

Report No.:

Test Time: 2024/10/10

## Luminaire Property

Luminaire Manufacturer: MESTER

Luminaire Category:

Luminaire Description: MALL014F27V50K-DOWN-100%

Lamp Catalog:

Lamp Description:

Number of Lamps:

Lumens per Lamp:

Luminous Length (mm): 1200

Luminous Width (mm): 63

Luminous Height (mm):

Voltage: 120.2 V

Current: 0.338 A

Power: 40.56 W

Power Factor: 0.995

## Photometric Results

CIE Class: Direct

Total Rated Lamp Lumens: 5076.6 lm

Measurement Flux: 5076.6 lm

Efficiency: 100%

Downward Ratio: 100%

Upward Ratio: 0%

Horizontal Diffuse Angle(10%,50%,75%,100%): H162.1,H112.6,H75.9,H3

Vertical Diffuse Angle(10%,50%,75%,100%): V162.2,V113.6,V77.1,V1

Luminous Efficacy (lm/w): 125.16

C0r0 Intensity: 1766.68 cd

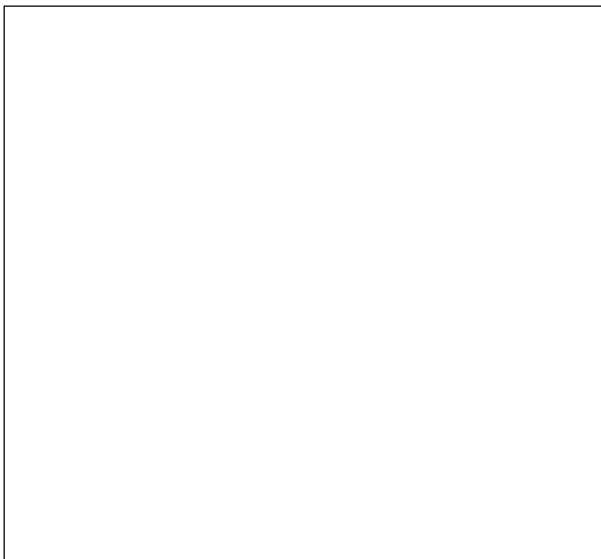
Max. Intensity: 1769.22 cd

Pos of Max. Intensity: H180 V3

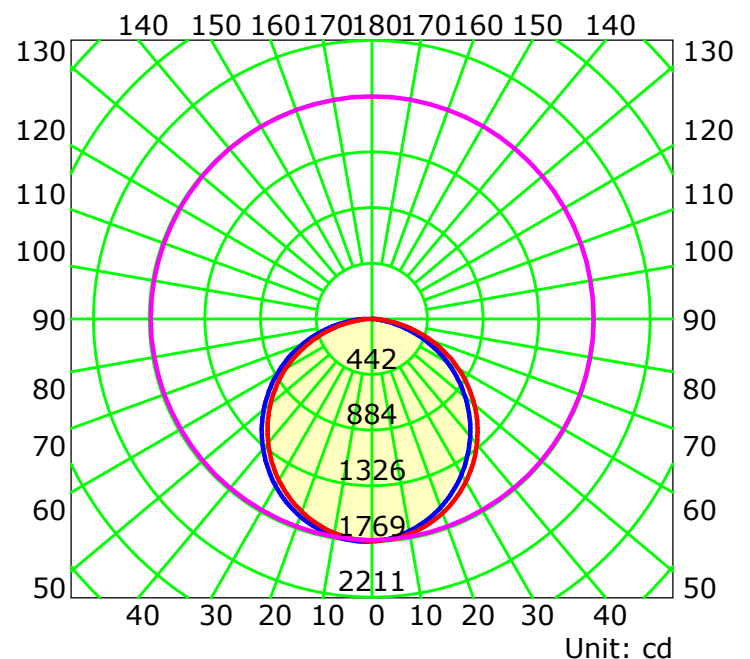
S/MH(C0/C180): 1.25

S/MH(C90/C270): 1.25

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 113.1°

— C0-C180 — C90-C270 — G3

C Plane (°):0.0-360.0: 30.0

Gamma Plane (°):0.0-90.0:1.0

Test Lab: MESTER LAB

Test Device: GPM-1800B

Test Type: TYPE C

Distance: 11.655 m [K=1.0000]

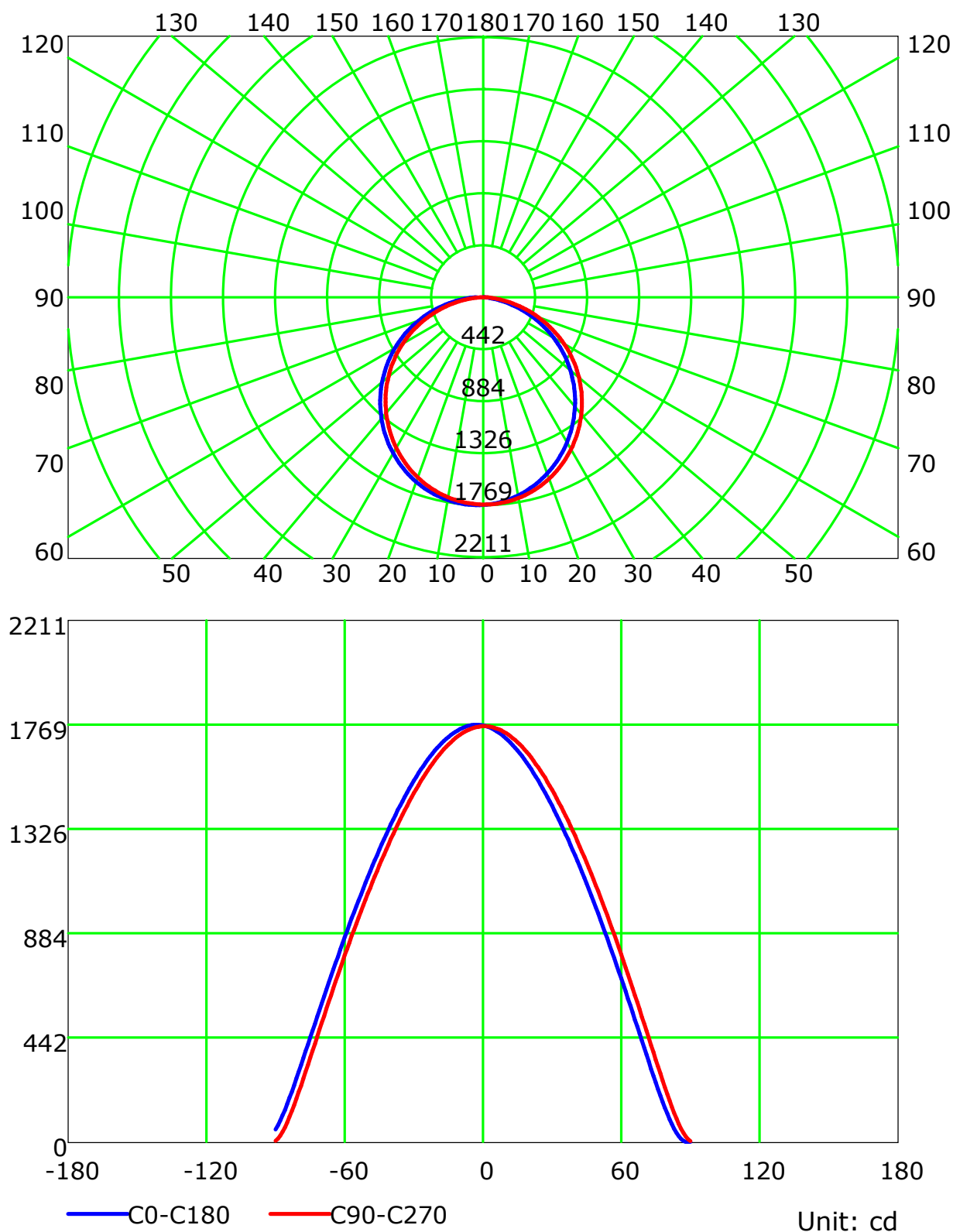
Temperature: 25.5°C

Humidity: 45% R.H

Operator: huayan Luo

Inspector:

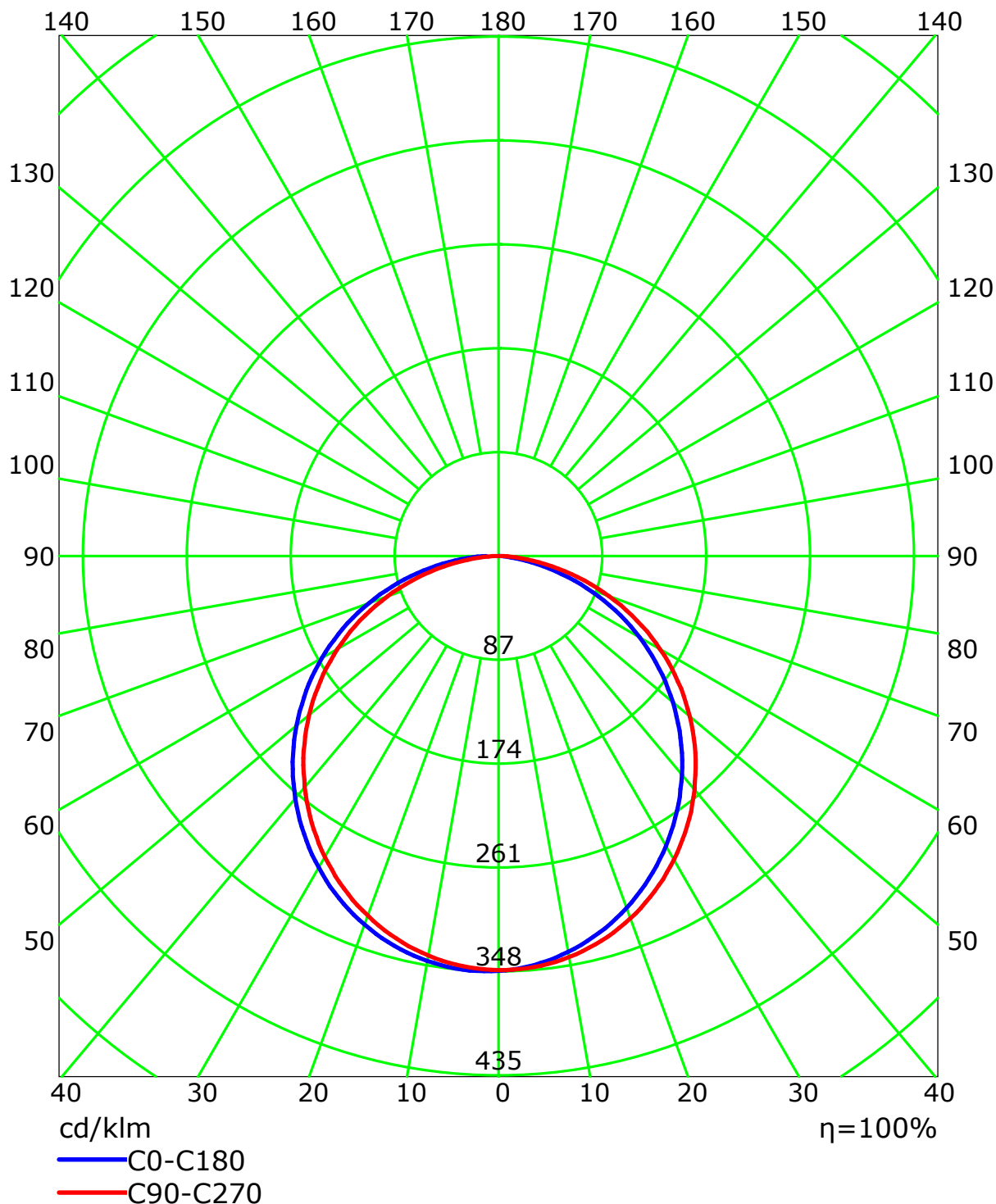
## Luminous Intensity Distribution Curve



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

Gamma Plane (°):0.0-90.0:1.0  
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°C  
Operator: huayan Luo

Gamma Plane (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

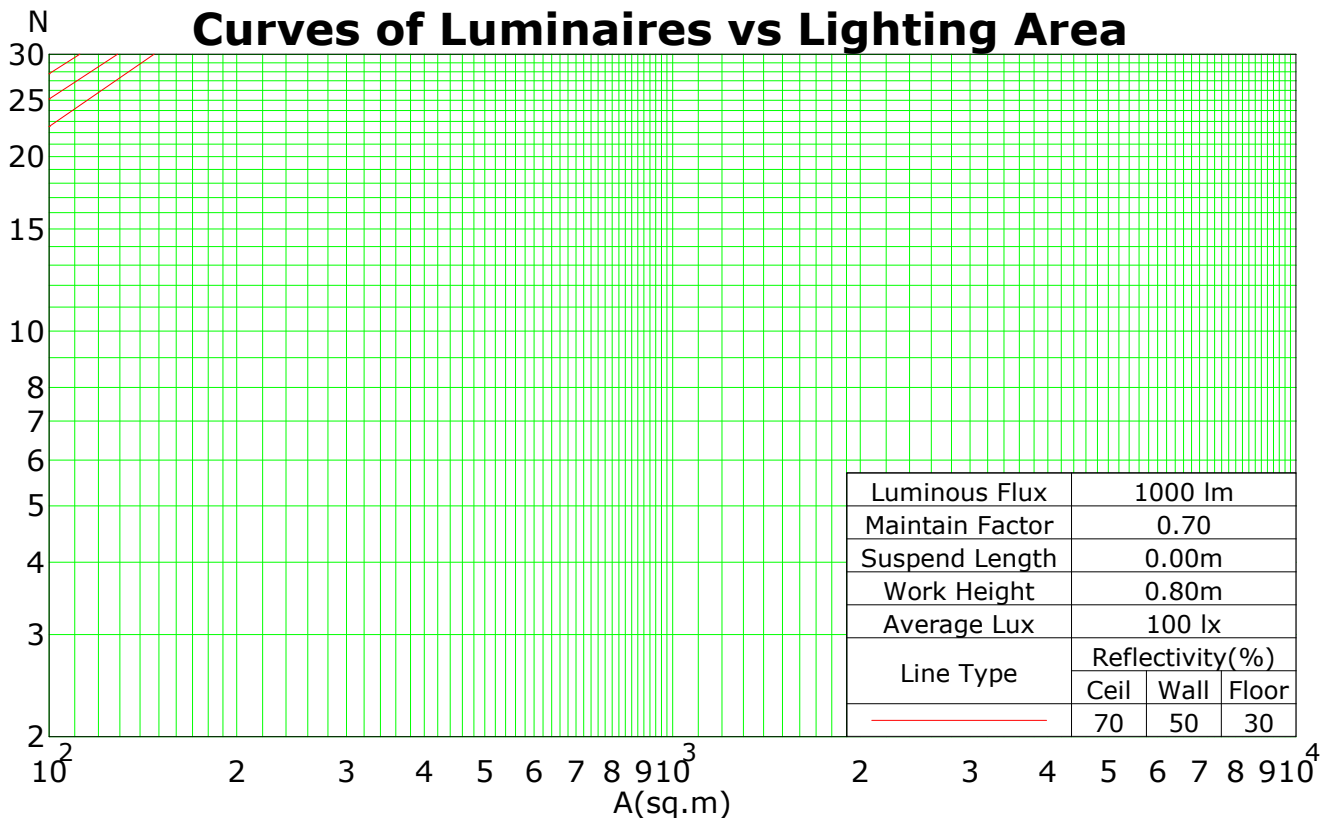
## Coefficients Of Utilization - Zonal Cavity Method

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.09	1.04	0.99	0.95	1.06	1.01	0.97	0.94	0.97	0.94	0.91	0.93	0.91	0.88	0.90	0.87	0.85	0.83
2	0.99	0.90	0.83	0.77	0.96	0.88	0.82	0.76	0.85	0.79	0.75	0.81	0.77	0.73	0.78	0.75	0.71	0.69
3	0.90	0.79	0.71	0.64	0.87	0.77	0.70	0.64	0.74	0.68	0.62	0.72	0.66	0.61	0.69	0.64	0.60	0.58
4	0.82	0.70	0.61	0.54	0.80	0.69	0.60	0.54	0.66	0.59	0.53	0.64	0.57	0.52	0.61	0.56	0.52	0.49
5	0.75	0.62	0.53	0.47	0.73	0.61	0.53	0.46	0.59	0.52	0.46	0.57	0.50	0.45	0.55	0.49	0.45	0.43
6	0.70	0.56	0.47	0.41	0.68	0.55	0.47	0.40	0.53	0.46	0.40	0.52	0.45	0.40	0.50	0.44	0.39	0.37
7	0.65	0.51	0.42	0.36	0.63	0.50	0.42	0.36	0.49	0.41	0.35	0.47	0.40	0.35	0.46	0.40	0.35	0.33
8	0.60	0.46	0.38	0.32	0.58	0.46	0.38	0.32	0.44	0.37	0.32	0.43	0.36	0.31	0.42	0.36	0.31	0.29
9	0.56	0.43	0.34	0.29	0.55	0.42	0.34	0.29	0.41	0.34	0.28	0.40	0.33	0.28	0.39	0.33	0.28	0.26
10	0.53	0.39	0.31	0.26	0.51	0.39	0.31	0.26	0.38	0.31	0.26	0.37	0.30	0.26	0.36	0.30	0.26	0.24

Spacing Criteria (0-180): 1.25

Spacing Criteria (90-270): 1.25

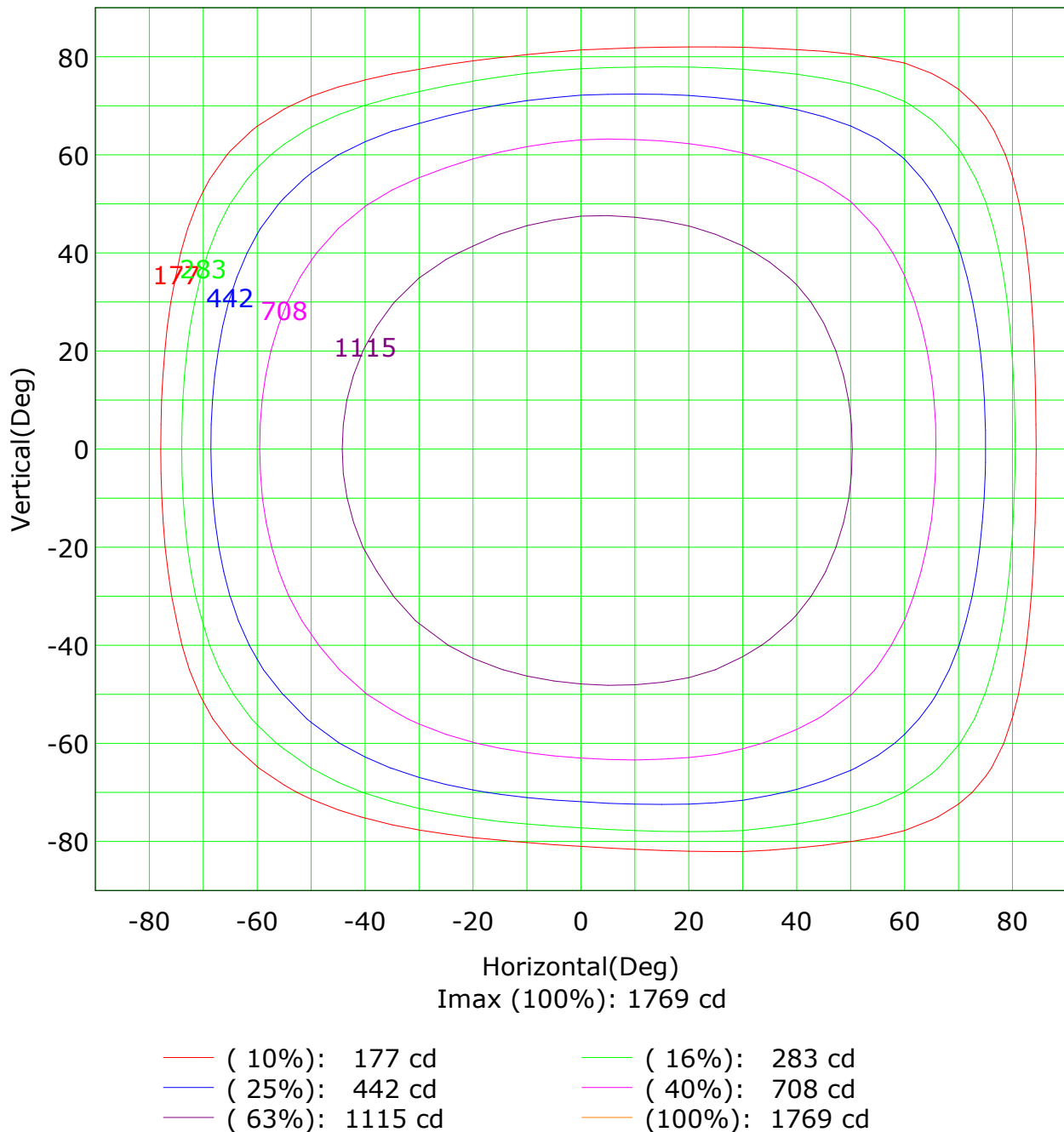
Spacing Criteria (Diagonal): 1.37



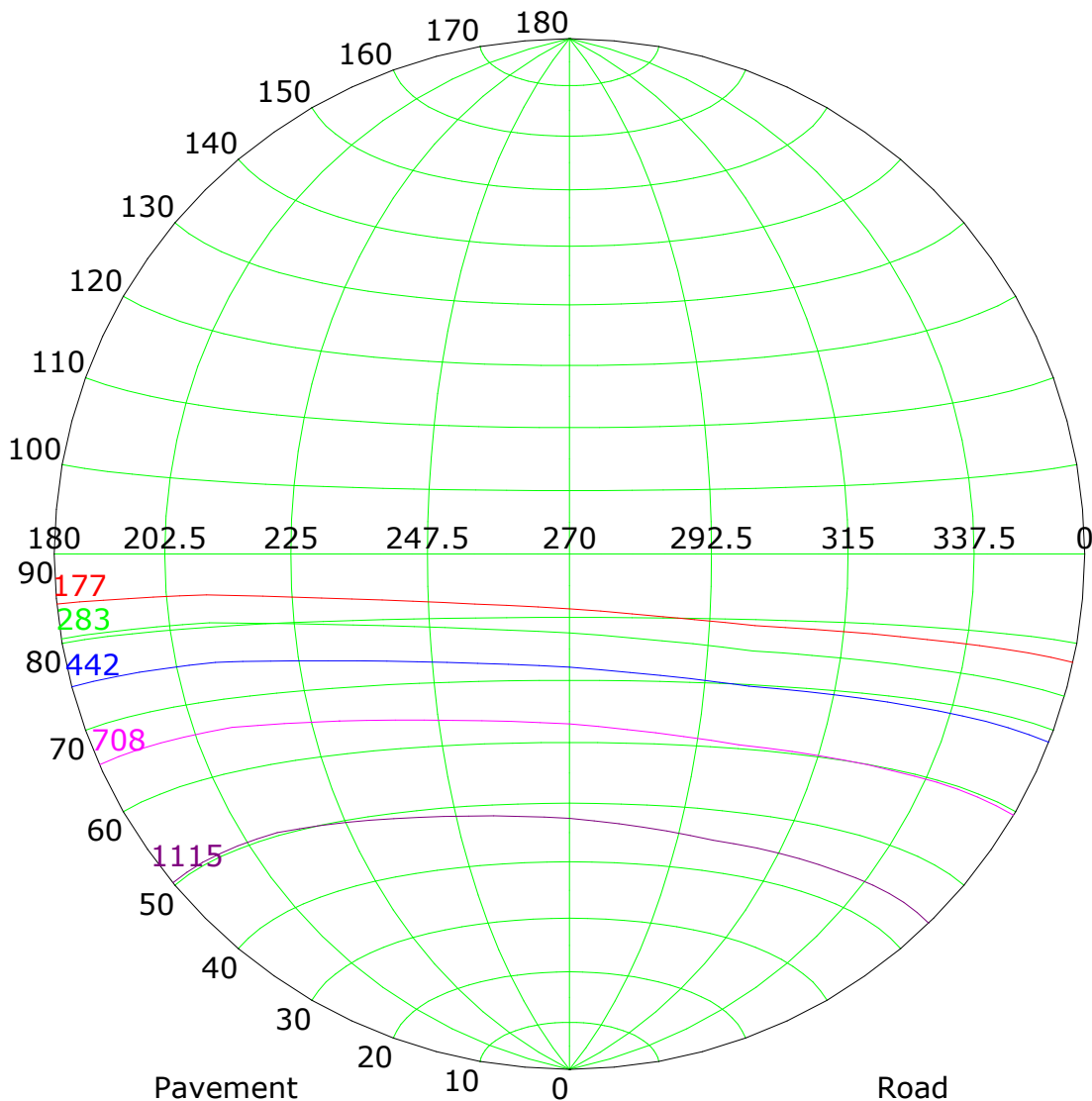
C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: huayan Luo

Gamma Plane (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Isocandela (rectangle)



## Isocandela (sphere)



Imax (100%): 1769 cd

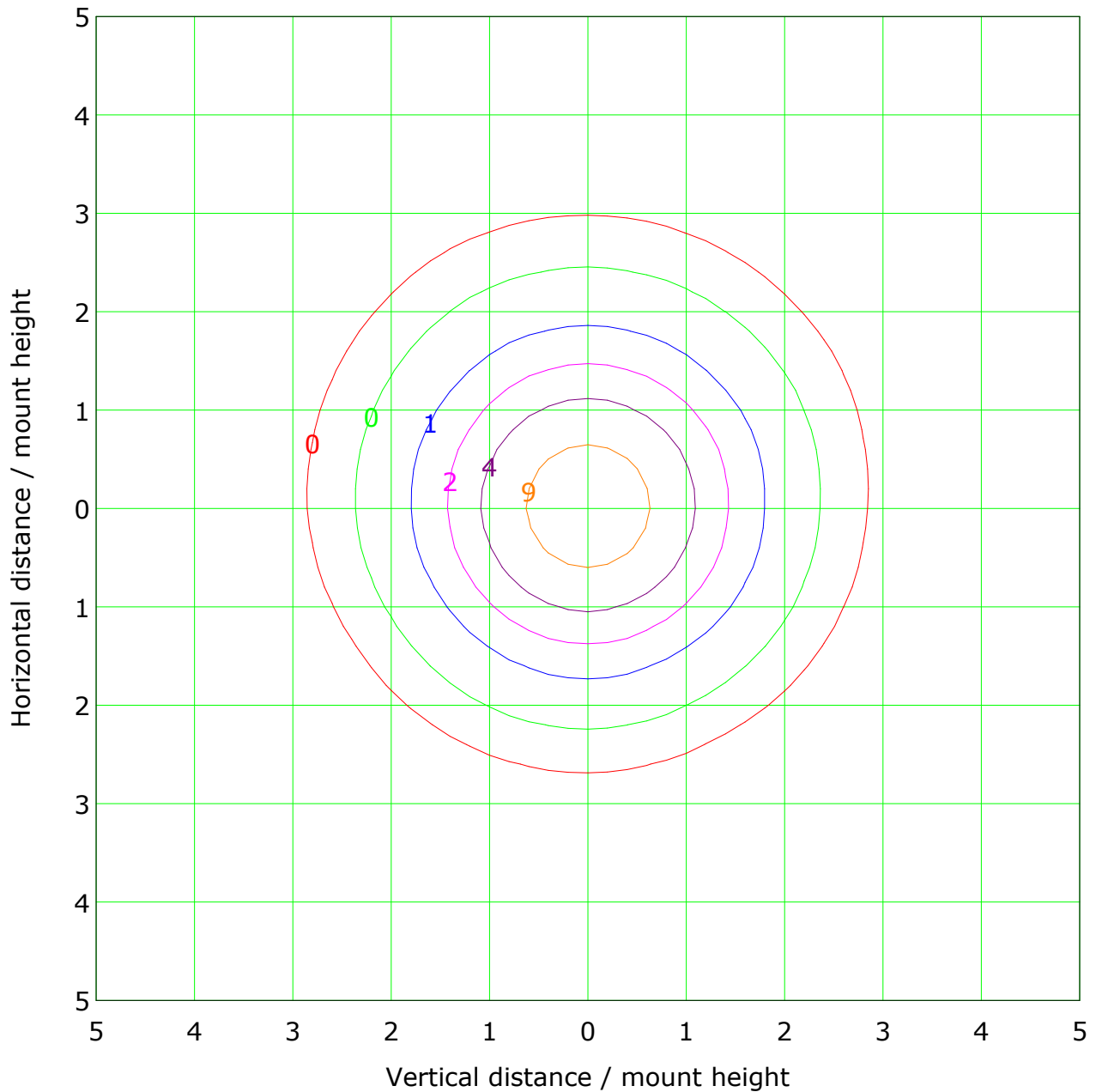
( 10%): 177 cd  
( 25%): 442 cd  
( 63%): 1115 cd

( 16%): 283 cd  
( 40%): 708 cd  
(100%): 1769 cd

CIE: narrow - short  
CIE: Semi-cut-off luminaire  
Max.At90: 10.391 cd/klm

IES: Cut-off  
Max.At80: 59.019 cd/klm  
Max.80-90: 59.019 cd/klm

## IsoLux Plot



Mounting Height: 10.0m    Max Lux(100%): 17.7 lx

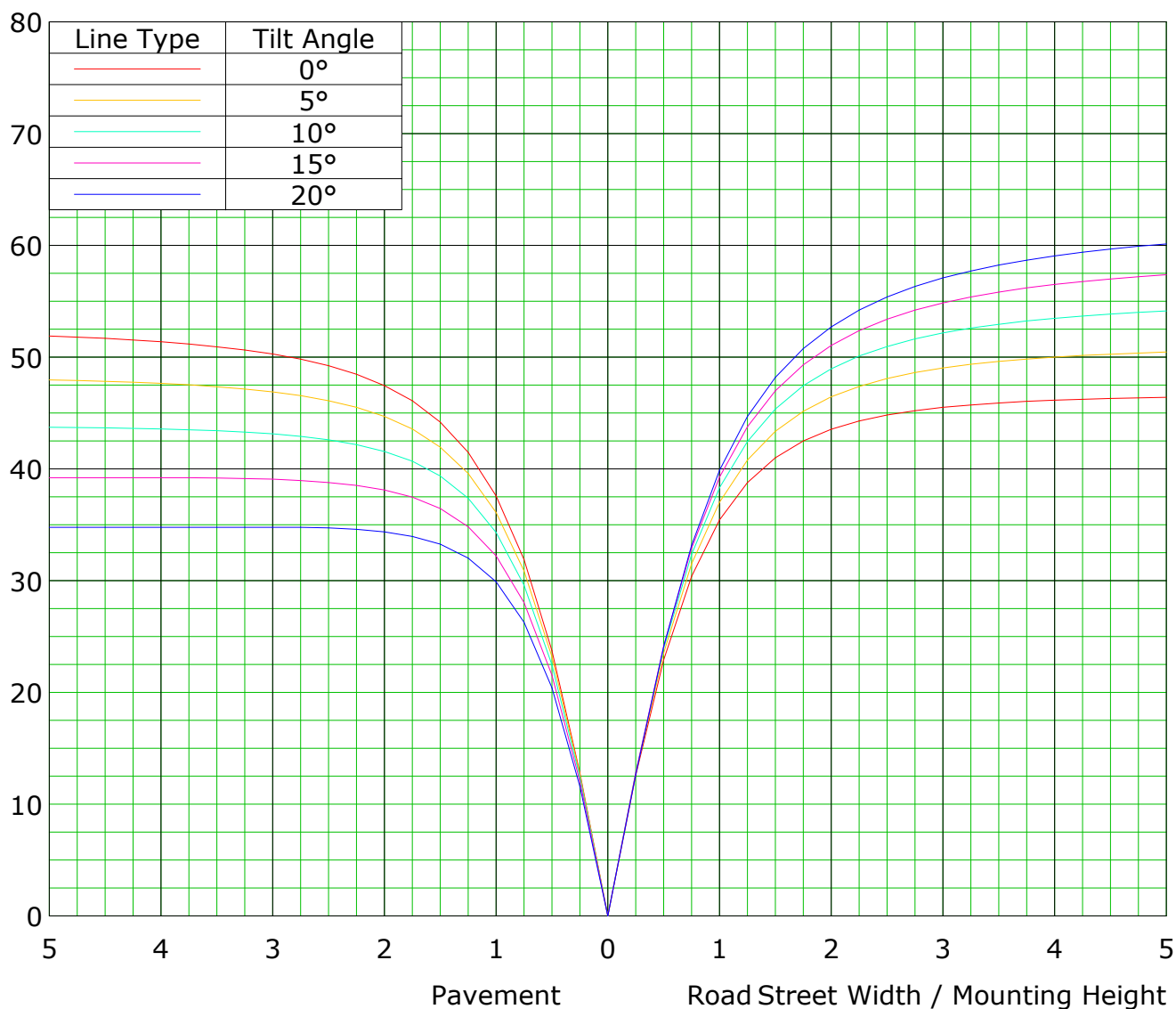
( 1%): 0.2 lx	( 2%): 0.4 lx
( 5%): 0.9 lx	( 10%): 1.8 lx
( 20%): 3.5 lx	( 50%): 8.8 lx
(100%): 17.7 lx	

C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
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Gamma Plane (°):0.0-90.0:1.0  
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: huayan Luo

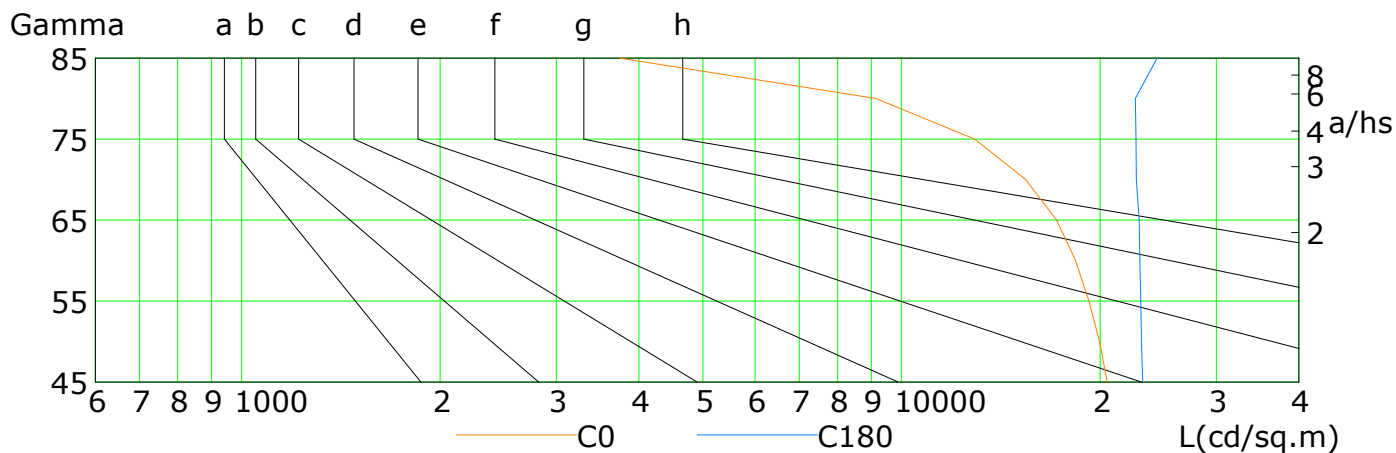
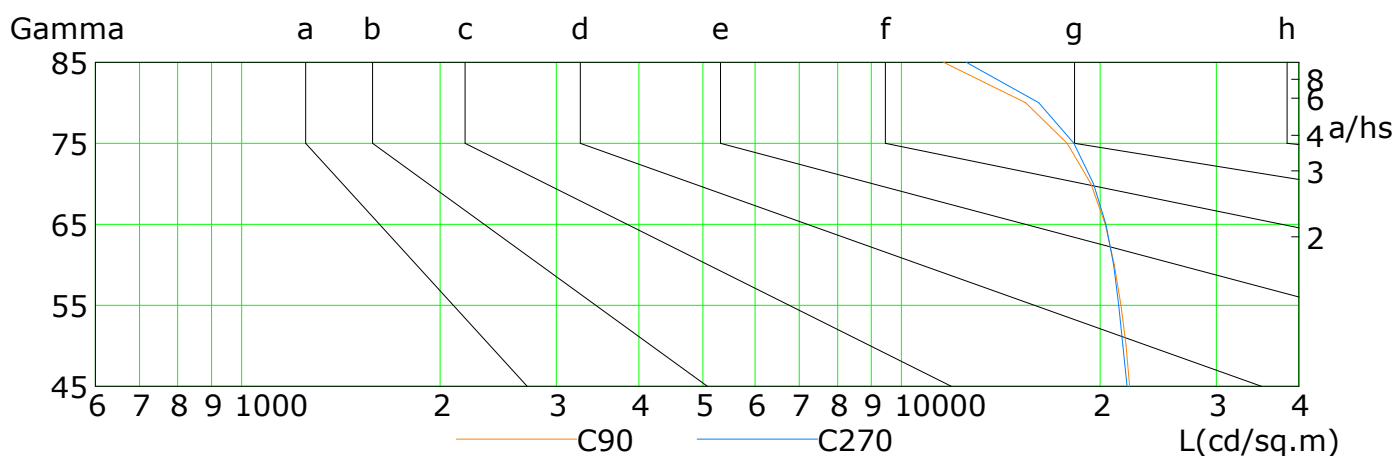
Gamma Plane (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:



## 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

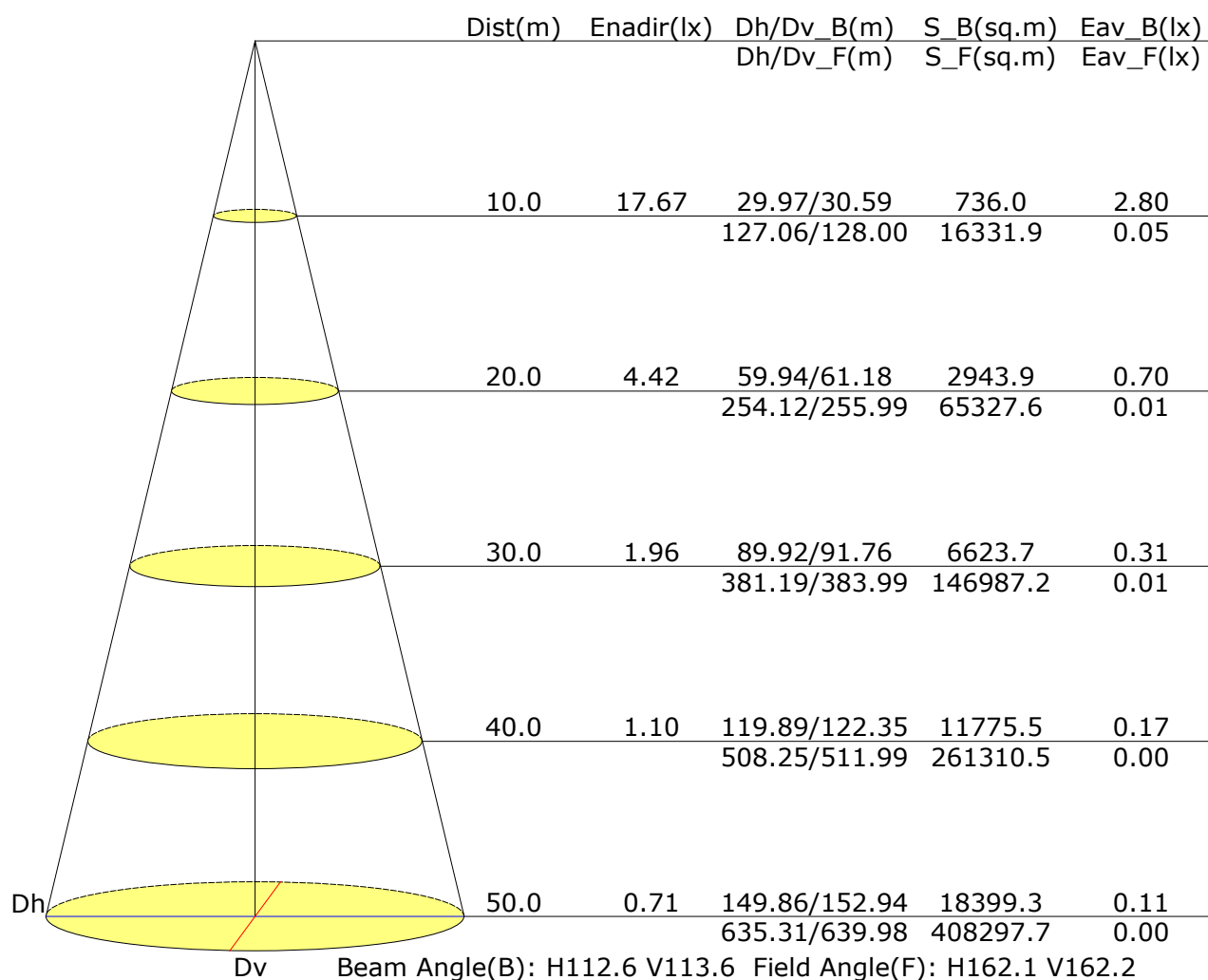


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	20505	19953	19225	18363	17176	15422	12912	9140	3739
C90	22176	21899	21502	21017	20355	19371	17823	15420	11579
C180	23205	23109	23052	22983	22917	22698	22667	22617	24408
C270	21959	21664	21345	20967	20416	19530	18257	16134	12537

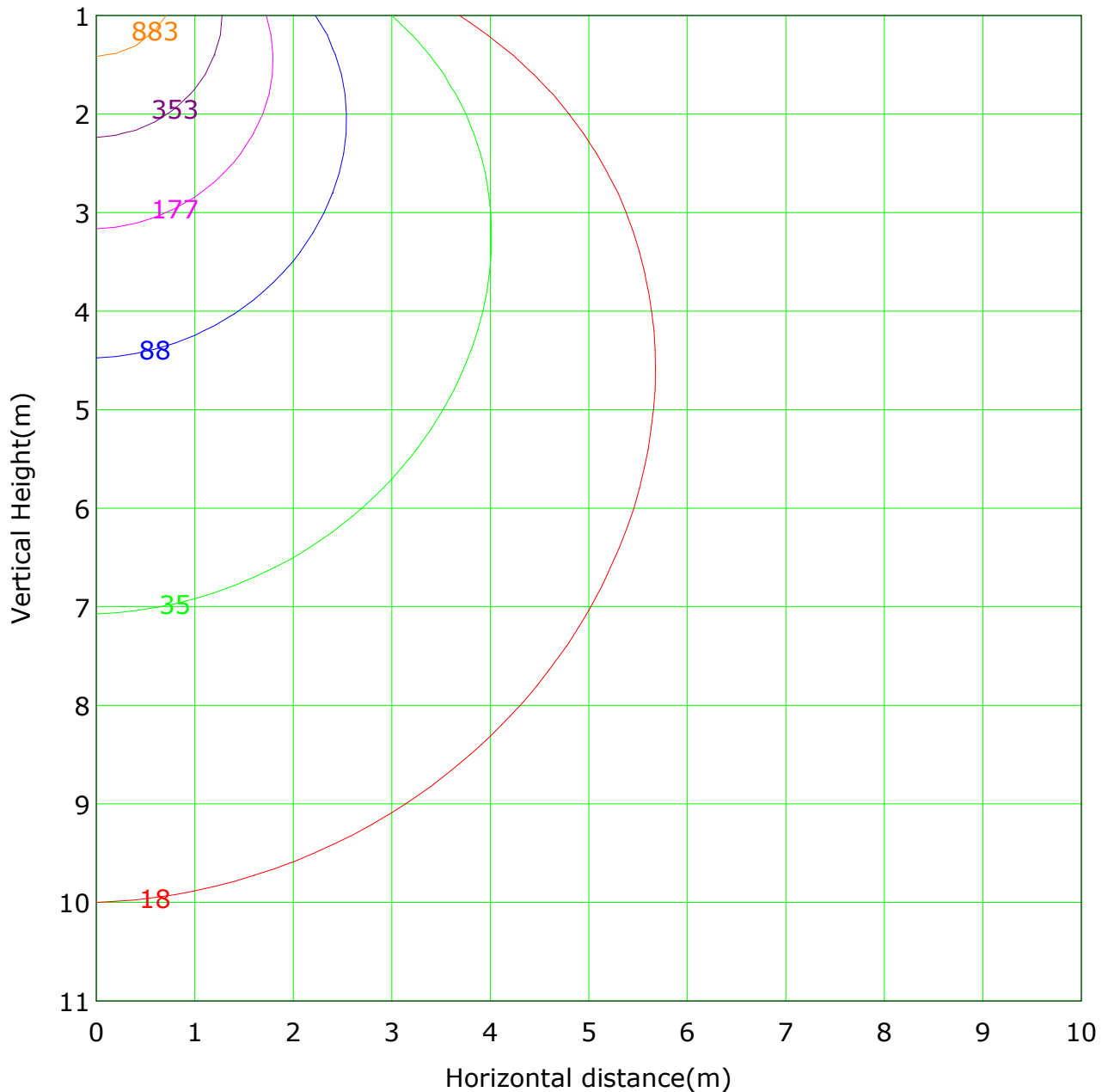
C Plane (°):0.0-360.0: 30.0  
Test Lab: MESTER LAB  
Test Type: TYPE C  
Temperature: 25.5℃  
Operator: huayan Luo

Gamma Plane (°):0.0-90.0:1.0  
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: 1766.7 lx  
— ( 1%): 17.7 lx   — ( 2%): 35.3 lx  
— ( 5%): 88.3 lx   — ( 10%): 176.7 lx  
— ( 20%): 353.3 lx   — ( 50%): 883.3 lx  
— (100%):1766.7 lx

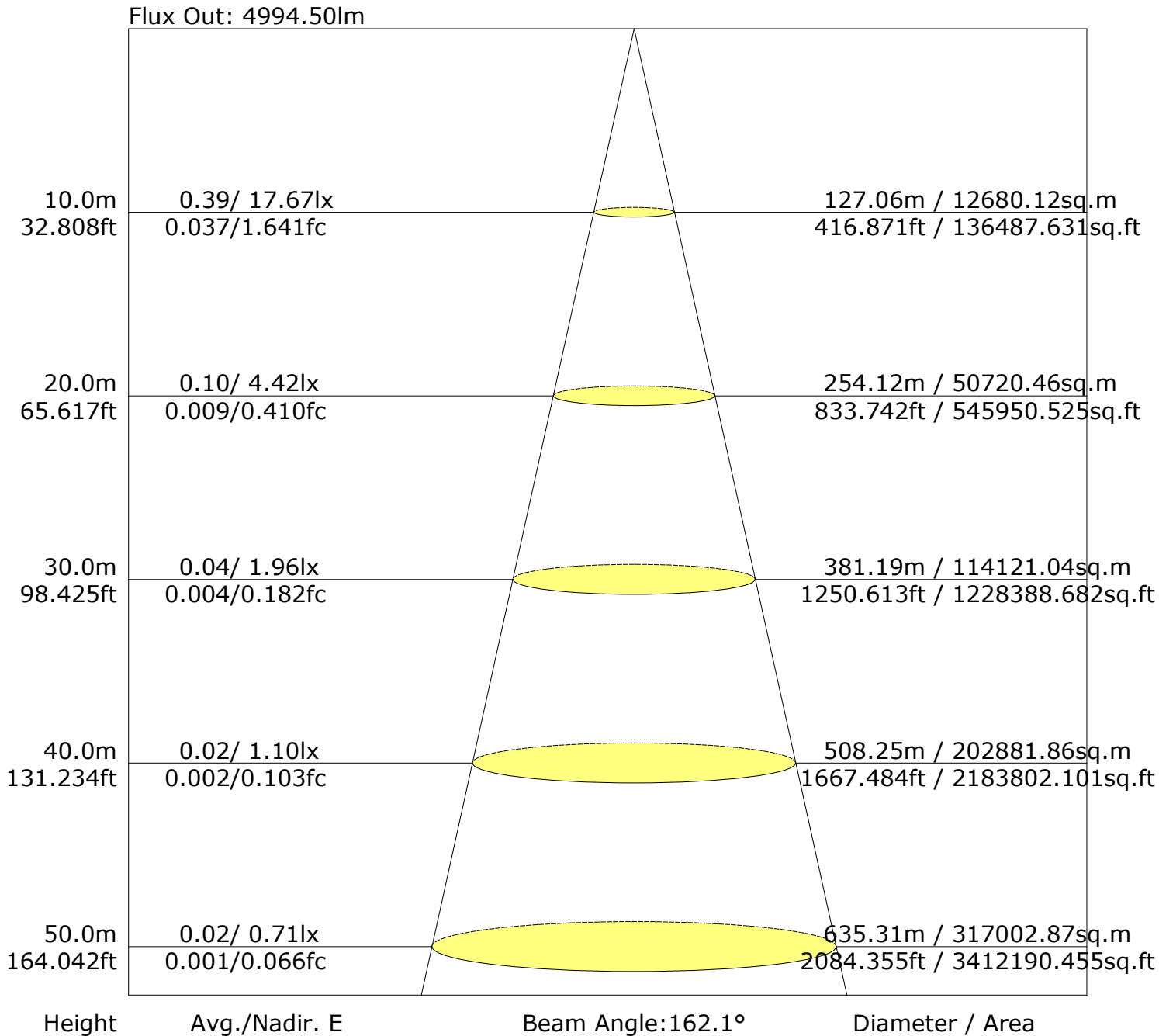
## Area Flux Table

Unit: lm

		Correct data																			
-90	0.2	0.6	1.2	1.8	2.4	2.8	3.1	3.1	2.9	2.6	2.0	1.4	0.9	0.5	0.2	0.1	0.0	0.0	25.9	4.9	
-80	0.2	1.1	2.5	4.4	6.4	8.2	9.7	10.7	11.0	10.4	9.0	7.1	5.2	3.4	1.8	0.7	0.1	0.0	92.0	83.7	
-70	0.3	1.6	4.0	7.2	10.7	14.1	17.0	19.0	19.8	19.2	17.2	14.2	10.9	7.4	4.2	1.8	0.4	0.0	169.2	166.4	
-60	0.4	2.1	5.4	9.9	14.9	19.7	23.9	26.8	28.1	27.5	25.0	21.0	16.5	11.5	6.8	3.1	0.8	0.0	243.3	241.9	
-50	0.4	2.6	6.7	12.3	18.6	24.7	30.0	33.8	35.5	34.9	31.9	27.2	21.5	15.2	9.2	4.3	1.2	0.1	310.1	309.2	
-40	0.5	3.0	7.8	14.3	21.8	29.0	35.3	39.8	42.0	41.3	37.9	32.5	25.7	18.3	11.3	5.4	1.5	0.1	367.5	366.8	
-30	0.5	3.3	8.6	15.9	24.1	32.4	39.6	44.7	47.2	46.5	42.8	36.8	29.1	20.8	12.9	6.2	1.8	0.1	413.5	412.9	
-20	0.5	3.5	9.2	16.9	25.8	34.7	42.6	48.3	51.0	50.3	46.3	39.8	31.5	22.6	14.0	6.8	2.0	0.1	446.0	445.5	
-10	0.5	3.6	9.5	17.4	26.6	35.8	44.1	50.2	53.1	52.4	48.3	41.5	32.8	23.5	14.6	7.1	2.1	0.2	463.1	462.7	
0	0.5	3.6	9.5	17.4	26.6	35.9	44.1	50.2	53.2	52.5	48.3	41.5	32.8	23.5	14.5	7.1	2.1	0.1	463.5	463.1	
10	0.5	3.5	9.1	16.9	25.8	34.8	42.8	48.7	51.4	50.7	46.6	39.9	31.5	22.6	14.0	6.8	2.0	0.1	447.6	447.1	
20	0.5	3.2	8.6	15.8	24.2	32.6	40.0	45.4	47.8	47.0	43.3	37.1	29.1	20.8	12.8	6.2	1.8	0.1	416.2	415.6	
30	0.5	2.9	7.7	14.2	21.8	29.3	35.9	40.6	42.5	41.9	38.6	33.0	25.9	18.2	11.2	5.3	1.5	0.1	370.9	370.2	
40	0.4	2.5	6.6	12.2	18.6	25.0	30.7	34.4	36.0	35.4	32.5	27.8	21.7	15.1	9.0	4.2	1.1	0.1	313.5	312.6	
50	0.3	2.0	5.3	9.8	14.9	20.1	24.5	27.3	28.4	27.8	25.5	21.6	16.7	11.5	6.6	2.9	0.7	0.0	246.1	244.6	
60	0.3	1.5	3.9	7.1	10.7	14.4	17.5	19.3	19.9	19.3	17.5	14.7	11.1	7.4	4.0	1.7	0.4	0.0	170.7	167.7	
70	0.2	1.0	2.4	4.2	6.3	8.4	10.0	10.8	10.9	10.3	9.1	7.4	5.3	3.3	1.6	0.6	0.1	0.0	92.0	83.7	
80	0.2	0.6	1.1	1.7	2.3	2.8	3.1	3.1	2.8	2.4	2.0	1.4	0.9	0.5	0.2	0.0	0.0	0.0	25.0	4.5	
90	6.9	42.1	108.9	199.6	302.3	404.7	493.7	556.2	583.7	572.3	523.9	445.8	349.3	246.1	149.0	70.4	19.8	1.3	5076		
Flux(T)																					
Flux(E)	3.4	38.2	105.0	195.7	298.4	400.9	489.7	552.3	579.5	568.3	519.6	441.6	345.0	241.8	144.5	65.6	13.6	0.0		5003	
-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	Flux(T)	Flux(E)	

Horizontal plane

## 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	22.0	23.7	22.4	24.0	24.3	22.9	24.6	23.3	24.9	25.2
3H	23.7	25.2	24.0	25.5	25.8	24.8	26.3	25.2	26.6	27.0
4H	24.2	25.6	24.6	25.9	26.3	25.5	26.9	25.9	27.2	27.6
6H	24.4	25.7	24.9	26.1	26.5	25.9	27.3	26.4	27.6	28.0
8H	24.5	25.7	24.9	26.1	26.5	26.1	27.3	26.5	27.7	28.1
12H	24.5	25.7	24.9	26.1	26.5	26.2	27.4	26.6	27.7	28.2
X=4H Y=2H	22.7	24.1	23.1	24.4	24.8	23.6	25.0	24.0	25.3	25.7
3H	24.5	25.7	24.9	26.1	26.5	25.7	26.9	26.1	27.3	27.7
4H	25.1	26.2	25.5	26.6	27.0	26.5	27.6	26.9	28.0	28.4
6H	25.5	26.4	25.9	26.8	27.3	27.1	28.0	27.6	28.5	28.9
8H	25.5	26.4	26.0	26.8	27.3	27.3	28.2	27.7	28.6	29.1
12H	25.5	26.3	26.0	26.8	27.3	27.4	28.2	27.9	28.7	29.1
X=8H Y=4H	25.4	26.3	25.8	26.7	27.2	26.8	27.7	27.3	28.1	28.6
6H	25.8	26.5	26.3	27.0	27.5	27.5	28.3	28.1	28.8	29.2
8H	25.9	26.5	26.4	27.0	27.5	27.8	28.5	28.3	29.0	29.5
12H	25.9	26.5	26.4	27.0	27.5	28.0	28.6	28.5	29.1	29.6
X=12H Y=4H	25.4	26.2	25.9	26.7	27.1	26.9	27.6	27.3	28.1	28.6
6H	25.8	26.5	26.4	27.0	27.5	27.6	28.3	28.2	28.8	29.3
8H	25.9	26.5	26.5	27.0	27.6	27.9	28.5	28.4	29.0	29.6

Calculate in accordance with CIE 190:2010 The table is revised with 5077lm ( $8\log(F/F_0) = 5.6$ ).

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

Gamma Plane (°):0.0-90.0:1.0  
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**

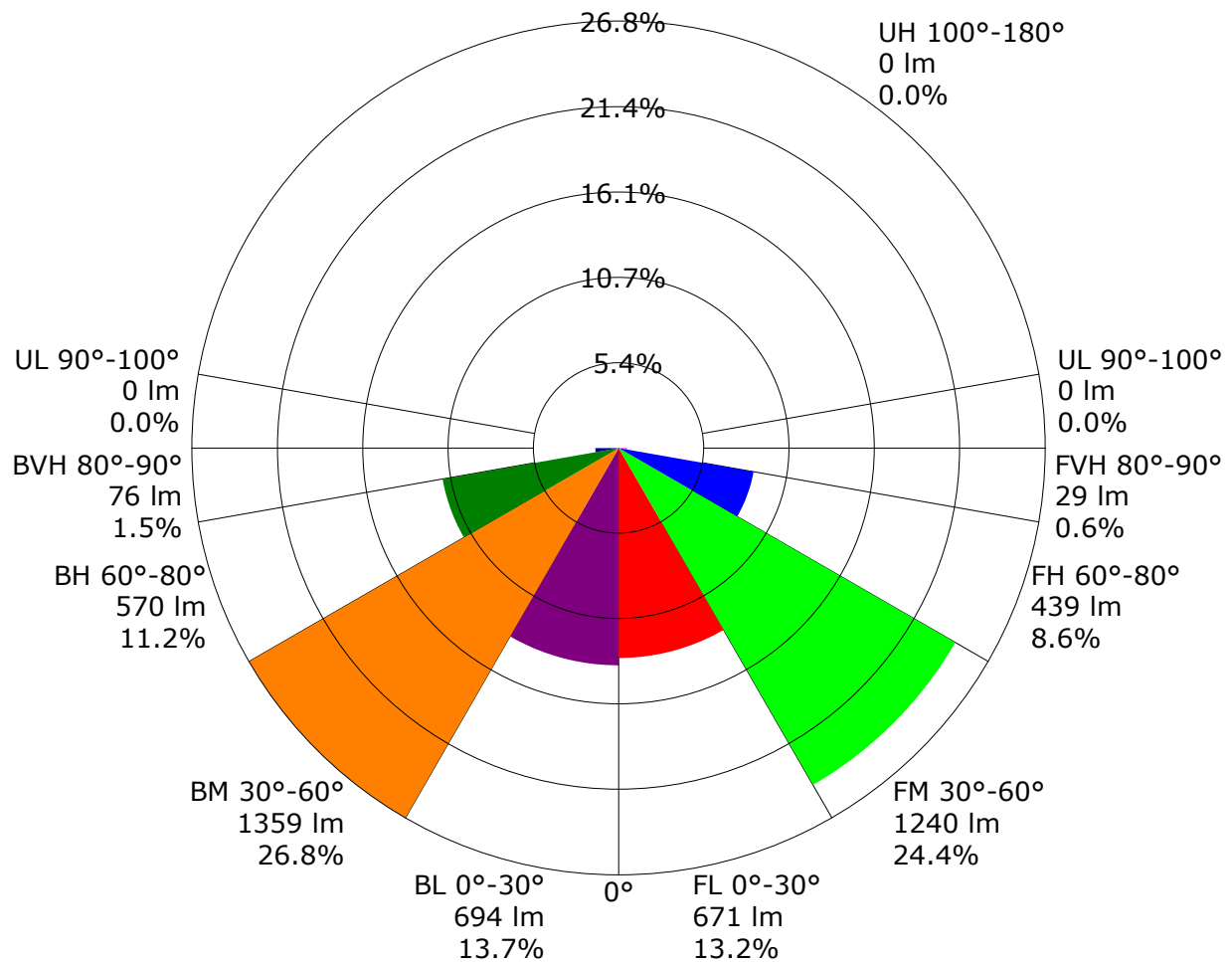
	ZONE	LUMENS	% LAMP LUMENS
	FORWARD LIGHT	2378	46.8
	FL ( 0°-30°)	671	13.2
	FM (30°-60°)	1240	24.4
	FH (60°-80°)	439	8.6
	FVH (80°-90°)	29	0.6
	BACK LIGHT	2698	53.2
	BL ( 0°-30°)	694	13.7
	BM (30°-60°)	1359	26.8
	BH (60°-80°)	570	11.2
	BVH (80°-90°)	76	1.5
	UP LIGHT	0	0.0
	UL (90°-100°)	0	0.0
	UH (100°-180°)	0	0.0
	TRAPPED LIGHT	NA	NA

BUG(Backlight,Uplight,Glare) Rating Base On TM-15-07	
Asymmetrical Luminaire Types (Type I,II,III,IV)	B2 U2 G2
Quadrilateral Symmetrical Luminaire Types (Type V,Area Light)	B2 U2 G1

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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	0.56	0.66	0.74	0.79	0.87	0.92	0.95	1.00	1.03	
	0.30		0.48	0.59	0.66	0.72	0.80	0.86	0.90	0.96	0.99	
	0.20		0.42	0.53	0.60	0.66	0.75	0.81	0.86	0.92	0.96	
0.50	0.50	0.20	0.54	0.64	0.71	0.76	0.83	0.88	0.92	0.96	0.99	
	0.30		0.47	0.57	0.65	0.70	0.78	0.83	0.87	0.93	0.96	
	0.20		0.42	0.52	0.60	0.65	0.74	0.79	0.84	0.89	0.93	
0.30	0.50	0.20	0.53	0.62	0.69	0.74	0.81	0.85	0.88	0.92	0.95	
	0.30		0.46	0.56	0.63	0.69	0.76	0.81	0.85	0.89	0.93	
	0.20		0.42	0.52	0.59	0.64	0.72	0.78	0.82	0.87	0.90	
0.00	0.00	0.00	0.39	0.49	0.56	0.61	0.69	0.74	0.77	0.82	0.86	
<p>Rating:41W Photometrically tested without ceiling board.</p> <p>Multiply UF values by service correction factors</p> <p>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p>												

## 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	1.01	0.84	0.71	0.62	0.50	0.41	0.35	0.27	0.22	
	0.30		0.84	0.71	0.62	0.55	0.45	0.38	0.33	0.26	0.21	
	0.20		0.72	0.62	0.55	0.49	0.41	0.35	0.30	0.24	0.20	
0.50	0.50	0.20	0.97	0.80	0.68	0.60	0.48	0.43	0.34	0.26	0.21	
	0.30		0.83	0.70	0.60	0.53	0.43	0.36	0.31	0.25	0.20	
	0.20		0.72	0.62	0.54	0.48	0.40	0.34	0.30	0.23	0.20	
0.30	0.50	0.20	0.95	0.77	0.66	0.57	0.45	0.38	0.32	0.25	0.20	
	0.30		0.81	0.68	0.59	0.52	0.42	0.35	0.30	0.24	0.20	
	0.20		0.71	0.61	0.53	0.47	0.39	0.33	0.29	0.23	0.19	
0.00	0.00	0.00	0.61	0.51	0.44	0.39	0.32	0.26	0.23	0.18	0.15	
Rating:41W 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	0.16	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	
	0.30		0.09	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19	
	0.20		0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16	0.17	
0.50	0.50	0.20	0.16	0.17	0.18	0.18	0.19	0.20	0.20	0.21	0.21	
	0.30		0.09	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19	
	0.20		0.04	0.06	0.08	0.09	0.11	0.12	0.13	0.15	0.16	
0.30	0.50	0.20	0.15	0.16	0.17	0.18	0.19	0.19	0.19	0.20	0.20	
	0.30		0.09	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	
	0.20		0.04	0.06	0.07	0.09	0.11	0.12	0.13	0.15	0.16	
0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Rating:41W 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	1763.6	1.7	1.7	0.03	0.03
1.0-2.0	1762.9	5.1	6.7	0.10	0.13
2.0-3.0	1761.5	8.4	15.2	0.17	0.30
3.0-4.0	1759.4	11.8	27.0	0.23	0.53
4.0-5.0	1756.8	15.1	42.1	0.30	0.83
5.0-6.0	1753.5	18.4	60.5	0.36	1.19
6.0-7.0	1749.6	21.7	82.2	0.43	1.62
7.0-8.0	1744.8	25.0	107.2	0.49	2.11
8.0-9.0	1739.4	28.2	135.4	0.56	2.67
9.0-10.0	1733.5	31.4	166.8	0.62	3.28
10.0-11.0	1727.0	34.5	201.3	0.68	3.96
11.0-12.0	1719.8	37.6	238.9	0.74	4.71
12.0-13.0	1711.9	40.6	279.5	0.80	5.51
13.0-14.0	1703.4	43.6	323.1	0.86	6.36
14.0-15.0	1694.5	46.5	369.6	0.92	7.28
15.0-16.0	1684.9	49.4	419.0	0.97	8.25
16.0-17.0	1674.6	52.2	471.2	1.03	9.28
17.0-18.0	1663.7	54.9	526.0	1.08	10.36
18.0-19.0	1652.3	57.5	583.5	1.13	11.49
19.0-20.0	1640.4	60.0	643.6	1.18	12.68
20.0-21.0	1627.7	62.5	706.1	1.23	13.91
21.0-22.0	1614.5	64.9	771.0	1.28	15.19
22.0-23.0	1601.0	67.2	838.2	1.32	16.51
23.0-24.0	1587.1	69.4	907.6	1.37	17.88
24.0-25.0	1572.4	71.5	979.1	1.41	19.29
25.0-26.0	1557.1	73.5	1052.6	1.45	20.73
26.0-27.0	1541.5	75.4	1128.0	1.49	22.22
27.0-28.0	1525.3	77.2	1205.2	1.52	23.74
28.0-29.0	1508.6	78.9	1284.2	1.55	25.30
29.0-30.0	1491.5	80.5	1364.7	1.59	26.88
30.0-31.0	1473.8	82.0	1446.7	1.62	28.50
31.0-32.0	1455.7	83.4	1530.1	1.64	30.14
32.0-33.0	1437.4	84.7	1614.8	1.67	31.81
33.0-34.0	1418.5	85.9	1700.7	1.69	33.50
34.0-35.0	1399.1	86.9	1787.6	1.71	35.21
35.0-36.0	1379.5	87.8	1875.4	1.73	36.94

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

Gamma Plane (°):0.0-90.0:1.0  
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	1359.6	88.7	1964.1	1.75	38.69
37.0-38.0	1339.0	89.4	2053.5	1.76	40.45
38.0-39.0	1318.0	90.0	2143.5	1.77	42.22
39.0-40.0	1296.8	90.5	2233.9	1.78	44.01
40.0-41.0	1275.0	90.8	2324.7	1.79	45.79
41.0-42.0	1253.0	91.0	2415.8	1.79	47.59
42.0-43.0	1230.8	91.2	2507.0	1.80	49.38
43.0-44.0	1208.1	91.2	2598.2	1.80	51.18
44.0-45.0	1185.3	91.1	2689.3	1.79	52.97
45.0-46.0	1161.8	90.9	2780.1	1.79	54.76
46.0-47.0	1137.7	90.5	2870.6	1.78	56.55
47.0-48.0	1113.6	90.0	2960.7	1.77	58.32
48.0-49.0	1089.4	89.5	3050.2	1.76	60.08
49.0-50.0	1064.5	88.8	3138.9	1.75	61.83
50.0-51.0	1039.3	87.9	3226.9	1.73	63.56
51.0-52.0	1014.1	87.0	3313.9	1.71	65.28
52.0-53.0	988.9	86.0	3399.9	1.69	66.97
53.0-54.0	962.9	84.9	3484.8	1.67	68.65
54.0-55.0	936.4	83.6	3568.4	1.65	70.29
55.0-56.0	909.9	82.2	3650.6	1.62	71.91
56.0-57.0	883.2	80.8	3731.4	1.59	73.50
57.0-58.0	856.2	79.2	3810.6	1.56	75.06
58.0-59.0	829.0	77.5	3888.1	1.53	76.59
59.0-60.0	801.4	75.7	3963.8	1.49	78.08
60.0-61.0	773.6	73.8	4037.7	1.45	79.54
61.0-62.0	745.7	71.9	4109.5	1.42	80.95
62.0-63.0	717.4	69.8	4179.3	1.37	82.33
63.0-64.0	688.6	67.6	4246.9	1.33	83.66
64.0-65.0	660.0	65.3	4312.2	1.29	84.94
65.0-66.0	631.3	63.0	4375.2	1.24	86.18
66.0-67.0	601.7	60.5	4435.7	1.19	87.38
67.0-68.0	572.3	58.0	4493.7	1.14	88.52
68.0-69.0	542.9	55.4	4549.1	1.09	89.61
69.0-70.0	513.4	52.7	4601.8	1.04	90.65
70.0-71.0	483.9	50.0	4651.8	0.99	91.63
71.0-72.0	454.2	47.2	4699.1	0.93	92.56

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

Gamma Plane (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:



## Zonal Lumen (Continue 3)

cone flux(90°): 2689.28 lm

%lum = 53.0%  
%lamp = 53.0%

cone flux(120°): 3963.83 lm

%lum = 78.1%  
%lamp = 78.1%

## 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	1766.7	1762.7	1762.8	1762.9	1763.2	1764.1	1766.7	1762.7	1762.8	1762.9
G1.0	1764.5	1760.4	1761.4	1763.1	1765.0	1766.0	1768.1	1764.1	1762.9	1762.2
G2.0	1761.6	1757.6	1759.9	1762.4	1765.6	1767.1	1769.0	1765.2	1762.5	1760.5
G3.0	1757.9	1753.2	1757.0	1761.4	1765.7	1767.7	1769.2	1765.6	1761.9	1758.9
G4.0	1753.2	1749.0	1754.0	1759.1	1765.1	1767.6	1769.1	1765.4	1760.4	1756.6
G5.0	1748.0	1744.1	1750.7	1756.4	1764.3	1767.0	1767.6	1764.7	1758.2	1753.1
G6.0	1741.7	1738.6	1746.4	1753.3	1762.6	1765.8	1765.7	1763.1	1755.4	1749.0
G7.0	1735.6	1732.1	1741.7	1749.7	1759.7	1763.4	1763.1	1760.7	1751.5	1744.7
G8.0	1728.7	1724.8	1735.2	1745.3	1756.7	1760.8	1759.5	1757.8	1747.2	1739.3
G9.0	1719.9	1717.4	1729.2	1739.6	1753.0	1756.9	1755.1	1754.1	1742.7	1733.9
G10.0	1711.3	1709.1	1722.7	1733.7	1748.5	1753.1	1750.6	1750.1	1737.6	1726.5
G11.0	1702.6	1700.7	1714.8	1727.4	1743.7	1748.8	1744.9	1744.6	1731.7	1720.0
G12.0	1693.4	1690.6	1706.6	1720.6	1737.3	1742.8	1739.3	1739.2	1724.3	1712.7
G13.0	1682.1	1680.5	1697.9	1712.5	1731.0	1736.8	1732.9	1733.0	1717.3	1704.6
G14.0	1671.2	1669.9	1688.7	1704.3	1724.3	1730.4	1725.7	1726.2	1709.2	1694.5
G15.0	1660.3	1659.1	1678.8	1695.5	1716.8	1722.8	1717.6	1719.0	1701.5	1685.6
G16.0	1648.9	1646.5	1668.1	1686.3	1707.7	1714.2	1709.4	1710.2	1692.2	1675.9
G17.0	1636.1	1634.2	1657.3	1676.6	1700.1	1705.5	1700.6	1701.3	1682.1	1665.6
G18.0	1622.1	1621.6	1644.7	1664.7	1689.8	1695.8	1691.2	1692.1	1672.0	1654.5
G19.0	1608.9	1608.5	1632.5	1653.8	1680.1	1686.4	1680.7	1681.8	1661.3	1642.6
G20.0	1594.7	1594.4	1620.2	1642.1	1668.2	1676.1	1669.9	1671.6	1650.1	1629.5
G21.0	1580.3	1578.9	1605.8	1630.2	1657.5	1663.8	1659.1	1659.1	1637.0	1617.1
G22.0	1564.2	1564.1	1592.3	1616.7	1645.5	1652.0	1647.1	1647.7	1625.0	1604.1
G23.0	1548.9	1549.2	1578.1	1602.1	1633.7	1639.9	1634.7	1635.5	1611.7	1590.8
G24.0	1532.9	1533.5	1563.6	1588.6	1621.4	1627.1	1621.8	1623.0	1598.4	1575.5
G25.0	1515.2	1517.2	1547.4	1574.3	1606.5	1614.0	1607.6	1608.3	1584.8	1560.7
G26.0	1498.4	1500.6	1531.0	1559.2	1592.5	1599.2	1593.5	1594.3	1570.3	1546.3
G27.0	1481.3	1481.9	1514.9	1544.4	1578.6	1584.9	1579.6	1579.8	1554.3	1530.5
G28.0	1463.0	1464.0	1498.2	1526.5	1562.9	1570.2	1564.7	1565.4	1538.7	1512.8
G29.0	1445.0	1446.2	1479.5	1510.5	1546.6	1554.9	1548.0	1550.0	1523.1	1496.2
G30.0	1426.4	1427.6	1462.1	1493.7	1531.0	1539.0	1531.9	1532.8	1506.7	1479.6
G31.0	1405.7	1406.9	1444.0	1476.8	1514.7	1521.4	1515.8	1516.6	1488.6	1462.2
G32.0	1386.6	1387.4	1424.2	1457.5	1496.4	1504.9	1499.2	1500.3	1471.3	1444.8
G33.0	1367.2	1367.2	1405.3	1438.9	1479.5	1487.5	1482.0	1483.2	1454.0	1424.9
G34.0	1345.2	1347.1	1386.4	1420.7	1461.9	1469.9	1462.9	1464.3	1434.4	1406.2
G35.0	1324.7	1326.6	1366.4	1401.4	1444.0	1450.2	1444.6	1446.4	1415.8	1387.3
G36.0	1303.7	1303.6	1346.4	1382.0	1425.3	1431.7	1426.4	1428.3	1397.5	1368.1

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

Gamma Plane (°):0.0-90.0:1.0  
 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	1283.0	1282.9	1324.4	1362.4	1404.5	1412.9	1407.8	1409.8	1377.8	1346.5
G38.0	1258.9	1261.2	1303.1	1340.1	1385.0	1393.7	1386.7	1388.8	1358.5	1326.4
G39.0	1237.1	1239.6	1282.1	1319.7	1365.8	1371.9	1367.2	1369.0	1336.3	1305.7
G40.0	1214.7	1217.2	1260.3	1298.6	1345.4	1352.2	1347.2	1349.0	1316.1	1284.9
G41.0	1192.2	1192.3	1235.9	1274.8	1322.4	1331.9	1325.2	1329.1	1296.0	1261.5
G42.0	1169.4	1169.3	1213.8	1253.2	1301.6	1310.7	1304.8	1308.7	1274.4	1240.4
G43.0	1145.7	1145.9	1191.3	1231.1	1279.8	1289.6	1284.2	1285.5	1251.5	1218.5
G44.0	1120.2	1122.3	1168.9	1208.4	1259.1	1268.2	1262.2	1264.5	1229.1	1196.3
G45.0	1096.1	1095.6	1145.6	1185.5	1236.6	1244.0	1240.5	1242.9	1207.4	1173.9
G46.0	1072.2	1071.3	1119.7	1162.8	1212.5	1221.7	1216.4	1220.9	1183.1	1148.8
G47.0	1045.3	1046.2	1095.6	1136.8	1189.3	1198.5	1193.7	1197.0	1159.9	1126.1
G48.0	1020.2	1021.8	1071.7	1112.9	1164.2	1175.9	1171.5	1174.2	1137.5	1103.0
G49.0	995.3	996.1	1044.5	1088.3	1140.7	1152.5	1148.1	1151.3	1113.5	1076.8
G50.0	969.6	968.4	1019.2	1064.2	1116.4	1126.7	1123.0	1125.7	1088.6	1052.8
G51.0	941.9	943.1	994.4	1037.2	1092.8	1103.2	1099.2	1102.2	1063.9	1028.4
G52.0	915.2	917.2	968.0	1012.0	1067.8	1078.8	1074.5	1078.2	1039.5	1003.6
G53.0	889.6	890.5	942.7	986.6	1043.5	1052.1	1048.7	1054.2	1015.8	978.9
G54.0	862.9	861.5	913.8	961.0	1016.0	1027.0	1023.7	1030.2	990.6	951.1
G55.0	833.7	834.3	887.8	932.4	991.1	1001.8	999.6	1002.7	963.2	925.6
G56.0	806.9	807.6	861.1	906.1	965.4	976.4	974.2	978.0	937.6	900.1
G57.0	779.5	777.3	831.7	879.7	937.0	948.0	948.7	953.0	912.1	874.1
G58.0	749.9	749.0	804.8	852.4	911.0	921.8	923.2	927.4	886.6	845.3
G59.0	722.1	721.7	777.3	825.0	885.0	895.3	894.5	899.2	859.8	819.0
G60.0	694.1	693.3	749.4	794.4	858.0	868.5	868.8	873.2	831.2	792.6
G61.0	666.5	665.4	718.8	766.8	828.3	841.9	841.8	846.9	804.2	763.1
G62.0	637.9	636.8	690.0	738.6	800.8	814.6	815.6	818.1	777.3	735.8
G63.0	606.9	605.5	661.7	710.8	773.0	784.8	785.8	791.1	750.3	708.5
G64.0	577.9	576.5	633.0	679.2	745.0	756.8	758.9	763.7	720.0	680.5
G65.0	548.8	547.4	603.8	650.3	716.7	728.9	732.2	736.5	693.3	652.3
G66.0	517.5	518.1	572.3	621.4	686.1	700.8	704.3	706.6	665.2	621.6
G67.0	488.6	485.8	543.0	592.1	657.3	669.6	674.4	679.1	634.7	593.3
G68.0	459.9	456.7	514.0	562.9	626.0	641.3	645.8	651.3	606.0	564.9
G69.0	430.5	427.3	481.7	530.1	597.0	612.4	617.6	623.6	577.5	533.6
G70.0	398.8	397.9	452.2	500.9	567.6	583.5	586.9	592.4	549.3	505.0
G71.0	369.8	368.6	422.8	470.9	538.5	551.5	558.5	564.7	520.4	476.6
G72.0	341.6	337.4	391.3	441.9	507.0	523.5	530.9	534.3	489.9	445.6
G73.0	309.0	309.7	360.7	410.5	476.1	492.7	500.9	504.4	460.1	415.5

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

Gamma Plane (°):0.0-90.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

### Candlepower Table (Continue 2)

Unit: cd

[illegible]

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

Gamma Plane (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

## Candlepower Table (Continue 3)

Unit: cd

G\C	C300.0	C330.0	C360.0							
G0.0	1763.2	1764.1	1766.7							
G1.0	1761.1	1761.6	1764.5							
G2.0	1758.6	1758.4	1761.6							
G3.0	1754.9	1753.9	1757.9							
G4.0	1750.7	1749.2	1753.2							
G5.0	1746.0	1744.2	1748.0							
G6.0	1740.7	1738.6	1741.7							
G7.0	1734.3	1731.9	1735.6							
G8.0	1727.8	1724.5	1728.7							
G9.0	1720.4	1716.7	1719.9							
G10.0	1712.7	1708.7	1711.3							
G11.0	1704.4	1698.9	1702.6							
G12.0	1695.6	1689.5	1693.4							
G13.0	1685.0	1679.4	1682.1							
G14.0	1675.0	1669.0	1671.2							
G15.0	1664.7	1657.7	1660.3							
G16.0	1653.1	1646.2	1648.9							
G17.0	1640.4	1632.7	1636.1							
G18.0	1628.3	1620.5	1622.1							
G19.0	1615.2	1606.9	1608.9							
G20.0	1602.1	1593.1	1594.7							
G21.0	1586.8	1577.9	1580.3							
G22.0	1572.4	1562.9	1564.2							
G23.0	1557.5	1547.9	1548.9							
G24.0	1542.3	1532.2	1532.9							
G25.0	1526.3	1514.4	1515.2							
G26.0	1509.9	1497.7	1498.4							
G27.0	1491.9	1480.1	1481.3							
G28.0	1474.9	1462.8	1463.0							
G29.0	1457.5	1444.7	1445.0							
G30.0	1439.2	1424.8	1426.4							
G31.0	1418.9	1405.9	1405.7							
G32.0	1399.9	1386.6	1386.6							
G33.0	1380.9	1367.2	1367.2							
G34.0	1361.6	1345.3	1345.2							
G35.0	1339.2	1325.4	1324.7							
G36.0	1318.9	1304.7	1303.7							

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

Gamma Plane (°):0.0-90.0:1.0  
 Test Device: GPM-1800B  
 Distance: 11.655 m [K=1.0000]  
 Humidity: 45% R.H  
 Inspector:

## Candlepower Table (Continue 4)

Unit: cd

G\C	C300.0	C330.0	C360.0							
G37.0	1298.1	1283.6	1283.0							
G38.0	1277.2	1262.4	1258.9							
G39.0	1256.3	1238.2	1237.1							
G40.0	1232.7	1216.0	1214.7							
G41.0	1211.2	1193.7	1192.2							
G42.0	1188.5	1171.1	1169.4							
G43.0	1164.1	1145.6	1145.7							
G44.0	1140.8	1122.5	1120.2							
G45.0	1117.4	1098.8	1096.1							
G46.0	1094.3	1074.6	1072.2							
G47.0	1069.8	1048.5	1045.3							
G48.0	1043.9	1024.1	1020.2							
G49.0	1018.6	999.0	995.3							
G50.0	995.2	973.6	969.6							
G51.0	967.3	946.6	941.9							
G52.0	943.8	920.7	915.2							
G53.0	916.7	894.6	889.6							
G54.0	890.3	868.7	862.9							
G55.0	862.2	841.9	833.7							
G56.0	835.4	812.7	806.9							
G57.0	808.6	786.2	779.5							
G58.0	781.8	759.1	749.9							
G59.0	754.6	729.3	722.1							
G60.0	725.0	702.1	694.1							
G61.0	697.1	674.6	666.5							
G62.0	669.4	646.5	637.9							
G63.0	641.4	616.0	606.9							
G64.0	610.3	587.5	577.9							
G65.0	582.6	559.0	548.8							
G66.0	553.9	530.8	517.5							
G67.0	525.5	499.3	488.6							
G68.0	493.4	470.2	459.9							
G69.0	464.2	441.9	430.5							
G70.0	436.0	412.9	398.8							
G71.0	406.9	381.6	369.8							
G72.0	376.3	351.1	341.6							
G73.0	346.4	324.5	309.0							

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

Gamma Plane (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 11.655 m [K=1.0000]  
Humidity: 45% R.H  
Inspector:

### Candlepower Table (Continue 5)

Unit: cd

[illegible]

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

Gamma Plane (°):0.0-90.0:1.0  
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	20046.50
L 0-180(75) av	17789.34
L 0-180(85) av	14073.90
L 90-270(65) av	20385.59
L 90-270(75) av	18039.66
L 90-270(85) av	12057.80
L 45(65) av	20219.73
L 45(75) av	17925.11
L 45(85) av	13309.59

Standard: GB/T 29293-2012