

Report No.:

Test Time: 17/09/2019 14:12

Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-SH01-03 + LLD-03-FK

Lamp Description: F52-400-60822

Number of Lamps: 1

Lumens per Lamp: 1286 lm

Voltage: 24.0 V

Current: 0.595 A

Power: 14.27 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 1286.1 lm

Downward Ratio: 99.59%

Total Rated Lamp Lumens: 1286.0 lm

Efficiency: 100.01%

Upward Ratio: 0.42%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 155.3, 125.8, 131.6, 132.3

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 114.0, 92.7, 103.5, 103.9

Luminaire Efficacy Rating (LER): 90.17

Central Intensity: 519.71 cd

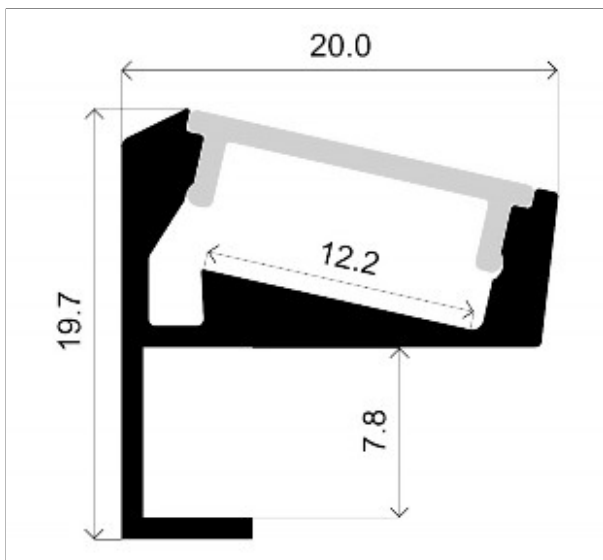
Max. Intensity: 535.22 cd

Pos of Max. Intensity: H80 V14

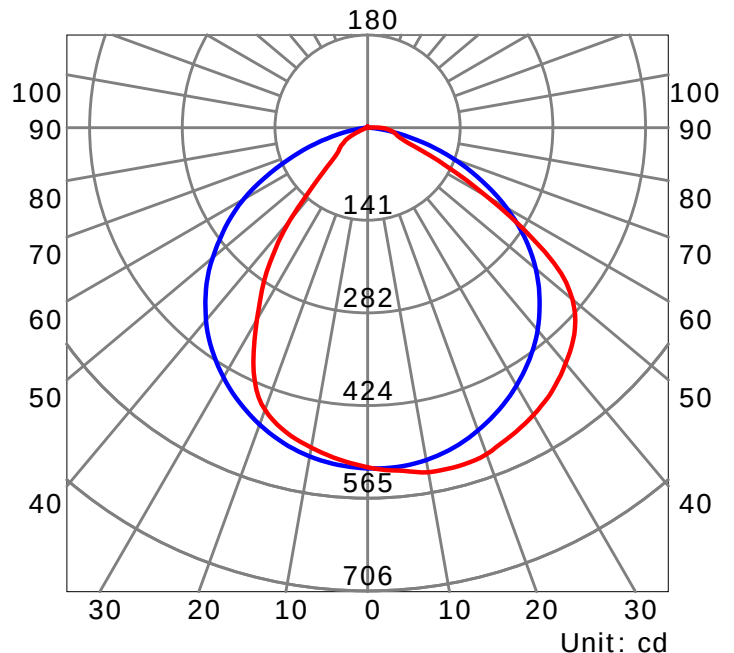
S/MH(C0/C180): 1.28

S/MH(C90/C270): 1.21

Picture Of Luminaire



Luminous Intensity Distribution Curve



— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

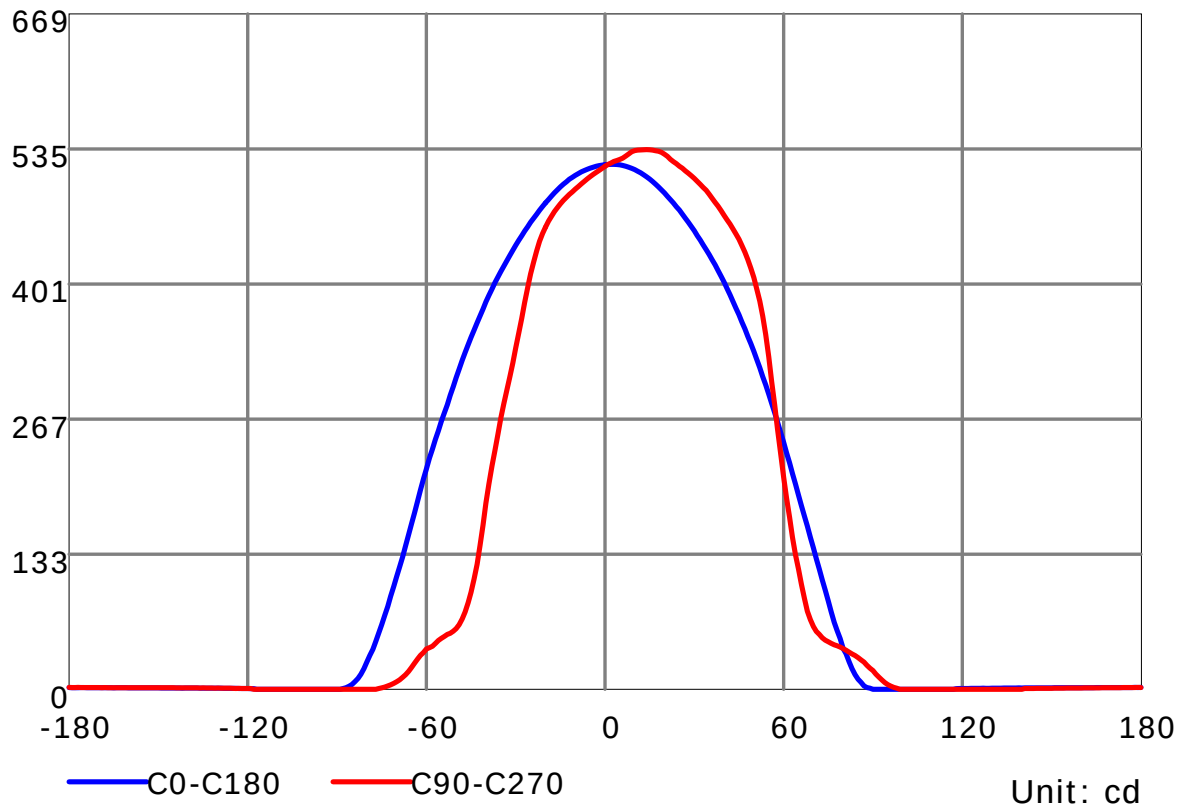
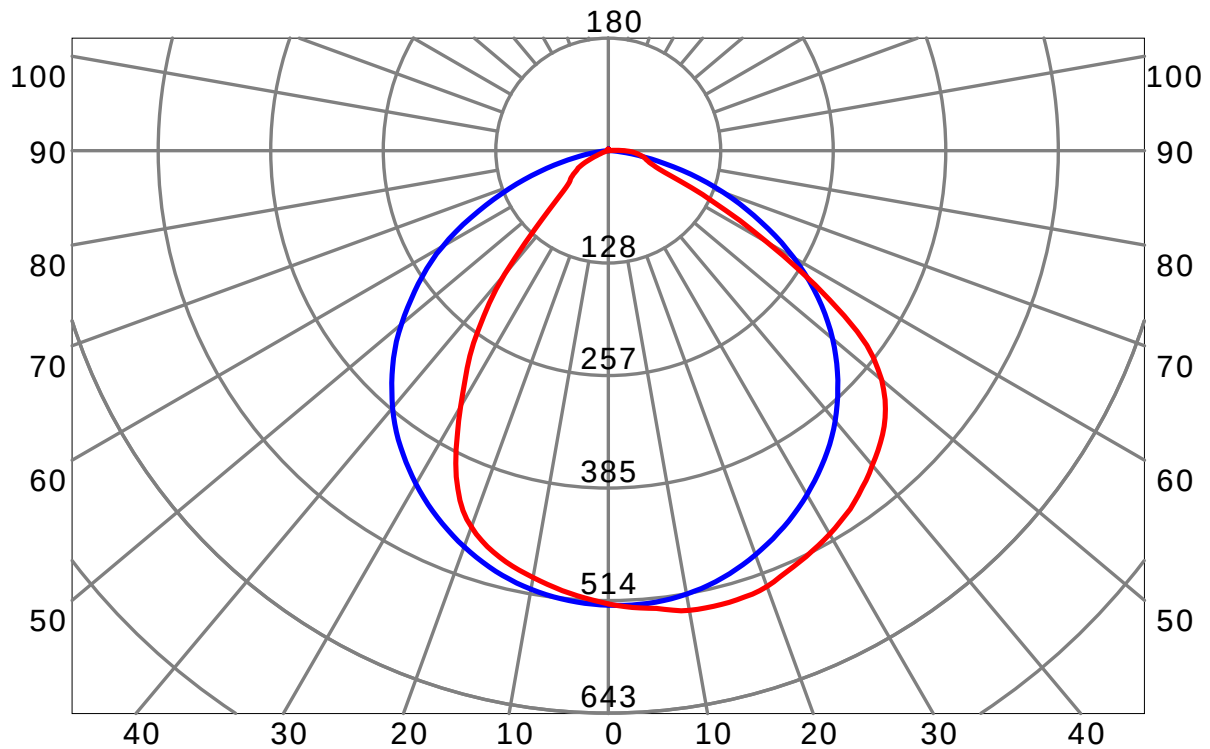
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

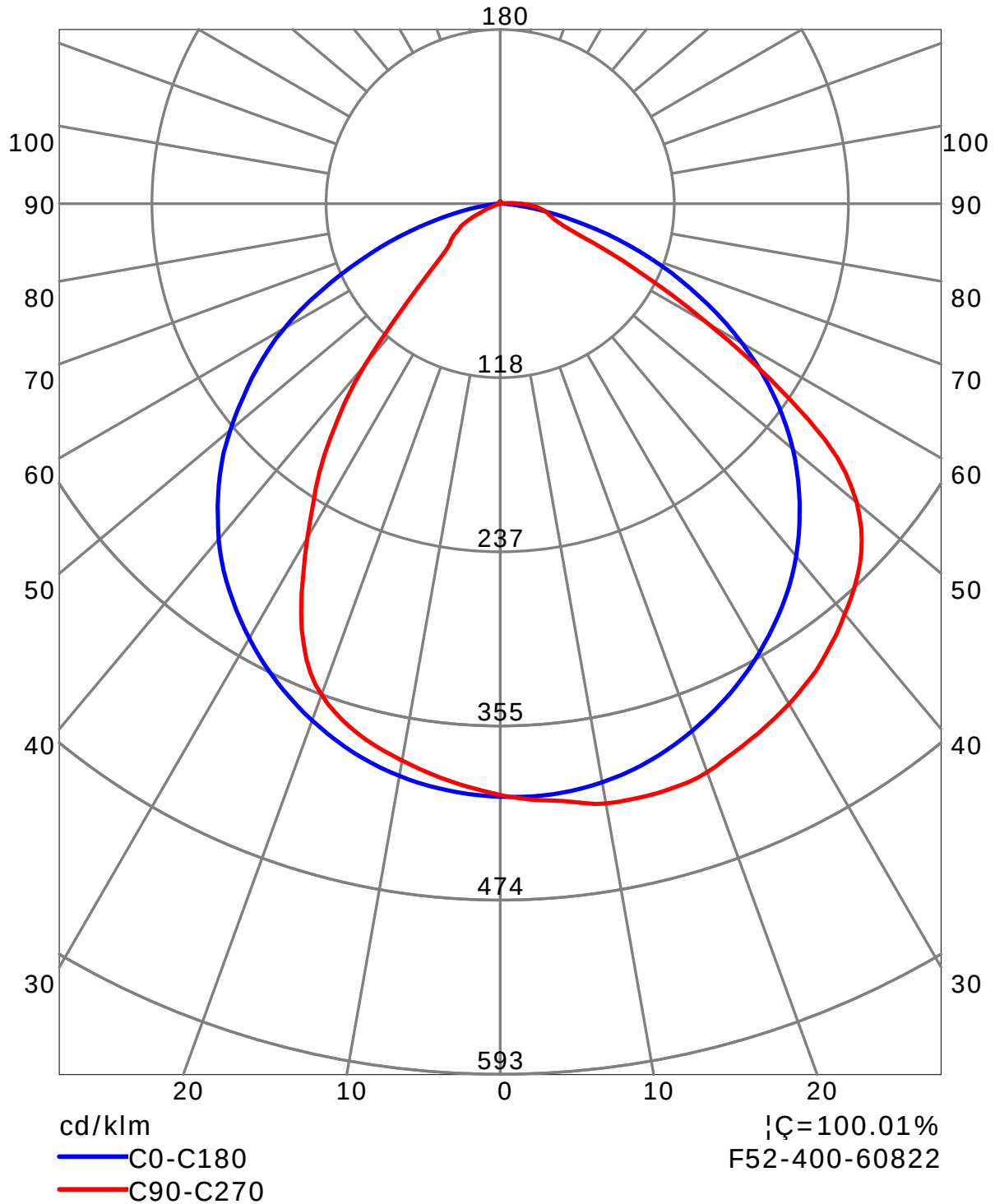
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 m
Humidity:
Inspector:

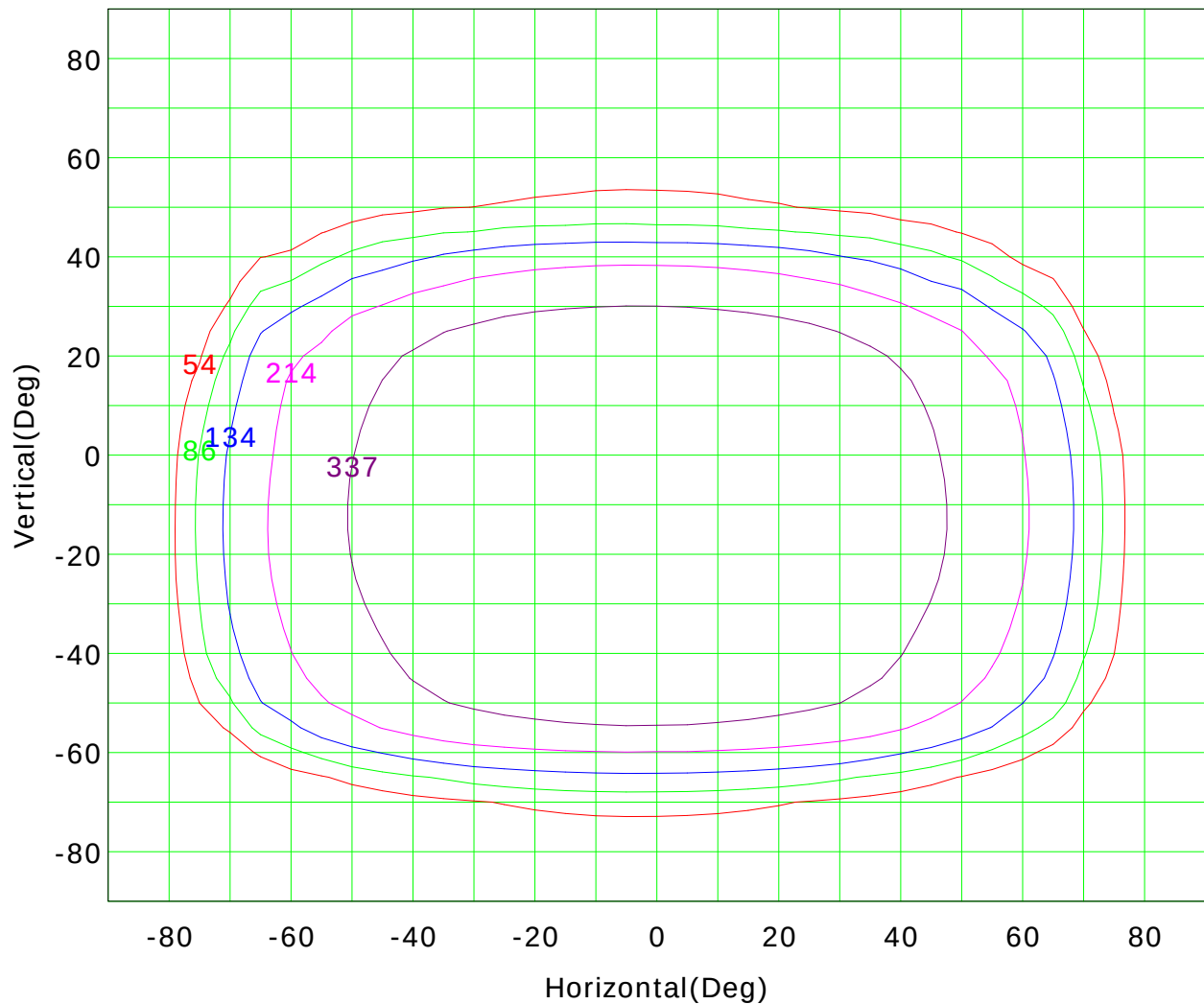
Luminous Intensity Distribution Curve(cd / klm)



C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 m
Humidity:
Inspector:

Isocandela (rectangle)



I_{max} (100%): 535 cd

(10%):	54 cd	(16%):	86 cd
(25%):	134 cd	(40%):	214 cd
(63%):	337 cd	(100%):	535 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

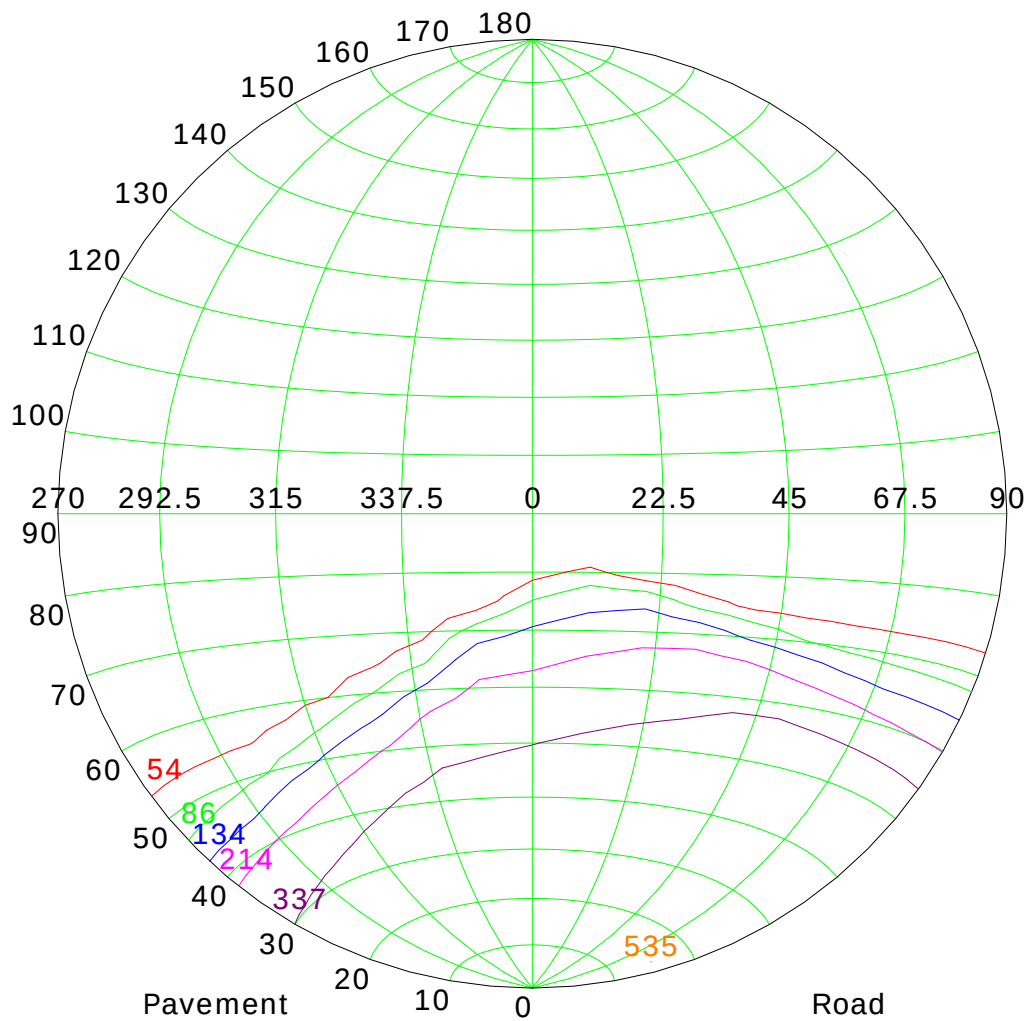
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



Imax (100%): 535 cd

(10%):	54 cd	(16%):	86 cd
(25%):	134 cd	(40%):	214 cd
(63%):	337 cd	(100%):	535 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

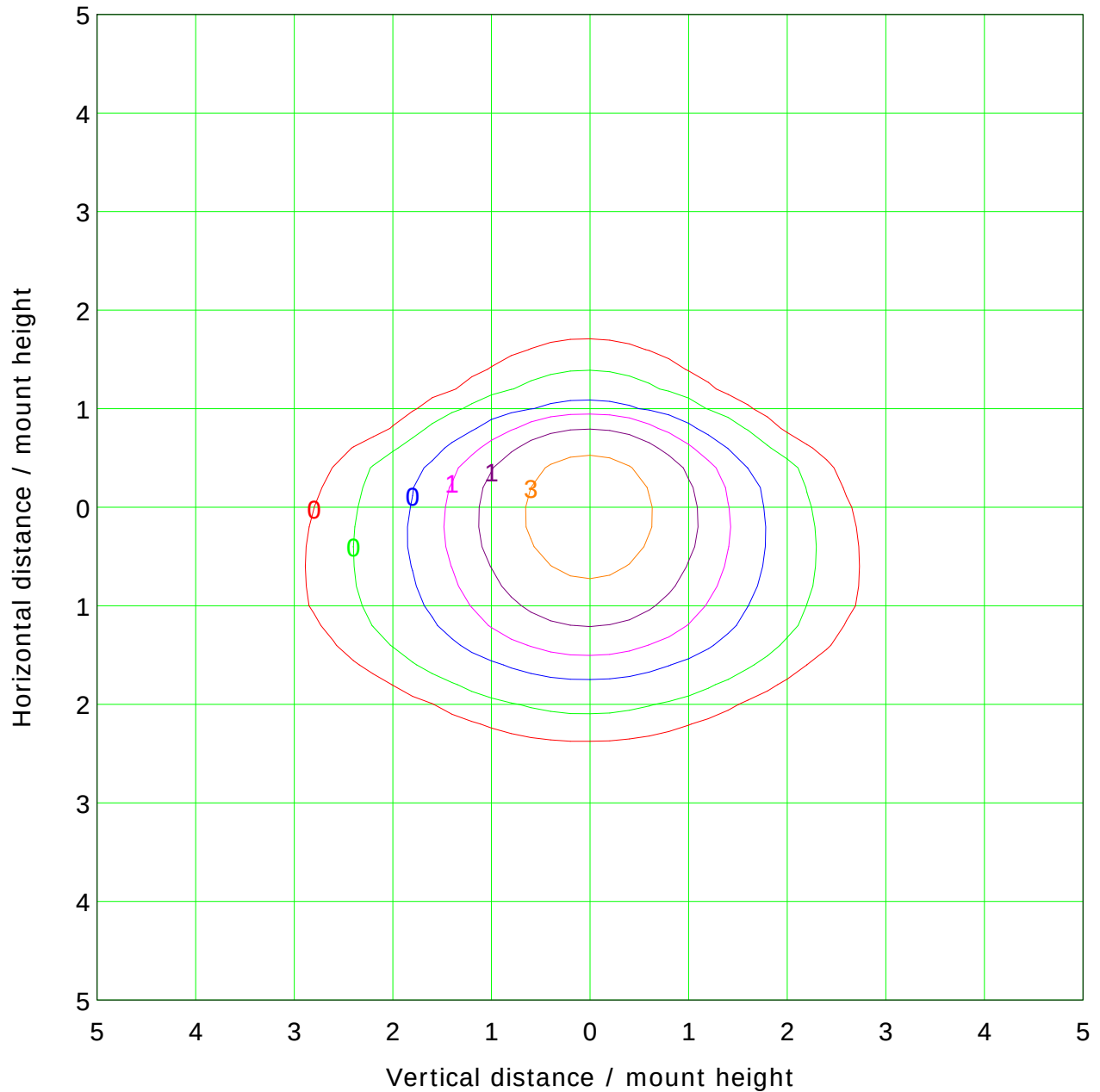
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m		Max Lux(100%): 5.2 lx	
(1%):	0.1 lx	(2%):	0.1 lx
(5%):	0.3 lx	(10%):	0.5 lx
(20%):	1.0 lx	(50%):	2.6 lx
(100%):	5.2 lx		

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-2000

Distance: 7.970 m

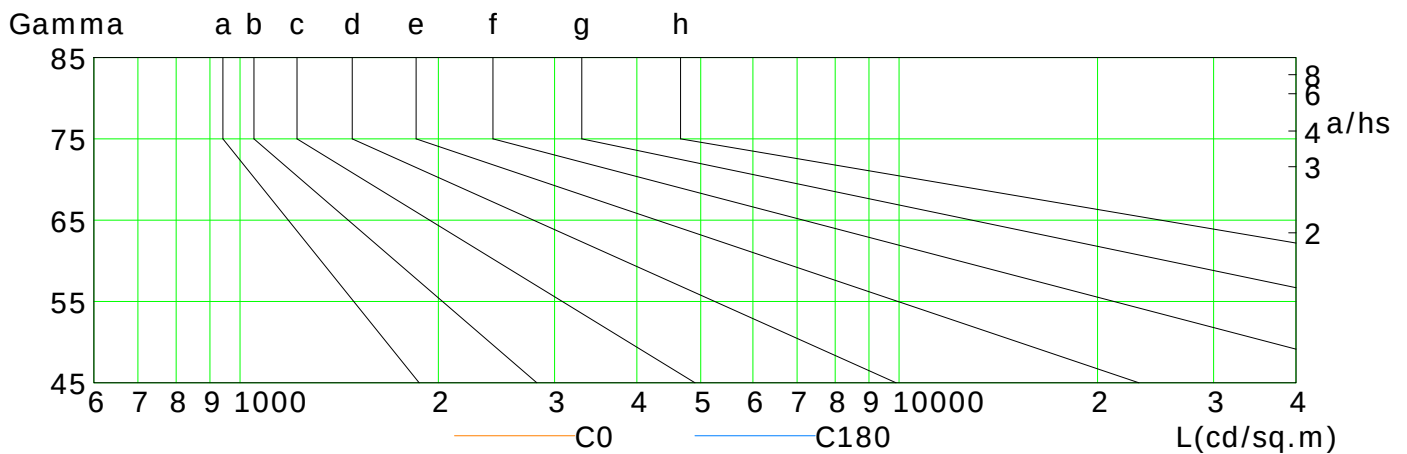
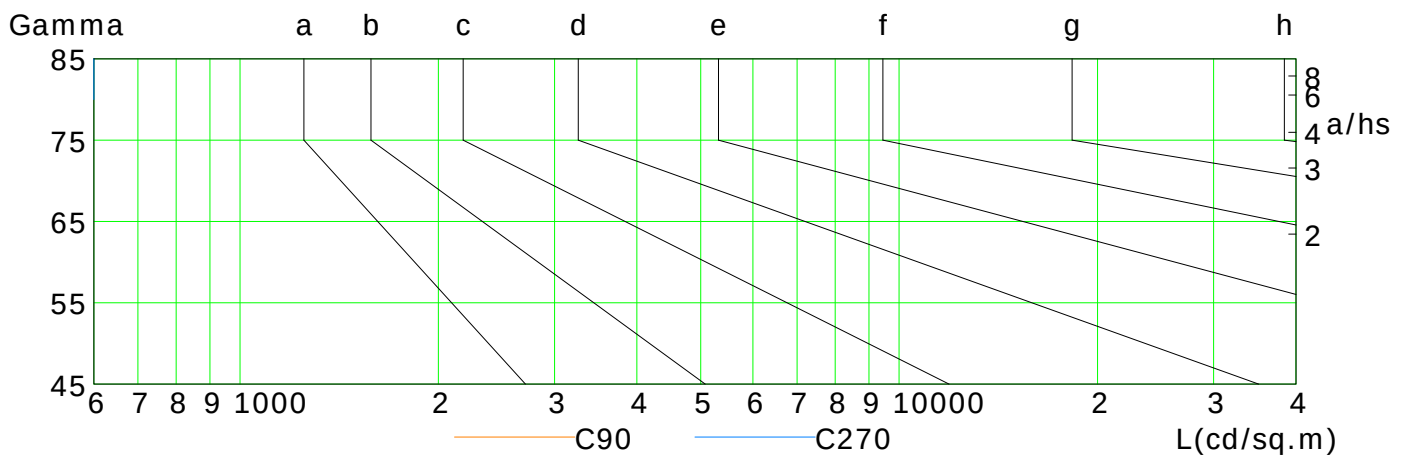
Humidity:

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	371	335	292	245	192	140	87	40	10
C90	446	408	329	210	119	62	47	40	32
C180	349	309	265	218	164	112	64	27	5
C270	96	60	50	40	22	7	2	0	0

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

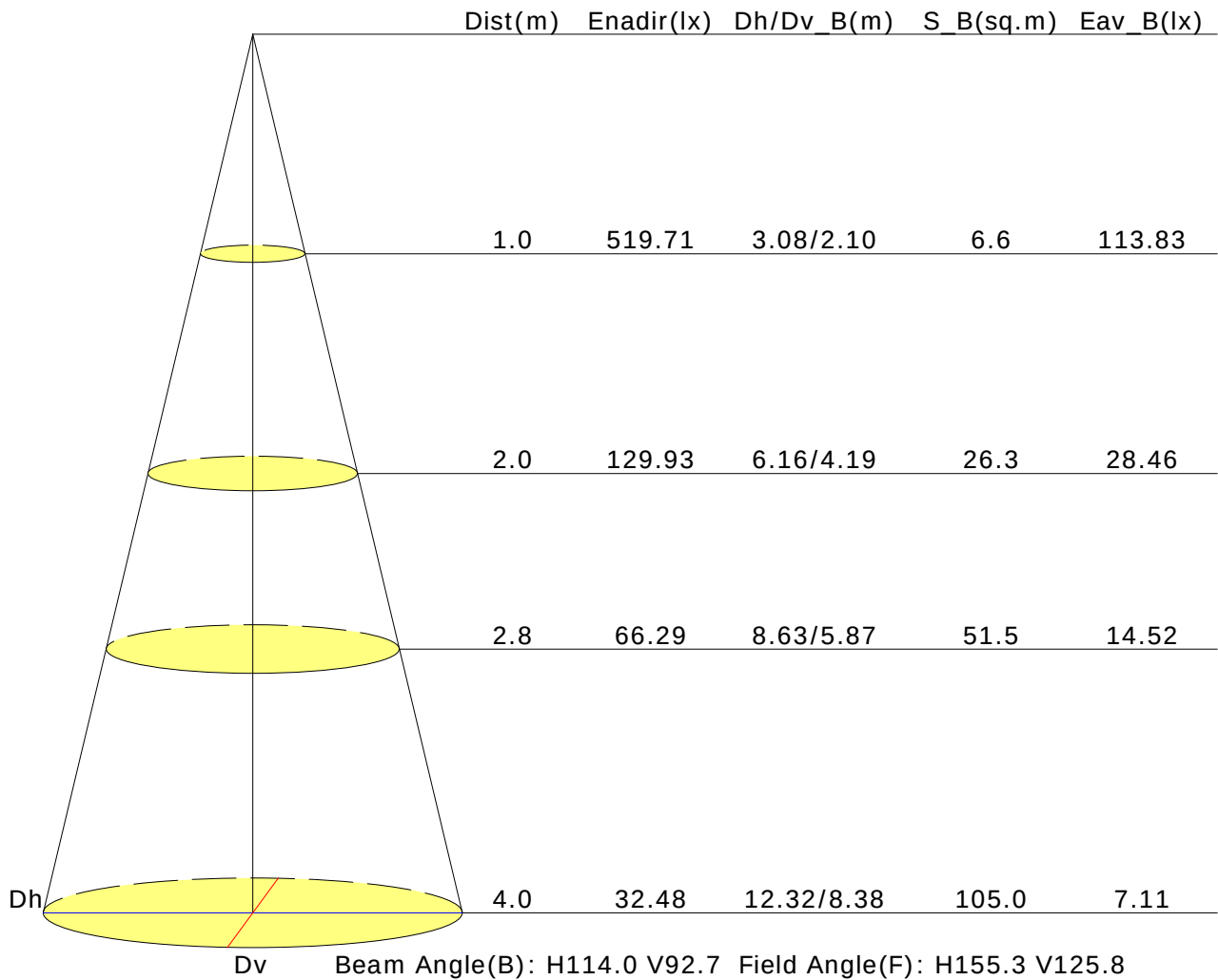
Test Device: GPM-2000

Distance: 7.970 m

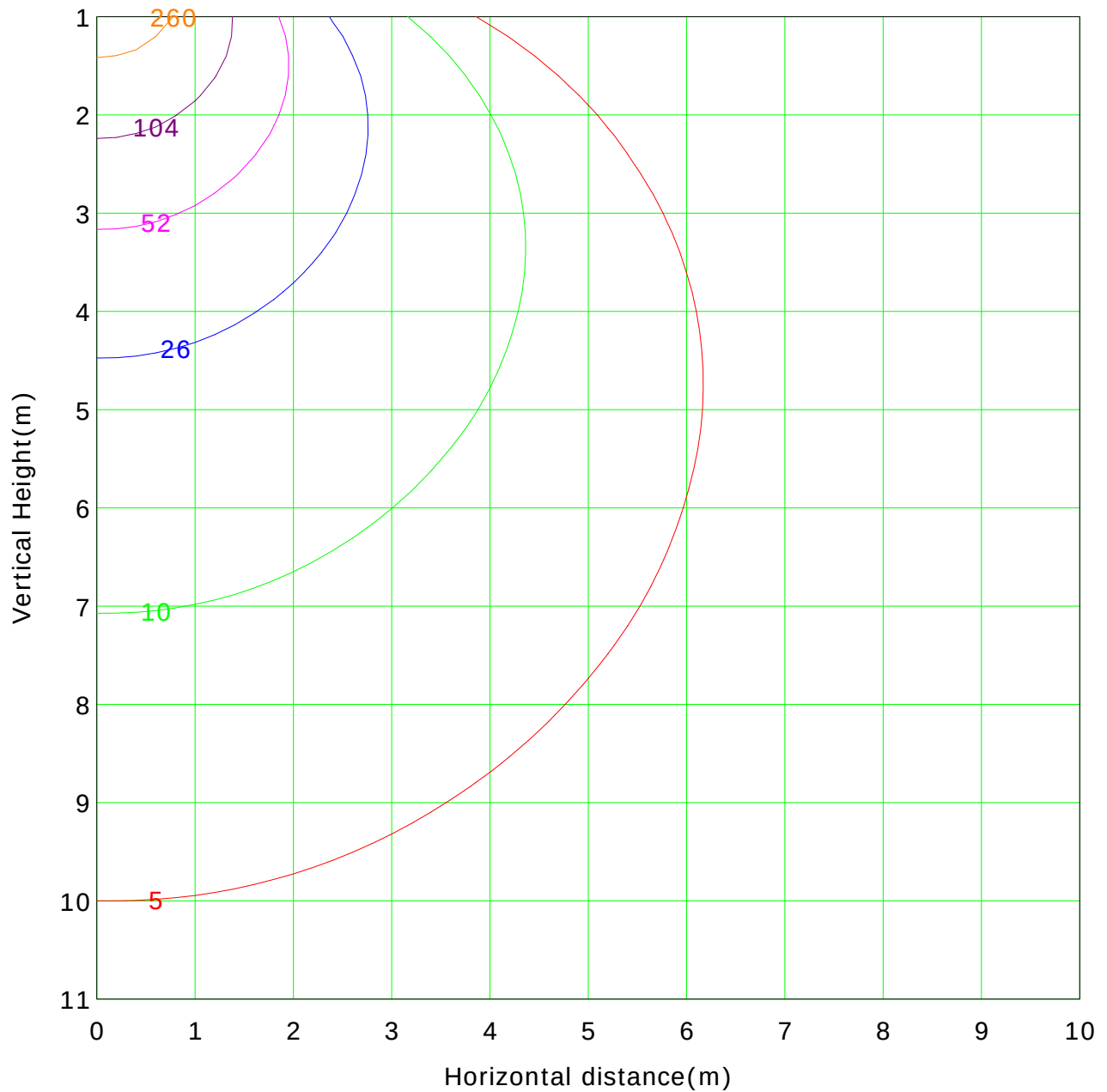
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 519.7 lx

(1%): 5.2 lx	(2%): 10.4 lx
(5%): 26.0 lx	(10%): 52.0 lx
(20%): 103.9 lx	(50%): 259.9 lx
(100%): 519.7 lx	

Report No.:

Test Time: 17/09/2019 12:56

Luminaire Property

Luminaire Manufacturer: Lightng Line

Luminaire Description: LLP-SH01-03 + LLD-03-FH

Lamp Description: F52-400-60822

Number of Lamps: 1

Lumens per Lamp: 1225 lm

Voltage: 24.0 V

Current: 0.595 A

Power: 14.28 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 1224.7 lm

Downward Ratio: 99.47%

Total Rated Lamp Lumens: 1225.0 lm

Efficiency: 99.98%

Upward Ratio: 0.50%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 153.8, 145.1, 148.3, 148.5

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 103.0, 89.2, 95.4, 95.5

Luminaire Efficacy Rating (LER): 85.81

Central Intensity: 514.33 cd

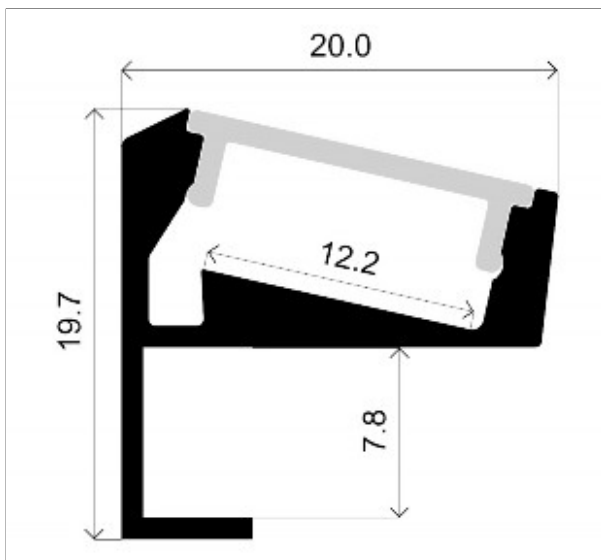
Max. Intensity: 525.77 cd

Pos of Max. Intensity: H260 V11

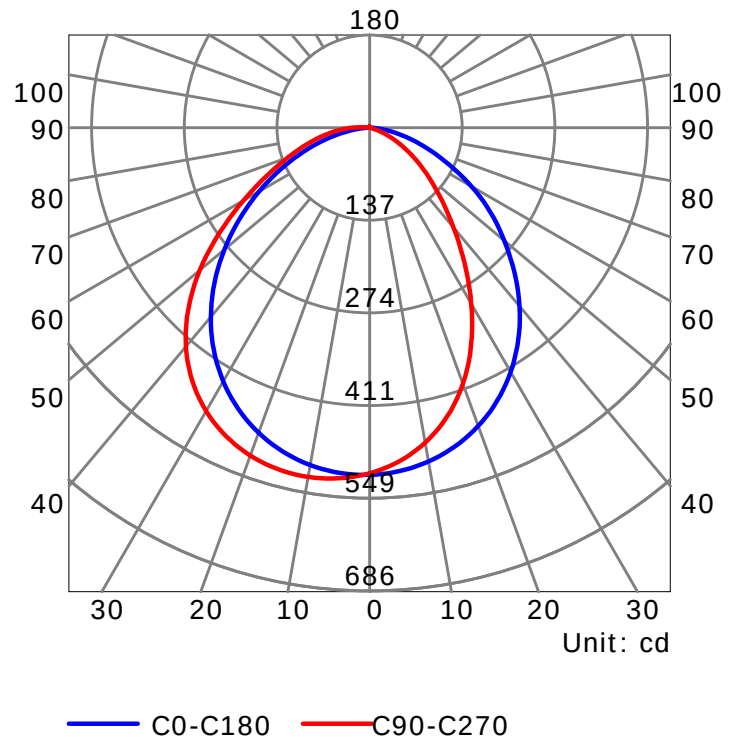
S/MH(C0/C180): 1.23

S/MH(C90/C270): 1.15

Picture Of Luminaire



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

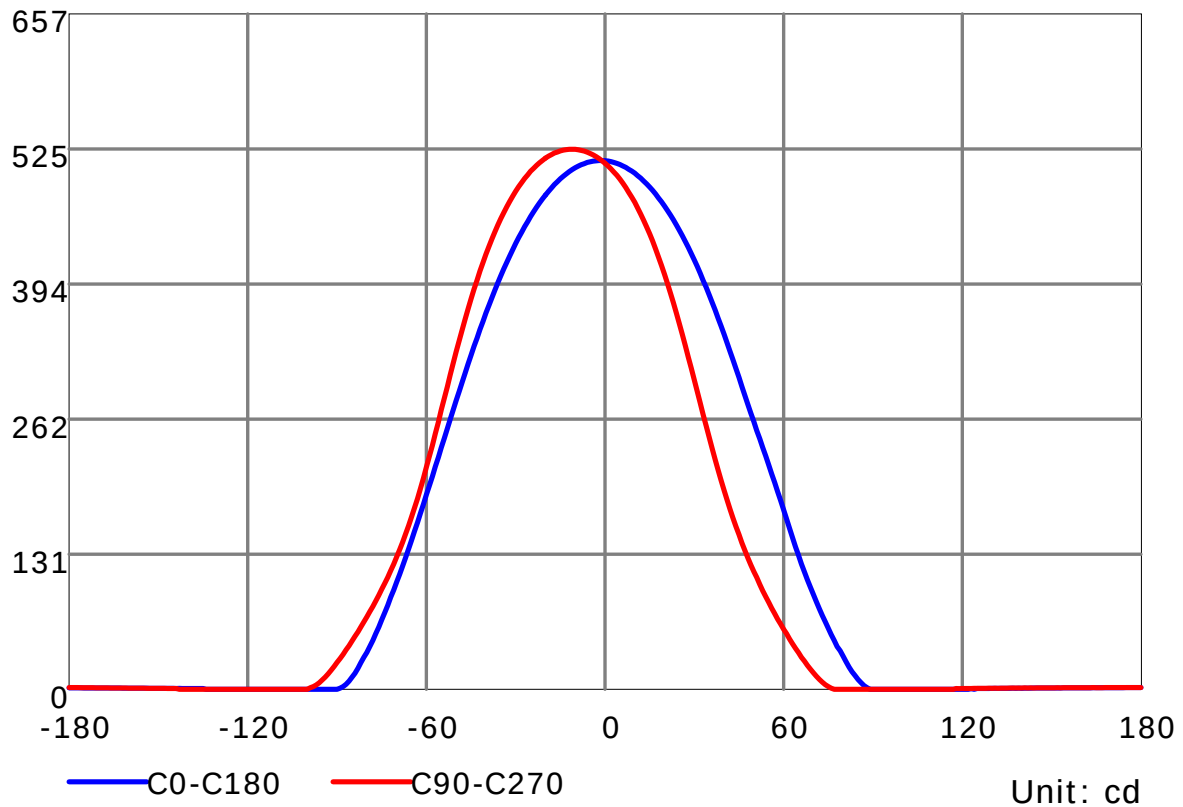
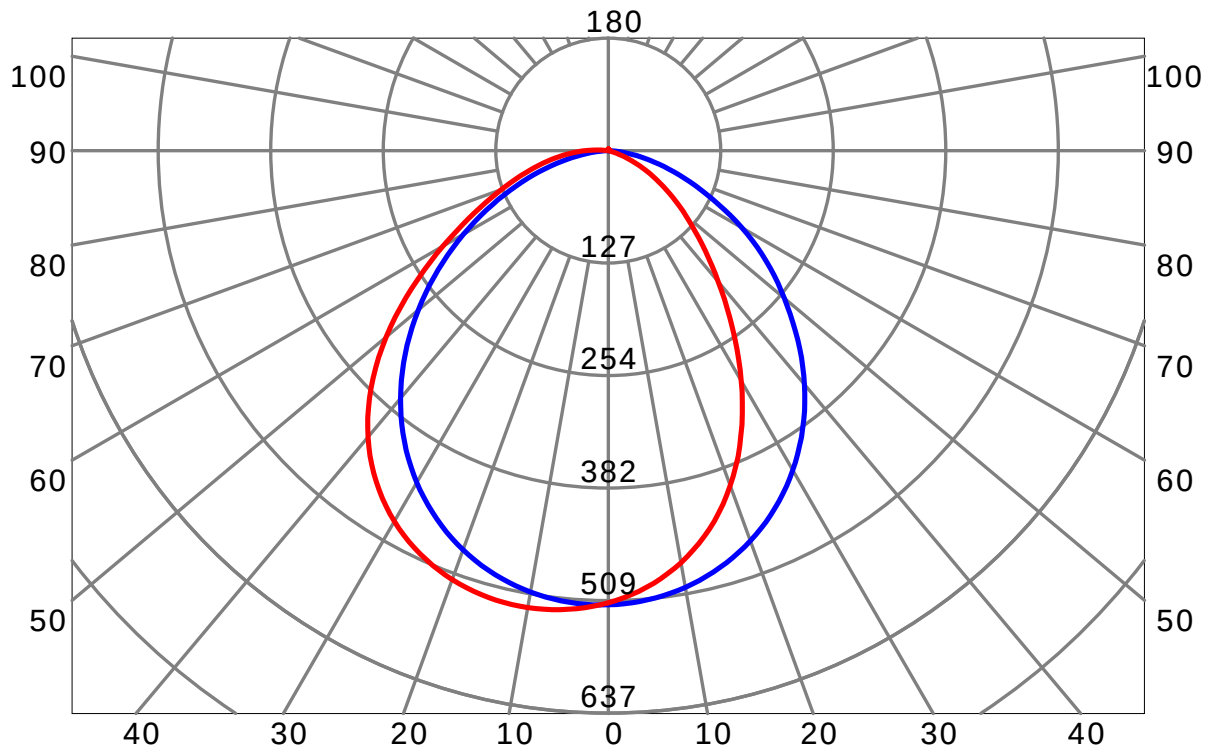
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

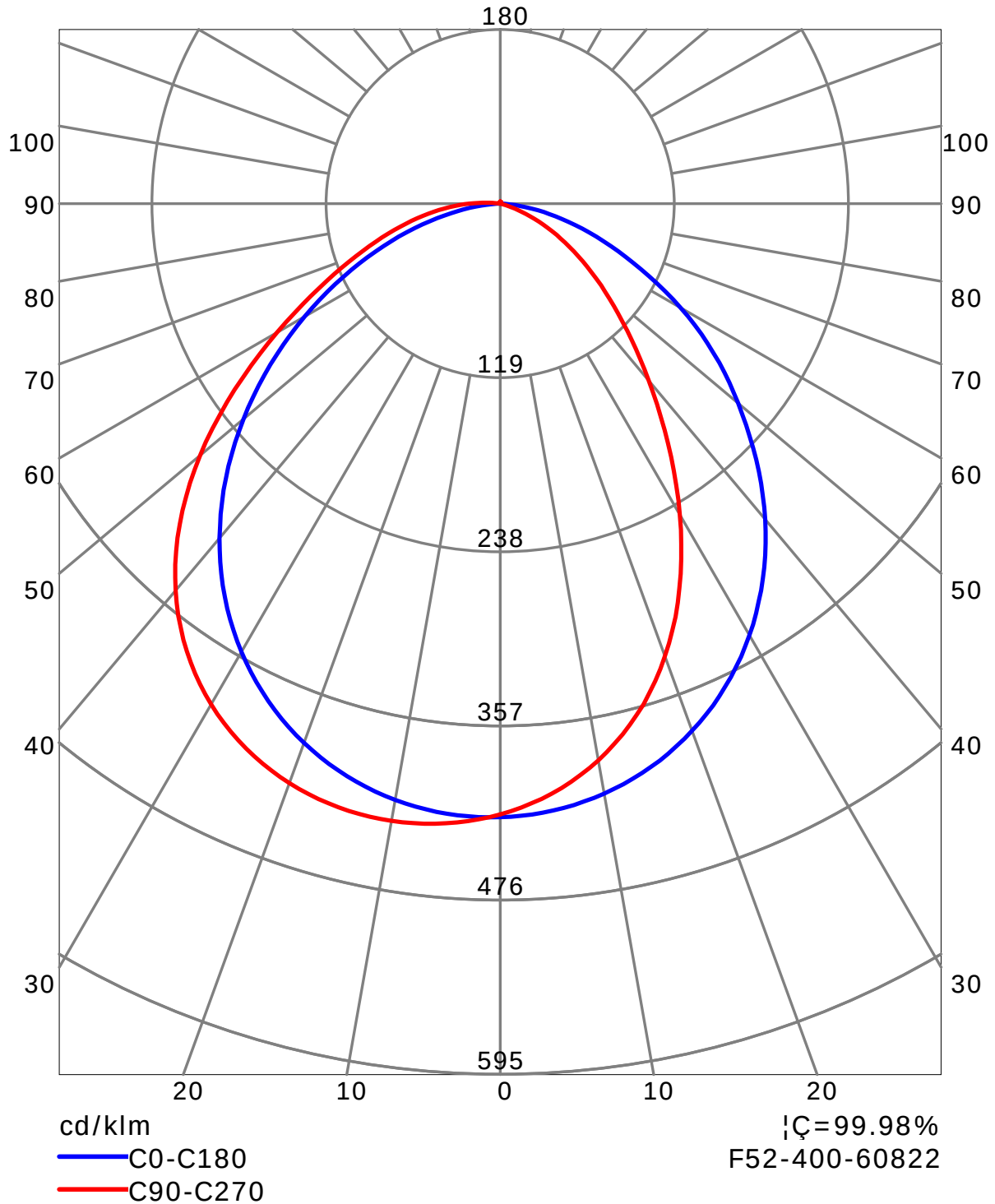
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 m
Humidity:
Inspector:

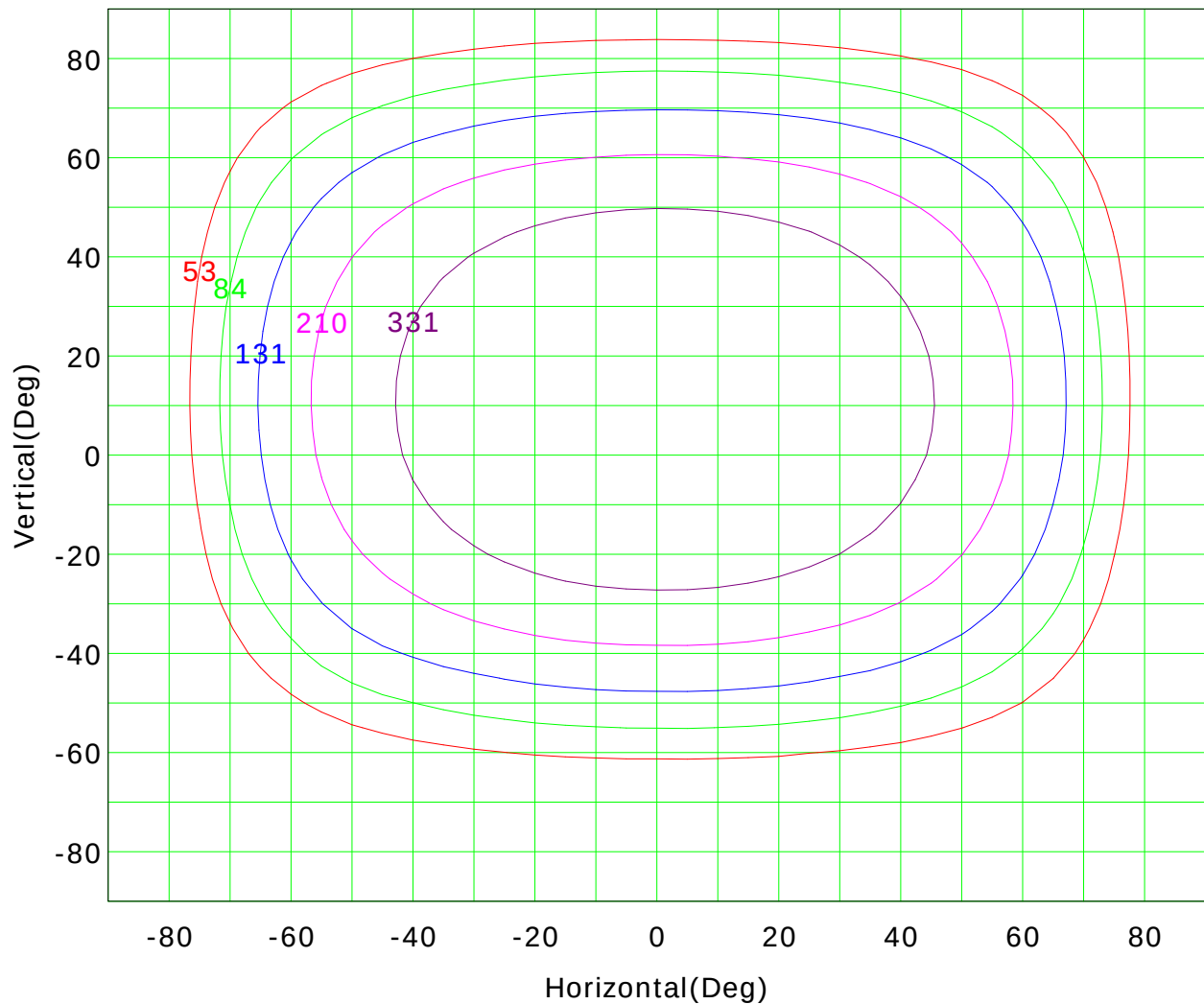
Luminous Intensity Distribution Curve(cd / klm)



C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 m
Humidity:
Inspector:

Isocandela (rectangle)



I_{max} (100%): 526 cd

(10%):	53 cd	(16%):	84 cd
(25%):	131 cd	(40%):	210 cd
(63%):	331 cd	(100%):	526 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

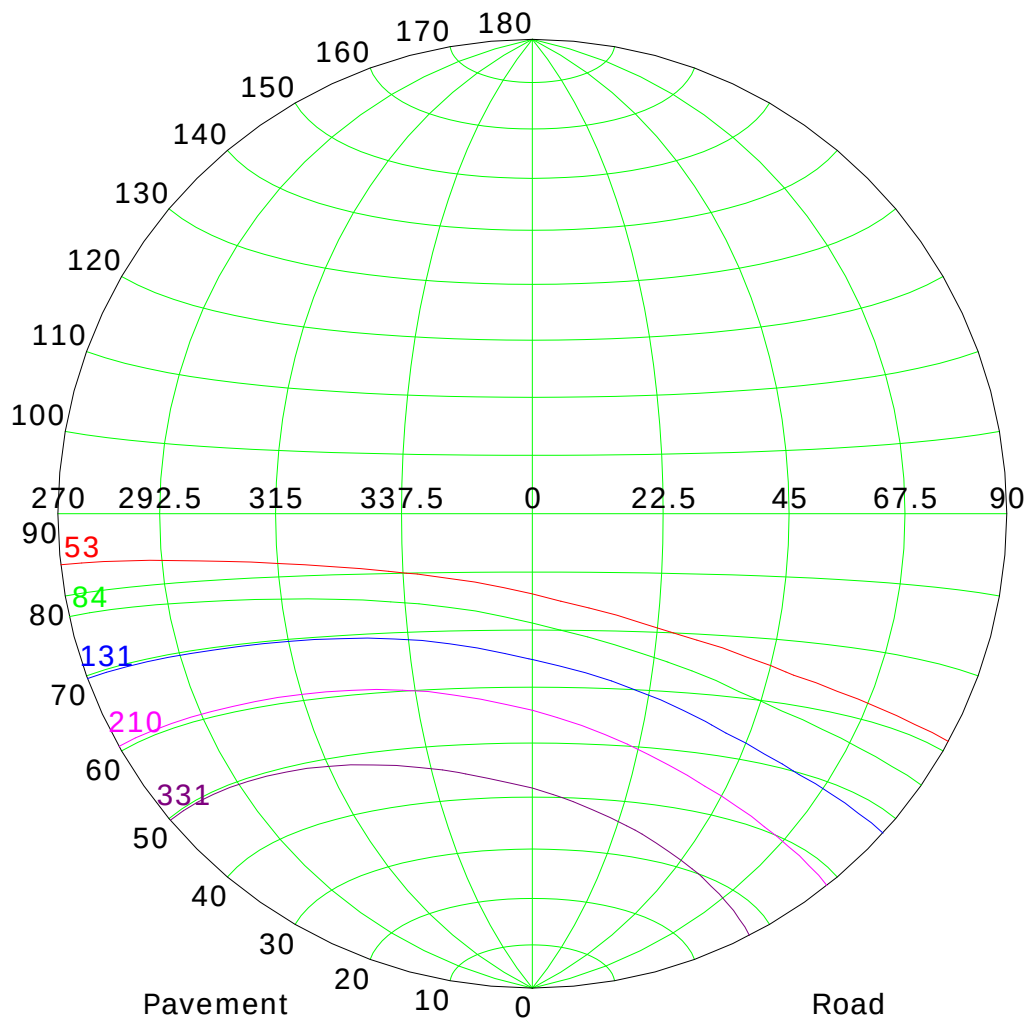
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



I_{max} (100%): 526 cd

— (10%):	53 cd	— (16%):	84 cd
— (25%):	131 cd	— (40%):	210 cd
— (63%):	331 cd	— (100%):	526 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

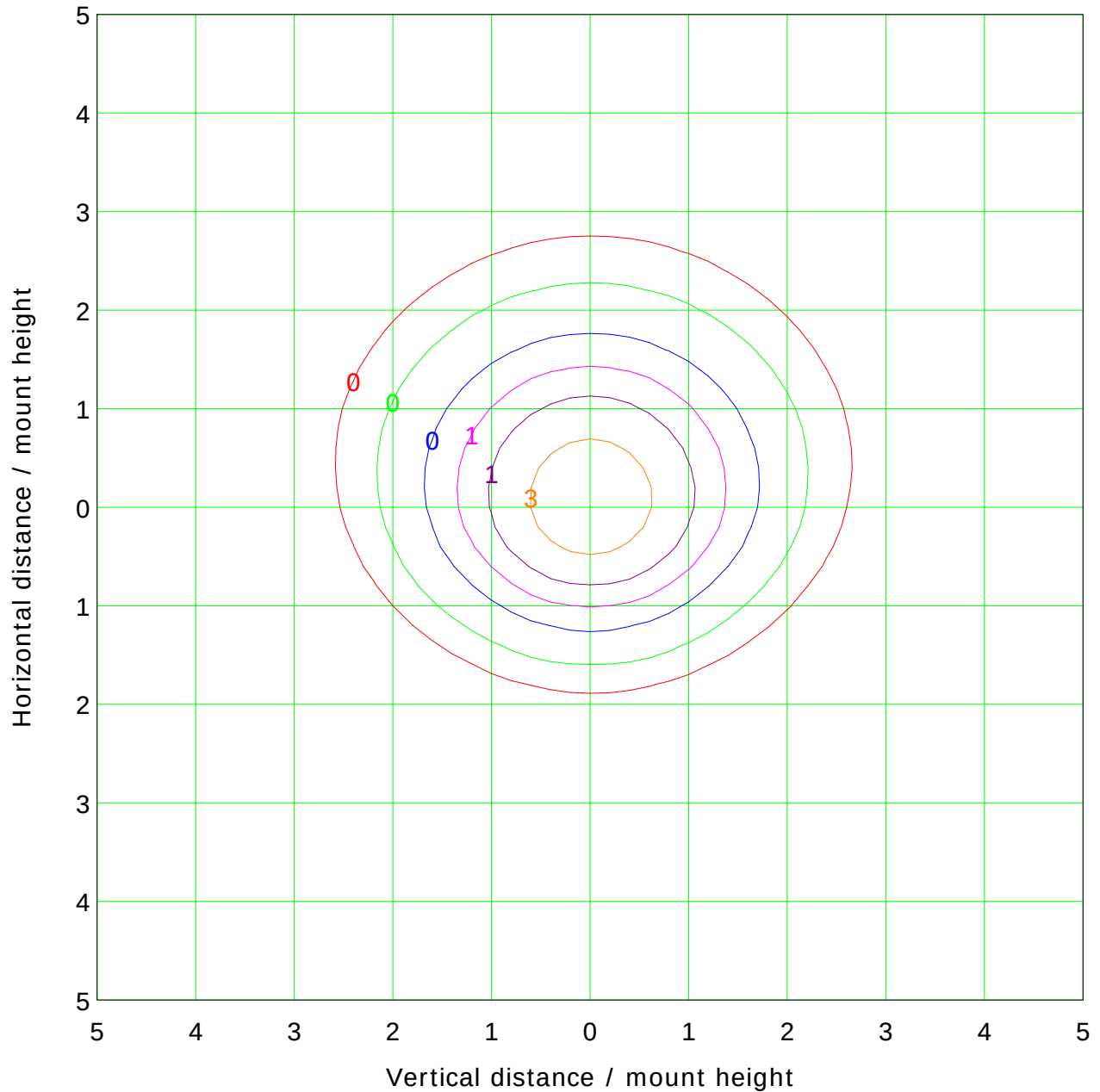
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 5.2 lx

(1%): 0.1 lx	(2%): 0.1 lx
(5%): 0.3 lx	(10%): 0.5 lx
(20%): 1.0 lx	(50%): 2.6 lx
(100%): 5.2 lx	

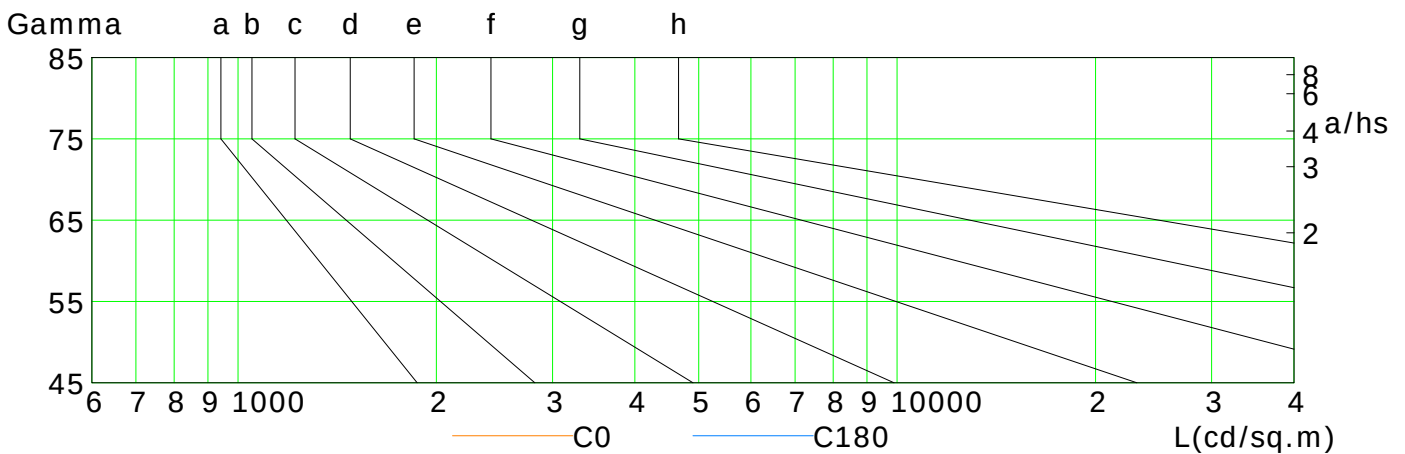
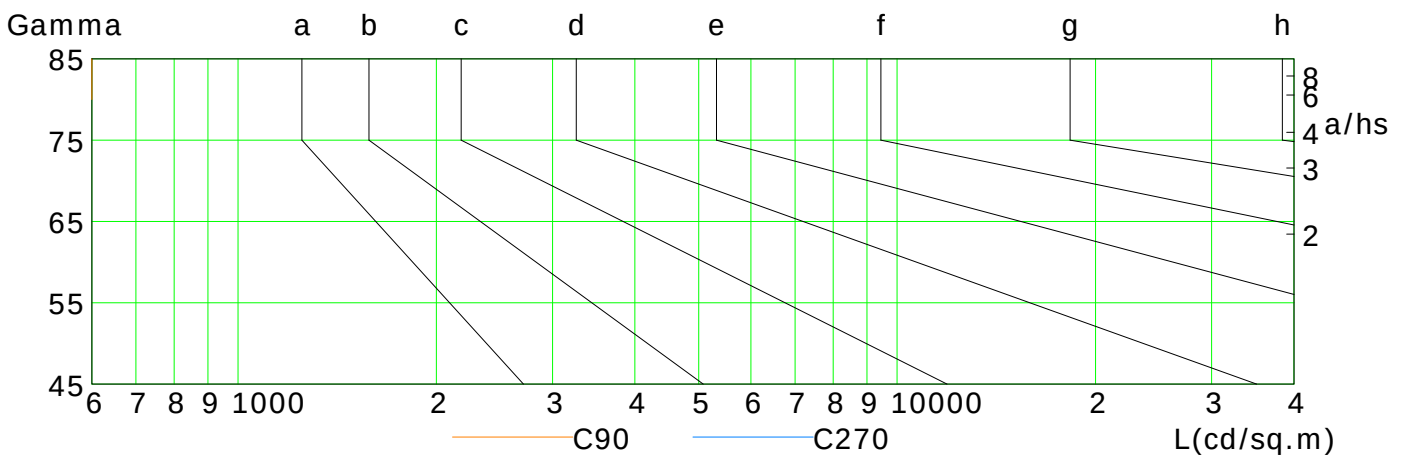
C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 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	304	260	218	175	130	92	59	32	10
C90	151	115	85	58	36	16	3	0	0
C180	325	281	235	189	145	104	68	36	12
C270	380	328	272	216	168	129	97	71	47

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

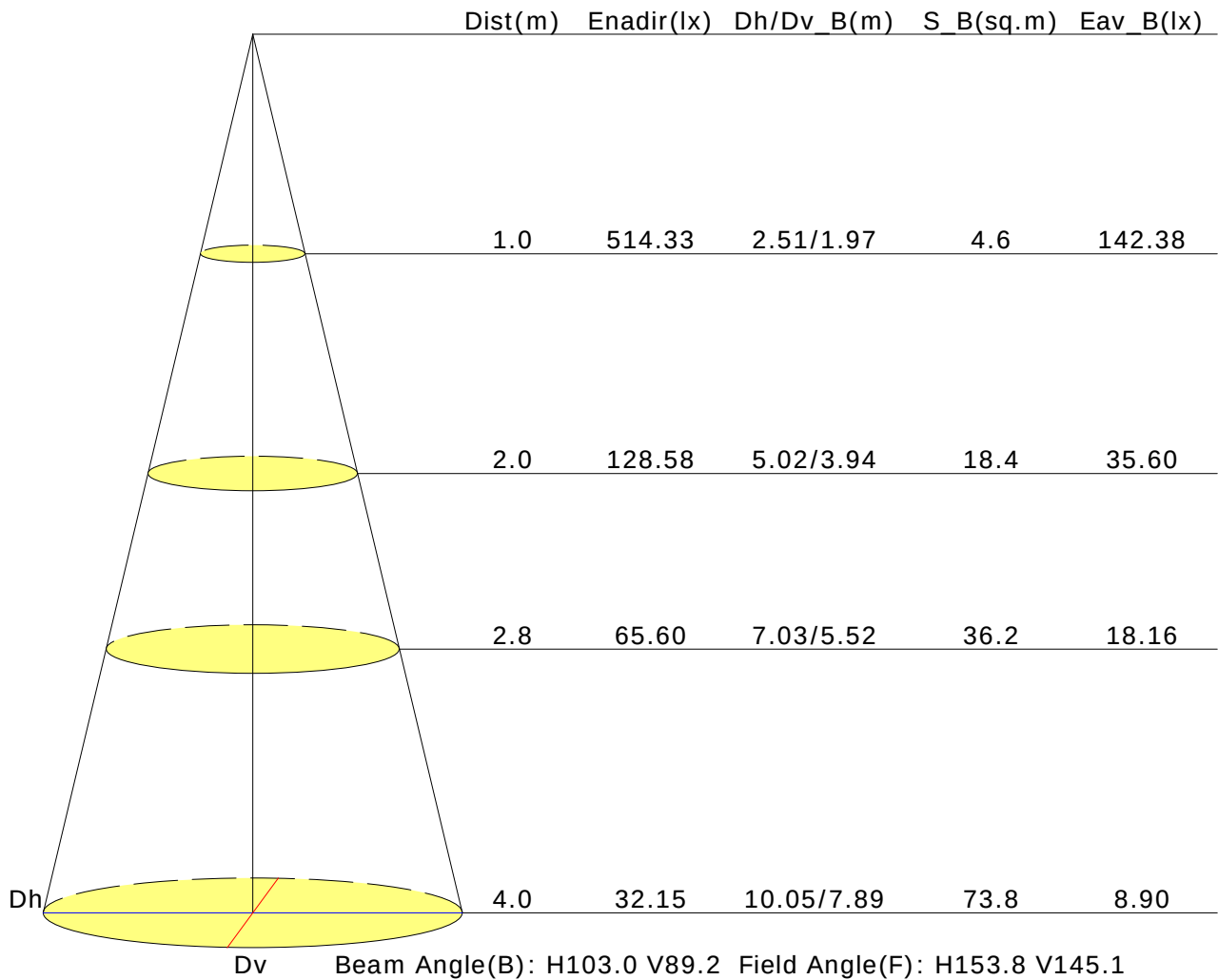
Test Device: GPM-2000

Distance: 7.970 m

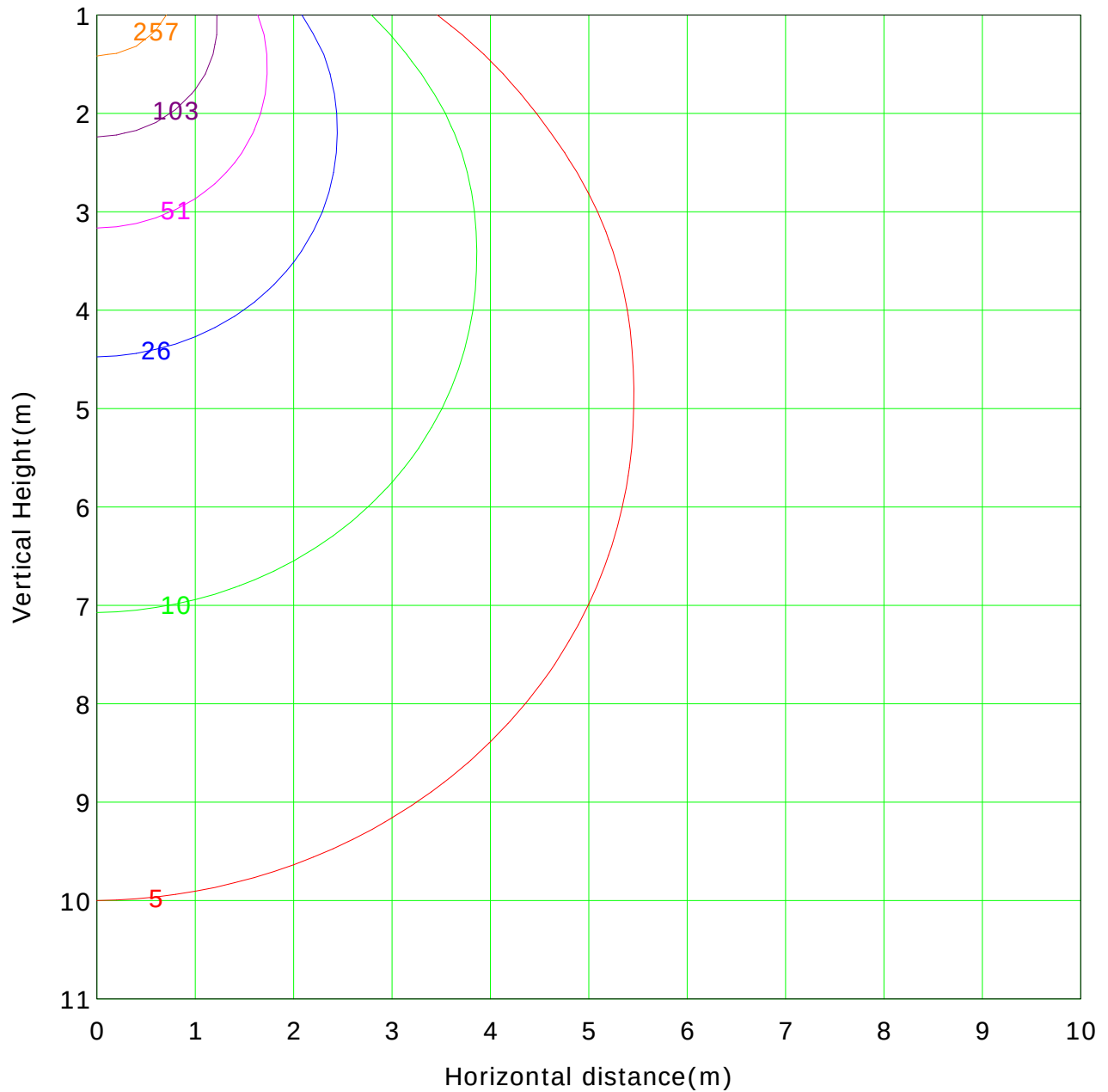
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 514.3 lx

— (1%): 5.1 lx	— (2%): 10.3 lx
— (5%): 25.7 lx	— (10%): 51.4 lx
— (20%): 102.9 lx	— (50%): 257.2 lx
— (100%): 514.3 lx	

Report No.:

Test Time: 17/09/2019 10:33

Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-SH01-03 + LLD-03-FM

Lamp Description: F52-400-60822

Number of Lamps: 1

Lumens per Lamp: 1007 lm

Voltage: 24.0 V

Current: 0.598 A

Power: 14.35 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 1007.2 lm

Downward Ratio: 99.23%

Total Rated Lamp Lumens: 1007.0 lm

Efficiency: 100.02%

Upward Ratio: 0.79%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 159.9, 159.1, 159.3, 159.5

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 111.6, 110.2, 110.7, 110.9

Luminaire Efficacy Rating (LER): 70.24

Central Intensity: 353.32 cd

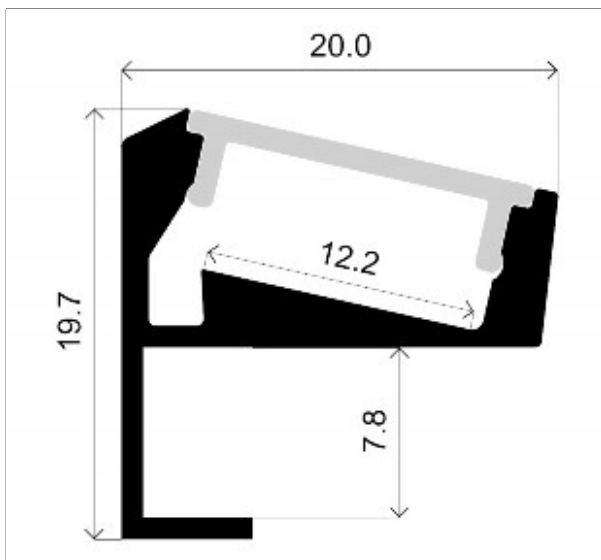
Max. Intensity: 360.99 cd

Pos of Max. Intensity: H270 V11

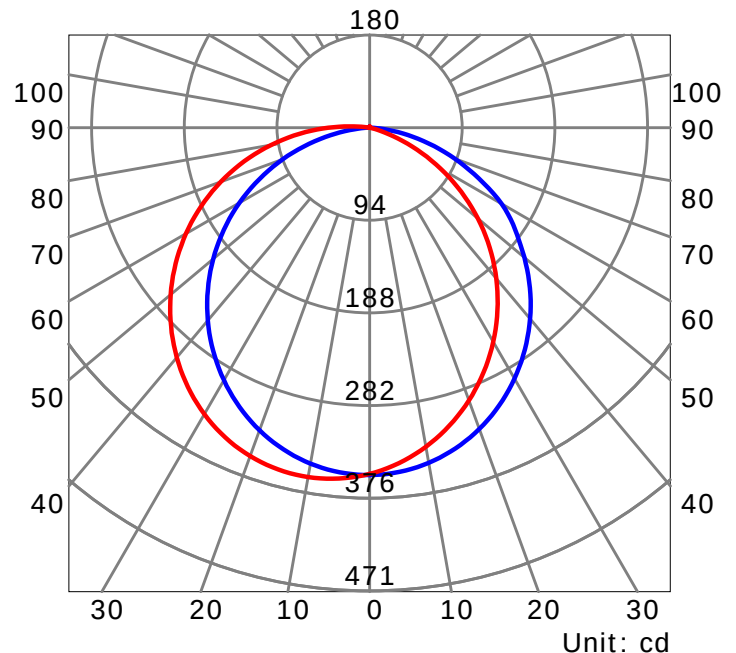
S/MH(C0/C180): 1.24

S/MH(C90/C270): 1.24

Picture Of Luminaire



Luminous Intensity Distribution Curve



— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

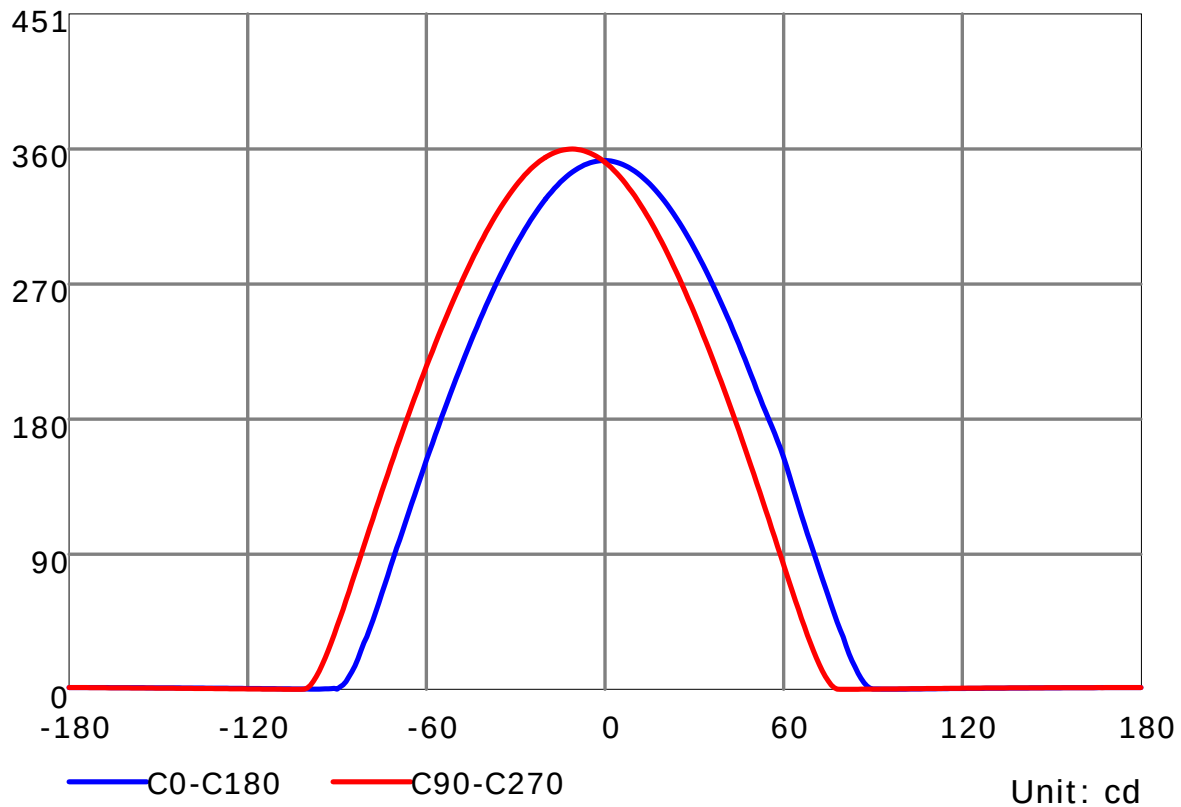
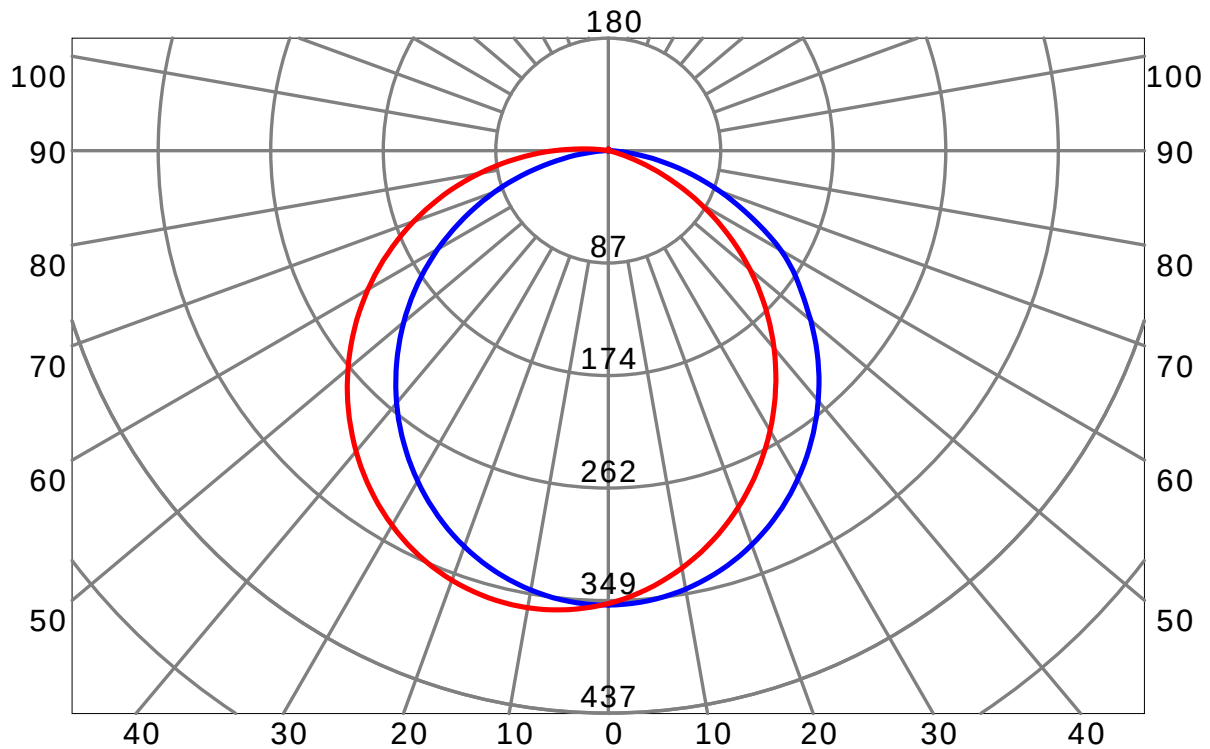
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

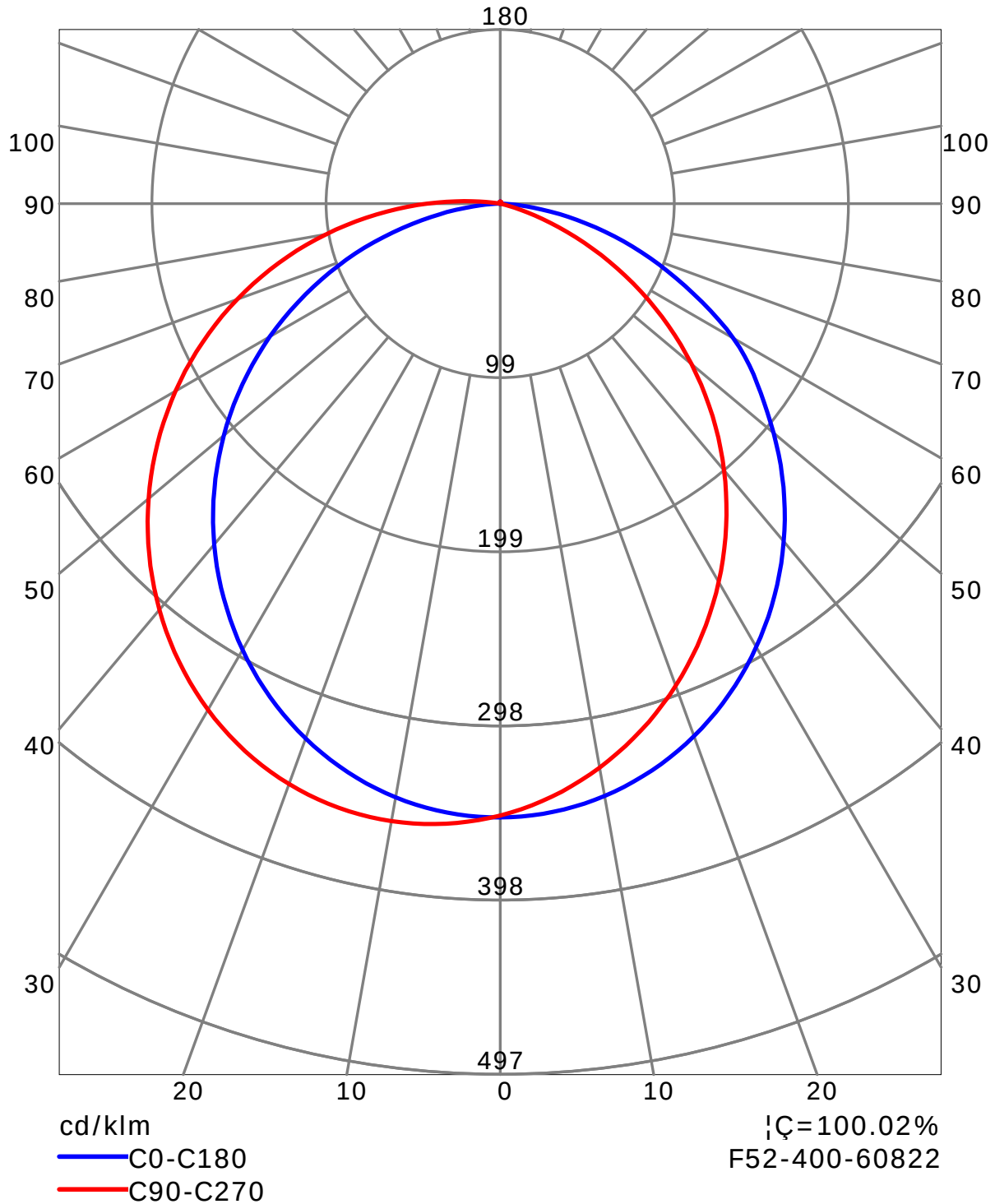
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

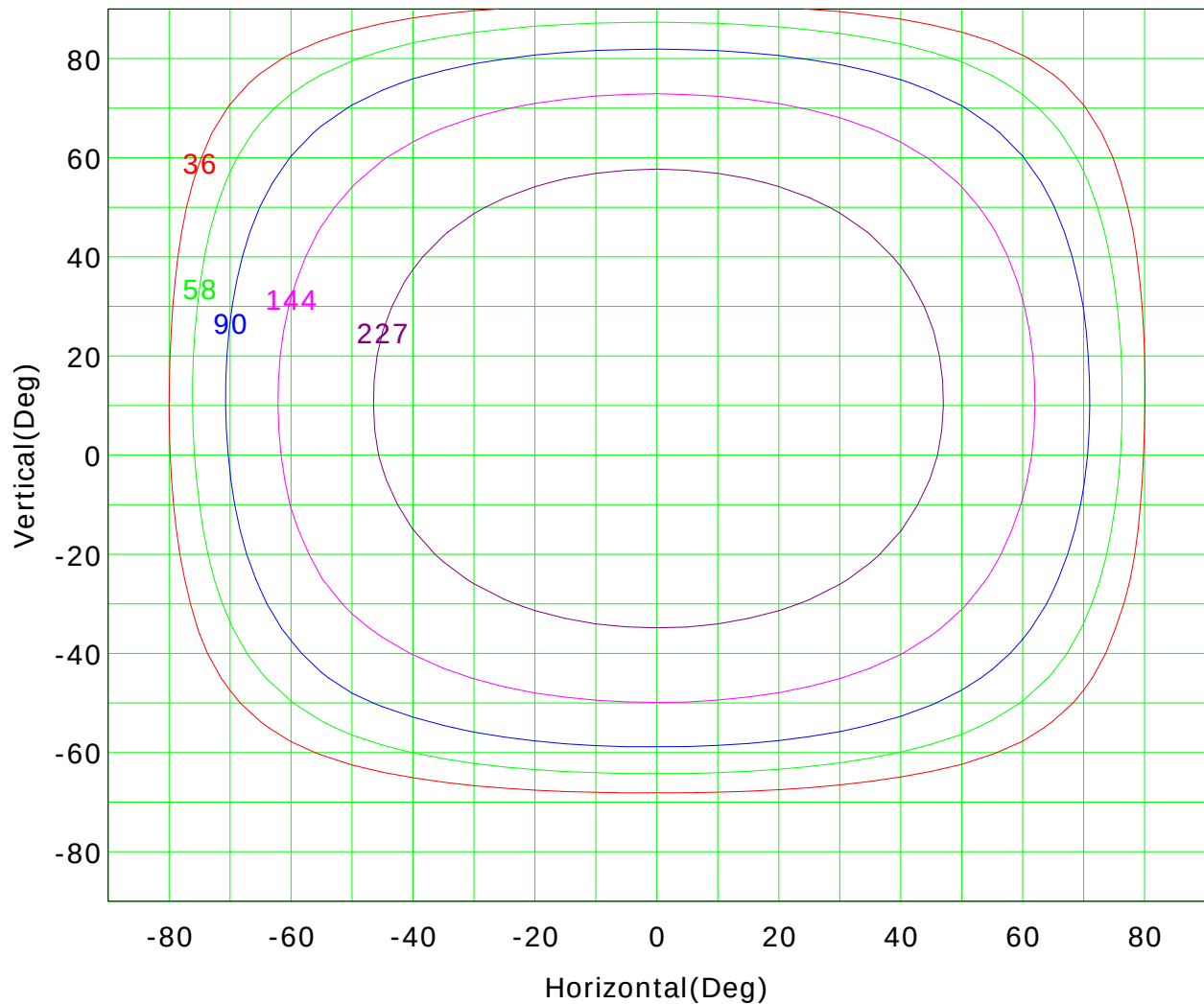
Luminous Intensity Distribution Curve(cd / klm)



C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 m
Humidity:
Inspector:

Isocandela (rectangle)



I_{max} (100%): 361 cd

(10%):	36 cd	(16%):	58 cd
(25%):	90 cd	(40%):	144 cd
(63%):	227 cd	(100%):	361 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

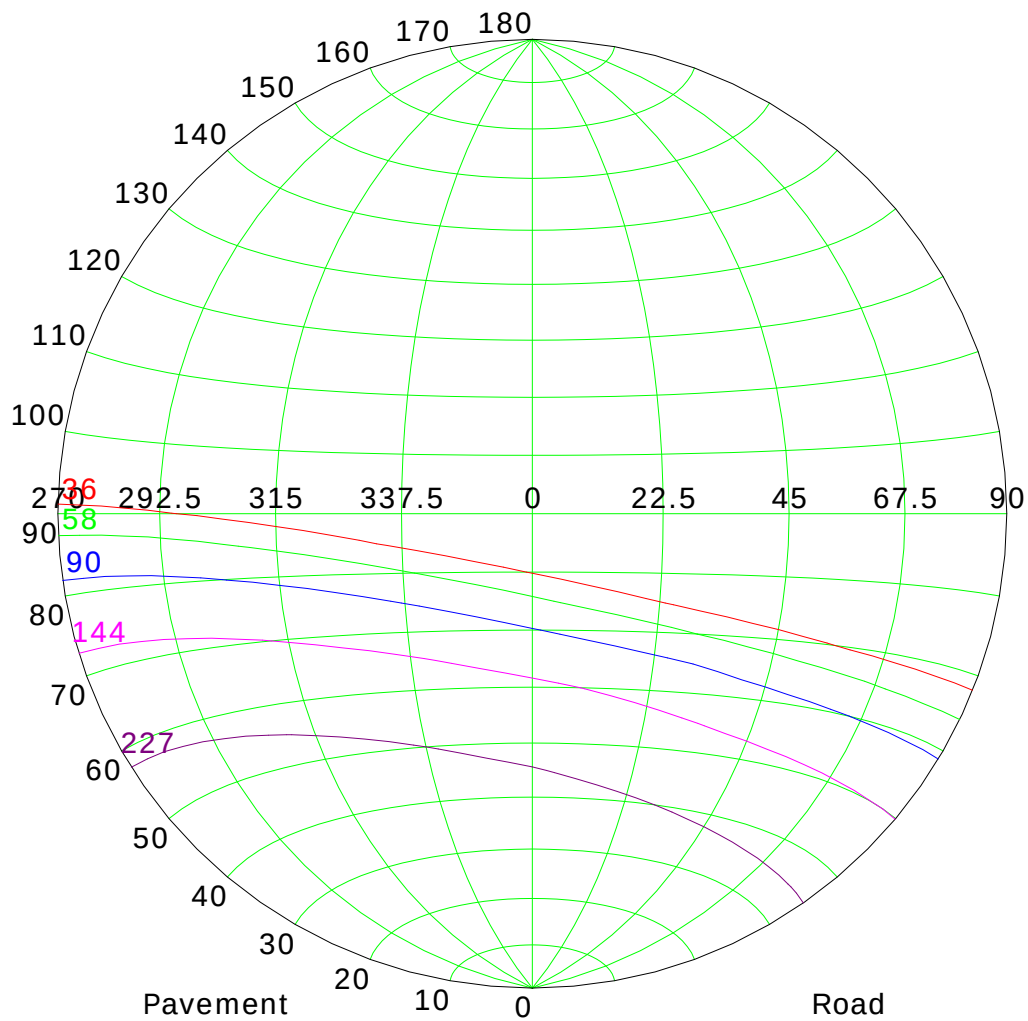
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



I_{max} (100%): 361 cd

(10%):	36 cd	(16%):	58 cd
(25%):	90 cd	(40%):	144 cd
(63%):	227 cd	(100%):	361 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

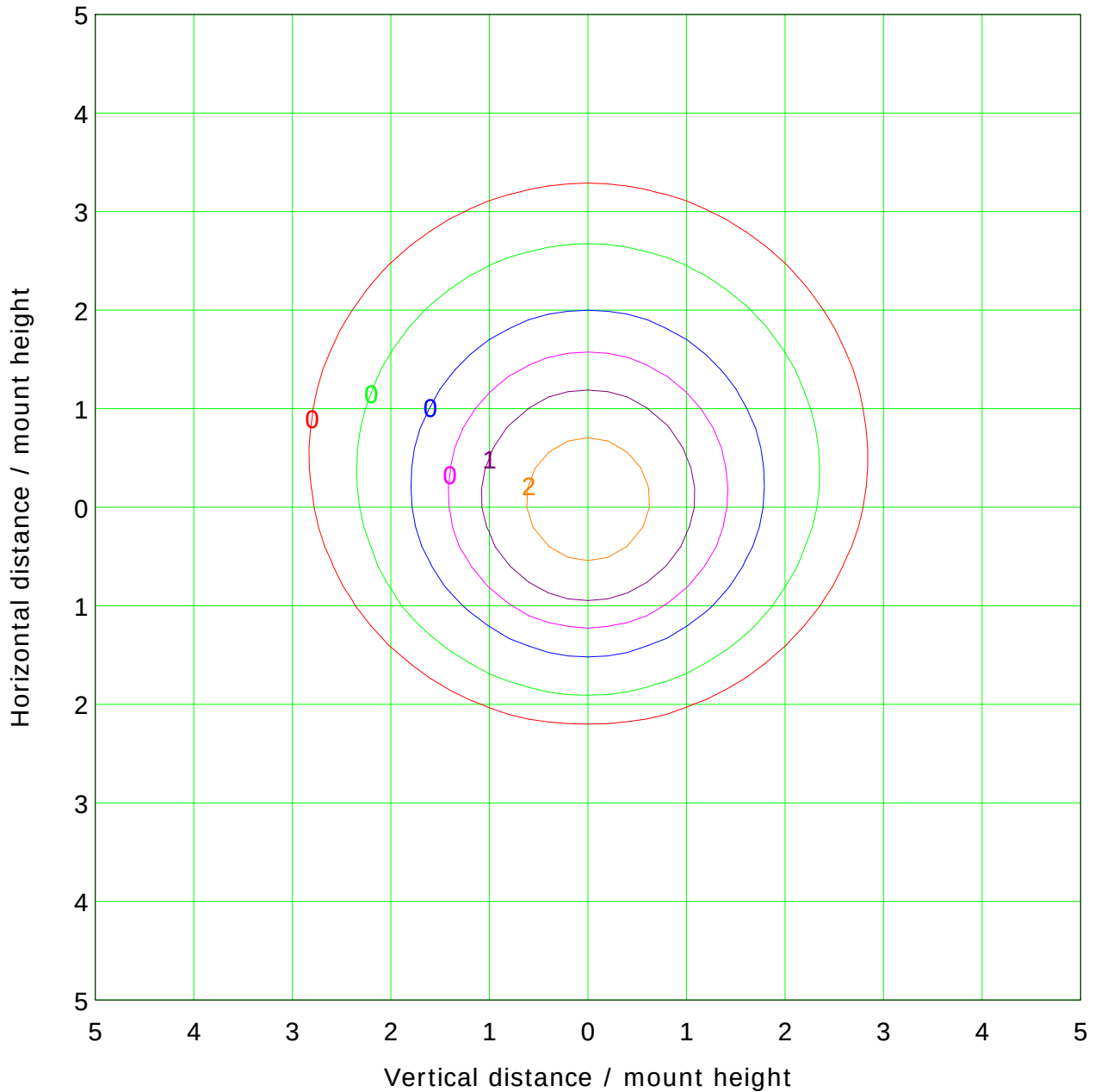
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 3.5 lx

(1%): 0.0 lx	(2%): 0.1 lx
(5%): 0.2 lx	(10%): 0.4 lx
(20%): 0.7 lx	(50%): 1.8 lx
(100%): 3.5 lx	

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-2000

Distance: 7.970 m

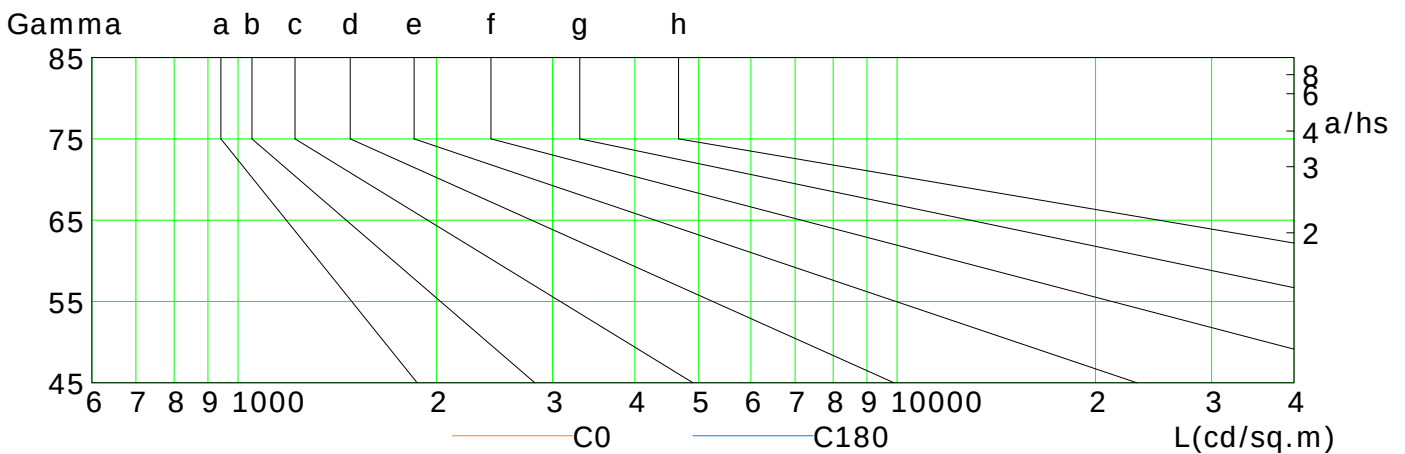
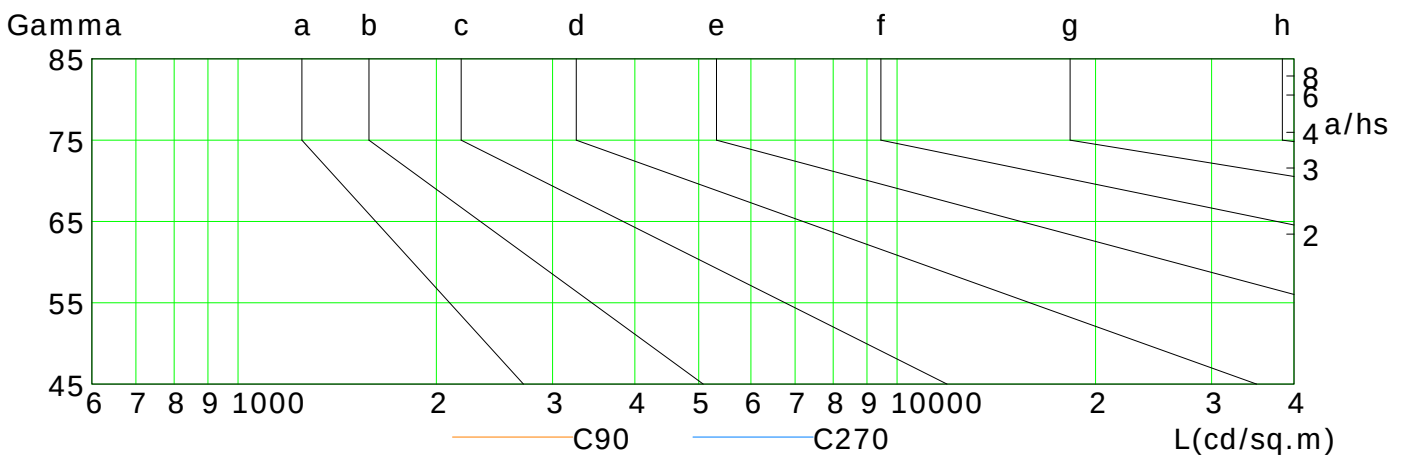
Humidity:

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	231	205	180	155	123	92	62	35	11
C90	173	144	114	83	53	26	6	0	0
C180	233	208	181	153	124	94	64	35	12
C270	286	264	241	216	189	161	132	102	71

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

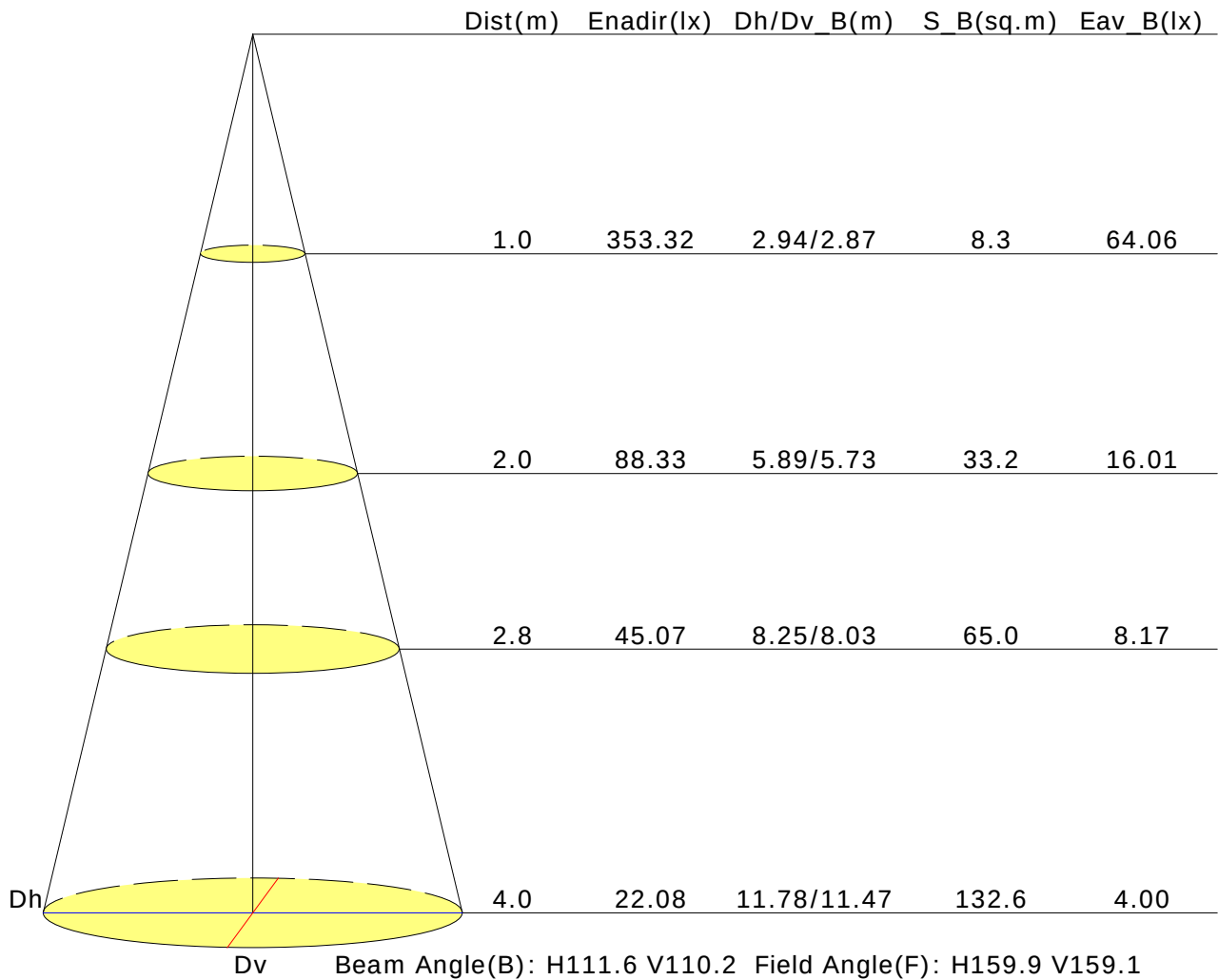
Test Device: GPM-2000

Distance: 7.970 m

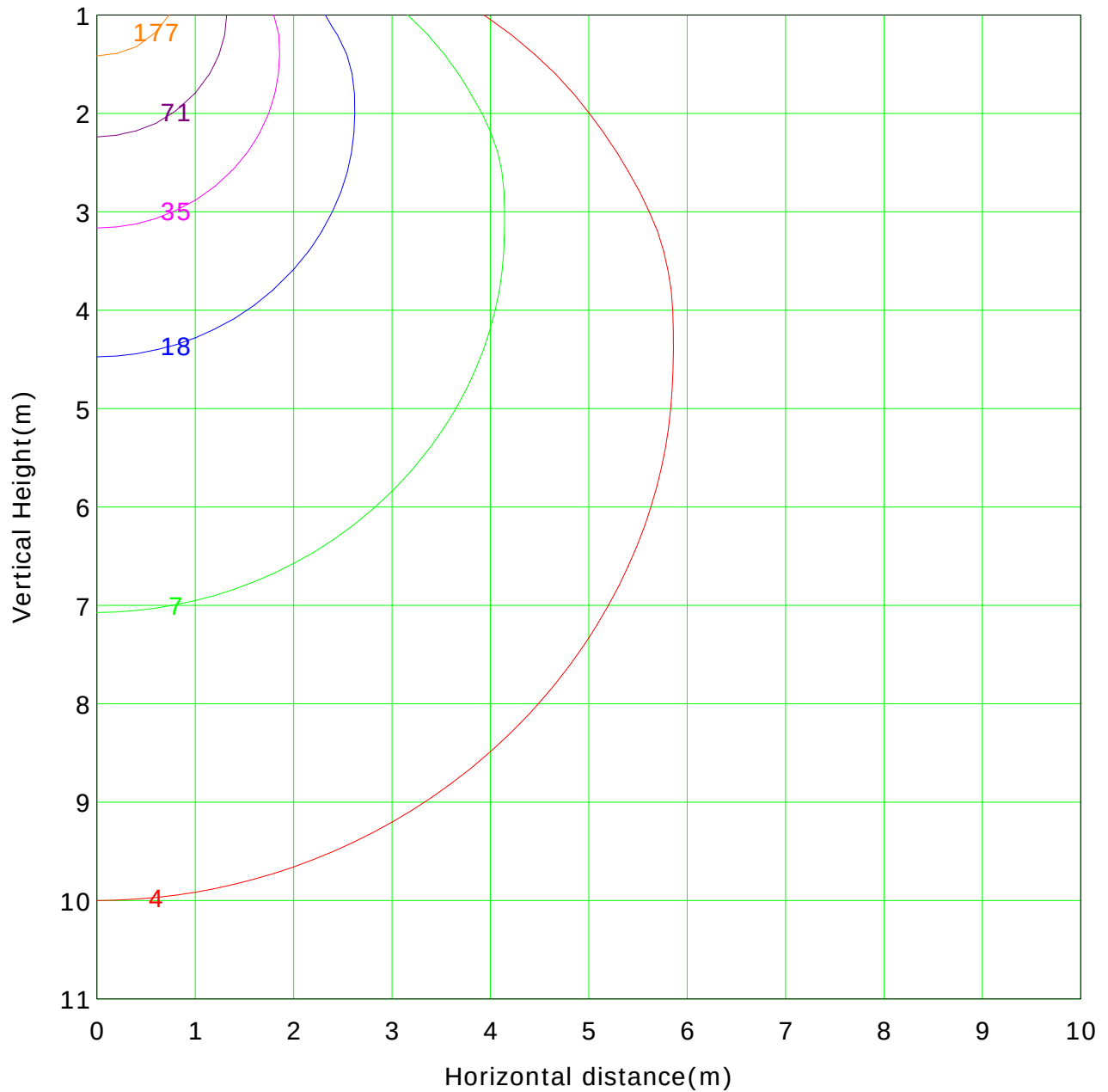
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 353.3 lx

— (1%): 3.5 lx	— (2%): 7.1 lx
— (5%): 17.7 lx	— (10%): 35.3 lx
— (20%): 70.7 lx	— (50%): 176.7 lx
— (100%): 353.3 lx	

Report No.:

Test Time: 17/09/2019 11:49

Luminaire Property

Luminaire Manufacturer: Lightng Line

Luminaire Description: LLP-SH01-03 + LLD-03-FS

Lamp Description: F52-400-60822

Number of Lamps: 1

Lumens per Lamp: 978 lm

Voltage: 24.0 V

Current: 0.595 A

Power: 14.26 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 977.6 lm

Downward Ratio: 98.89%

Total Rated Lamp Lumens: 978.0 lm

Efficiency: 99.96%

Upward Ratio: 1.07%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 163.0, 161.7, 162.1, 162.2

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 107.1, 105.2, 106.0, 106.2

Luminaire Efficacy Rating (LER): 68.61

Central Intensity: 350.83 cd

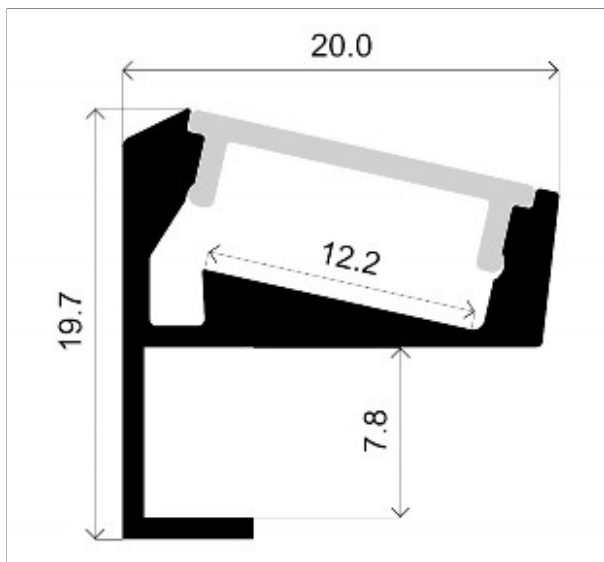
Max. Intensity: 361.93 cd

Pos of Max. Intensity: H90 V12

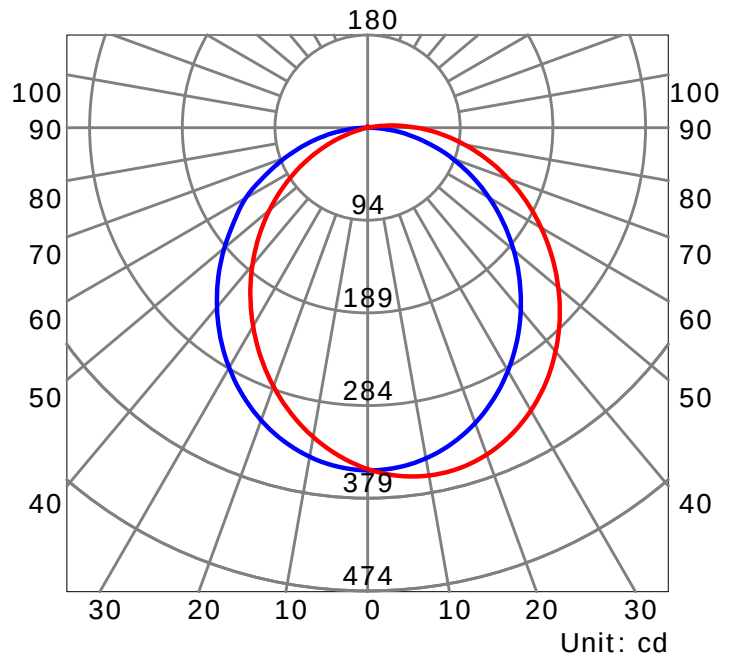
S/MH(C0/C180): 1.21

S/MH(C90/C270): 1.21

Picture Of Luminaire



Luminous Intensity Distribution Curve



— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

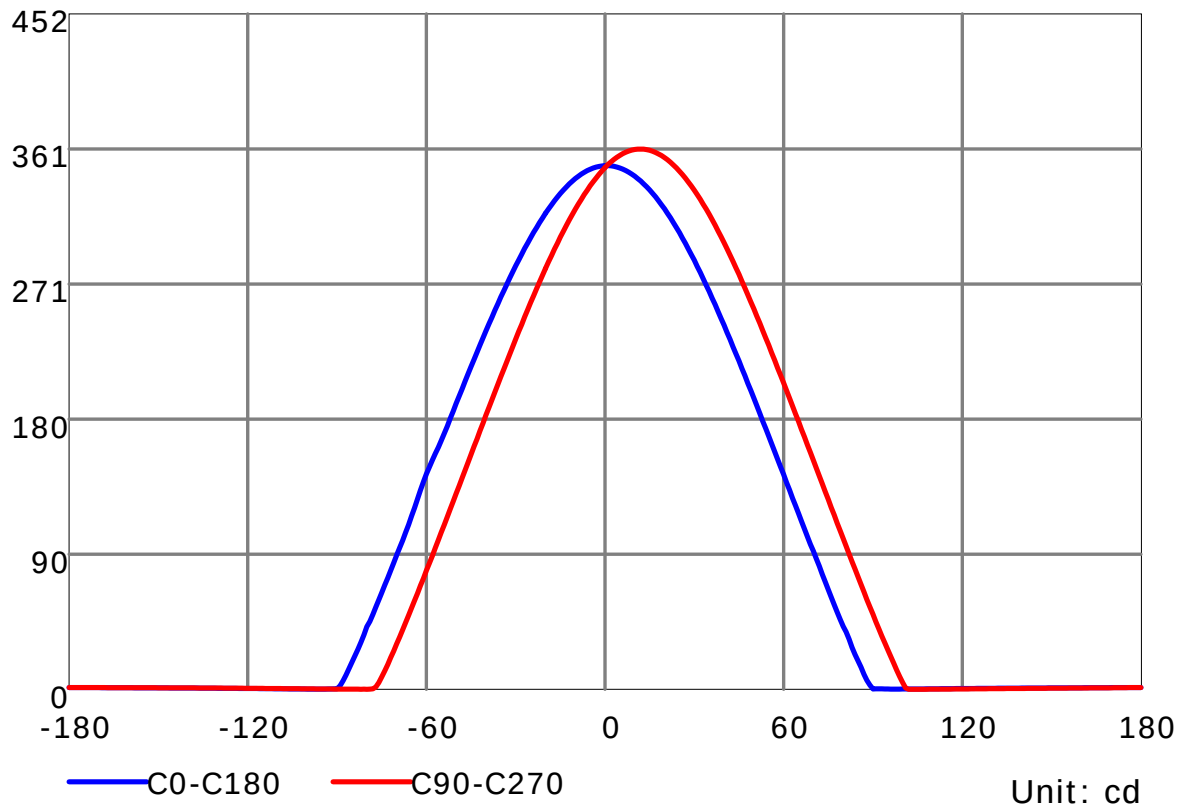
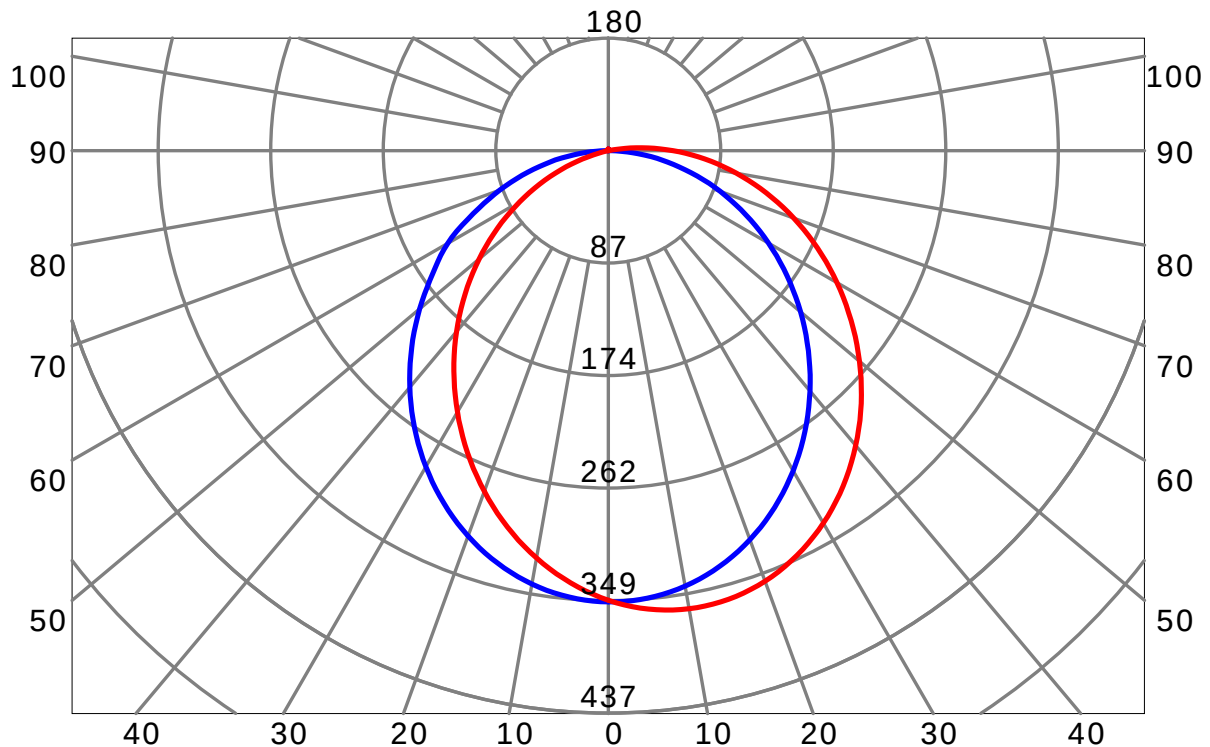
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

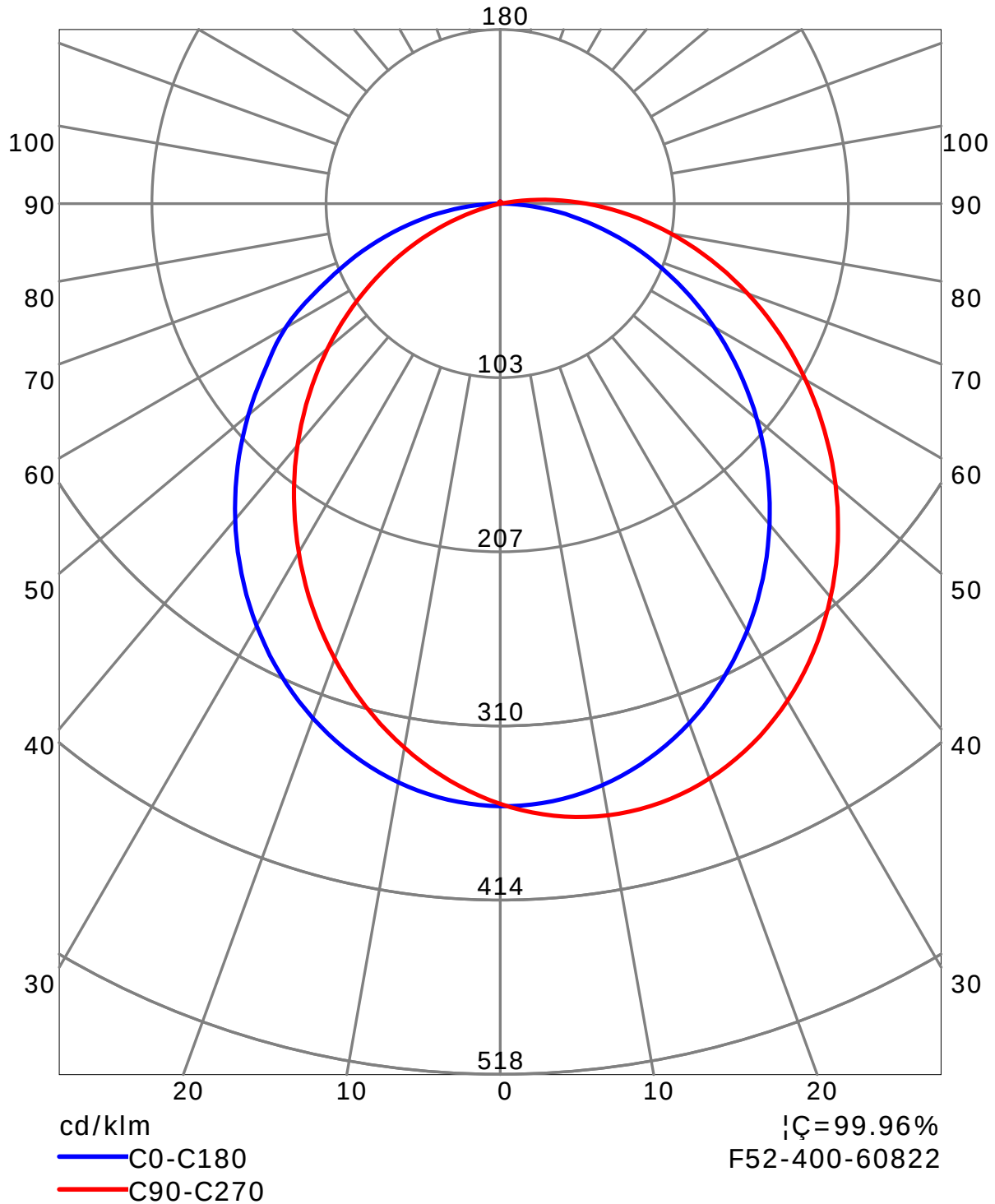
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 m
Humidity:
Inspector:

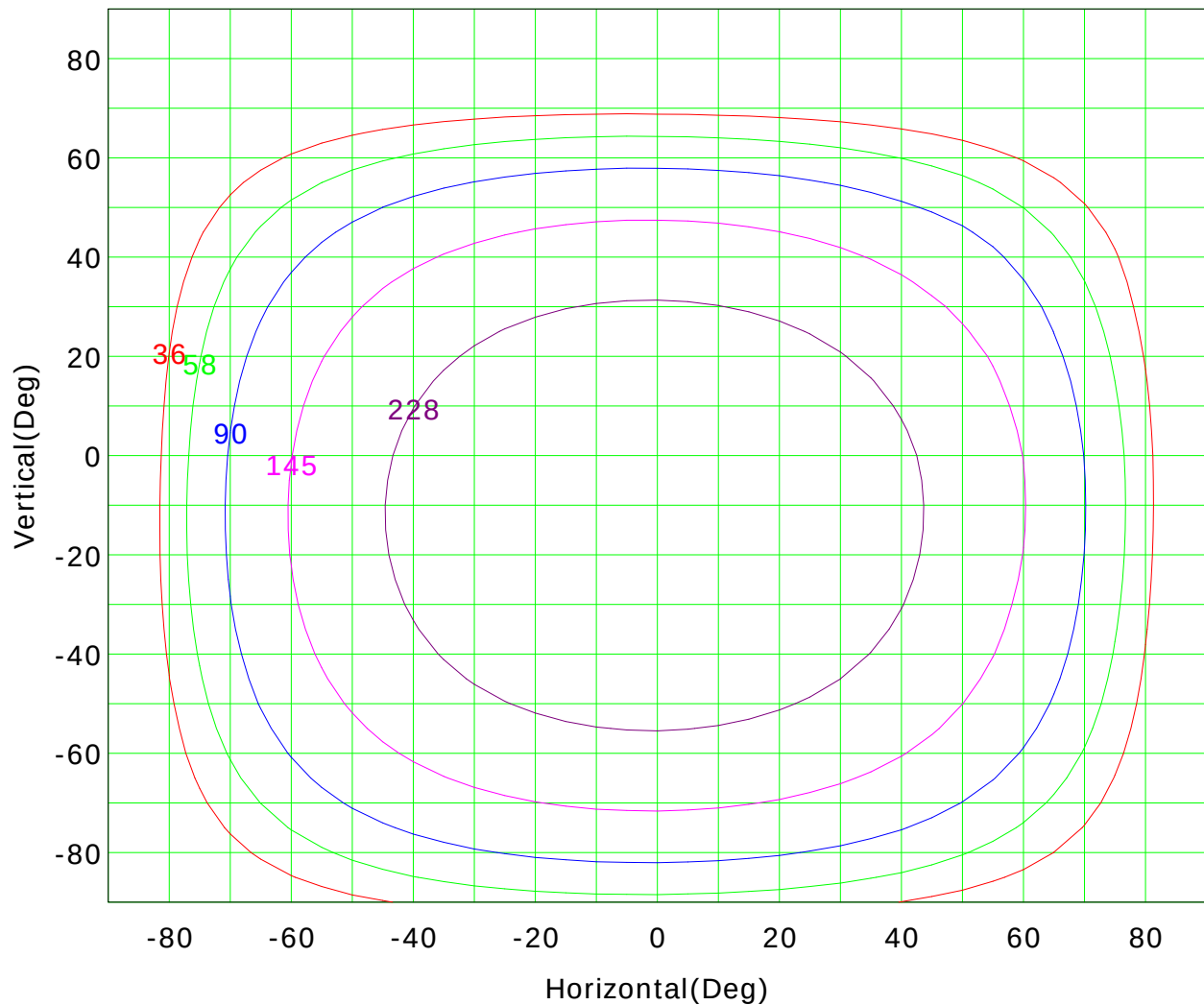
Luminous Intensity Distribution Curve(cd / klm)



C Plane (°):0.0-360.0: 10.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-2000
Distance: 7.970 m
Humidity:
Inspector:

Isocandela (rectangle)



I_{max} (100%): 362 cd

(10%):	36 cd	(16%):	58 cd
(25%):	90 cd	(40%):	145 cd
(63%):	228 cd	(100%):	362 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

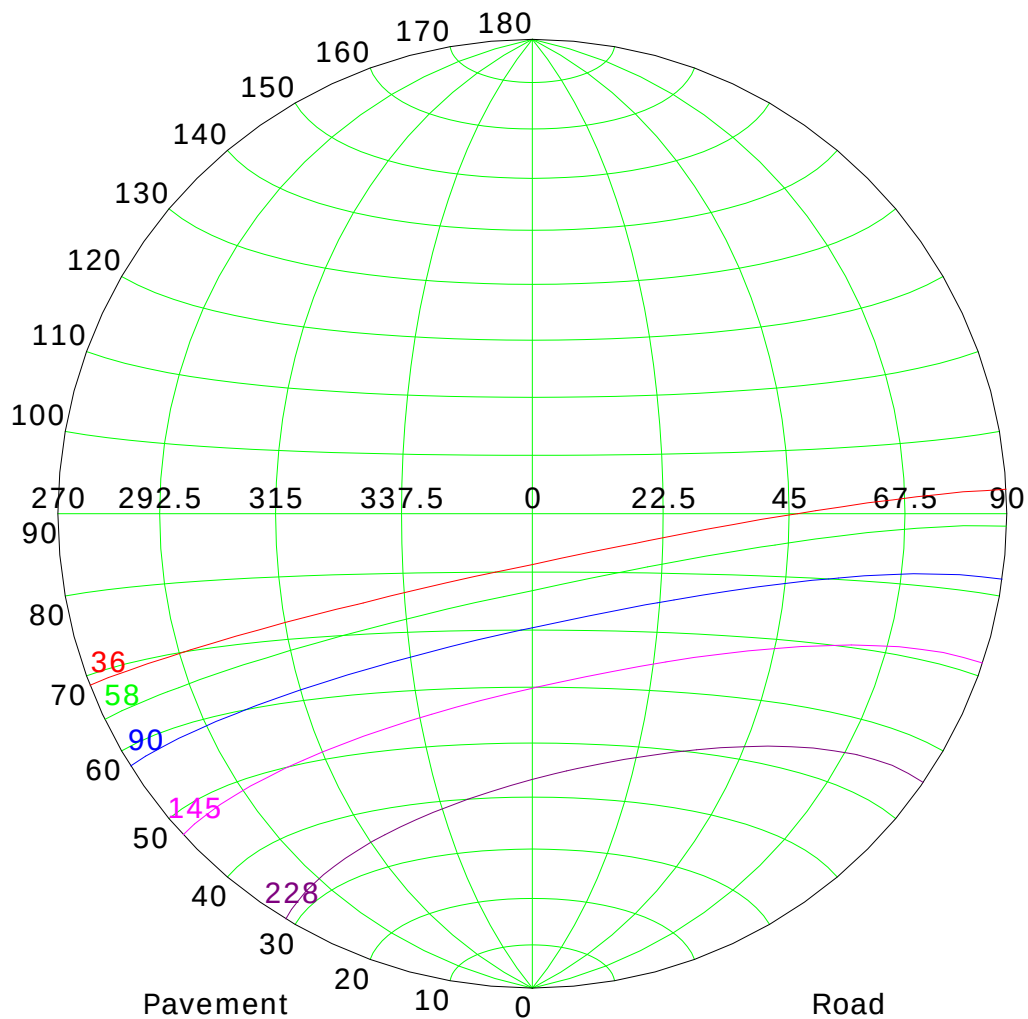
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



I_{max} (100%): 362 cd

(10%):	36 cd	(16%):	58 cd
(25%):	90 cd	(40%):	145 cd
(63%):	228 cd	(100%):	362 cd

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

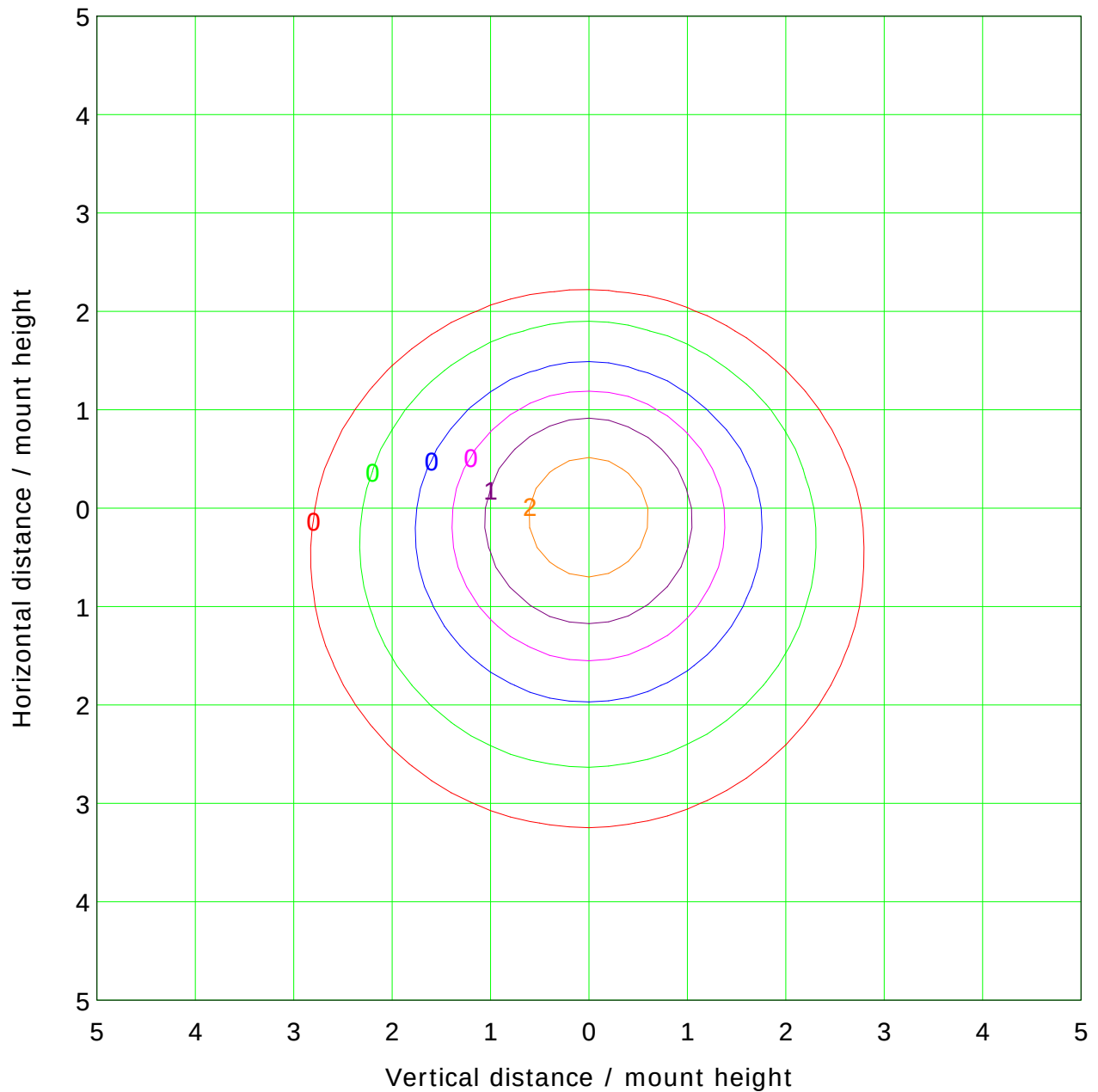
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m		Max Lux(100%): 3.5 lx	
— (1%):	0.0 lx	— (2%):	0.1 lx
— (5%):	0.2 lx	— (10%):	0.4 lx
— (20%):	0.7 lx	— (50%):	1.8 lx
— (100%):	3.5 lx		

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device: GPM-2000

Distance: 7.970 m

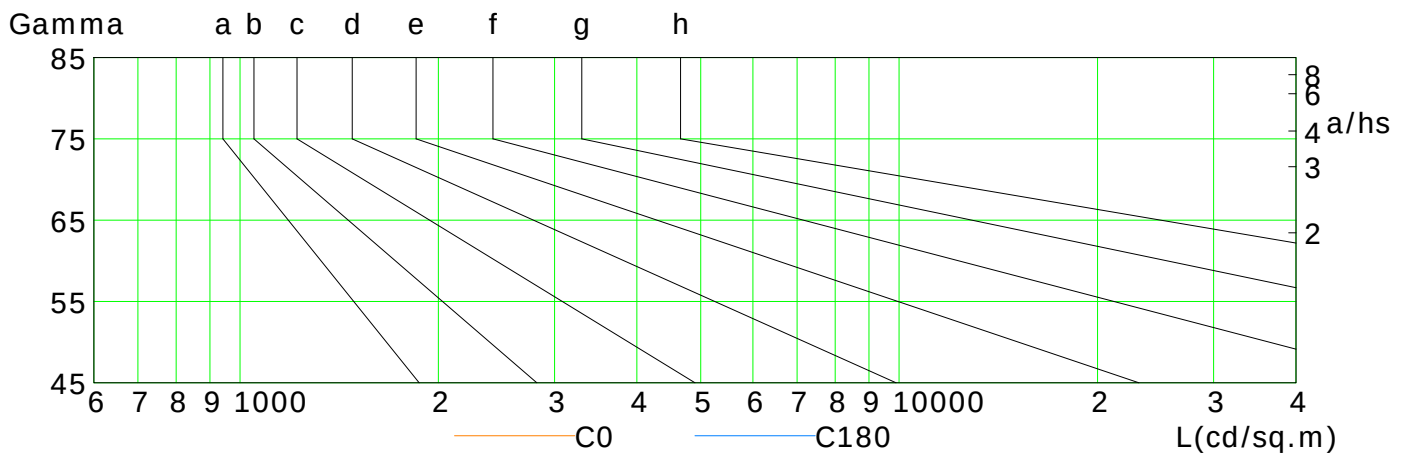
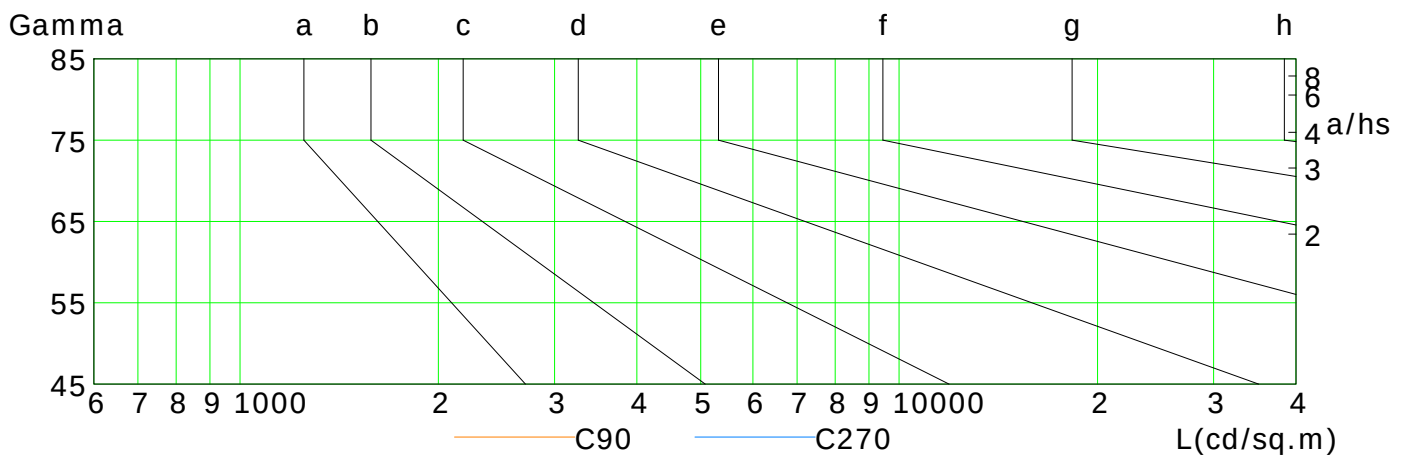
Humidity:

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	220	195	170	144	118	93	67	42	19
C90	278	255	231	205	180	153	127	101	75
C180	216	192	167	144	116	90	65	42	18
C270	157	131	105	80	54	30	8	0	0

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

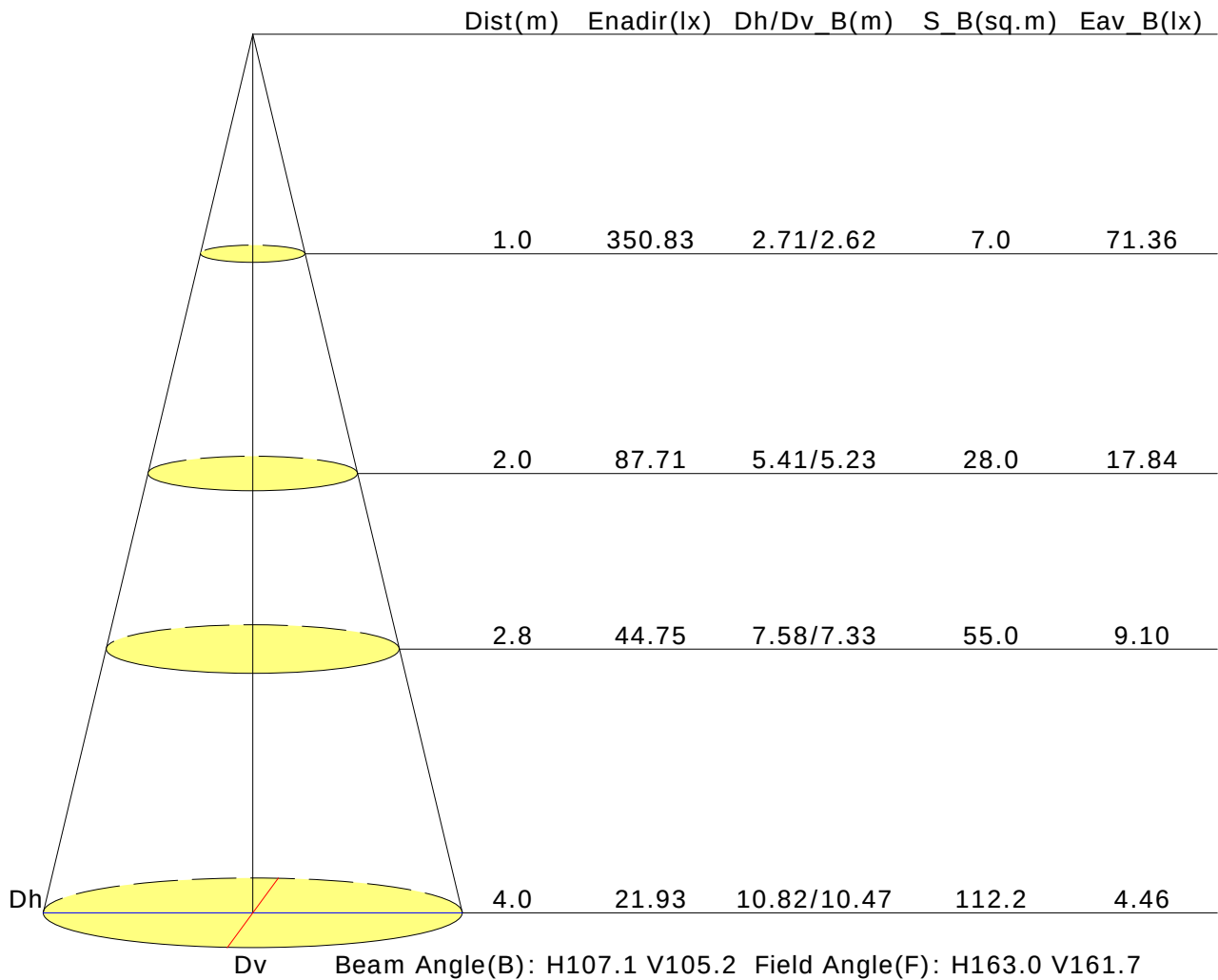
Test Device: GPM-2000

Distance: 7.970 m

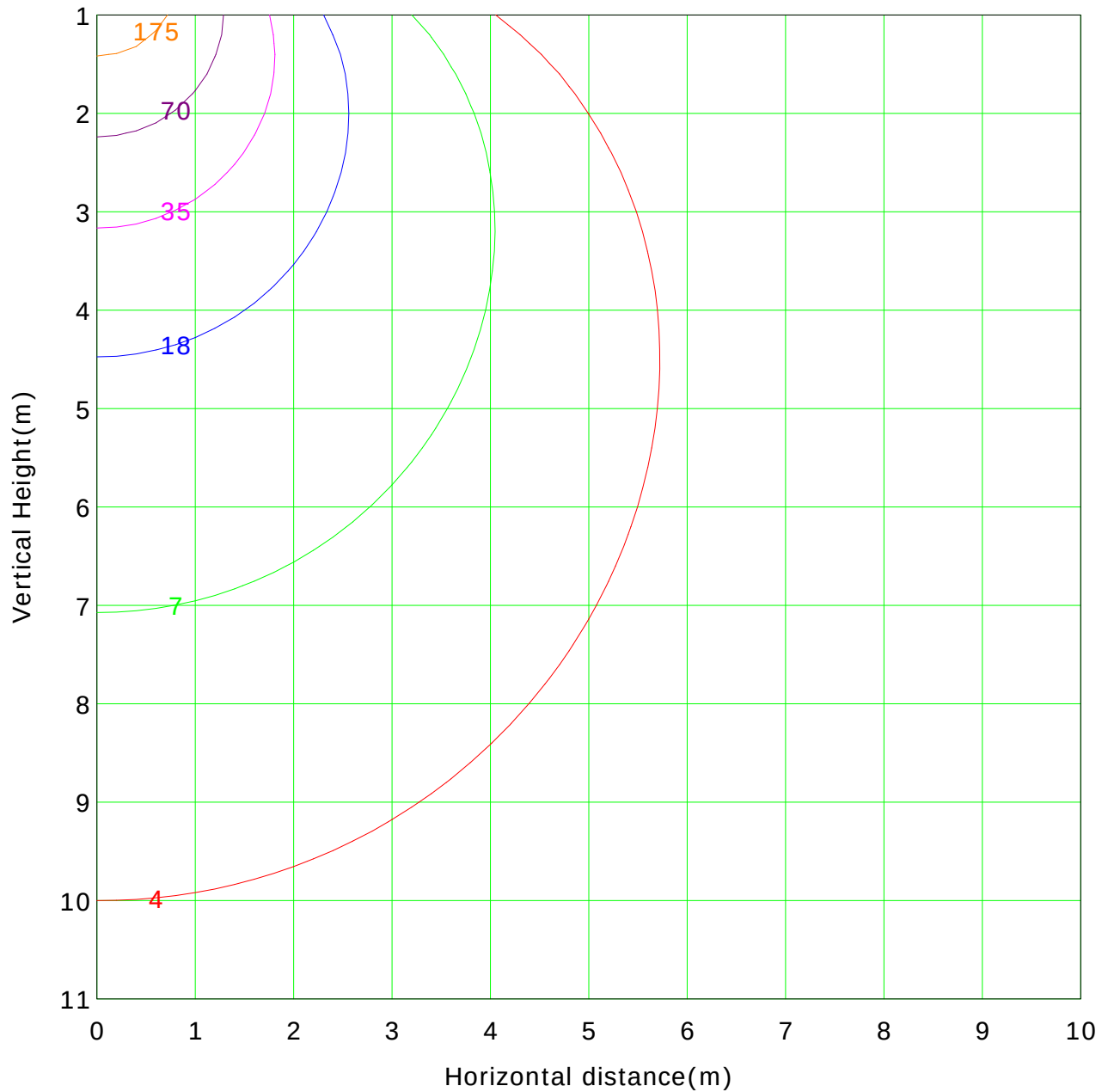
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 350.8 lx

(1%): 3.5 lx	(2%): 7.0 lx
(5%): 17.5 lx	(10%): 35.1 lx
(20%): 70.2 lx	(50%): 175.4 lx
(100%): 350.8 lx	