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NATA

LumCAT: 6495-G

Luminaire:

Report No: NATA0100

Voltage(V): 218.1000

Test No: GC2019022611

Current(A): 0.1310

LampCAT: PHILIPS PHILIPS DLMi 2000lm

Power (W): 28.1000

Lamp flux(lm): 2123.0

PF: 0.9820

Number of Lamps: 1

Ballast type: DC

Length(mm): 144

Width(mm): 144

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1932.52

Efficiency(%): 91.03%

Lumens(lm)/Power(W): 69.17

Central intensity(cd): 2167.031

Maximum intensity(cd): 2167.031

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=54.7

[C90/270]Total=54.7

Field angle(10%Imax): [C0/180]Total=91.8

[C90/270]Total=91.8

Maximum s/h(1/2): C0_180=0.81 C90_270=0.81

Maximum s/h(1/4): C0_180=0.88 C90_270=0.88

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.55%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.095%

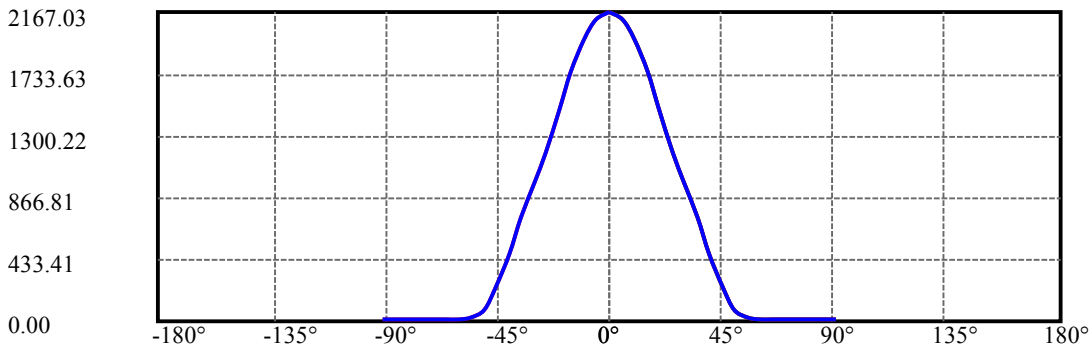
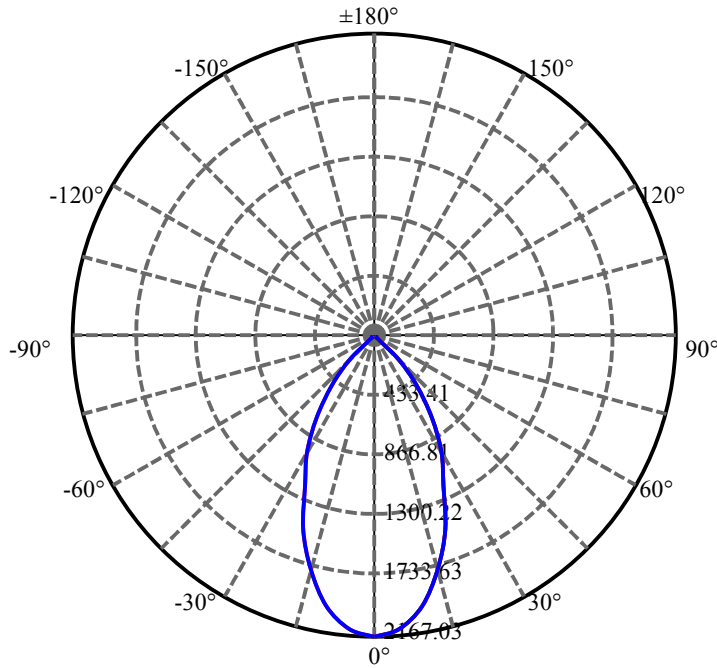
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2167.031	12.959	12.959	.610%	.671%
5.0	2118.516	101.209	114.168	4.767%	5.908%
10.0	1977.609	188.235	302.403	8.866%	15.648%
15.0	1749.375	248.181	550.584	11.690%	28.490%
20.0	1479.375	277.344	827.928	13.064%	42.842%
25.0	1184.245	274.334	1102.262	12.922%	57.037%
30.0	971.951	266.381	1368.643	12.547%	70.822%
35.0	725.077	227.963	1596.606	10.738%	82.618%
40.0	465.834	164.130	1760.737	7.731%	91.111%
45.0	248.316	96.245	1856.982	4.533%	96.091%
50.0	76.767	32.234	1889.216	1.518%	97.759%
55.0	22.050	9.901	1899.117	.466%	98.271%
60.0	15.813	7.507	1906.623	.354%	98.660%
65.0	12.171	6.046	1912.67	.285%	98.973%
70.0	10.055	5.179	1917.849	.244%	99.241%
75.0	8.613	4.560	1922.409	.215%	99.477%
80.0	7.798	4.209	1926.618	.198%	99.694%
85.0	7.277	3.974	1930.592	.187%	99.900%
90.0	7.052	1.933	1932.525	.091%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1368.64	64.47%	70.82%
0-40	1760.74	82.94%	91.11%
0-60	1906.62	89.81%	98.66%
0-90	1930.59	90.94%	99.90%
0-120	1930.59	90.94%	99.90%
0-180	1932.52	91.03%	100.00%
60-90	31.48	1.48%	1.63%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-33.89	1546.02	72.82%	80.00%

ZONAL LUMEN SUMMARY

0-10	302.40
10-20	525.53
20-30	540.72
30-40	392.09
40-50	128.48
50-60	17.41
60-70	11.23
70-80	8.77
80-90	3.97
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



C0(Max): —————

C0/C180: —————

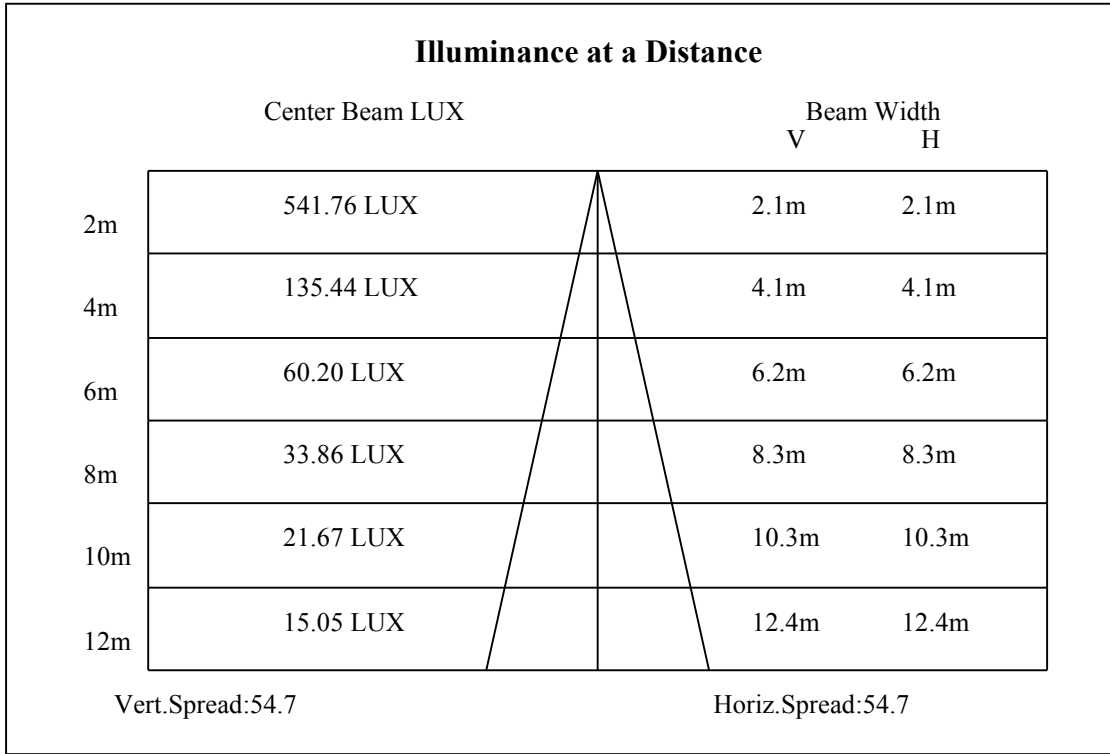
C90/C270: —————

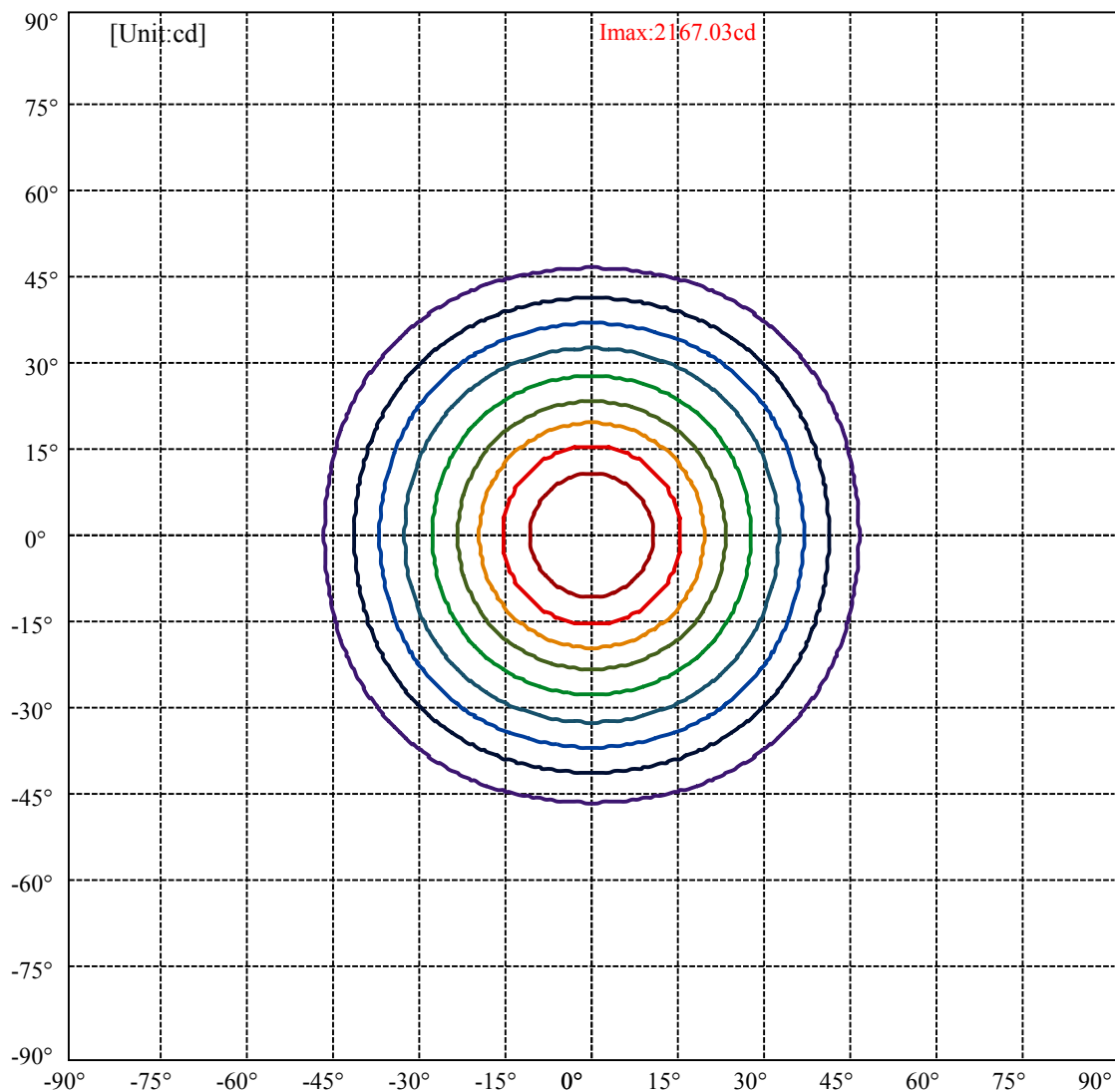
Field angle(10%Imax):C0/180Left:45.9 Right:45.9

:C90/270Left:45.9 Right:45.9

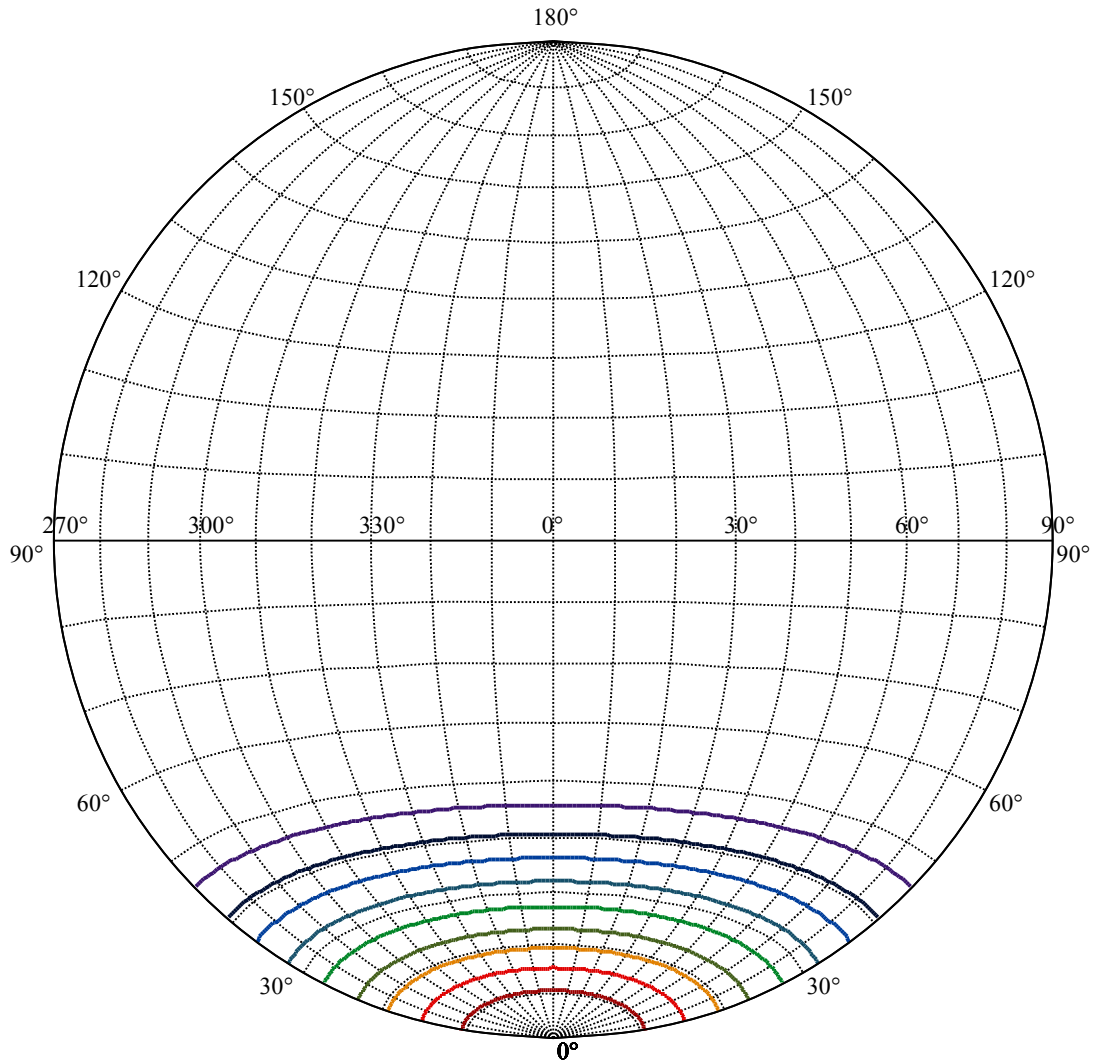
Beam Angle(50%Imax):C0/180Left:27.4 Right:27.4

:C90/270Left:27.4 Right:27.4





(10%Imax) 216.703	—
(20%Imax) 433.406	—
(30%Imax) 650.109	—
(40%Imax) 866.813	—
(50%Imax) 1083.52	—
(60%Imax) 1300.22	—
(70%Imax) 1516.92	—
(80%Imax) 1733.63	—
(90%Imax) 1950.33	—



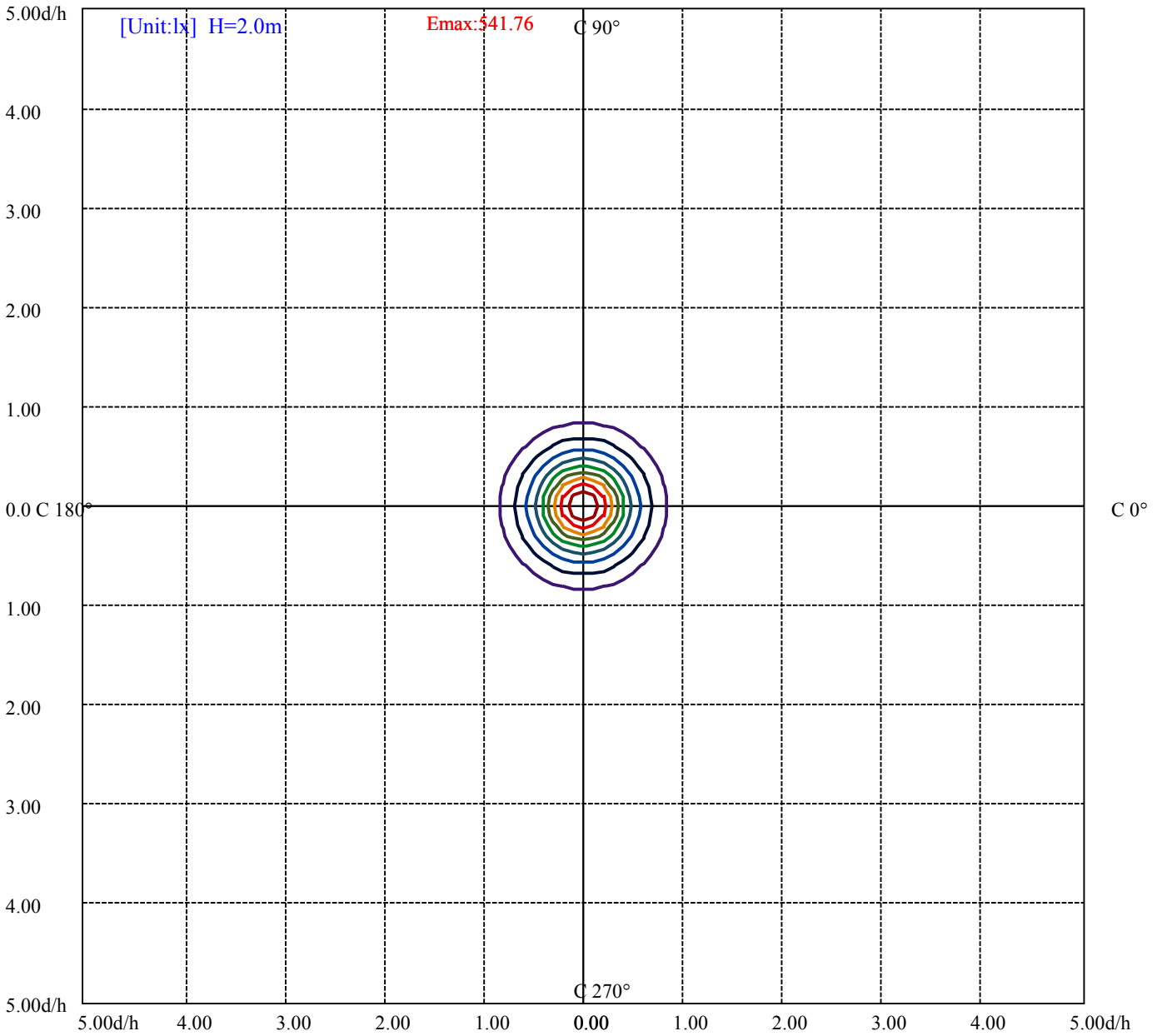
House

[Unit:cd]

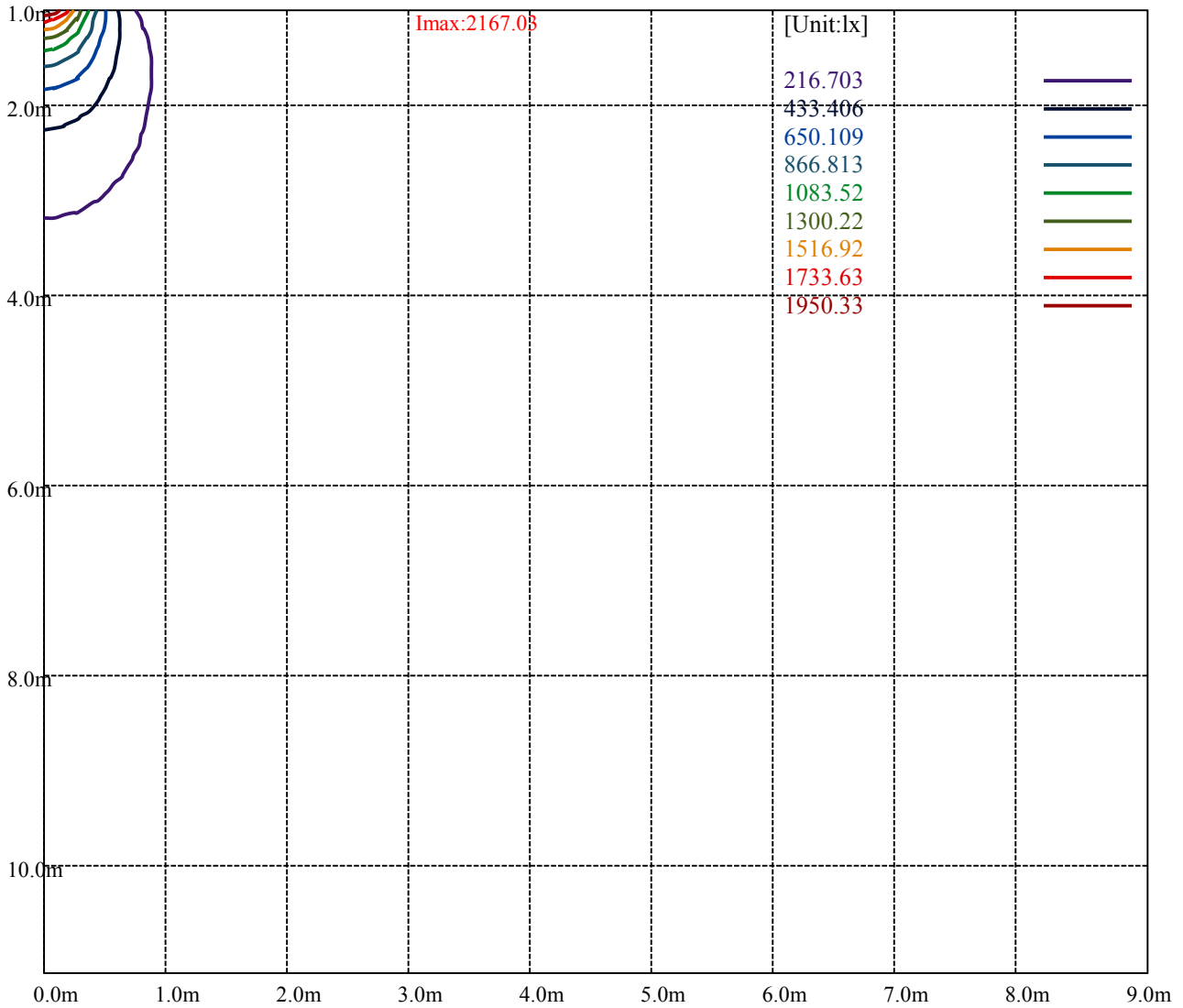
Road

I_{max}:2167.03

(10%I _{max}) 216.703	—
(20%I _{max}) 433.406	—
(30%I _{max}) 650.109	—
(40%I _{max}) 866.813	—
(50%I _{max}) 1083.52	—
(60%I _{max}) 1300.22	—
(70%I _{max}) 1516.92	—
(80%I _{max}) 1733.63	—
(90%I _{max}) 1950.33	—



- (10%Emax) 54.17575
- (20%Emax) 108.3515
- (30%Emax) 162.5273
- (40%Emax) 216.703
- (50%Emax) 270.8775
- (60%Emax) 325.055
- (70%Emax) 379.23
- (80%Emax) 433.405
- (90%Emax) 487.5825



Luminance Table

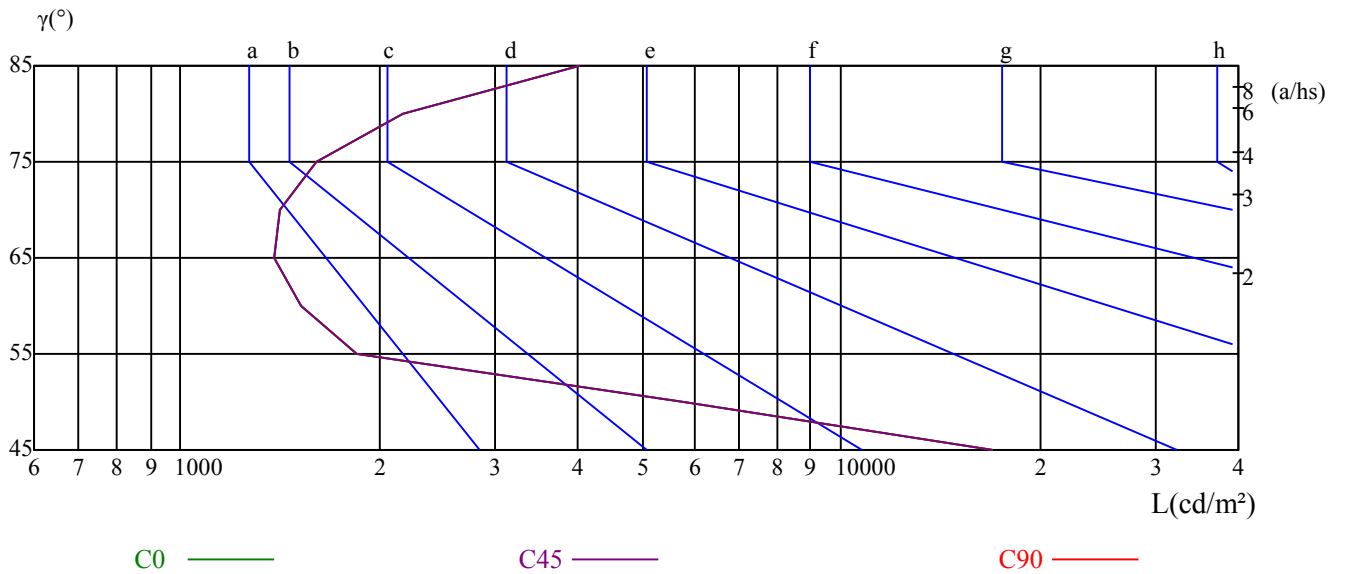
γ	45	50	55	60	65	70	75	80	85
C0	16935	5759	1854	1525	1389	1418	1605	2166	4027
C45	16935	5759	1854	1525	1389	1418	1605	2166	4027
C90	16935	5759	1854	1525	1389	1418	1605	2166	4027

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1389	1389	1389	1605	1605	1605	4027	4027	4027

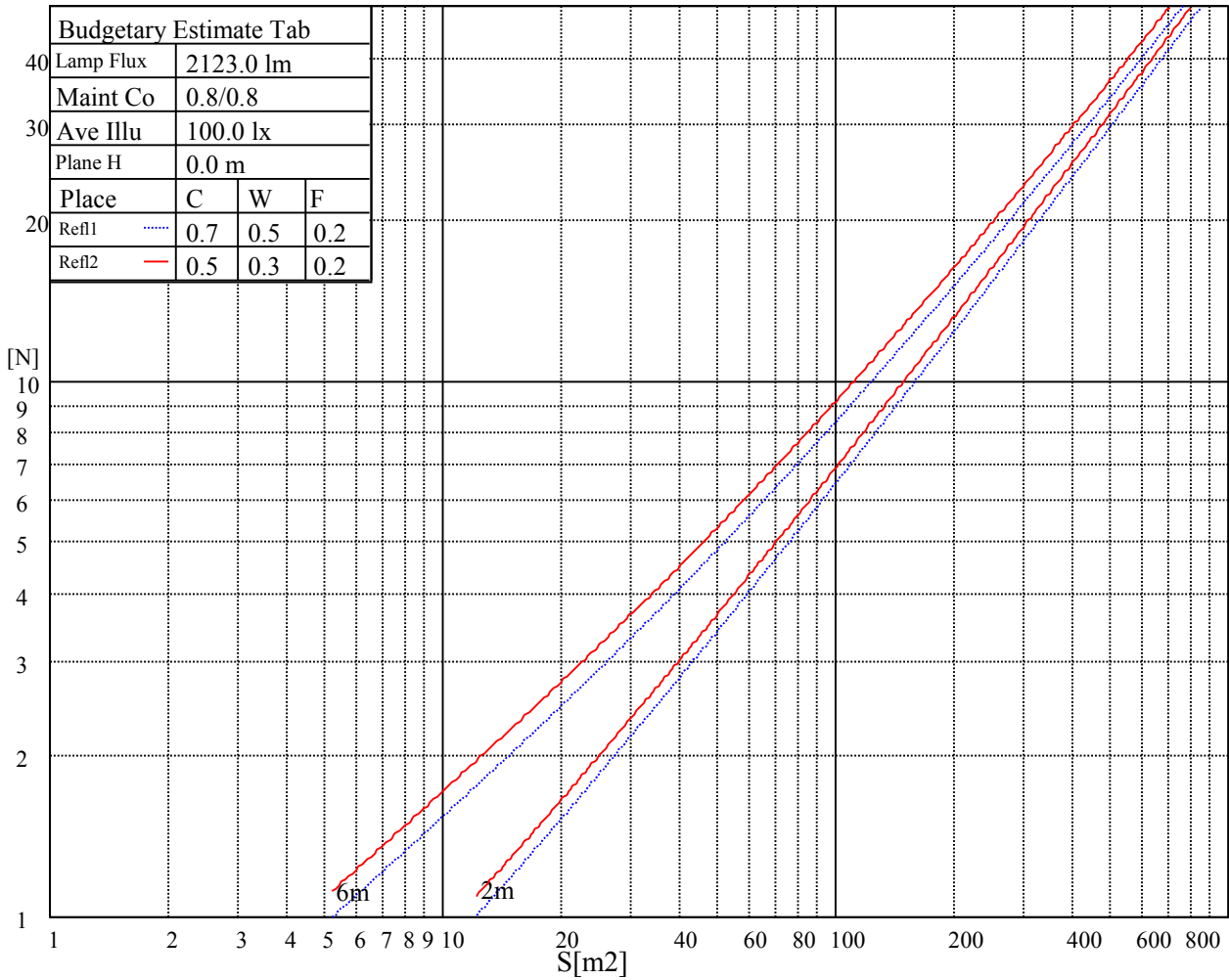
Glare Table

Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

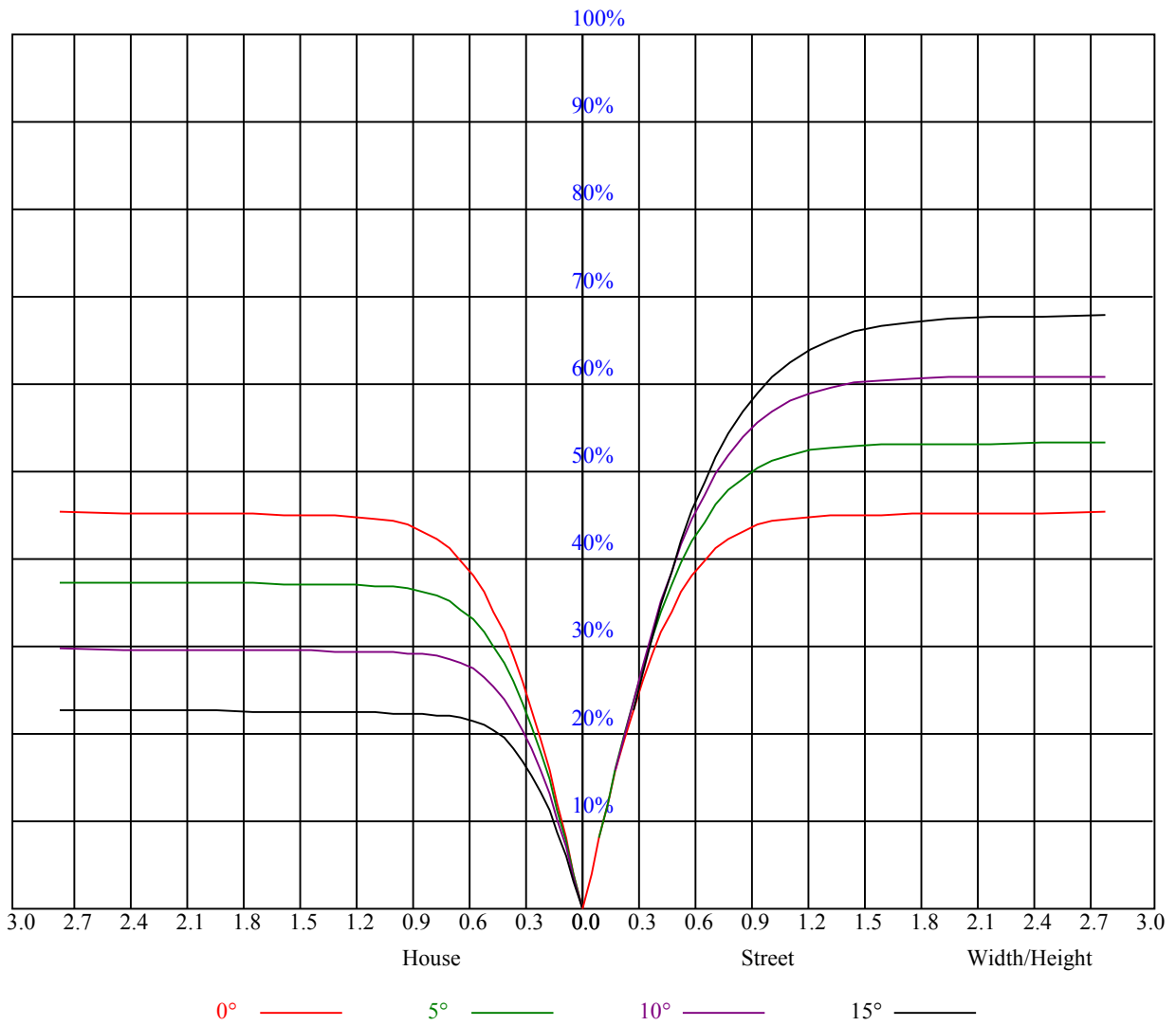
Luminance Limiting Curve



Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	2.56	3.62	2.93	3.93	4.24	2.65	3.70	3.02	4.01	4.33
	3H	4.04	4.96	4.42	5.30	5.66	4.19	5.12	4.58	5.45	5.82
	4H	4.90	5.75	5.30	6.11	6.50	5.02	5.88	5.43	6.23	6.62
	6H	5.99	6.77	6.41	7.15	7.54	6.05	6.83	6.47	7.20	7.60
	8H	6.66	7.39	7.09	7.79	8.19	6.68	7.41	7.11	7.81	8.22
	12H	7.86	8.56	8.30	8.95	9.38	7.84	8.54	8.27	8.92	9.35
4H	2H	2.93	3.78	3.34	4.14	4.53	3.00	3.86	3.41	4.21	4.60
	3H	4.72	5.42	5.14	5.82	6.23	4.85	5.54	5.26	5.95	6.36
	4H	5.79	6.41	6.22	6.83	7.28	5.88	6.50	6.32	6.92	7.37
	6H	7.08	7.61	7.55	8.06	8.53	7.11	7.65	7.58	8.10	8.57
	8H	7.89	8.39	8.37	8.84	9.31	7.89	8.39	8.37	8.84	9.32
	12H	9.13	9.56	9.62	10.04	10.52	9.09	9.52	9.58	10.01	10.48
8H	4H	6.20	6.70	6.68	7.15	7.62	6.28	6.78	6.76	7.23	7.70
	6H	7.79	8.19	8.30	8.69	9.18	7.81	8.21	8.32	8.71	9.19
	8H	8.81	9.17	9.34	9.69	10.18	8.80	9.15	9.33	9.67	10.17
	12H	10.32	10.63	10.84	11.13	11.71	10.29	10.60	10.81	11.10	11.67
12H	4H	6.30	6.73	6.79	7.22	7.70	6.38	6.81	6.87	7.30	7.77
	6H	8.33	8.36	8.54	8.83	9.38	8.34	8.38	8.56	8.85	9.40
	8H	9.15	9.46	9.67	9.96	10.54	9.14	9.45	9.66	9.94	10.52
Variation with the observer position at spacings:											
S = 1.0H	3.2/-9.4					3.2/-9.4					
S = 1.5H	5.7/-8.4					5.7/-8.4					
S = 2.0H	7.5/-7.4					7.5/-7.4					
Standard tables:	BK1					BK1					
Uncorrected UGR	-0.3					-0.3					



RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.92
1	1.01	0.98	0.96	0.99	0.96	0.94	0.95	0.93	0.91	0.91	0.90	0.89	0.88	0.87	0.86	0.84
2	0.94	0.90	0.87	0.92	0.89	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.80	0.79
3	0.87	0.83	0.79	0.86	0.82	0.78	0.84	0.80	0.77	0.82	0.79	0.76	0.79	0.77	0.75	0.73
4	0.82	0.77	0.73	0.81	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.69
5	0.77	0.72	0.68	0.76	0.71	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.64
6	0.72	0.67	0.63	0.72	0.67	0.63	0.70	0.66	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.60
7	0.68	0.63	0.59	0.68	0.63	0.59	0.67	0.62	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.57
8	0.65	0.59	0.55	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.53
9	0.61	0.56	0.52	0.61	0.56	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.50
10	0.58	0.53	0.49	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.56	0.52	0.49	0.48



NATA 6495-G

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2172.94	2067.75	1888.31	1656.56	1406.25	1158.75	966.94	728.44	467.44
45.0	2170.13	2067.75	1902.94	1658.81	1398.94	1173.94	960.75	717.19	469.13
90.0	2164.50	2094.19	1921.50	1701.56	1413.56	1116.84	937.97	691.14	430.09
135.0	2160.56	2158.31	2054.81	1852.88	1576.69	1268.44	1017.56	782.44	515.25
180.0	2172.94	2174.63	2073.94	1848.38	1549.13	1207.13	981.90	717.47	466.76
225.0	2170.13	2170.13	2068.88	1849.50	1559.25	1200.94	995.12	726.02	469.69
270.0	2164.50	2138.63	2014.88	1784.81	1540.13	1229.06	987.75	744.19	486.56
315.0	2160.56	2076.75	1895.63	1642.50	1391.06	1118.87	927.62	693.73	421.76
360.0	2172.94	2067.75	1888.31	1656.56	1406.25	1158.75	966.94	728.44	467.44
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	290.25	83.87	29.36	21.71	15.64	12.15	9.39	8.04	7.26
45.0	289.69	88.14	30.09	21.99	16.03	12.26	9.68	8.10	7.26
90.0	186.36	66.32	23.40	16.59	12.66	10.29	8.83	7.93	7.26
135.0	291.94	84.77	19.29	12.66	10.41	8.94	8.10	7.59	7.26
180.0	229.22	71.38	14.29	11.31	9.56	8.55	7.88	7.48	7.20
225.0	229.44	82.86	16.14	12.15	10.01	8.83	8.04	7.59	7.26
270.0	289.69	76.28	21.26	14.12	11.03	9.56	8.55	7.99	7.48
315.0	179.94	60.53	22.56	15.98	12.04	9.84	8.44	7.65	7.26
360.0	290.25	83.87	29.36	21.71	15.64	12.15	9.39	8.04	7.26
C/ γ (°)	90.0								
0.0	7.03								
45.0	7.09								
90.0	7.03								
135.0	7.09								
180.0	7.03								
225.0	7.03								
270.0	7.09								
315.0	7.03								
360.0	7.03								