

Report No.: 8

Test Time: 2019/6/21 17:31

Luminaire Property

Luminaire Manufacturer: Havit Commercial

Luminaire Description: HCP-89X3004-3K

Luminous Width (mm): -315

Voltage: 220V

Power: 27.44 W

Luminous Length (mm): -315

Luminous Height (mm): 0

Current: 0.129 A

Power Factor: 0.965

Photometric Results

CIE Class: Direct

Measurement Flux: 2056.5 lm

Downward Ratio: 96%

Horizontal Diffuse Angle(50%): H113.4

Vertical Diffuse Angle(50%): V113.4

Luminaire Efficacy Rating (LER): 75.00

Max. Intensity: 686.46 cd

S/MH(C0/C180): 1.26

Total Rated Lamp Lumens: 2056.5 lm

Efficiency: 100%

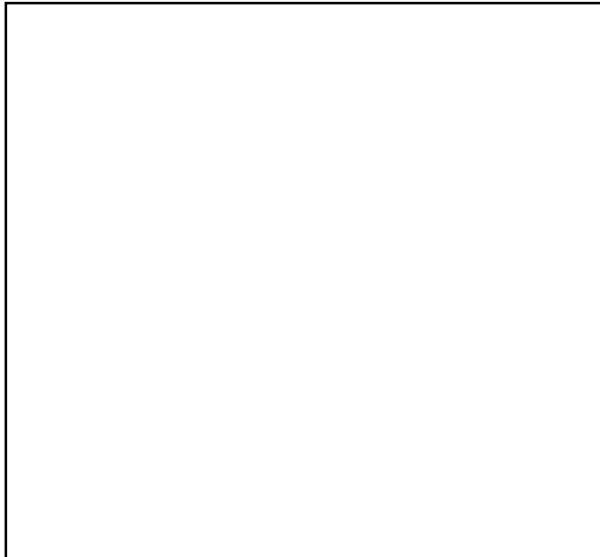
Upward Ratio: 4%

Central Intensity: 686.45 cd

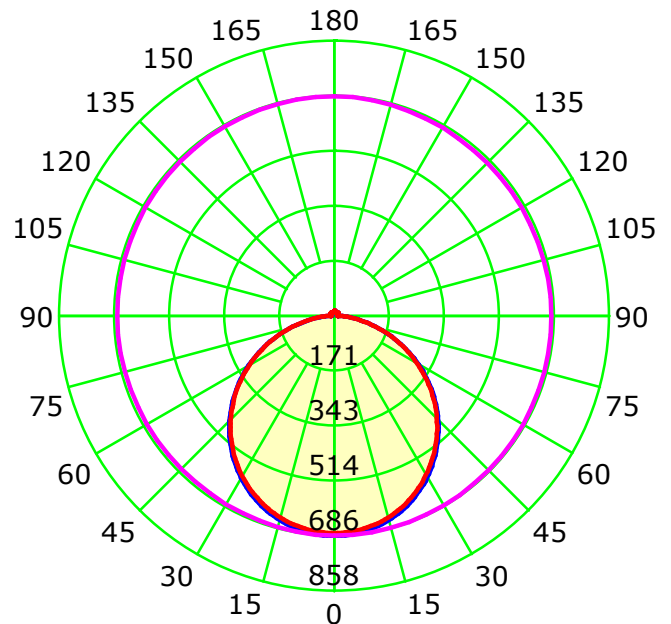
Pos of Max. Intensity: H0 V0

S/MH(C90/C270): 1.26

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

Average Diffuse Angle(50%): 113.4°

— C0-C180 — C90-C270 — G0

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

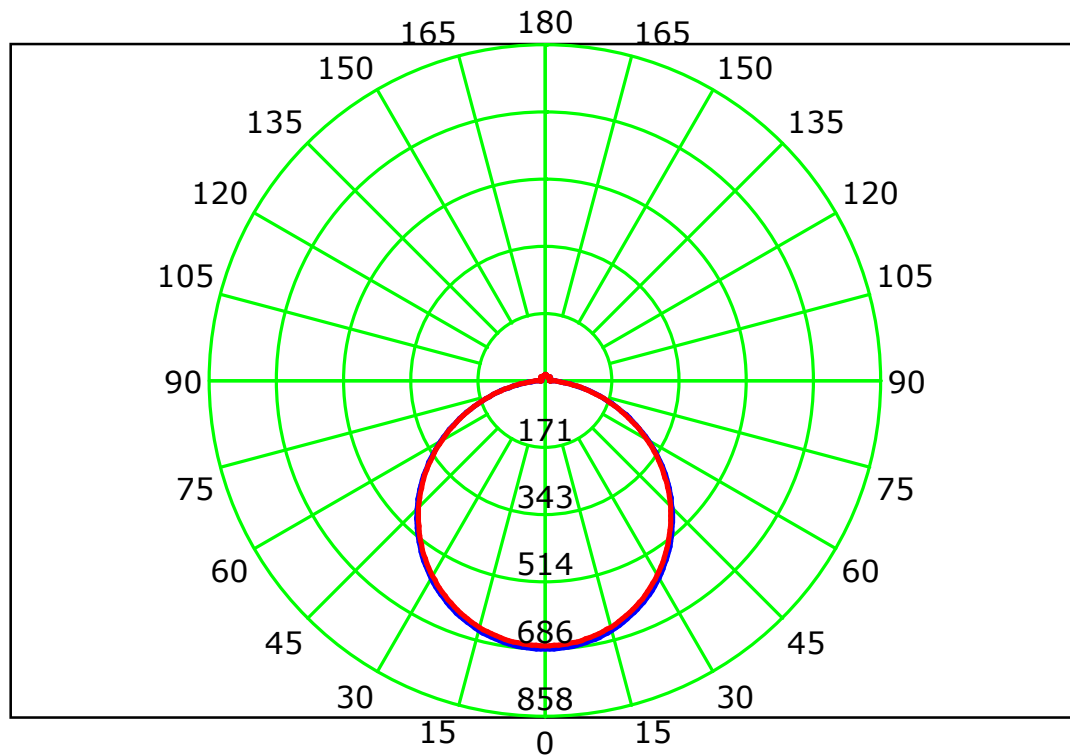
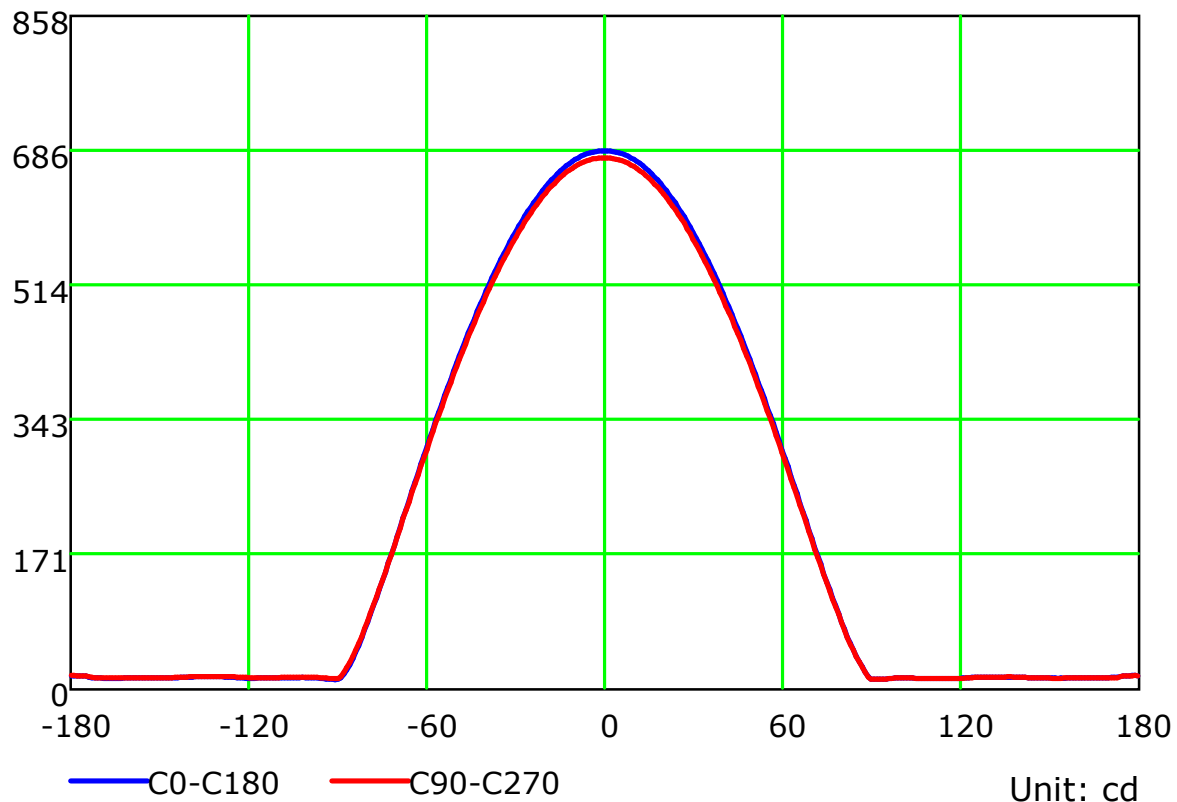
Test Device: GPM-1800B

Distance: 8.509 m

Humidity: 55

Inspector:

Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
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Gamma Plane (°):0.0-180.0:1.0
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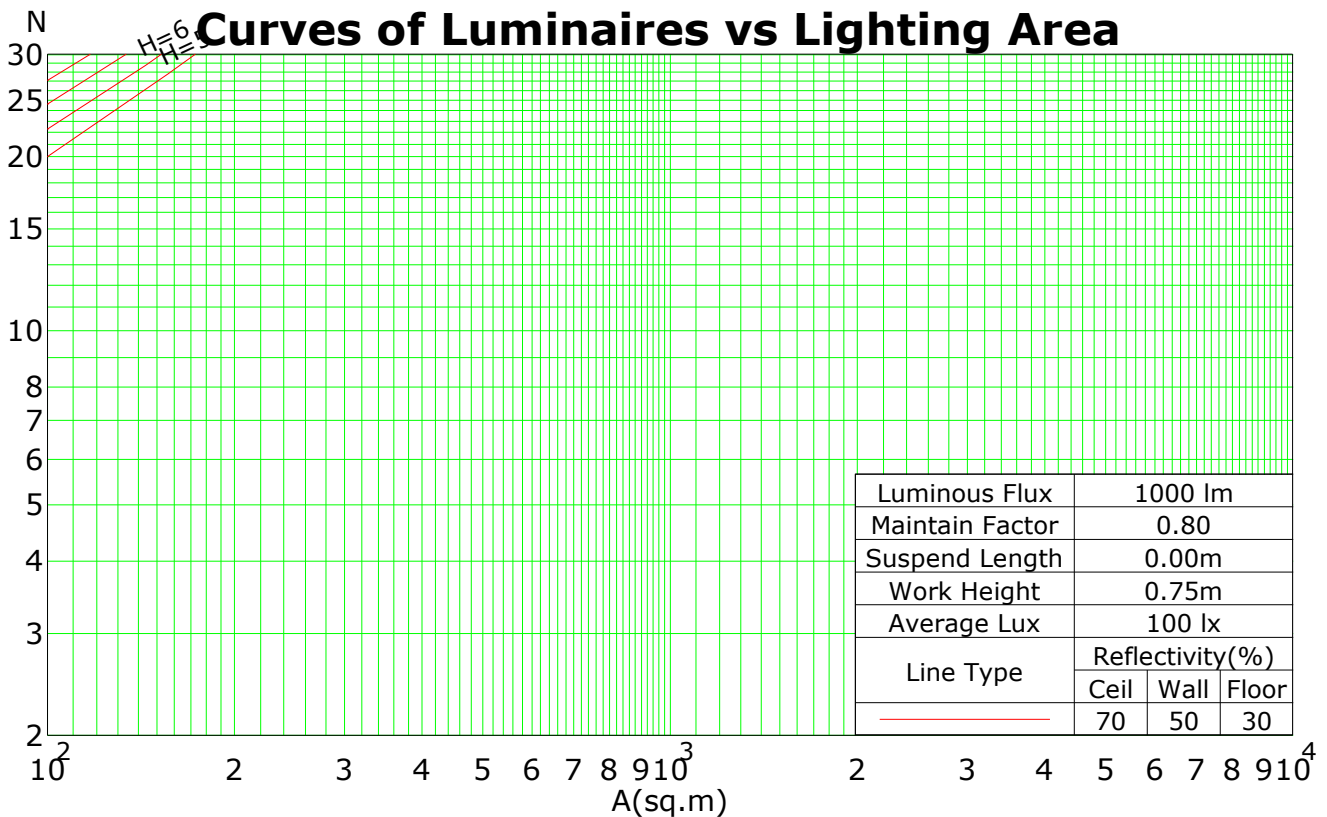
Coefficients Of Utilization - Zonal Cavity Method

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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	108	103	98	94	104	100	96	92	95	92	89	90	88	85	86	84	82	80
2	98	89	82	77	95	87	81	75	83	78	73	79	75	71	75	72	69	66
3	89	78	70	64	86	76	69	63	73	66	61	70	64	59	66	62	58	56
4	81	69	60	54	79	68	59	53	65	58	52	62	56	51	59	54	50	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	36
7	64	50	42	35	62	49	41	35	47	40	35	46	39	34	44	38	34	31
8	59	46	37	32	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	56	42	34	28	54	41	33	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	26	51	38	31	25	37	30	25	36	29	25	35	29	25	23

Spacing Criteria (0-180): 1.26

Spacing Criteria (90-270): 1.26

Spacing Criteria (Diagonal): 1.37



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

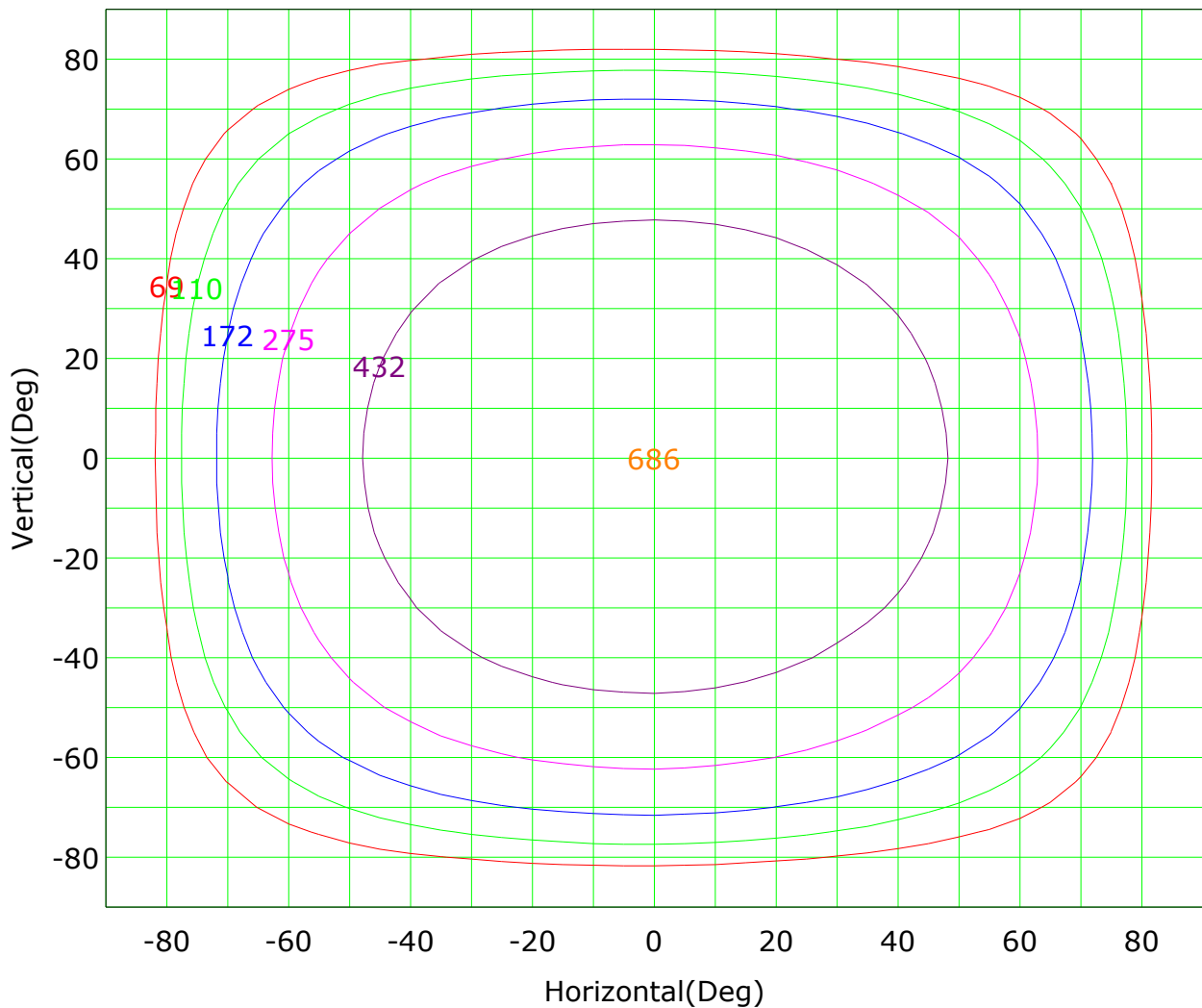
Test Device: GPM-1800B

Distance: 8.509 m

Humidity: 55

Inspector:

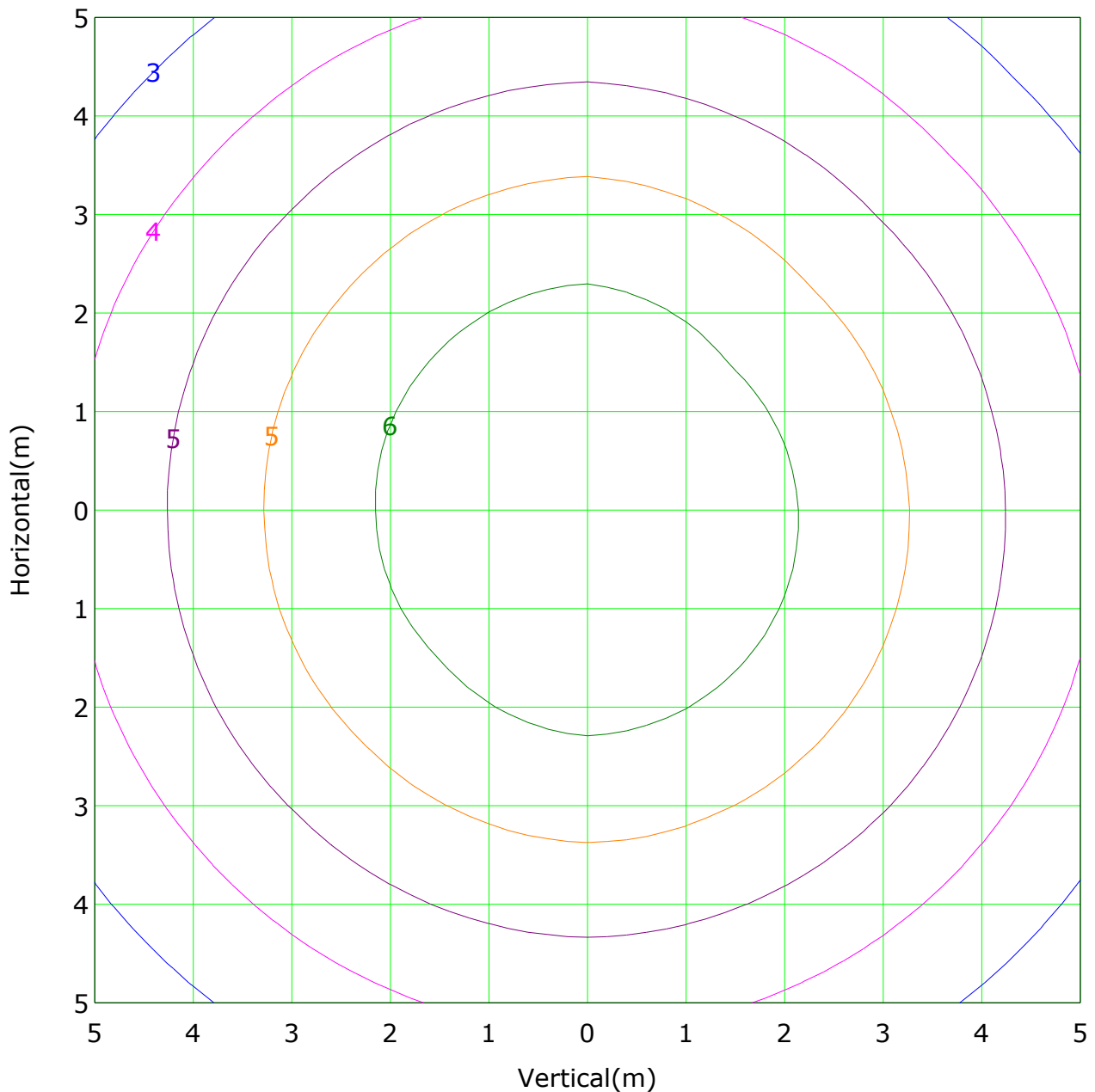
Isocandela (rectangle)



Imax (100%): 686 cd

(10%): 69 cd	(16%): 110 cd
(25%): 172 cd	(40%): 275 cd
(63%): 432 cd	(100%): 686 cd

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 6.9 lx

(30%): 2.1 lx	(40%): 2.7 lx
(50%): 3.4 lx	(60%): 4.1 lx
(70%): 4.8 lx	(80%): 5.5 lx
(90%): 6.2 lx	(100%): 6.9 lx
(120%): 8.2 lx	(150%): 10.3 lx

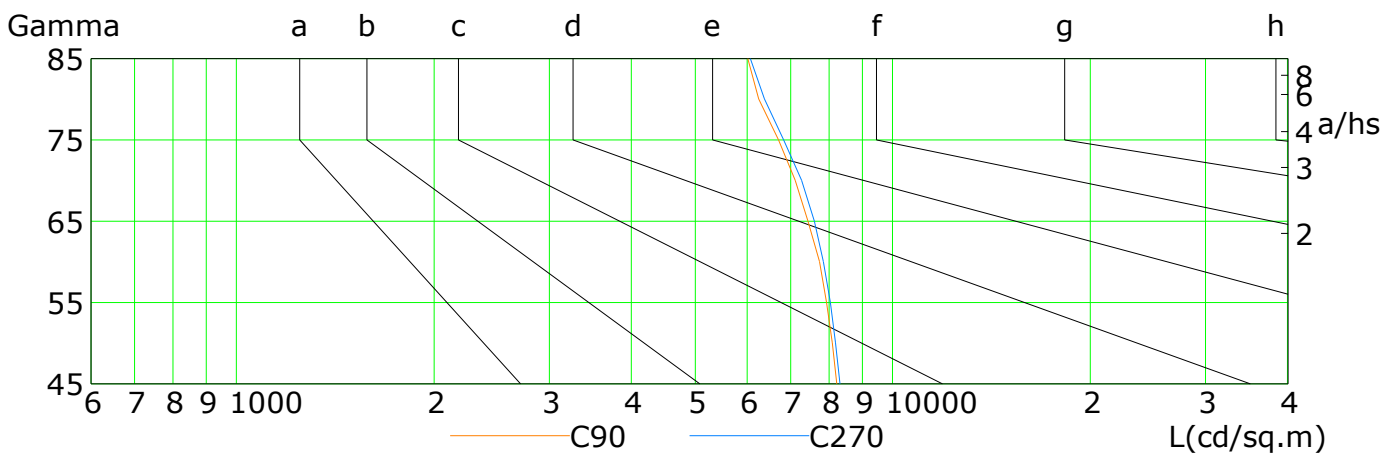
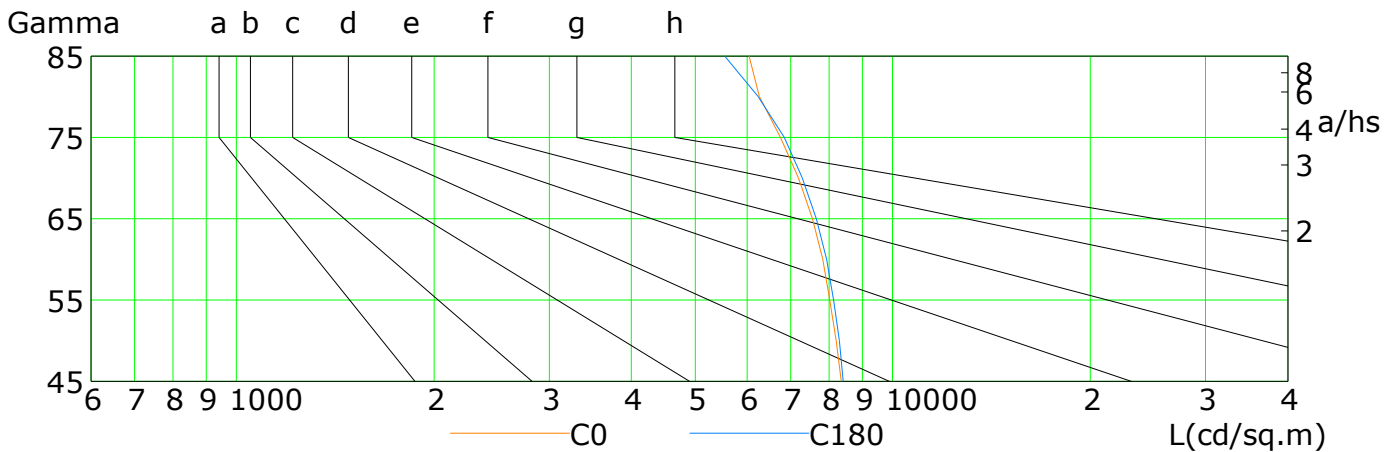
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
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Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

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

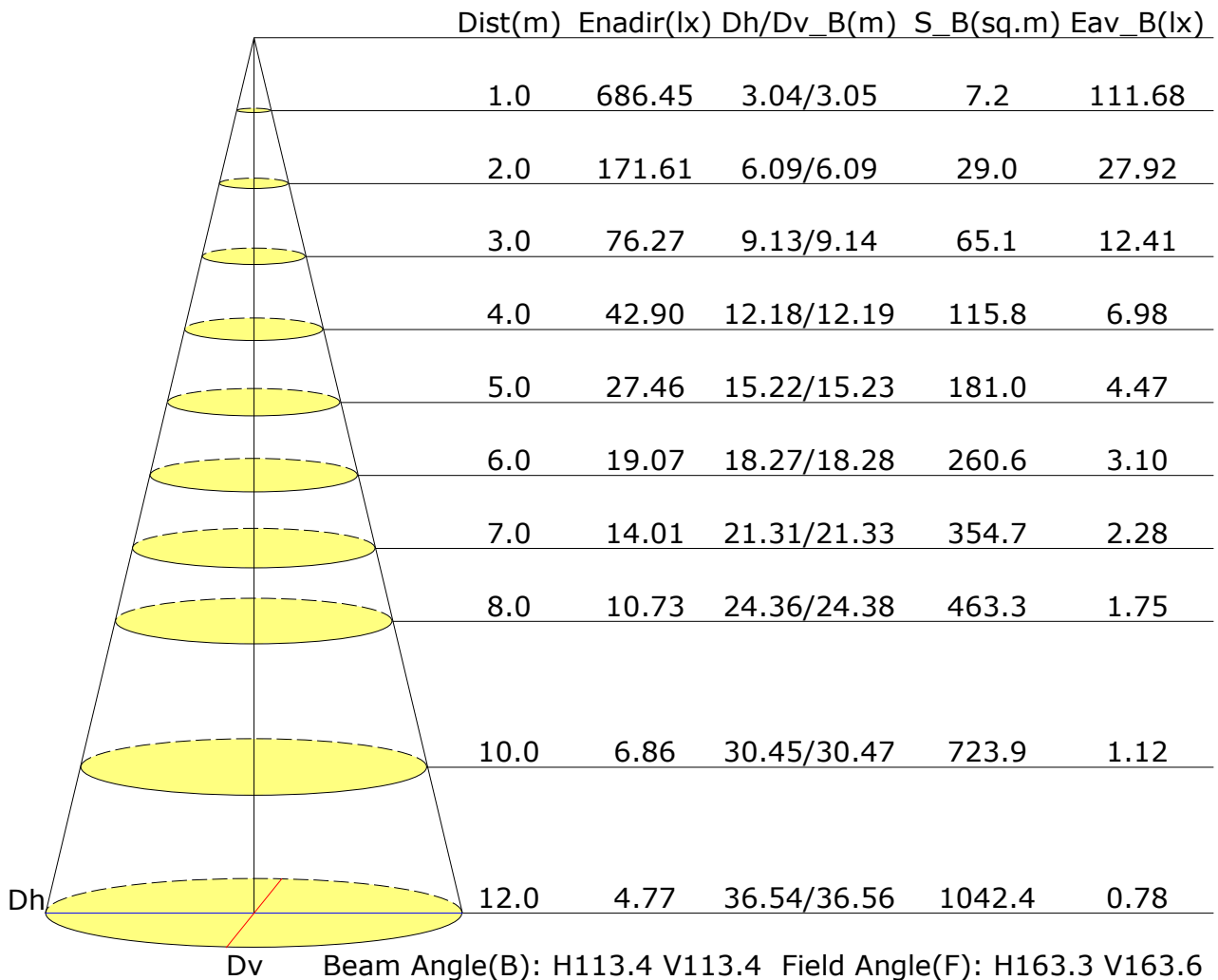


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	8345	8203	8024	7818	7551	7181	6754	6262	6048
C90	8223	8101	7927	7729	7437	7112	6704	6250	6013
C180	8405	8290	8127	7933	7654	7277	6833	6242	5549
C270	8306	8193	8031	7843	7607	7261	6820	6380	6069

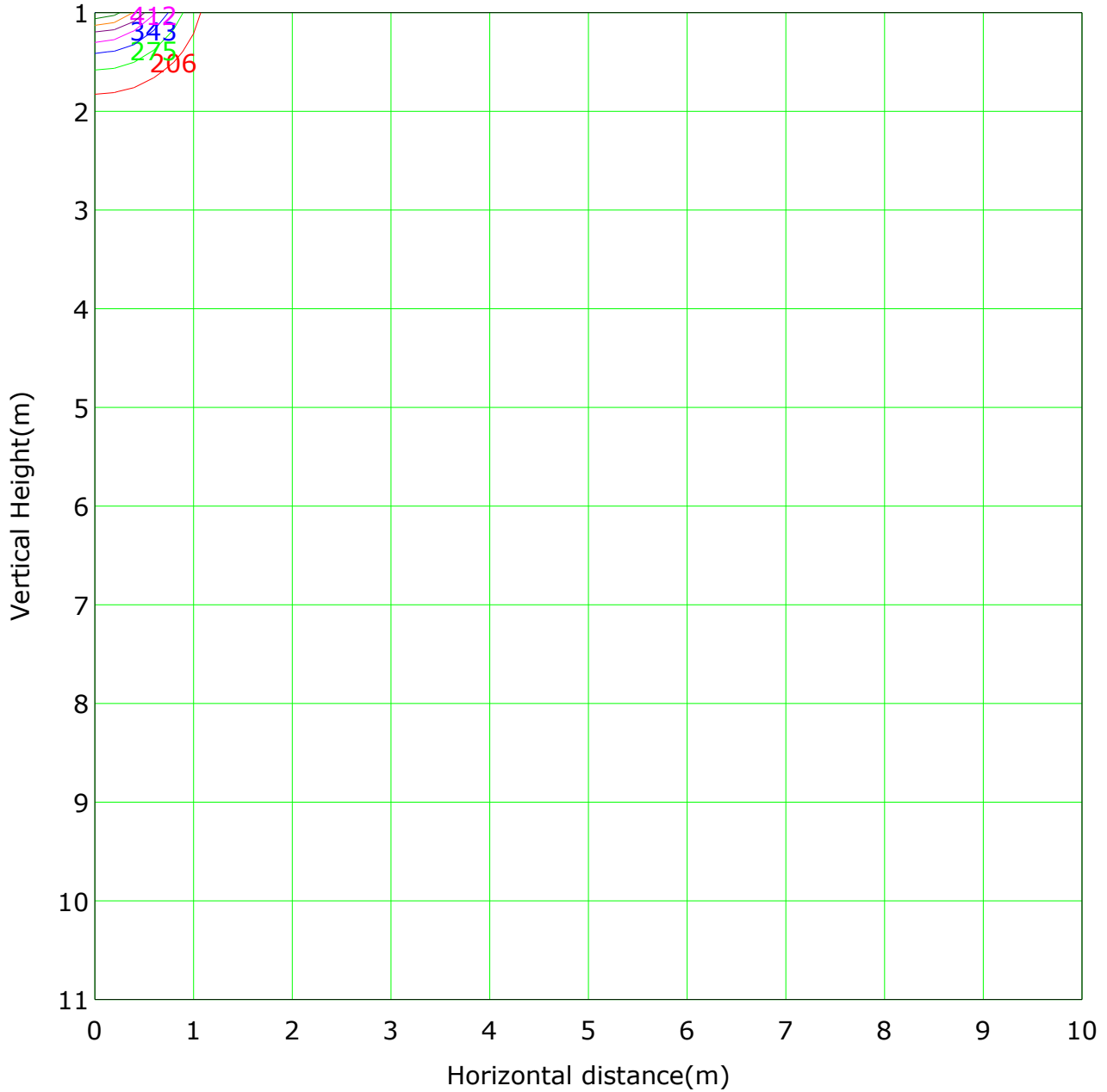
C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
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Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.509 m
Humidity: 55
Inspector:

Illuminance at a Distance

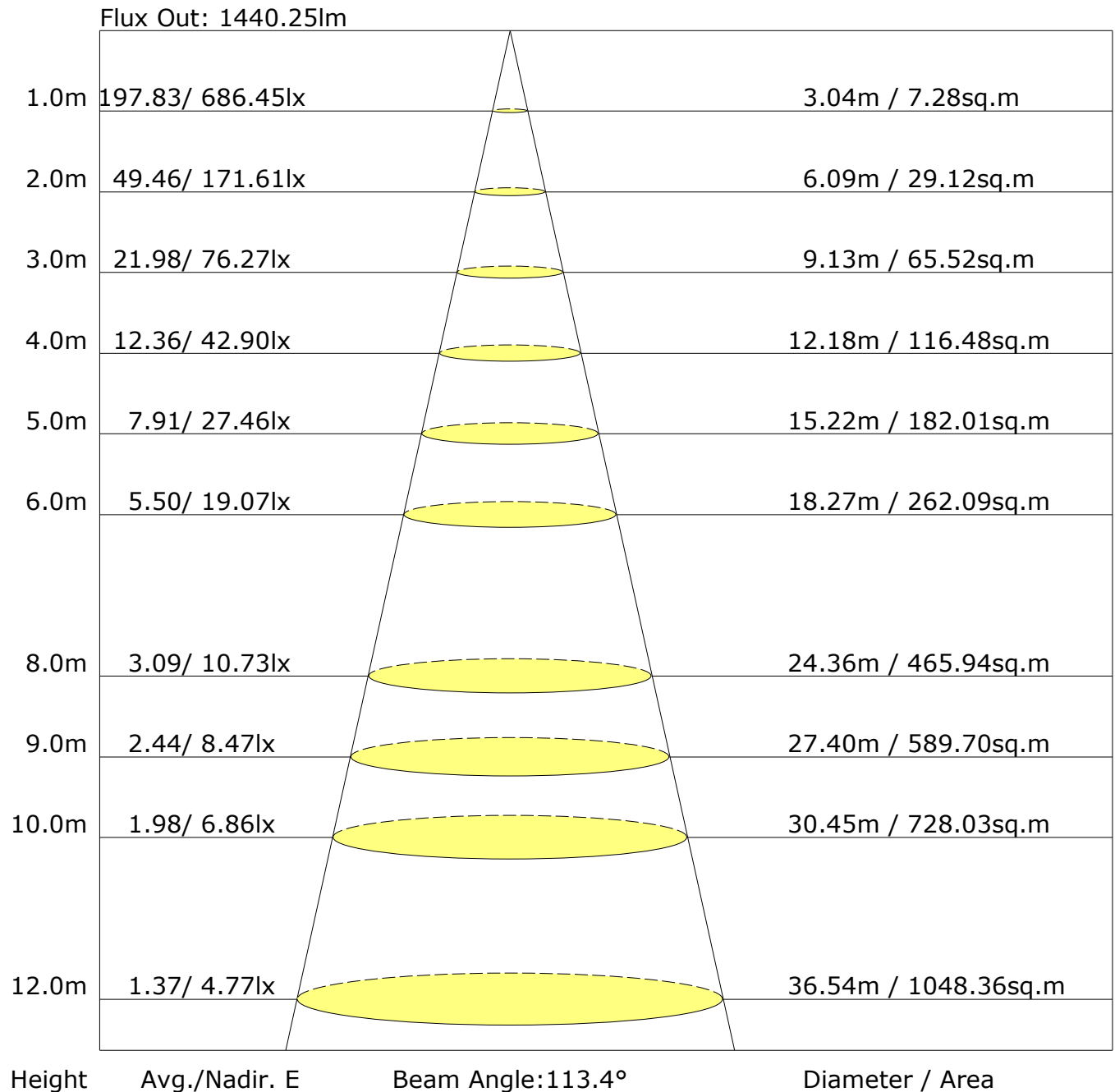


Vertical IsoLux Plot



Lowest(m): 1.0m	Highest(m): 11.0m	Max Lux: 686.5 lx
(30%): 205.9 lx	(40%): 274.6 lx	
(50%): 343.2 lx	(60%): 411.9 lx	
(70%): 480.5 lx	(80%): 549.2 lx	
(90%): 617.8 lx	(100%): 686.5 lx	
(120%): 823.7 lx	(150%): 1029.7 lx	

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	19.7	21.0	20.0	21.3	21.6	19.6	21.0	20.0	21.3	21.6
3H	21.2	22.4	21.6	22.8	23.2	21.2	22.4	21.6	22.8	23.1
4H	21.9	23.0	22.3	23.4	23.8	21.9	23.0	22.3	23.4	23.8
6H	22.4	23.4	22.8	23.8	24.2	22.4	23.4	22.8	23.8	24.2
8H	22.5	23.6	23.0	24.0	24.4	22.5	23.6	23.0	24.0	24.4
12H	22.7	23.7	23.1	24.1	24.5	22.7	23.6	23.1	24.0	24.5
X=4H Y=2H	20.3	21.5	20.7	21.8	22.2	20.3	21.5	20.7	21.8	22.2
3H	22.1	23.1	22.5	23.5	23.9	22.1	23.1	22.5	23.5	23.9
4H	22.9	23.8	23.3	24.2	24.6	22.9	23.7	23.3	24.2	24.6
6H	23.5	24.3	24.0	24.7	25.2	23.5	24.3	24.0	24.7	25.2
8H	23.7	24.4	24.2	24.9	25.4	23.7	24.4	24.2	24.9	25.4
12H	23.9	24.6	24.4	25.0	25.6	23.9	24.5	24.4	25.0	25.6
X=8H Y=4H	23.2	23.9	23.7	24.4	24.9	23.2	23.9	23.7	24.4	24.9
6H	24.0	24.5	24.5	25.1	25.6	24.0	24.5	24.5	25.0	25.6
8H	24.3	24.8	24.8	25.3	25.9	24.3	24.8	24.8	25.3	25.9
12H	24.6	25.0	25.1	25.6	26.1	24.6	25.0	25.1	25.5	26.1
X=12H Y=4H	23.2	23.9	23.7	24.3	24.9	23.2	23.8	23.7	24.3	24.9
6H	24.0	24.6	24.6	25.1	25.7	24.0	24.5	24.6	25.1	25.6
8H	24.4	24.9	25.0	25.4	26.0	24.4	24.9	25.0	25.4	26.0
Variations with the observer position at spacings:										
S=1.0H	+0.2/-0.1					+0.2/-0.1				
S=1.5H	+0.4/-0.4					+0.4/-0.4				
S=2.0H	+0.5/-0.8					+0.5/-0.8				

Calculate in accordance with CIE Pub.117. The table is revised with 2057lm ($8\log(F/F_0) = 2.5$).

Zonal Lumen

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	679.9	0.7	0.7	0.03	0.03
1.0-2.0	679.7	2.0	2.6	0.09	0.13
2.0-3.0	679.2	3.2	5.9	0.16	0.28
3.0-4.0	678.6	4.5	10.4	0.22	0.51
4.0-5.0	677.8	5.8	16.2	0.28	0.79
5.0-6.0	676.7	7.1	23.3	0.35	1.13
6.0-7.0	675.4	8.4	31.7	0.41	1.54
7.0-8.0	673.8	9.6	41.4	0.47	2.01
8.0-9.0	672.0	10.9	52.3	0.53	2.54
9.0-10.0	669.9	12.1	64.4	0.59	3.13
10.0-11.0	667.6	13.3	77.7	0.65	3.78
11.0-12.0	665.1	14.5	92.3	0.71	4.49
12.0-13.0	662.3	15.7	108.0	0.76	5.25
13.0-14.0	659.3	16.9	124.9	0.82	6.07
14.0-15.0	656.0	18.0	142.9	0.88	6.95
15.0-16.0	652.5	19.1	162.0	0.93	7.88
16.0-17.0	648.7	20.2	182.2	0.98	8.86
17.0-18.0	644.7	21.3	203.5	1.03	9.89
18.0-19.0	640.6	22.3	225.7	1.08	10.98
19.0-20.0	636.2	23.3	249.0	1.13	12.11
20.0-21.0	631.6	24.3	273.3	1.18	13.29
21.0-22.0	626.7	25.2	298.5	1.22	14.51
22.0-23.0	621.6	26.1	324.6	1.27	15.78
23.0-24.0	616.3	27.0	351.5	1.31	17.09
24.0-25.0	610.9	27.8	379.3	1.35	18.44
25.0-26.0	605.2	28.6	407.9	1.39	19.83
26.0-27.0	599.3	29.3	437.2	1.43	21.26
27.0-28.0	593.1	30.0	467.2	1.46	22.72
28.0-29.0	586.8	30.7	497.9	1.49	24.21
29.0-30.0	580.4	31.3	529.3	1.52	25.74
30.0-31.0	573.8	31.9	561.2	1.55	27.29
31.0-32.0	566.9	32.5	593.7	1.58	28.87
32.0-33.0	559.7	33.0	626.7	1.60	30.47
33.0-34.0	552.4	33.4	660.1	1.63	32.10
34.0-35.0	545.1	33.9	694.0	1.65	33.75
35.0-36.0	537.6	34.2	728.2	1.66	35.41

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 1)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	529.8	34.6	762.8	1.68	37.09
37.0-38.0	521.8	34.8	797.6	1.69	38.78
38.0-39.0	513.6	35.1	832.7	1.70	40.49
39.0-40.0	505.4	35.3	867.9	1.71	42.20
40.0-41.0	496.9	35.4	903.3	1.72	43.92
41.0-42.0	488.2	35.5	938.8	1.72	45.65
42.0-43.0	479.4	35.5	974.3	1.73	47.38
43.0-44.0	470.4	35.5	1009.8	1.73	49.10
44.0-45.0	461.3	35.5	1045.3	1.72	50.83
45.0-46.0	452.1	35.4	1080.6	1.72	52.55
46.0-47.0	442.7	35.2	1115.8	1.71	54.26
47.0-48.0	433.0	35.0	1150.8	1.70	55.96
48.0-49.0	423.3	34.8	1185.6	1.69	57.65
49.0-50.0	413.6	34.5	1220.1	1.68	59.33
50.0-51.0	403.6	34.1	1254.2	1.66	60.99
51.0-52.0	393.4	33.8	1288.0	1.64	62.63
52.0-53.0	383.2	33.3	1321.4	1.62	64.25
53.0-54.0	372.9	32.9	1354.2	1.60	65.85
54.0-55.0	362.4	32.4	1386.6	1.57	67.42
55.0-56.0	351.9	31.8	1418.4	1.55	68.97
56.0-57.0	341.2	31.2	1449.6	1.52	70.49
57.0-58.0	330.4	30.6	1480.1	1.49	71.97
58.0-59.0	319.5	29.9	1510.0	1.45	73.43
59.0-60.0	308.5	29.1	1539.2	1.42	74.84
60.0-61.0	297.5	28.4	1567.5	1.38	76.22
61.0-62.0	286.4	27.6	1595.1	1.34	77.57
62.0-63.0	275.3	26.8	1621.9	1.30	78.87
63.0-64.0	263.8	25.9	1647.8	1.26	80.13
64.0-65.0	252.5	25.0	1672.8	1.22	81.34
65.0-66.0	241.2	24.1	1696.9	1.17	82.51
66.0-67.0	229.9	23.1	1720.0	1.12	83.64
67.0-68.0	218.8	22.2	1742.2	1.08	84.71
68.0-69.0	207.3	21.2	1763.3	1.03	85.74
69.0-70.0	195.8	20.1	1783.4	0.98	86.72
70.0-71.0	184.6	19.1	1802.5	0.93	87.65
71.0-72.0	173.5	18.0	1820.5	0.88	88.53

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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 2)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	162.3	17.0	1837.5	0.83	89.35
73.0-74.0	151.3	15.9	1853.4	0.77	90.13
74.0-75.0	140.4	14.8	1868.3	0.72	90.85
75.0-76.0	129.6	13.8	1882.0	0.67	91.52
76.0-77.0	118.9	12.7	1894.7	0.62	92.13
77.0-78.0	108.7	11.6	1906.3	0.57	92.70
78.0-79.0	98.6	10.6	1916.9	0.51	93.21
79.0-80.0	88.4	9.5	1926.5	0.46	93.68
80.0-81.0	78.7	8.5	1935.0	0.41	94.09
81.0-82.0	69.5	7.5	1942.5	0.37	94.46
82.0-83.0	60.5	6.6	1949.1	0.32	94.78
83.0-84.0	52.1	5.7	1954.8	0.28	95.05
84.0-85.0	44.2	4.8	1959.6	0.23	95.29
85.0-86.0	36.8	4.0	1963.6	0.20	95.48
86.0-87.0	29.6	3.2	1966.9	0.16	95.64
87.0-88.0	23.2	2.5	1969.4	0.12	95.76
88.0-89.0	17.4	1.9	1971.3	0.09	95.86
89.0-90.0	13.3	1.5	1972.8	0.07	95.93
90.0-91.0	11.8	1.3	1974.1	0.06	95.99
91.0-92.0	11.7	1.3	1975.4	0.06	96.05
92.0-93.0	11.8	1.3	1976.7	0.06	96.12
93.0-94.0	12.0	1.3	1978.0	0.06	96.18
94.0-95.0	12.2	1.3	1979.3	0.06	96.25
95.0-96.0	12.5	1.4	1980.7	0.07	96.31
96.0-97.0	12.9	1.4	1982.1	0.07	96.38
97.0-98.0	13.2	1.4	1983.5	0.07	96.45
98.0-99.0	13.3	1.4	1984.9	0.07	96.52
99.0-100.0	13.2	1.4	1986.4	0.07	96.59
100.0-101.0	13.2	1.4	1987.8	0.07	96.66
101.0-102.0	13.1	1.4	1989.2	0.07	96.73
102.0-103.0	13.1	1.4	1990.6	0.07	96.79
103.0-104.0	13.0	1.4	1992.0	0.07	96.86
104.0-105.0	12.9	1.4	1993.3	0.07	96.93
105.0-106.0	12.9	1.4	1994.7	0.07	97.00
106.0-107.0	13.0	1.4	1996.1	0.07	97.06
107.0-108.0	13.2	1.4	1997.5	0.07	97.13

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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 3)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
108.0-109.0	13.3	1.4	1998.8	0.07	97.20
109.0-110.0	13.3	1.4	2000.2	0.07	97.26
110.0-111.0	13.4	1.4	2001.6	0.07	97.33
111.0-112.0	13.4	1.4	2003.0	0.07	97.40
112.0-113.0	13.4	1.4	2004.3	0.07	97.46
113.0-114.0	13.4	1.3	2005.7	0.07	97.53
114.0-115.0	13.4	1.3	2007.0	0.06	97.59
115.0-116.0	13.4	1.3	2008.3	0.06	97.66
116.0-117.0	13.4	1.3	2009.6	0.06	97.72
117.0-118.0	13.3	1.3	2010.9	0.06	97.78
118.0-119.0	13.3	1.3	2012.2	0.06	97.85
119.0-120.0	13.3	1.3	2013.5	0.06	97.91
120.0-121.0	13.4	1.3	2014.8	0.06	97.97
121.0-122.0	13.4	1.3	2016.0	0.06	98.03
122.0-123.0	13.5	1.3	2017.3	0.06	98.09
123.0-124.0	13.6	1.2	2018.5	0.06	98.15
124.0-125.0	13.7	1.2	2019.8	0.06	98.21
125.0-126.0	13.8	1.2	2021.0	0.06	98.27
126.0-127.0	13.9	1.2	2022.2	0.06	98.33
127.0-128.0	14.0	1.2	2023.4	0.06	98.39
128.0-129.0	14.1	1.2	2024.6	0.06	98.45
129.0-130.0	14.1	1.2	2025.8	0.06	98.51
130.0-131.0	14.1	1.2	2027.0	0.06	98.57
131.0-132.0	14.1	1.2	2028.2	0.06	98.62
132.0-133.0	14.1	1.1	2029.3	0.06	98.68
133.0-134.0	14.1	1.1	2030.4	0.05	98.73
134.0-135.0	14.2	1.1	2031.5	0.05	98.79
135.0-136.0	14.2	1.1	2032.6	0.05	98.84
136.0-137.0	14.2	1.1	2033.7	0.05	98.89
137.0-138.0	14.2	1.0	2034.8	0.05	98.94
138.0-139.0	14.1	1.0	2035.8	0.05	98.99
139.0-140.0	14.0	1.0	2036.8	0.05	99.04
140.0-141.0	13.9	1.0	2037.7	0.05	99.09
141.0-142.0	13.8	0.9	2038.7	0.05	99.13
142.0-143.0	13.8	0.9	2039.6	0.04	99.18
143.0-144.0	13.7	0.9	2040.5	0.04	99.22

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	13.6	0.9	2041.4	0.04	99.26
145.0-146.0	13.6	0.8	2042.2	0.04	99.30
146.0-147.0	13.5	0.8	2043.0	0.04	99.34
147.0-148.0	13.4	0.8	2043.8	0.04	99.38
148.0-149.0	13.3	0.8	2044.6	0.04	99.42
149.0-150.0	13.3	0.7	2045.3	0.04	99.46
150.0-151.0	13.2	0.7	2046.0	0.03	99.49
151.0-152.0	13.2	0.7	2046.7	0.03	99.52
152.0-153.0	13.1	0.7	2047.4	0.03	99.56
153.0-154.0	13.1	0.6	2048.0	0.03	99.59
154.0-155.0	13.1	0.6	2048.7	0.03	99.62
155.0-156.0	13.1	0.6	2049.2	0.03	99.65
156.0-157.0	13.1	0.6	2049.8	0.03	99.67
157.0-158.0	13.1	0.6	2050.4	0.03	99.70
158.0-159.0	13.1	0.5	2050.9	0.03	99.73
159.0-160.0	13.2	0.5	2051.4	0.02	99.75
160.0-161.0	13.2	0.5	2051.9	0.02	99.78
161.0-162.0	13.2	0.5	2052.3	0.02	99.80
162.0-163.0	13.2	0.4	2052.8	0.02	99.82
163.0-164.0	13.1	0.4	2053.2	0.02	99.84
164.0-165.0	13.1	0.4	2053.6	0.02	99.86
165.0-166.0	13.2	0.4	2053.9	0.02	99.87
166.0-167.0	13.2	0.3	2054.3	0.02	99.89
167.0-168.0	13.2	0.3	2054.6	0.02	99.91
168.0-169.0	13.3	0.3	2054.9	0.01	99.92
169.0-170.0	13.3	0.3	2055.1	0.01	99.93
170.0-171.0	13.4	0.2	2055.4	0.01	99.95
171.0-172.0	13.4	0.2	2055.6	0.01	99.96
172.0-173.0	13.5	0.2	2055.8	0.01	99.97
173.0-174.0	14.2	0.2	2056.0	0.01	99.97
174.0-175.0	15.3	0.2	2056.1	0.01	99.98
175.0-176.0	15.8	0.1	2056.3	0.01	99.99
176.0-177.0	15.8	0.1	2056.4	0.01	99.99
177.0-178.0	15.9	0.1	2056.4	0.00	100.00
178.0-179.0	16.0	0.0	2056.5	0.00	100.00
179.0-180.0	16.0	0.0	2056.5	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	686.5	681.3	677.5	674.5	686.5	681.3	677.5	674.5	686.5	
G1.0	686.3	681.3	677.3	674.3	686.3	681.1	677.4	674.6	686.3	
G2.0	686.0	681.0	677.0	673.9	686.0	680.8	677.0	674.4	686.0	
G3.0	685.4	680.4	676.5	673.2	685.5	680.3	676.6	674.0	685.4	
G4.0	684.7	679.8	675.7	672.3	684.8	679.5	675.8	673.3	684.7	
G5.0	683.8	678.9	674.7	671.3	683.8	678.4	674.8	672.5	683.8	
G6.0	682.7	677.7	673.5	669.9	682.5	677.2	673.7	671.5	682.7	
G7.0	681.2	676.3	672.0	668.2	681.0	675.7	672.4	670.3	681.2	
G8.0	679.5	674.7	670.4	666.5	679.2	674.0	670.7	668.7	679.5	
G9.0	677.4	672.7	668.5	664.3	677.3	672.1	668.6	667.0	677.4	
G10.0	675.2	670.7	666.3	662.1	675.1	669.9	666.5	665.1	675.2	
G11.0	672.8	668.1	663.7	659.6	672.7	667.5	664.2	663.0	672.8	
G12.0	670.2	665.5	661.1	656.6	670.0	664.5	661.6	660.5	670.2	
G13.0	667.0	662.7	658.3	653.6	667.2	661.7	658.8	657.6	667.0	
G14.0	664.0	659.7	654.8	650.4	663.7	658.3	655.5	654.8	664.0	
G15.0	660.6	656.4	651.5	646.6	660.5	654.9	652.2	651.4	660.6	
G16.0	656.7	652.5	648.0	643.0	656.9	651.4	648.8	648.1	656.7	
G17.0	652.9	648.7	643.8	639.2	652.8	647.3	644.7	644.5	652.9	
G18.0	648.9	644.8	639.9	634.7	648.9	643.2	640.8	640.8	648.9	
G19.0	644.3	640.2	635.8	630.4	644.7	638.6	636.7	636.8	644.3	
G20.0	639.8	635.8	630.9	625.9	640.3	634.2	632.4	632.6	639.8	
G21.0	635.2	631.3	626.4	620.8	635.6	629.5	627.8	627.7	635.2	
G22.0	630.0	626.0	621.2	615.8	630.2	624.1	623.1	623.0	630.0	
G23.0	624.9	621.0	616.1	610.3	625.2	619.0	617.5	618.1	624.9	
G24.0	619.5	615.2	611.0	604.9	619.9	613.6	612.3	613.0	619.5	
G25.0	613.5	609.8	605.0	599.4	614.5	608.1	606.9	607.8	613.5	
G26.0	607.8	604.1	599.3	593.1	608.9	601.8	601.4	602.4	607.8	
G27.0	601.8	598.1	593.4	587.1	602.4	595.9	595.1	596.2	601.8	
G28.0	595.7	591.4	586.6	580.9	596.4	589.9	589.1	590.4	595.7	
G29.0	588.7	585.1	580.3	573.9	590.2	583.5	583.0	584.4	588.7	
G30.0	582.3	578.2	573.4	567.4	583.8	577.1	576.7	578.2	582.3	
G31.0	575.2	571.6	567.0	560.3	577.2	570.4	570.2	571.7	575.2	
G32.0	567.6	564.2	559.6	553.5	570.3	563.5	562.8	565.2	567.6	
G33.0	560.7	557.3	552.7	545.8	562.7	555.9	556.0	557.8	560.7	
G34.0	552.8	550.2	544.9	538.6	555.5	548.6	548.8	550.8	552.8	
G35.0	545.5	542.8	537.7	530.6	548.1	541.2	541.6	543.6	545.5	
G36.0	537.9	534.6	530.1	523.0	540.6	533.6	534.2	536.2	537.9	

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	530.1	526.8	521.7	515.2	532.1	525.9	525.8	528.8	530.1	
G38.0	521.4	519.0	513.8	507.3	524.3	517.0	518.0	521.1	521.4	
G39.0	513.3	510.1	505.8	498.4	516.2	509.1	510.1	513.3	513.3	
G40.0	505.0	501.9	497.7	490.1	508.2	501.0	502.1	504.6	505.0	
G41.0	495.7	493.5	488.5	481.7	499.0	492.5	493.1	496.4	495.7	
G42.0	487.3	484.2	480.1	472.5	490.5	483.1	484.8	488.1	487.3	
G43.0	477.7	475.6	471.6	463.8	481.9	474.5	476.2	478.9	477.7	
G44.0	468.8	466.8	462.0	454.1	472.1	465.5	467.4	470.2	468.8	
G45.0	459.8	456.9	453.1	445.2	463.1	456.5	457.7	461.4	459.8	
G46.0	449.8	447.9	444.1	436.1	454.0	446.5	448.6	452.5	449.8	
G47.0	440.5	438.8	434.1	426.0	444.7	437.2	439.5	442.5	440.5	
G48.0	430.2	428.4	424.8	416.6	434.4	427.7	429.3	433.3	430.2	
G49.0	420.6	418.9	415.4	407.0	424.9	418.1	419.9	423.9	420.6	
G50.0	410.9	409.1	405.8	396.4	415.3	407.5	410.4	413.5	410.9	
G51.0	401.0	398.4	395.1	386.6	404.6	397.8	400.8	403.9	401.0	
G52.0	390.1	388.5	385.4	376.8	394.7	386.9	390.1	394.3	390.1	
G53.0	380.1	378.4	375.4	365.8	384.6	376.8	380.1	383.4	380.1	
G54.0	370.0	367.4	364.5	355.7	373.5	366.7	370.1	373.4	370.0	
G55.0	358.7	357.2	354.3	345.6	363.3	355.3	359.0	363.3	358.7	
G56.0	348.3	346.8	344.1	334.1	352.9	344.9	348.7	353.2	348.3	
G57.0	337.8	335.3	332.7	323.7	342.3	334.4	338.4	341.8	337.8	
G58.0	327.3	324.7	322.3	313.2	330.6	322.6	327.9	331.3	327.3	
G59.0	315.5	314.0	311.8	301.6	319.9	312.0	316.3	320.7	315.5	
G60.0	304.6	302.3	301.2	291.0	309.1	301.1	305.6	309.0	304.6	
G61.0	293.8	291.4	289.4	280.2	298.2	289.1	294.8	298.3	293.8	
G62.0	282.9	280.5	278.7	269.4	286.2	278.1	284.0	287.5	282.9	
G63.0	270.8	269.4	267.8	258.5	275.3	267.3	272.3	275.7	270.8	
G64.0	259.8	257.3	255.9	246.5	263.2	255.2	261.5	264.9	259.8	
G65.0	248.7	246.1	244.9	235.6	252.1	244.1	250.5	253.9	248.7	
G66.0	236.6	235.2	234.2	224.7	241.0	231.9	238.6	242.0	236.6	
G67.0	225.5	224.1	223.3	213.8	228.8	220.8	227.6	230.9	225.5	
G68.0	214.5	213.1	211.2	202.8	217.6	209.6	216.6	219.9	214.5	
G69.0	202.4	202.0	200.4	190.8	206.4	197.4	204.5	207.8	202.4	
G70.0	191.4	189.8	189.6	180.0	193.9	186.2	193.5	196.7	191.4	
G71.0	180.4	178.8	177.7	169.2	182.8	175.0	182.6	185.7	180.4	
G72.0	169.4	167.8	166.9	158.4	171.5	163.9	170.6	174.6	169.4	
G73.0	158.6	156.9	156.2	147.7	160.5	151.9	159.8	162.6	158.6	

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 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	146.8	146.1	145.7	137.1	148.6	141.2	149.2	151.9	146.8	
G75.0	136.2	135.3	135.2	126.6	137.8	130.4	137.6	141.2	136.2	
G76.0	125.8	124.8	124.0	116.3	126.2	118.8	127.2	129.6	125.8	
G77.0	115.5	114.3	113.8	106.0	115.8	108.4	117.0	119.2	115.5	
G78.0	105.5	104.3	103.9	96.3	105.7	98.4	107.0	109.0	105.5	
G79.0	95.5	94.4	94.2	86.7	94.6	87.4	96.1	98.0	95.5	
G80.0	84.7	84.8	84.6	76.7	84.5	77.9	86.3	88.3	84.7	
G81.0	75.3	75.1	74.3	68.2	74.4	69.0	76.8	79.1	75.3	
G82.0	66.0	66.6	65.1	60.0	64.7	60.5	66.4	70.3	66.0	
G83.0	57.3	58.6	56.3	52.3	54.5	51.7	57.3	61.1	57.3	
G84.0	48.5	51.0	48.3	44.1	45.8	44.1	48.8	53.1	48.5	
G85.0	41.1	43.4	40.8	36.9	37.7	37.0	41.2	45.6	41.1	
G86.0	34.0	35.5	33.7	30.1	30.1	30.0	33.4	37.5	34.0	
G87.0	27.1	28.6	26.9	23.6	23.5	22.9	26.6	30.5	27.1	
G88.0	20.8	22.2	20.6	17.3	18.2	17.2	20.5	24.0	20.8	
G89.0	15.3	15.9	14.6	12.6	13.4	12.6	15.0	18.2	15.3	
G90.0	11.8	11.2	11.7	11.8	11.5	11.8	12.6	12.8	11.8	
G91.0	11.7	10.3	11.5	11.9	11.4	11.8	12.7	12.0	11.7	
G92.0	11.8	10.4	11.6	12.0	11.6	12.0	12.8	12.1	11.8	
G93.0	11.6	10.5	11.7	12.1	11.9	12.1	13.0	12.2	11.6	
G94.0	11.6	10.6	11.8	12.3	12.2	12.3	13.1	12.3	11.6	
G95.0	11.9	10.7	11.8	12.8	12.6	12.6	13.3	12.5	11.9	
G96.0	12.4	11.1	12.3	13.4	13.0	13.1	13.6	12.9	12.4	
G97.0	12.9	11.5	12.8	13.5	13.3	13.3	13.9	13.5	12.9	
G98.0	13.3	11.6	13.1	13.5	13.4	13.3	14.2	13.6	13.3	
G99.0	13.5	11.5	13.3	13.2	13.6	13.1	14.4	13.6	13.5	
G100.0	13.6	11.3	13.4	12.9	13.7	12.8	14.6	13.3	13.6	
G101.0	13.6	11.2	13.5	12.7	13.9	12.6	14.7	13.0	13.6	
G102.0	13.6	11.2	13.5	12.6	13.9	12.5	14.7	12.9	13.6	
G103.0	13.4	11.2	13.3	12.6	13.7	12.6	14.6	12.8	13.4	
G104.0	13.2	11.3	13.1	12.6	13.6	12.6	14.4	12.9	13.2	
G105.0	13.0	11.4	12.9	12.7	13.4	12.7	14.2	13.0	13.0	
G106.0	13.0	11.6	12.8	12.9	13.4	12.8	14.1	13.1	13.0	
G107.0	12.9	11.9	12.8	13.1	13.7	13.0	14.0	13.4	12.9	
G108.0	12.8	12.3	12.7	13.4	13.7	13.2	13.9	13.7	12.8	
G109.0	12.8	12.4	12.7	13.6	13.7	13.5	13.9	14.0	12.8	
G110.0	12.8	12.5	12.6	13.7	13.7	13.7	13.8	14.1	12.8	

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:

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	12.8	12.5	12.6	13.8	13.6	13.7	13.8	14.2	12.8	
G112.0	12.8	12.5	12.6	13.9	13.5	13.8	13.8	14.2	12.8	
G113.0	12.8	12.5	12.6	13.9	13.4	13.8	13.7	14.2	12.8	
G114.0	12.8	12.4	12.6	14.0	13.4	13.9	13.7	14.2	12.8	
G115.0	12.8	12.5	12.6	14.1	13.3	13.9	13.7	14.2	12.8	
G116.0	12.8	12.4	12.6	14.1	13.3	13.9	13.7	14.2	12.8	
G117.0	12.8	12.4	12.6	14.1	13.2	13.9	13.7	14.1	12.8	
G118.0	12.9	12.4	12.7	14.0	13.0	13.8	13.8	14.1	12.9	
G119.0	12.9	12.4	12.8	14.0	12.9	13.8	13.8	14.0	12.9	
G120.0	13.0	12.3	12.8	14.0	12.9	13.7	13.9	14.0	13.0	
G121.0	13.3	12.3	13.1	13.9	13.0	13.6	14.0	14.0	13.3	
G122.0	13.5	12.3	13.3	13.9	13.2	13.6	14.3	13.9	13.5	
G123.0	13.7	12.3	13.6	13.8	13.4	13.5	14.5	13.9	13.7	
G124.0	13.9	12.3	13.8	13.8	13.7	13.5	14.7	13.9	13.9	
G125.0	14.0	12.3	14.0	13.7	13.9	13.4	14.9	13.9	14.0	
G126.0	14.2	12.3	14.2	13.8	14.2	13.4	15.0	13.9	14.2	
G127.0	14.3	12.4	14.3	13.8	14.4	13.4	15.1	13.9	14.3	
G128.0	14.4	12.4	14.4	13.8	14.6	13.4	15.3	14.0	14.4	
G129.0	14.5	12.4	14.6	13.7	14.7	13.4	15.3	14.0	14.5	
G130.0	14.6	12.5	14.6	13.7	14.8	13.3	15.3	14.1	14.6	
G131.0	14.6	12.6	14.7	13.7	14.9	13.4	15.3	14.1	14.6	
G132.0	14.6	12.6	14.7	13.7	14.8	13.4	15.2	14.1	14.6	
G133.0	14.6	12.6	14.7	13.7	14.8	13.4	15.2	14.0	14.6	
G134.0	14.6	12.6	14.7	13.7	14.8	13.4	15.3	13.9	14.6	
G135.0	14.6	12.8	14.7	13.8	14.8	13.5	15.3	13.9	14.6	
G136.0	14.6	12.8	14.7	13.8	14.8	13.5	15.3	13.9	14.6	
G137.0	14.5	12.8	14.7	13.9	14.8	13.5	15.3	14.0	14.5	
G138.0	14.5	12.8	14.7	13.9	14.8	13.5	15.2	14.0	14.5	
G139.0	14.4	12.8	14.5	13.9	14.7	13.5	15.0	14.0	14.4	
G140.0	14.1	12.8	14.3	13.9	14.5	13.5	14.8	14.0	14.1	
G141.0	14.0	12.8	14.1	13.8	14.3	13.4	14.6	13.9	14.0	
G142.0	13.9	12.8	13.9	13.7	14.1	13.4	14.5	13.9	13.9	
G143.0	13.8	12.9	13.8	13.8	13.9	13.5	14.3	13.9	13.8	
G144.0	13.7	12.9	13.7	13.8	13.7	13.5	14.2	14.0	13.7	
G145.0	13.5	12.9	13.6	13.8	13.6	13.5	14.0	14.0	13.5	
G146.0	13.5	12.9	13.5	13.7	13.4	13.4	13.8	13.9	13.5	
G147.0	13.3	12.9	13.4	13.6	13.3	13.3	13.7	13.8	13.3	

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 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	13.3	12.8	13.3	13.5	13.4	13.2	13.6	13.7	13.3	
G149.0	13.3	12.8	13.2	13.4	13.4	13.2	13.4	13.7	13.3	
G150.0	13.3	12.8	13.1	13.3	13.5	13.1	13.4	13.6	13.3	
G151.0	13.2	12.8	12.9	13.2	13.4	13.1	13.3	13.6	13.2	
G152.0	13.1	12.8	12.9	13.2	13.4	13.1	13.3	13.5	13.1	
G153.0	13.1	12.8	13.0	13.1	13.4	13.0	13.2	13.4	13.1	
G154.0	13.1	12.8	13.1	13.1	13.3	13.0	13.1	13.4	13.1	
G155.0	13.1	12.8	13.1	13.0	13.3	13.0	13.1	13.4	13.1	
G156.0	13.1	12.9	13.1	13.0	13.3	13.0	13.1	13.3	13.1	
G157.0	13.1	13.0	13.2	13.0	13.2	13.0	13.2	13.4	13.1	
G158.0	13.1	13.0	13.2	12.9	13.2	12.9	13.1	13.3	13.1	
G159.0	13.1	13.1	13.3	12.9	13.1	13.0	13.2	13.3	13.1	
G160.0	13.3	13.2	13.3	12.9	13.1	13.0	13.2	13.3	13.3	
G161.0	13.3	13.2	13.3	12.8	13.1	13.0	13.2	13.3	13.3	
G162.0	13.4	13.3	13.3	12.8	13.1	13.0	13.2	13.3	13.4	
G163.0	13.4	13.3	13.3	12.8	13.0	12.9	13.2	13.3	13.4	
G164.0	13.4	13.3	13.3	12.7	13.0	12.9	13.2	13.2	13.4	
G165.0	13.4	13.4	13.3	12.7	12.9	12.9	13.2	13.2	13.4	
G166.0	13.4	13.4	13.4	12.7	12.9	12.9	13.3	13.3	13.4	
G167.0	13.5	13.4	13.4	12.7	12.9	12.9	13.3	13.3	13.5	
G168.0	13.6	13.5	13.5	12.7	13.0	12.9	13.4	13.3	13.6	
G169.0	13.7	13.5	13.6	12.7	13.1	13.0	13.4	13.3	13.7	
G170.0	13.8	13.5	13.7	12.7	13.1	13.1	13.6	13.4	13.8	
G171.0	13.9	13.6	13.7	12.7	13.2	13.0	13.7	13.4	13.9	
G172.0	14.0	13.5	13.7	12.7	13.2	13.1	13.8	13.4	14.0	
G173.0	14.2	13.6	13.9	12.7	13.4	13.2	14.1	13.6	14.2	
G174.0	15.3	14.7	14.8	13.6	14.7	14.9	15.4	15.4	15.3	
G175.0	16.0	15.6	16.0	15.3	15.6	15.5	15.9	15.6	16.0	
G176.0	16.2	15.7	16.2	15.3	15.8	15.6	16.0	15.6	16.2	
G177.0	16.3	15.8	16.3	15.4	16.0	15.6	16.1	15.6	16.3	
G178.0	16.5	16.0	16.3	15.6	16.0	15.6	16.3	15.6	16.5	
G179.0	16.4	16.0	16.4	15.6	16.1	15.8	16.4	15.7	16.4	
G180.0	16.3	15.8	16.3	15.7	16.2	15.9	16.4	15.7	16.3	

C Plane (°):0.0-360.0: 45.0

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Test Type: TYPE C

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Operator: Jacky tang

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Test Device: GPM-1800B

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Inspector: