

Report No.: MSTLAB241102042

Test Time: 2024/11/2

## Luminaire Property

Luminaire Manufacturer: MESTER

Luminaire Category: ALL012F

Luminaire Description: MALL012F20W27V30K(Up50%-Down50%)

Lamp Catalog:

Number of Lamps: 1

Luminous Length (mm): 600

Luminous Height (mm):

Current: 0.166 A

Power Factor: 0.996

Lamp Description:

Lumens per Lamp:

Luminous Width (mm): 63

Voltage: 120.3 V

Power: 19.92 W

## Photometric Results

CIE Class: General Diffuse

Measurement Flux: 2649.3 lm

Downward Ratio: 46%

Horizontal Diffuse Angle(10%,50%,75%,100%): H158,H99.1,H53.3,H0

Vertical Diffuse Angle(10%,50%,75%,100%): V160.3,V109.7,V73.3,V0

Luminous Efficacy (lm/w): 132.99

Max. Intensity: 521.69 cd

S/MH(C0/C180): 1.22

Total Rated Lamp Lumens: 2649.3 lm

Efficiency: 100%

Upward Ratio: 54%

Horizontal Diffuse Angle(10%,50%,75%,100%): H158,H99.1,H53.3,H0

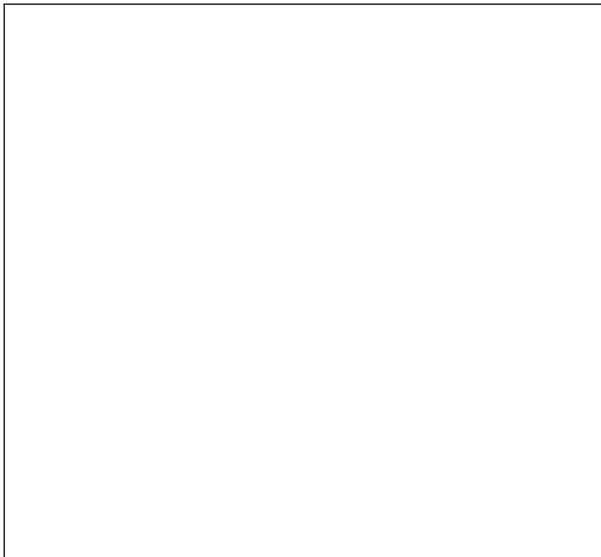
Vertical Diffuse Angle(10%,50%,75%,100%): V160.3,V109.7,V73.3,V0

C0r0 Intensity: 445.31 cd

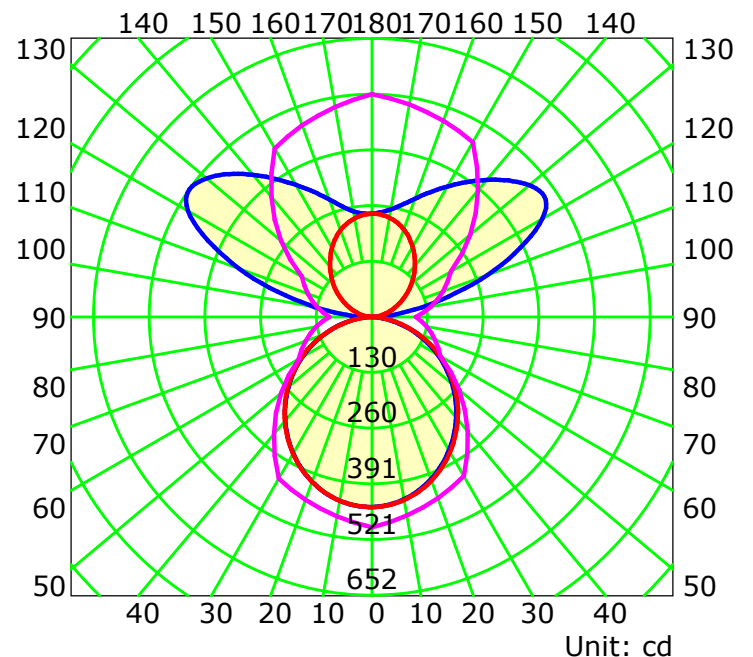
Pos of Max. Intensity: H180 V125

S/MH(C90/C270): 1.23

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd  
Average Diffuse Angle(50%): 347.5°

— C0-C180 — C90-C270 — G125

C Plane (°):0.0-360.0: 30.0

Test Lab: MESTER LAB

Test Type: TYPE C

Temperature: 25.5°C

Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0

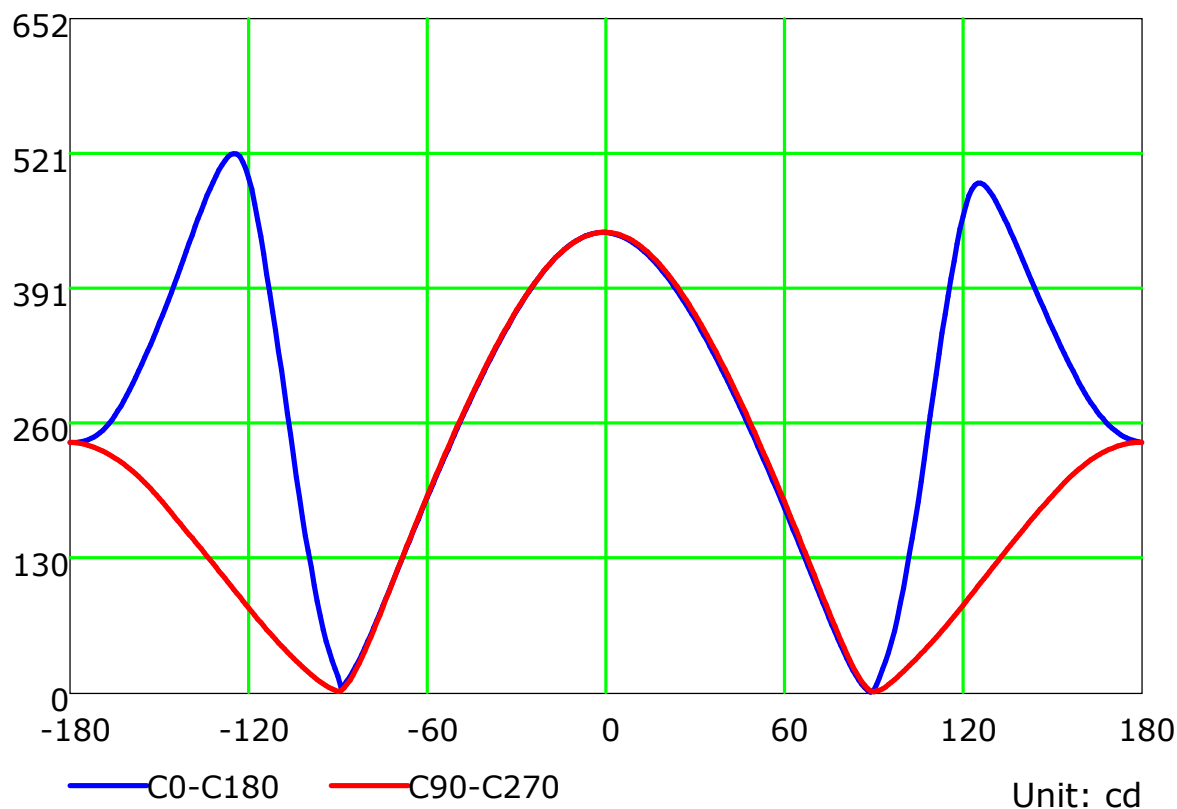
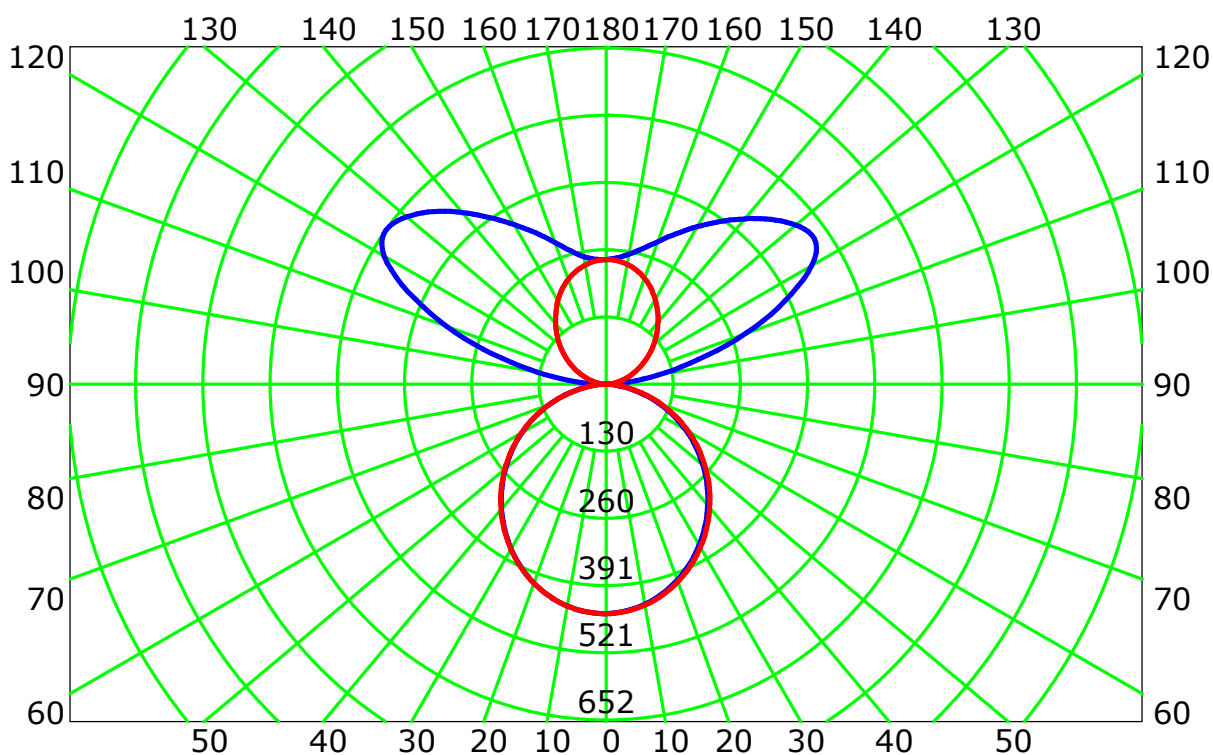
Test Device: GPM-1800B

Distance: 11.655 m [K=1.0000]

Humidity: 45% R.H

Inspector:

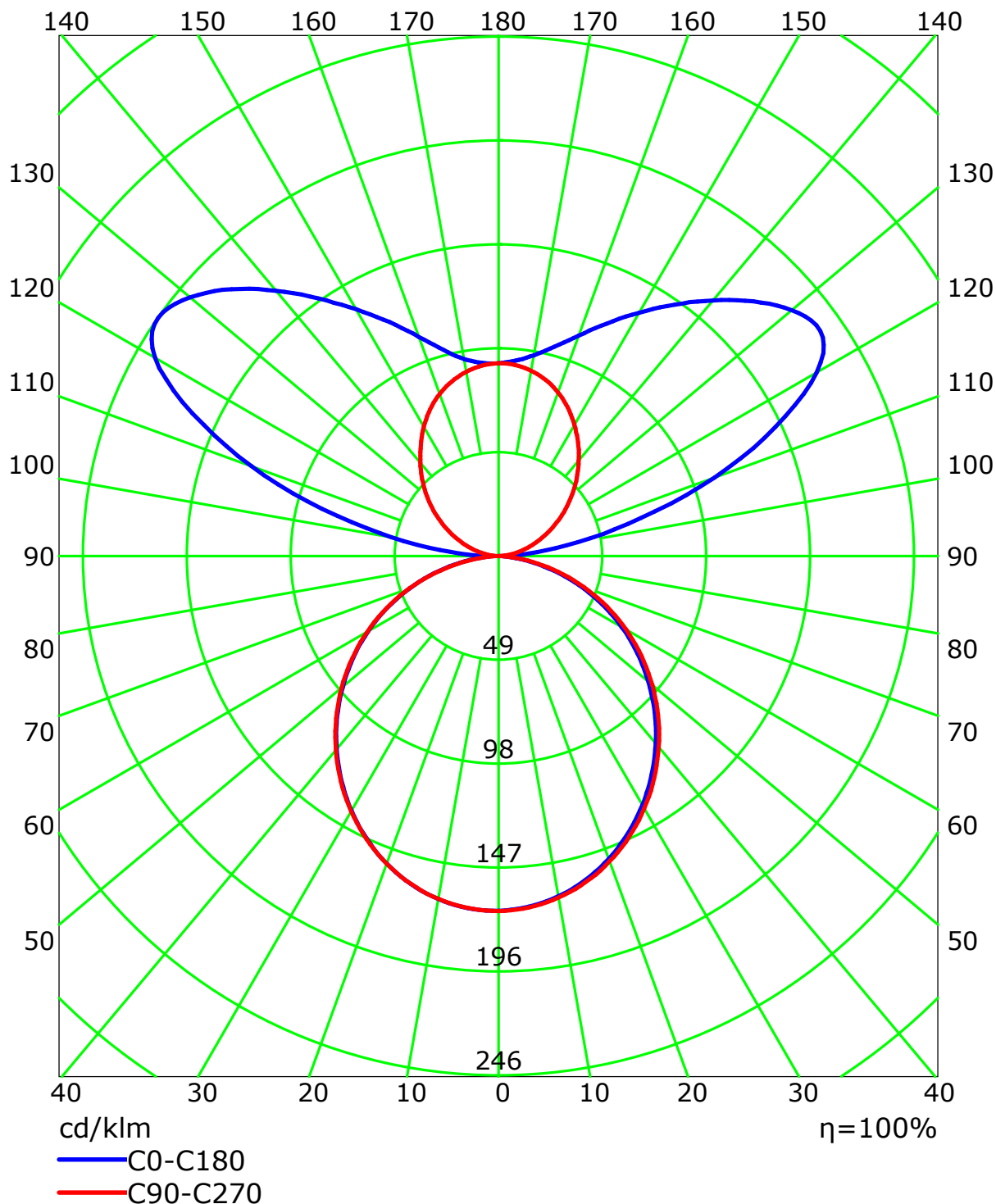
## Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Luminous Intensity Distribution Curve(cd/klm)



C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

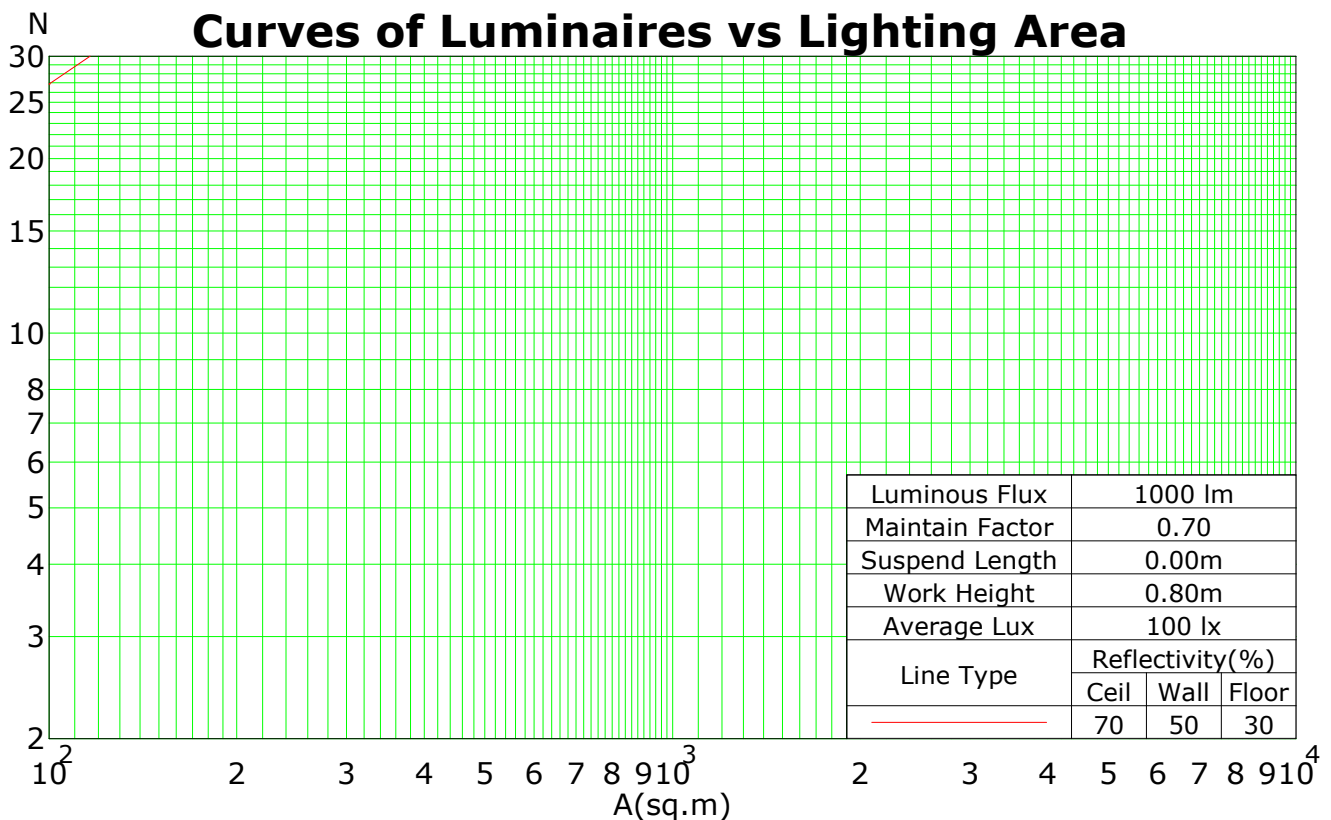
## Coefficients Of Utilization - Zonal Cavity Method

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	1.06	1.06	1.06	1.06	0.98	0.98	0.98	0.98	0.81	0.81	0.81	0.66	0.66	0.66	0.53	0.53	0.53	0.46
1	0.97	0.93	0.89	0.85	0.89	0.85	0.82	0.79	0.71	0.69	0.67	0.58	0.57	0.55	0.46	0.45	0.44	0.39
2	0.88	0.81	0.75	0.69	0.81	0.74	0.69	0.64	0.62	0.58	0.55	0.51	0.48	0.46	0.41	0.39	0.37	0.32
3	0.80	0.71	0.63	0.58	0.73	0.65	0.59	0.54	0.55	0.50	0.46	0.45	0.42	0.39	0.36	0.34	0.31	0.27
4	0.73	0.63	0.55	0.49	0.67	0.58	0.51	0.45	0.48	0.43	0.39	0.40	0.36	0.33	0.32	0.29	0.27	0.23
5	0.67	0.56	0.47	0.41	0.61	0.51	0.44	0.39	0.43	0.38	0.34	0.36	0.32	0.28	0.29	0.26	0.23	0.20
6	0.62	0.50	0.42	0.36	0.57	0.46	0.39	0.34	0.39	0.33	0.29	0.32	0.28	0.25	0.26	0.23	0.21	0.18
7	0.57	0.45	0.37	0.31	0.52	0.42	0.34	0.29	0.35	0.30	0.26	0.29	0.25	0.22	0.24	0.21	0.18	0.16
8	0.53	0.41	0.33	0.28	0.49	0.38	0.31	0.26	0.32	0.27	0.23	0.27	0.23	0.19	0.22	0.19	0.16	0.14
9	0.49	0.37	0.30	0.24	0.45	0.34	0.28	0.23	0.29	0.24	0.20	0.25	0.20	0.17	0.20	0.17	0.15	0.12
10	0.46	0.34	0.27	0.22	0.42	0.32	0.25	0.21	0.27	0.22	0.18	0.23	0.19	0.16	0.19	0.16	0.13	0.11

Spacing Criteria (0-180): 1.22

Spacing Criteria (90-270): 1.23

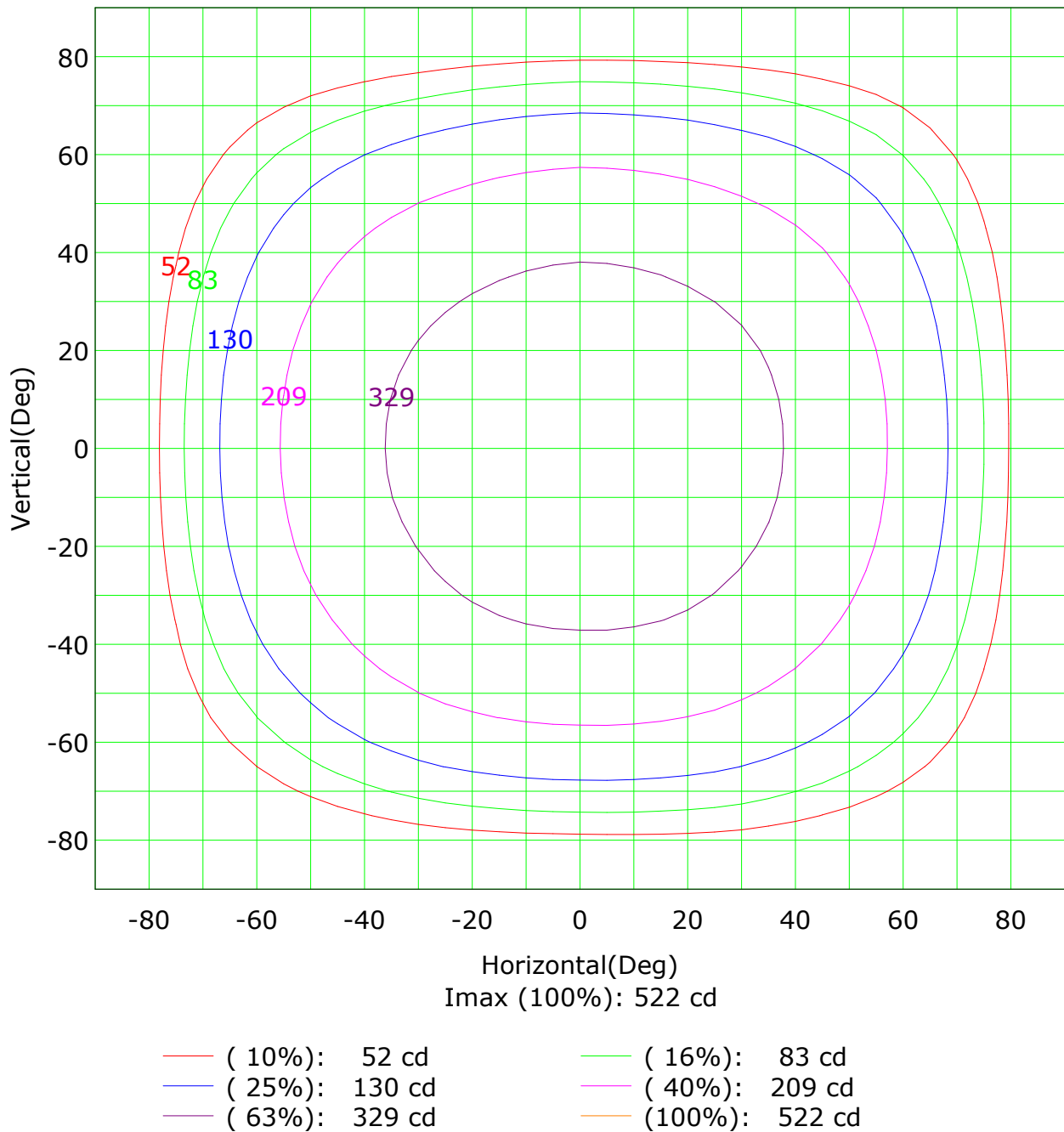
Spacing Criteria (Diagonal): 1.35



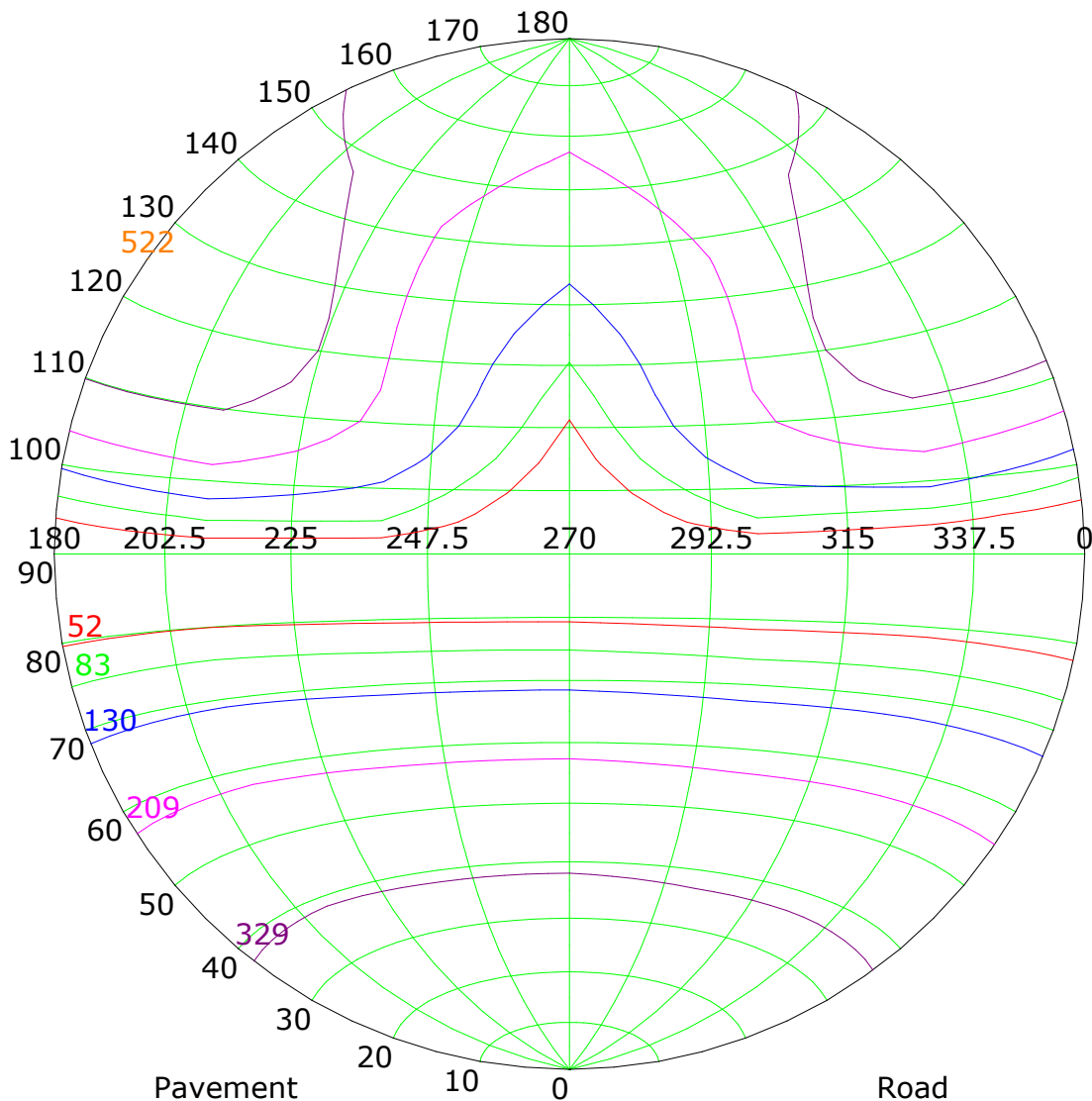
C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Isocandela (rectangle)



## Isocandela (sphere)



Imax (100%): 522 cd

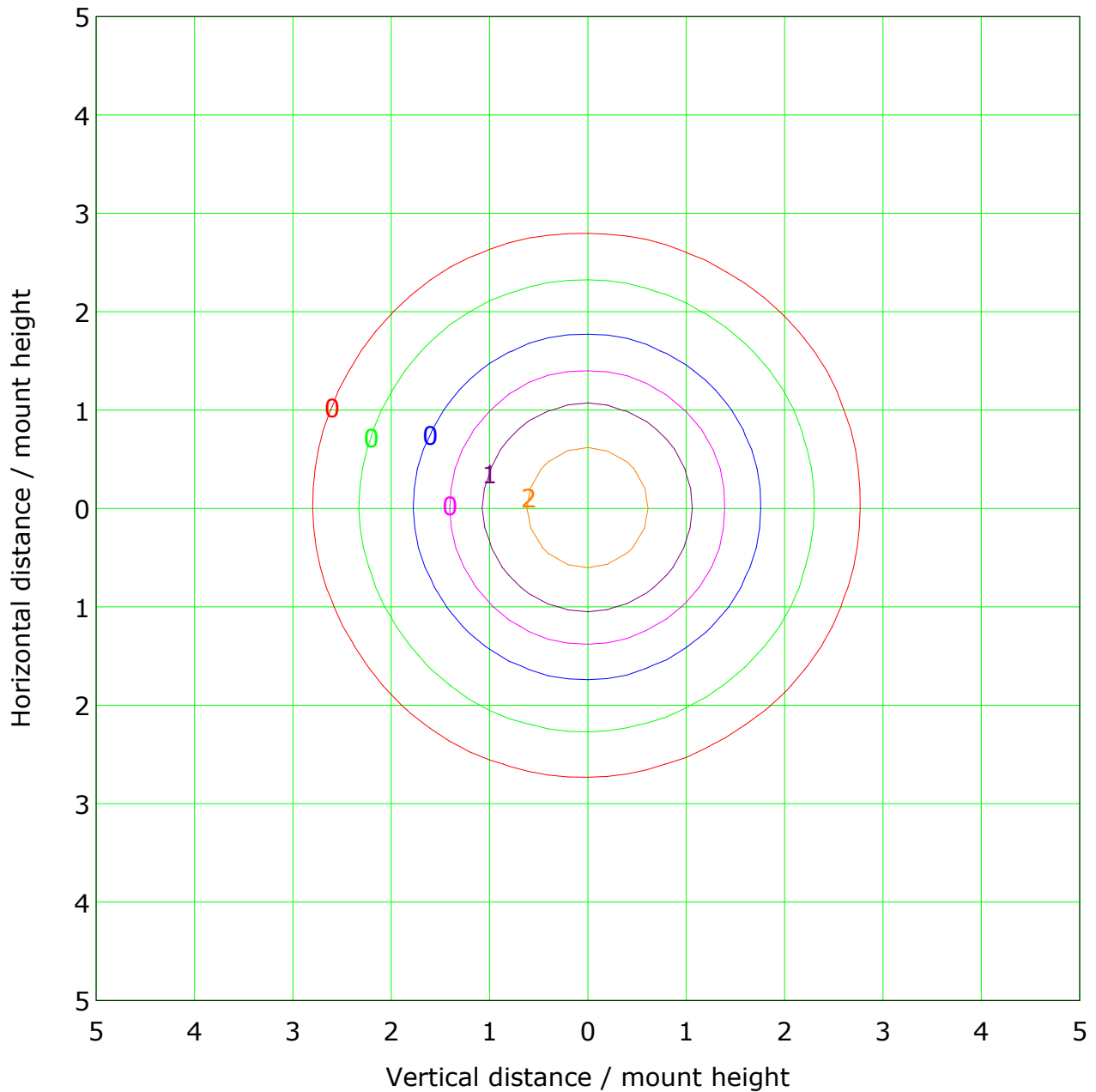
( 10%): 52 cd  
( 25%): 130 cd  
( 63%): 329 cd

( 16%): 83 cd  
( 40%): 209 cd  
(100%): 522 cd

CIE: narrow - long  
CIE: Non-cut-off luminaire  
Max.At90: 9.053 cd/klm

IES: Cut-off  
Max.At80: 19.549 cd/klm  
Max.80-90: 19.549 cd/klm

## IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 4.5 lx

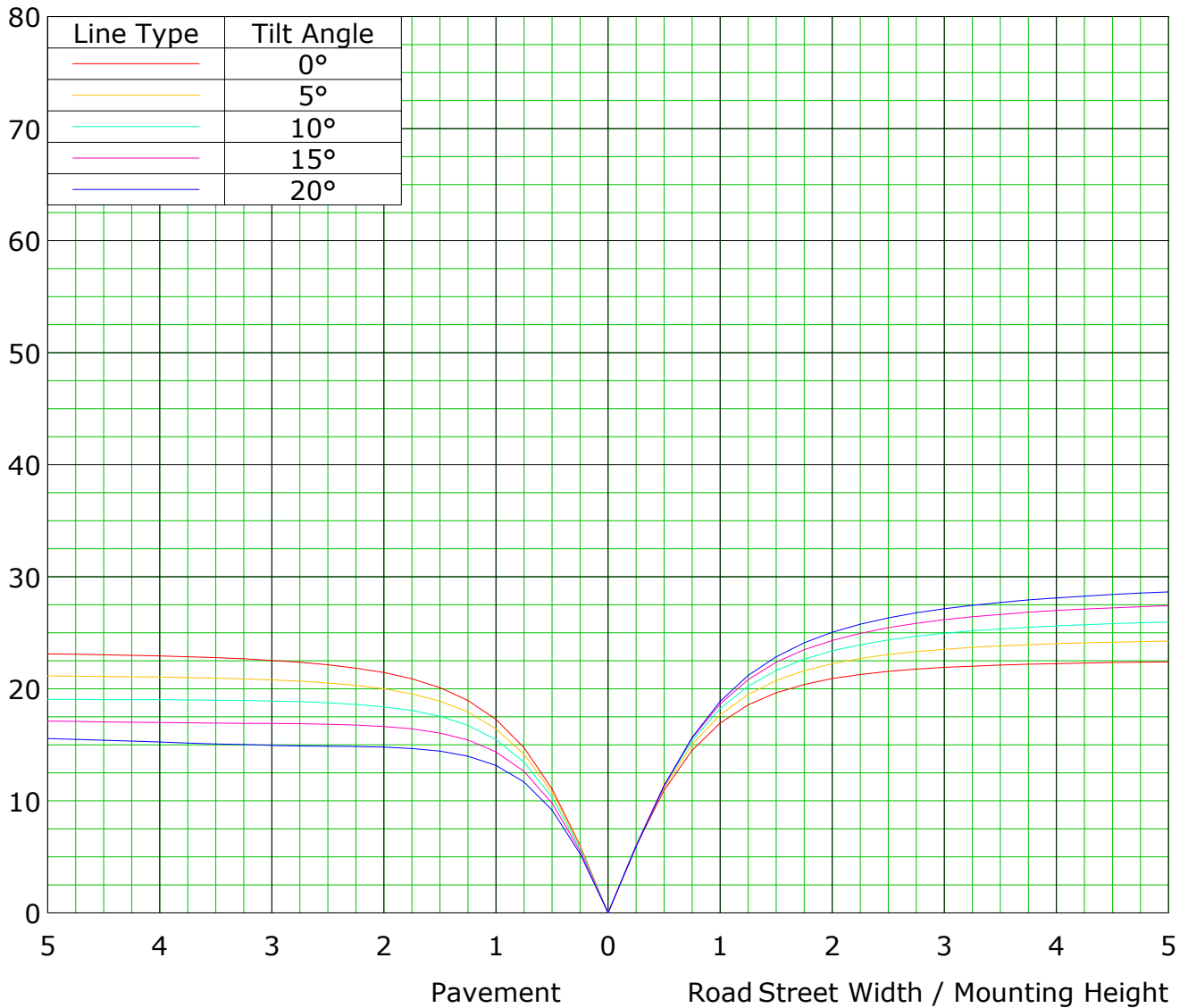
( 1%): 0.0 lx	( 2%): 0.1 lx
( 5%): 0.2 lx	( 10%): 0.4 lx
( 20%): 0.9 lx	( 50%): 2.2 lx
(100%): 4.5 lx	

C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Roadway CU Curve

Efficiency(%)



C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5°C  
Operator: Yanzhao Sun

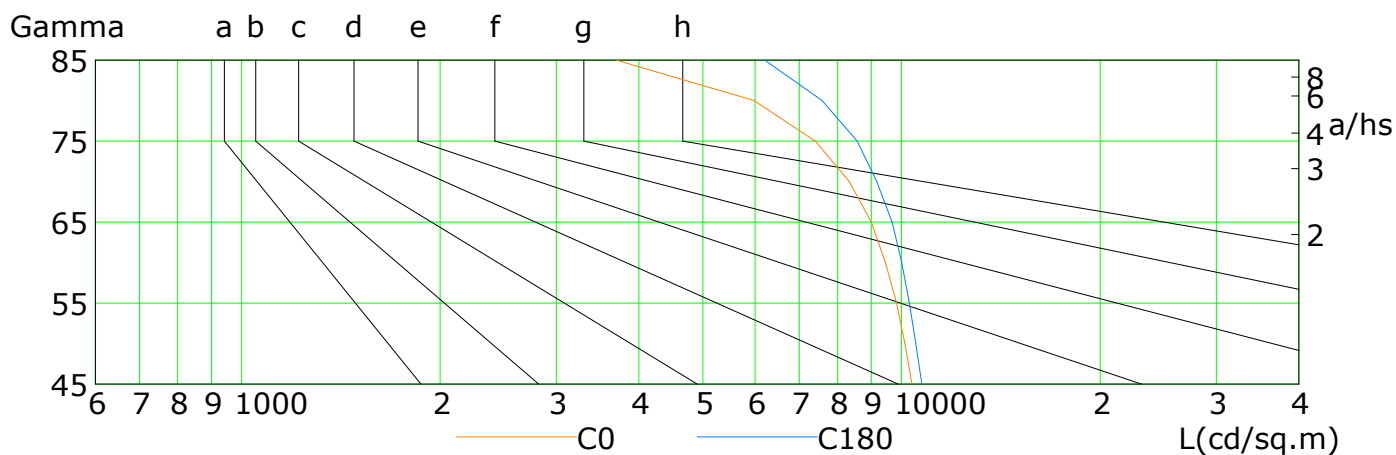
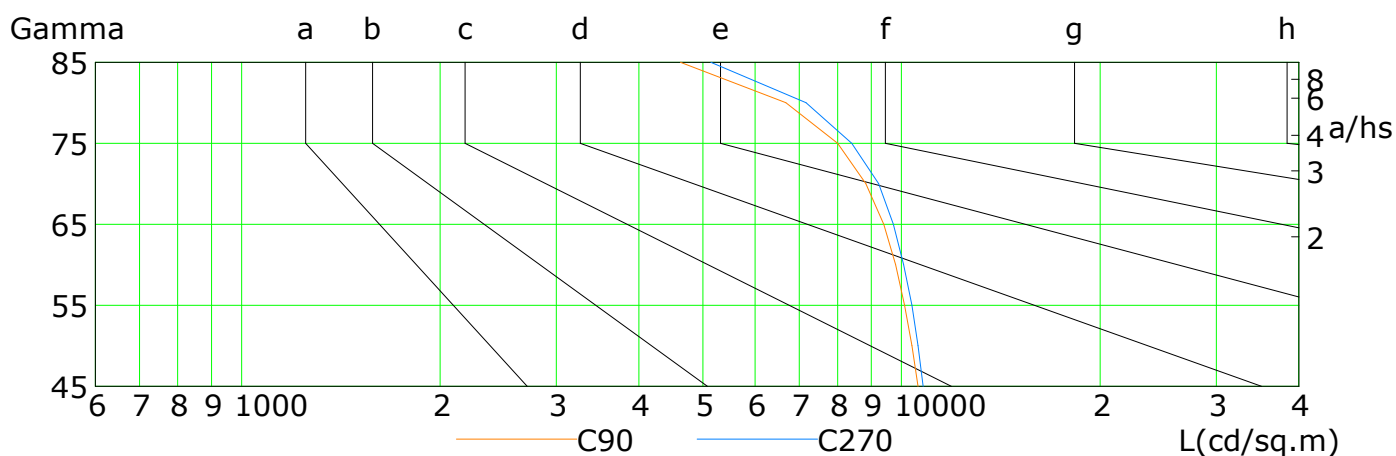
Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:



## 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

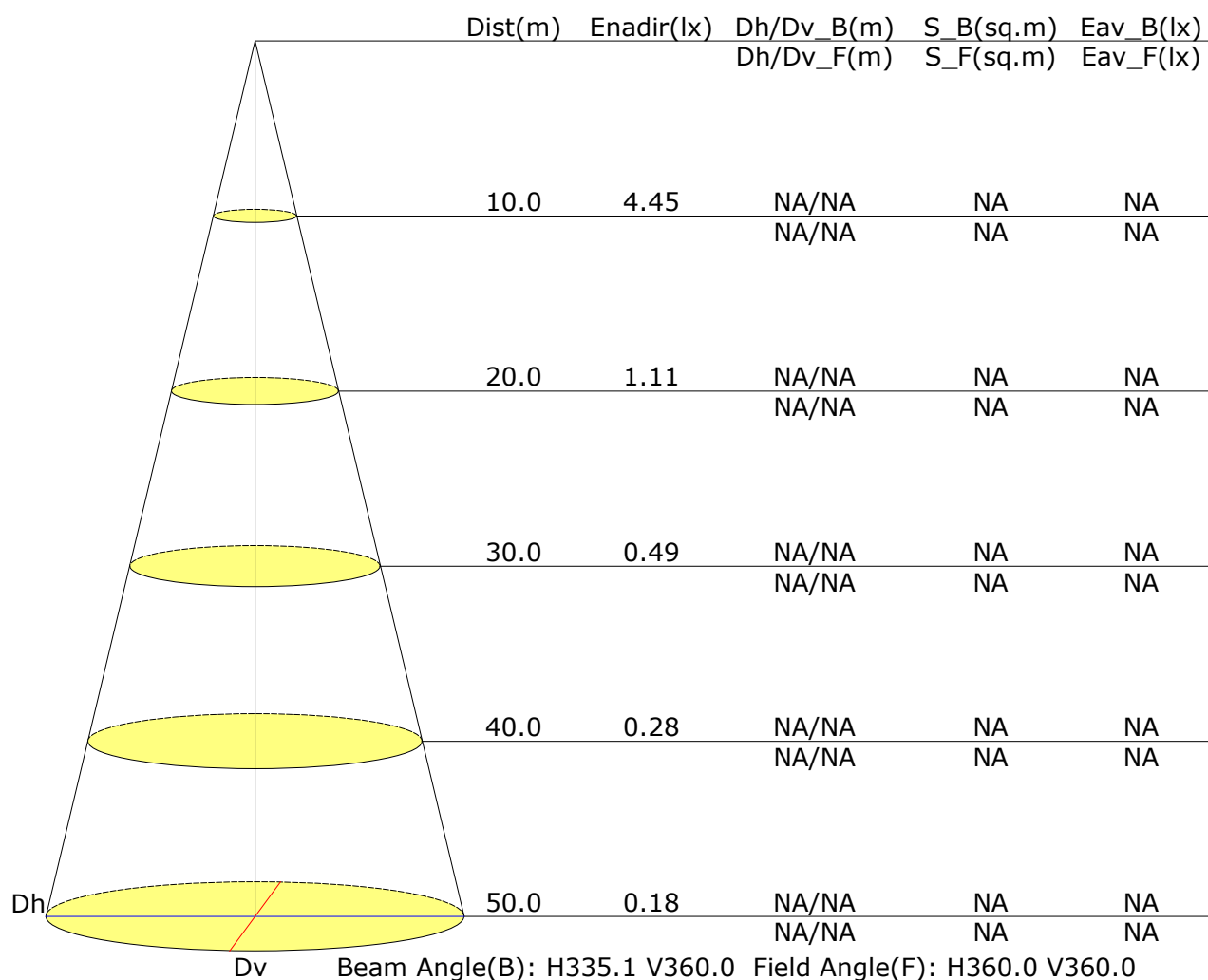


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	10371	10116	9826	9451	8997	8336	7401	5976	3697
C90	10598	10370	10113	9800	9398	8834	8006	6677	4626
C180	10740	10509	10281	10007	9681	9175	8567	7574	6208
C270	10789	10595	10366	10074	9724	9235	8408	7165	5142

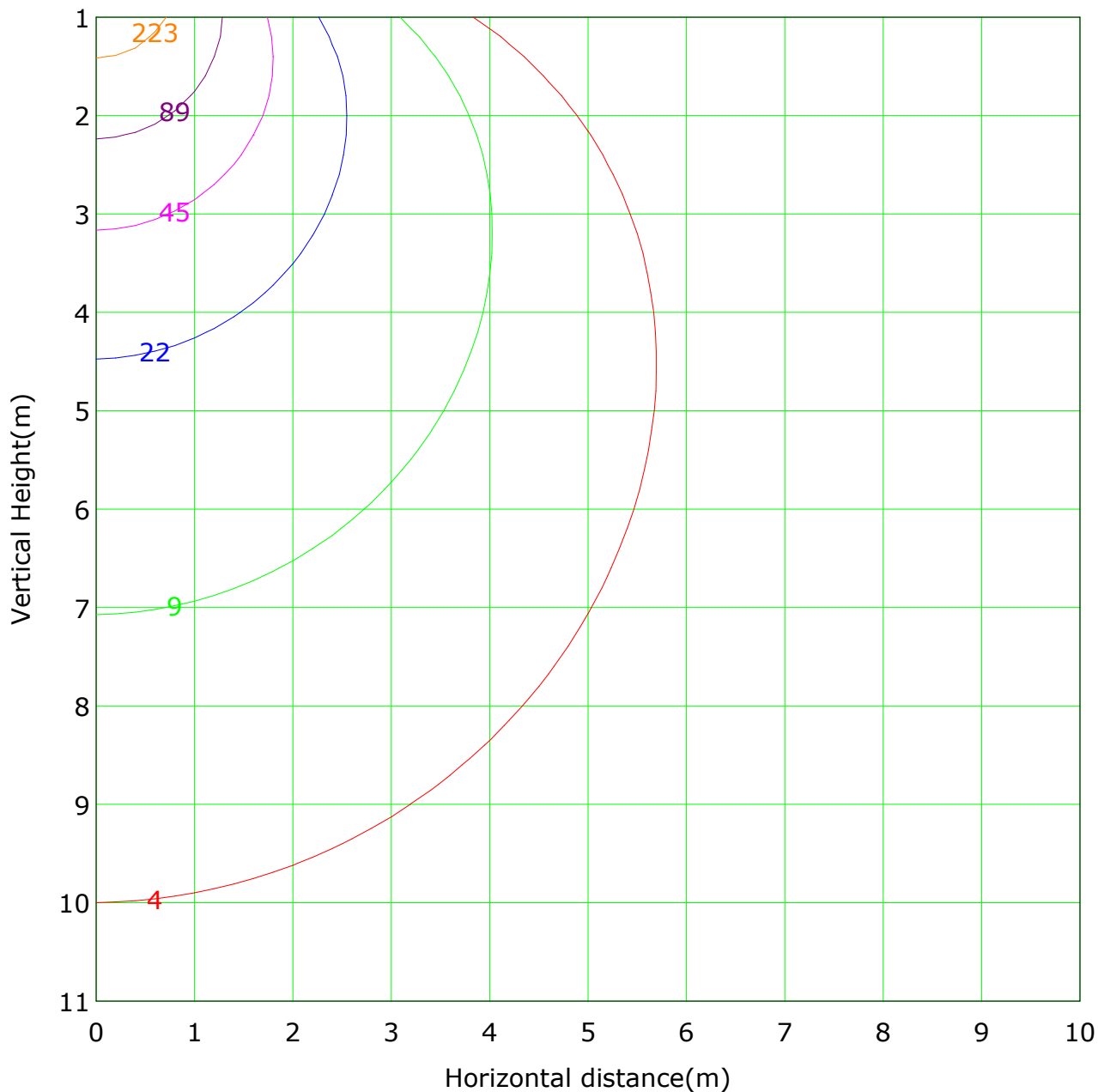
C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Illuminance at a Distance



## Vertical IsoLux Plot

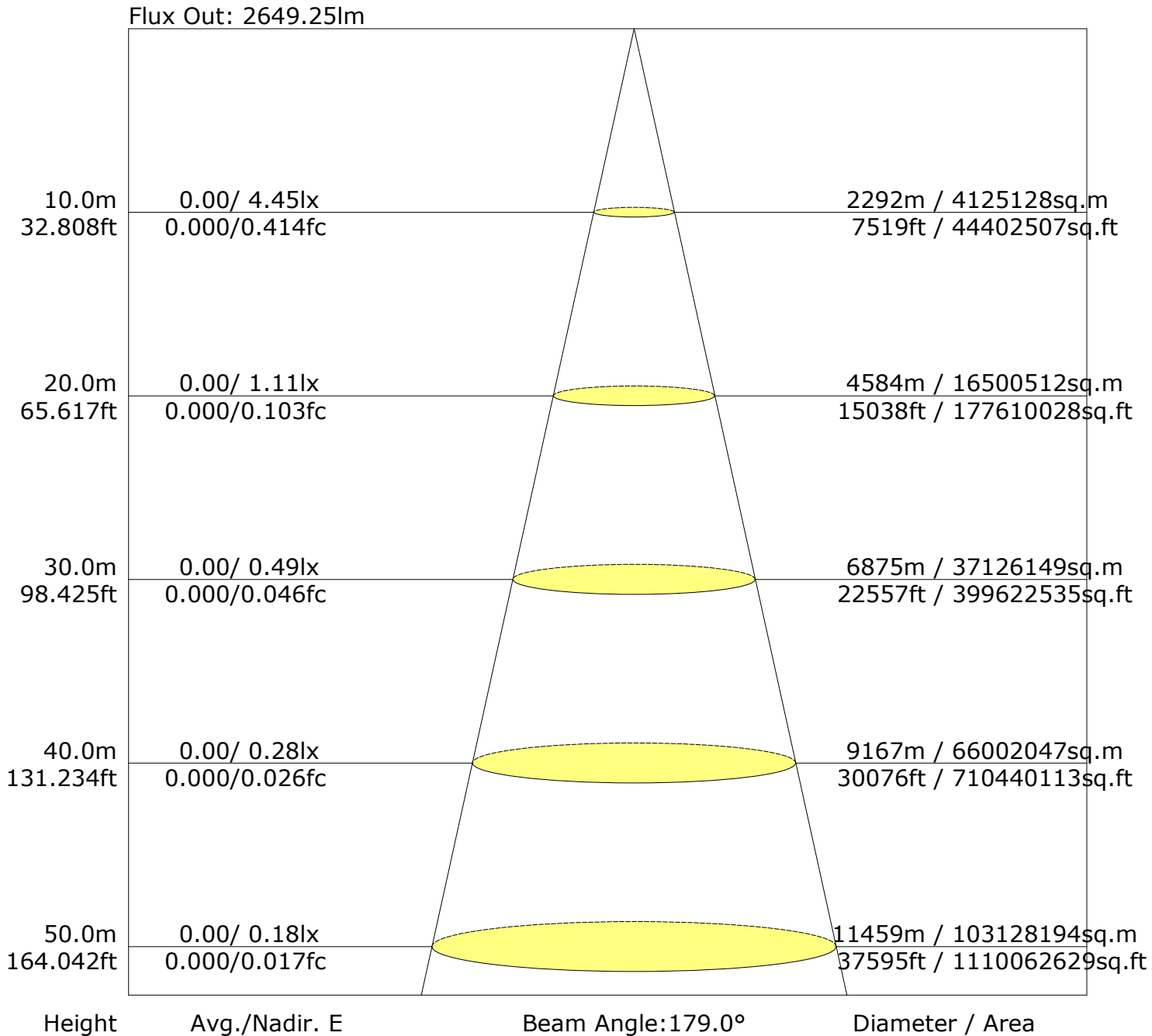


Lowest(m): 1.0m    Highest(m): 11.0m    Max Lux: 445.3 lx

— ( 1%): 4.5 lx	— ( 2%): 8.9 lx
— ( 5%): 22.3 lx	— ( 10%): 44.5 lx
— ( 20%): 89.1 lx	— ( 50%): 222.7 lx
— (100%): 445.3 lx	

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## The Average Illuminance Effective Figure



## 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	15.8	16.6	16.8	17.6	18.9	16.0	16.9	17.0	17.9	19.2
3H	17.5	18.2	18.5	19.2	20.6	17.8	18.5	18.8	19.5	20.9
4H	18.0	18.7	19.1	19.8	21.1	18.4	19.1	19.4	20.1	21.5
6H	18.4	19.0	19.4	20.1	21.4	18.8	19.4	19.8	20.4	21.8
8H	18.5	19.1	19.5	20.1	21.5	18.9	19.5	19.9	20.5	21.9
12H	18.5	19.1	19.5	20.1	21.5	18.9	19.5	19.9	20.5	21.9
X=4H Y=2H	16.3	17.0	17.4	18.1	19.4	16.6	17.3	17.6	18.3	19.6
3H	18.2	18.8	19.2	19.8	21.2	18.5	19.1	19.5	20.2	21.5
4H	18.9	19.4	19.9	20.5	21.9	19.3	19.8	20.3	20.8	22.2
6H	19.4	19.8	20.4	20.9	22.3	19.8	20.2	20.8	21.3	22.7
8H	19.5	19.9	20.5	20.9	22.3	19.9	20.3	20.9	21.4	22.8
12H	19.5	19.9	20.6	20.9	22.3	19.9	20.3	21.0	21.4	22.8
X=8H Y=4H	19.1	19.6	20.2	20.6	22.0	19.5	19.9	20.5	21.0	22.4
6H	19.7	20.0	20.8	21.1	22.5	20.1	20.5	21.2	21.6	23.0
8H	19.9	20.2	20.9	21.2	22.7	20.3	20.6	21.4	21.7	23.1
12H	19.9	20.2	21.0	21.3	22.7	20.4	20.7	21.5	21.8	23.2
X=12H Y=4H	19.1	19.5	20.2	20.6	22.0	19.5	19.9	20.5	20.9	22.3
6H	19.7	20.0	20.8	21.1	22.5	20.1	20.4	21.2	21.5	23.0
8H	19.9	20.2	21.0	21.2	22.7	20.4	20.6	21.4	21.7	23.2

Calculate in accordance with CIE 190:2010 The table is revised with 2649lm ( $8\log(F/F_0) = 3.4$ ).

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

**FLUX DISTRIBUTION TABLE BASED ON THE IESNA LUMINAIRE CLASSIFICATION SYSTEM**

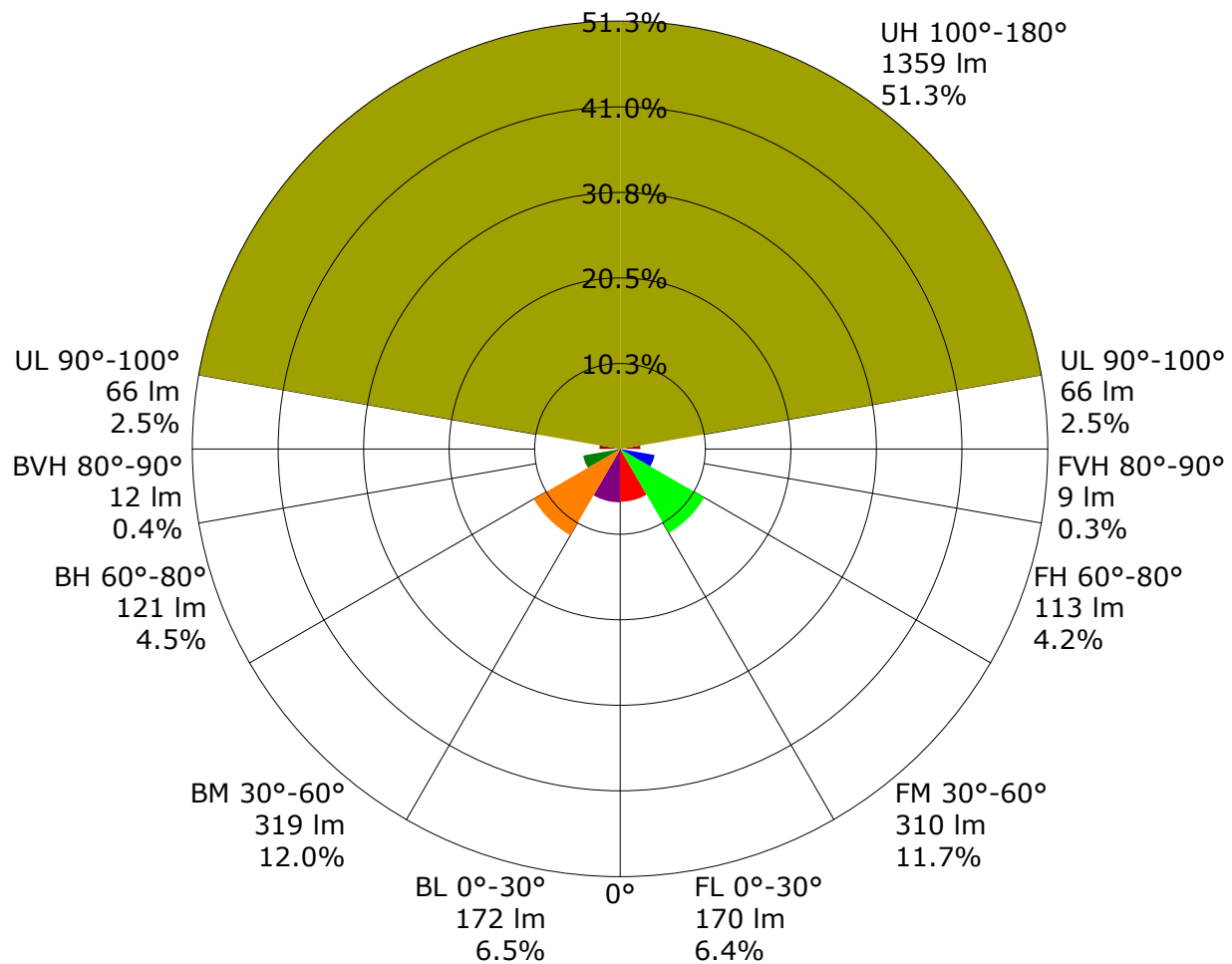
	ZONE	LUMENS	% LAMP LUMENS
	FORWARD LIGHT	601	22.7
	FL ( 0°-30°)	170	6.4
	FM (30°-60°)	310	11.7
	FH (60°-80°)	113	4.2
	FVH (80°-90°)	9	0.3
	BACK LIGHT	623	23.5
	BL ( 0°-30°)	172	6.5
	BM (30°-60°)	319	12.0
	BH (60°-80°)	121	4.5
	BVH (80°-90°)	12	0.4
	UP LIGHT	1425	53.8
	UL (90°-100°)	66	2.5
	UH (100°-180°)	1359	51.3
	TRAPPED LIGHT	NA	NA

BUG(Backlight,Uplight,Glare) Rating Base On TM-15-07	
Asymmetrical Luminaire Types (Type I,II,III,IV)	B1 U5 G1
Quadrilateral Symmetrical Luminaire Types (Type V,Area Light)	B1 U5 G1

C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## LCS Graph



**Back Light**

**Forward Light**

Scale= MAX LCS%

Trapped Light:NA,NA



## Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 1.25									
Room Reflectance			Room Index(RI)									
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	
0.70	0.50	0.20	0.45	0.54	0.60	0.65	0.72	0.76	0.79	0.83	0.86	
	0.30		0.38	0.47	0.54	0.59	0.66	0.71	0.75	0.80	0.83	
	0.20		0.33	0.42	0.49	0.54	0.61	0.67	0.71	0.76	0.80	
0.50	0.50	0.20	0.39	0.46	0.51	0.55	0.60	0.64	0.66	0.70	0.72	
	0.30		0.33	0.41	0.46	0.50	0.56	0.60	0.63	0.67	0.70	
	0.20		0.29	0.38	0.42	0.47	0.53	0.57	0.60	0.65	0.68	
0.30	0.50	0.20	0.32	0.38	0.43	0.46	0.50	0.53	0.55	0.57	0.59	
	0.30		0.28	0.35	0.39	0.42	0.47	0.50	0.53	0.56	0.58	
	0.20		0.25	0.32	0.36	0.40	0.45	0.48	0.51	0.54	0.56	
0.00	0.00	0.00	0.19	0.23	0.26	0.29	0.32	0.35	0.36	0.38	0.40	
Rating:20W 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 = 1.25									
Room Reflectance			Room Index(RI)									
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	
0.70	0.50	0.20	0.87	0.73	0.62	0.54	0.43	0.36	0.31	0.24	0.19	
	0.30		0.73	0.62	0.54	0.48	0.39	0.33	0.29	0.22	0.19	
	0.20		0.63	0.54	0.48	0.43	0.36	0.30	0.27	0.21	0.18	
0.50	0.50	0.20	0.73	0.60	0.52	0.45	0.36	0.31	0.25	0.20	0.16	
	0.30		0.62	0.52	0.46	0.40	0.33	0.27	0.24	0.19	0.15	
	0.20		0.54	0.46	0.41	0.36	0.30	0.26	0.22	0.18	0.15	
0.30	0.50	0.20	0.60	0.49	0.42	0.36	0.29	0.24	0.20	0.16	0.13	
	0.30		0.51	0.43	0.37	0.33	0.27	0.22	0.19	0.15	0.12	
	0.20		0.45	0.38	0.34	0.30	0.25	0.21	0.18	0.14	0.12	
0.00	0.00	0.00	0.28	0.23	0.20	0.17	0.14	0.12	0.10	0.08	0.06	
Rating:20W 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 = 1.25									
Room Reflectance			Room Index(RI)									
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	
0.70	0.50	0.20	0.68	0.69	0.70	0.70	0.71	0.71	0.72	0.72	0.72	
	0.30		0.62	0.63	0.64	0.65	0.67	0.68	0.68	0.69	0.70	
	0.20		0.58	0.59	0.60	0.61	0.63	0.64	0.65	0.67	0.68	
0.50	0.50	0.20	0.66	0.67	0.67	0.68	0.68	0.68	0.69	0.69	0.69	
	0.30		0.61	0.62	0.63	0.64	0.65	0.65	0.66	0.67	0.67	
	0.20		0.57	0.58	0.59	0.60	0.62	0.63	0.64	0.65	0.66	
0.30	0.50	0.20	0.64	0.64	0.65	0.65	0.66	0.66	0.66	0.66	0.66	
	0.30		0.60	0.61	0.61	0.62	0.63	0.63	0.64	0.65	0.65	
	0.20		0.57	0.58	0.59	0.59	0.60	0.61	0.62	0.63	0.64	
0.00	0.00	0.00	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	
Rating:20W 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 <sub>mean</sub> [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	445.5	0.4	0.4	0.02	0.02
1.0-2.0	445.3	1.3	1.7	0.05	0.06
2.0-3.0	444.9	2.1	3.8	0.08	0.14
3.0-4.0	444.4	3.0	6.8	0.11	0.26
4.0-5.0	443.6	3.8	10.6	0.14	0.40
5.0-6.0	442.6	4.7	15.3	0.18	0.58
6.0-7.0	441.5	5.5	20.8	0.21	0.78
7.0-8.0	440.1	6.3	27.1	0.24	1.02
8.0-9.0	438.6	7.1	34.2	0.27	1.29
9.0-10.0	436.9	7.9	42.1	0.30	1.59
10.0-11.0	435.0	8.7	50.8	0.33	1.92
11.0-12.0	433.0	9.5	60.2	0.36	2.27
12.0-13.0	430.8	10.2	70.5	0.39	2.66
13.0-14.0	428.4	11.0	81.4	0.41	3.07
14.0-15.0	425.8	11.7	93.1	0.44	3.51
15.0-16.0	423.1	12.4	105.5	0.47	3.98
16.0-17.0	420.2	13.1	118.6	0.49	4.48
17.0-18.0	417.1	13.8	132.4	0.52	5.00
18.0-19.0	413.9	14.4	146.8	0.54	5.54
19.0-20.0	410.5	15.0	161.8	0.57	6.11
20.0-21.0	407.0	15.6	177.4	0.59	6.70
21.0-22.0	403.4	16.2	193.6	0.61	7.31
22.0-23.0	399.6	16.8	210.4	0.63	7.94
23.0-24.0	395.6	17.3	227.7	0.65	8.59
24.0-25.0	391.4	17.8	245.5	0.67	9.27
25.0-26.0	387.3	18.3	263.8	0.69	9.96
26.0-27.0	383.0	18.7	282.5	0.71	10.66
27.0-28.0	378.4	19.2	301.7	0.72	11.39
28.0-29.0	373.8	19.6	321.2	0.74	12.13
29.0-30.0	369.1	19.9	341.2	0.75	12.88
30.0-31.0	364.3	20.3	361.4	0.77	13.64
31.0-32.0	359.4	20.6	382.0	0.78	14.42
32.0-33.0	354.4	20.9	402.9	0.79	15.21
33.0-34.0	349.2	21.1	424.1	0.80	16.01
34.0-35.0	344.0	21.4	445.4	0.81	16.81
35.0-36.0	338.7	21.6	467.0	0.81	17.63

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Zonal Lumen (Continue 1)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	333.3	21.7	488.7	0.82	18.45
37.0-38.0	327.8	21.9	510.6	0.83	19.27
38.0-39.0	322.1	22.0	532.6	0.83	20.10
39.0-40.0	316.5	22.1	554.7	0.83	20.94
40.0-41.0	310.7	22.1	576.8	0.84	21.77
41.0-42.0	304.8	22.2	599.0	0.84	22.61
42.0-43.0	299.0	22.2	621.1	0.84	23.45
43.0-44.0	293.1	22.1	643.2	0.84	24.28
44.0-45.0	287.0	22.1	665.3	0.83	25.11
45.0-46.0	281.0	22.0	687.3	0.83	25.94
46.0-47.0	274.7	21.8	709.1	0.82	26.77
47.0-48.0	268.4	21.7	730.8	0.82	27.59
48.0-49.0	262.2	21.5	752.4	0.81	28.40
49.0-50.0	255.8	21.3	773.7	0.81	29.20
50.0-51.0	249.4	21.1	794.8	0.80	30.00
51.0-52.0	242.9	20.8	815.7	0.79	30.79
52.0-53.0	236.4	20.6	836.2	0.78	31.56
53.0-54.0	229.8	20.3	856.5	0.76	32.33
54.0-55.0	223.2	19.9	876.4	0.75	33.08
55.0-56.0	216.6	19.6	896.0	0.74	33.82
56.0-57.0	209.8	19.2	915.2	0.72	34.54
57.0-58.0	203.0	18.8	933.9	0.71	35.25
58.0-59.0	196.3	18.4	952.3	0.69	35.95
59.0-60.0	189.4	17.9	970.2	0.68	36.62
60.0-61.0	182.4	17.4	987.6	0.66	37.28
61.0-62.0	175.5	16.9	1004.5	0.64	37.92
62.0-63.0	168.6	16.4	1020.9	0.62	38.54
63.0-64.0	161.5	15.9	1036.8	0.60	39.13
64.0-65.0	154.5	15.3	1052.0	0.58	39.71
65.0-66.0	147.4	14.7	1066.7	0.56	40.27
66.0-67.0	140.2	14.1	1080.8	0.53	40.80
67.0-68.0	133.2	13.5	1094.3	0.51	41.31
68.0-69.0	125.9	12.8	1107.2	0.49	41.79
69.0-70.0	118.7	12.2	1119.4	0.46	42.25
70.0-71.0	111.5	11.5	1130.9	0.44	42.69
71.0-72.0	104.4	10.9	1141.8	0.41	43.10

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Zonal Lumen (Continue 2)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	97.2	10.2	1151.9	0.38	43.48
73.0-74.0	90.0	9.5	1161.4	0.36	43.84
74.0-75.0	82.9	8.8	1170.2	0.33	44.17
75.0-76.0	75.8	8.0	1178.2	0.30	44.47
76.0-77.0	68.8	7.3	1185.5	0.28	44.75
77.0-78.0	61.9	6.6	1192.2	0.25	45.00
78.0-79.0	55.0	5.9	1198.1	0.22	45.22
79.0-80.0	48.4	5.2	1203.3	0.20	45.42
80.0-81.0	41.9	4.5	1207.8	0.17	45.59
81.0-82.0	35.7	3.9	1211.7	0.15	45.74
82.0-83.0	29.7	3.2	1214.9	0.12	45.86
83.0-84.0	24.1	2.6	1217.5	0.10	45.96
84.0-85.0	18.9	2.1	1219.6	0.08	46.04
85.0-86.0	14.0	1.5	1221.1	0.06	46.09
86.0-87.0	9.9	1.1	1222.2	0.04	46.13
87.0-88.0	6.3	0.7	1222.9	0.03	46.16
88.0-89.0	3.5	0.4	1223.3	0.01	46.18
89.0-90.0	6.4	0.7	1224.0	0.03	46.20
90.0-91.0	15.2	1.7	1225.7	0.06	46.26
91.0-92.0	24.7	2.7	1228.4	0.10	46.37
92.0-93.0	34.7	3.8	1232.2	0.14	46.51
93.0-94.0	45.1	4.9	1237.1	0.19	46.70
94.0-95.0	55.0	6.0	1243.1	0.23	46.92
95.0-96.0	64.9	7.1	1250.2	0.27	47.19
96.0-97.0	75.3	8.2	1258.4	0.31	47.50
97.0-98.0	86.5	9.4	1267.8	0.35	47.86
98.0-99.0	97.9	10.6	1278.4	0.40	48.26
99.0-100.0	109.3	11.8	1290.3	0.45	48.70
100.0-101.0	120.4	13.0	1303.2	0.49	49.19
101.0-102.0	131.7	14.2	1317.4	0.53	49.73
102.0-103.0	143.3	15.3	1332.7	0.58	50.31
103.0-104.0	155.1	16.5	1349.3	0.62	50.93
104.0-105.0	167.1	17.7	1367.0	0.67	51.60
105.0-106.0	178.8	18.9	1385.9	0.71	52.31
106.0-107.0	190.4	20.0	1405.9	0.76	53.07
107.0-108.0	201.9	21.1	1427.0	0.80	53.87

C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Zonal Lumen (Continue 3)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
108.0-109.0	212.8	22.1	1449.2	0.84	54.70
109.0-110.0	223.4	23.1	1472.3	0.87	55.57
110.0-111.0	234.0	24.0	1496.3	0.91	56.48
111.0-112.0	244.2	24.9	1521.2	0.94	57.42
112.0-113.0	254.0	25.7	1547.0	0.97	58.39
113.0-114.0	263.3	26.5	1573.4	1.00	59.39
114.0-115.0	272.2	27.2	1600.6	1.03	60.42
115.0-116.0	280.7	27.8	1628.4	1.05	61.47
116.0-117.0	288.4	28.3	1656.7	1.07	62.53
117.0-118.0	295.3	28.7	1685.4	1.08	63.62
118.0-119.0	301.3	29.0	1714.4	1.10	64.71
119.0-120.0	306.4	29.2	1743.7	1.10	65.82
120.0-121.0	310.5	29.3	1773.0	1.11	66.93
121.0-122.0	313.6	29.3	1802.3	1.11	68.03
122.0-123.0	315.6	29.2	1831.5	1.10	69.13
123.0-124.0	316.7	29.0	1860.5	1.09	70.23
124.0-125.0	316.9	28.6	1889.1	1.08	71.31
125.0-126.0	316.6	28.3	1917.4	1.07	72.37
126.0-127.0	315.7	27.8	1945.2	1.05	73.43
127.0-128.0	314.4	27.4	1972.6	1.03	74.46
128.0-129.0	312.8	26.8	1999.4	1.01	75.47
129.0-130.0	311.1	26.3	2025.7	0.99	76.46
130.0-131.0	309.1	25.8	2051.5	0.97	77.44
131.0-132.0	307.1	25.2	2076.7	0.95	78.39
132.0-133.0	305.1	24.7	2101.4	0.93	79.32
133.0-134.0	302.9	24.1	2125.5	0.91	80.23
134.0-135.0	300.8	23.5	2149.0	0.89	81.12
135.0-136.0	298.6	23.0	2172.0	0.87	81.98
136.0-137.0	296.4	22.4	2194.4	0.84	82.83
137.0-138.0	294.2	21.8	2216.2	0.82	83.65
138.0-139.0	292.1	21.2	2237.4	0.80	84.45
139.0-140.0	290.0	20.7	2258.0	0.78	85.23
140.0-141.0	287.9	20.1	2278.1	0.76	85.99
141.0-142.0	285.9	19.5	2297.6	0.74	86.73
142.0-143.0	283.9	19.0	2316.6	0.72	87.44
143.0-144.0	281.9	18.4	2335.0	0.69	88.14

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Zonal Lumen (Continue 4)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
144.0-145.0	280.0	17.8	2352.8	0.67	88.81
145.0-146.0	278.2	17.3	2370.1	0.65	89.46
146.0-147.0	276.3	16.7	2386.8	0.63	90.09
147.0-148.0	274.6	16.2	2403.0	0.61	90.70
148.0-149.0	272.8	15.6	2418.6	0.59	91.29
149.0-150.0	271.1	15.1	2433.7	0.57	91.86
150.0-151.0	269.3	14.5	2448.2	0.55	92.41
151.0-152.0	267.7	14.0	2462.2	0.53	92.94
152.0-153.0	266.0	13.5	2475.7	0.51	93.45
153.0-154.0	264.4	12.9	2488.6	0.49	93.94
154.0-155.0	262.8	12.4	2501.1	0.47	94.41
155.0-156.0	261.3	11.9	2512.9	0.45	94.85
156.0-157.0	259.7	11.4	2524.3	0.43	95.28
157.0-158.0	258.2	10.8	2535.1	0.41	95.69
158.0-159.0	256.8	10.3	2545.5	0.39	96.08
159.0-160.0	255.3	9.8	2555.3	0.37	96.45
160.0-161.0	253.9	9.3	2564.6	0.35	96.80
161.0-162.0	252.7	8.8	2573.3	0.33	97.13
162.0-163.0	251.5	8.3	2581.6	0.31	97.45
163.0-164.0	250.3	7.8	2589.4	0.29	97.74
164.0-165.0	249.2	7.3	2596.7	0.28	98.02
165.0-166.0	248.2	6.8	2603.6	0.26	98.28
166.0-167.0	247.3	6.3	2609.9	0.24	98.51
167.0-168.0	246.5	5.9	2615.7	0.22	98.73
168.0-169.0	245.8	5.4	2621.1	0.20	98.94
169.0-170.0	245.1	4.9	2626.0	0.18	99.12
170.0-171.0	244.6	4.4	2630.4	0.17	99.29
171.0-172.0	244.1	4.0	2634.4	0.15	99.44
172.0-173.0	243.7	3.5	2637.9	0.13	99.57
173.0-174.0	243.3	3.0	2640.9	0.11	99.68
174.0-175.0	243.0	2.6	2643.5	0.10	99.78
175.0-176.0	242.7	2.1	2645.5	0.08	99.86
176.0-177.0	242.5	1.6	2647.2	0.06	99.92
177.0-178.0	242.4	1.2	2648.3	0.04	99.96
178.0-179.0	242.3	0.7	2649.0	0.03	99.99
179.0-180.0	242.2	0.2	2649.3	0.01	100.00

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:



## Zonal Lumen (Continue 5)

cone flux(90°): 665.30 lm

%lum = 25.1%

%lamp = 25.1%

cone flux(120°): 970.18 lm

%lum = 36.6%

%lamp = 36.6%

## Candlepower Table

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G0.0	445.3	445.4	445.3	445.6	445.8	445.9	445.3	445.4	445.3	445.6
G1.0	445.0	445.0	445.2	445.4	445.7	445.9	445.4	445.5	445.4	445.6
G2.0	444.5	444.5	444.8	445.1	445.6	445.7	445.3	445.5	445.3	445.3
G3.0	443.8	443.7	444.2	444.5	445.2	445.4	445.0	445.3	445.1	445.0
G4.0	442.9	442.7	443.5	443.8	444.7	444.8	444.5	445.0	444.5	444.3
G5.0	441.9	441.5	442.4	442.9	444.0	444.1	443.7	444.4	443.8	443.6
G6.0	440.6	440.2	441.3	441.8	443.0	443.1	442.8	443.6	442.8	442.7
G7.0	439.1	438.8	439.8	440.3	441.9	442.0	441.8	442.5	441.7	441.5
G8.0	437.6	437.1	438.3	439.0	440.6	440.6	440.5	441.3	440.4	440.3
G9.0	435.8	435.1	436.6	437.4	439.3	439.2	438.9	439.9	438.9	438.7
G10.0	433.7	433.0	434.9	435.4	437.6	437.5	437.3	438.4	437.4	437.1
G11.0	431.6	430.8	432.9	433.5	435.7	435.7	435.5	436.6	435.5	435.3
G12.0	429.3	428.4	430.5	431.3	433.6	433.7	433.5	434.9	433.4	433.4
G13.0	426.7	425.8	428.1	429.0	431.4	431.3	431.3	432.7	431.3	431.0
G14.0	424.2	423.1	425.6	426.6	429.2	428.9	428.9	430.2	428.9	428.6
G15.0	421.1	420.2	422.9	423.7	426.5	426.3	426.2	427.8	426.5	426.2
G16.0	418.2	417.2	420.0	420.9	423.9	423.7	423.6	425.3	424.0	423.5
G17.0	415.0	414.1	417.1	418.2	421.1	420.9	420.8	422.6	420.9	420.7
G18.0	411.8	410.5	413.6	415.0	418.1	417.6	417.7	419.6	417.9	417.4
G19.0	408.0	407.0	410.4	411.5	414.9	414.4	414.3	416.5	414.9	414.4
G20.0	404.5	403.4	406.9	407.9	411.4	411.1	410.9	413.1	411.6	411.1
G21.0	400.9	399.7	403.2	404.4	408.1	407.7	407.5	409.6	407.8	407.8
G22.0	397.2	395.8	399.4	400.8	404.6	403.6	403.9	406.2	404.3	403.9
G23.0	392.6	391.4	395.5	397.0	400.8	399.9	400.1	402.6	400.5	400.2
G24.0	388.6	387.2	391.6	393.0	396.6	395.9	395.8	398.5	396.7	396.4
G25.0	384.5	383.0	387.1	388.5	392.6	391.8	391.7	394.5	392.6	392.4
G26.0	380.1	378.6	382.8	384.4	388.5	387.8	387.6	390.5	388.5	388.4
G27.0	375.3	374.2	378.5	380.1	384.4	383.1	383.3	386.3	383.9	383.7
G28.0	370.6	369.1	374.0	375.6	379.5	378.6	378.6	381.5	379.6	379.4
G29.0	365.9	364.4	369.3	370.6	375.0	374.0	374.1	377.2	375.2	375.0
G30.0	361.2	359.6	364.4	366.0	370.5	369.4	369.4	372.6	370.1	370.3
G31.0	356.3	354.7	359.5	361.1	365.7	364.6	364.8	367.9	365.5	365.2
G32.0	350.9	349.1	354.6	356.4	360.6	359.3	359.4	363.1	360.7	360.5
G33.0	345.9	344.1	349.7	351.4	355.8	354.3	354.4	357.7	355.7	355.6
G34.0	340.8	338.9	344.1	345.7	350.8	349.2	349.2	352.7	350.7	350.5
G35.0	335.0	333.6	338.9	340.5	345.6	344.1	344.0	347.7	345.0	345.6
G36.0	329.7	328.2	333.6	335.4	340.0	338.8	338.9	342.5	339.9	339.9

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Candlepower Table (Continue 1)

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G37.0	324.3	322.8	328.5	330.0	334.7	333.4	333.0	336.7	334.6	334.6
G38.0	318.7	316.8	322.2	324.1	329.2	327.5	327.5	331.3	329.2	329.3
G39.0	312.6	311.2	316.7	318.6	323.9	322.0	322.1	325.8	323.7	323.7
G40.0	306.9	305.5	311.3	313.0	318.1	316.4	316.5	320.3	317.7	317.7
G41.0	301.2	299.2	305.5	307.3	312.0	310.1	310.4	314.2	312.2	312.0
G42.0	295.4	293.3	299.3	301.6	306.4	304.4	304.7	308.4	306.5	306.3
G43.0	289.5	287.5	293.4	295.7	300.6	298.5	298.9	302.7	300.2	300.6
G44.0	283.2	281.6	287.6	289.3	294.3	292.6	293.0	296.9	294.2	294.3
G45.0	277.2	275.5	281.8	283.3	288.4	286.7	287.1	291.0	288.3	288.4
G46.0	271.2	269.4	275.1	277.3	282.5	280.5	280.5	284.5	282.2	282.4
G47.0	264.4	262.7	269.1	271.2	276.4	273.9	274.4	278.5	275.5	275.7
G48.0	258.3	256.5	263.0	264.5	269.8	267.8	268.4	272.5	269.5	269.6
G49.0	252.1	250.3	256.9	258.4	263.6	261.5	262.1	265.8	263.3	263.6
G50.0	245.8	244.0	249.9	252.0	257.3	255.3	255.3	259.6	257.1	257.4
G51.0	238.8	237.1	243.6	245.2	251.0	248.4	249.0	253.2	250.8	251.1
G52.0	232.4	230.7	237.3	238.7	244.7	242.1	242.7	246.9	243.8	244.1
G53.0	226.0	224.3	230.9	232.3	237.6	235.6	235.7	239.9	237.6	237.7
G54.0	219.5	217.3	223.7	225.8	231.2	228.6	229.2	233.6	231.1	231.3
G55.0	213.0	210.5	217.4	219.3	224.8	221.9	222.9	227.0	224.1	224.7
G56.0	205.8	204.1	210.8	212.8	218.3	215.4	216.3	220.5	217.4	217.6
G57.0	199.3	197.4	203.6	205.5	211.1	208.8	209.7	214.0	210.8	211.0
G58.0	192.7	190.8	197.1	198.8	204.5	202.0	202.5	206.7	204.1	204.4
G59.0	186.0	184.0	190.4	192.0	197.8	195.3	195.8	200.2	197.4	197.8
G60.0	178.6	176.6	183.7	185.2	190.4	187.8	189.1	193.4	190.0	190.4
G61.0	171.8	169.9	176.2	177.8	183.7	181.1	182.5	186.1	183.3	183.6
G62.0	165.0	162.9	169.5	170.9	176.9	174.2	175.7	179.3	176.5	176.8
G63.0	157.5	156.3	162.6	164.1	170.0	167.4	168.2	172.5	169.6	170.0
G64.0	150.7	148.5	155.7	157.1	162.4	159.7	161.3	165.6	162.6	162.4
G65.0	143.7	141.6	148.8	150.1	155.4	152.8	154.7	158.0	155.2	155.3
G66.0	136.9	134.7	141.2	142.5	148.6	145.8	147.0	151.2	148.2	148.4
G67.0	129.3	127.7	134.3	135.4	141.6	138.9	140.2	144.2	141.2	141.3
G68.0	122.3	120.7	127.3	128.4	133.9	131.8	133.2	137.3	133.5	133.6
G69.0	115.5	113.0	119.7	121.3	127.0	124.1	126.2	129.7	126.4	126.4
G70.0	107.8	106.0	112.7	114.2	119.9	117.1	118.6	122.7	119.4	119.4
G71.0	100.8	99.1	105.7	106.5	112.1	110.0	111.7	115.8	112.3	111.6
G72.0	94.1	92.3	98.3	99.7	105.4	103.2	104.9	108.3	104.7	104.6
G73.0	86.8	85.0	91.0	92.3	98.0	95.8	97.6	101.1	97.3	97.2

C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Candlepower Table (Continue 2)

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G74.0	79.8	78.0	83.9	85.3	90.9	88.7	90.6	94.0	90.1	89.9
G75.0	72.4	70.6	77.0	78.3	83.3	81.3	83.8	87.0	83.2	82.3
G76.0	65.4	64.2	69.9	71.1	76.7	74.6	76.7	79.8	76.0	74.9
G77.0	58.6	57.0	63.0	64.3	69.2	67.3	69.5	72.9	69.1	67.9
G78.0	51.9	50.7	56.1	57.2	62.7	60.7	63.0	65.8	61.9	60.7
G79.0	45.6	44.3	49.5	50.5	55.5	54.0	55.9	58.5	55.1	53.8
G80.0	39.2	37.9	42.5	43.8	48.7	47.3	49.7	51.8	48.3	47.0
G81.0	33.0	32.0	36.5	37.5	42.4	41.0	43.1	45.5	42.0	40.2
G82.0	27.4	26.4	30.1	31.4	35.8	34.9	37.1	38.9	35.4	34.1
G83.0	21.8	21.1	24.4	25.5	29.4	29.1	31.2	33.0	29.5	27.9
G84.0	16.9	16.2	19.0	20.1	23.9	23.6	25.8	27.1	23.9	22.4
G85.0	12.2	11.6	14.1	15.2	18.3	18.4	20.5	21.5	18.6	16.9
G86.0	8.2	7.8	9.6	10.7	13.5	13.8	15.6	16.5	14.0	12.0
G87.0	4.8	4.6	6.1	6.9	9.3	9.7	11.3	12.0	9.8	8.1
G88.0	2.1	2.1	3.2	3.9	5.8	6.2	7.5	8.0	6.3	4.6
G89.0	0.4	0.4	1.2	1.7	3.0	3.3	4.4	4.7	3.5	2.1
G90.0	2.4	3.6	3.6	0.9	18.4	18.8	15.6	24.0	22.5	1.2
G91.0	8.0	14.5	15.7	1.6	32.3	29.2	22.9	34.3	37.2	2.3
G92.0	14.9	26.4	30.6	2.5	40.2	40.8	31.0	46.0	51.6	3.5
G93.0	22.5	38.5	44.5	3.6	57.4	52.7	39.8	58.8	64.5	4.9
G94.0	30.5	51.5	57.8	5.5	69.3	65.5	49.7	72.7	75.1	6.5
G95.0	38.9	65.0	68.7	7.8	79.0	77.3	60.7	88.4	82.8	8.4
G96.0	48.8	79.8	77.8	10.1	87.9	88.8	73.9	105.2	90.7	10.5
G97.0	59.8	96.3	84.6	12.6	96.8	106.8	88.4	122.2	98.7	12.6
G98.0	72.3	114.0	92.6	15.2	105.8	127.3	103.6	139.7	106.4	14.9
G99.0	86.5	130.9	100.3	17.7	115.0	145.6	120.9	155.3	114.7	17.2
G100.0	101.2	148.5	107.6	20.5	125.1	158.6	137.1	171.5	122.8	19.8
G101.0	117.7	164.3	115.4	23.3	135.5	171.1	151.6	188.3	130.2	22.5
G102.0	134.4	180.9	122.8	26.0	145.2	189.1	169.7	205.0	138.2	25.1
G103.0	149.6	196.6	129.7	29.0	154.3	206.0	189.0	220.9	145.6	27.9
G104.0	167.7	212.9	137.1	31.8	163.6	227.7	208.5	238.5	152.4	30.6
G105.0	184.8	229.9	143.1	34.8	170.6	245.3	229.6	255.1	159.2	33.4
G106.0	204.1	247.2	149.0	37.9	177.9	265.0	249.8	270.4	164.9	36.2
G107.0	226.3	262.8	154.9	40.9	184.8	284.0	270.3	285.8	170.3	39.1
G108.0	247.8	278.9	159.9	44.0	191.6	301.9	291.0	301.7	175.1	42.2
G109.0	268.1	293.5	164.0	46.9	197.9	317.7	311.7	316.4	179.4	45.1
G110.0	288.7	310.2	167.6	50.4	204.7	333.6	330.3	331.7	182.7	48.1

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Candlepower Table (Continue 3)

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G111.0	308.1	325.3	170.6	53.5	211.3	350.5	350.5	348.7	185.6	51.5
G112.0	327.8	340.3	173.1	56.6	216.1	367.3	368.6	364.4	187.6	54.6
G113.0	347.9	355.4	175.4	59.9	219.5	383.7	386.9	380.0	189.0	57.8
G114.0	365.9	371.2	177.0	63.5	221.0	397.6	405.0	394.9	189.9	61.0
G115.0	383.7	385.1	178.2	66.8	221.8	412.5	424.4	410.3	190.3	64.6
G116.0	400.6	397.7	179.2	70.2	222.0	427.6	441.6	422.8	190.5	67.8
G117.0	417.5	410.2	180.0	73.9	221.7	440.4	457.7	434.2	190.4	71.2
G118.0	434.2	419.5	180.6	77.4	220.9	449.3	472.6	444.6	190.1	74.9
G119.0	448.6	426.8	181.1	80.9	220.1	457.7	487.1	451.8	189.8	78.4
G120.0	460.9	432.0	181.8	84.4	219.0	466.1	498.0	457.1	189.5	81.8
G121.0	471.8	435.5	182.3	88.2	217.8	473.2	506.9	460.3	189.3	85.3
G122.0	481.1	436.5	183.0	91.8	216.8	476.5	513.5	461.7	189.1	88.8
G123.0	486.8	436.0	183.6	95.4	215.8	477.3	518.6	461.1	189.1	92.7
G124.0	491.2	434.1	184.5	98.9	215.1	475.8	521.2	459.1	189.3	96.2
G125.0	493.1	430.7	185.4	102.9	214.5	473.0	521.7	455.9	189.6	99.7
G126.0	493.2	426.8	186.4	106.5	213.9	469.2	520.8	452.0	190.1	103.2
G127.0	491.5	422.3	187.6	110.0	213.6	464.7	518.3	446.6	190.8	107.2
G128.0	488.8	417.3	188.8	113.6	213.5	458.7	514.8	441.4	191.5	110.6
G129.0	485.1	411.8	190.1	117.3	213.5	453.0	510.6	435.7	192.3	114.1
G130.0	480.5	405.9	191.5	121.1	213.6	447.1	505.6	429.7	193.2	117.6
G131.0	475.6	400.3	192.9	124.7	213.9	440.8	499.8	423.0	194.3	121.5
G132.0	470.2	395.0	194.3	128.2	214.2	434.4	494.0	416.7	195.3	124.9
G133.0	464.6	389.5	195.8	131.7	214.7	427.0	487.9	410.4	196.5	128.4
G134.0	458.1	383.6	197.4	135.6	215.2	420.4	481.3	403.9	197.5	131.8
G135.0	452.7	378.2	198.9	139.1	215.8	413.6	473.8	397.0	198.8	135.7
G136.0	445.8	373.1	200.6	142.5	216.4	407.0	466.5	390.5	200.1	139.2
G137.0	439.4	367.4	202.2	146.3	217.2	399.6	459.1	384.2	201.3	142.6
G138.0	432.9	362.6	203.7	149.7	217.9	393.0	451.5	378.2	202.7	146.0
G139.0	426.3	357.7	205.3	153.3	218.7	386.6	442.8	372.0	204.2	149.7
G140.0	419.1	352.8	207.2	156.8	219.5	379.4	435.1	365.7	205.7	153.0
G141.0	412.3	348.1	208.9	160.2	220.3	373.3	427.1	359.8	207.1	156.3
G142.0	405.8	343.0	210.5	164.0	221.2	367.1	419.1	354.2	208.7	159.7
G143.0	399.3	338.5	212.1	167.5	222.0	361.2	411.3	348.3	210.2	163.4
G144.0	392.0	334.0	213.8	170.8	222.9	355.4	402.7	342.9	211.9	166.9
G145.0	385.5	329.7	215.4	174.1	223.6	349.8	395.0	337.8	213.4	170.3
G146.0	378.9	324.9	216.8	177.7	224.5	343.8	387.5	332.6	215.0	173.8
G147.0	372.5	320.6	218.3	180.9	225.5	338.6	379.3	327.1	216.6	177.6

C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Candlepower Table (Continue 4)

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G148.0	366.1	316.5	219.8	183.9	226.4	333.5	372.1	322.2	217.9	181.1
G149.0	359.1	311.9	221.4	187.4	227.3	327.9	365.0	317.8	219.3	184.5
G150.0	352.8	307.9	222.7	190.5	228.1	322.9	357.9	312.7	220.5	187.8
G151.0	346.7	303.9	224.1	193.6	228.9	318.0	350.5	308.1	221.8	191.1
G152.0	340.6	300.0	225.5	196.7	229.7	313.1	343.7	303.6	223.1	194.2
G153.0	334.6	295.7	226.8	199.7	230.4	307.7	337.0	299.0	224.4	197.5
G154.0	328.2	292.0	228.2	203.0	231.1	303.0	330.5	294.9	225.6	200.6
G155.0	322.3	288.3	229.5	205.9	231.8	298.4	324.2	290.9	226.8	203.4
G156.0	316.7	284.8	230.7	208.7	232.4	293.9	317.8	286.7	227.9	206.3
G157.0	311.2	281.5	231.9	211.3	233.1	289.1	311.0	282.6	229.0	209.1
G158.0	305.6	278.0	233.0	214.0	233.7	284.9	305.0	279.0	230.0	211.9
G159.0	299.8	275.0	234.2	216.3	234.3	280.7	299.2	275.3	231.1	214.3
G160.0	294.5	272.2	235.2	218.7	234.8	276.4	293.0	271.9	232.1	216.7
G161.0	289.6	269.5	236.1	220.9	235.3	272.6	287.5	268.8	233.0	218.8
G162.0	285.0	266.7	237.0	223.3	235.8	269.2	282.2	265.5	233.8	221.2
G163.0	280.6	264.3	237.8	225.4	236.5	265.9	277.3	262.4	234.7	223.3
G164.0	276.5	261.9	238.6	227.3	236.9	262.7	272.6	259.6	235.4	225.3
G165.0	272.1	259.8	239.4	229.1	237.5	259.5	268.2	257.1	236.2	227.0
G166.0	268.5	257.7	240.0	230.8	238.0	256.8	263.8	254.4	236.9	228.9
G167.0	265.2	255.8	240.6	232.4	238.6	254.4	260.1	252.3	237.5	230.5
G168.0	261.6	254.1	241.0	233.9	239.2	252.4	256.9	250.5	238.1	232.1
G169.0	258.8	252.5	241.2	235.1	239.7	250.5	254.0	248.8	238.7	233.6
G170.0	256.1	251.0	241.6	236.3	240.0	248.8	251.4	247.4	239.1	234.9
G171.0	253.8	249.5	241.8	237.6	240.4	247.4	249.2	246.1	239.5	236.3
G172.0	251.7	248.0	242.0	238.6	240.7	246.3	247.4	245.0	239.9	237.5
G173.0	249.5	246.8	242.3	239.4	241.0	245.2	246.0	244.2	240.4	238.5
G174.0	247.8	245.6	242.3	240.2	241.3	244.3	244.7	243.5	240.8	239.3
G175.0	246.3	244.7	242.4	240.9	241.5	243.6	243.7	243.0	241.1	240.1
G176.0	245.1	244.0	242.5	241.4	241.7	243.0	242.9	242.5	241.4	240.9
G177.0	244.2	243.3	242.6	241.8	241.9	242.6	242.3	242.1	241.6	241.4
G178.0	243.2	242.9	242.6	242.1	242.1	242.3	242.0	242.0	241.9	241.7
G179.0	242.6	242.4	242.6	242.2	242.2	242.3	242.0	242.0	242.1	242.0
G180.0	242.1	242.1	242.3	242.2	242.3	242.3	242.1	242.1	242.3	242.2

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Candlepower Table (Continue 5)

Unit: cd

G\C	C300.0	C330.0	C360.0						
G0.0	445.8	445.9	445.3						
G1.0	445.5	445.6	445.0						
G2.0	445.1	445.1	444.5						
G3.0	444.5	444.6	443.8						
G4.0	443.7	443.7	442.9						
G5.0	442.6	442.8	441.9						
G6.0	441.6	441.6	440.6						
G7.0	440.3	440.1	439.1						
G8.0	438.8	438.6	437.6						
G9.0	436.9	436.9	435.8						
G10.0	434.9	435.0	433.7						
G11.0	433.0	432.8	431.6						
G12.0	430.7	430.5	429.3						
G13.0	428.4	428.1	426.7						
G14.0	425.8	425.3	424.2						
G15.0	423.0	422.4	421.1						
G16.0	420.3	419.6	418.2						
G17.0	417.2	416.6	415.0						
G18.0	413.7	413.4	411.8						
G19.0	410.4	410.0	408.0						
G20.0	407.0	406.2	404.5						
G21.0	403.4	402.6	400.9						
G22.0	399.7	398.9	397.2						
G23.0	395.9	395.0	392.6						
G24.0	391.4	390.5	388.6						
G25.0	387.3	386.3	384.5						
G26.0	383.1	382.1	380.1						
G27.0	378.8	377.6	375.3						
G28.0	373.8	373.1	370.6						
G29.0	369.2	368.0	365.9						
G30.0	364.4	363.3	361.2						
G31.0	359.3	358.4	356.3						
G32.0	354.3	353.5	350.9						
G33.0	349.3	348.5	345.9						
G34.0	344.1	342.9	340.8						
G35.0	338.9	337.6	335.0						
G36.0	333.7	332.3	329.7						

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Candlepower Table (Continue 6)

Unit: cd

G\C	C300.0	C330.0	C360.0						
G37.0	327.8	326.6	324.3						
G38.0	322.3	321.1	318.7						
G39.0	316.8	315.4	312.6						
G40.0	311.2	309.9	306.9						
G41.0	305.0	303.6	301.2						
G42.0	299.2	297.8	295.4						
G43.0	293.5	292.0	289.5						
G44.0	287.0	286.2	283.2						
G45.0	281.1	280.3	277.2						
G46.0	275.0	273.6	271.2						
G47.0	268.8	267.5	264.4						
G48.0	262.8	261.4	258.3						
G49.0	256.0	254.7	252.1						
G50.0	249.8	248.4	245.8						
G51.0	243.3	242.1	238.8						
G52.0	237.0	235.7	232.4						
G53.0	230.1	229.3	226.0						
G54.0	223.6	222.2	219.5						
G55.0	217.2	215.8	213.0						
G56.0	210.6	209.2	205.8						
G57.0	203.3	202.7	199.3						
G58.0	196.6	195.5	192.7						
G59.0	189.9	188.9	186.0						
G60.0	183.2	182.2	178.6						
G61.0	175.7	174.8	171.8						
G62.0	168.9	168.0	165.0						
G63.0	162.0	161.3	157.5						
G64.0	155.1	154.5	150.7						
G65.0	148.4	147.5	143.7						
G66.0	140.7	139.9	136.9						
G67.0	133.7	133.0	129.3						
G68.0	126.8	126.1	122.3						
G69.0	119.7	118.5	115.5						
G70.0	112.0	111.6	107.8						
G71.0	104.9	104.8	100.8						
G72.0	97.3	97.3	94.1						
G73.0	90.6	90.2	86.8						

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:



## Candlepower Table (Continue 7)

Unit: cd

G\C	C300.0	C330.0	C360.0						
G74.0	83.4	83.1	79.8						
G75.0	75.9	76.3	72.4						
G76.0	68.7	69.3	65.4						
G77.0	61.9	62.5	58.6						
G78.0	55.4	55.6	51.9						
G79.0	48.3	48.5	45.6						
G80.0	42.1	42.5	39.2						
G81.0	35.6	36.1	33.0						
G82.0	29.7	29.9	27.4						
G83.0	24.0	24.5	21.8						
G84.0	18.9	19.2	16.9						
G85.0	14.0	14.2	12.2						
G86.0	9.8	10.0	8.2						
G87.0	6.3	6.4	4.8						
G88.0	3.6	3.3	2.1						
G89.0	1.5	1.1	0.4						
G90.0	8.3	6.9	2.4						
G91.0	23.5	16.5	8.0						
G92.0	39.2	27.3	14.9						
G93.0	54.0	38.4	22.5						
G94.0	67.7	49.9	30.5						
G95.0	79.1	62.9	38.9						
G96.0	88.8	76.5	48.8						
G97.0	97.3	92.6	59.8						
G98.0	105.6	109.0	72.3						
G99.0	114.6	125.4	86.5						
G100.0	123.0	143.1	101.2						
G101.0	131.8	157.9	117.7						
G102.0	140.9	174.7	134.4						
G103.0	149.4	190.4	149.6						
G104.0	157.2	206.8	167.7						
G105.0	164.7	224.2	184.8						
G106.0	171.2	241.9	204.1						
G107.0	177.2	258.4	226.3						
G108.0	182.6	273.4	247.8						
G109.0	187.3	289.9	268.1						
G110.0	190.9	305.3	288.7						

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Candlepower Table (Continue 8)

Unit: cd

G\C	C300.0	C330.0	C360.0						
G111.0	194.0	322.0	308.1						
G112.0	196.2	337.2	327.8						
G113.0	197.8	352.5	347.9						
G114.0	198.8	367.4	365.9						
G115.0	199.5	383.2	383.7						
G116.0	199.6	396.2	400.6						
G117.0	199.7	408.3	417.5						
G118.0	199.4	418.7	434.2						
G119.0	199.2	428.0	448.6						
G120.0	198.8	434.3	460.9						
G121.0	198.6	438.4	471.8						
G122.0	198.4	440.7	481.1						
G123.0	198.4	441.2	486.8						
G124.0	198.5	440.0	491.2						
G125.0	198.7	437.5	493.1						
G126.0	199.0	434.0	493.2						
G127.0	199.5	429.8	491.5						
G128.0	200.2	424.8	488.8						
G129.0	200.9	419.7	485.1						
G130.0	201.7	414.2	480.5						
G131.0	202.6	408.2	475.6						
G132.0	203.6	402.6	470.2						
G133.0	204.6	397.2	464.6						
G134.0	205.6	391.6	458.1						
G135.0	206.8	386.1	452.7						
G136.0	207.9	380.7	445.8						
G137.0	209.1	374.7	439.4						
G138.0	210.4	369.6	432.9						
G139.0	211.7	364.4	426.3						
G140.0	213.2	359.1	419.1						
G141.0	214.5	354.1	412.3						
G142.0	215.8	349.3	405.8						
G143.0	217.2	344.4	399.3						
G144.0	218.7	339.2	392.0						
G145.0	220.0	334.6	385.5						
G146.0	221.3	329.9	378.9						
G147.0	222.7	325.3	372.5						

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Candlepower Table (Continue 9)

Unit: cd

G\C	C300.0	C330.0	C360.0						
G148.0	224.1	320.8	366.1						
G149.0	225.3	316.3	359.1						
G150.0	226.6	311.7	352.8						
G151.0	227.6	307.3	346.7						
G152.0	228.8	303.3	340.6						
G153.0	229.8	299.2	334.6						
G154.0	230.9	295.0	328.2						
G155.0	231.9	291.2	322.3						
G156.0	232.8	287.4	316.7						
G157.0	233.8	283.6	311.2						
G158.0	234.5	280.4	305.6						
G159.0	235.3	277.1	299.8						
G160.0	236.0	273.6	294.5						
G161.0	236.7	270.7	289.6						
G162.0	237.2	267.7	285.0						
G163.0	237.8	264.7	280.6						
G164.0	238.2	262.3	276.5						
G165.0	238.7	260.0	272.1						
G166.0	239.3	257.8	268.5						
G167.0	239.7	255.6	265.2						
G168.0	240.2	253.6	261.6						
G169.0	240.6	252.0	258.8						
G170.0	240.9	250.4	256.1						
G171.0	241.1	249.1	253.8						
G172.0	241.3	247.6	251.7						
G173.0	241.6	246.5	249.5						
G174.0	241.8	245.5	247.8						
G175.0	241.9	244.7	246.3						
G176.0	242.1	244.0	245.1						
G177.0	242.2	243.3	244.2						
G178.0	242.2	242.9	243.2						
G179.0	242.1	242.5	242.6						
G180.0	242.3	242.3	242.1						

C Plane (°):0.0-360.0: 30.0  
 Test Lab: MESTER LAB  
 Test Type: TYPE C  
 Temperature: 25.5℃  
 Operator: Yanzhao Sun

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## LED Average Luminance Report

Avg.L	cd/m <sup>2</sup>
L 0-180(65) av	9339.14
L 0-180(75) av	7984.02
L 0-180(85) av	4952.37
L 90-270(65) av	9561.33
L 90-270(75) av	8206.95
L 90-270(85) av	4883.61
L 45(65) av	9449.73
L 45(75) av	8110.00
L 45(85) av	4962.88

Standard: GB/T 29293-2012