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NATA

LumCAT: 6495-G

Luminaire:

Report No: NATA0100

Voltage(V): 218.1000

Test No: GC2019022609

Current(A): 0.1830

LampCAT: PHILIPS DLM 2000lm LES64

Power (W): 39.7000

Lamp flux(lm): 2003.1

PF: 0.9920

Number of Lamps: 1

Ballast type: DC

Length(mm): 144

Width(mm): 144

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1798.22

Efficiency(%): 89.77%

Lumens(lm)/Power(W): 45.52

Central intensity(cd): 1749.164

Maximum intensity(cd): 1749.164

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=61.2

[C90/270]Total=61.2

Field angle(10%Imax): [C0/180]Total=96.2

[C90/270]Total=96.2

Maximum s/h(1/2): C0_180=0.89 C90_270=0.89

Maximum s/h(1/4): C0_180=0.94 C90_270=0.94

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.21%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.014%

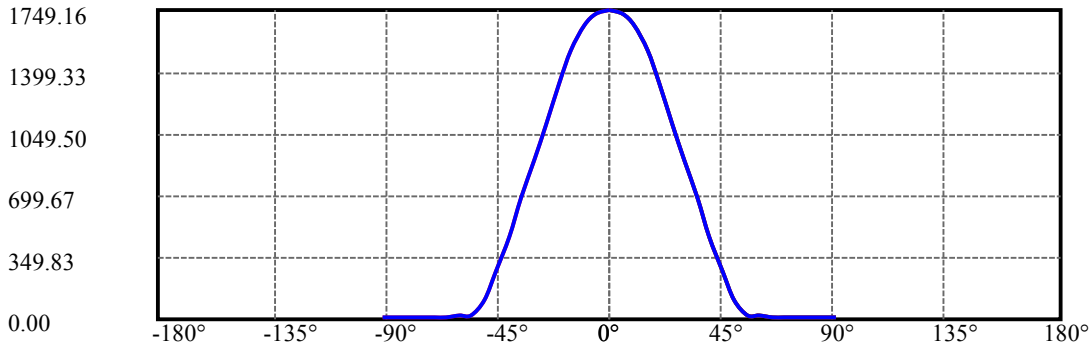
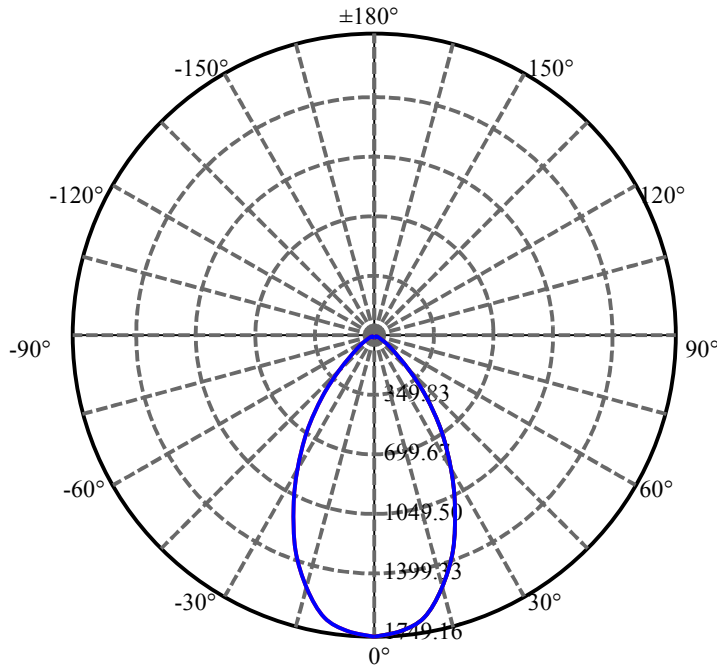
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1749.164	10.460	10.46	.522%	.582%
5.0	1727.438	82.525	92.986	4.120%	5.171%
10.0	1657.828	157.797	250.783	7.878%	13.946%
15.0	1523.883	216.191	466.974	10.793%	25.969%
20.0	1332.914	249.887	716.861	12.475%	39.865%
25.0	1098.907	254.565	971.425	12.709%	54.022%
30.0	900.338	246.754	1218.18	12.319%	67.744%
35.0	682.130	214.461	1432.64	10.706%	79.670%
40.0	468.745	165.156	1597.796	8.245%	88.854%
45.0	276.237	107.067	1704.863	5.345%	94.808%
50.0	112.163	47.097	1751.96	2.351%	97.428%
55.0	24.848	11.157	1763.117	.557%	98.048%
60.0	16.784	7.967	1771.084	.398%	98.491%
65.0	12.811	6.364	1777.449	.318%	98.845%
70.0	10.582	5.451	1782.899	.272%	99.148%
75.0	9.021	4.776	1787.676	.238%	99.414%
80.0	8.177	4.414	1792.09	.220%	99.659%
85.0	7.601	4.150	1796.24	.207%	99.890%
90.0	7.221	1.979	1798.219	.099%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1218.18	60.82%	67.74%
0-40	1597.80	79.77%	88.85%
0-60	1771.08	88.42%	98.49%
0-90	1796.24	89.67%	99.89%
0-120	1796.24	89.67%	99.89%
0-180	1798.22	89.77%	100.00%
60-90	33.12	1.65%	1.84%
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%
0-35.18	1438.58	71.82%	80.00%

ZONAL LUMEN SUMMARY

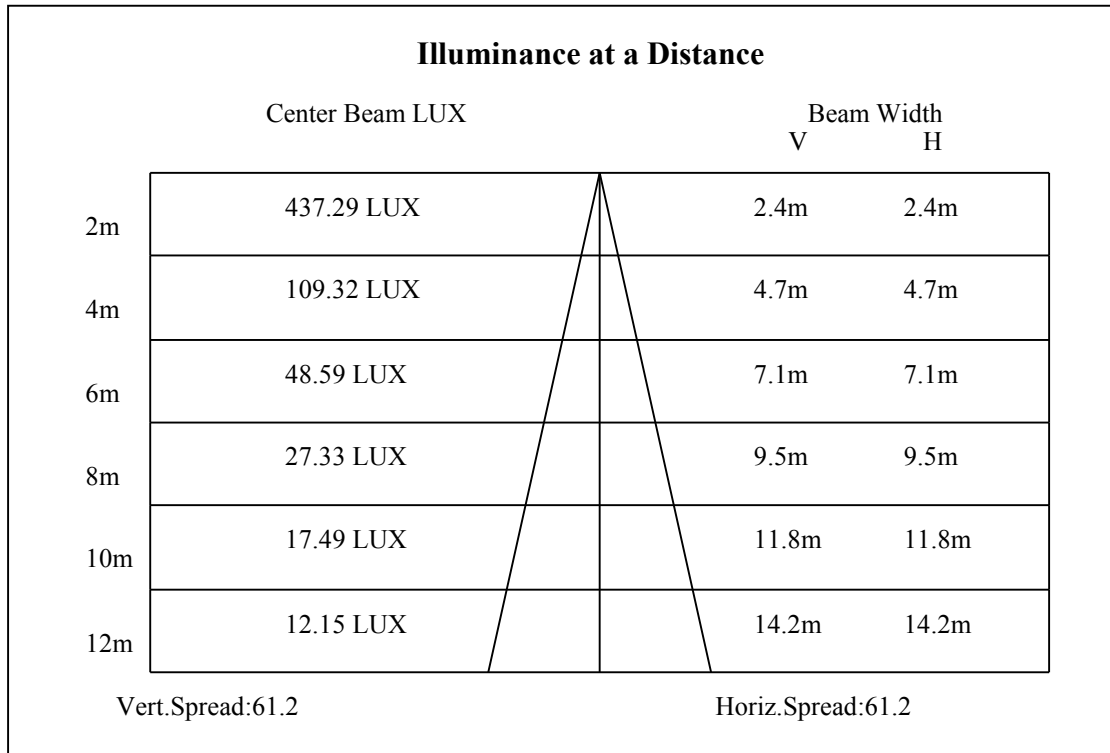
0-10	250.78
10-20	466.08
20-30	501.32
30-40	379.62
40-50	154.16
50-60	19.12
60-70	11.81
70-80	9.19
80-90	4.15
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

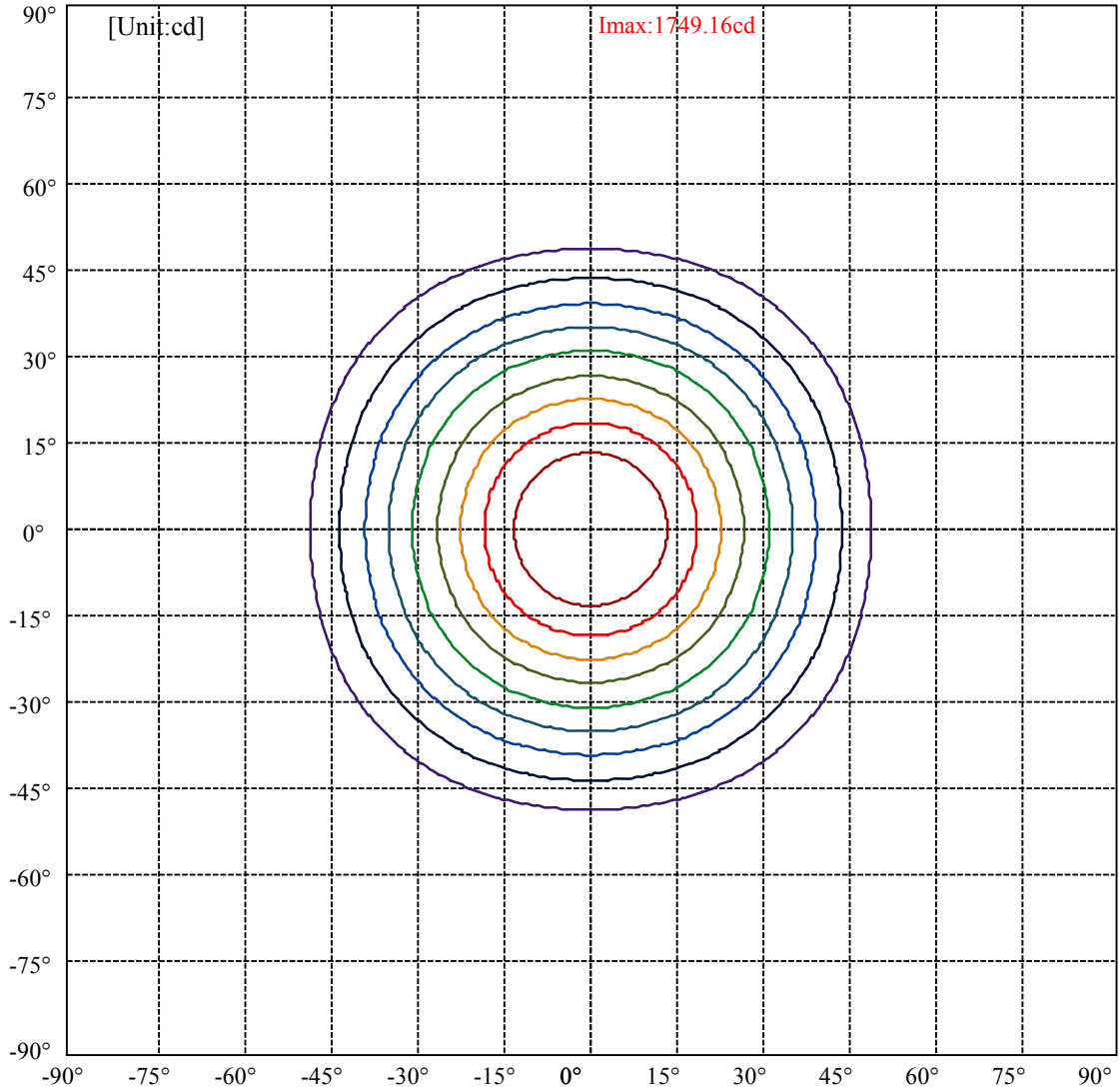


C0(Max): ———
C0/C180: ———
C90/C270: ———

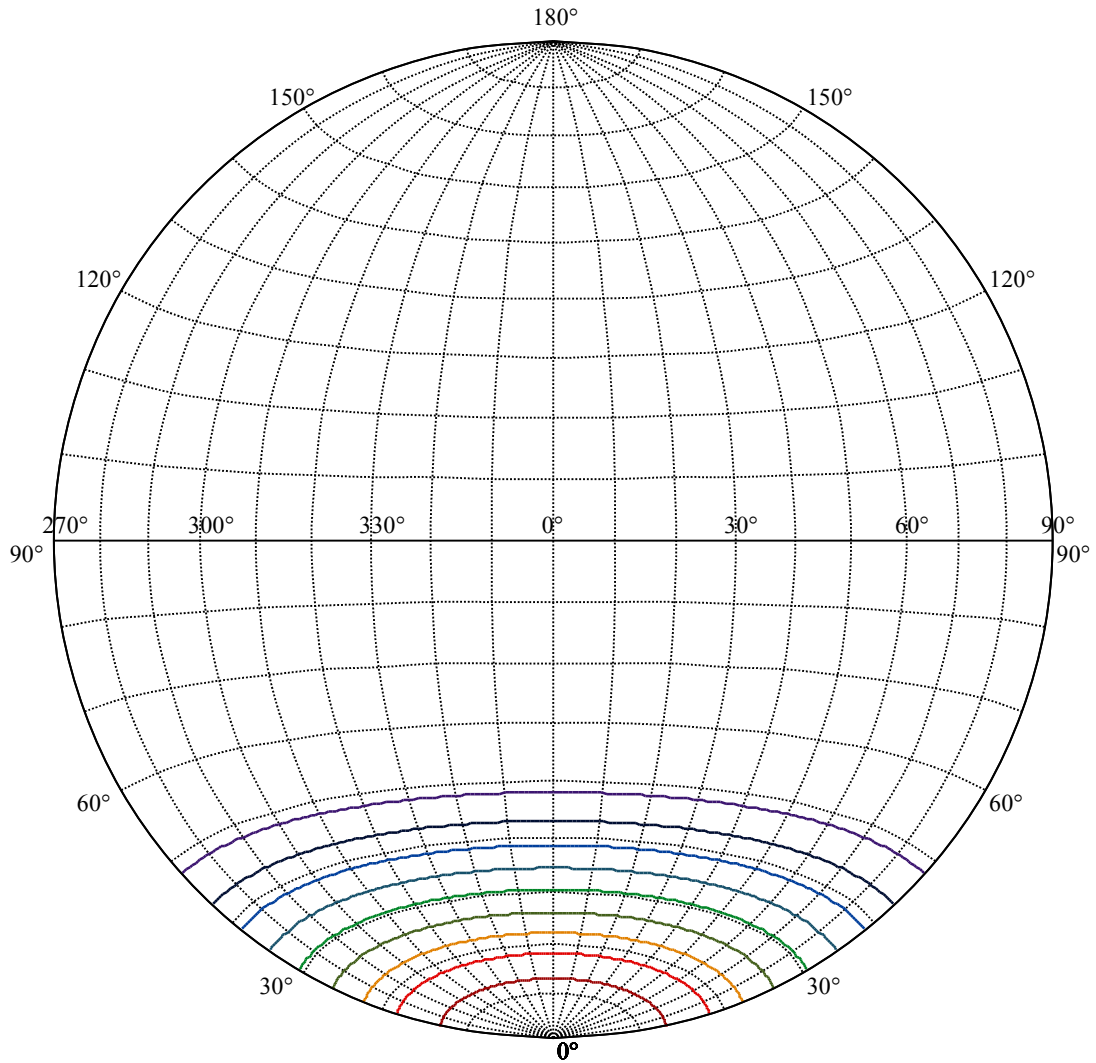
Field angle(10%Imax):C0/180Left:48.1 Right:48.1
:C90/270Left:48.1 Right:48.1

Beam Angle(50%Imax):C0/180Left:30.6 Right:30.6
:C90/270Left:30.6 Right:30.6





(10%Imax) 174.916	—
(20%Imax) 349.833	—
(30%Imax) 524.749	—
(40%Imax) 699.666	—
(50%Imax) 874.582	—
(60%Imax) 1049.5	—
(70%Imax) 1224.41	—
(80%Imax) 1399.33	—
(90%Imax) 1574.25	—



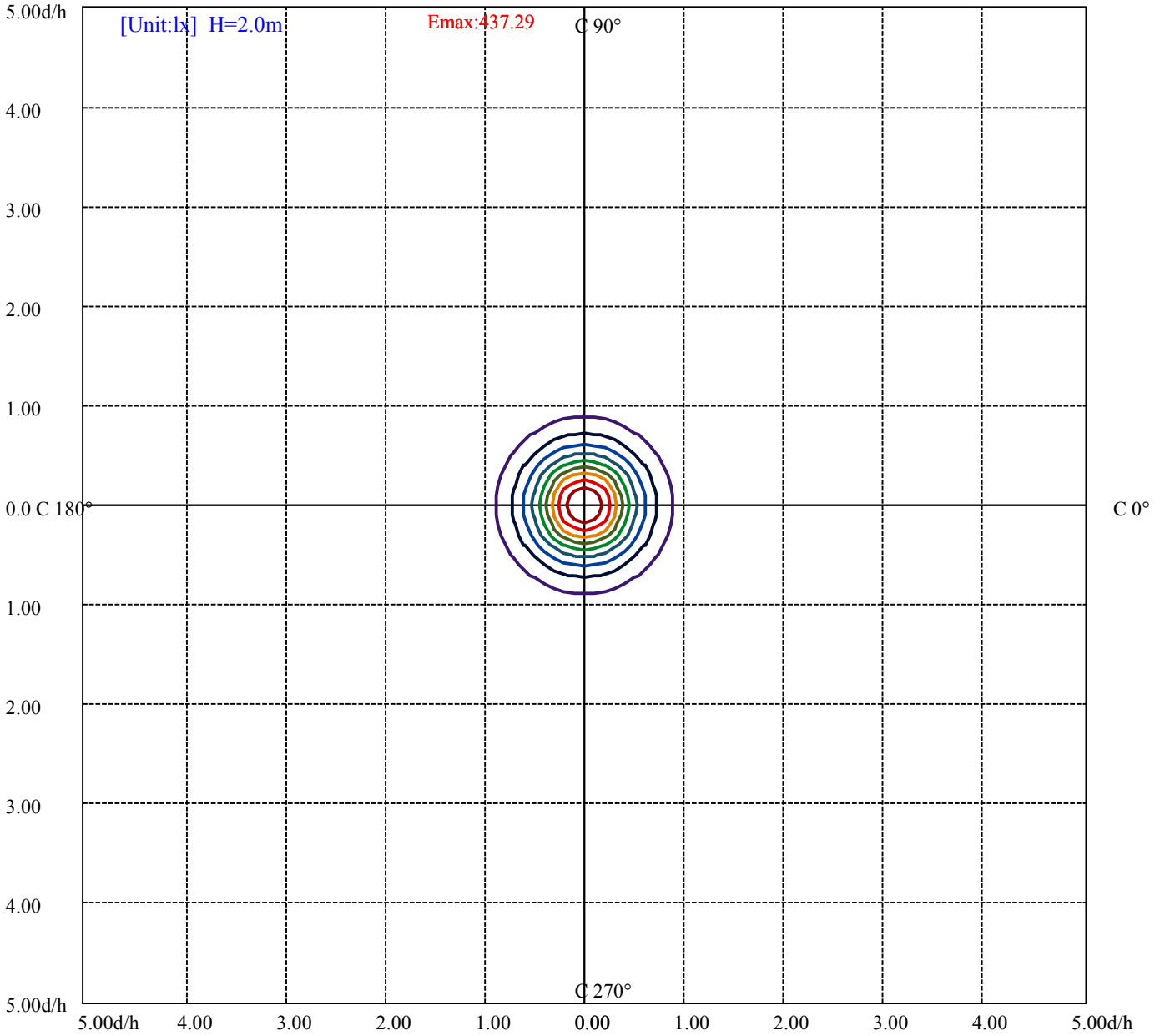
House

[Unit:cd]

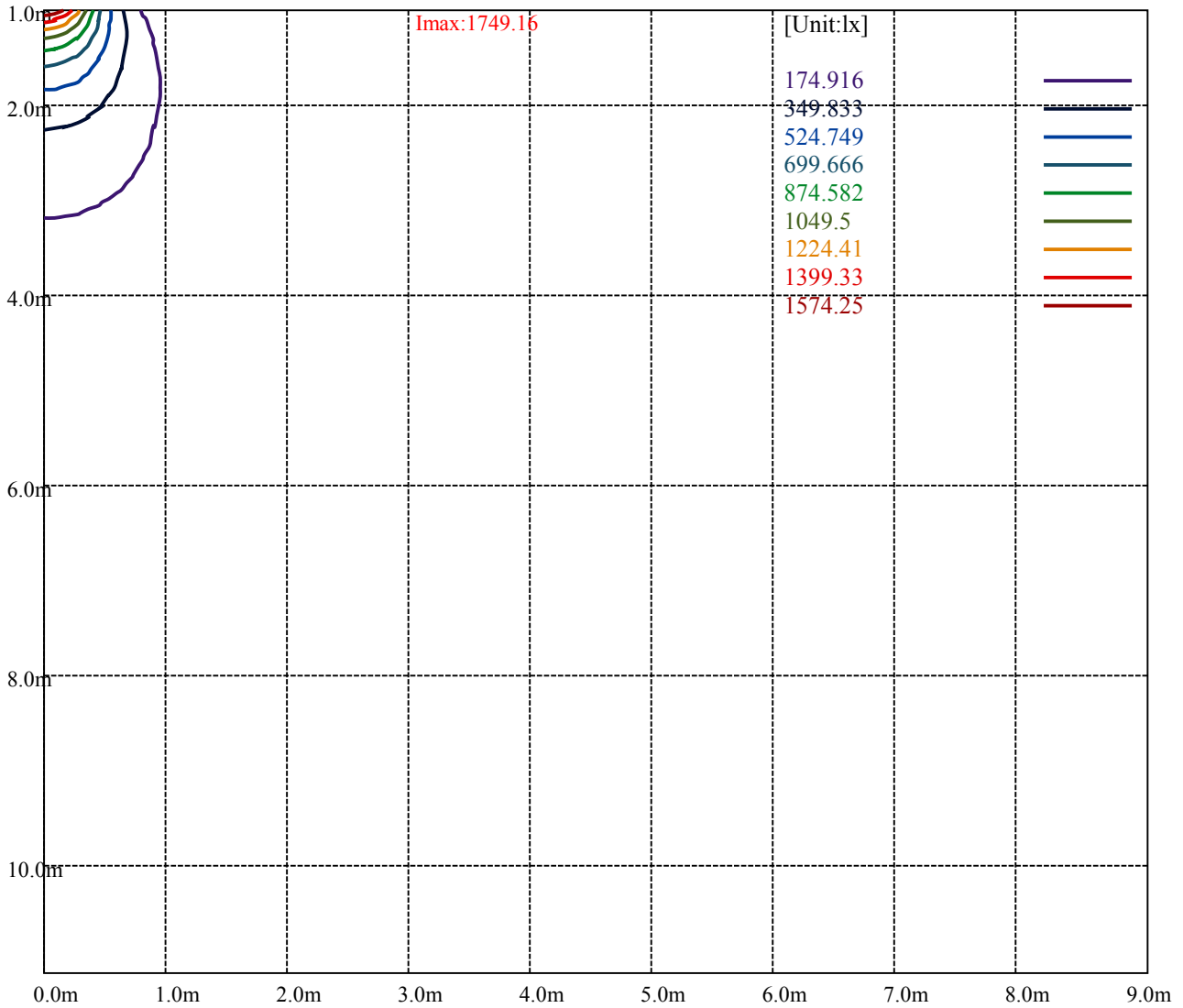
Road

Imax:1749.16

(10%Imax)	174.916	—
(20%Imax)	349.833	—
(30%Imax)	524.749	—
(40%Imax)	699.666	—
(50%Imax)	874.582	—
(60%Imax)	1049.5	—
(70%Imax)	1224.41	—
(80%Imax)	1399.33	—
(90%Imax)	1574.25	—



- (10%Emax) 43.729
- (20%Emax) 87.45825
- (30%Emax) 131.1873
- (40%Emax) 174.9162
- (50%Emax) 218.6455
- (60%Emax) 262.375
- (70%Emax) 306.1025
- (80%Emax) 349.8325
- (90%Emax) 393.5625



Luminance Table

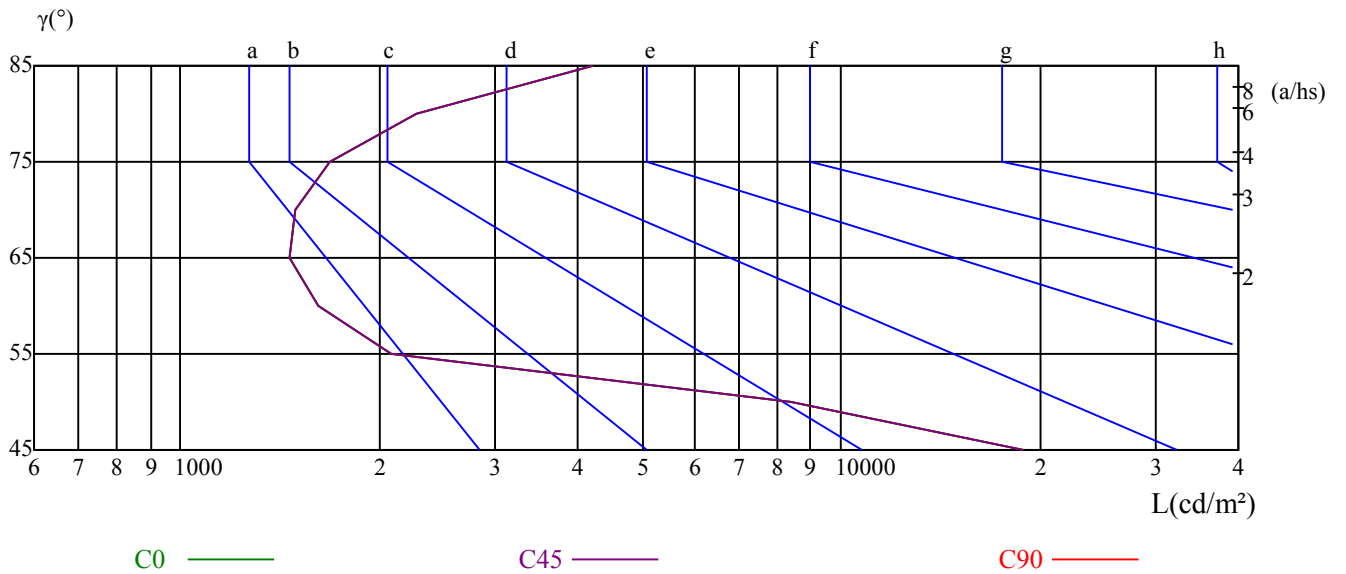
γ	45	50	55	60	65	70	75	80	85
C0	18840	8415	2089	1619	1462	1492	1681	2271	4206
C45	18840	8415	2089	1619	1462	1492	1681	2271	4206
C90	18840	8415	2089	1619	1462	1492	1681	2271	4206

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1462	1462	1462	1681	1681	1681	4206	4206	4206

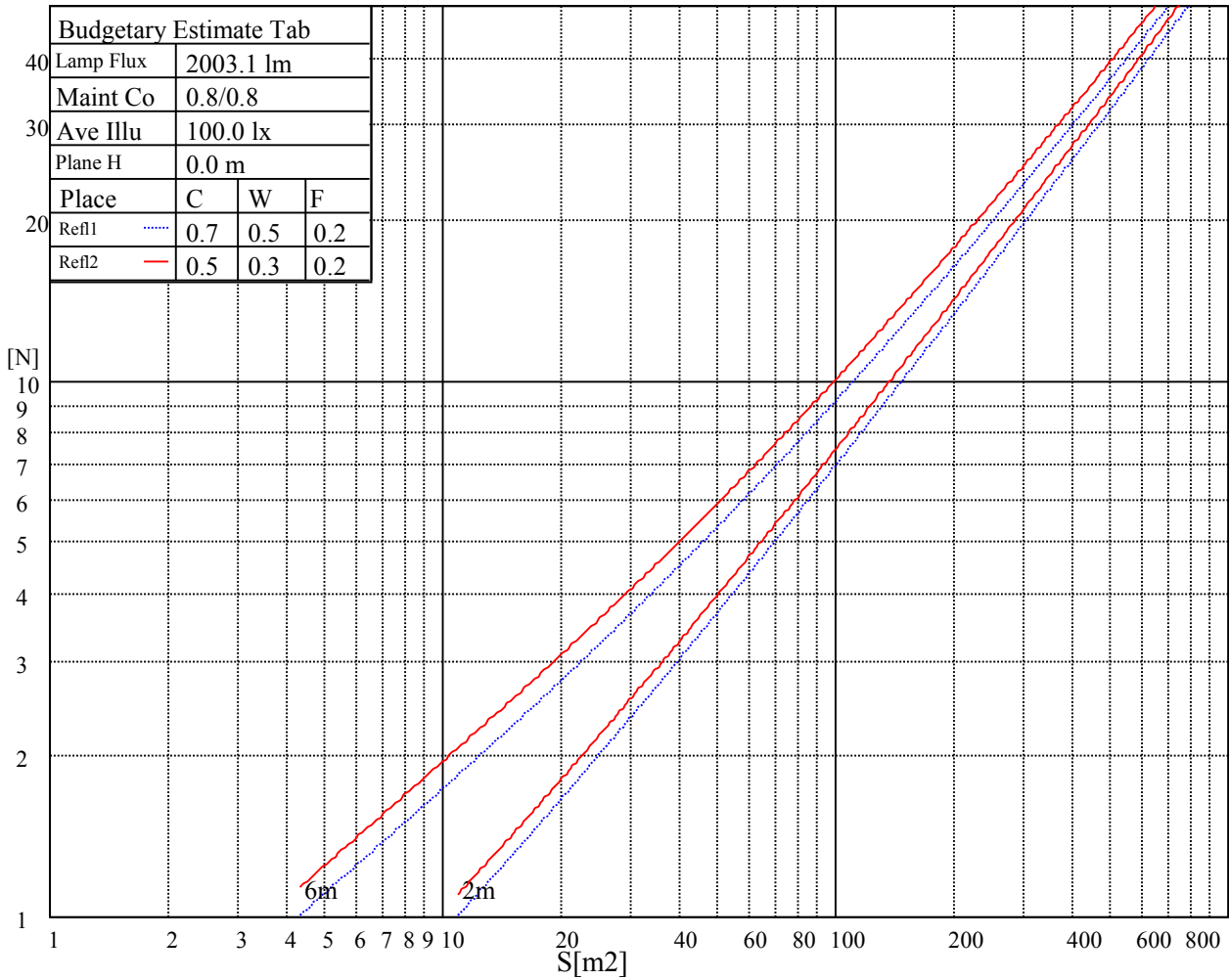
Glare Table

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

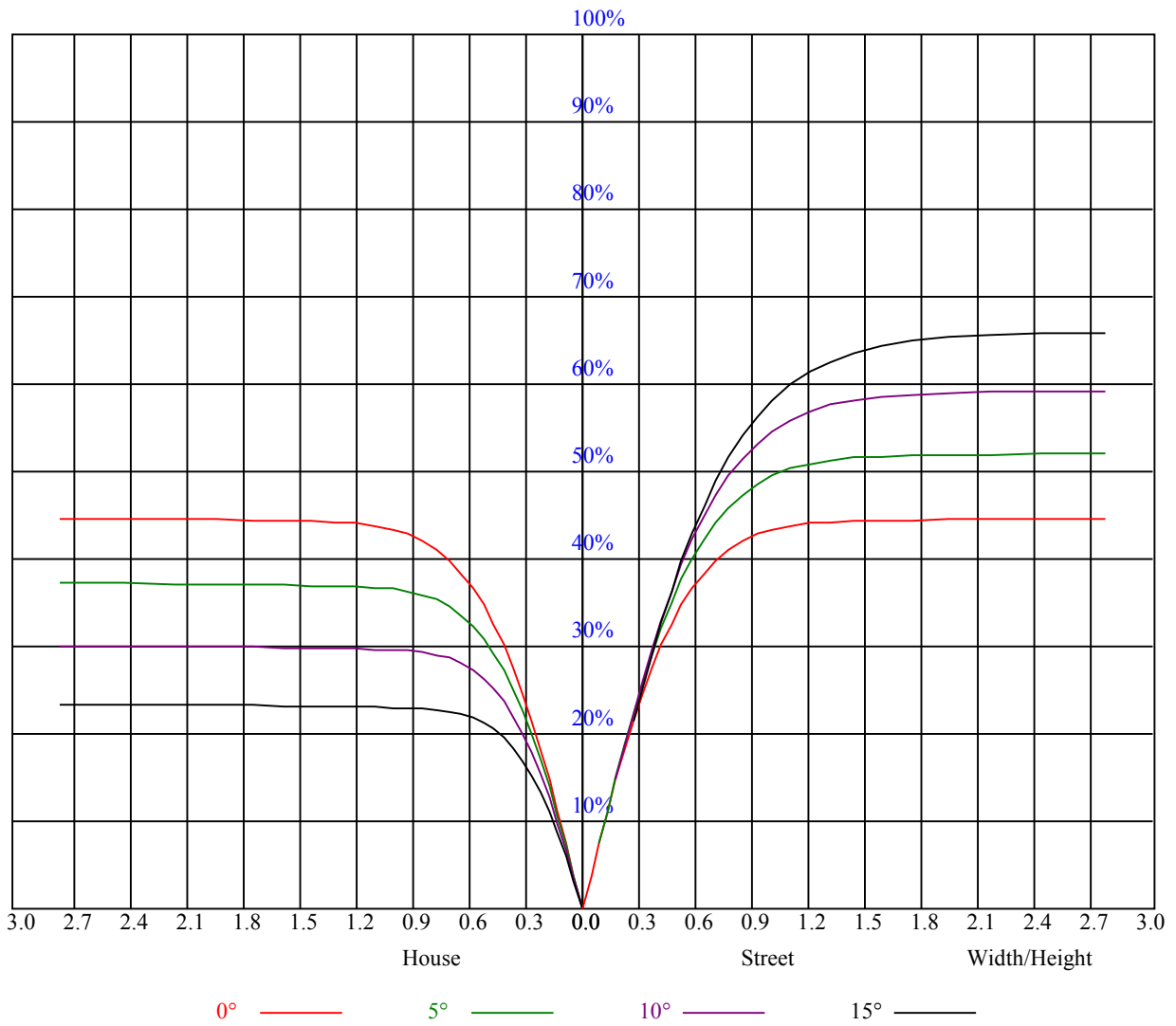
Luminance Limiting Curve



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	4.00	5.09	4.37	5.40	5.71	3.43	4.51	3.79	4.82	5.14
	3H	5.37	6.32	5.75	6.65	7.02	4.83	5.78	5.21	6.11	6.48
	4H	6.15	7.03	6.56	7.38	7.77	5.63	6.51	6.04	6.87	7.25
	6H	7.14	7.95	7.56	8.32	8.72	6.65	7.46	7.07	7.83	8.23
	8H	7.76	8.52	8.19	8.91	9.32	7.29	8.05	7.72	8.44	8.85
	12H	8.89	9.61	9.32	9.99	10.43	8.46	9.19	8.90	9.57	10.00
4H	2H	4.29	5.17	4.70	5.52	5.91	3.81	4.69	4.21	5.04	5.43
	3H	5.97	6.68	6.38	7.09	7.50	5.53	6.25	5.95	6.65	7.06
	4H	6.96	7.60	7.40	8.02	8.47	6.54	7.18	6.98	7.60	8.05
	6H	8.16	8.70	8.63	9.15	9.63	7.76	8.31	8.23	8.76	9.23
	8H	8.93	9.44	9.40	9.89	10.36	8.54	9.06	9.02	9.51	9.98
	12H	10.11	10.55	10.60	11.04	11.51	9.75	10.19	10.24	10.68	11.16
8H	4H	7.33	7.84	7.81	8.29	8.77	6.98	7.49	7.45	7.94	8.41
	6H	8.83	9.24	9.34	9.74	10.23	8.50	8.91	9.01	9.41	9.90
	8H	9.80	10.17	10.33	10.69	11.19	9.49	9.86	10.02	10.38	10.87
	12H	11.28	11.60	11.80	12.10	12.68	10.98	11.30	11.50	11.80	12.38
12H	4H	7.42	7.86	7.91	8.35	8.83	7.09	7.53	7.58	8.02	8.50
	6H	9.38	9.40	9.56	9.87	10.41	9.08	9.10	9.26	9.57	10.11
	8H	10.13	10.45	10.65	10.95	11.53	9.84	10.17	10.36	10.66	11.24
Variation with the observer position at spacings:											
S = 1.0H		2.7/-9.0					2.7/-9.0				
S = 1.5H		5.1/-8.2					5.1/-8.2				
S = 2.0H		6.9/-7.2					6.9/-7.2				
Standard tables:		BK1					BK1				
Uncorrected UGR		0.1					0.1				



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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	0.99	0.97	0.94	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.87	0.87	0.86	0.85	0.83
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.85	0.82	0.85	0.82	0.80	0.82	0.80	0.79	0.77
3	0.86	0.81	0.77	0.84	0.80	0.77	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.72
4	0.80	0.75	0.71	0.79	0.74	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.70	0.68	0.67
5	0.75	0.69	0.65	0.74	0.69	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.63	0.62
6	0.70	0.65	0.61	0.69	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.58
7	0.66	0.61	0.57	0.65	0.60	0.56	0.64	0.60	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.54
8	0.62	0.57	0.53	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.52	0.59	0.55	0.52	0.51
9	0.59	0.53	0.50	0.58	0.53	0.50	0.58	0.53	0.50	0.57	0.52	0.49	0.56	0.52	0.49	0.48
10	0.56	0.50	0.47	0.55	0.50	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.46	0.45



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	1747.13	1743.19	1688.63	1558.69	1377.56	1141.31	924.19	720.00	480.38
45.0	1752.75	1710.56	1624.50	1491.75	1288.13	1064.81	869.06	658.69	450.56
90.0	1743.75	1674.56	1562.06	1405.69	1186.88	1002.71	822.88	607.73	417.71
135.0	1752.75	1690.88	1596.94	1445.63	1265.06	1069.31	888.19	678.94	484.88
180.0	1747.69	1711.13	1623.38	1480.50	1301.06	1077.98	873.23	674.83	463.33
225.0	1752.75	1751.06	1698.75	1572.75	1395.56	1114.65	934.26	699.53	488.03
270.0	1743.75	1771.88	1750.50	1644.19	1460.81	1205.44	976.50	740.25	509.63
315.0	1752.75	1766.25	1717.88	1591.88	1388.25	1115.04	914.40	677.08	455.46
360.0	1747.13	1743.19	1688.63	1558.69	1377.56	1141.31	924.19	720.00	480.38
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	293.06	123.41	20.48	14.01	10.86	9.34	8.27	7.65	7.26
45.0	289.13	99.00	24.41	17.16	12.94	10.41	8.83	8.10	7.43
90.0	223.71	82.63	28.63	21.43	15.92	12.26	9.79	8.38	7.59
135.0	290.25	117.56	34.09	24.08	17.49	13.61	10.41	8.66	7.65
180.0	261.06	111.99	25.88	17.89	13.22	10.74	9.06	8.10	7.59
225.0	280.18	117.96	21.43	13.67	10.91	9.62	8.72	8.27	7.88
270.0	311.06	141.02	26.83	13.50	10.91	9.62	8.83	8.44	7.93
315.0	261.45	103.73	17.04	12.54	10.24	9.06	8.27	7.82	7.48
360.0	293.06	123.41	20.48	14.01	10.86	9.34	8.27	7.65	7.26
C/ γ (°)	90.0								
0.0	6.98								
45.0	7.14								
90.0	7.14								
135.0	7.26								
180.0	7.14								
225.0	7.48								
270.0	7.43								
315.0	7.20								
360.0	6.98								