

Report No.:

Test Time: 07/09/2018 14:55

Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-RE04-07 + LLD-07-CM

Lamp Description: F52-400-60822

Number of Lamps: 2

Lumens per Lamp: 3158 lm

Voltage: 24.0 V

Current: 1.158 A

Power: 27.80 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 1913.9 lm

Downward Ratio: 30.19%

Total Rated Lamp Lumens: 6316.0 lm

Efficiency: 30.30%

Upward Ratio: 0.11%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 160.4, 160.1, 160.2, 160.2

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 113.9, 113.1, 113.6, 113.6

Luminaire Efficacy Rating (LER): 68.90

Central Intensity: 665.48 cd

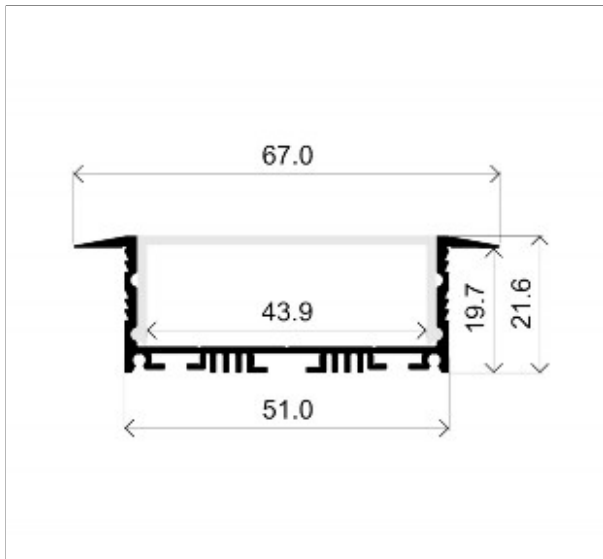
Max. Intensity: 665.5 cd

Pos of Max. Intensity: H10 V0

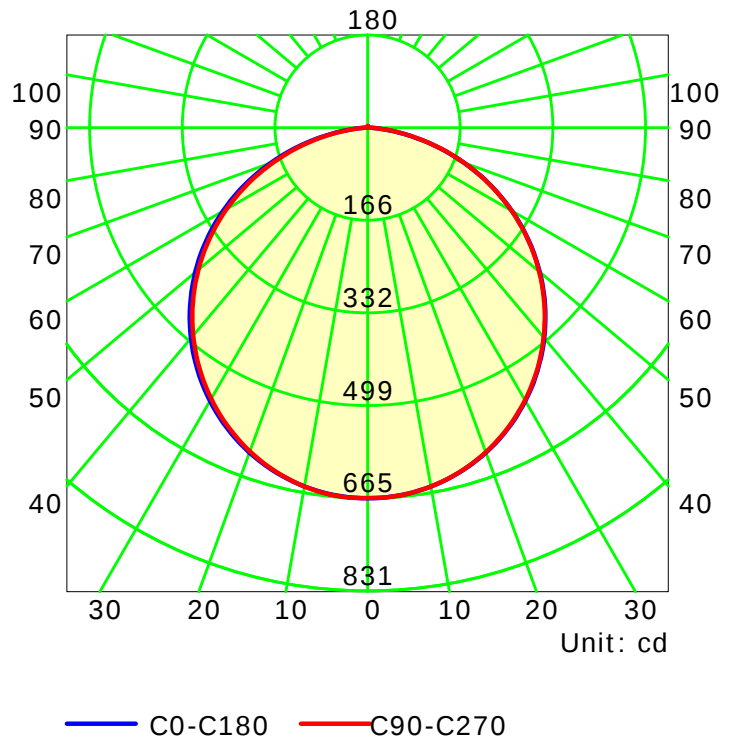
S/MH(C0/C180): 1.27

S/MH(C90/C270): 1.26

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

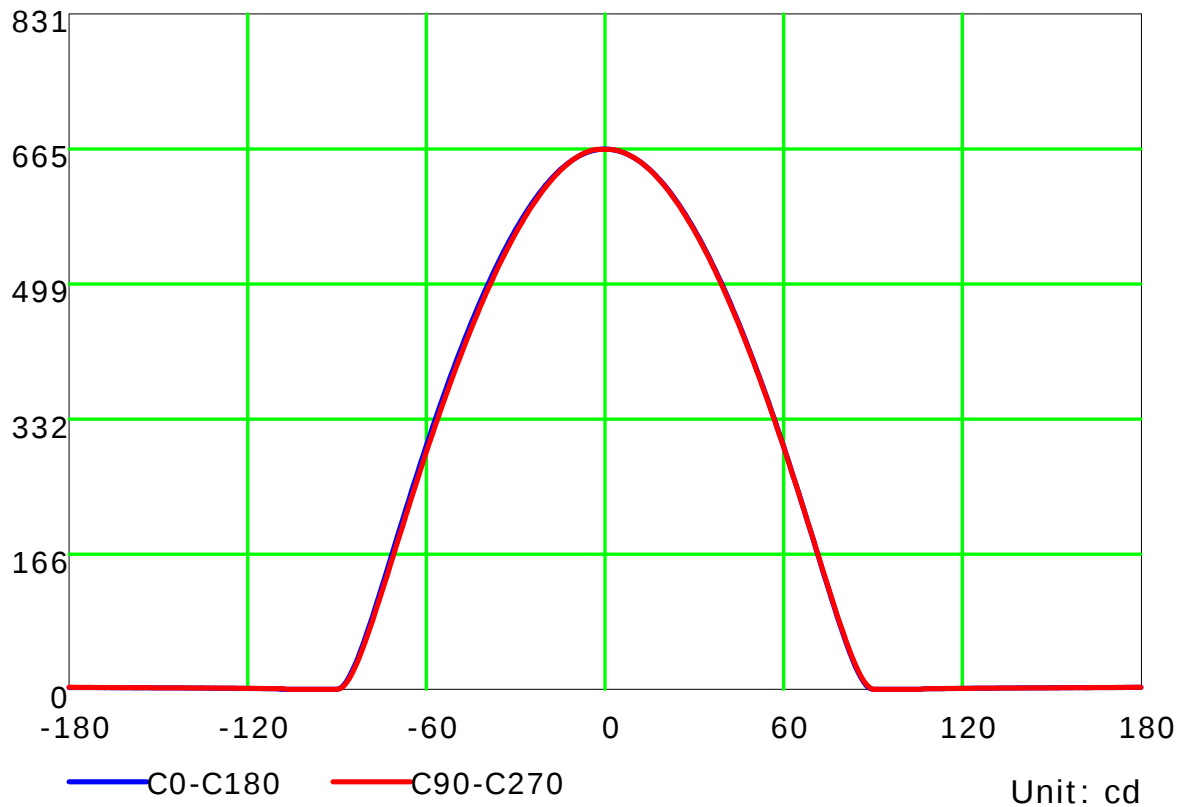
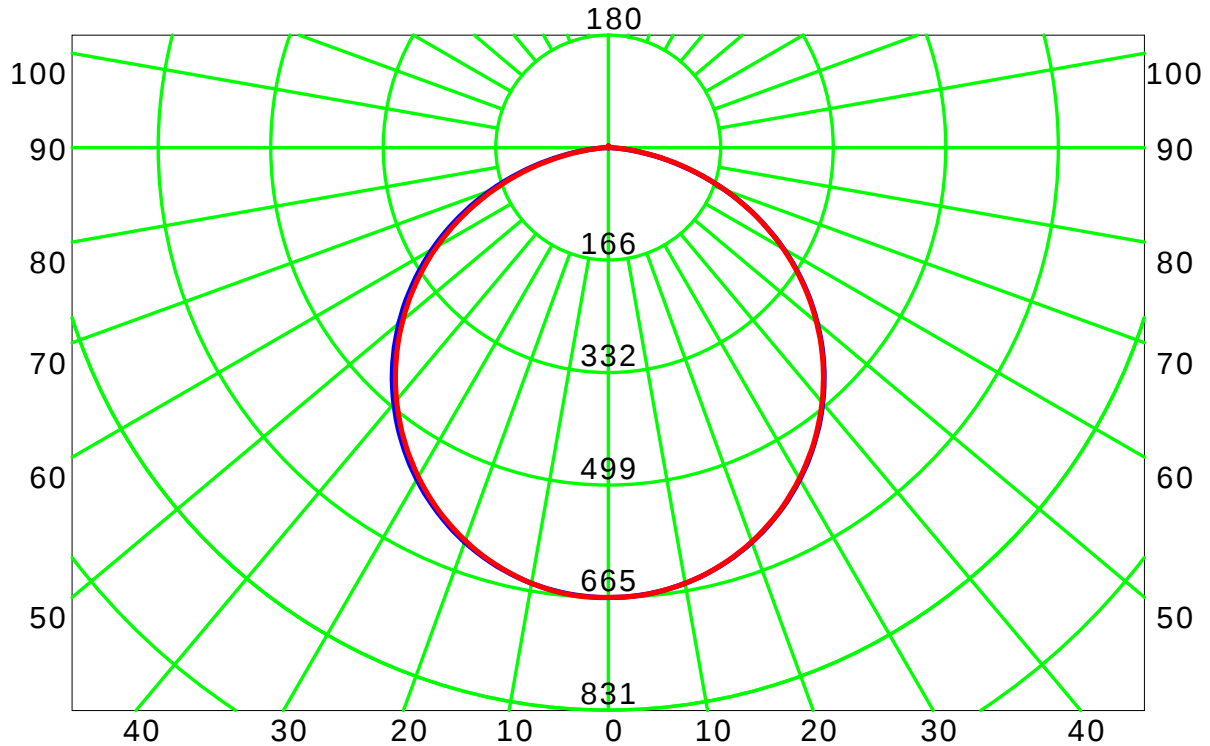
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

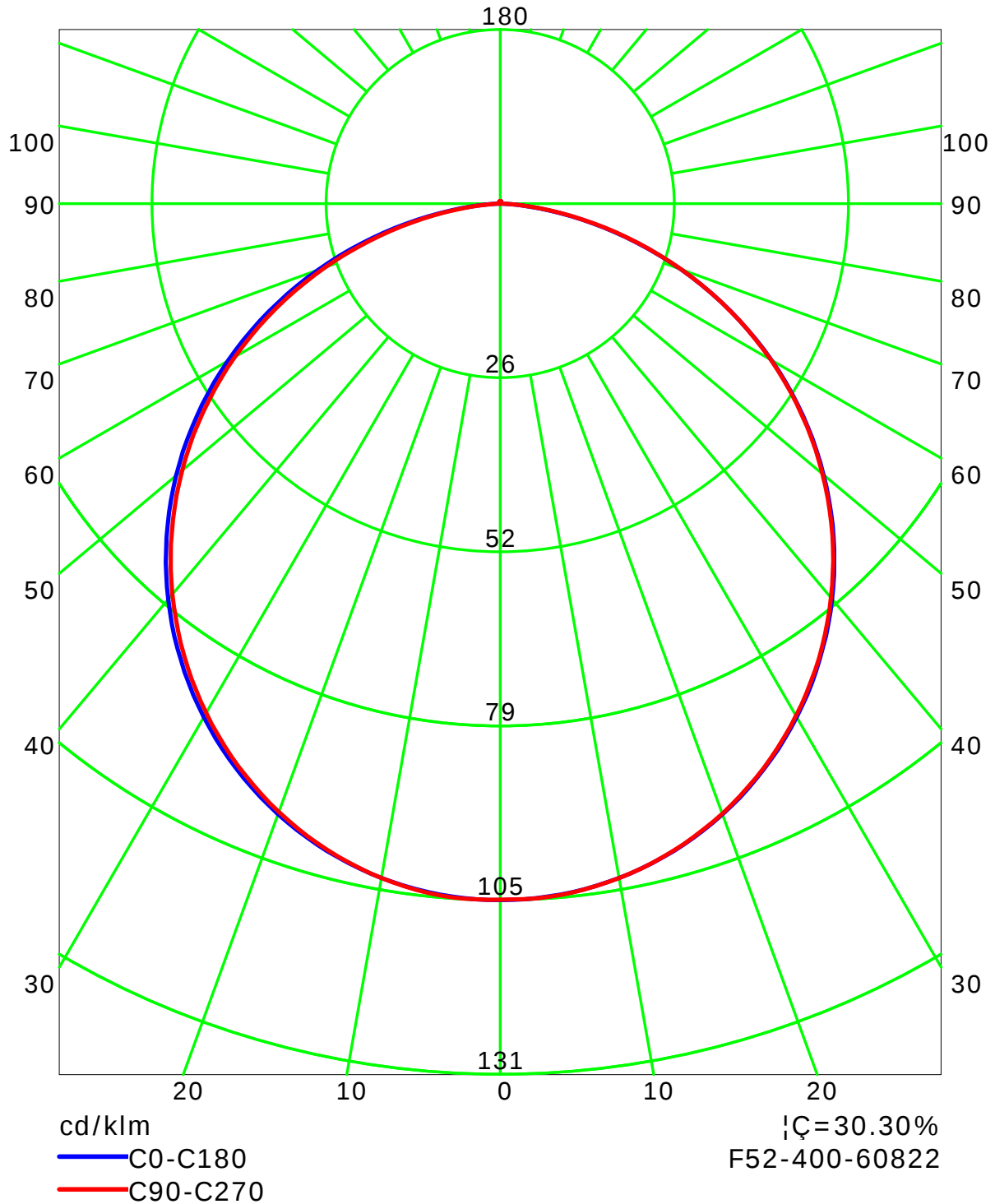
Luminous Intensity Distribution Curve



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:

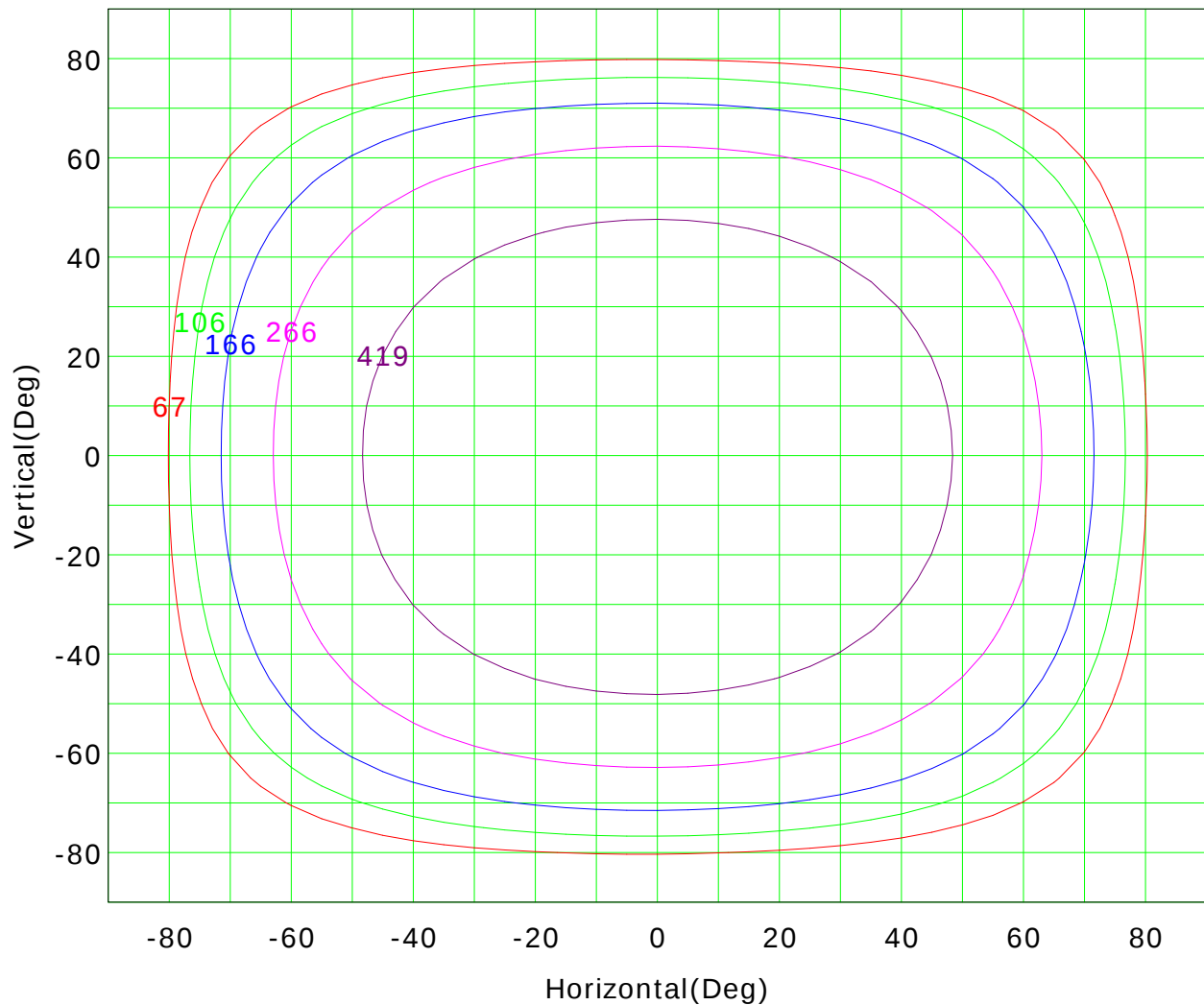
Luminous Intensity Distribution Curve(cd / klm)



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%): 666 cd

(10%):	67 cd	(16%):	106 cd
(25%):	166 cd	(40%):	266 cd
(63%):	419 cd	(100%):	666 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

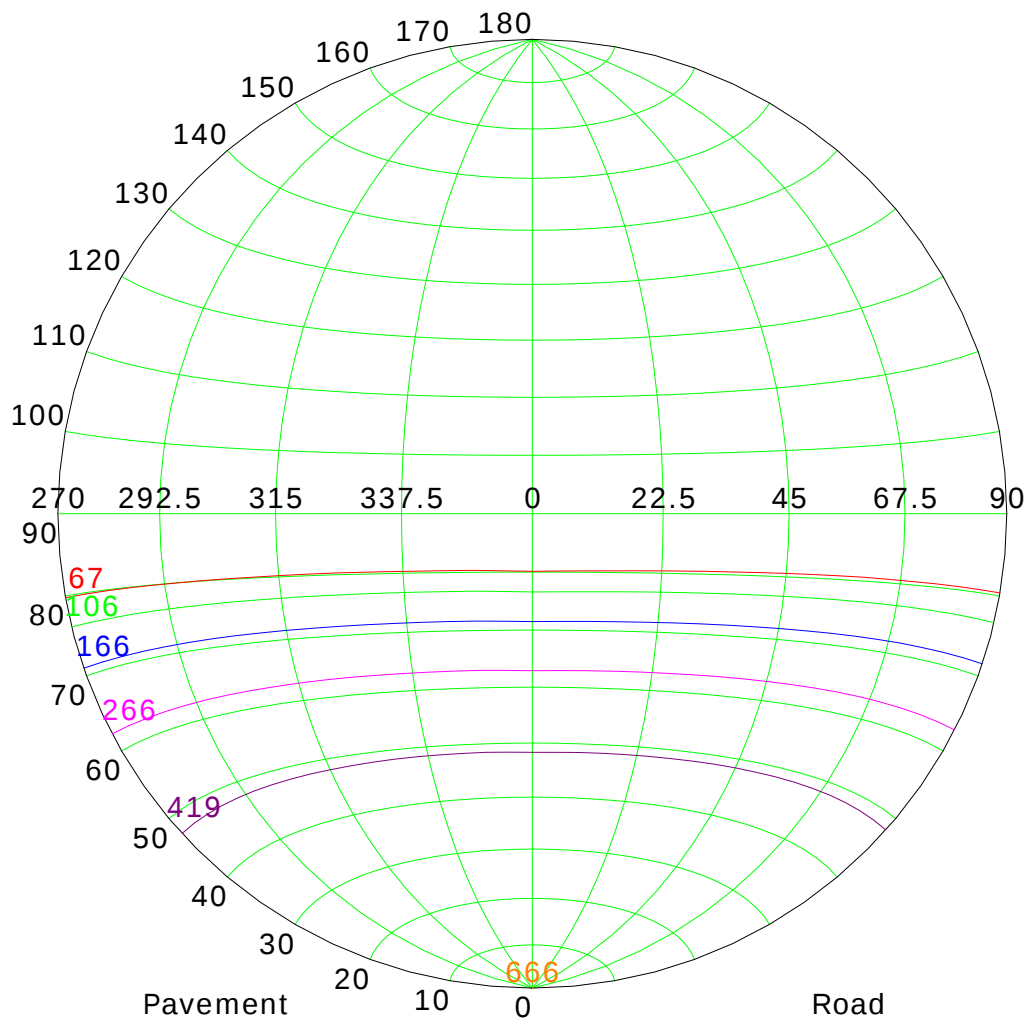
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



I_{max} (100%): 666 cd

(10%): 67 cd	(16%): 106 cd
(25%): 166 cd	(40%): 266 cd
(63%): 419 cd	(100%): 666 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

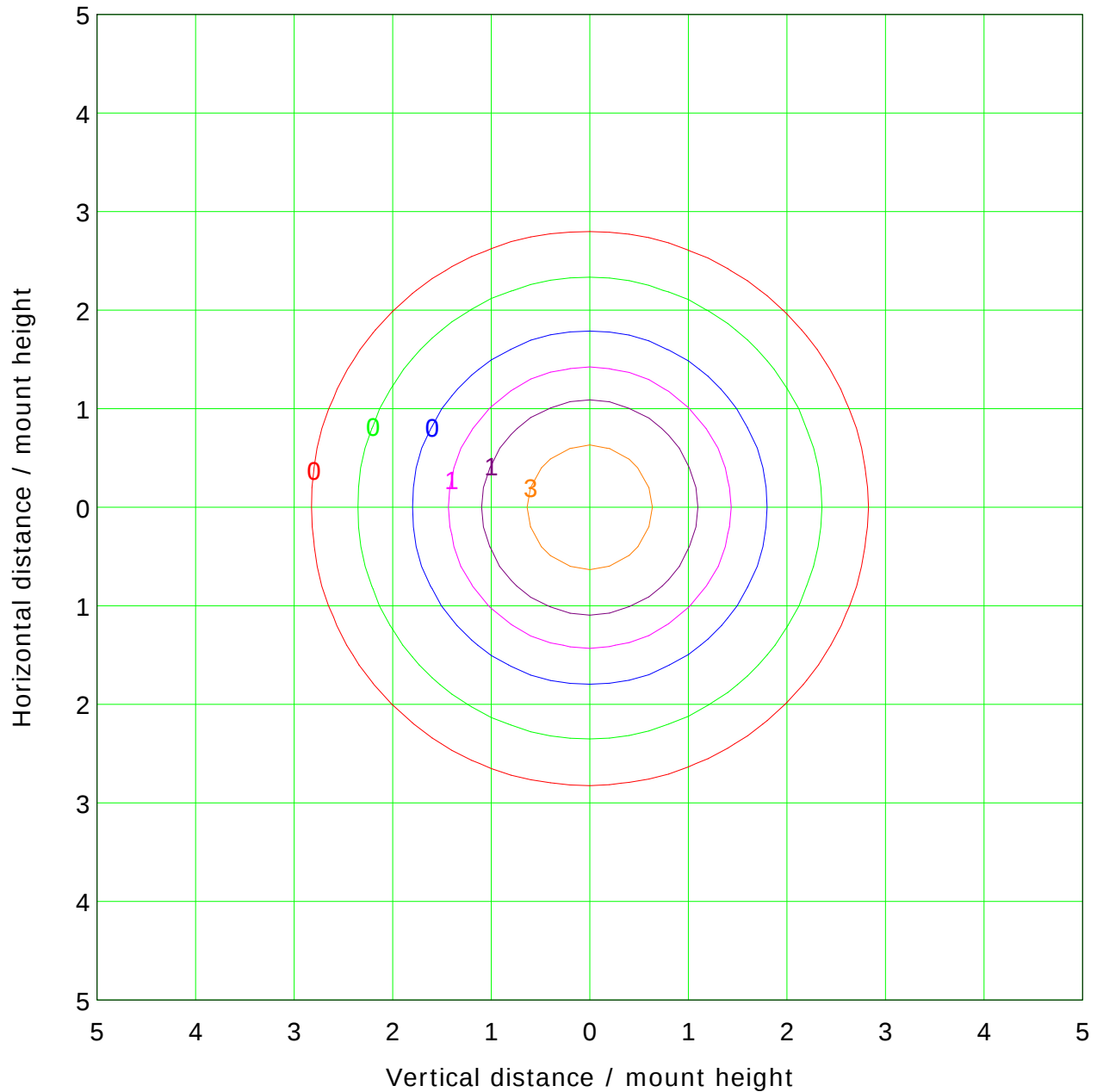
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 6.7 lx

(1%): 0.1 lx	(2%): 0.1 lx
(5%): 0.3 lx	(10%): 0.7 lx
(20%): 1.3 lx	(50%): 3.3 lx
(100%): 6.7 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

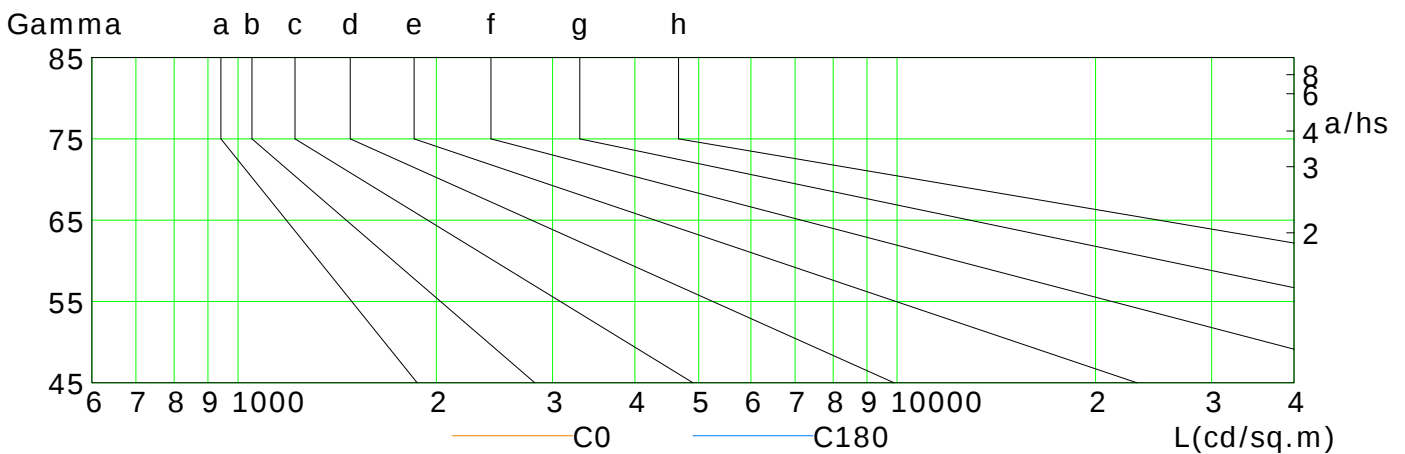
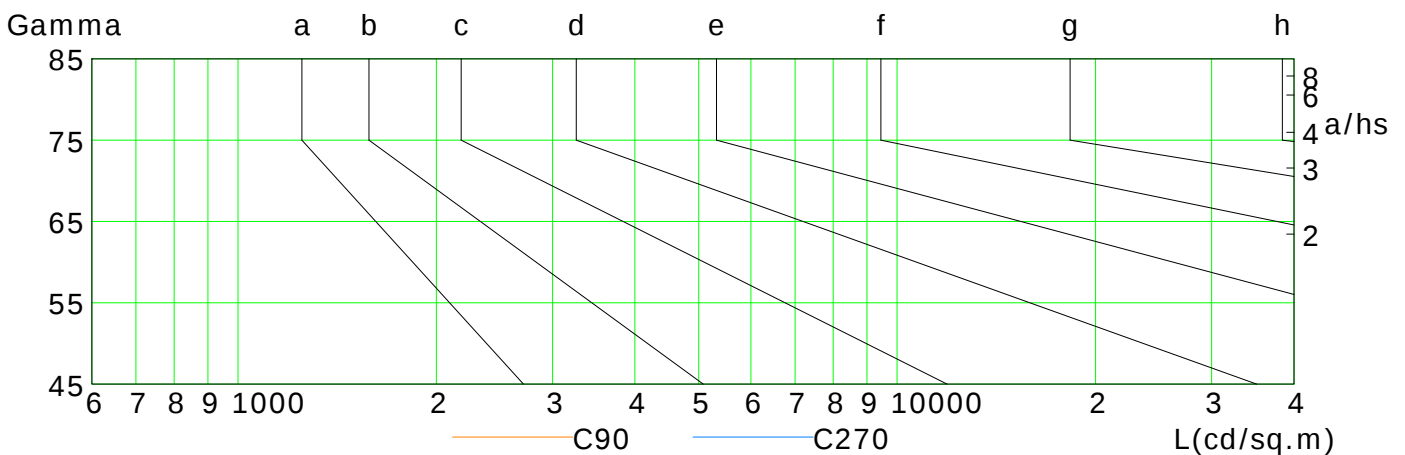
Humidity:

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	450	403	353	299	243	184	125	68	21
C90	449	402	352	299	242	185	126	70	23
C180	451	404	354	300	244	185	126	70	22
C270	444	397	346	293	236	178	120	64	19

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

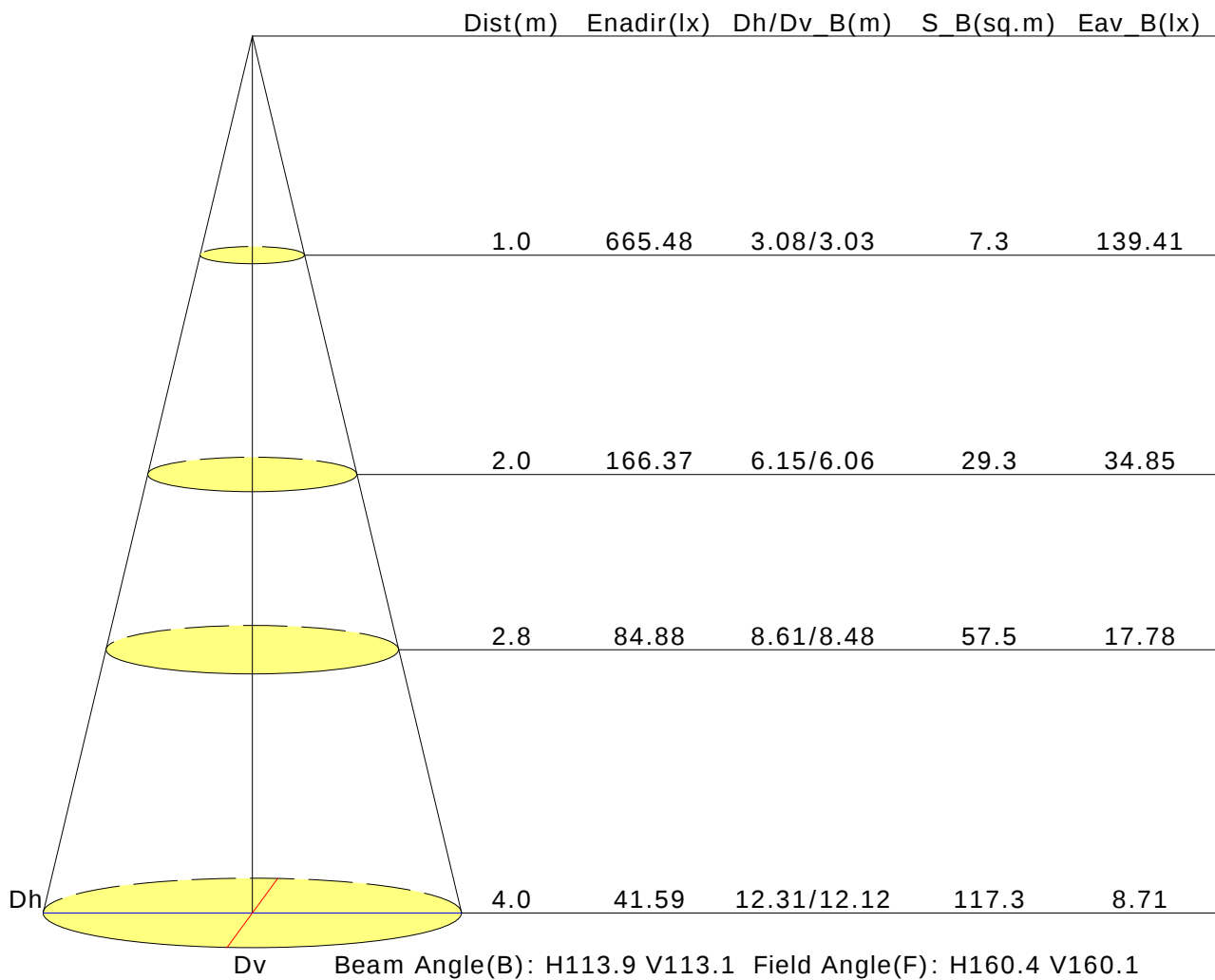
Test Device: GPM-2000

Distance: 7.970 m

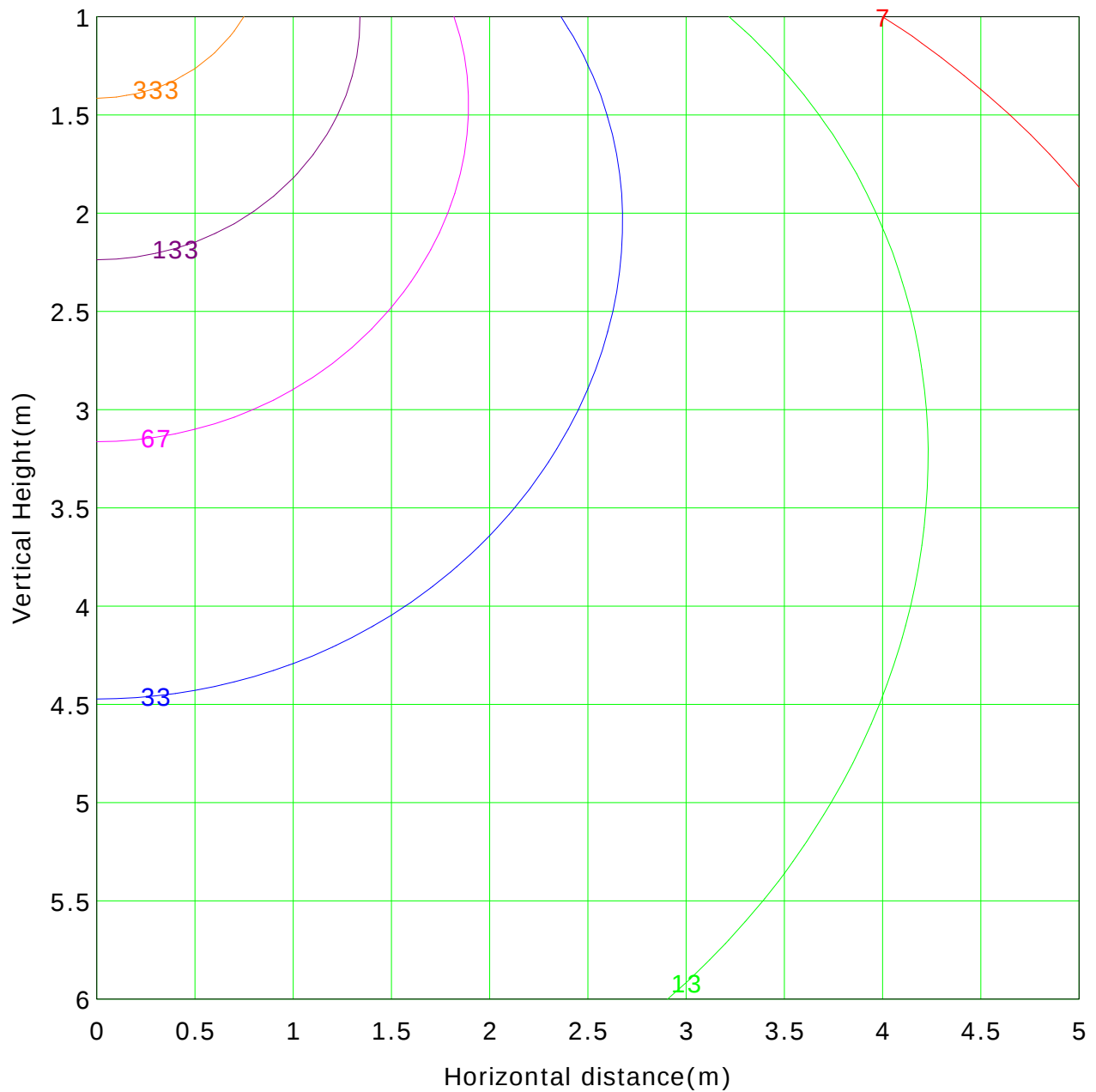
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 6.0m Max Lux: 665.5 lx

(1%): 6.7 lx	(2%): 13.3 lx
(5%): 33.3 lx	(10%): 66.5 lx
(20%): 133.1 lx	(50%): 332.7 lx
(100%): 665.5 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:

Report No.:

Test Time: 07/09/2018 16:23

Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-RE04-07 + LLD-07-CM

Lamp Description: F52-400-60822

Number of Lamps: 2

Lumens per Lamp: 3158 lm

Voltage: 24.0 V

Current: 1.158 A

Power: 27.79 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 1954.1 lm

Downward Ratio: 29.34%

Total Rated Lamp Lumens: 6316.0 lm

Efficiency: 30.94%

Upward Ratio: 1.60%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 160.4, 209.0, 175.5, 175.4

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 114.0, 128.5, 123.5, 123.5

Luminaire Efficacy Rating (LER): 70.37

Central Intensity: 568.85 cd

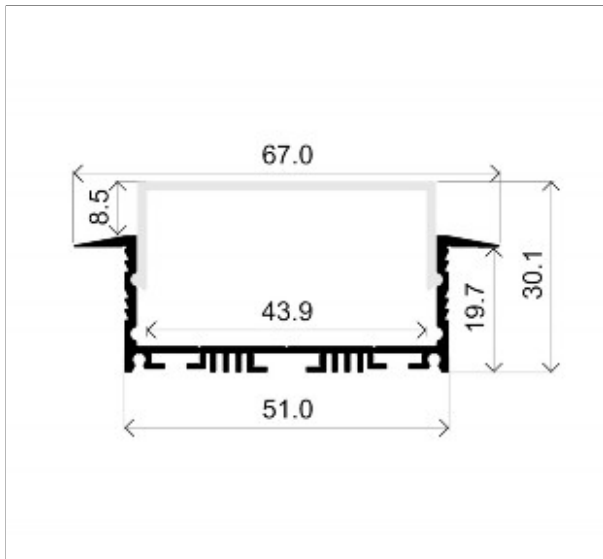
Max. Intensity: 568.85 cd

Pos of Max. Intensity: H0 V0

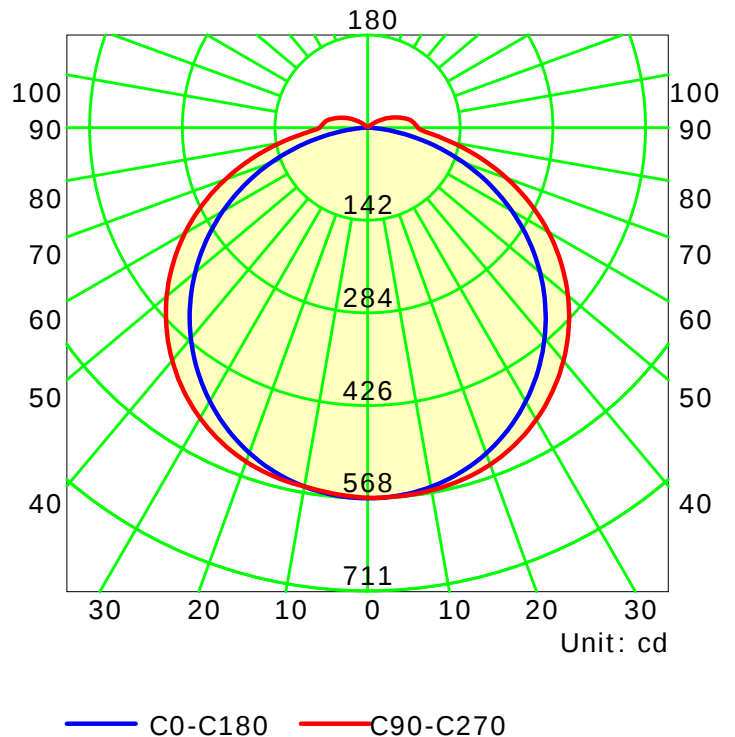
S/MH(C0/C180): 1.27

S/MH(C90/C270): 1.35

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

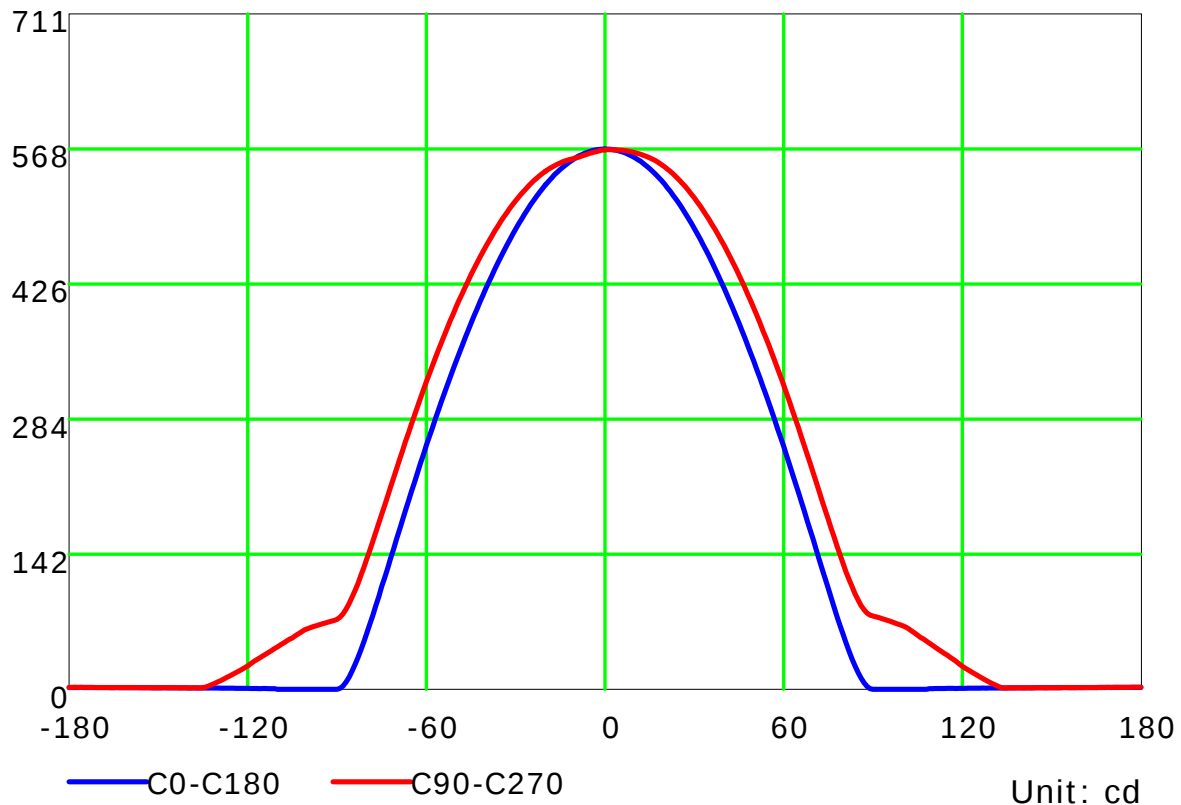
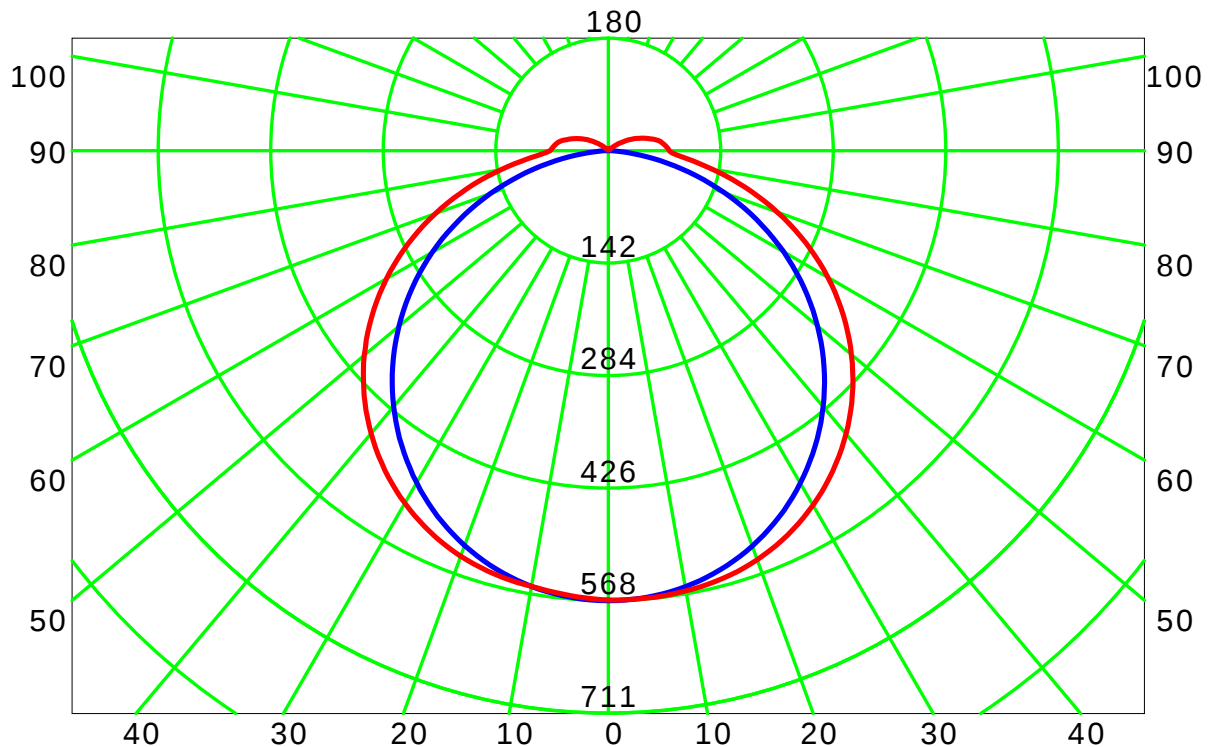
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

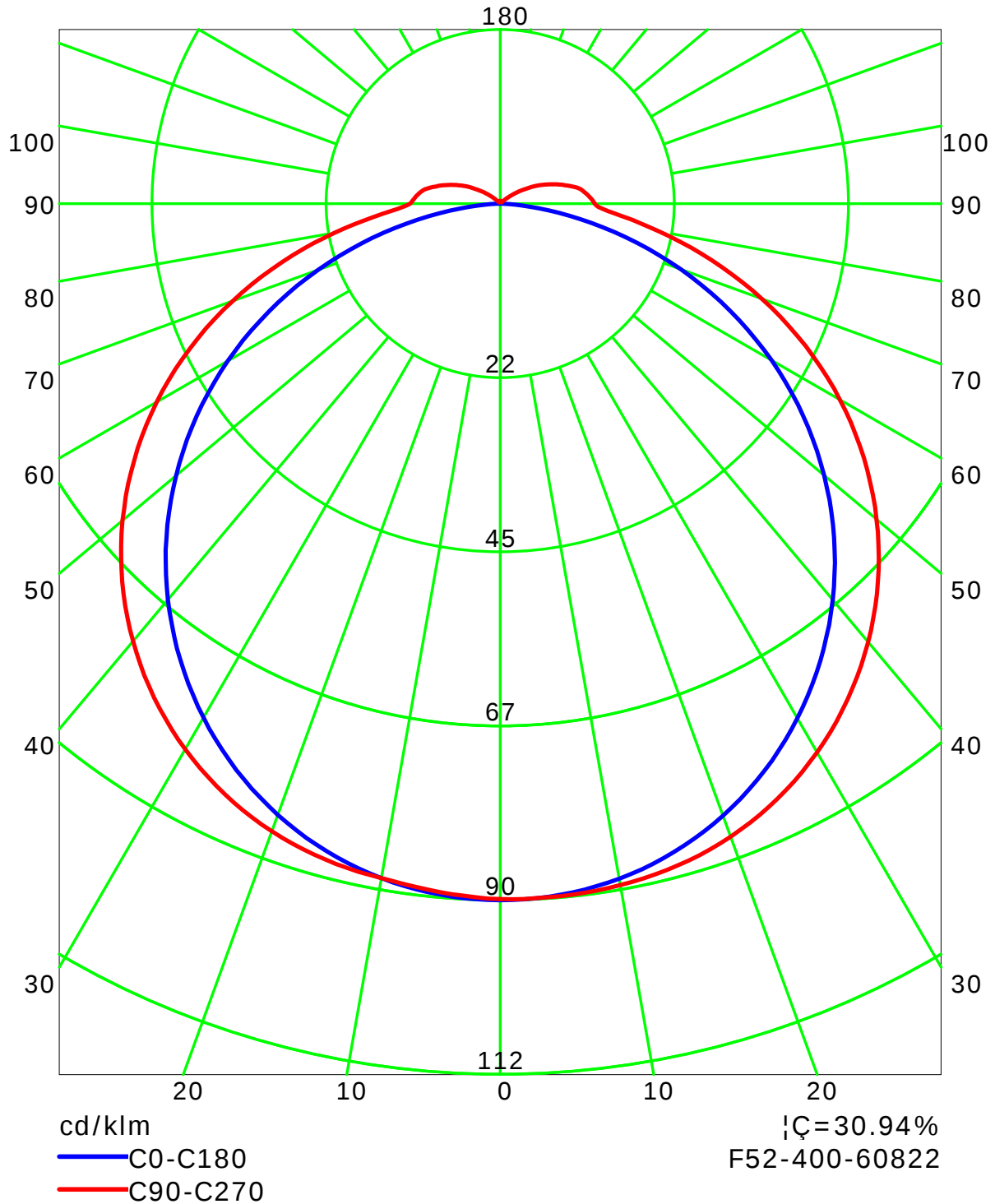
Luminous Intensity Distribution Curve



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:

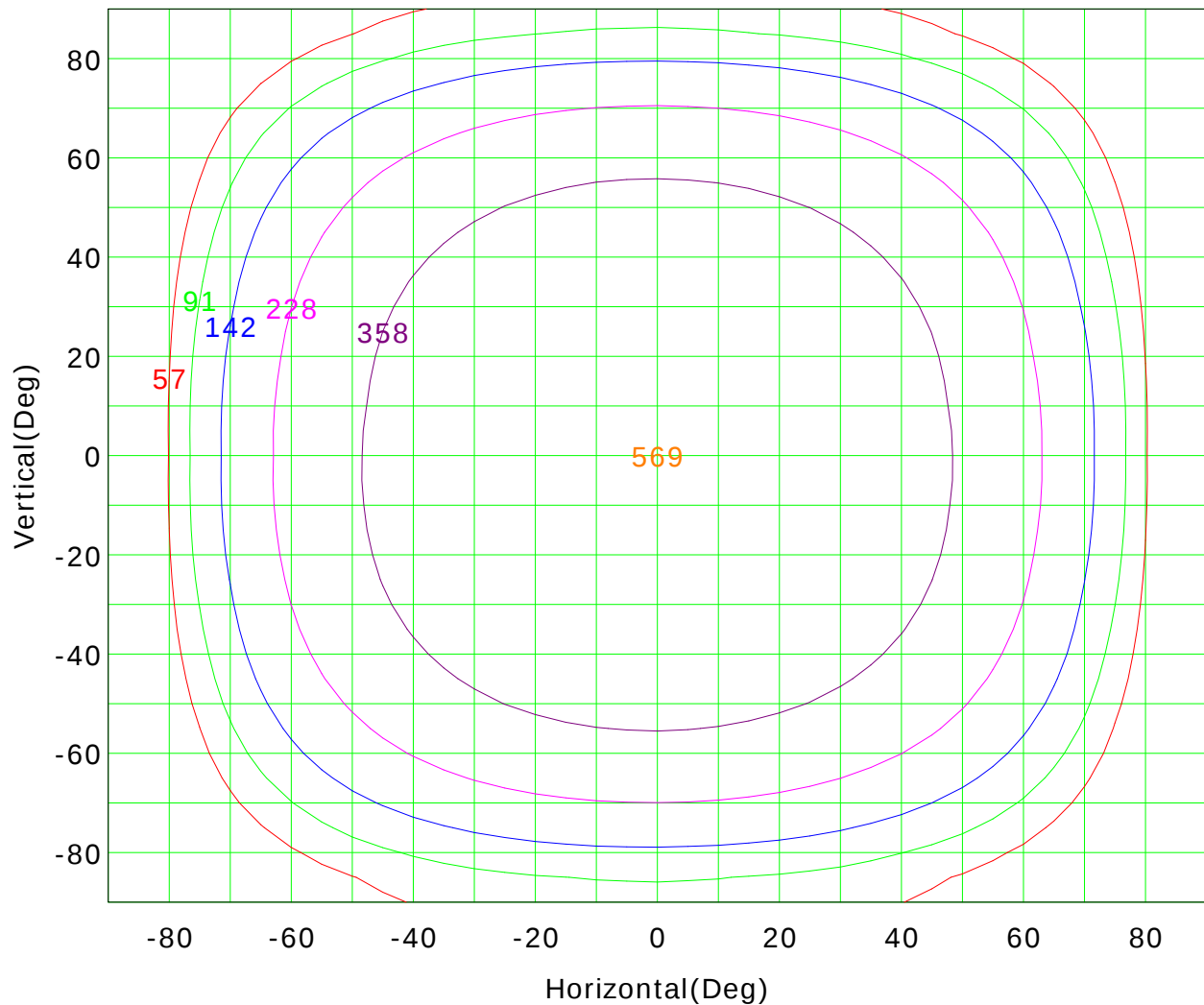
Luminous Intensity Distribution Curve(cd / klm)



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%): 569 cd

(10%):	57 cd	(16%):	91 cd
(25%):	142 cd	(40%):	228 cd
(63%):	358 cd	(100%):	569 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

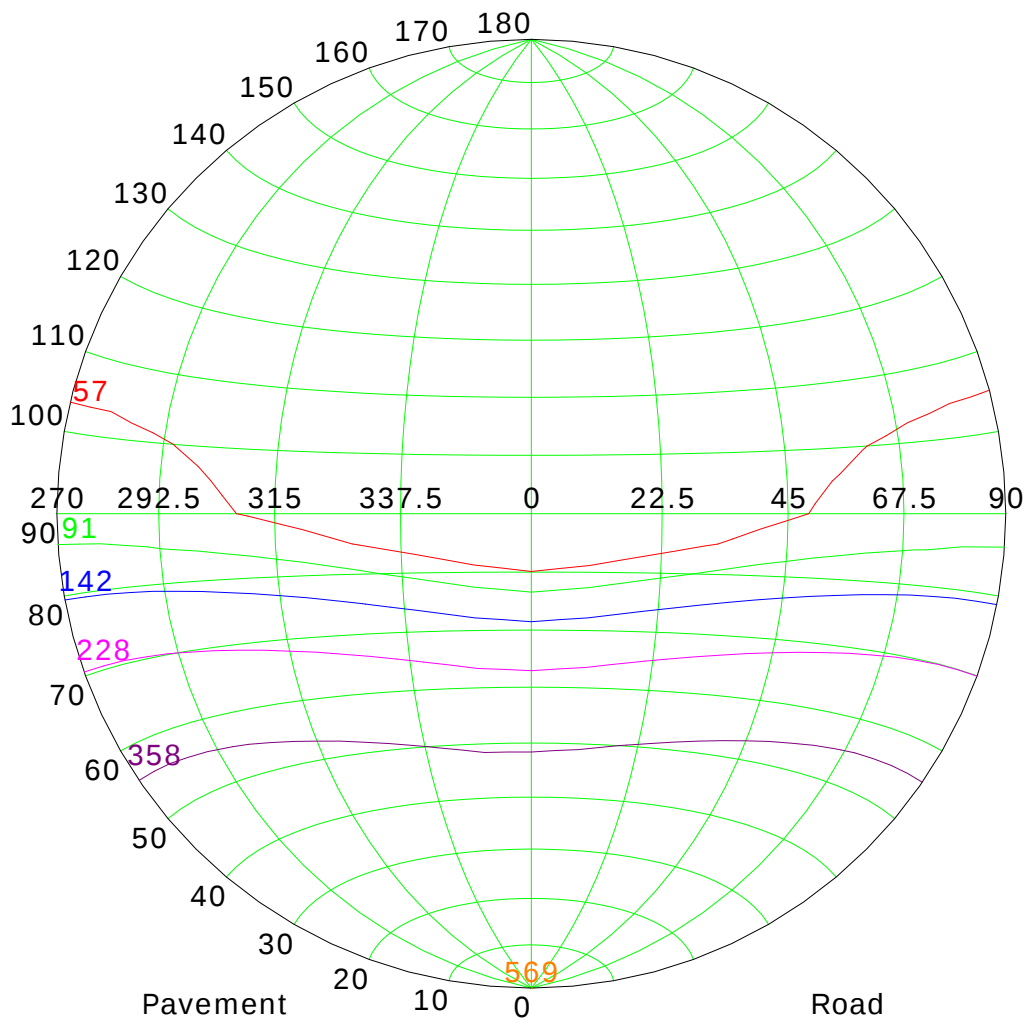
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



I_{max} (100%): 569 cd

(10%):	57 cd	(16%):	91 cd
(25%):	142 cd	(40%):	228 cd
(63%):	358 cd	(100%):	569 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

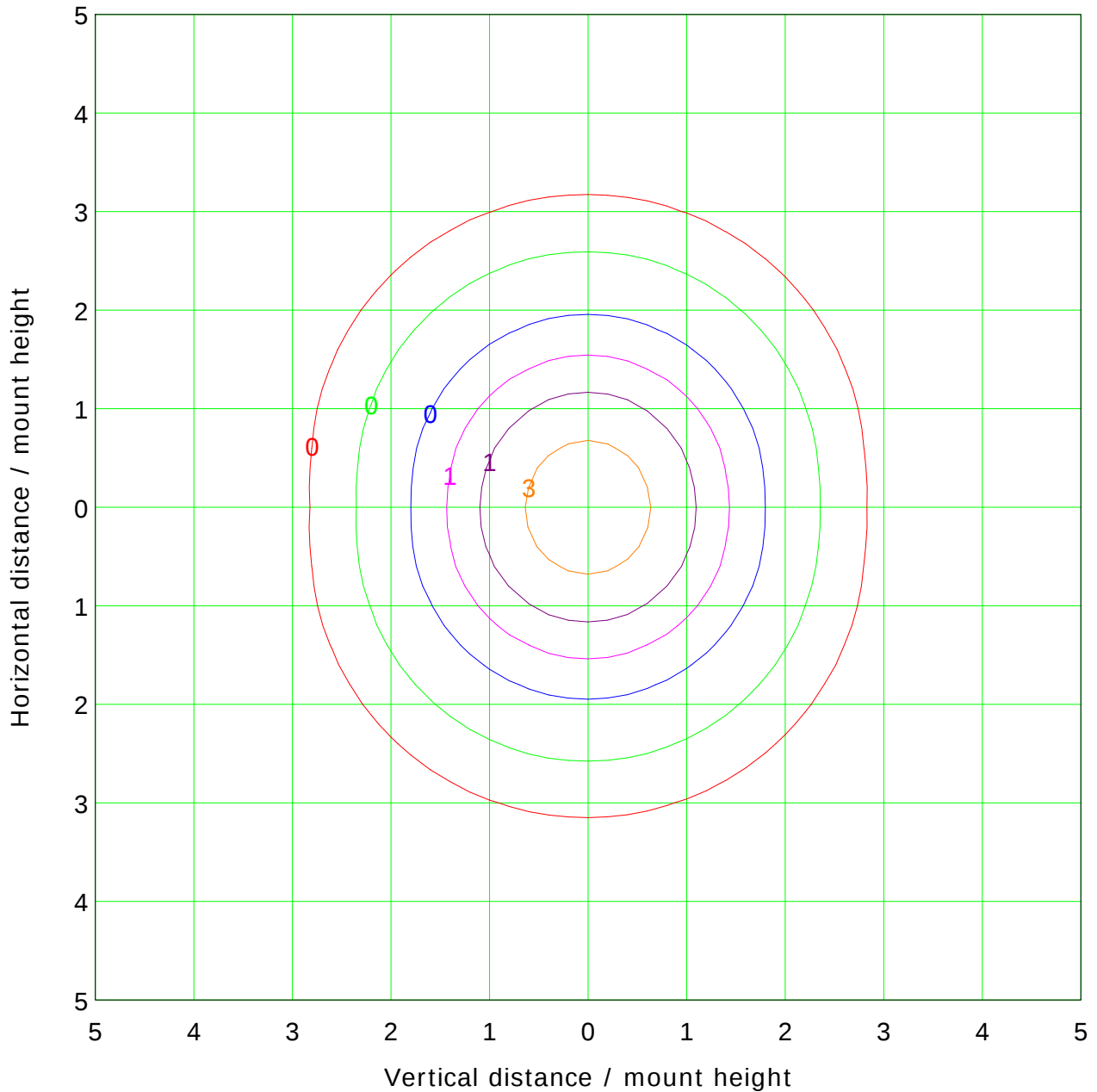
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 5.7 lx

(1%): 0.1 lx	(2%): 0.1 lx
(5%): 0.3 lx	(10%): 0.6 lx
(20%): 1.1 lx	(50%): 2.8 lx
(100%): 5.7 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

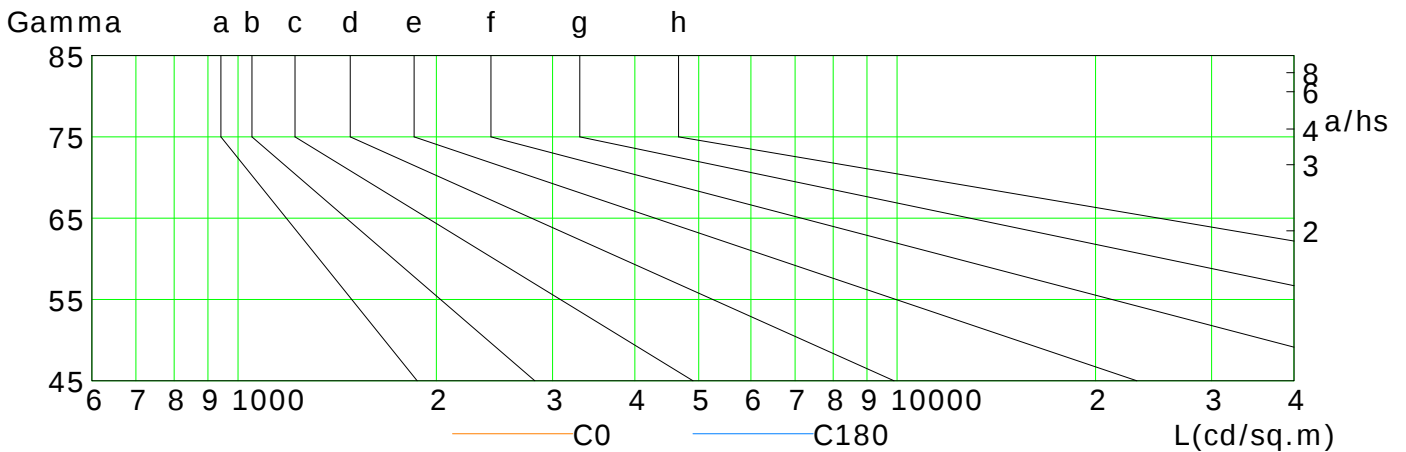
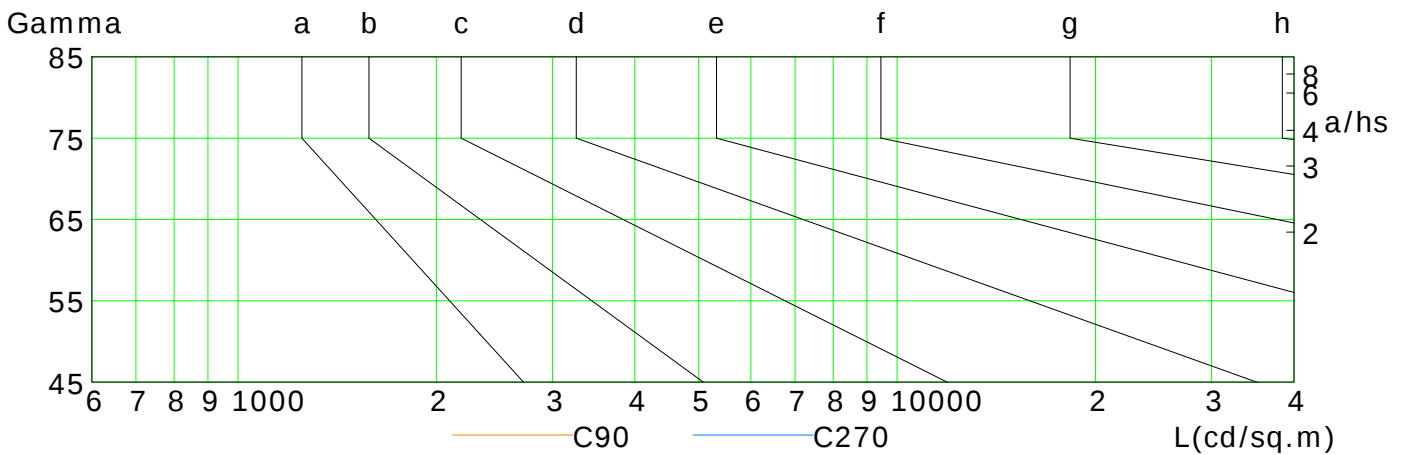
Humidity:

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	386	345	302	256	207	157	106	58	18
C90	436	401	363	320	275	227	179	132	94
C180	385	346	303	257	208	158	108	59	19
C270	437	403	365	324	280	232	184	138	97

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

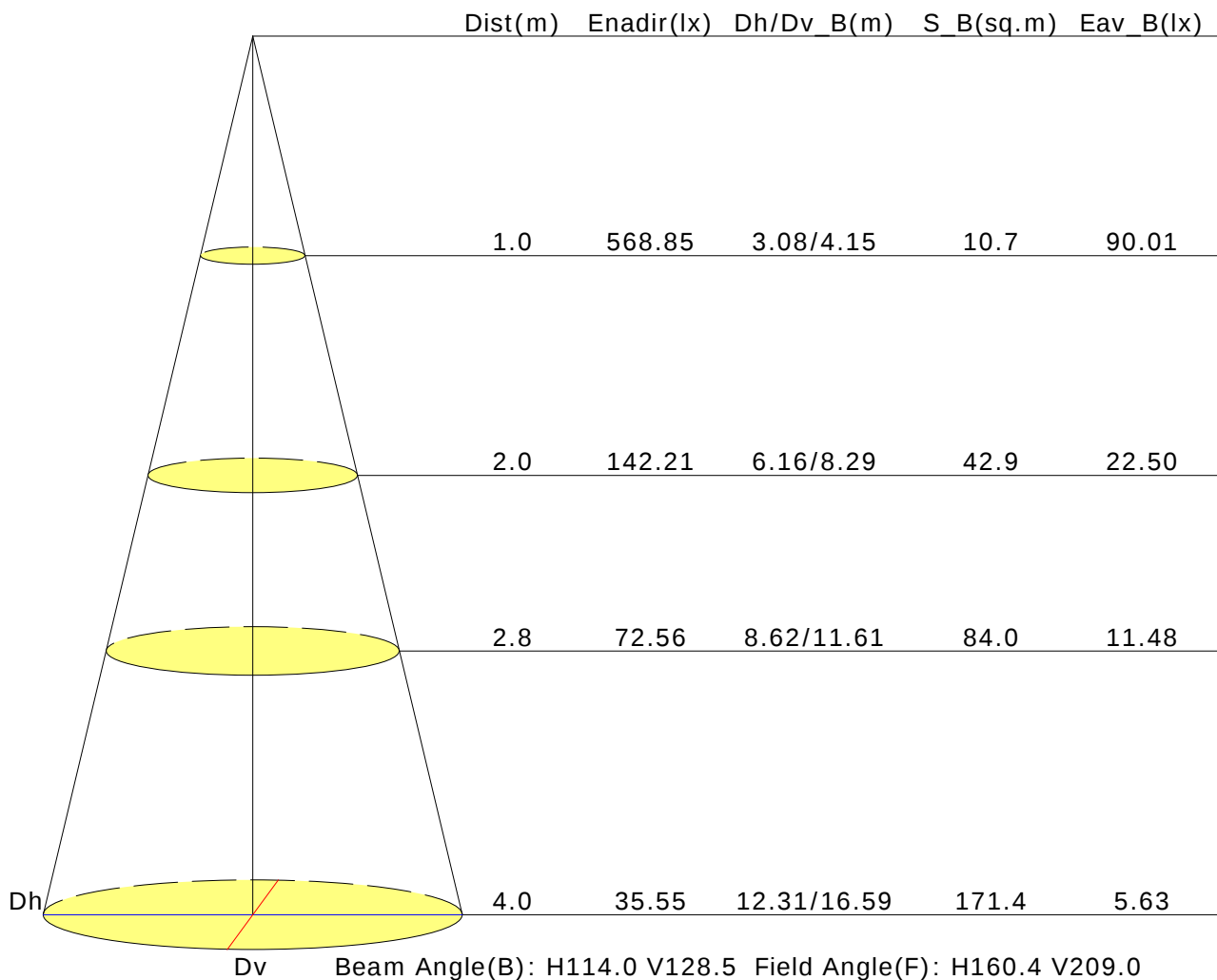
Test Device: GPM-2000

Distance: 7.970 m

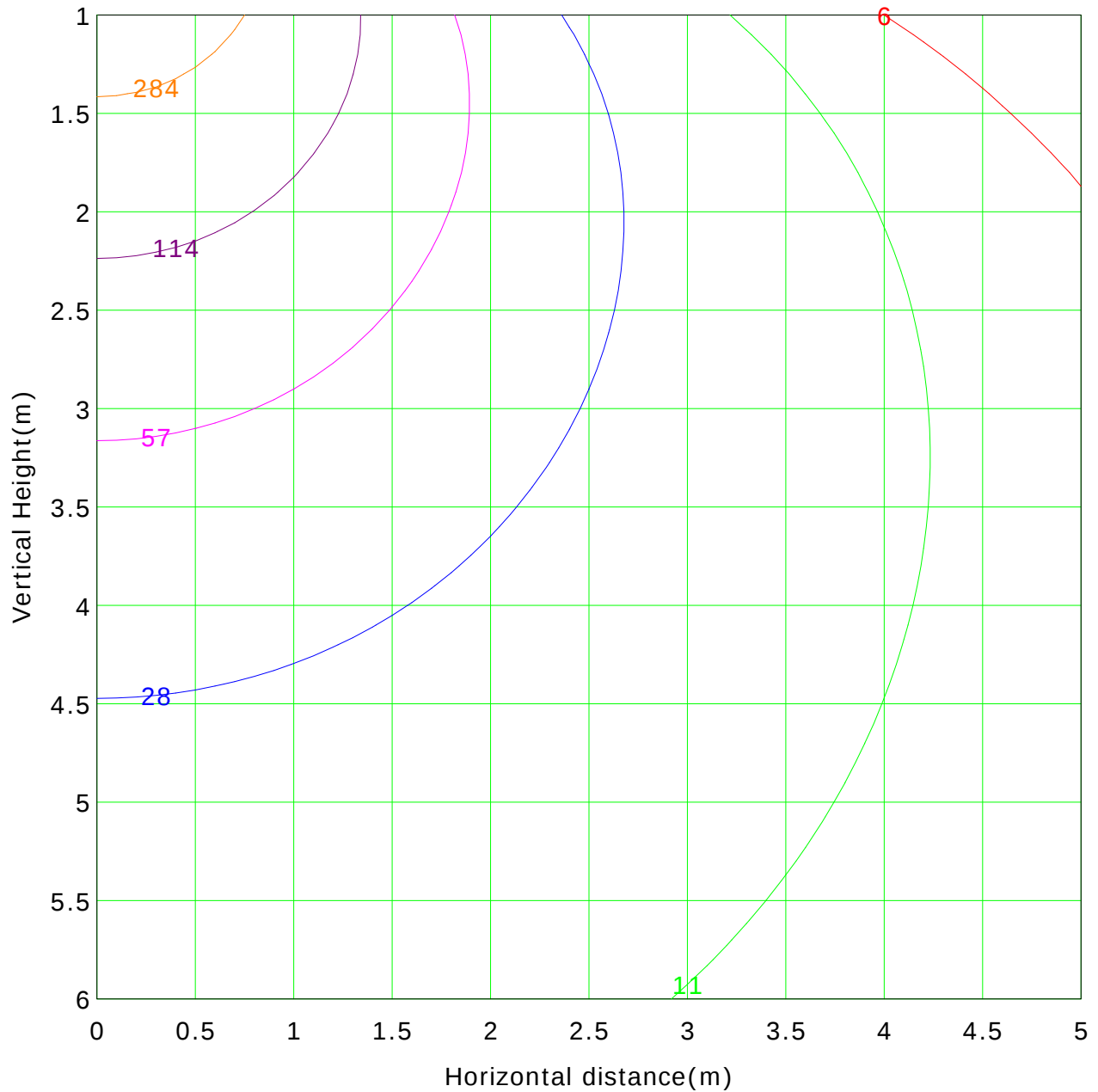
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m	Highest(m): 6.0m	Max Lux: 568.8 lx
(1%): 5.7 lx	(2%): 11.4 lx	
(5%): 28.4 lx	(10%): 56.9 lx	
(20%): 113.8 lx	(50%): 284.4 lx	
(100%): 568.8 lx		

Report No.:

Test Time: 10/09/2018 09:54

Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-RE04-07 + LLD-07-CS

Lamp Description: F52-400-60822

Number of Lamps: 2

Lumens per Lamp: 3158 lm

Voltage: 24.0 V

Current: 1.163 A

Power: 27.90 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 1852.7 lm

Downward Ratio: 29.22%

Total Rated Lamp Lumens: 6316.0 lm

Efficiency: 29.33%

Upward Ratio: 0.11%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 164.2, 163.9, 164.0, 164.0

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 112.2, 111.3, 111.8, 111.8

Luminaire Efficacy Rating (LER): 66.45

Central Intensity: 643.29 cd

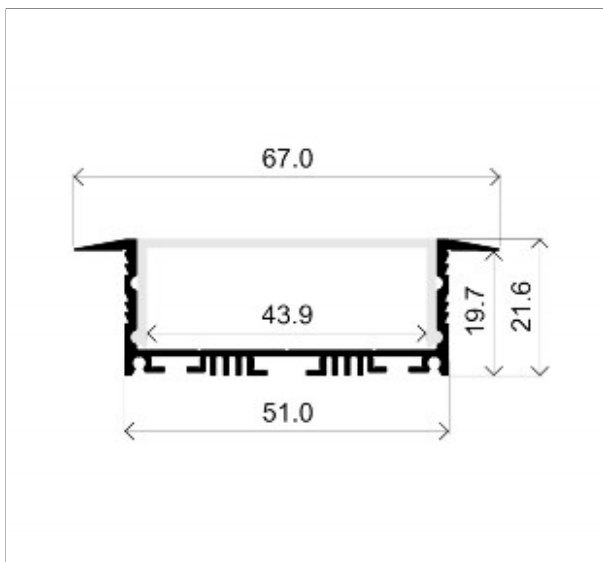
Max. Intensity: 644.2 cd

Pos of Max. Intensity: H80 V2

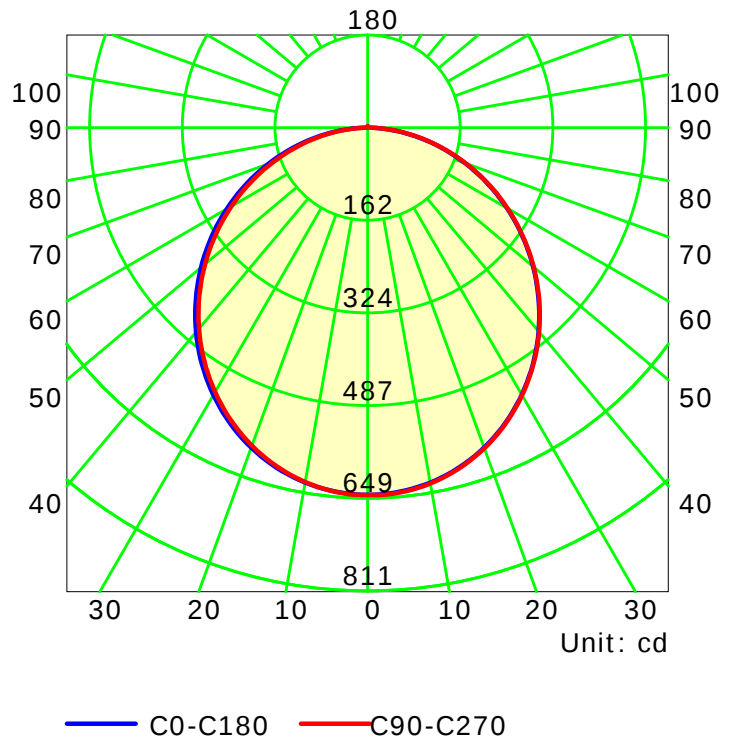
S/MH(C0/C180): 1.25

S/MH(C90/C270): 1.24

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

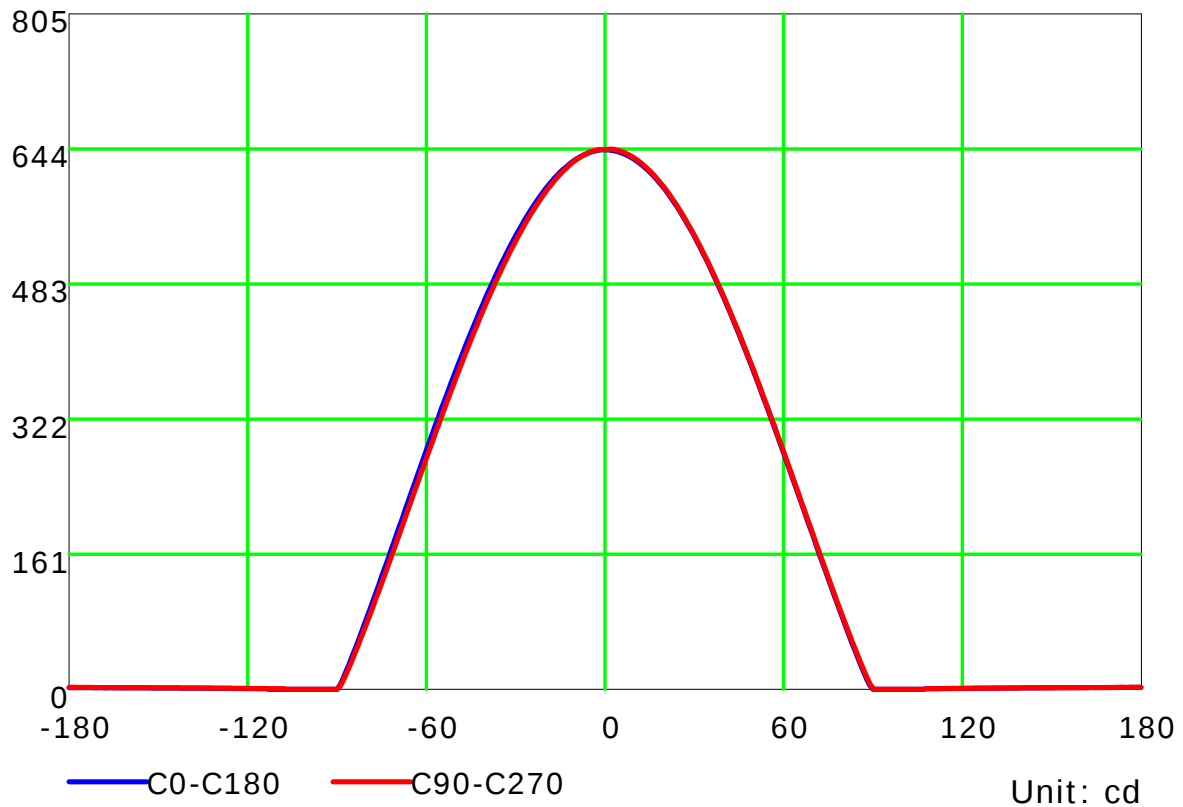
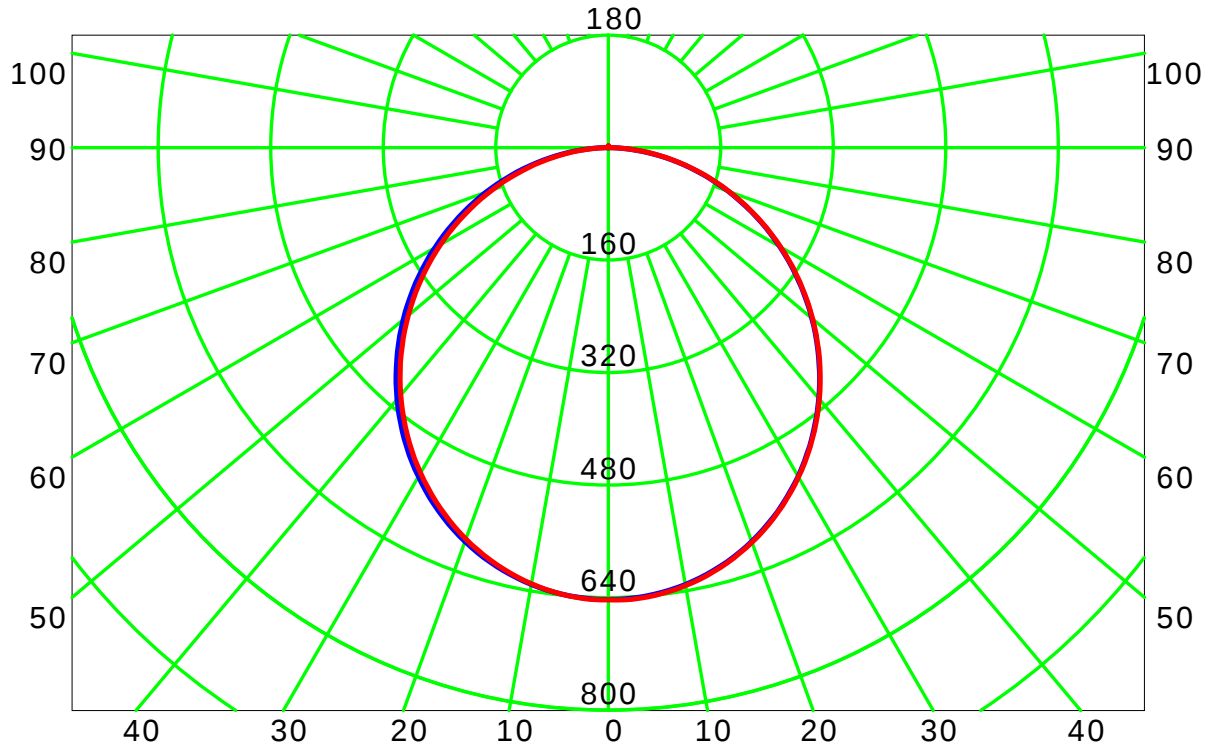
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

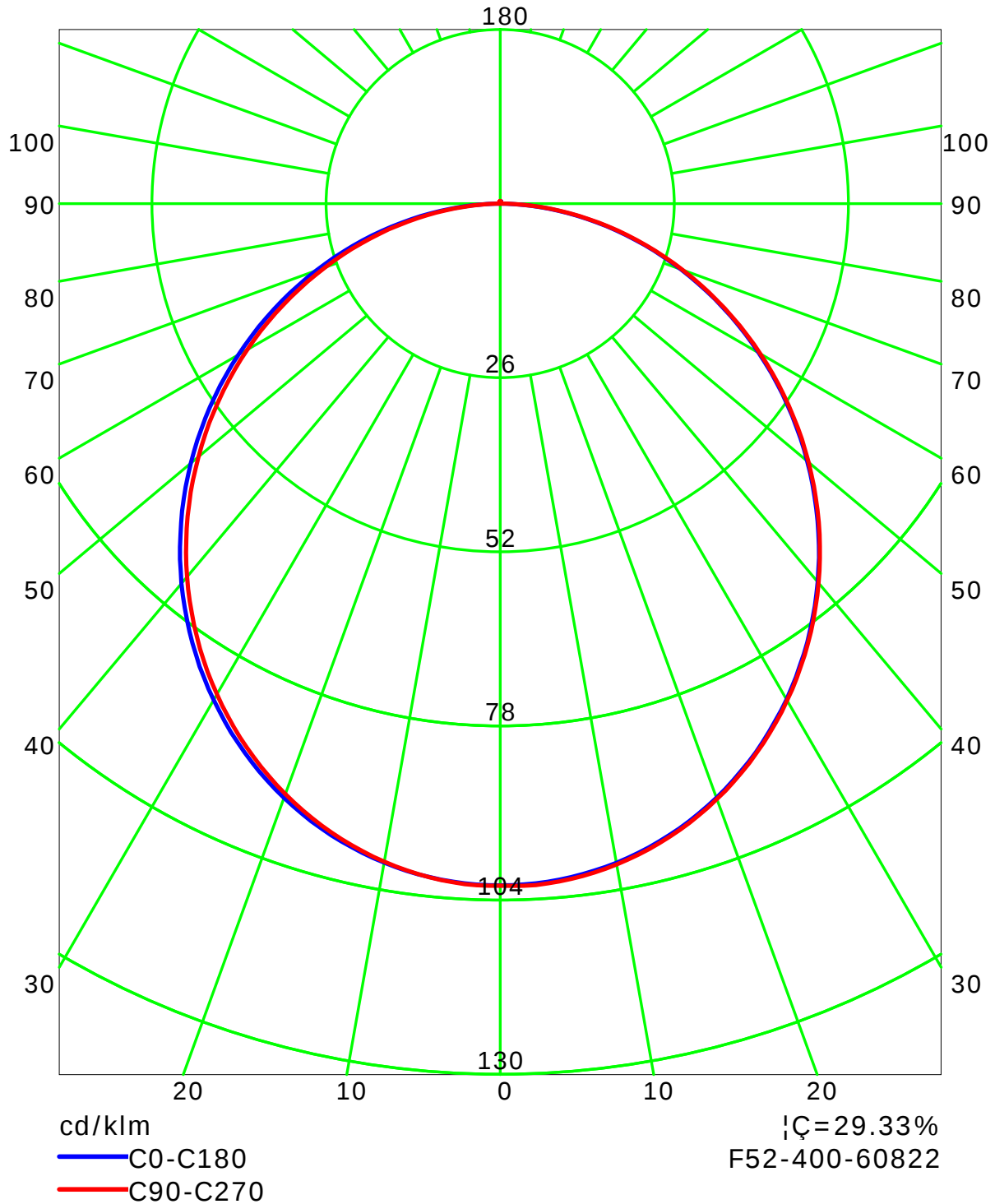
Luminous Intensity Distribution Curve



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:

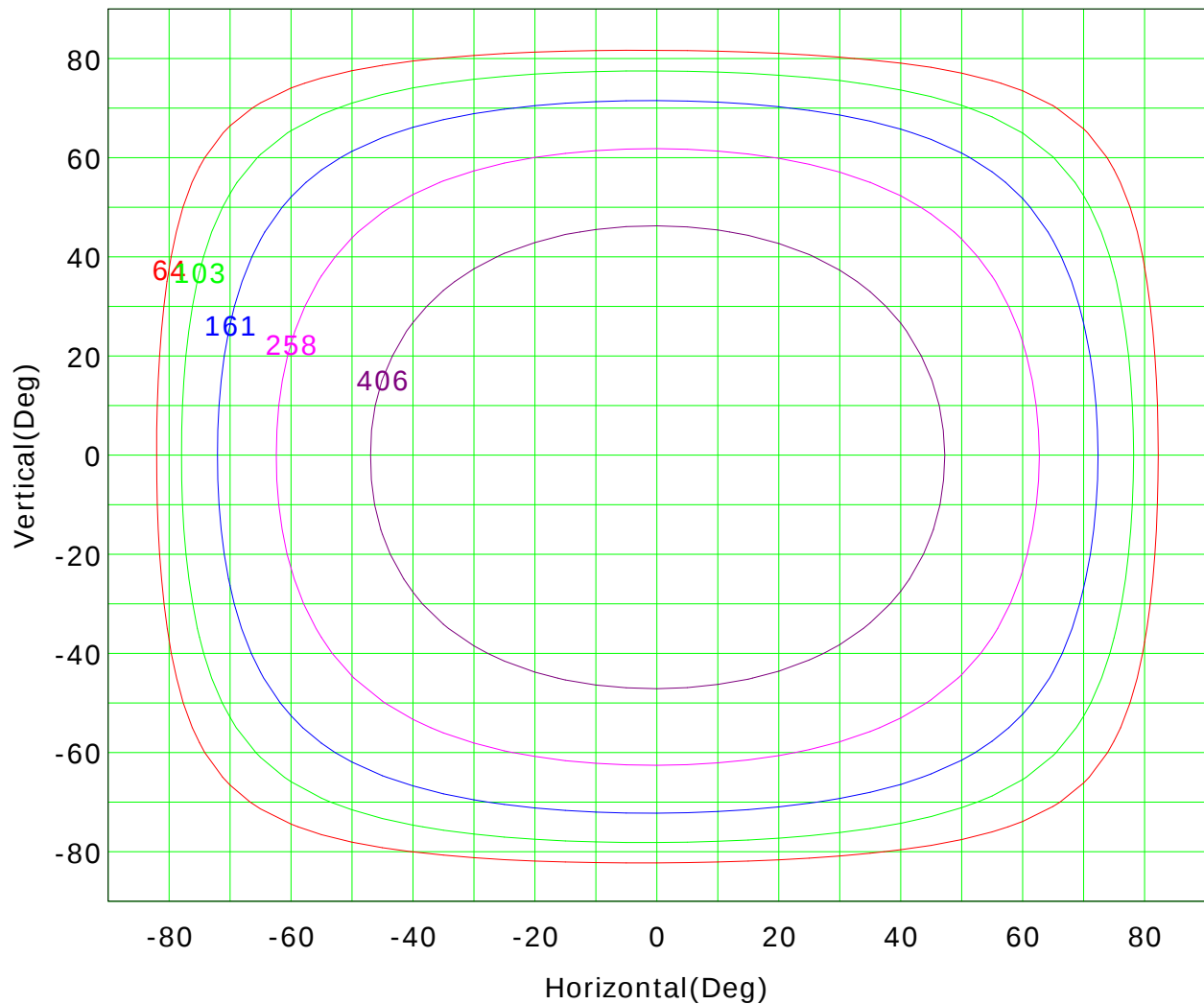
Luminous Intensity Distribution Curve(cd / klm)



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%): 644 cd

(10%):	64 cd	(16%):	103 cd
(25%):	161 cd	(40%):	258 cd
(63%):	406 cd	(100%):	644 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

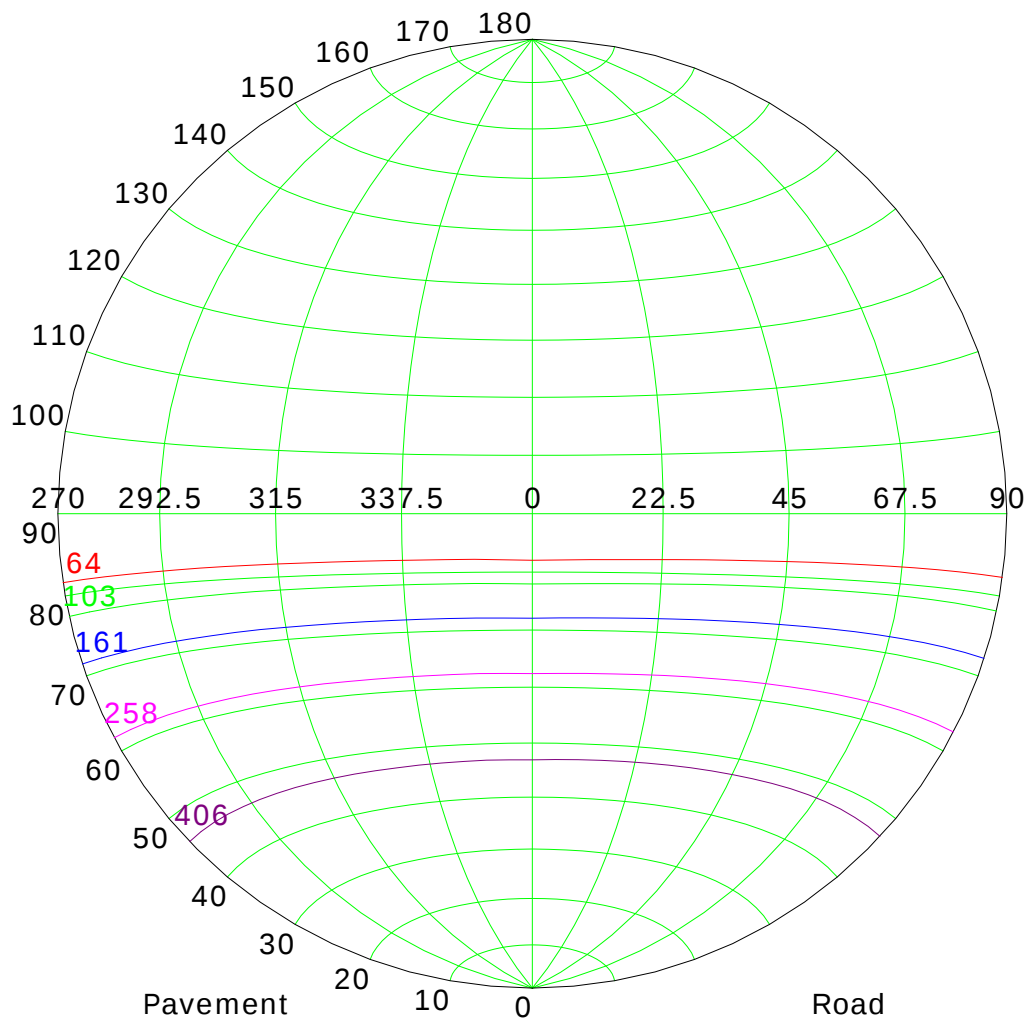
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



I_{max} (100%): 644 cd

(10%):	64 cd	(16%):	103 cd
(25%):	161 cd	(40%):	258 cd
(63%):	406 cd	(100%):	644 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

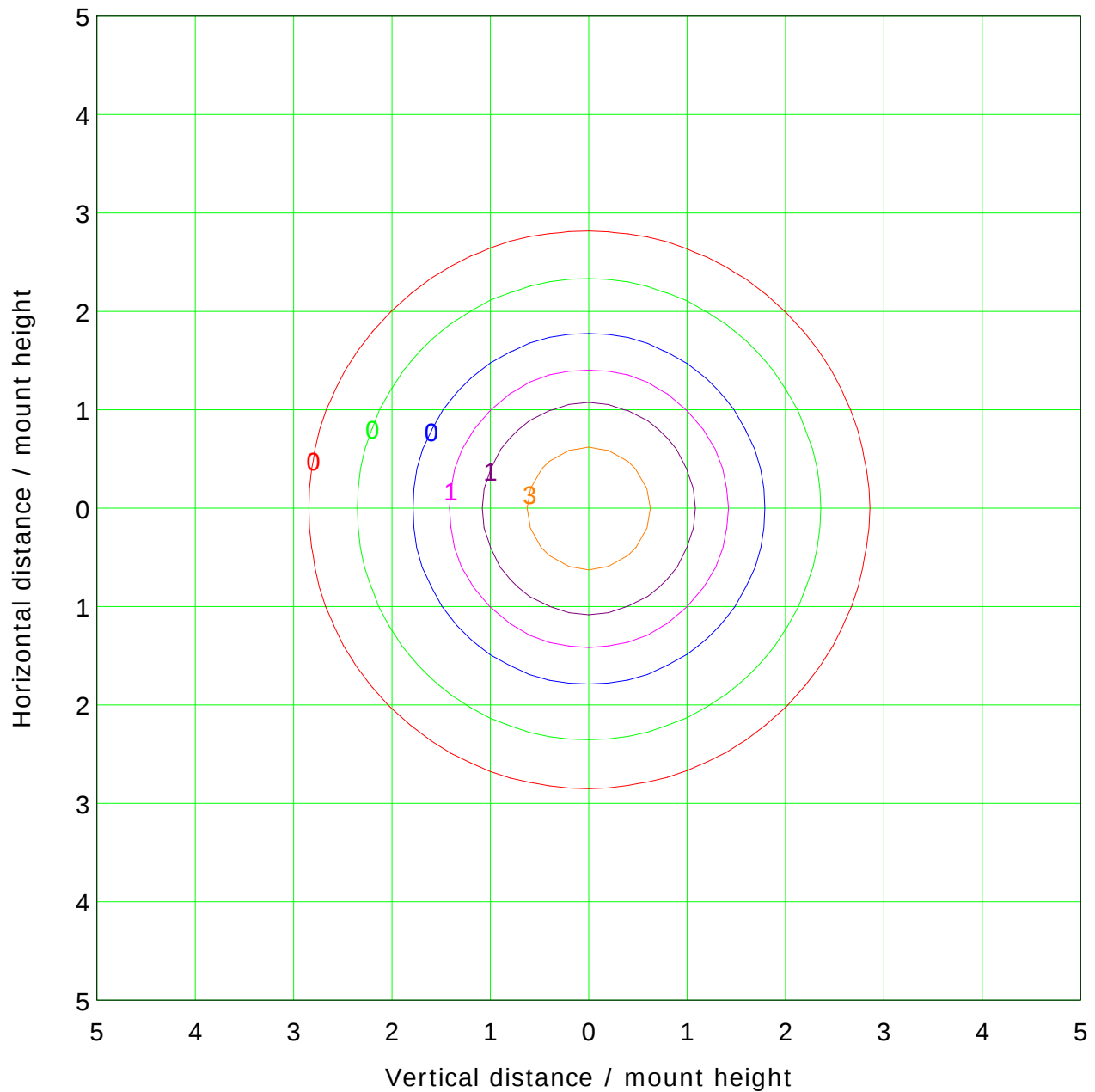
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m		Max Lux(100%): 6.4 lx	
(1%):	0.1 lx	(2%):	0.1 lx
(5%):	0.3 lx	(10%):	0.6 lx
(20%):	1.3 lx	(50%):	3.2 lx
(100%):	6.4 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

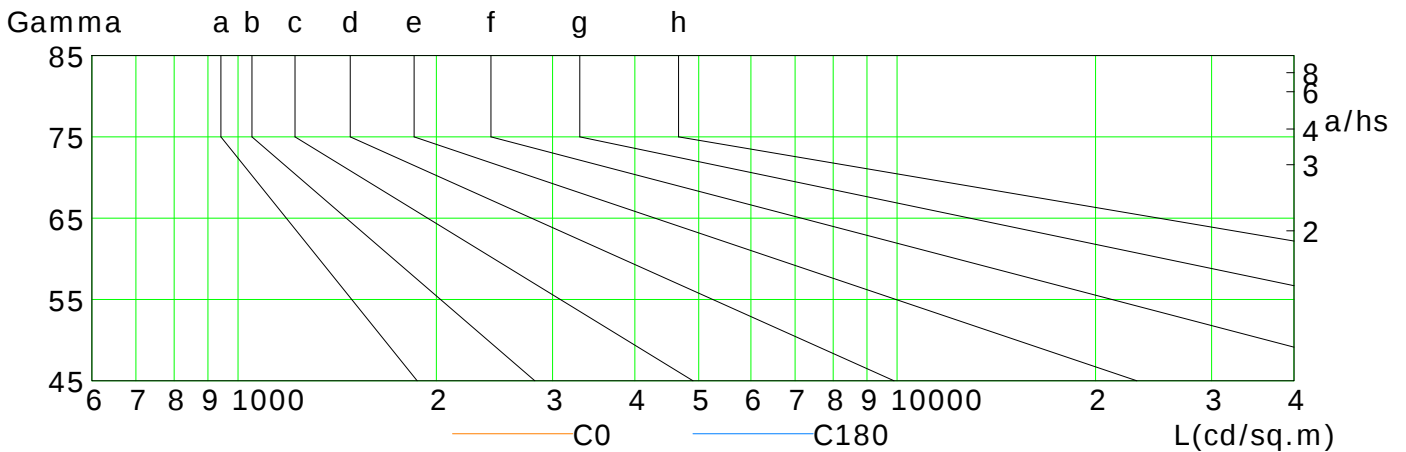
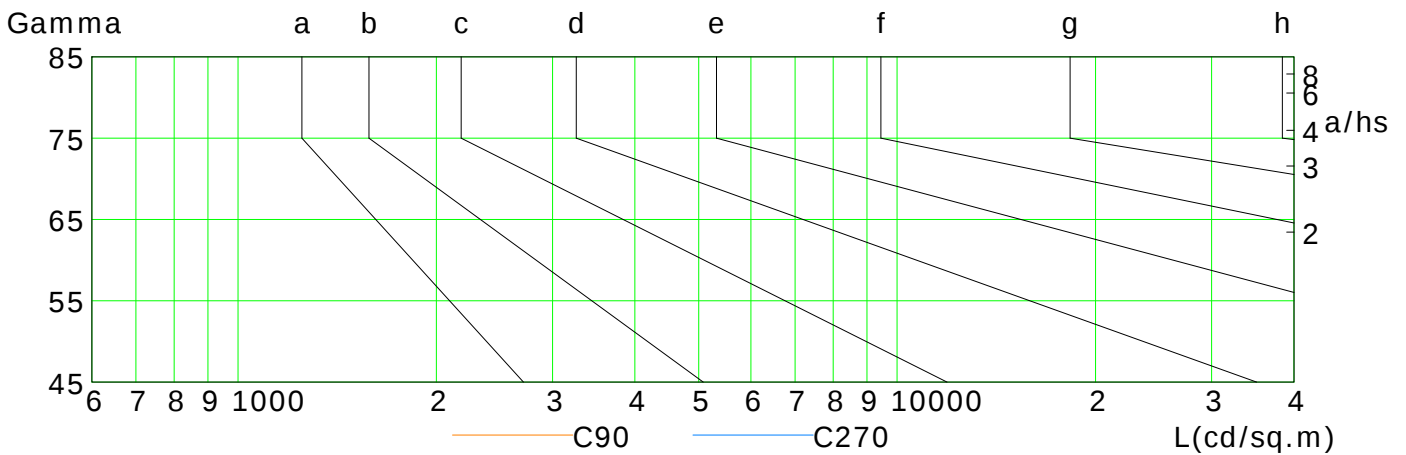
Humidity:

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	423	378	331	282	232	182	132	83	37
C90	425	380	332	283	234	183	134	85	40
C180	426	381	334	285	235	185	135	85	39
C270	417	372	324	276	226	176	127	79	34

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

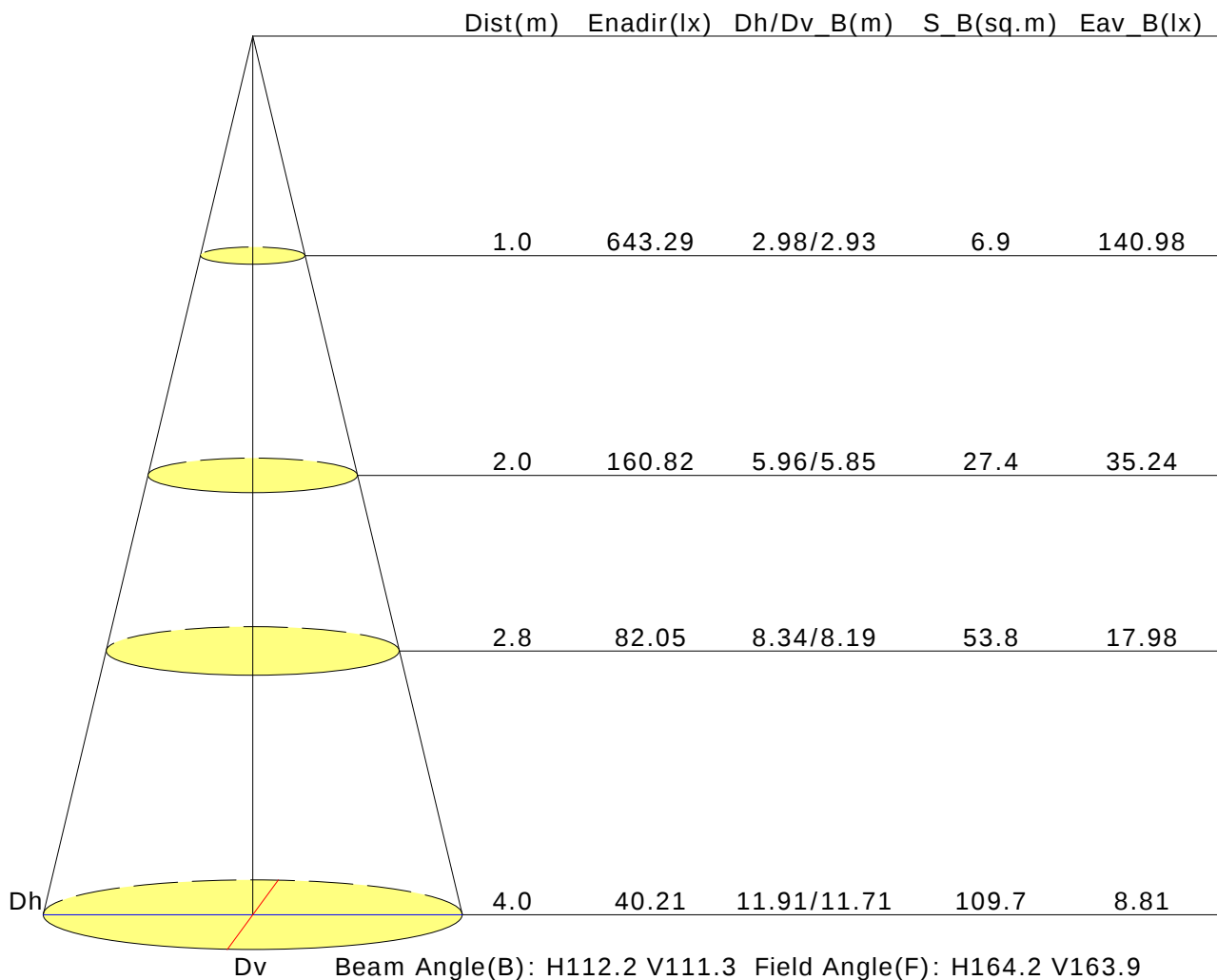
Test Device: GPM-2000

Distance: 7.970 m

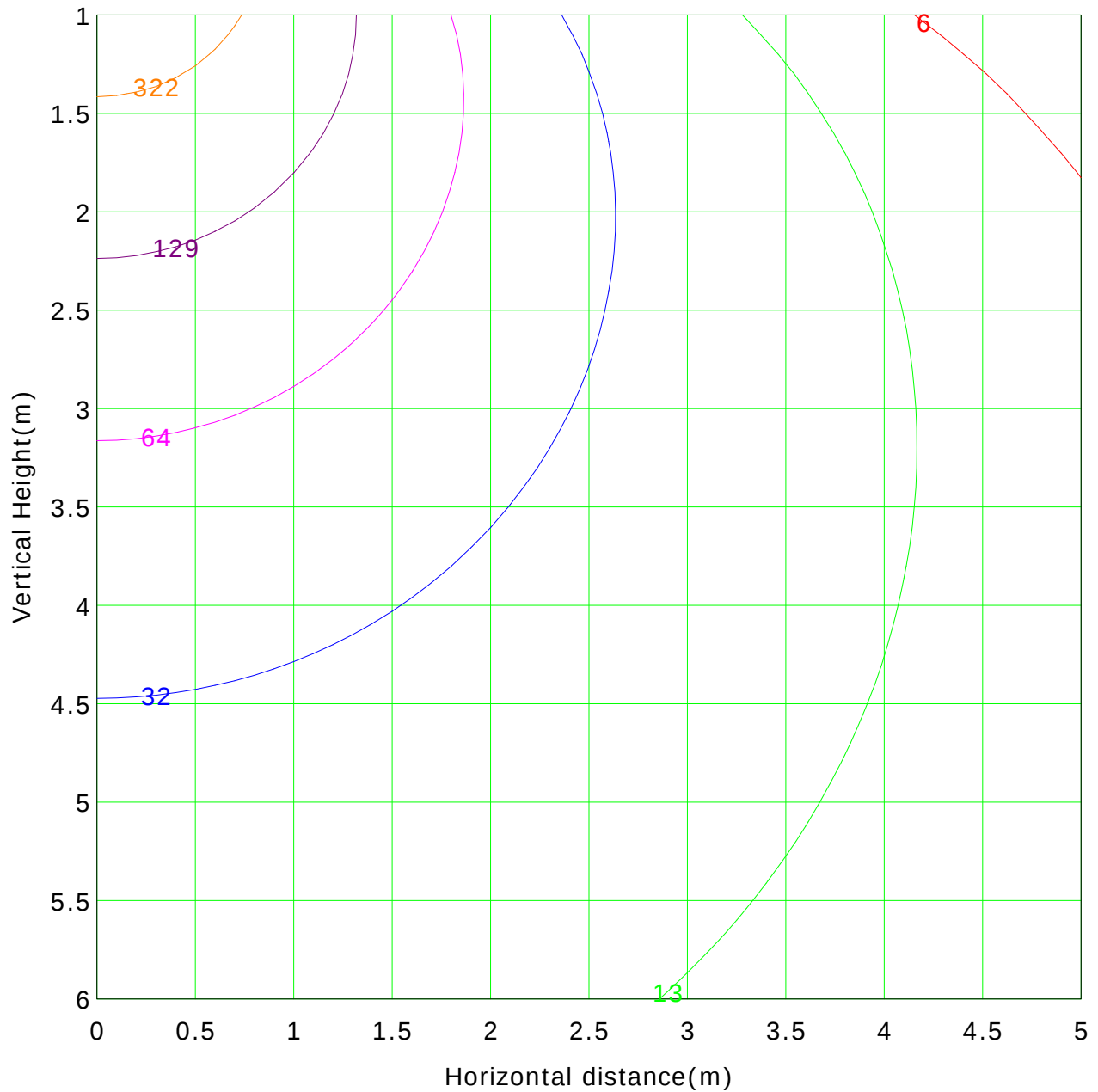
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 6.0m Max Lux: 643.3 lx

(1%): 6.4 lx	(2%): 12.9 lx
(5%): 32.2 lx	(10%): 64.3 lx
(20%): 128.7 lx	(50%): 321.6 lx
(100%): 643.3 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:

Report No.:

Test Time: 10/09/2018 11:29

Luminaire Property

Luminaire Manufacturer: Lighting Line

Luminaire Description: LLP-RE04-07 + LLD-07-CS

Lamp Description: F52-400-60822

Number of Lamps: 2

Lumens per Lamp: 3158 lm

Voltage: 24.0 V

Current: 1.148 A

Power: 27.55 W

Power Factor: 1.000

Photometric Results

CIE Class: Direct

Measurement Flux: 1911.9 lm

Downward Ratio: 28.60%

Total Rated Lamp Lumens: 6316.0 lm

Efficiency: 30.27%

Upward Ratio: 1.67%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 164.2, 213.2, 179.3, 179.2

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 112.3, 129.7, 123.3, 123.4

Luminaire Efficacy Rating (LER): 69.45

Central Intensity: 549.29 cd

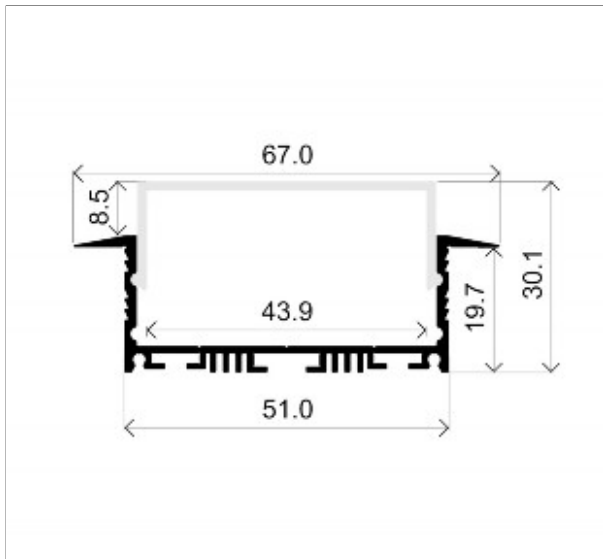
Max. Intensity: 549.29 cd

Pos of Max. Intensity: H0 V0

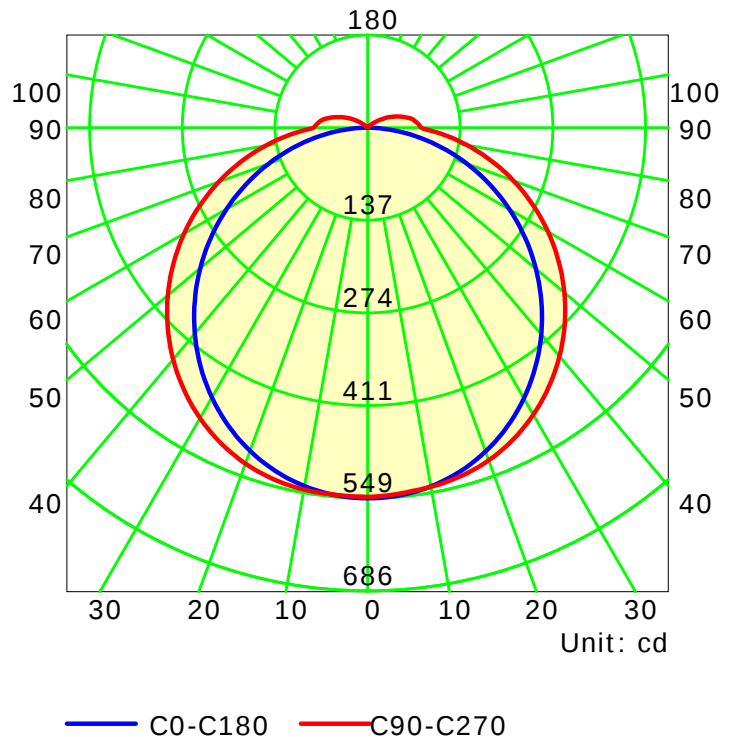
S/MH(C0/C180): 1.25

S/MH(C90/C270): 1.34

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

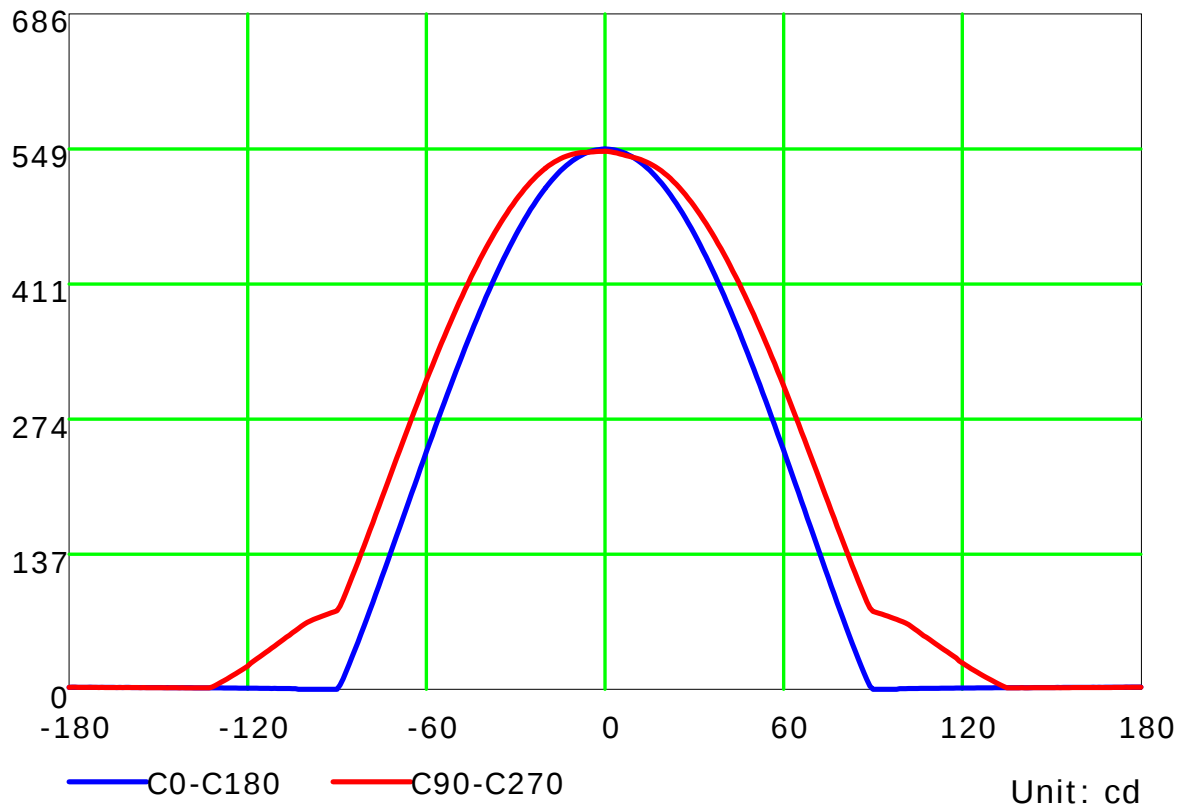
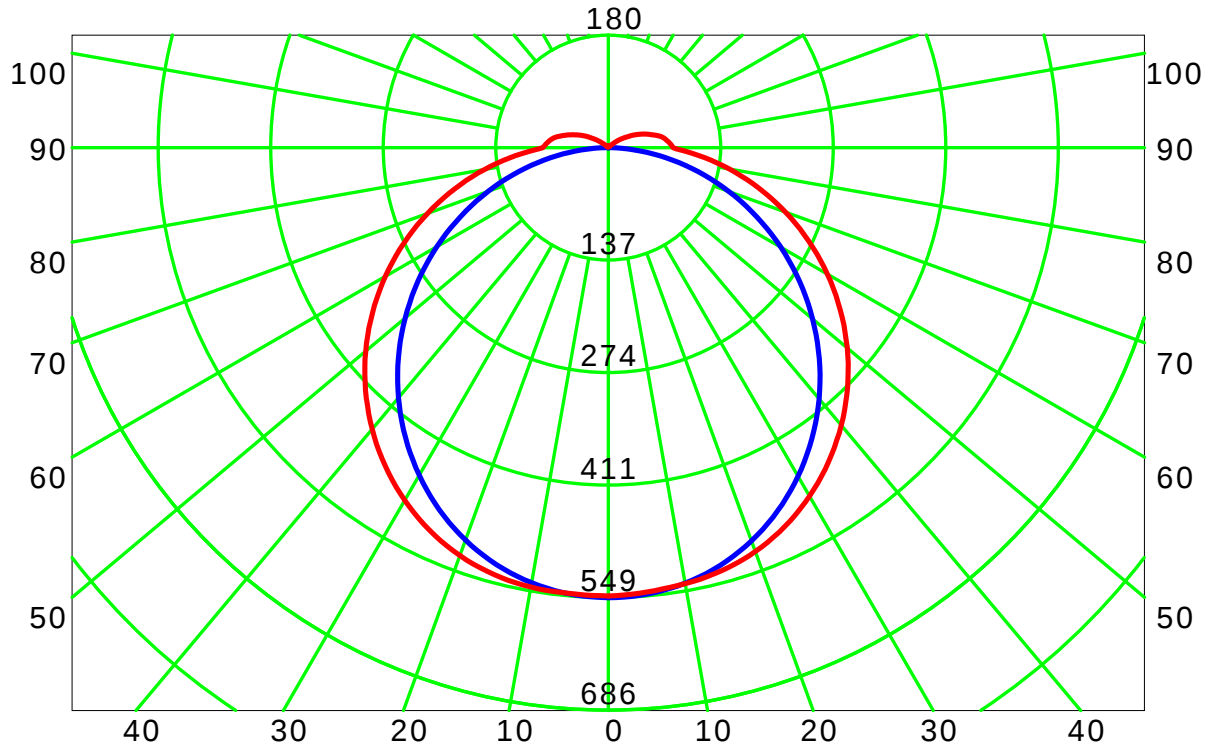
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

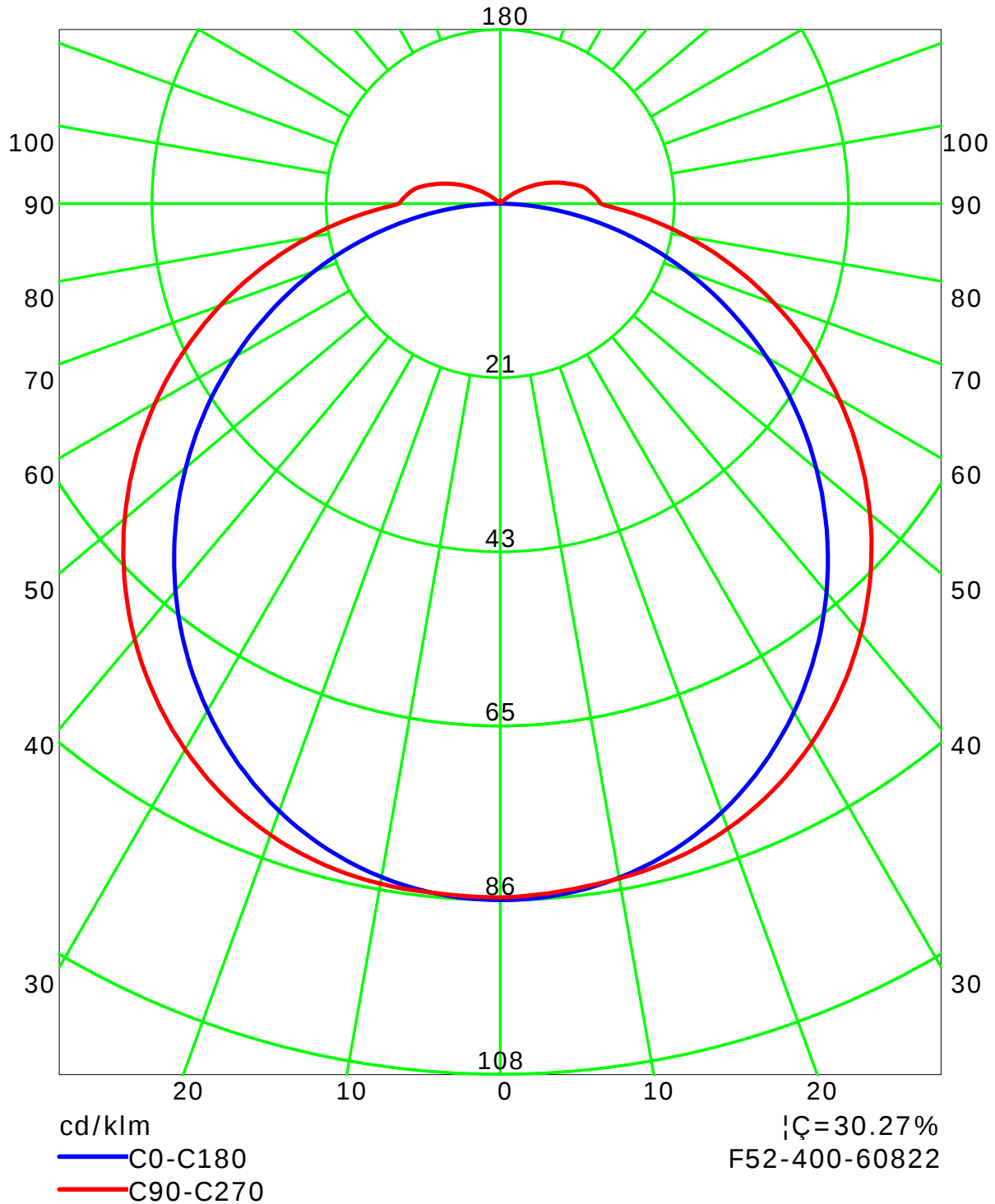
Luminous Intensity Distribution Curve



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:

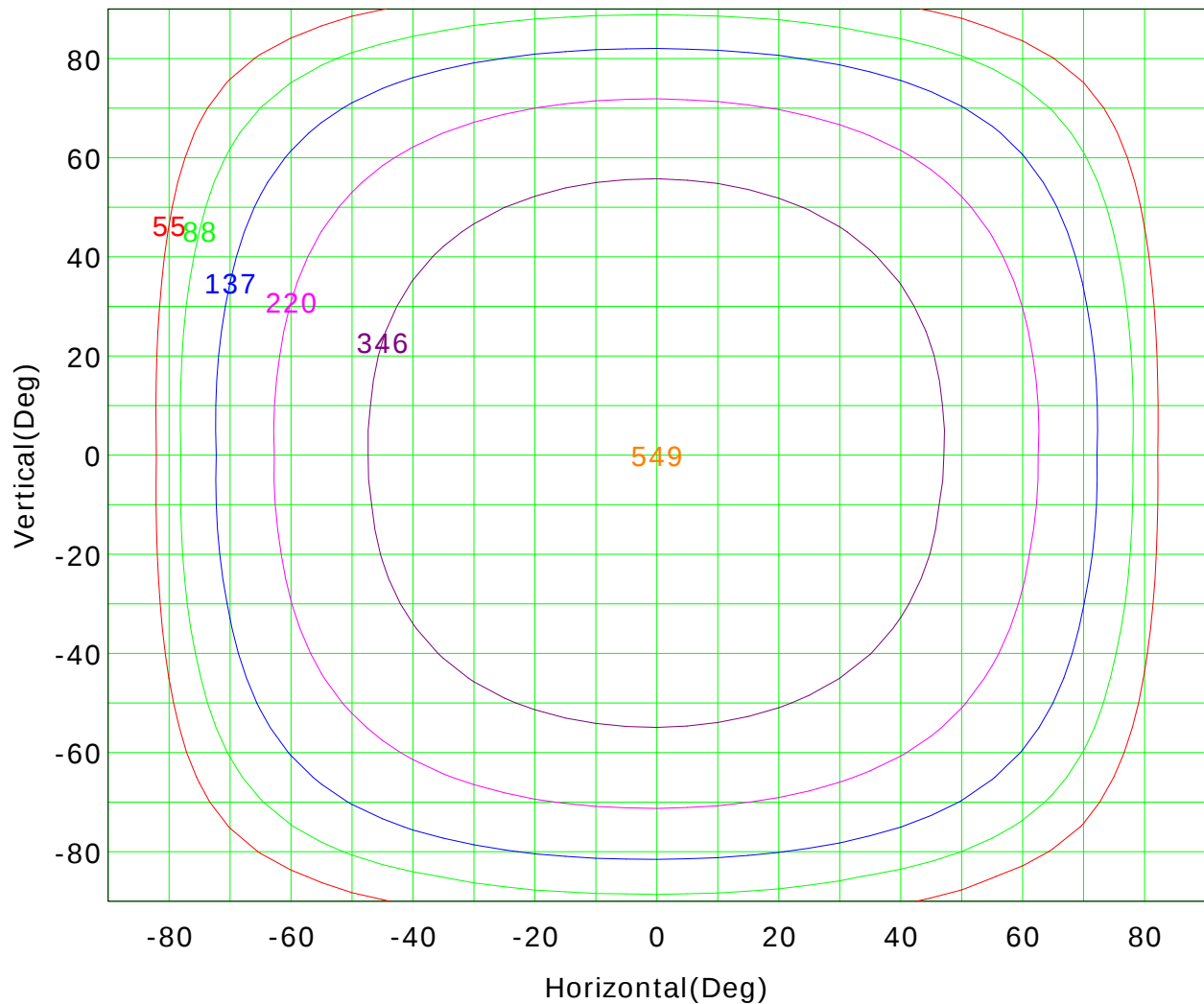
Luminous Intensity Distribution Curve(cd / klm)



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%): 549 cd

(10%):	55 cd	(16%):	88 cd
(25%):	137 cd	(40%):	220 cd
(63%):	346 cd	(100%):	549 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

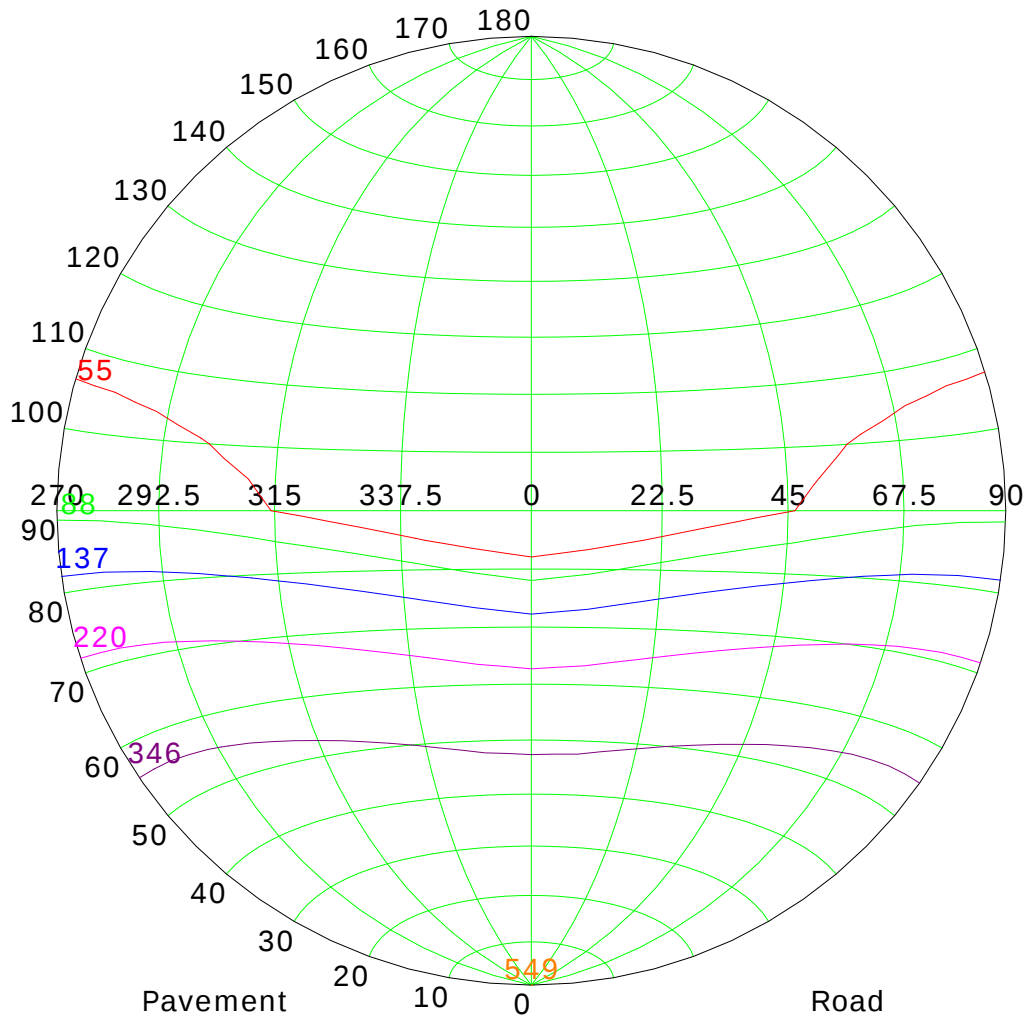
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

Isocandela (sphere)



Imax (100%): 549 cd

(10%):	55 cd	(16%):	88 cd
(25%):	137 cd	(40%):	220 cd
(63%):	346 cd	(100%):	549 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

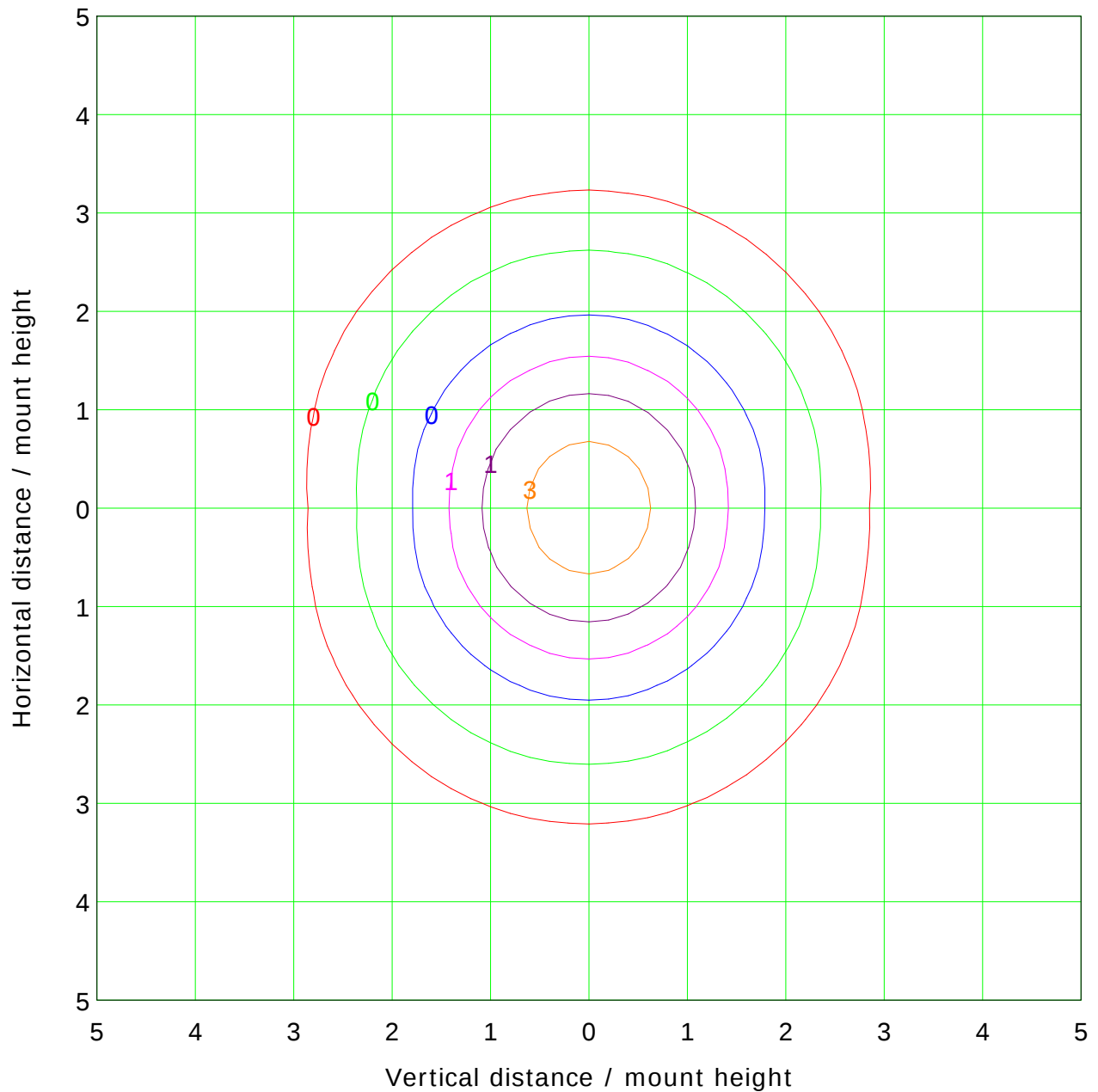
Test Device: GPM-2000

Distance: 7.970 m

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 5.5 lx

(1%): 0.1 lx	(2%): 0.1 lx
(5%): 0.3 lx	(10%): 0.5 lx
(20%): 1.1 lx	(50%): 2.7 lx
(100%): 5.5 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

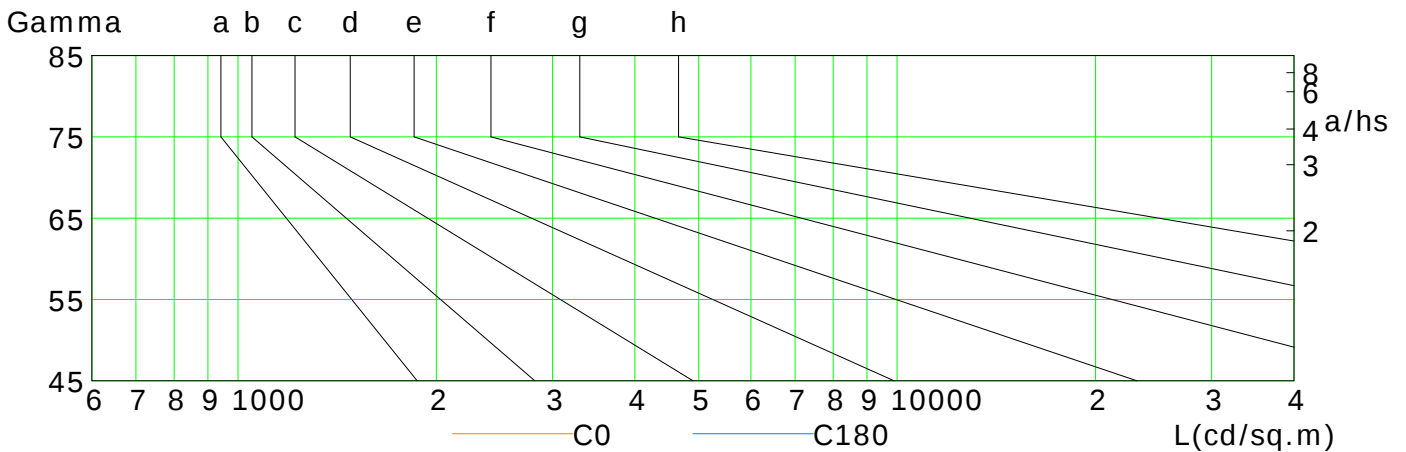
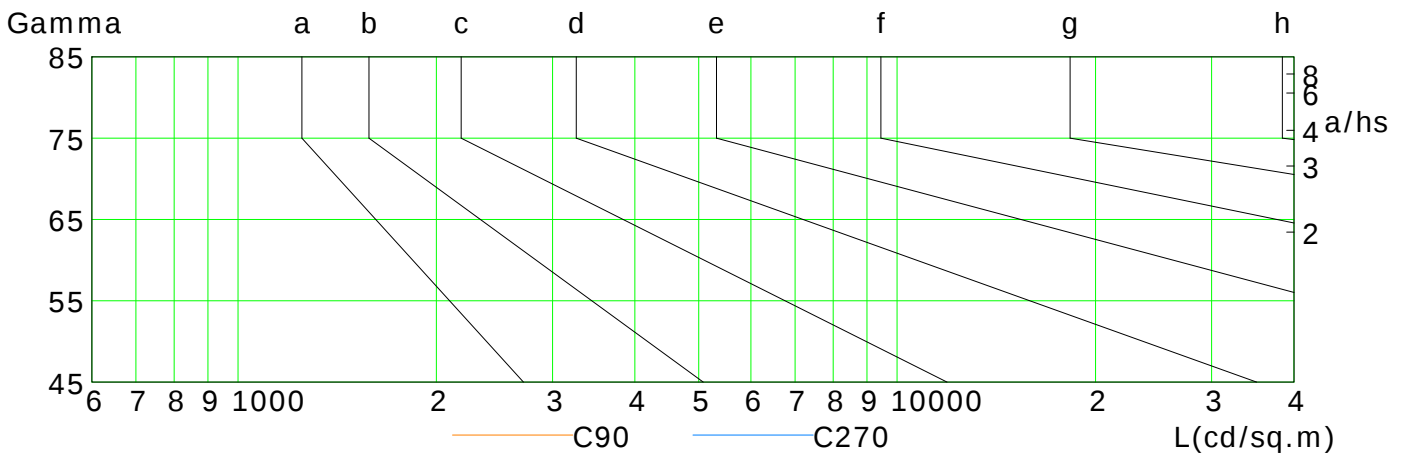
Humidity:

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	364	326	285	243	200	157	114	71	32
C90	413	381	346	309	270	230	190	150	111
C180	362	324	283	242	199	156	114	72	33
C270	419	387	351	314	275	235	194	153	114

C Plane (°):0.0-360.0: 10.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

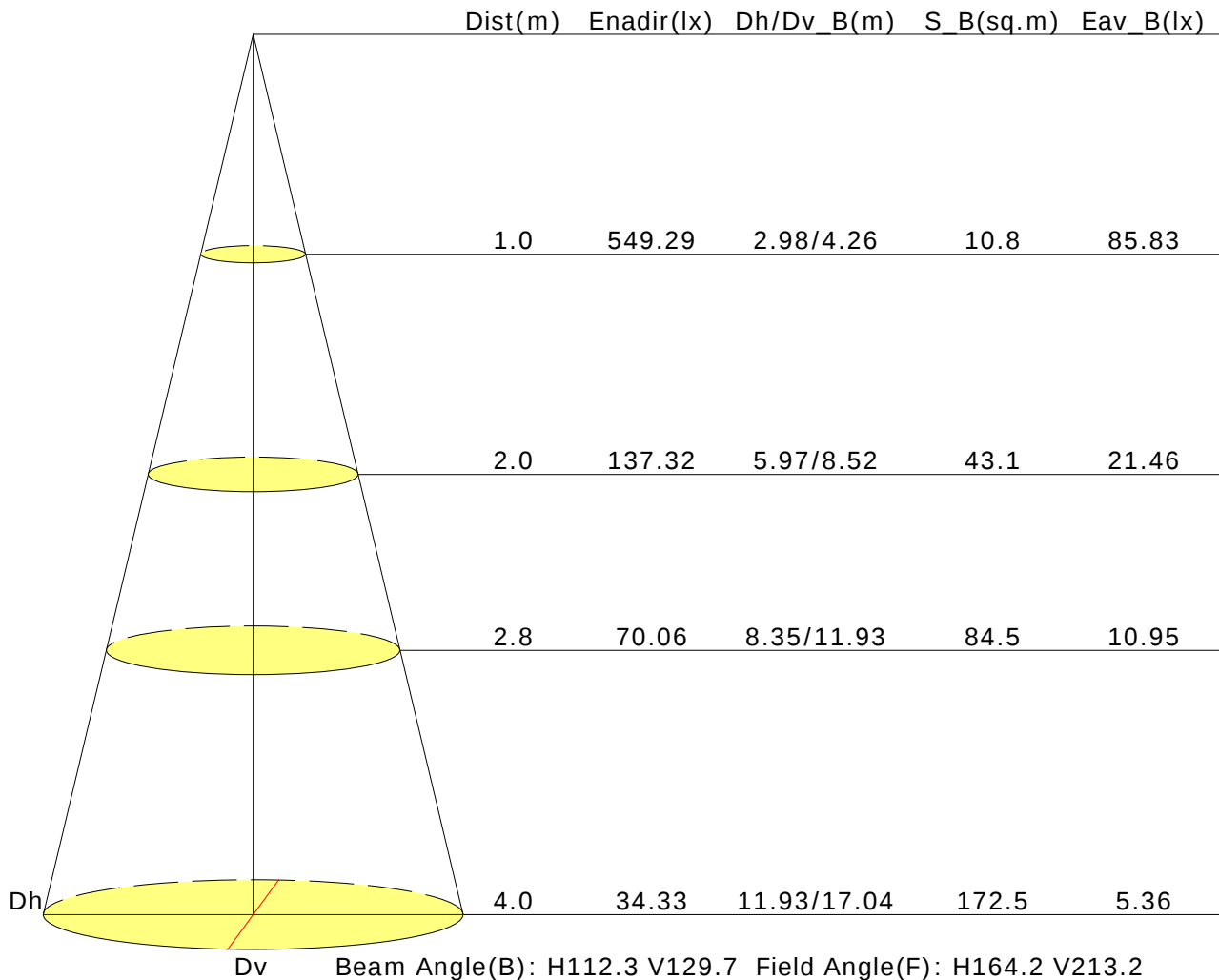
Test Device: GPM-2000

Distance: 7.970 m

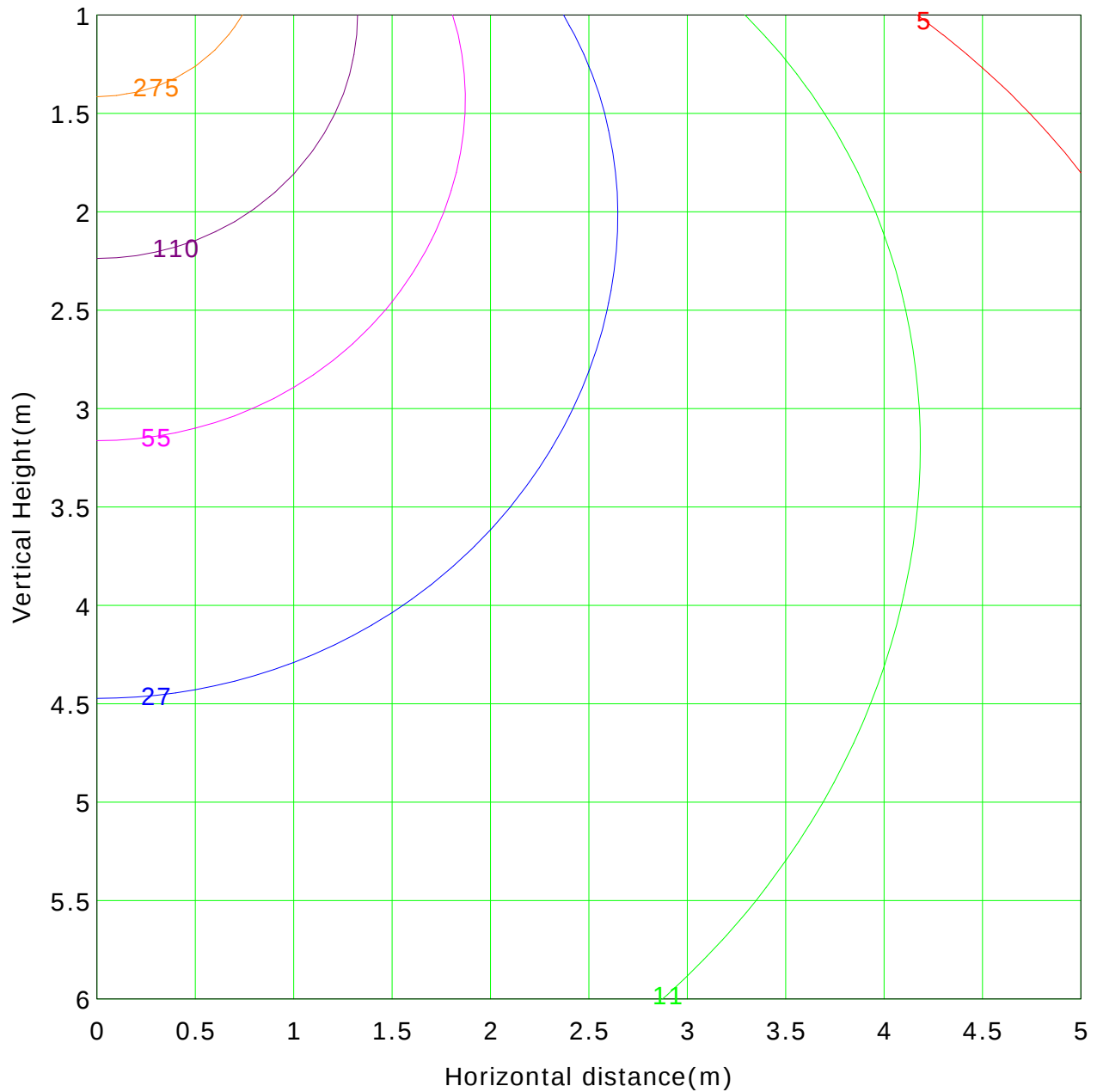
Humidity:

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 6.0m Max Lux: 549.3 lx

(1%): 5.5 lx	(2%): 11.0 lx
(5%): 27.5 lx	(10%): 54.9 lx
(20%): 109.9 lx	(50%): 274.6 lx
(100%): 549.3 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: