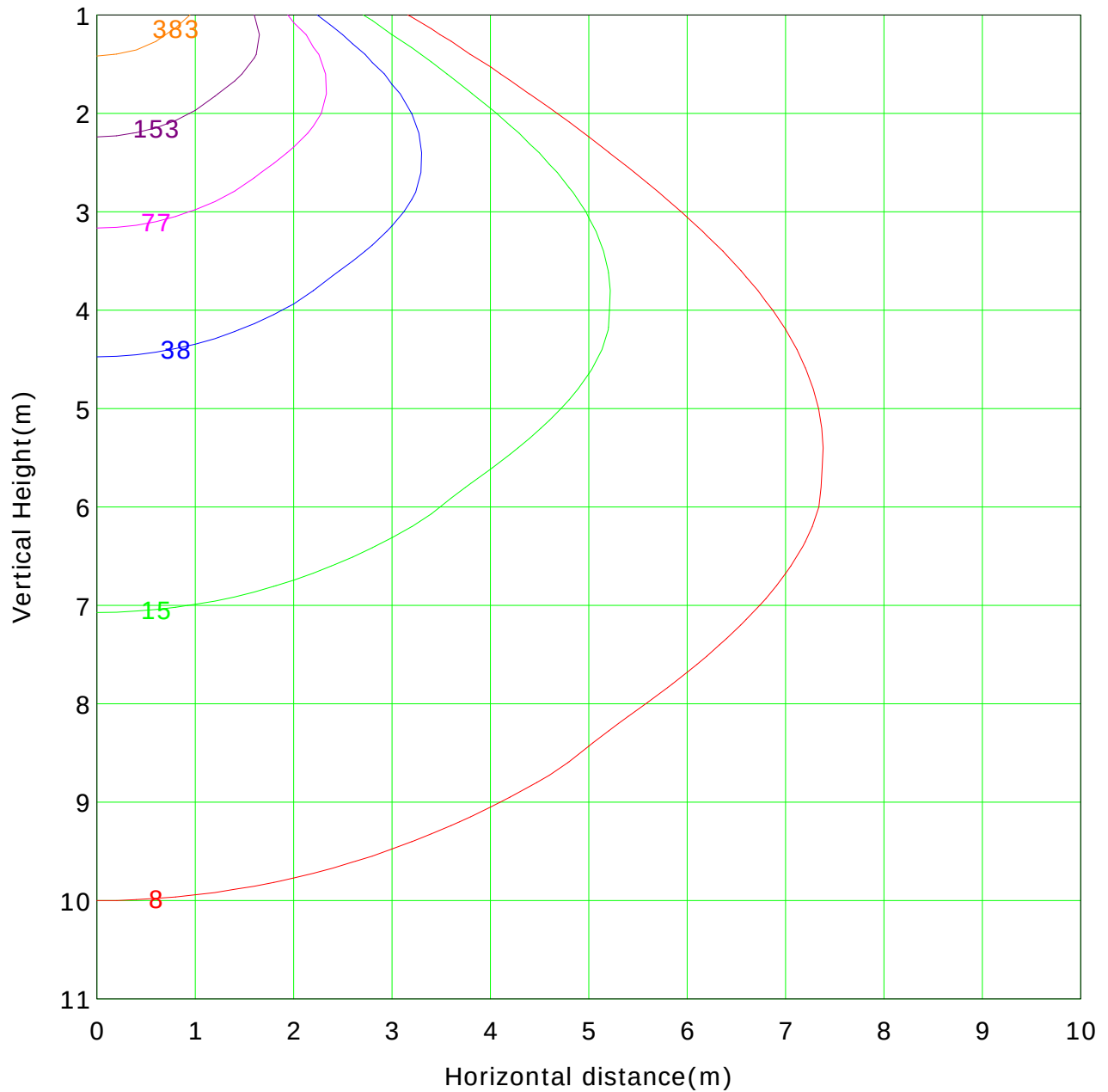
Humidity:

Inspector:

## Illuminance at a Distance



## Vertical IsoLux Plot



Lowest(m): 1.0m    Highest(m): 11.0m    Max Lux: 766.6 lx

|                    |                   |
|--------------------|-------------------|
| — ( 1%): 7.7 lx    | — ( 2%): 15.3 lx  |
| — ( 5%): 38.3 lx   | — (10%): 76.7 lx  |
| — (20%): 153.3 lx  | — (50%): 383.3 lx |
| — (100%): 766.6 lx |                   |

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

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

Report No.:

Test Time: 22/01/2021 12:46

## Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-DW11-03 + LLD-03-FB

Lamp Description: F52-400-60822 90cm

Number of Lamps: 1

Lumens per Lamp: 1434 lm

Voltage: 24.0 V

Current: 0.533 A

Power: 12.79 W

Power Factor: 1.000

## Photometric Results

CIE Class: Direct

Measurement Flux: 160.2 lm

Downward Ratio: 11.15%

Total Rated Lamp Lumens: 1434.0 lm

Efficiency: 11.17%

Upward Ratio: 0.01%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 148.6, 125.6, 132.1, 132.2

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 88.2, 54.5, 68.5, 68.4

Luminaire Efficacy Rating (LER): 12.57

Central Intensity: 99.08 cd

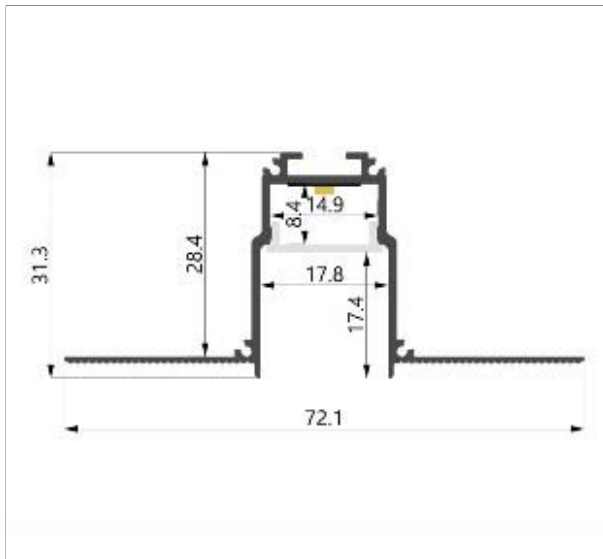
Max. Intensity: 99.56 cd

Pos of Max. Intensity: H90 V6

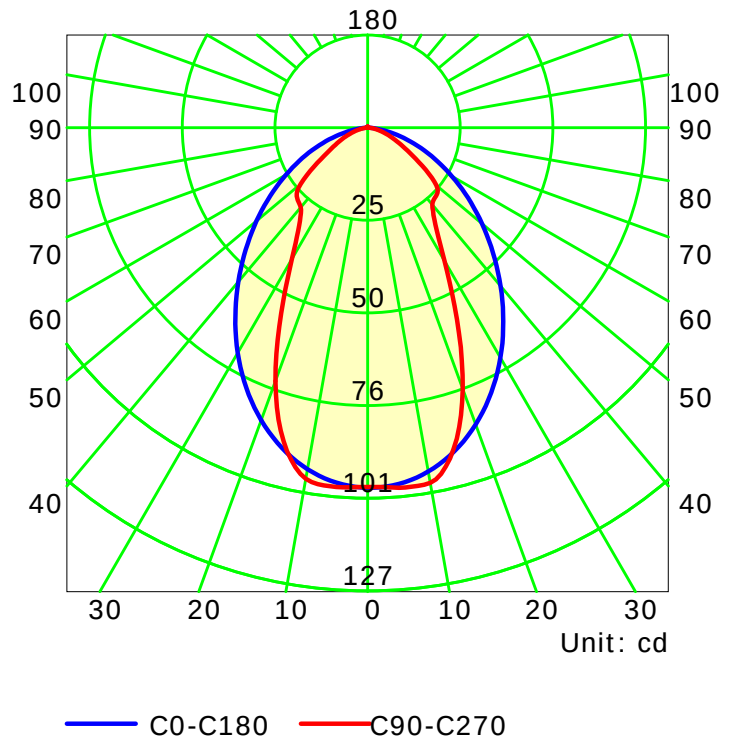
S/MH(C0/C180): 1.11

S/MH(C90/C270): 0.86

Picture Of Luminaire



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

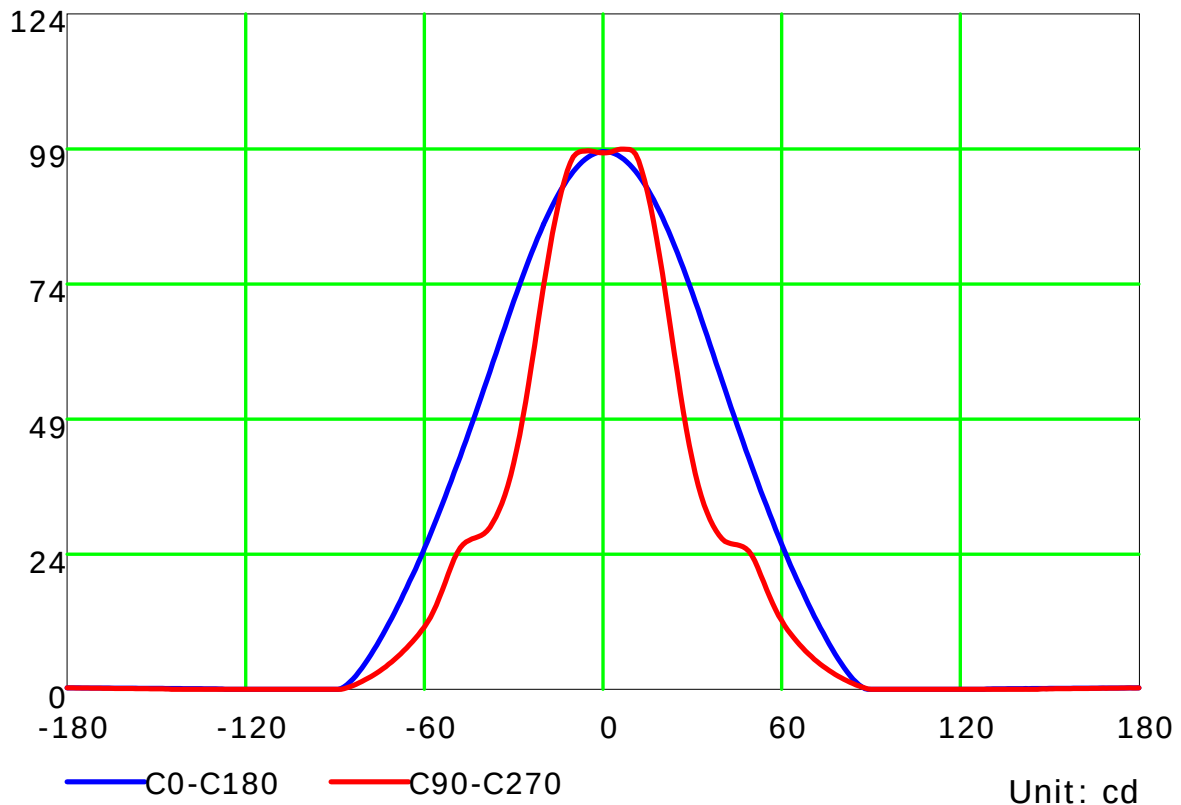
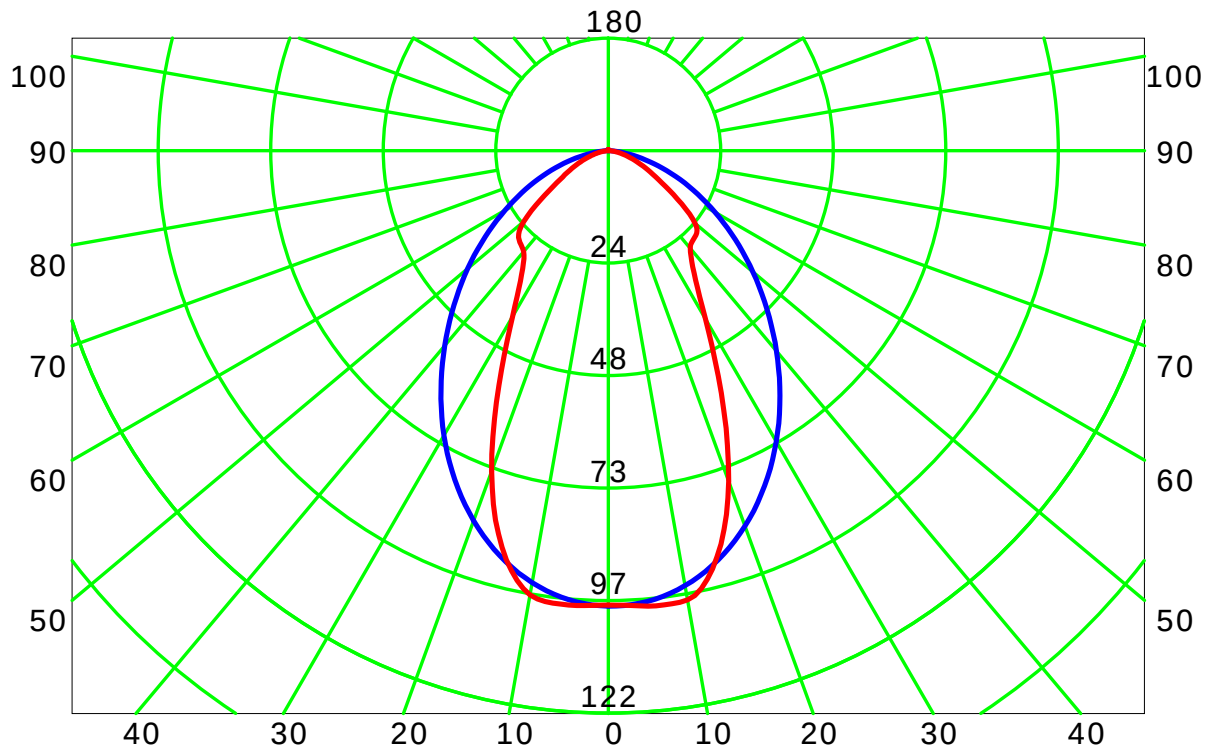
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

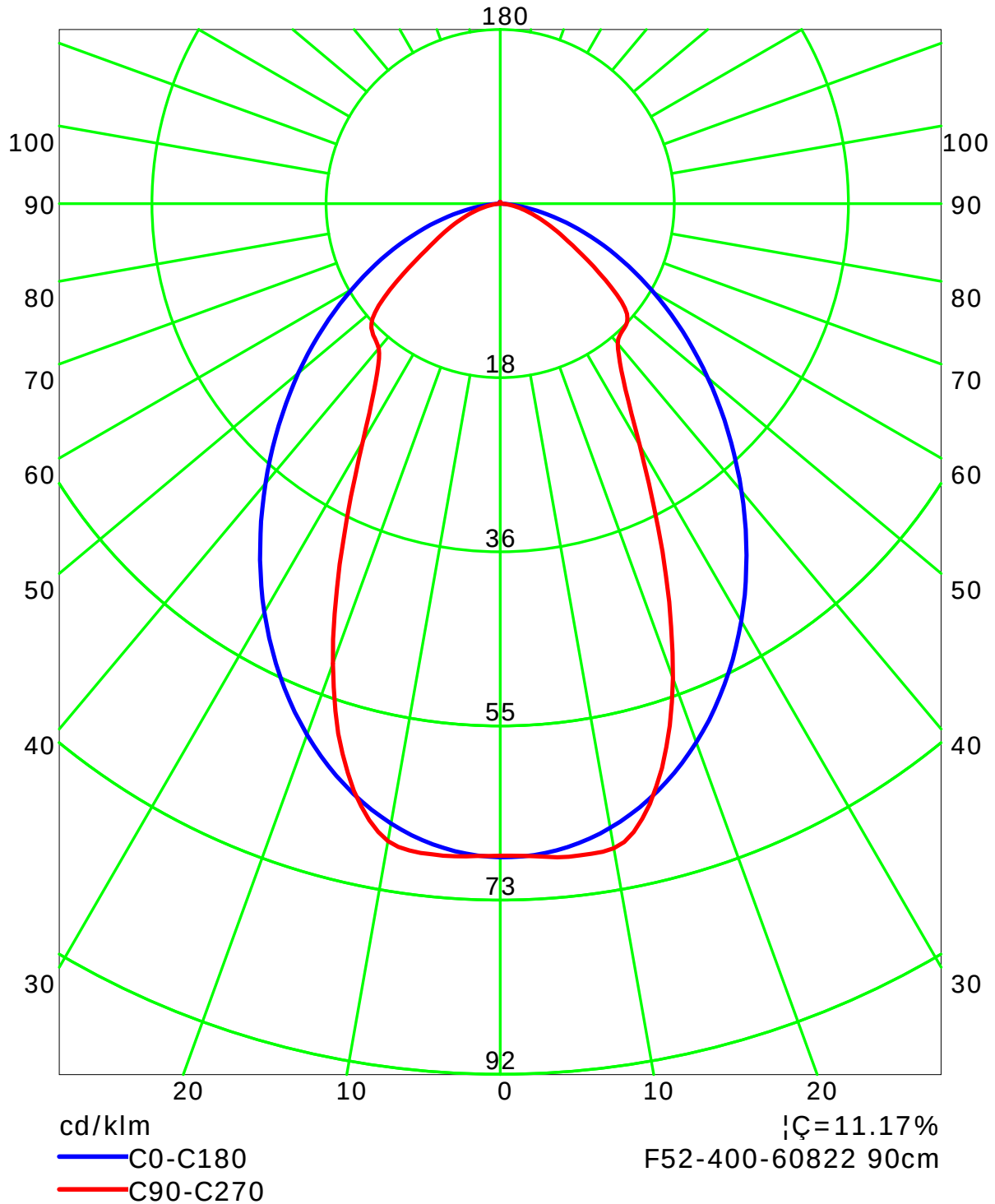
## Luminous Intensity Distribution Curve



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

Gamma Plane (°): 0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:

## Luminous Intensity Distribution Curve(cd / klm)

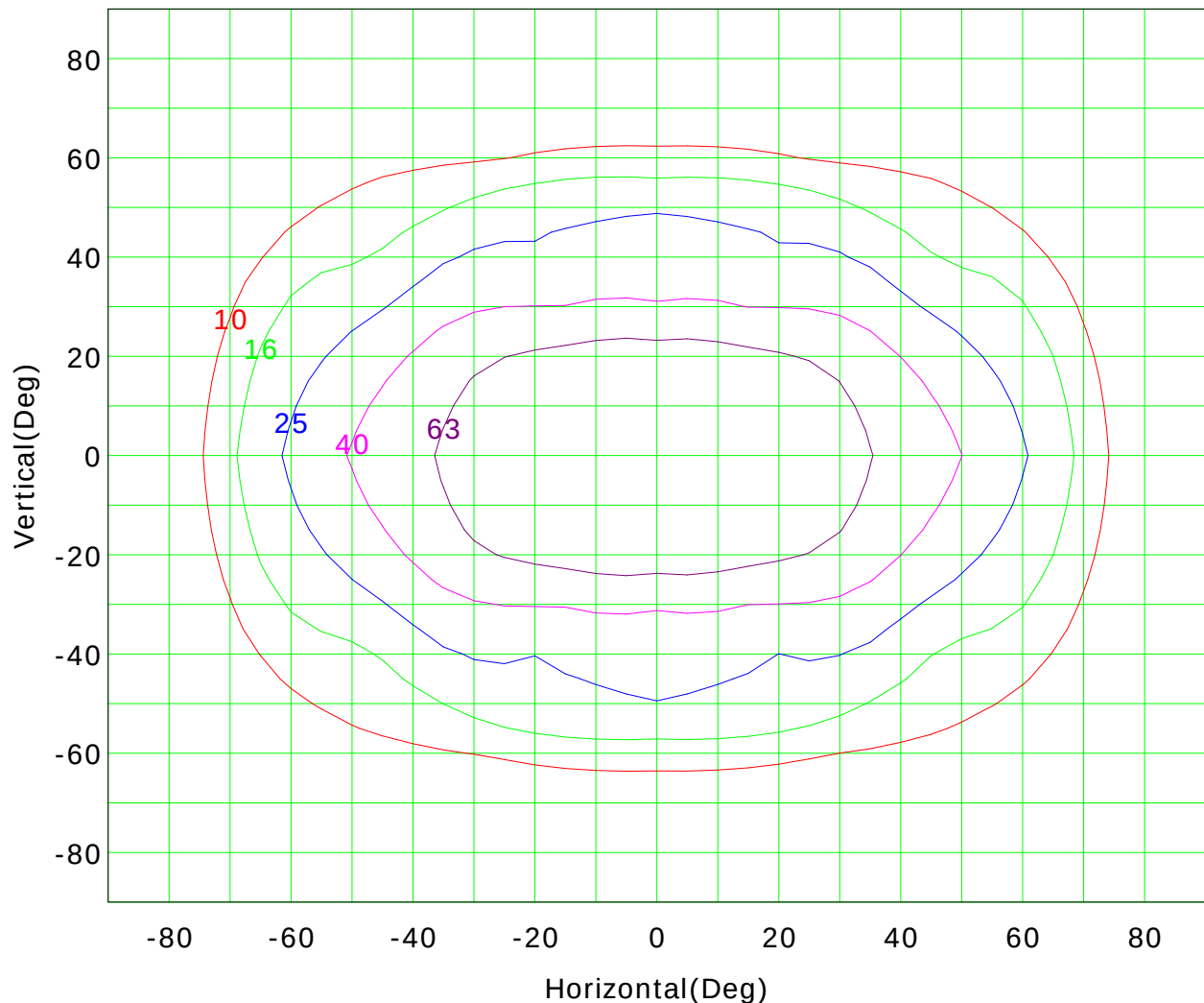


C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature:  
Operator:

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 7.979 m  
Humidity:  
Inspector:



## Isocandela (rectangle)



I<sub>max</sub> (100%): 100 cd

|         |       |         |        |
|---------|-------|---------|--------|
| ( 10%): | 10 cd | ( 16%): | 16 cd  |
| ( 25%): | 25 cd | ( 40%): | 40 cd  |
| ( 63%): | 63 cd | (100%): | 100 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

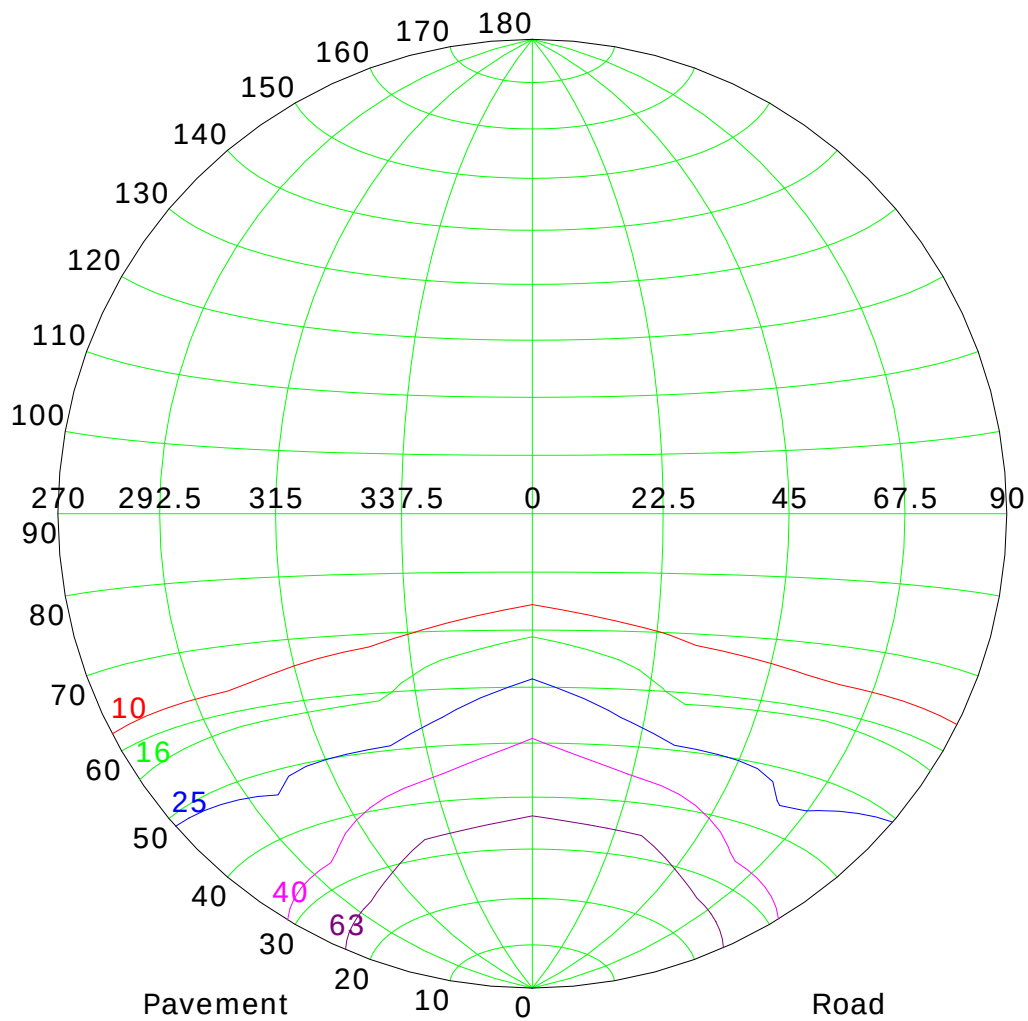
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## Isocandela (sphere)



I<sub>max</sub> (100%): 100 cd

|         |       |         |        |
|---------|-------|---------|--------|
| ( 10%): | 10 cd | ( 16%): | 16 cd  |
| ( 25%): | 25 cd | ( 40%): | 40 cd  |
| ( 63%): | 63 cd | (100%): | 100 cd |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

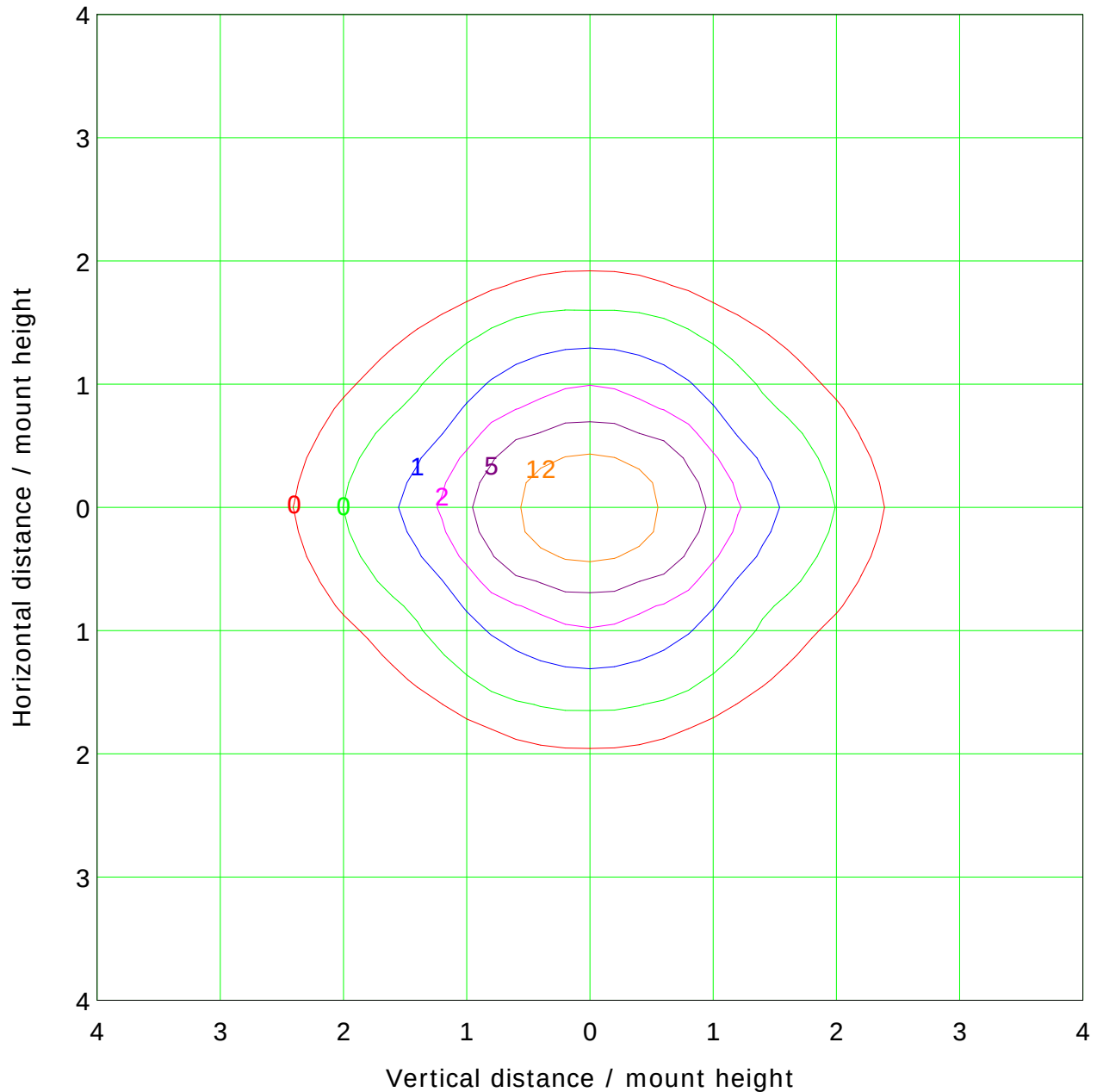
Test Device: GPM-1800B

Distance: 7.979 m

Humidity:

Inspector:

## IsoLux Plot



|                       |         |                        |         |
|-----------------------|---------|------------------------|---------|
| Mounting Height: 2.0m |         | Max Lux(100%): 24.8 lx |         |
| — ( 1%):              | 0.2 lx  | — ( 2%):               | 0.5 lx  |
| — ( 5%):              | 1.2 lx  | — (10%):               | 2.5 lx  |
| — (20%):              | 5.0 lx  | — (50%):               | 12.4 lx |
| — (100%):             | 24.8 lx |                        |         |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-1800B

Distance: 7.979 m

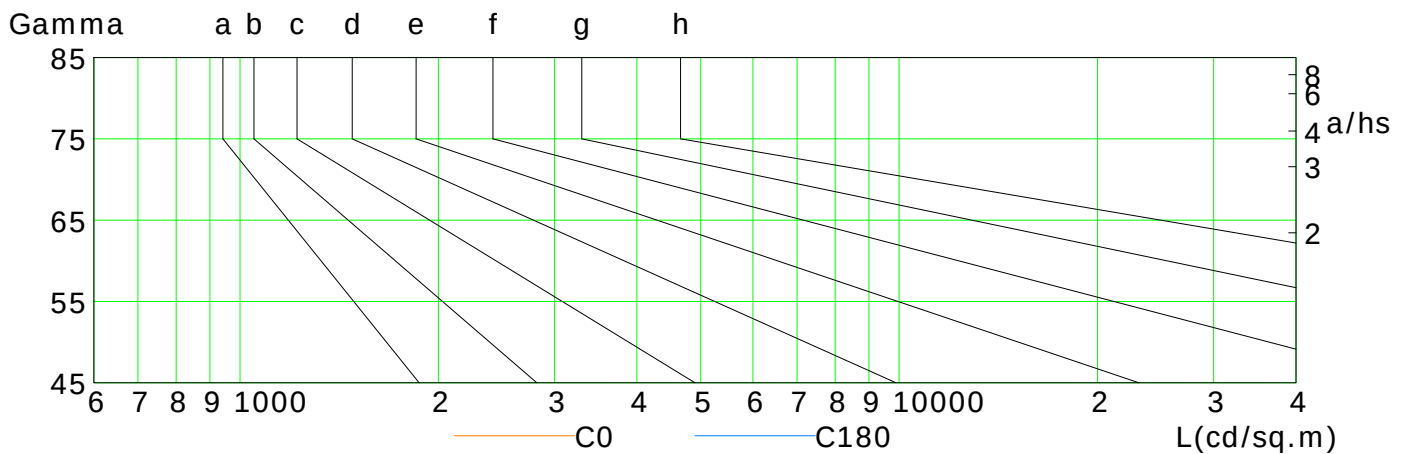
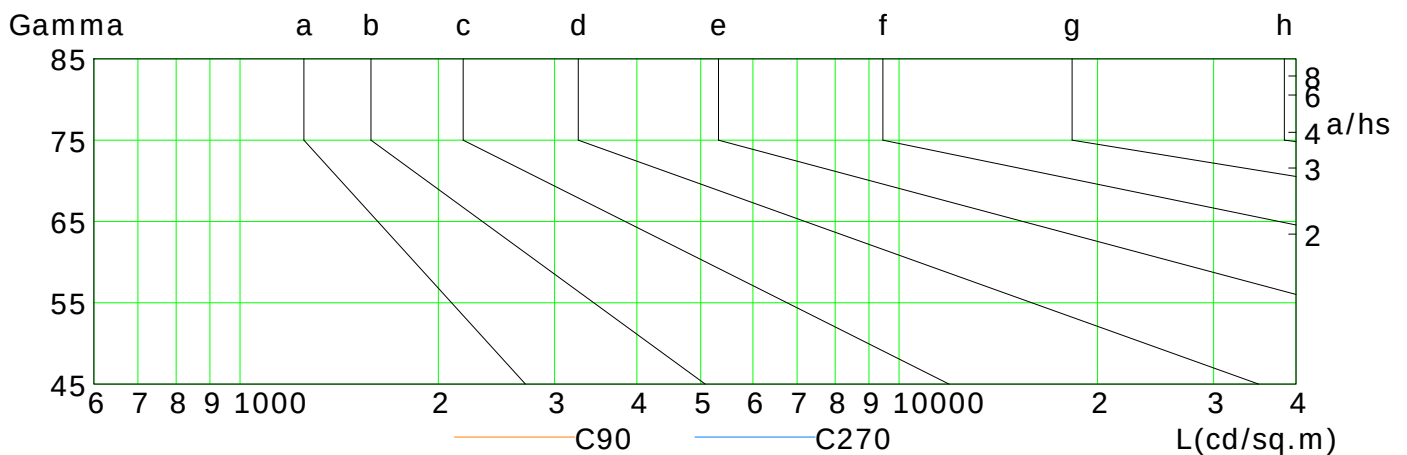
Humidity:

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         | 49  | 41  | 34  | 27  | 20  | 15  | 9   | 5   | 1   |
| C90        | 27  | 25  | 18  | 13  | 9   | 6   | 4   | 2   | 1   |
| C180       | 47  | 40  | 33  | 26  | 20  | 14  | 9   | 5   | 1   |
| C270       | 27  | 24  | 17  | 11  | 8   | 6   | 3   | 2   | 0   |

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

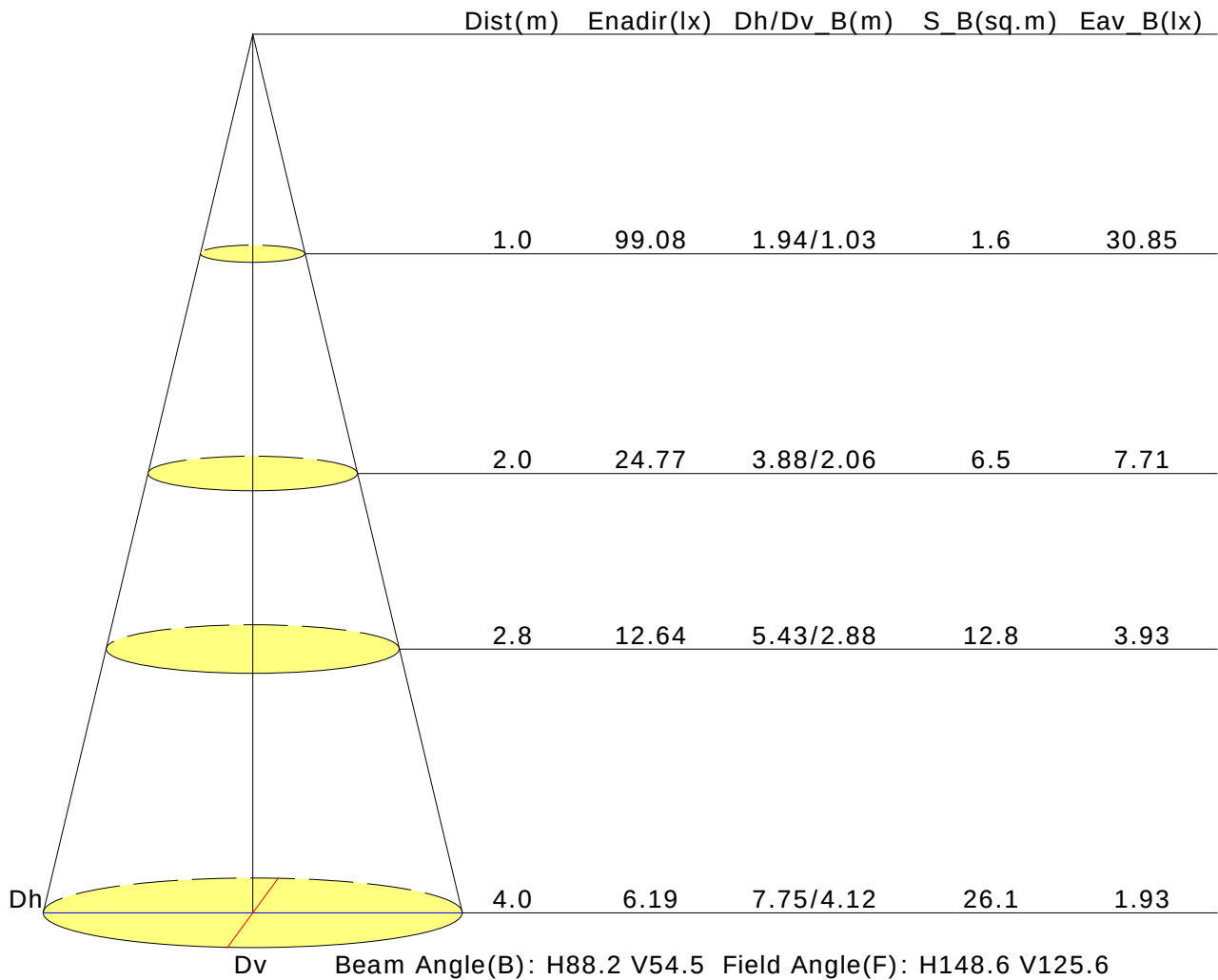
Test Device: GPM-1800B

Distance: 7.979 m

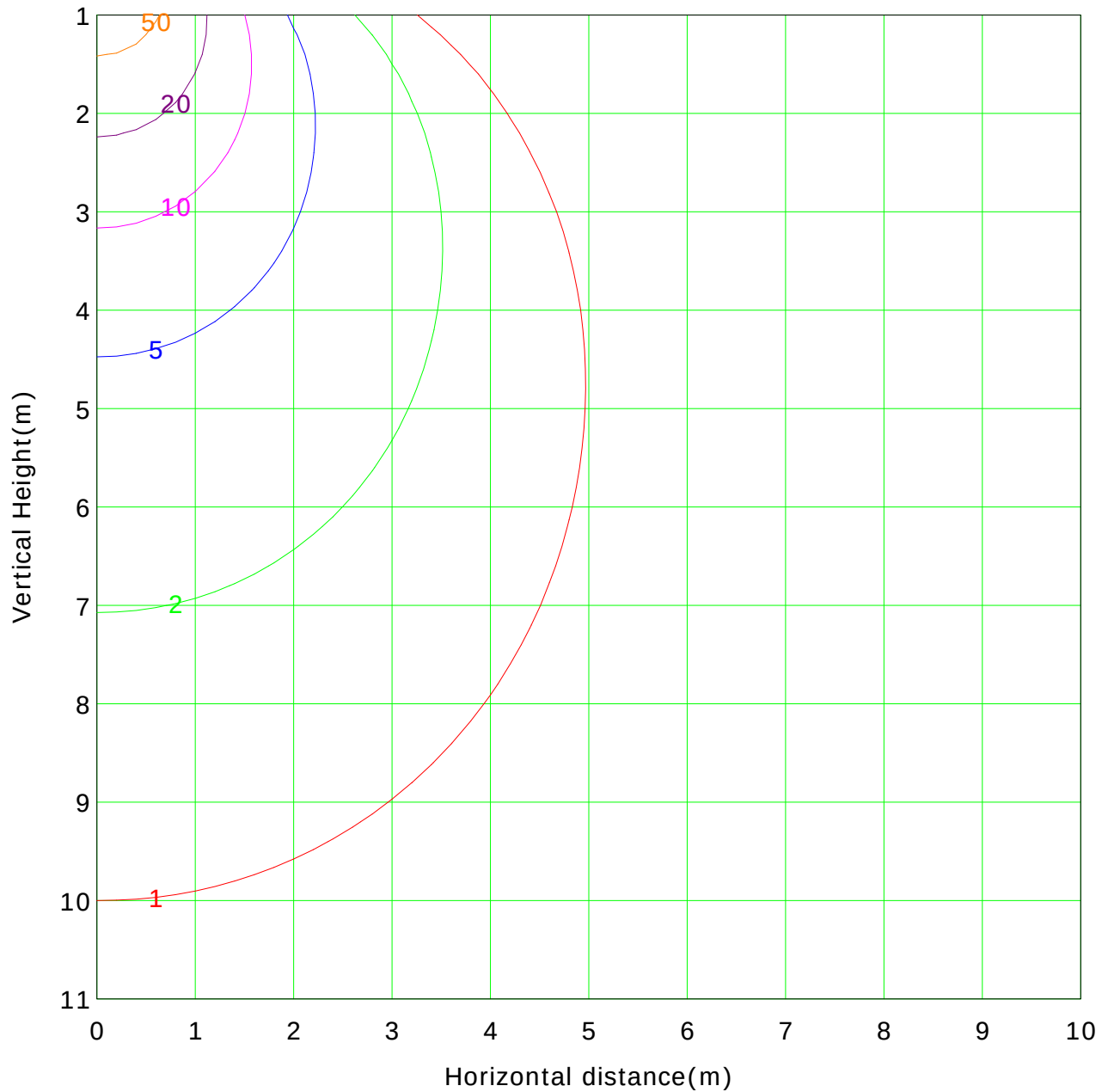
Humidity:

Inspector:

## Illuminance at a Distance



## Vertical IsoLux Plot



Lowest(m): 1.0m    Highest(m): 11.0m    Max Lux: 99.1 lx

|                 |                 |
|-----------------|-----------------|
| ( 1%): 1.0 lx   | ( 2%): 2.0 lx   |
| ( 5%): 5.0 lx   | ( 10%): 9.9 lx  |
| ( 20%): 19.8 lx | ( 50%): 49.5 lx |
| (100%): 99.1 lx |                 |