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NATA

LumCAT: 2-1703-A
Luminaire: 99.02.73.173+92.76.365.00
Report No: NATA0100 Voltage(V): 34.8000
Test No: GC2018101119 Current(A): 0.5000
LampCAT: CREE CXA3050 Power (W): 20.8800
Lamp flux(lm): 2641.0 PF: 0.0000
Number of Lamps: 1 Ballast type: DC
Length(mm): 70 Width(mm): 70
Phm Type: C Height(mm): 0

Photometric Results

Lumens(lm): 2381.90
Efficiency(%): 90.19%
Lumens(lm)/Power(W): 115.13
Central intensity(cd): 4051.406
Maximum intensity(cd): 4051.406
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=43.7
 [C90/270]Total=43.7
Field angle(10%Imax): [C0/180]Total=75.2
 [C90/270]Total=75.2
Maximum s/h(1/2): C0_180=0.71 C90_270=0.71
Maximum s/h(1/4): C0_180=0.69 C90_270=0.69
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.02%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.736%

Equipment:
Temperature(°C): 25.0

Date: 2018/10/11
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.50

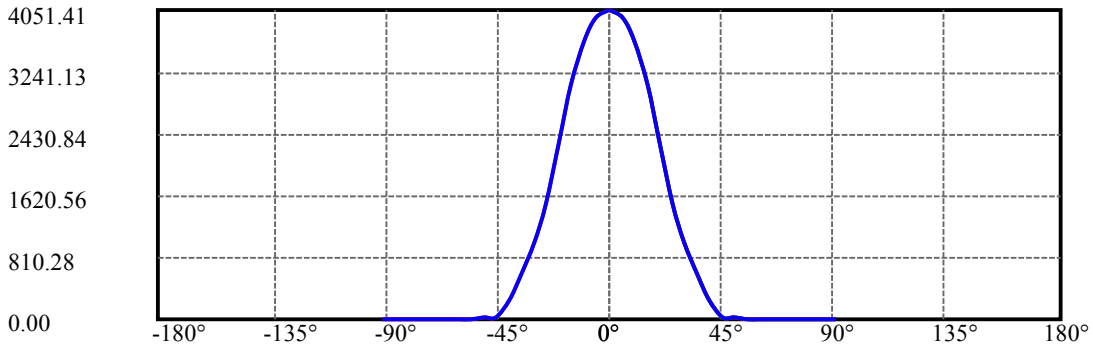
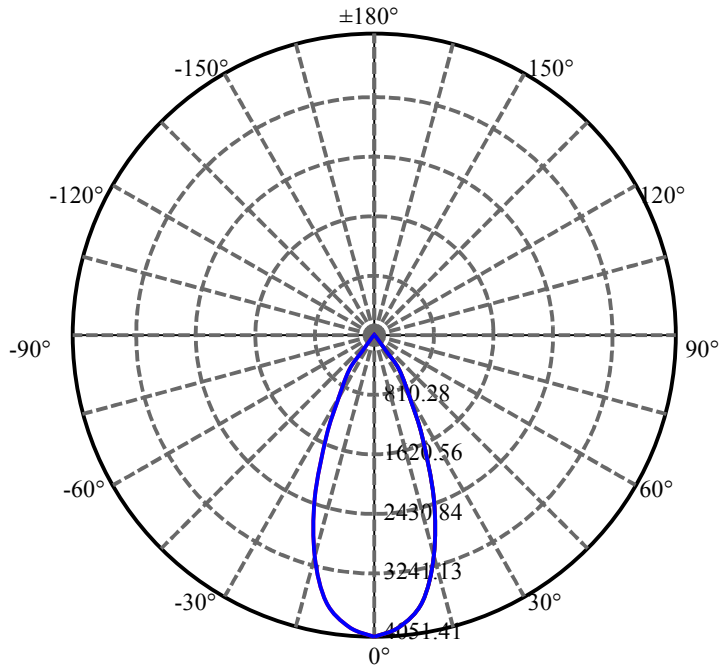
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4051.406	24.228	24.228	.917%	1.017%
5.0	3947.555	188.588	212.816	7.141%	8.935%
10.0	3653.719	347.772	560.588	13.168%	23.535%
15.0	3068.789	435.364	995.952	16.485%	41.813%
20.0	2337.961	438.307	1434.259	16.596%	60.215%
25.0	1498.598	347.155	1781.414	13.145%	74.790%
30.0	1000.181	274.118	2055.532	10.379%	86.298%
35.0	568.005	178.580	2234.112	6.762%	93.795%
40.0	254.609	89.708	2323.82	3.397%	97.562%
45.0	25.284	9.800	2333.62	.371%	97.973%
50.0	12.614	5.297	2338.917	.201%	98.195%
55.0	11.637	5.225	2344.142	.198%	98.415%
60.0	11.173	5.304	2349.445	.201%	98.637%
65.0	11.355	5.641	2355.087	.214%	98.874%
70.0	11.665	6.008	2361.095	.228%	99.127%
75.0	11.580	6.131	2367.226	.232%	99.384%
80.0	11.292	6.096	2373.322	.231%	99.640%
85.0	10.779	5.886	2379.208	.223%	99.887%
90.0	9.823	2.692	2381.9	.102%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2055.53	77.83%	86.30%
0-40	2323.82	87.99%	97.56%
0-60	2349.45	88.96%	98.64%
0-90	2379.21	90.09%	99.89%
0-120	2379.21	90.09%	99.89%
0-180	2381.90	90.19%	100.00%
60-90	35.07	1.33%	1.47%
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%
0-27.26	1905.52	72.15%	80.00%

ZONAL LUMEN SUMMARY

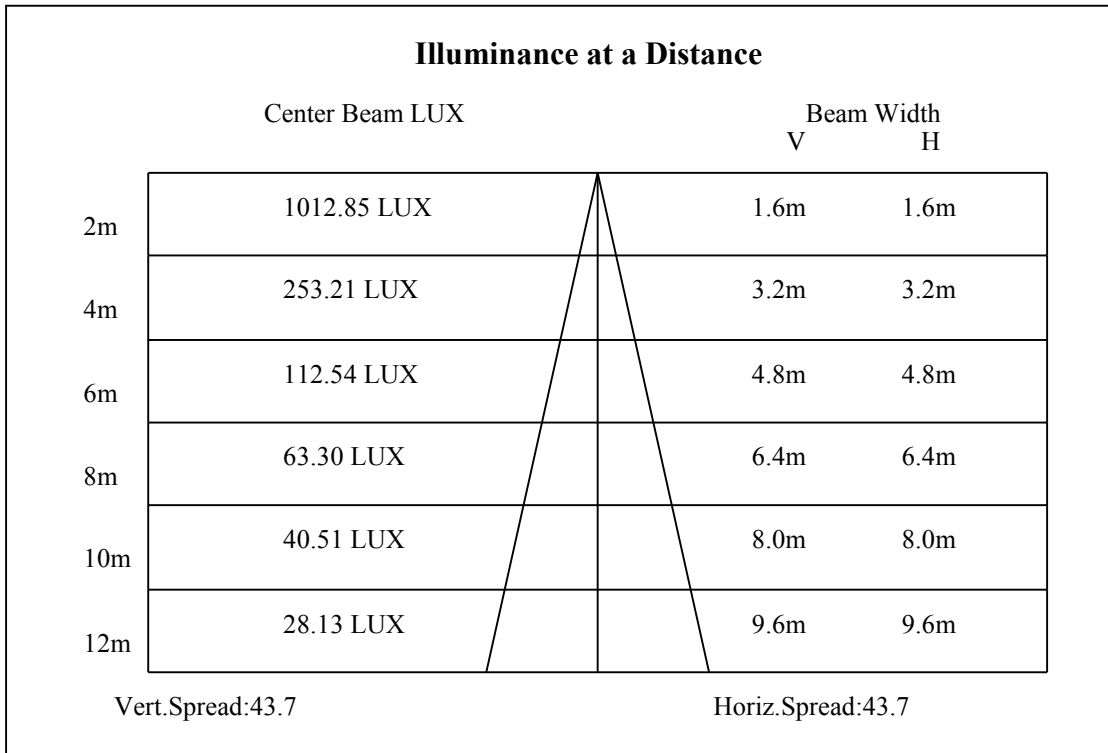
0-10	560.59
10-20	873.67
20-30	621.27
30-40	268.29
40-50	15.10
50-60	10.53
60-70	11.65
70-80	12.23
80-90	5.89
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

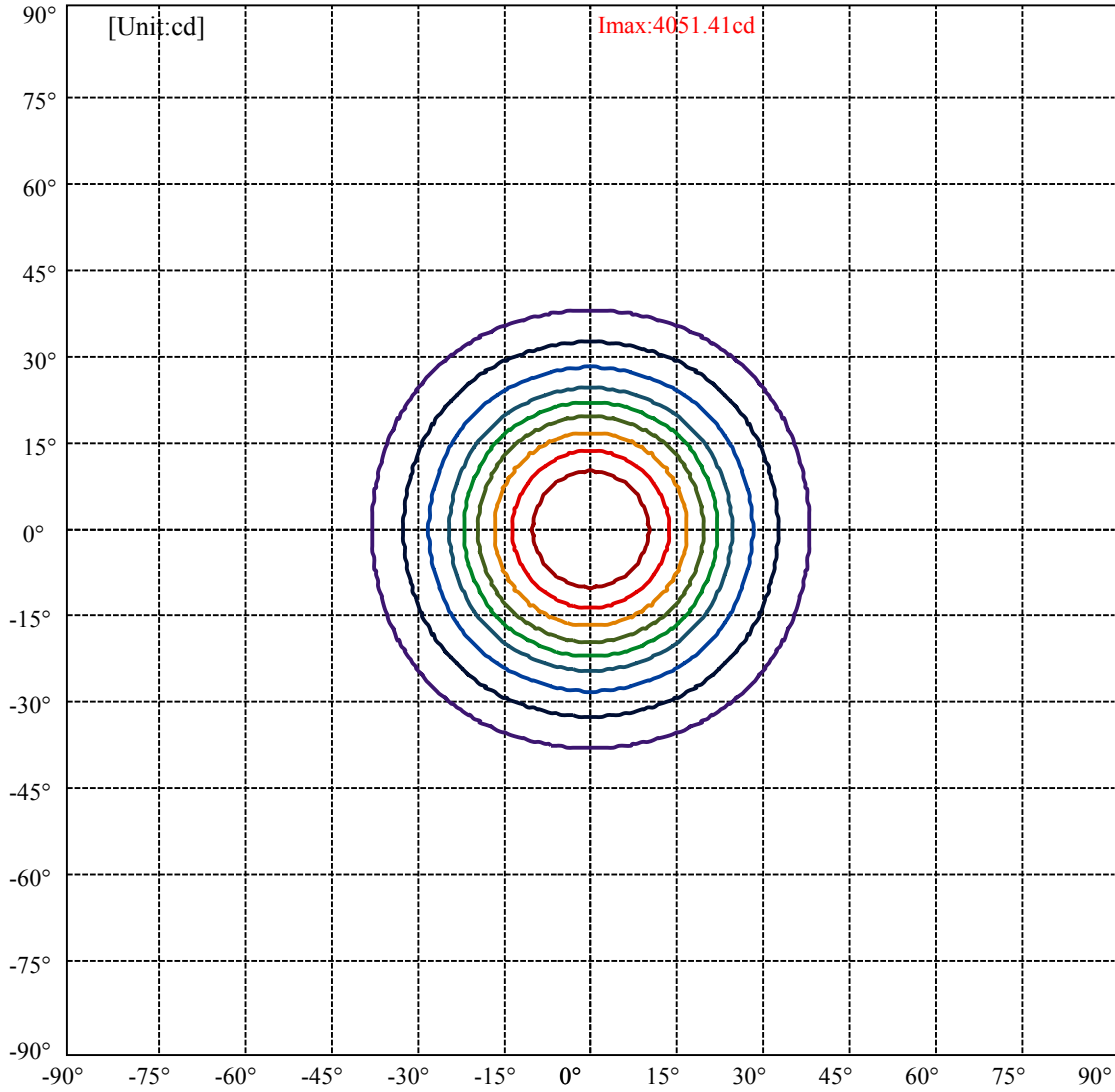


C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:37.6 Right:37.6
:C90/270Left:37.6 Right:37.6

Beam Angle(50%Imax):C0/180Left:21.9 Right:21.9
:C90/270Left:21.9 Right:21.9



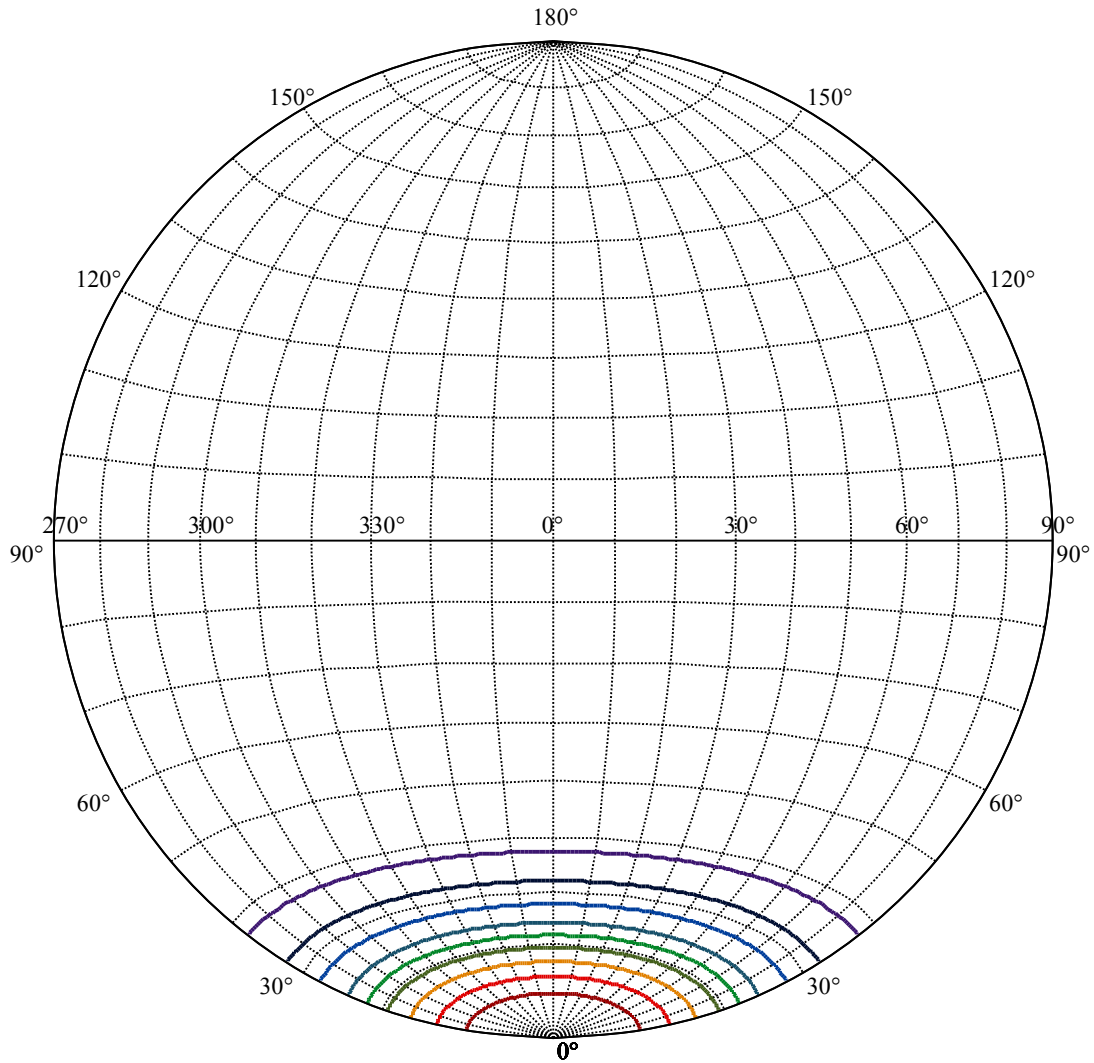


(10%Imax) 405.141	—
(20%Imax) 810.281	—
(30%Imax) 1215.42	—
(40%Imax) 1620.56	—
(50%Imax) 2025.7	—
(60%Imax) 2430.84	—
(70%Imax) 2835.98	—
(80%Imax) 3241.13	—
(90%Imax) 3646.27	—

Equipment:
Temperature(°C): 25.0

Date: 2018/10/11
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.50



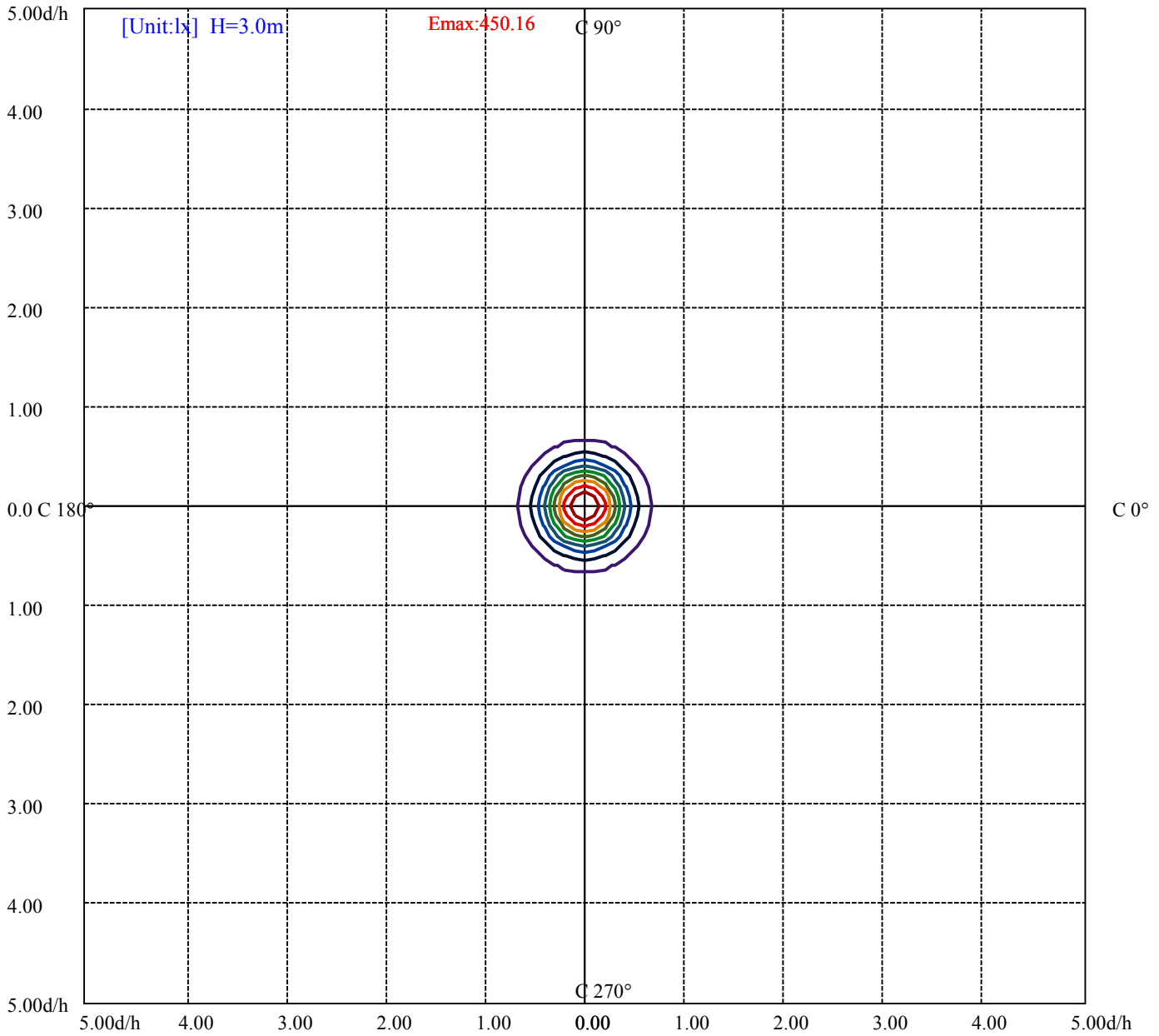
House

[Unit:cd]

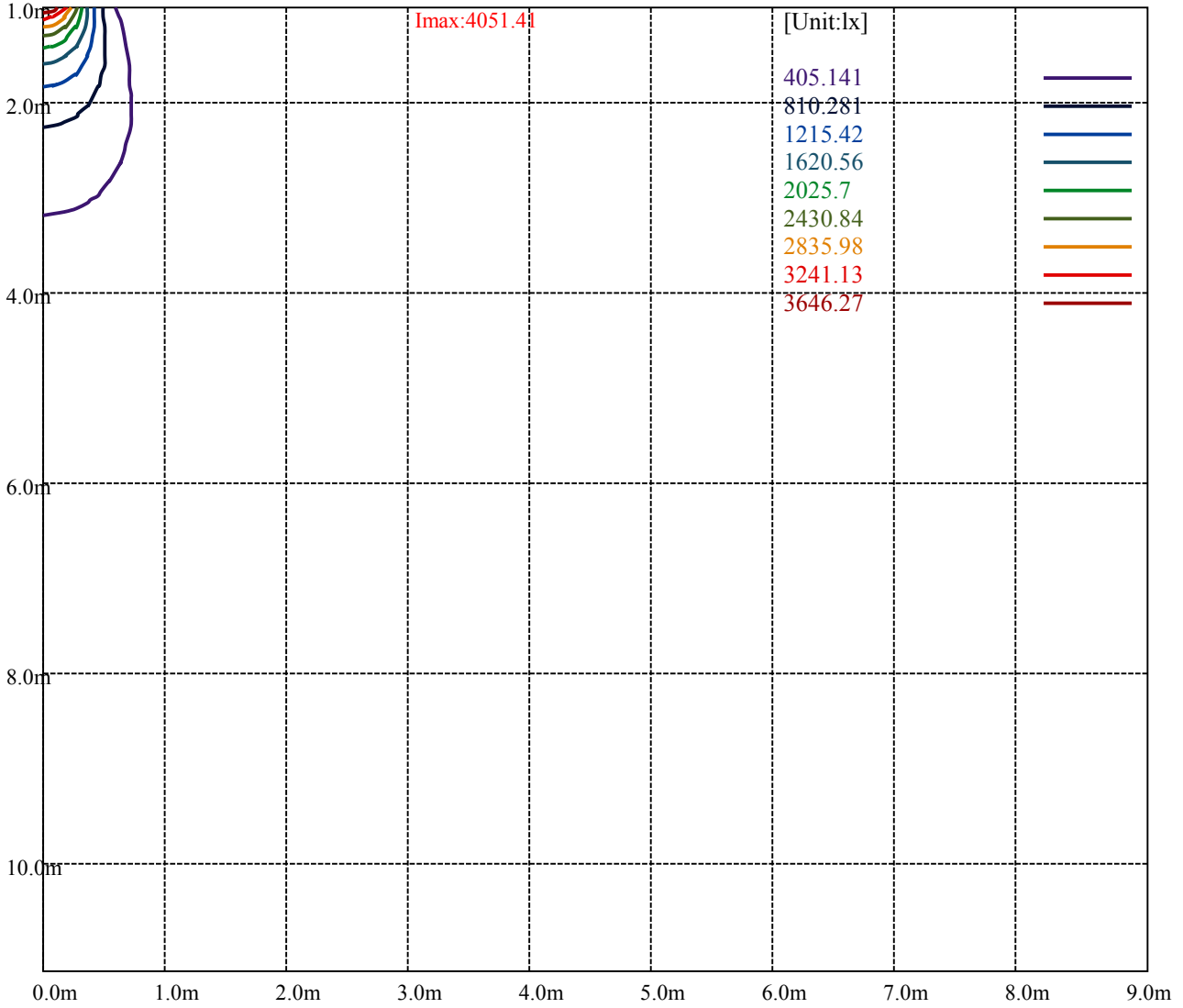
Road

Imax:4051.41

(10%Imax)	405.141	—
(20%Imax)	810.281	—
(30%Imax)	1215.42	—
(40%Imax)	1620.56	—
(50%Imax)	2025.7	—
(60%Imax)	2430.84	—
(70%Imax)	2835.98	—
(80%Imax)	3241.13	—
(90%Imax)	3646.27	—



- (10%Emax) 45.01556
- (20%Emax) 90.03122
- (30%Emax) 135.0467
- (40%Emax) 180.0622
- (50%Emax) 225.0778
- (60%Emax) 270.0934
- (70%Emax) 315.1089
- (80%Emax) 360.1245
- (90%Emax) 405.14



Luminance Table

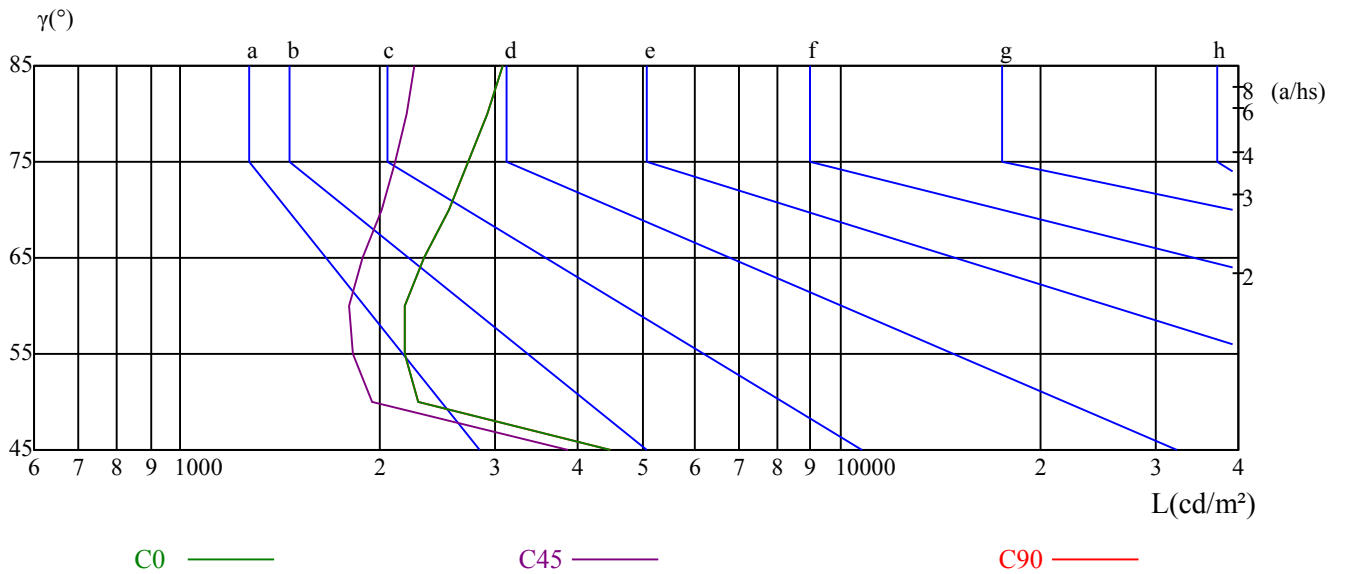
γ	45	50	55	60	65	70	75	80	85
C0	4481	2290	2182	2183	2335	2552	2729	2907	3084
C45	3863	1945	1824	1796	1887	2022	2115	2197	2261
C90	4481	2290	2182	2183	2335	2552	2729	2907	3084

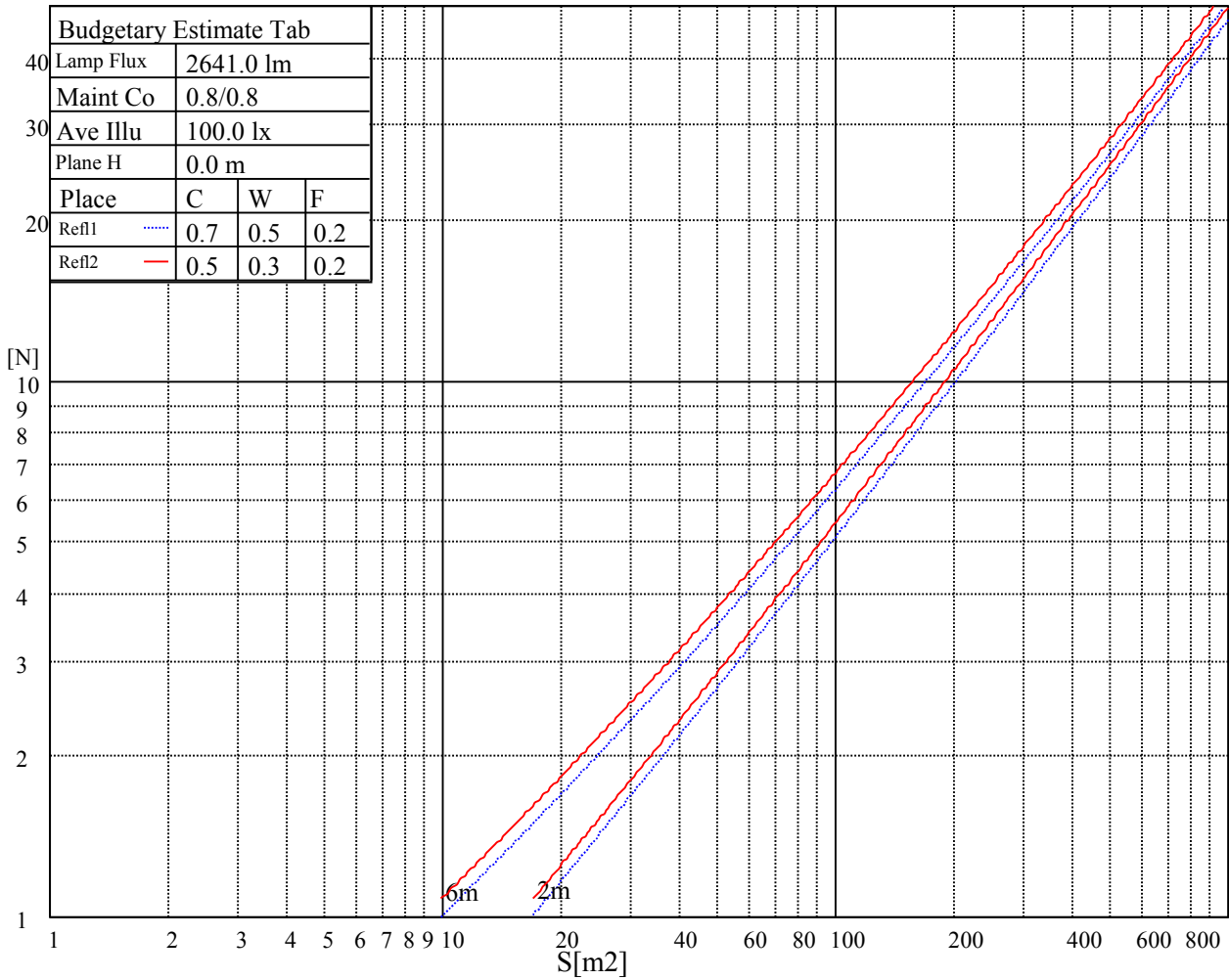
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5484	5484	5484	9131	9131	9131	25240	25240	25240

Glare Table

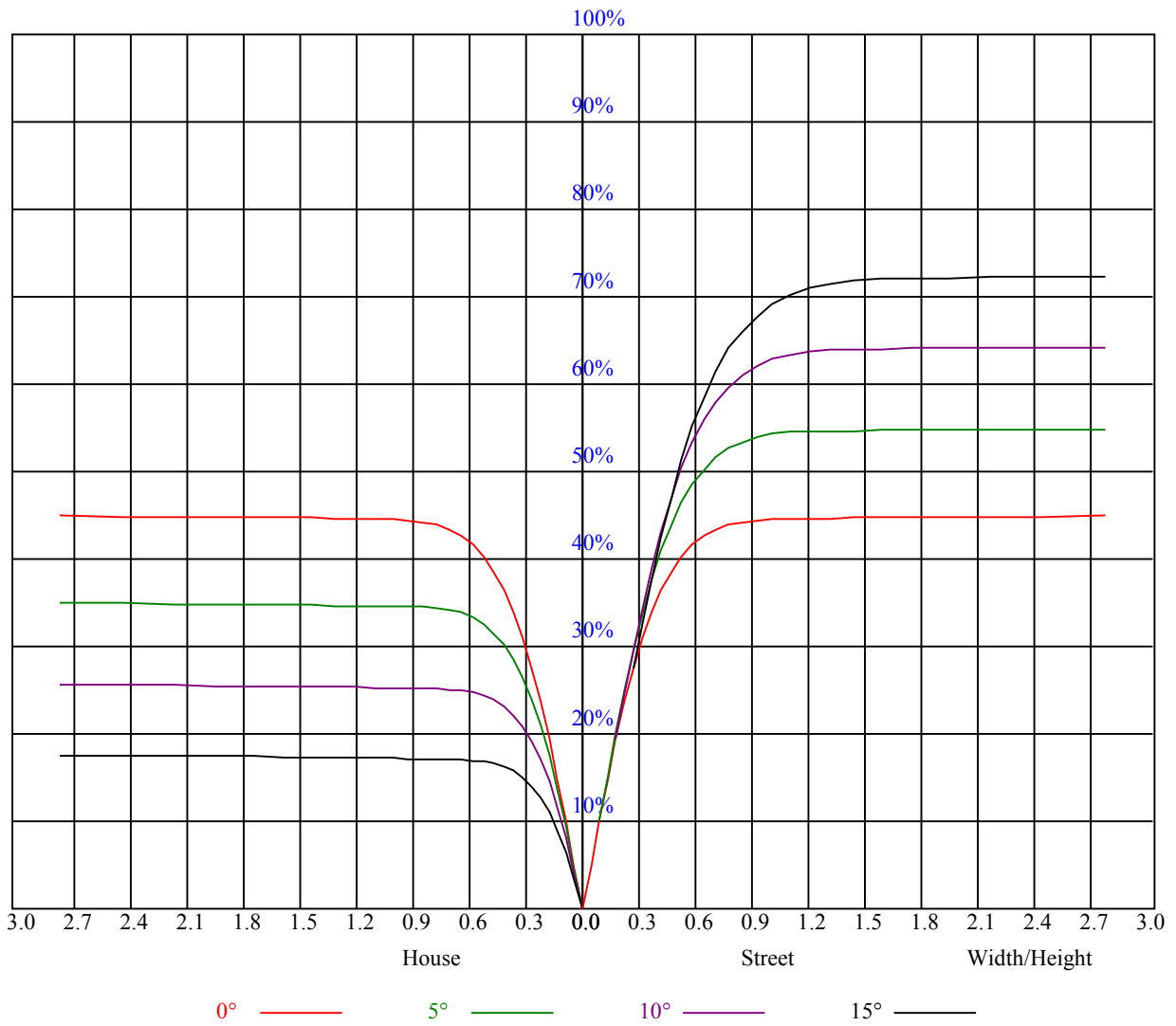
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.00	0.98	0.96	0.98	0.96	0.94	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.80
3	0.90	0.85	0.82	0.88	0.85	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.76
4	0.85	0.81	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
5	0.81	0.76	0.73	0.80	0.76	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.69
6	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.66
7	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
8	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.61
9	0.68	0.63	0.60	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.58
10	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.63	0.60	0.57	0.56



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	4060.13	3918.94	3594.38	3008.81	2239.88	1433.25	961.88	533.25	295.31
45.0	4053.94	3949.88	3669.19	3110.63	2345.63	1547.44	1026.00	583.31	294.19
90.0	4053.38	3952.69	3641.63	3076.88	2351.81	1562.63	1008.62	569.98	233.21
135.0	4038.19	4001.06	3790.13	3277.13	2628.56	1774.69	1146.38	686.25	321.75
180.0	4060.13	3958.31	3710.25	3145.50	2414.81	1613.81	1055.48	596.93	259.03
225.0	4053.94	3929.06	3633.19	3013.88	2277.00	1423.13	980.89	551.14	195.92
270.0	4053.38	3961.69	3668.63	3061.69	2351.81	1513.13	977.63	561.94	294.75
315.0	4038.19	3908.81	3522.38	2855.81	2094.19	1120.73	844.59	461.25	142.71
360.0	4060.13	3918.94	3594.38	3008.81	2239.88	1433.25	961.88	533.25	295.31

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	19.18	12.60	11.64	11.03	11.14	11.59	11.53	11.25	10.52
45.0	25.54	12.32	11.59	11.31	11.31	11.48	11.53	11.31	10.74
90.0	22.84	12.60	11.87	11.31	11.59	11.81	11.59	11.31	10.91
135.0	45.62	13.56	11.76	11.25	11.25	11.70	11.64	11.36	10.86
180.0	28.74	13.16	11.59	11.14	10.80	10.97	11.03	11.03	10.63
225.0	23.51	12.32	11.53	11.14	11.19	11.64	11.64	11.31	10.86
270.0	22.33	12.43	11.70	11.19	11.70	12.15	11.93	11.59	11.03
315.0	14.51	11.93	11.42	11.03	11.87	11.98	11.76	11.19	10.69
360.0	19.18	12.60	11.64	11.03	11.14	11.59	11.53	11.25	10.52

C/γ(°)	90.0
0.0	9.79
45.0	9.90
90.0	9.84
135.0	9.79
180.0	9.73
225.0	9.90
270.0	9.84
315.0	9.79
360.0	9.79