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## Nata

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LumCAT: 3-1703-N	
Luminaire: 92.70.065.00+92.70.061.00	
Report No: NATA0100	Voltage(V): 34.7000
Test No: GC2018091112	Current(A): 0.5000
LampCAT: LUMINUS CXM-11-AC30	Power (W): 17.3500
Lamp flux(lm): 2557.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 86	Width(mm): 86
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 2049.34  
Efficiency(%): 80.15%  
Lumens(lm)/Power(W): 119.61  
Central intensity(cd): 4666.781  
Maximum intensity(cd): 4666.781  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=34.4  
                                  [C90/270]Total=34.4  
Field angle(10%Imax): [C0/180]Total=63.3  
                                  [C90/270]Total=63.3  
Maximum s/h(1/2): C0\_180=0.56 C90\_270=0.56  
Maximum s/h(1/4): C0\_180=0.58 C90\_270=0.58  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 81.16%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 96.523%

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Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2018/9/11  
Humidity(%): 60.0%

Operator: NT07  
Distance(m): 7.50

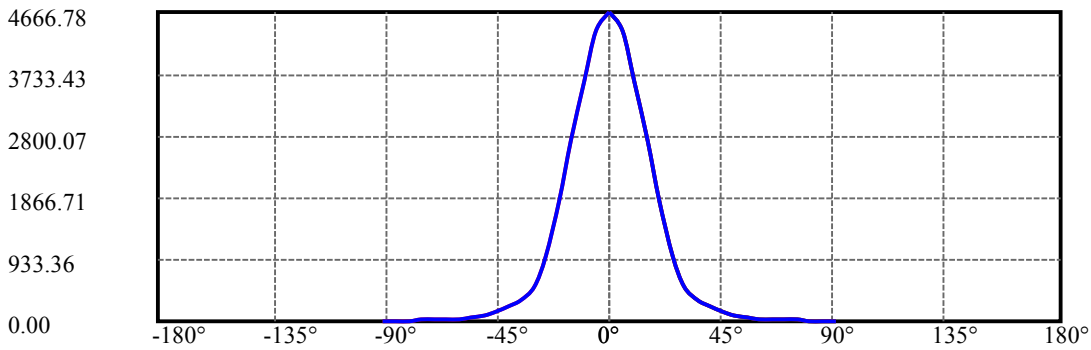
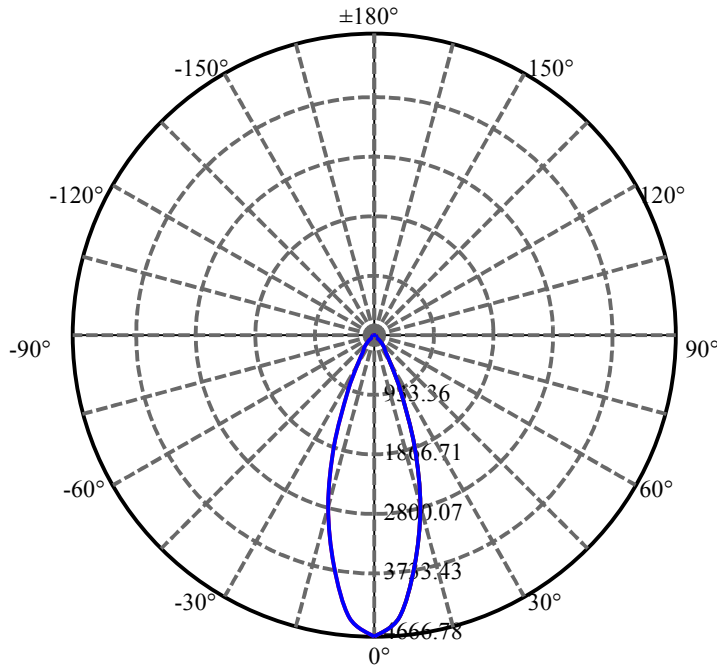
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4666.781	27.908	27.908	1.091%	1.362%
5.0	4383.352	209.407	237.316	8.190%	11.580%
10.0	3630.023	345.517	582.832	13.513%	28.440%
15.0	2725.594	386.676	969.508	15.122%	47.308%
20.0	1837.055	344.400	1313.908	13.469%	64.114%
25.0	983.313	227.787	1541.695	8.908%	75.229%
30.0	532.610	145.972	1687.667	5.709%	82.352%
35.0	331.580	104.248	1791.915	4.077%	87.439%
40.0	232.010	81.746	1873.661	3.197%	91.428%
45.0	142.341	55.170	1928.831	2.158%	94.120%
50.0	86.681	36.397	1965.228	1.423%	95.896%
55.0	50.611	22.725	1987.953	.889%	97.005%
60.0	31.999	15.190	2003.143	.594%	97.746%
65.0	23.555	11.702	2014.844	.458%	98.317%
70.0	19.821	10.209	2025.054	.399%	98.815%
75.0	16.481	8.726	2033.78	.341%	99.241%
80.0	13.479	7.276	2041.056	.285%	99.596%
85.0	10.723	5.855	2046.911	.229%	99.882%
90.0	8.859	2.428	2049.339	.095%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1687.67	66.00%	82.35%
0-40	1873.66	73.28%	91.43%
0-60	2003.14	78.34%	97.75%
0-90	2046.91	80.05%	99.88%
0-120	2046.91	80.05%	99.88%
0-180	2049.34	80.15%	100.00%
60-90	58.96	2.31%	2.88%
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%
0-28.35	1639.47	64.12%	80.00%

ZONAL LUMEN SUMMARY

0-10	582.83
10-20	731.08
20-30	373.76
30-40	185.99
40-50	91.57
50-60	37.91
60-70	21.91
70-80	16.00
80-90	5.86
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



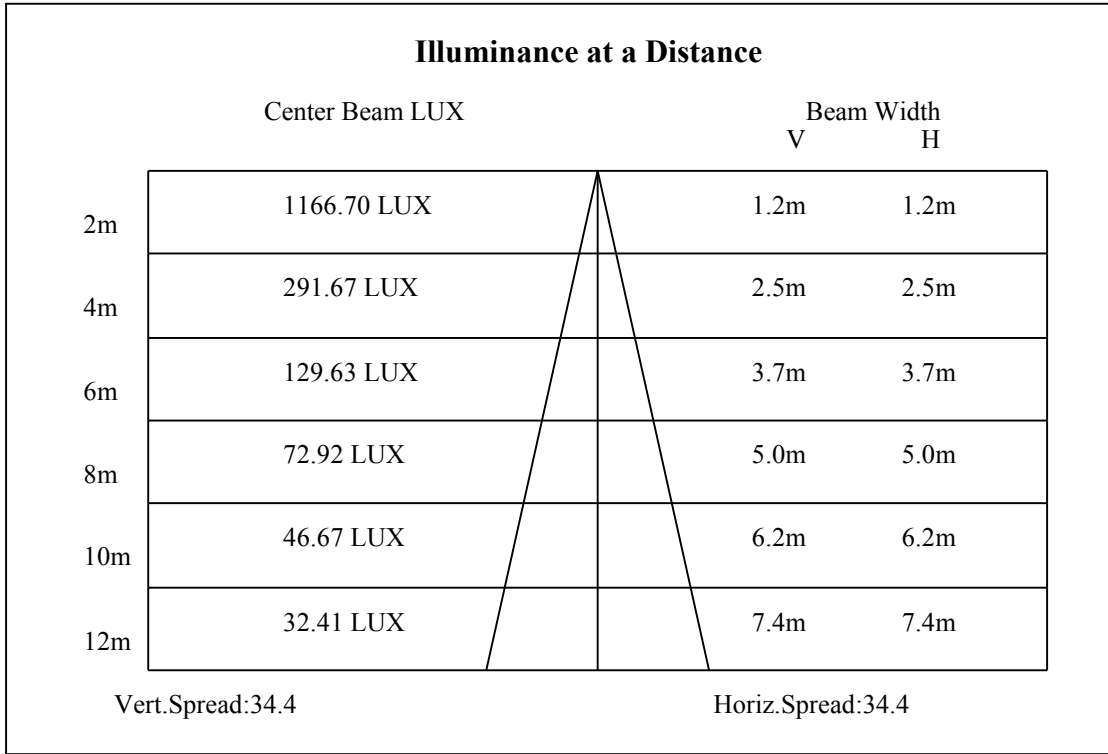
C0(Max): ———

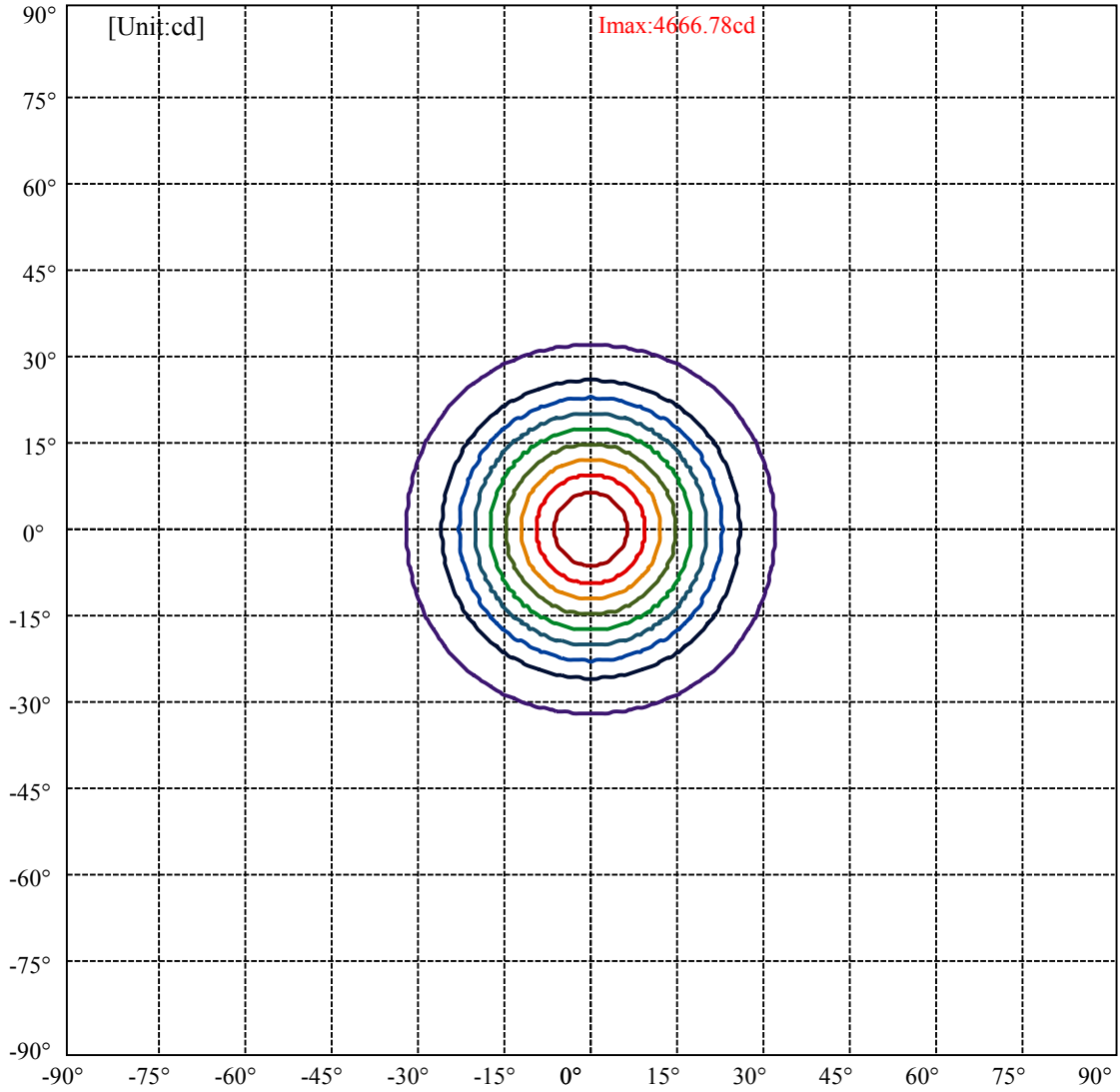
C0/C180: ———

C90/C270: ———

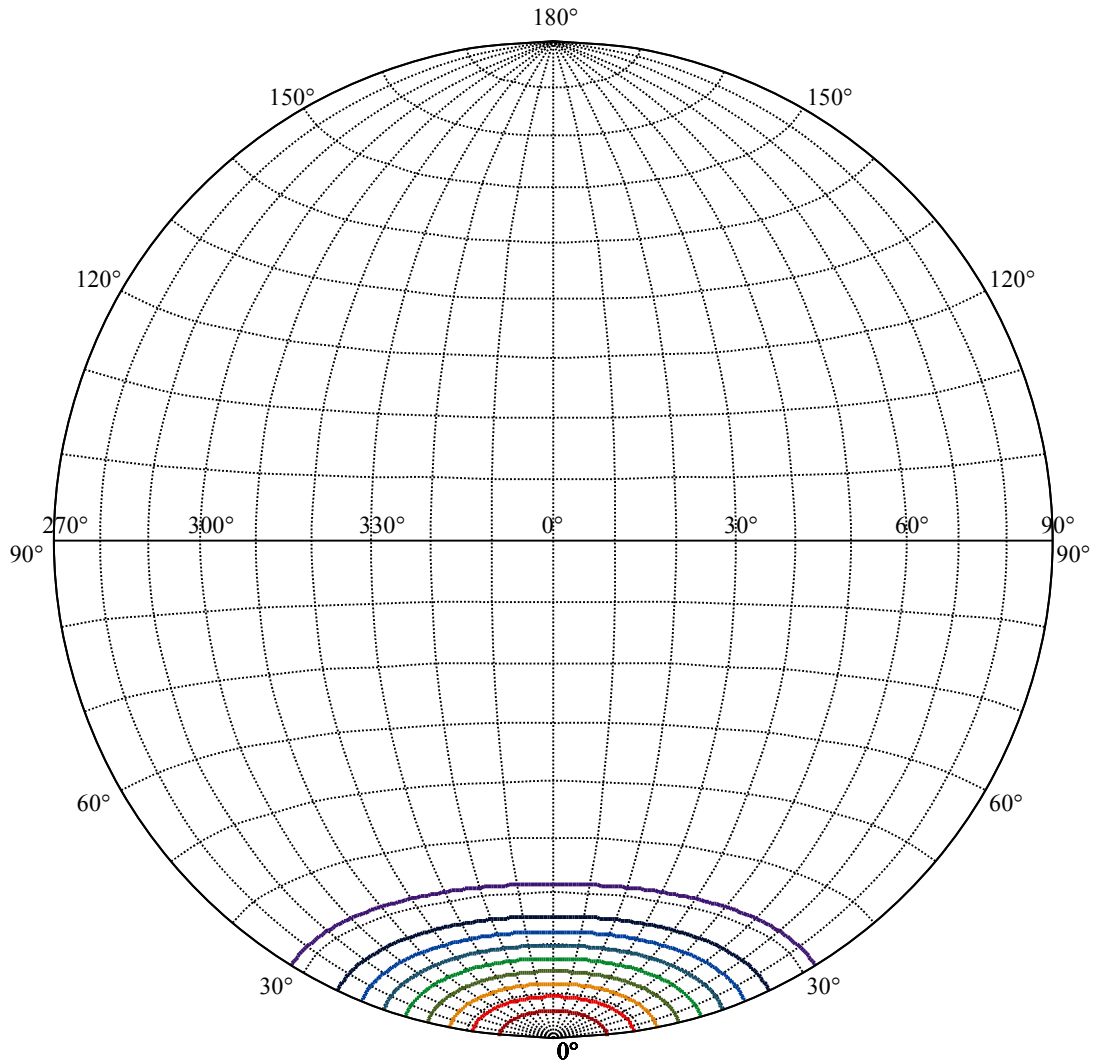
Field angle(10%Imax):C0/180Left:31.6 Right:31.6  
:C90/270Left:31.6 Right:31.6

Beam Angle(50%Imax):C0/180Left:17.2 Right:17.2  
:C90/270Left:17.2 Right:17.2





(10%Imax) 466.678	—
(20%Imax) 933.356	—
(30%Imax) 1400.03	—
(40%Imax) 1866.71	—
(50%Imax) 2333.39	—
(60%Imax) 2800.07	—
(70%Imax) 3266.75	—
(80%Imax) 3733.43	—
(90%Imax) 4200.1	—



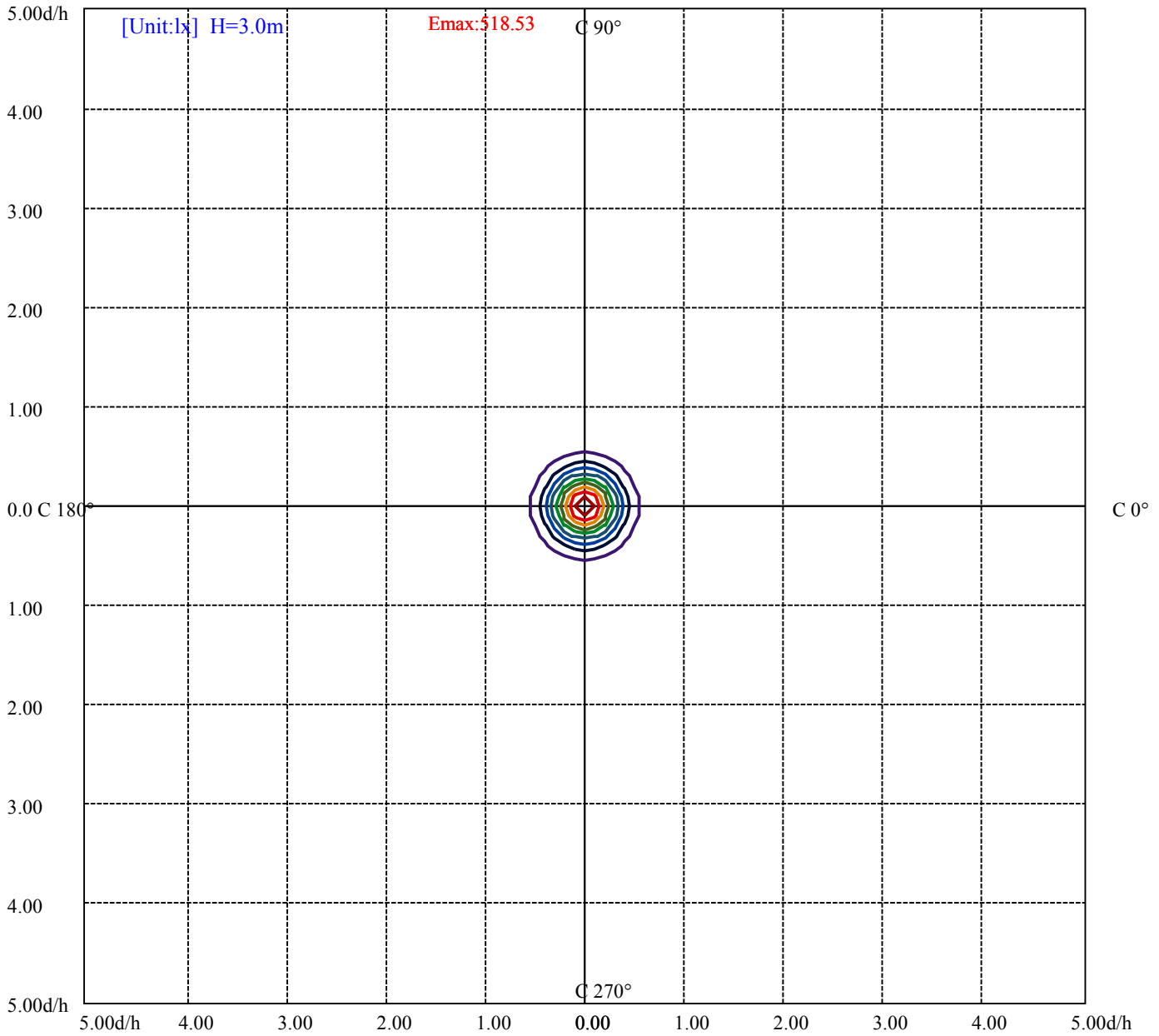
House

[Unit:cd]

Road

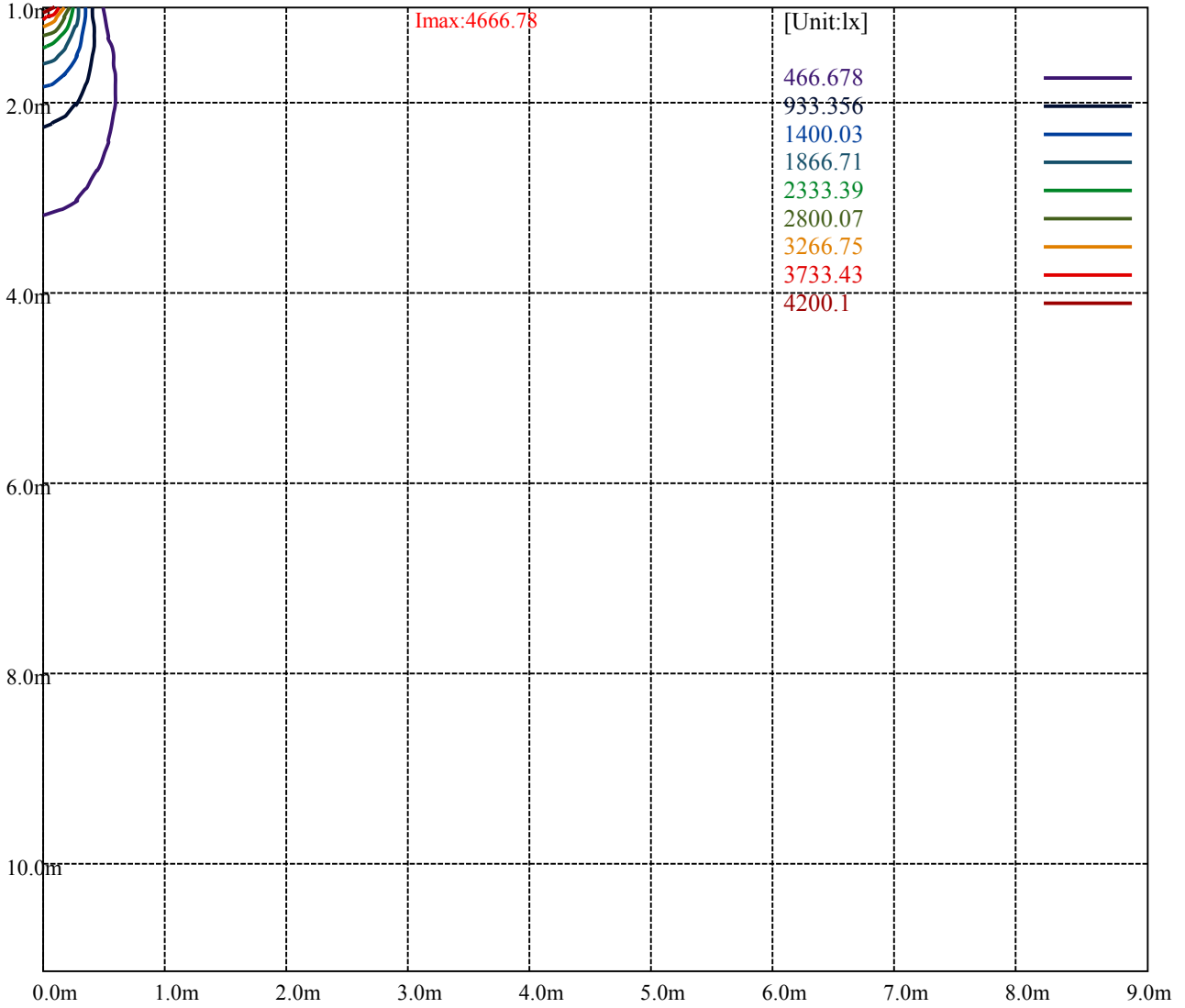
Imax:4666.78

(10%Imax)	466.678	—
(20%Imax)	933.356	—
(30%Imax)	1400.03	—
(40%Imax)	1866.71	—
(50%Imax)	2333.39	—
(60%Imax)	2800.07	—
(70%Imax)	3266.75	—
(80%Imax)	3733.43	—
(90%Imax)	4200.1	—



- (10%Emax) 51.853
- (20%Emax) 103.706
- (30%Emax) 155.5589
- (40%Emax) 207.4122
- (50%Emax) 259.2655
- (60%Emax) 311.1178
- (70%Emax) 362.9711
- (80%Emax) 414.8244
- (90%Emax) 466.6778





Luminance Table

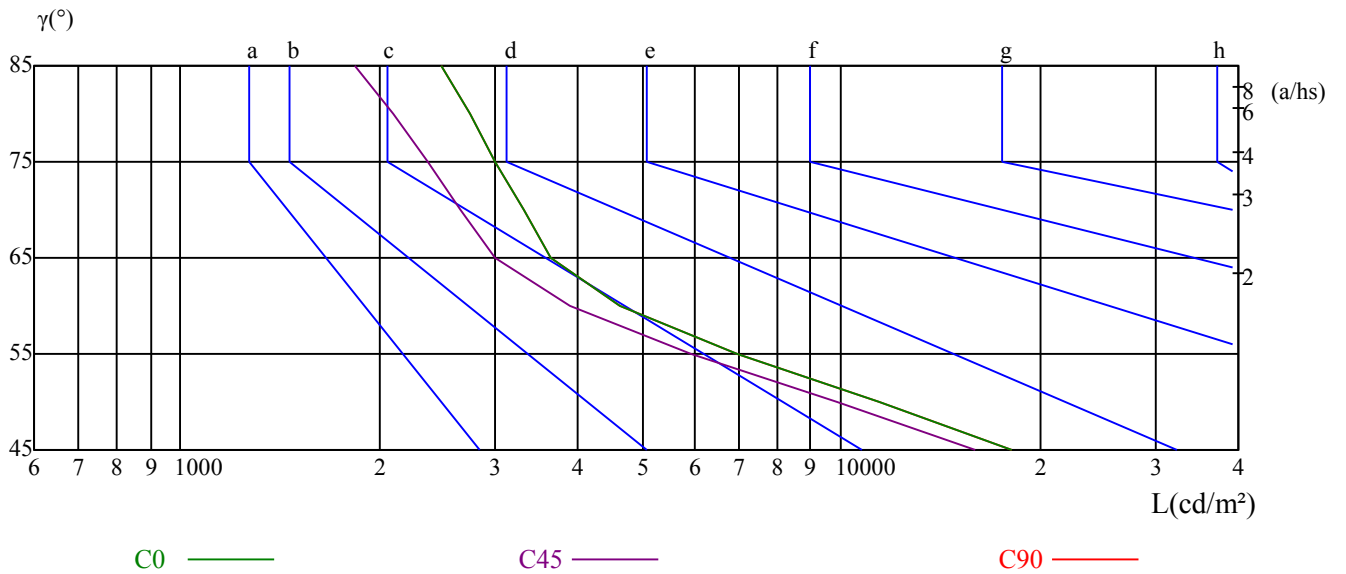
$\gamma$	45	50	55	60	65	70	75	80	85
C0	18145	11425	6960	4637	3637	3301	3004	2736	2477
C45	15944	9895	5936	3889	2995	2663	2366	2095	1832
C90	18145	11425	6960	4637	3637	3301	3004	2736	2477

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7536	7536	7536	8610	8610	8610	16634	16634	16634

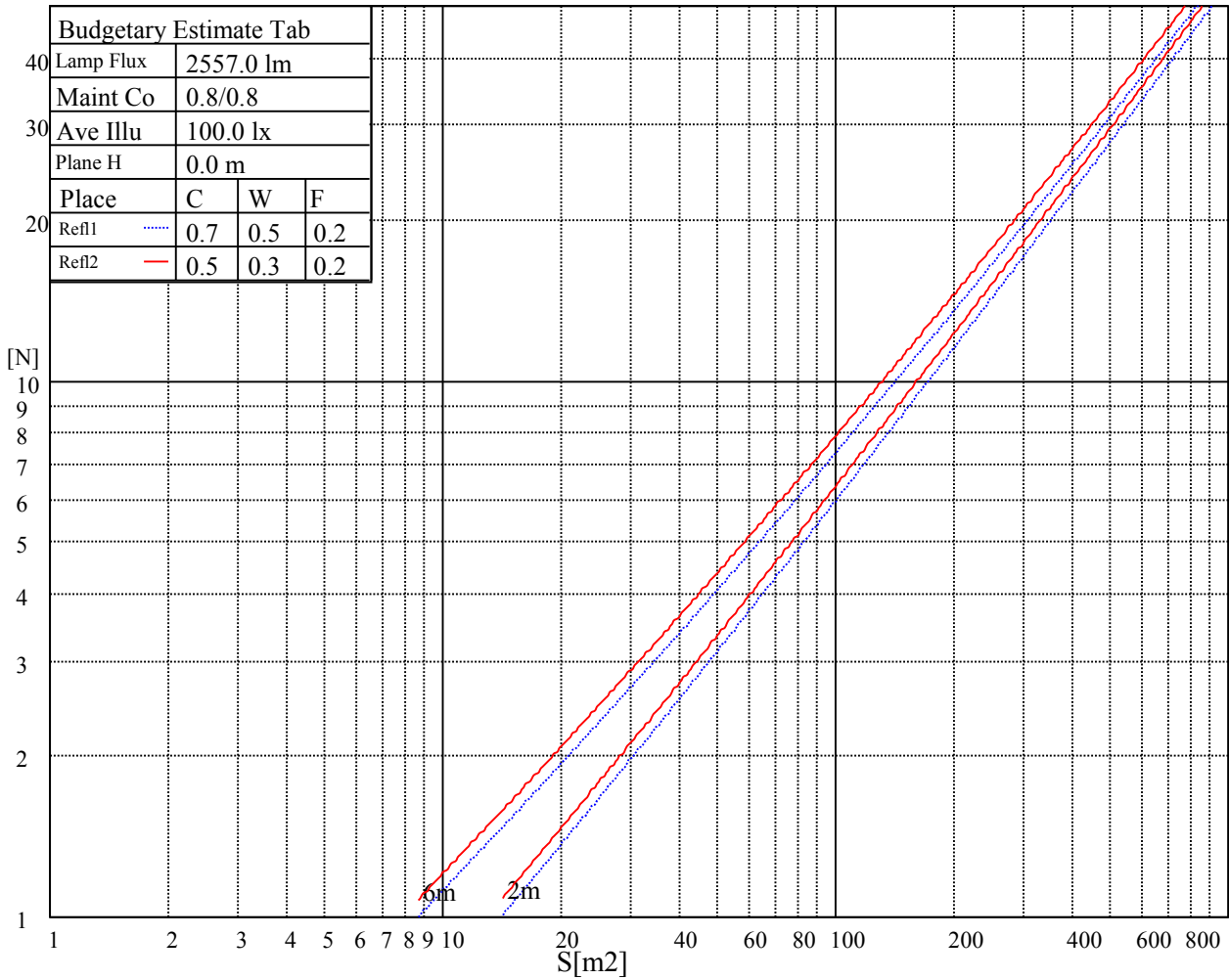
Glare Table

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

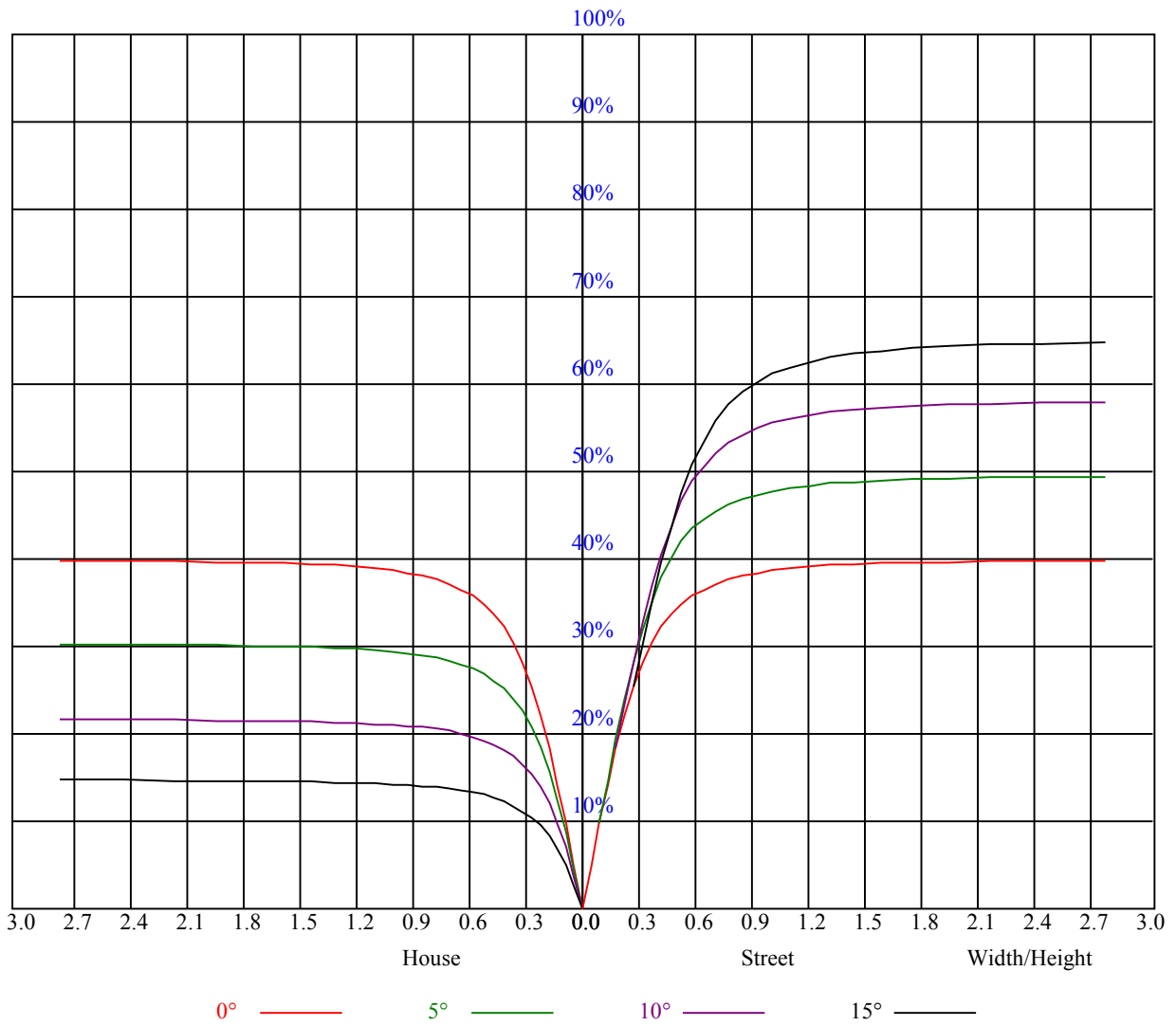
Luminance Limiting Curve



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	9.49	10.52	9.86	10.83	11.15	9.52	10.54	9.88	10.86	11.17
	3H	10.30	11.21	10.68	11.54	11.91	10.30	11.21	10.68	11.54	11.91
	4H	10.72	11.56	11.13	11.91	12.30	10.72	11.56	11.12	11.91	12.30
	6H	11.13	11.90	11.55	12.28	12.67	11.13	11.90	11.55	12.27	12.67
	8H	11.32	12.04	11.76	12.44	12.85	11.32	12.04	11.75	12.43	12.84
	12H	11.63	12.32	12.06	12.70	13.14	11.62	12.31	12.06	12.70	13.13
4H	2H	9.55	10.39	9.96	10.74	11.13	9.57	10.41	9.98	10.77	11.16
	3H	10.59	11.28	11.01	11.69	12.09	10.59	11.27	11.00	11.68	12.09
	4H	11.15	11.76	11.59	12.19	12.63	11.14	11.76	11.58	12.18	12.63
	6H	11.62	12.15	12.09	12.60	13.07	11.62	12.15	12.09	12.60	13.07
	8H	11.89	12.39	12.37	12.84	13.31	11.89	12.38	12.37	12.83	13.31
	12H	12.26	12.69	12.75	13.18	13.65	12.26	12.68	12.75	13.17	13.65
8H	4H	11.27	11.77	11.75	12.22	12.69	11.27	11.76	11.75	12.21	12.69
	6H	11.91	12.30	12.42	12.80	13.29	11.90	12.30	12.41	12.80	13.28
	8H	12.28	12.64	12.82	13.16	13.65	12.28	12.63	12.81	13.15	13.65
	12H	12.84	13.15	13.36	13.65	14.22	12.84	13.14	13.36	13.64	14.22
12H	4H	11.27	11.70	11.76	12.19	12.66	11.27	11.69	11.76	12.18	12.66
	6H	12.26	12.30	12.49	12.77	13.32	12.26	12.30	12.48	12.77	13.32
	8H	12.39	12.70	12.92	13.20	13.78	12.39	12.70	12.91	13.19	13.77
Variation with the observer position at spacings:											
S = 1.0H	2.1/-2.7					2.1/-2.7					
S = 1.5H	3.8/-3.2					3.8/-3.2					
S = 2.0H	5.5/-3.0					5.5/-3.0					
Standard tables:	BK2					BK2					
Uncorrected UGR	-1.4					-1.4					



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	0.97	0.97	0.97	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.81
1	0.89	0.87	0.85	0.87	0.85	0.83	0.84	0.82	0.81	0.81	0.80	0.78	0.78	0.77	0.76	0.75
2	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.77	0.75	0.77	0.75	0.74	0.75	0.73	0.72	0.71
3	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.74	0.71	0.69	0.72	0.70	0.68	0.67
4	0.75	0.71	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.69	0.67	0.65	0.64
5	0.71	0.67	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
6	0.68	0.64	0.61	0.68	0.64	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.62	0.59	0.58
7	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.56
8	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54
9	0.60	0.56	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.52
10	0.58	0.54	0.52	0.58	0.54	0.51	0.57	0.54	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.50



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	4676.06	4311.56	3556.13	2669.63	1758.94	910.13	512.44	320.63	218.70
45.0	4665.38	4481.44	3801.38	2933.44	2064.94	1178.44	595.13	365.63	287.44
90.0	4677.75	4409.44	3699.00	2913.19	2035.69	1083.26	583.59	359.21	241.31
135.0	4647.94	4534.31	3947.63	3078.56	2221.31	1244.81	636.75	393.75	284.06
180.0	4676.06	4484.25	3758.06	2844.56	1884.38	1024.48	555.02	342.00	231.58
225.0	4665.38	4219.31	3405.94	2431.13	1545.19	800.78	458.38	289.46	195.24
270.0	4677.75	4378.50	3515.63	2586.38	1679.06	869.63	483.19	299.81	202.95
315.0	4647.94	4248.00	3356.44	2347.88	1506.94	754.99	436.39	282.15	194.79
360.0	4676.06	4311.56	3556.13	2669.63	1758.94	910.13	512.44	320.63	218.70

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	143.44	85.61	49.33	32.40	23.51	19.80	16.37	13.50	10.63
45.0	167.57	101.42	58.11	36.56	24.92	20.87	17.49	14.40	11.48
90.0	152.94	94.56	54.00	33.02	24.24	20.31	16.76	13.84	11.14
135.0	163.80	101.87	58.50	35.49	25.03	20.76	17.21	14.12	11.14
180.0	143.83	86.79	51.58	31.84	23.29	19.46	16.48	13.39	10.74
225.0	120.38	72.51	42.81	28.46	22.33	18.84	15.75	12.71	10.18
270.0	127.24	76.84	46.97	30.09	22.89	19.58	16.14	13.16	10.29
315.0	119.53	73.86	43.59	28.13	22.22	18.96	15.64	12.71	10.18
360.0	143.44	85.61	49.33	32.40	23.51	19.80	16.37	13.50	10.63

C/γ(°)	90.0
0.0	8.83
45.0	8.94
90.0	8.83
135.0	8.83
180.0	8.78
225.0	8.94
270.0	8.89
315.0	8.83
360.0	8.83