HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au

Report No.: 8

Test Time: 2019/6/19 15:51

Luminaire Property

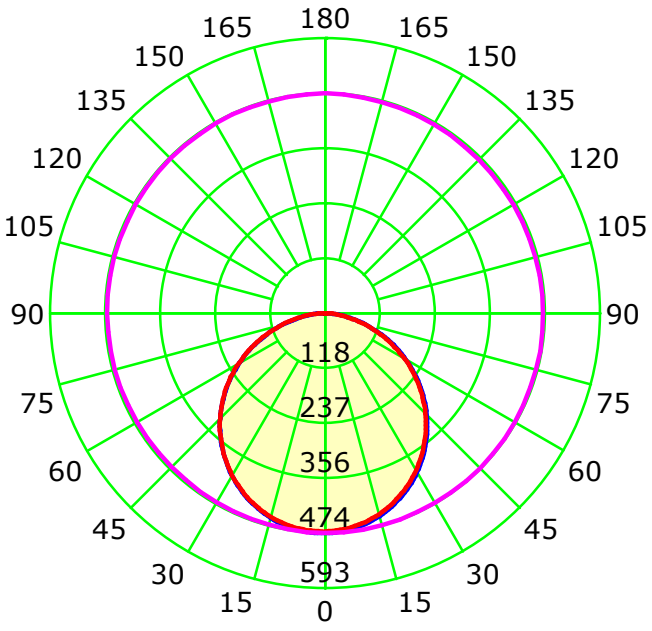
Luminaire Manufacturer: HAVIT COMMERCIAL
Luminaire Description: HCP-89X2004-4K
Voltage: 220V
Current: 0.080 A
Power: 17.13W
Power Factor: 0.969

Photometric Results

CIE Class: Direct
Total Rated Lamp Lumens: 1345.4 lm
Measurement Flux: 1345.4 lm
Efficiency: 100%
Downward Ratio: 100%
Upward Ratio: 0%
Horizontal Diffuse Angle(50%): H112.4
Vertical Diffuse Angle(50%): V112.5
Luminaire Efficacy Rating (LER): 78.59
Central Intensity: 474.64 cd
Max. Intensity: 474.68 cd
Pos of Max. Intensity: H180 V1
S/MH(C0/C180): 1.25
S/MH(C90/C270): 1.26

Picture Of Luminaire

Luminous Intensity Distribution Curve

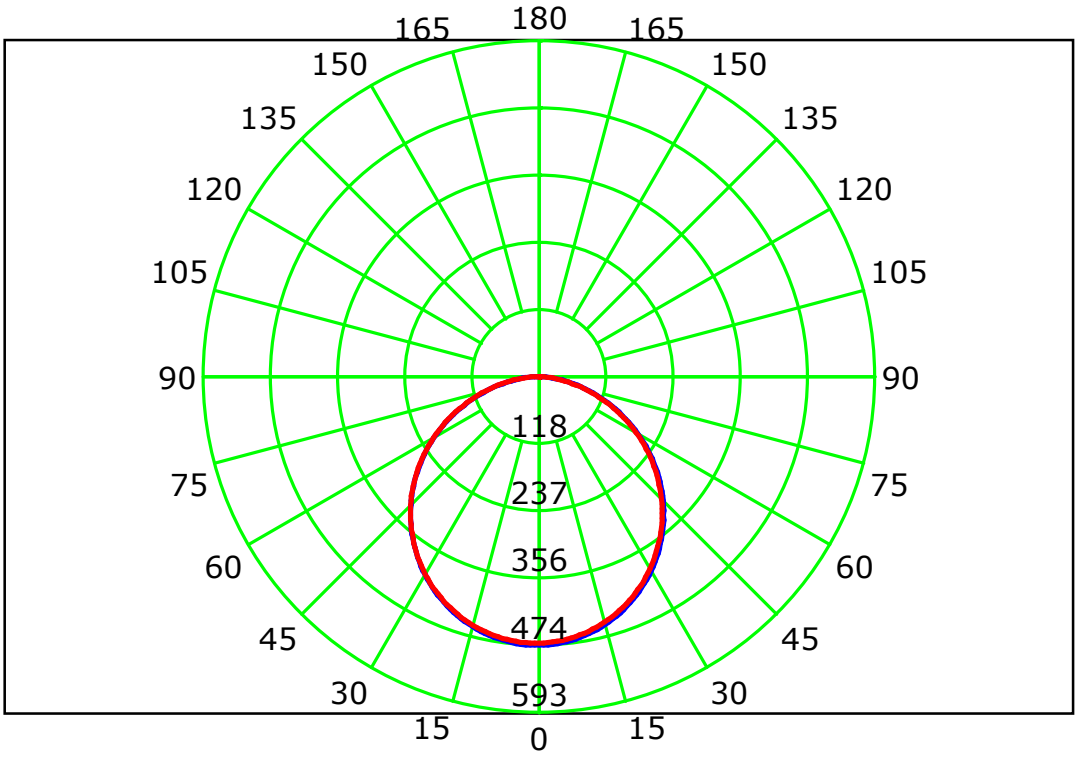


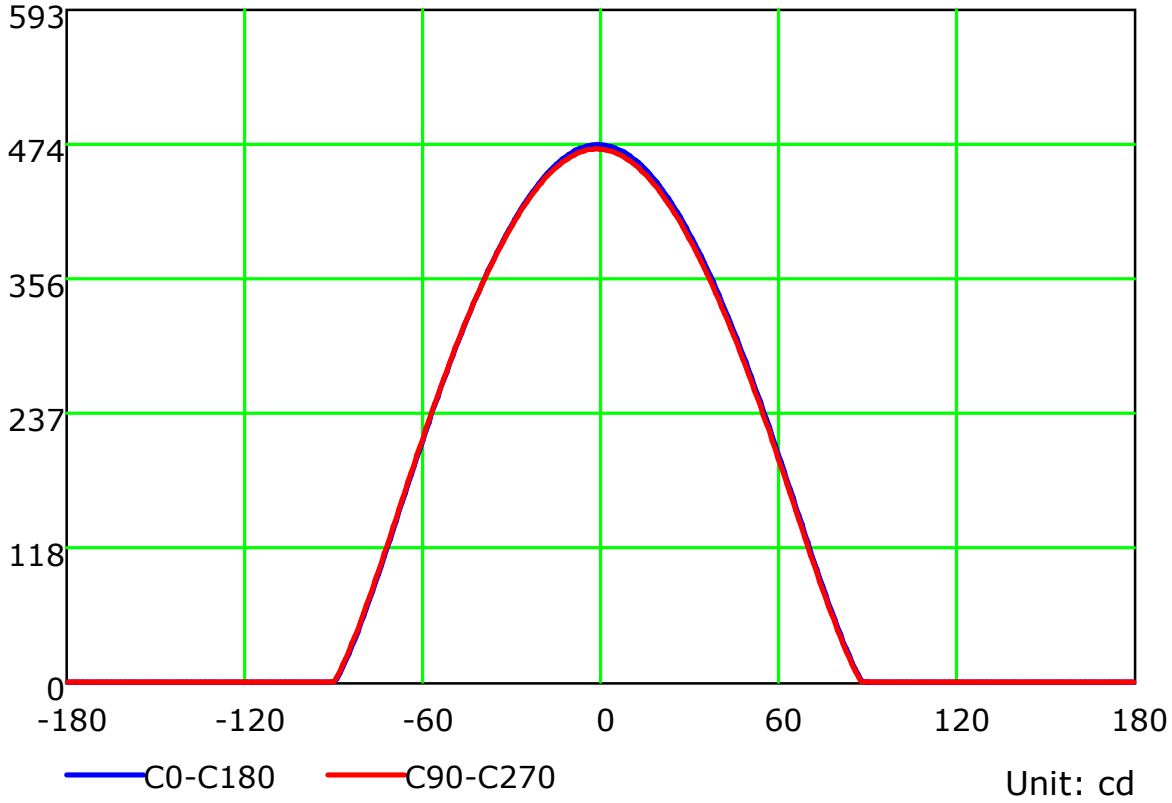
Unit: cd
Average Diffuse Angle(50%): 112.4°
C0-C180 C90-C270 G1

C Plane (°):0.0-360.0: 45.0
Gamma Plane (°):0.0-180.0:1.0
Test Lab: Inventfine instruments
Test Device: GPM-1800B
Test Type: TYPE C
Distance: 8.509 m
Temperature: 26
Humidity: 55
Operator: Jacky tang
Inspector:

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Luminous Intensity Distribution Curve





C Plane (°):0.0-360.0: 45.0
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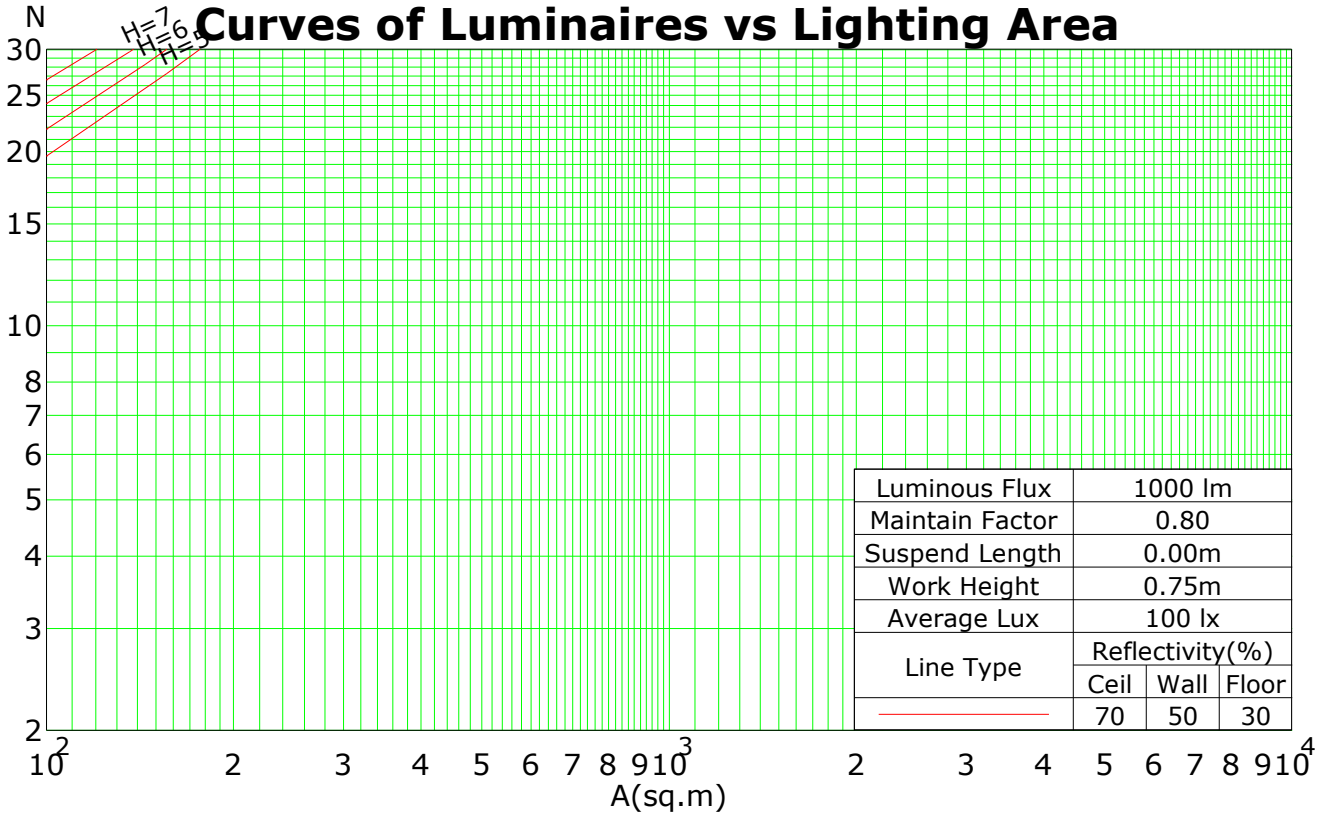
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Coefficients Of Utilization - Zonal Cavity Method

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	39	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

Spacing Criteria (0-180): 1.25
Spacing Criteria (90-270): 1.26
Spacing Criteria (Diagonal): 1.37

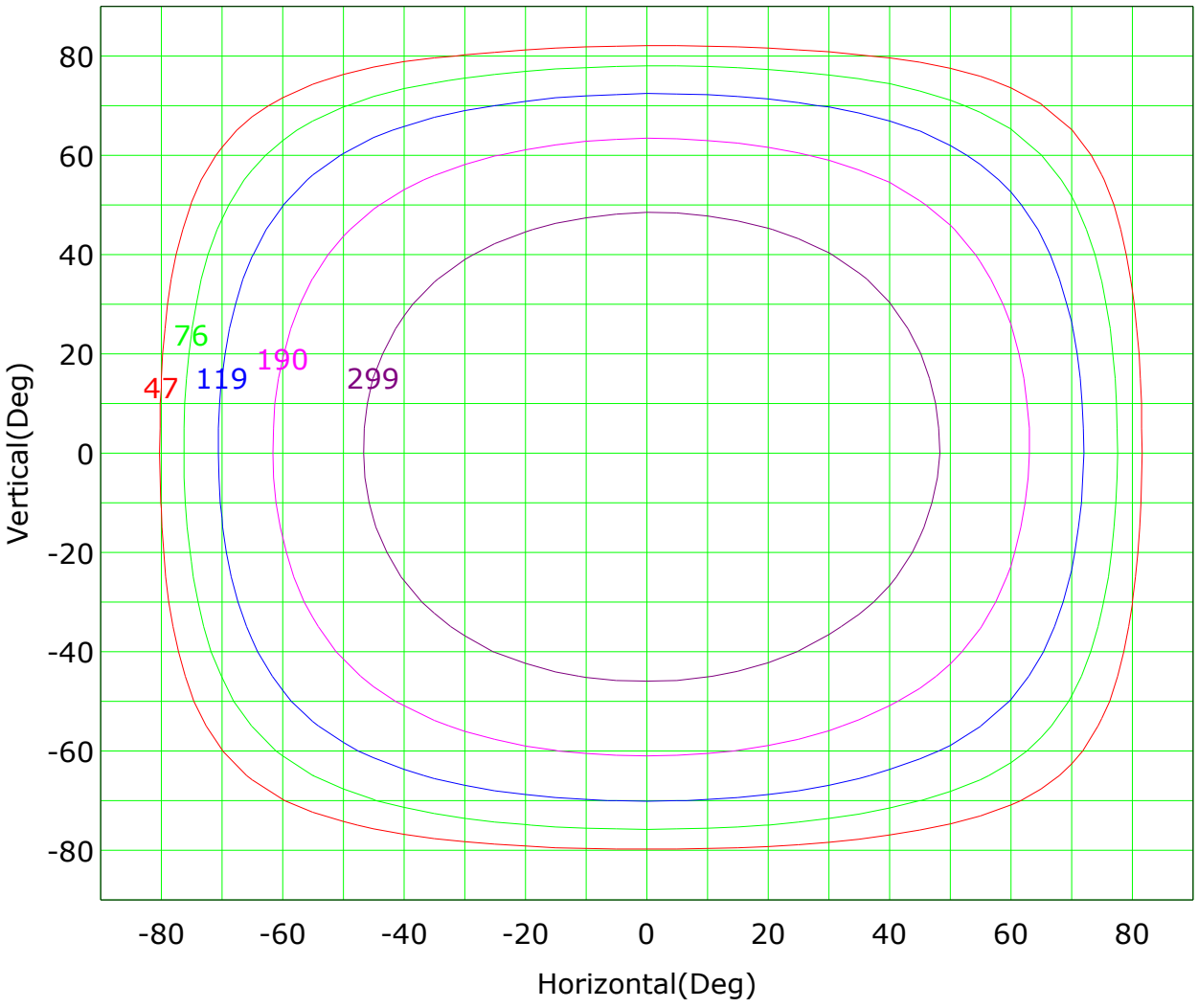
Curves of Luminaires vs Lighting Area



C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

Isocandela (rectangle)



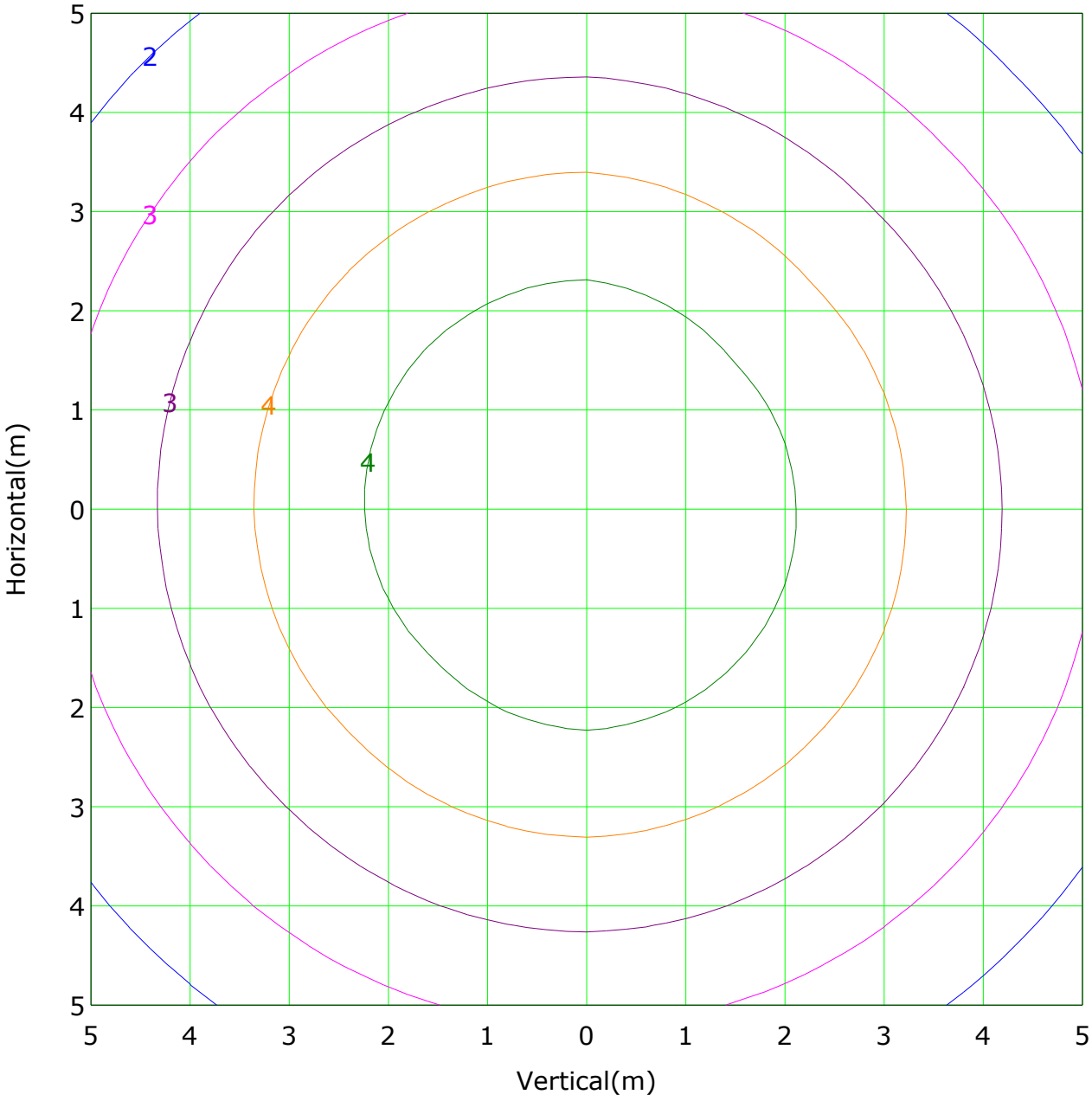
Imax (100%): 475 cd

(10%): 47 cd
(16%): 76 cd
(25%): 119 cd
(40%): 190 cd
(63%): 299 cd
(100%): 475 cd

C Plane (°):0.0-360.0: 45.0
Gamma Plane (°):0.0-180.0:1.0
Test Lab: Inventfine instruments
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Distance: 8.509 m
Temperature: 26
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IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 4.7 lx

(30%): 1.4 lx	(40%): 1.9 lx
(50%): 2.4 lx	(60%): 2.8 lx
(70%): 3.3 lx	(80%): 3.8 lx
(90%): 4.3 lx	(100%): 4.7 lx
(120%): 5.7 lx	(150%): 7.1 lx

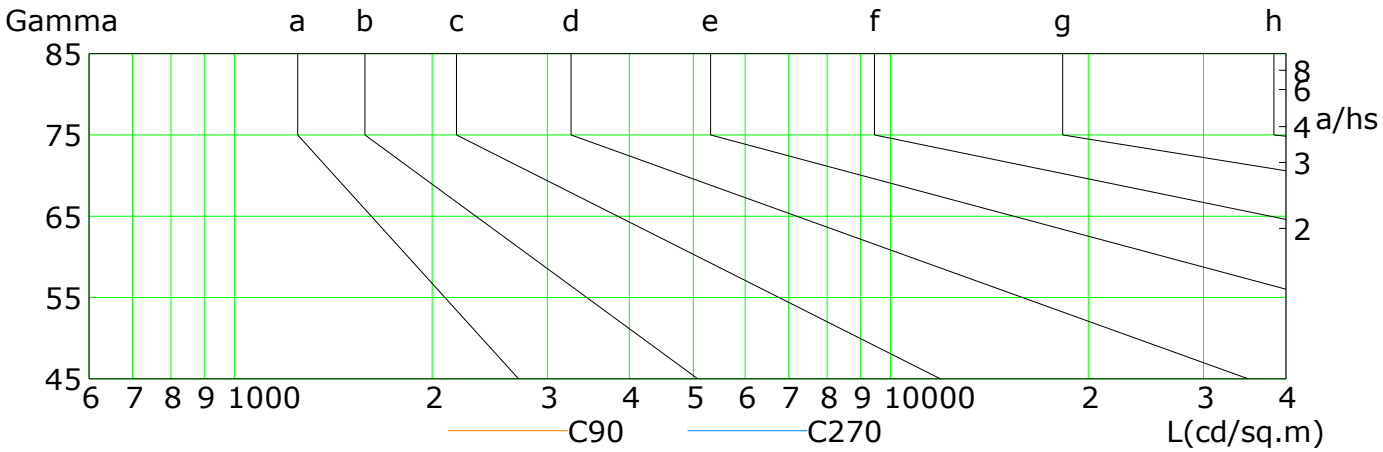
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

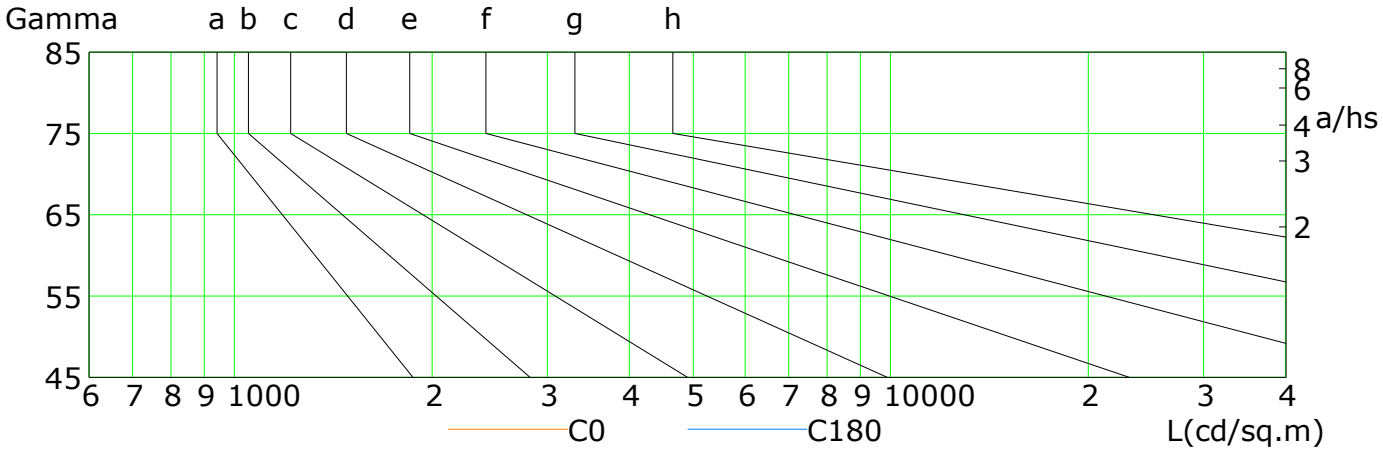
Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
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Lum Limit Curve

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





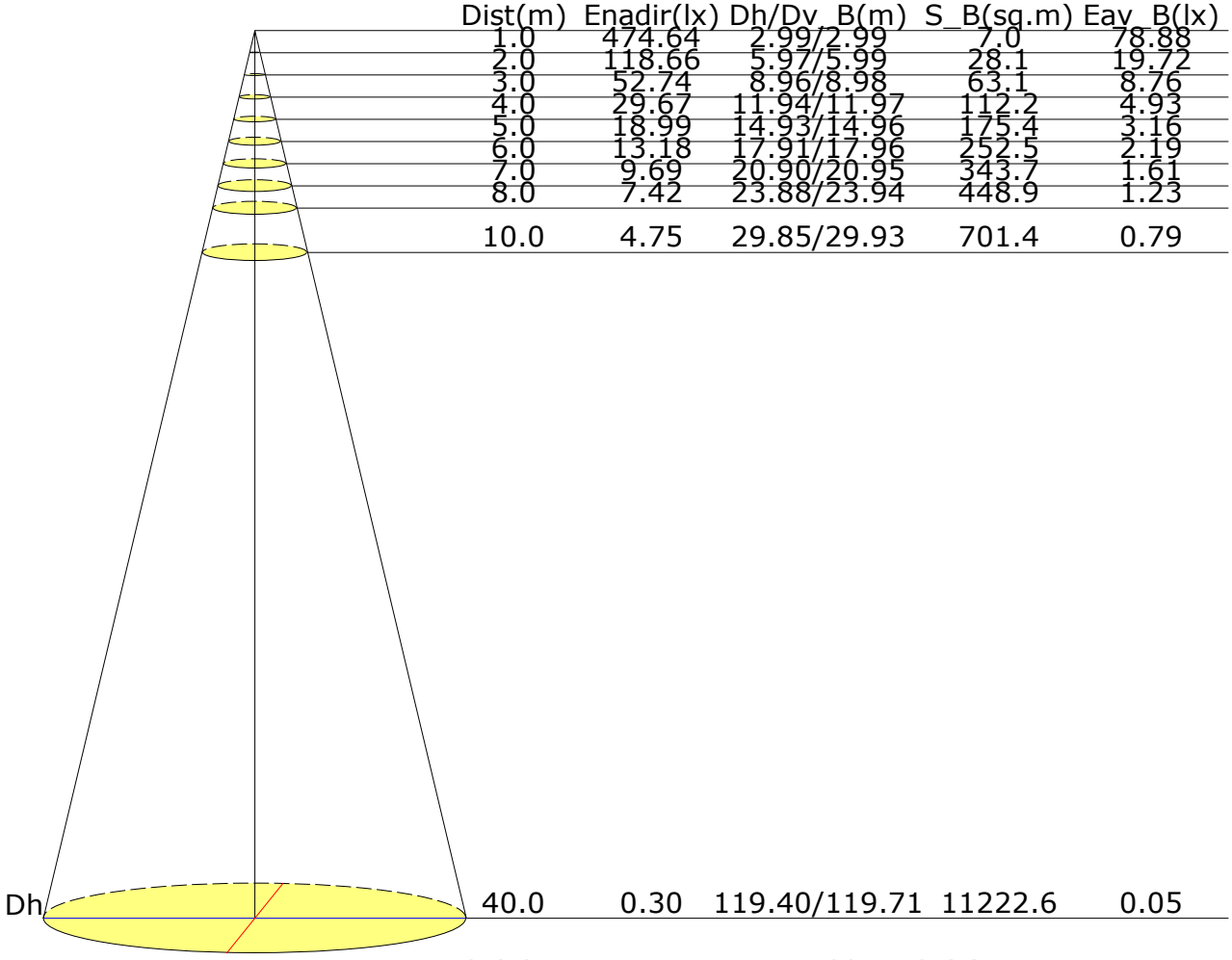
L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	310	276	240	202	163	123	85	49	17
C90	306	272	236	198	159	120	82	46	15
C180	321	288	252	215	175	135	95	58	25
C270	322	289	253	216	177	137	98	61	27

C Plane (°):0.0-360.0: 45.0
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Gamma Plane (°):0.0-180.0:1.0
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Illuminance at a Distance



Dist(m)	Enadir(lx)	Dh/Dv_B(m)	S_B(sq.m)	Eav_B(lx)
1.0	474.64	2.99/2.99	7.0	78.88
2.0	118.66	5.97/5.99	28.1	19.72
3.0	52.74	8.96/8.98	63.1	8.76
4.0	29.67	11.94/11.97	112.2	4.93
5.0	18.99	14.93/14.96	175.4	3.16
6.0	13.18	17.91/17.96	252.5	2.19
7.0	9.69	20.90/20.95	343.7	1.61
8.0	7.42	23.88/23.94	448.9	1.23
10.0	4.75	29.85/29.93	701.4	0.79
40.0	0.30	119.40/119.71	11222.6	0.05

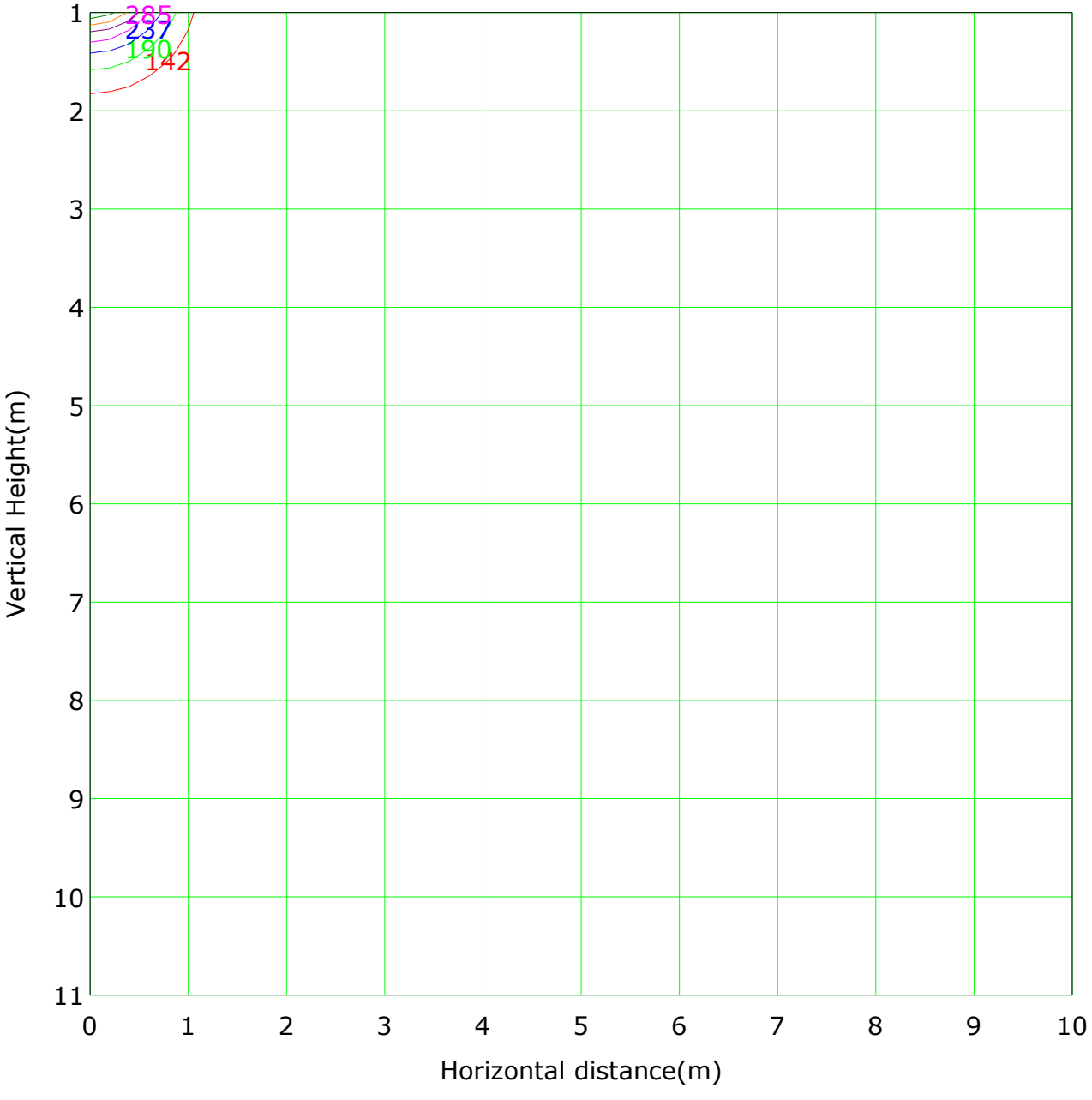
Beam Angle(B): H112.4 V112.5 Field Angle(F): H161.8 V161.8

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
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Humidity: 55
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Vertical IsoLux Plot



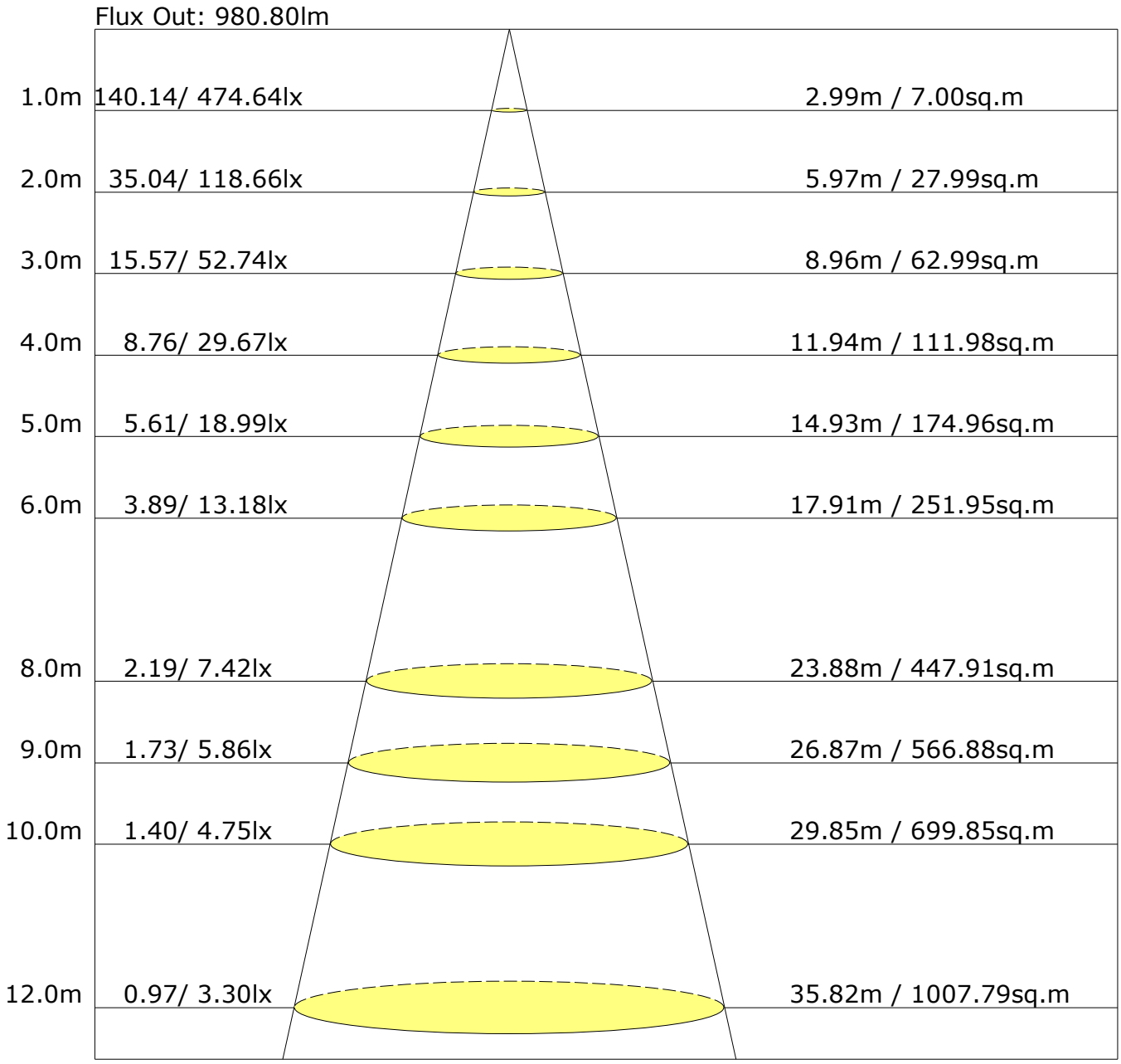
Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 474.6 lx

(30%): 142.4 lx	(40%): 189.9 lx
(50%): 237.3 lx	(60%): 284.8 lx
(70%): 332.2 lx	(80%): 379.7 lx
(90%): 427.2 lx	(100%): 474.6 lx
(120%): 569.6 lx	(150%): 712.0 lx

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

The Average Illuminance Effective Figure



C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

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	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
3H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
4H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
6H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
8H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
12H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
X=4H Y=2H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
3H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
4H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
6H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
8H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
12H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
X=8H Y=4H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
6H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
8H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
12H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
X=12H Y=4H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
6H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
8H	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$	-1.$
Variations with the observer position at spacings:										
S=1.0H	-1.$/-1.$					-1.$/-1.$				
S=1.5H	-1.$/-1.$					-1.$/-1.$				
S=2.0H	-1.$/-1.$					-1.$/-1.$				

Calculate in accordance with CIE Pub.117. The table is revised with 1345lm (8log(F/F0) = 1.0).

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

Zonal Lumen

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	471.7	0.5	0.5	0.03	0.03
1.0-2.0	471.5	1.4	1.8	0.10	0.13
2.0-3.0	471.1	2.3	4.1	0.17	0.30
3.0-4.0	470.6	3.2	7.2	0.23	0.54
4.0-5.0	469.9	4.0	11.3	0.30	0.84
5.0-6.0	469.1	4.9	16.2	0.37	1.20
6.0-7.0	468.1	5.8	22.0	0.43	1.63
7.0-8.0	466.9	6.7	28.7	0.50	2.13
8.0-9.0	465.5	7.5	36.2	0.56	2.69
9.0-10.0	464.0	8.4	44.6	0.62	3.32
10.0-11.0	462.3	9.2	53.9	0.69	4.00
11.0-12.0	460.4	10.1	63.9	0.75	4.75
12.0-13.0	458.4	10.9	74.8	0.81	5.56
13.0-14.0	456.2	11.7	86.5	0.87	6.43
14.0-15.0	453.9	12.5	98.9	0.93	7.35
15.0-16.0	451.3	13.2	112.2	0.98	8.34
16.0-17.0	448.7	14.0	126.1	1.04	9.38
17.0-18.0	445.9	14.7	140.8	1.09	10.47
18.0-19.0	442.9	15.4	156.3	1.15	11.61
19.0-20.0	439.7	16.1	172.4	1.20	12.81
20.0-21.0	436.5	16.8	189.1	1.25	14.06
21.0-22.0	433.1	17.4	206.5	1.29	15.35
22.0-23.0	429.5	18.0	224.5	1.34	16.69
23.0-24.0	425.7	18.6	243.2	1.38	18.07
24.0-25.0	421.8	19.2	262.3	1.43	19.50
25.0-26.0	417.9	19.7	282.1	1.47	20.97
26.0-27.0	413.7	20.2	302.3	1.50	22.47
27.0-28.0	409.4	20.7	323.0	1.54	24.01
28.0-29.0	404.9	21.2	344.2	1.57	25.59
29.0-30.0	400.3	21.6	365.8	1.61	27.19
30.0-31.0	395.7	22.0	387.9	1.64	28.83
31.0-32.0	390.8	22.4	410.3	1.66	30.49
32.0-33.0	385.9	22.7	433.0	1.69	32.18
33.0-34.0	380.8	23.0	456.0	1.71	33.90
34.0-35.0	375.5	23.3	479.4	1.73	35.63
35.0-36.0	370.2	23.6	502.9	1.75	37.38

C Plane (°):0.0-360.0: 45.0
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Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
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	364.7	23.8	526.7	1.77	39.15
37.0-38.0	359.1	24.0	550.7	1.78	40.93
38.0-39.0	353.5	24.1	574.8	1.79	42.73
39.0-40.0	347.7	24.3	599.1	1.80	44.53
40.0-41.0	341.7	24.3	623.4	1.81	46.34
41.0-42.0	335.7	24.4	647.8	1.81	48.15
42.0-43.0	329.7	24.4	672.2	1.82	49.97
43.0-44.0	323.5	24.4	696.7	1.81	51.78
44.0-45.0	317.1	24.4	721.0	1.81	53.59
45.0-46.0	310.6	24.3	745.3	1.81	55.40
46.0-47.0	304.1	24.2	769.5	1.80	57.20
47.0-48.0	297.4	24.0	793.6	1.79	58.98
48.0-49.0	290.6	23.9	817.4	1.77	60.76
49.0-50.0	283.8	23.7	841.1	1.76	62.52
50.0-51.0	276.9	23.4	864.5	1.74	64.26
51.0-52.0	269.8	23.2	887.7	1.72	65.98
52.0-53.0	262.7	22.9	910.5	1.70	67.68
53.0-54.0	255.6	22.5	933.1	1.67	69.35
54.0-55.0	248.2	22.2	955.2	1.65	71.00
55.0-56.0	240.8	21.8	977.0	1.62	72.62
56.0-57.0	233.5	21.3	998.3	1.59	74.20
57.0-58.0	225.9	20.9	1019.2	1.55	75.76
58.0-59.0	218.2	20.4	1039.6	1.52	77.27
59.0-60.0	210.6	19.9	1059.5	1.48	78.75
60.0-61.0	202.9	19.4	1078.9	1.44	80.19
61.0-62.0	195.1	18.8	1097.7	1.40	81.59
62.0-63.0	187.4	18.2	1115.9	1.35	82.95
63.0-64.0	179.7	17.6	1133.6	1.31	84.26
64.0-65.0	171.8	17.0	1150.6	1.26	85.52
65.0-66.0	163.9	16.4	1166.9	1.22	86.74
66.0-67.0	156.0	15.7	1182.6	1.17	87.90
67.0-68.0	148.1	15.0	1197.6	1.12	89.02
68.0-69.0	140.2	14.3	1211.9	1.06	90.08
69.0-70.0	132.2	13.6	1225.5	1.01	91.09
70.0-71.0	124.4	12.9	1238.4	0.96	92.05
71.0-72.0	116.6	12.1	1250.5	0.90	92.95

C Plane (°):0.0-360.0: 45.0
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Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
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	108.9	11.4	1261.9	0.85	93.79
73.0-74.0	101.1	10.6	1272.5	0.79	94.58
74.0-75.0	93.4	9.9	1282.4	0.73	95.32
75.0-76.0	85.9	9.1	1291.5	0.68	96.00
76.0-77.0	78.4	8.4	1299.9	0.62	96.62
77.0-78.0	71.1	7.6	1307.5	0.57	97.18
78.0-79.0	64.0	6.9	1314.3	0.51	97.69
79.0-80.0	56.9	6.1	1320.5	0.46	98.15
80.0-81.0	50.0	5.4	1325.9	0.40	98.55
81.0-82.0	43.3	4.7	1330.6	0.35	98.90
82.0-83.0	36.7	4.0	1334.6	0.30	99.20
83.0-84.0	30.4	3.3	1337.9	0.25	99.44
84.0-85.0	24.3	2.6	1340.5	0.20	99.64
85.0-86.0	18.4	2.0	1342.5	0.15	99.79
86.0-87.0	12.8	1.4	1343.9	0.10	99.89
87.0-88.0	7.6	0.8	1344.8	0.06	99.96
88.0-89.0	3.7	0.4	1345.2	0.03	99.99
89.0-90.0	1.4	0.2	1345.3	0.01	100.00
90.0-91.0	0.3	0.0	1345.4	0.00	100.00
91.0-92.0	0.0	0.0	1345.4	0.00	100.00
92.0-93.0	0.0	0.0	1345.4	0.00	100.00
93.0-94.0	0.0	0.0	1345.4	0.00	100.00
94.0-95.0	0.0	0.0	1345.4	0.00	100.00
95.0-96.0	0.0	0.0	1345.4	0.00	100.00
96.0-97.0	0.0	0.0	1345.4	0.00	100.00
97.0-98.0	0.0	0.0	1345.4	0.00	100.00
98.0-99.0	0.0	0.0	1345.4	0.00	100.00
99.0-100.0	0.0	0.0	1345.4	0.00	100.00
100.0-101.0	0.0	0.0	1345.4	0.00	100.00
101.0-102.0	0.0	0.0	1345.4	0.00	100.00
102.0-103.0	0.0	0.0	1345.4	0.00	100.00
103.0-104.0	0.0	0.0	1345.4	0.00	100.00
104.0-105.0	0.0	0.0	1345.4	0.00	100.00
105.0-106.0	0.0	0.0	1345.4	0.00	100.00
106.0-107.0	0.0	0.0	1345.4	0.00	100.00
107.0-108.0	0.0	0.0	1345.4	0.00	100.00

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
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	0.0	0.0	1345.4	0.00	100.00
109.0-110.0	0.0	0.0	1345.4	0.00	100.00
110.0-111.0	0.0	0.0	1345.4	0.00	100.00
111.0-112.0	0.0	0.0	1345.4	0.00	100.00
112.0-113.0	0.0	0.0	1345.4	0.00	100.00
113.0-114.0	0.0	0.0	1345.4	0.00	100.00
114.0-115.0	0.0	0.0	1345.4	0.00	100.00
115.0-116.0	0.0	0.0	1345.4	0.00	100.00
116.0-117.0	0.0	0.0	1345.4	0.00	100.00
117.0-118.0	0.0	0.0	1345.4	0.00	100.00
118.0-119.0	0.0	0.0	1345.4	0.00	100.00
119.0-120.0	0.0	0.0	1345.4	0.00	100.00
120.0-121.0	0.0	0.0	1345.4	0.00	100.00
121.0-122.0	0.0	0.0	1345.4	0.00	100.00
122.0-123.0	0.0	0.0	1345.4	0.00	100.00
123.0-124.0	0.0	0.0	1345.4	0.00	100.00
124.0-125.0	0.0	0.0	1345.4	0.00	100.00
125.0-126.0	0.0	0.0	1345.4	0.00	100.00
126.0-127.0	0.0	0.0	1345.4	0.00	100.00
127.0-128.0	0.0	0.0	1345.4	0.00	100.00
128.0-129.0	0.0	0.0	1345.4	0.00	100.00
129.0-130.0	0.0	0.0	1345.4	0.00	100.00
130.0-131.0	0.0	0.0	1345.4	0.00	100.00
131.0-132.0	0.0	0.0	1345.4	0.00	100.00
132.0-133.0	0.0	0.0	1345.4	0.00	100.00
133.0-134.0	0.0	0.0	1345.4	0.00	100.00
134.0-135.0	0.0	0.0	1345.4	0.00	100.00
135.0-136.0	0.0	0.0	1345.4	0.00	100.00
136.0-137.0	0.0	0.0	1345.4	0.00	100.00
137.0-138.0	0.0	0.0	1345.4	0.00	100.00
138.0-139.0	0.0	0.0	1345.4	0.00	100.00
139.0-140.0	0.0	0.0	1345.4	0.00	100.00
140.0-141.0	0.0	0.0	1345.4	0.00	100.00
141.0-142.0	0.0	0.0	1345.4	0.00	100.00
142.0-143.0	0.0	0.0	1345.4	0.00	100.00
143.0-144.0	0.0	0.0	1345.4	0.00	100.00

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
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	0.0	0.0	1345.4	0.00	100.00
145.0-146.0	0.0	0.0	1345.4	0.00	100.00
146.0-147.0	0.0	0.0	1345.4	0.00	100.00
147.0-148.0	0.0	0.0	1345.4	0.00	100.00
148.0-149.0	0.0	0.0	1345.4	0.00	100.00
149.0-150.0	0.0	0.0	1345.4	0.00	100.00
150.0-151.0	0.0	0.0	1345.4	0.00	100.00
151.0-152.0	0.0	0.0	1345.4	0.00	100.00
152.0-153.0	0.0	0.0	1345.4	0.00	100.00
153.0-154.0	0.0	0.0	1345.4	0.00	100.00
154.0-155.0	0.0	0.0	1345.4	0.00	100.00
155.0-156.0	0.0	0.0	1345.4	0.00	100.00
156.0-157.0	0.0	0.0	1345.4	0.00	100.00
157.0-158.0	0.0	0.0	1345.4	0.00	100.00
158.0-159.0	0.0	0.0	1345.4	0.00	100.00
159.0-160.0	0.0	0.0	1345.4	0.00	100.00
160.0-161.0	0.0	0.0	1345.4	0.00	100.00
161.0-162.0	0.0	0.0	1345.4	0.00	100.00
162.0-163.0	0.0	0.0	1345.4	0.00	100.00
163.0-164.0	0.0	0.0	1345.4	0.00	100.00
164.0-165.0	0.0	0.0	1345.4	0.00	100.00
165.0-166.0	0.0	0.0	1345.4	0.00	100.00
166.0-167.0	0.0	0.0	1345.4	0.00	100.00
167.0-168.0	0.0	0.0	1345.4	0.00	100.00
168.0-169.0	0.0	0.0	1345.4	0.00	100.00
169.0-170.0	0.0	0.0	1345.4	0.00	100.00
170.0-171.0	0.0	0.0	1345.4	0.00	100.00
171.0-172.0	0.0	0.0	1345.4	0.00	100.00
172.0-173.0	0.0	0.0	1345.4	0.00	100.00
173.0-174.0	0.0	0.0	1345.4	0.00	100.00
174.0-175.0	0.0	0.0	1345.4	0.00	100.00
175.0-176.0	0.0	0.0	1345.4	0.00	100.00
176.0-177.0	0.0	0.0	1345.4	0.00	100.00
177.0-178.0	0.0	0.0	1345.4	0.00	100.00
178.0-179.0	0.0	0.0	1345.4	0.00	100.00
179.0-180.0	0.0	0.0	1345.4	0.00	100.00

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

Candlepower Table

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G0.0	474.6	472.6	470.7	468.8	474.6	472.6	470.7	468.8	474.6	
G1.0	474.4	472.3	470.4	468.7	474.7	472.7	470.8	468.9	474.4	
G2.0	474.0	471.9	470.0	468.1	474.5	472.7	470.8	468.7	474.0	
G3.0	473.5	471.2	469.4	467.7	474.2	472.5	470.6	468.4	473.5	
G4.0	472.7	470.4	468.5	467.0	473.7	472.1	470.2	467.9	472.7	
G5.0	471.8	469.4	467.6	466.1	473.1	471.5	469.6	467.2	471.8	
G6.0	470.7	468.4	466.4	465.0	472.3	470.8	468.9	466.3	470.7	
G7.0	469.5	467.0	465.2	463.9	471.3	469.9	468.0	465.3	469.5	
G8.0	468.1	465.6	463.8	462.5	470.2	468.8	466.9	464.2	468.1	
G9.0	466.5	463.9	462.1	460.9	469.0	467.6	465.6	462.8	466.5	
G10.0	464.6	462.1	460.3	459.1	467.3	466.2	464.2	461.3	464.6	
G11.0	462.7	460.2	458.4	457.3	465.7	464.5	462.7	459.6	462.7	
G12.0	460.7	458.1	456.1	455.4	463.9	462.8	460.9	457.8	460.7	
G13.0	458.5	455.6	453.8	453.0	461.9	460.9	459.1	455.7	458.5	
G14.0	456.2	453.2	451.4	450.6	459.8	458.9	456.9	453.7	456.2	
G15.0	453.4	450.7	448.9	448.2	457.3	456.8	454.7	451.1	453.4	
G16.0	450.7	448.0	446.2	445.3	454.9	454.2	452.4	448.8	450.7	
G17.0	447.9	445.1	443.3	442.4	452.3	451.8	449.9	446.1	447.9	
G18.0	444.6	441.9	440.0	439.6	449.3	449.1	447.0	443.4	444.6	
G19.0	441.5	438.7	436.9	436.4	446.4	446.4	444.2	440.2	441.5	
G20.0	438.3	435.1	433.7	432.9	443.3	443.4	441.3	437.2	438.3	
G21.0	434.5	431.7	430.0	429.5	440.1	440.3	438.1	434.0	434.5	
G22.0	431.0	428.1	426.4	425.7	436.8	437.0	434.9	430.6	431.0	
G23.0	427.3	424.1	422.6	422.0	433.3	433.4	431.2	427.2	427.3	
G24.0	423.0	420.2	418.5	418.2	429.3	429.7	427.6	423.2	423.0	
G25.0	419.1	416.2	414.5	414.0	425.5	426.1	424.0	419.5	419.1	
G26.0	414.9	412.1	410.4	409.9	421.6	422.3	420.2	415.5	414.9	
G27.0	410.6	407.3	406.1	405.6	417.5	418.0	416.3	411.5	410.6	
G28.0	406.0	402.8	401.6	401.1	413.4	413.9	411.8	407.3	406.0	
G29.0	401.5	398.1	396.6	396.0	408.6	409.8	407.6	402.6	401.5	
G30.0	396.4	393.5	391.9	391.5	404.2	405.4	403.3	398.1	396.4	
G31.0	391.8	388.4	387.3	386.5	399.5	400.4	398.8	393.6	391.8	
G32.0	386.4	383.6	382.0	381.7	394.9	395.8	393.7	388.9	386.4	
G33.0	381.5	378.2	377.0	376.3	390.0	391.1	388.9	383.7	381.5	
G34.0	376.4	373.0	371.5	371.2	384.5	386.2	384.0	378.7	376.4	
G35.0	370.6	367.3	366.2	365.5	379.4	380.7	379.0	373.7	370.6	
G36.0	365.3	361.8	360.8	360.2	374.2	375.5	373.9	368.4	365.3	

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

Candlepower Table (Continue 1)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G37.0	359.7	355.7	355.3	354.1	368.9	370.3	368.1	363.1	359.7	
G38.0	354.0	350.1	349.1	348.5	363.4	364.9	362.8	357.6	354.0	
G39.0	347.8	344.4	343.4	342.9	357.8	359.5	357.3	352.2	347.8	
G40.0	341.9	338.6	337.6	336.6	351.7	353.4	351.8	346.1	341.9	
G41.0	336.0	331.9	331.6	330.6	345.9	347.6	346.1	340.3	336.0	
G42.0	329.3	325.9	325.0	324.7	340.0	342.0	340.4	334.5	329.3	
G43.0	323.2	319.8	319.0	318.0	334.1	335.5	334.5	328.5	323.2	
G44.0	317.0	313.6	312.8	311.9	327.9	329.4	327.8	322.4	317.0	
G45.0	310.1	306.7	305.9	305.6	321.0	323.2	321.7	316.3	310.1	
G46.0	303.7	300.3	299.6	298.6	314.7	317.0	315.5	309.4	303.7	
G47.0	297.2	293.2	293.1	292.3	308.4	310.6	309.2	303.0	297.2	
G48.0	289.9	286.6	285.9	285.1	301.2	304.2	302.1	296.6	289.9	
G49.0	283.2	279.8	279.1	278.4	294.6	297.0	295.6	290.1	283.2	
G50.0	276.3	273.0	272.3	271.5	287.9	290.5	289.0	282.8	276.3	
G51.0	269.4	265.4	265.5	264.7	281.2	283.8	281.7	276.1	269.4	
G52.0	261.8	258.5	257.9	257.2	273.7	276.3	275.0	268.7	261.8	
G53.0	254.7	251.4	250.9	250.2	266.8	269.4	268.1	261.8	254.7	
G54.0	247.6	244.3	243.8	242.5	259.7	262.5	260.5	254.9	247.6	
G55.0	239.8	236.5	236.0	235.4	251.9	254.8	253.5	247.2	239.8	
G56.0	232.5	229.2	228.8	228.1	244.7	247.6	246.4	240.1	232.5	
G57.0	225.2	221.9	221.6	220.2	237.5	240.4	238.4	232.9	225.2	
G58.0	217.0	213.8	213.5	212.9	229.4	232.3	231.2	225.6	217.0	
G59.0	209.6	206.4	206.1	205.6	222.0	225.0	223.9	217.5	209.6	
G60.0	202.1	198.9	197.9	197.4	214.5	217.6	215.7	210.2	202.1	
G61.0	194.5	190.5	190.4	189.9	206.2	210.0	208.2	202.7	194.5	
G62.0	186.1	182.9	182.8	182.4	198.7	201.8	200.7	194.5	186.1	
G63.0	178.5	175.3	175.2	174.8	191.2	194.2	192.5	186.9	178.5	
G64.0	170.8	167.7	166.8	167.2	182.8	186.7	185.0	179.5	170.8	
G65.0	163.2	159.1	159.2	159.5	175.1	178.3	177.4	171.2	163.2	
G66.0	154.7	151.6	151.6	151.2	166.7	170.7	169.0	163.6	154.7	
G67.0	147.0	144.0	143.3	143.6	158.9	162.9	161.3	155.9	147.0	
G68.0	139.3	136.3	135.5	136.0	151.2	154.4	152.8	147.4	139.3	
G69.0	130.9	127.9	128.0	128.5	142.7	146.7	145.2	139.9	130.9	
G70.0	123.2	120.3	119.7	120.9	134.9	138.2	137.4	131.4	123.2	
G71.0	115.7	112.8	112.2	112.6	127.1	130.4	129.7	123.7	115.7	
G72.0	107.3	105.2	104.6	105.1	119.4	122.7	121.3	116.1	107.3	
G73.0	99.8	97.7	97.1	97.7	111.0	115.1	113.6	108.6	99.8	

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au

Candlepower Table (Continue 2)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G74.0	92.3	89.6	89.0	90.3	103.4	106.7	106.1	100.3	92.3	
G75.0	84.9	82.3	81.8	82.9	95.2	99.2	97.8	92.9	84.9	
G76.0	77.0	75.2	74.6	75.8	87.8	91.0	90.4	85.6	77.0	
G77.0	69.9	67.4	66.8	68.0	80.3	83.6	83.1	77.7	69.9	
G78.0	62.9	60.5	60.0	61.1	73.2	76.4	75.2	70.7	62.9	
G79.0	55.5	53.8	53.3	54.5	65.3	69.2	68.1	63.6	55.5	
G80.0	48.8	47.1	46.0	47.8	58.3	61.4	61.1	56.1	48.8	
G81.0	42.5	40.1	39.7	41.4	51.5	54.6	53.6	49.5	42.5	
G82.0	35.6	33.9	33.5	34.6	44.1	47.7	46.9	42.9	35.6	
G83.0	29.5	27.8	26.8	28.6	37.6	41.1	40.4	36.6	29.5	
G84.0	23.6	21.4	21.0	22.8	31.3	34.0	34.1	30.5	23.6	
G85.0	17.2	15.6	15.4	17.0	25.2	27.9	27.4	24.1	17.2	
G86.0	11.7	10.1	10.0	11.7	19.3	21.9	21.5	18.4	11.7	
G87.0	6.7	5.2	4.7	6.8	13.2	15.4	15.7	12.9	6.7	
G88.0	2.1	0.9	0.8	2.0	8.0	10.0	9.8	7.3	2.1	
G89.0	0.5	0.5	0.5	0.4	3.3	5.1	4.9	2.6	0.5	
G90.0	0.5	0.5	0.6	0.4	0.6	0.7	0.8	0.6	0.5	
G91.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G92.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G93.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G94.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G95.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G96.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G97.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G98.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G99.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G101.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G102.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G103.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G104.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G105.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G106.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G107.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G108.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G109.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G110.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

C Plane (°):0.0-360.0: 45.0
Gamma Plane (°):0.0-180.0:1.0
Test Lab: Inventfine instruments
Test Device: GPM-1800B
Test Type: TYPE C
Distance: 8.509 m
Temperature: 26
Humidity: 55
Operator: Jacky tang
Inspector:

Candlepower Table (Continue 3)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G111.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G112.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G113.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G114.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G115.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G116.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G117.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G118.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G119.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G120.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G122.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G123.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G124.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G125.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G126.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G127.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G128.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G129.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G130.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G131.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G132.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G133.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G134.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G135.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G136.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G137.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G138.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G139.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G140.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G141.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G142.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G143.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G144.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G145.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G146.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G147.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

Candlepower Table (Continue 4)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G148.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G149.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G151.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G152.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G153.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G154.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G155.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G156.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G157.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G158.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G159.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G161.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G162.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G163.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G164.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G165.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G166.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G167.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G168.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G169.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G170.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G171.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G172.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G173.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G174.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G175.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G176.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G177.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G178.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G179.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector: