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## NATA

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LumCAT: 2-1465-A  
Luminaire: 92.70.135.00  
Report No: NATA0100  
Test No: GC2018101813  
LampCAT: LUMILEDS LUXEON CoB 1208  
Lamp flux(lm): 3643.0  
Number of Lamps: 1  
Length(mm): 64  
Phm Type: C

Voltage(V): 35.0000  
Current(A): 0.7000  
Power (W): 24.5000  
PF: 0.0000  
Ballast type: DC  
Width(mm): 64  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 3028.57  
Efficiency(%): 83.13%  
Lumens(lm)/Power(W): 125.72  
Central intensity(cd): 9113.906  
Maximum intensity(cd): 9113.906  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=34.3  
                                  [C90/270]Total=34.3  
Field angle(10%Imax): [C0/180]Total=53.9  
                                  [C90/270]Total=53.9  
Maximum s/h(1/2): C0\_180=0.56 C90\_270=0.56  
Maximum s/h(1/4): C0\_180=0.56 C90\_270=0.56  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 84.55%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.038%

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Equipment:  
Temperature(°C): 25.0

Date: 2018/10/18  
Humidity(%): 60.0%

Operator: NT07  
Distance(m): 7.50

Zonal flux distribution table

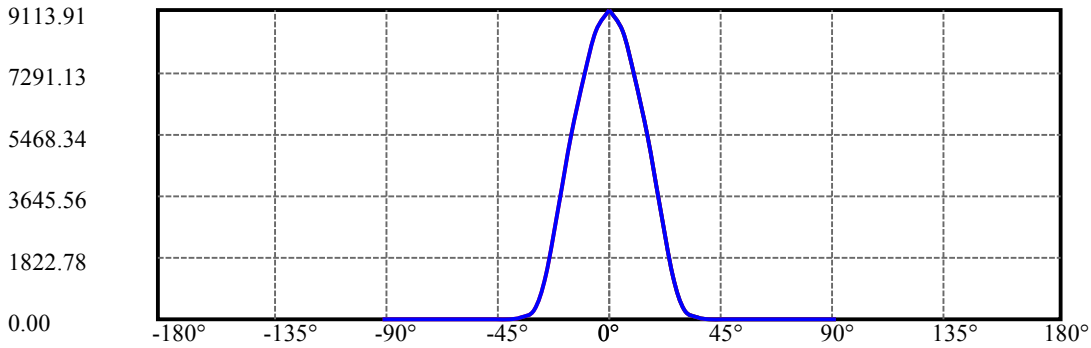
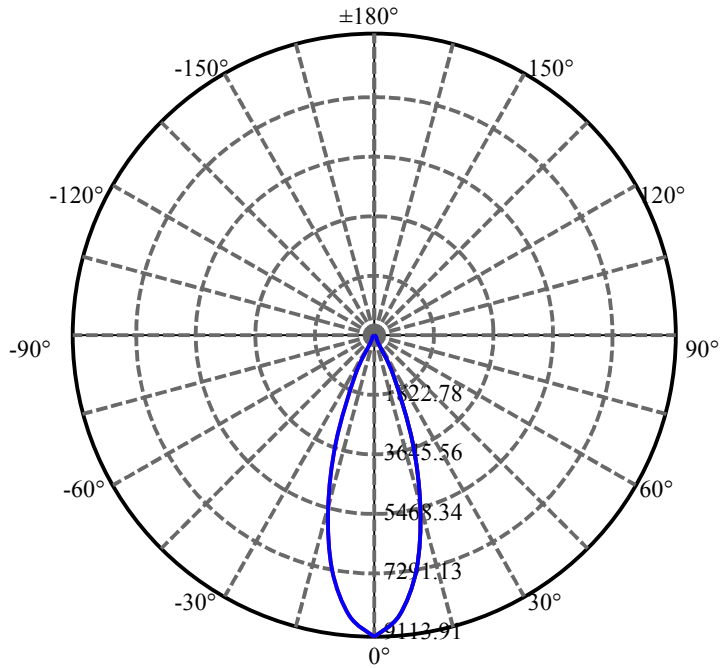
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9113.906	54.503	54.503	1.496%	1.800%
5.0	8497.828	405.969	460.472	11.144%	15.204%
10.0	7189.664	684.334	1144.807	18.785%	37.800%
15.0	5397.609	765.750	1910.557	21.020%	63.085%
20.0	3456.211	647.950	2558.507	17.786%	84.479%
25.0	1326.544	307.298	2865.804	8.435%	94.626%
30.0	259.636	71.158	2936.962	1.953%	96.975%
35.0	52.348	16.458	2953.42	.452%	97.519%
40.0	25.425	8.958	2962.379	.246%	97.815%
45.0	17.002	6.590	2968.968	.181%	98.032%
50.0	15.539	6.525	2975.493	.179%	98.248%
55.0	14.801	6.646	2982.139	.182%	98.467%
60.0	14.379	6.826	2988.964	.187%	98.692%
65.0	14.105	7.007	2995.971	.192%	98.924%
70.0	13.908	7.164	3003.135	.197%	99.160%
75.0	13.746	7.278	3010.413	.200%	99.401%
80.0	13.563	7.322	3017.735	.201%	99.642%
85.0	13.423	7.329	3025.064	.201%	99.884%
90.0	12.783	3.503	3028.567	.096%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2936.96	80.62%	96.98%
0-40	2962.38	81.32%	97.81%
0-60	2988.96	82.05%	98.69%
0-90	3025.06	83.04%	99.88%
0-120	3025.06	83.04%	99.88%
0-180	3028.57	83.13%	100.00%
60-90	42.93	1.18%	1.42%
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%
0-18.95	2422.85	66.51%	80.00%

ZONAL LUMEN SUMMARY

0-10	1144.81
10-20	1413.70
20-30	378.46
30-40	25.42
40-50	13.11
50-60	13.47
60-70	14.17
70-80	14.60
80-90	7.33
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: —————

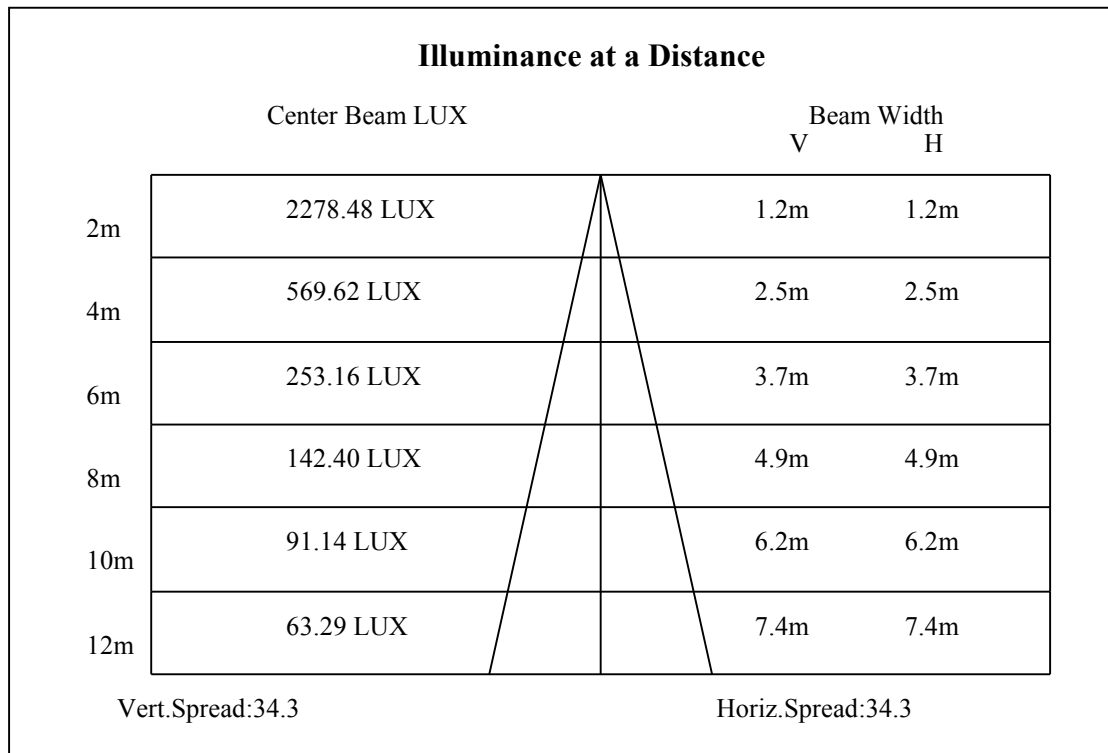
C90/C270: —————

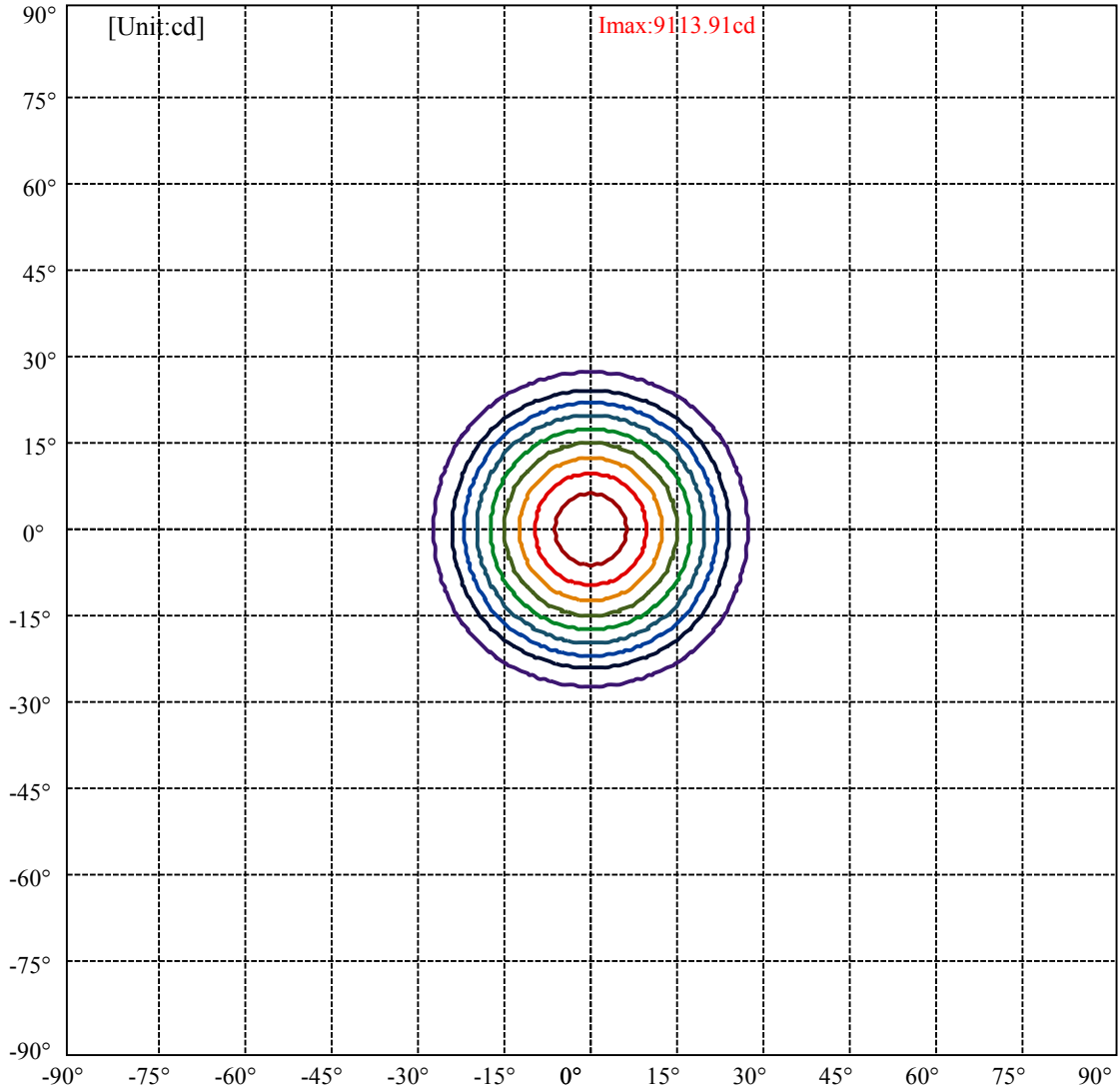
Field angle(10%Imax):C0/180Left:26.9 Right:26.9

:C90/270Left:26.9 Right:26.9

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

:C90/270Left:17.2 Right:17.2



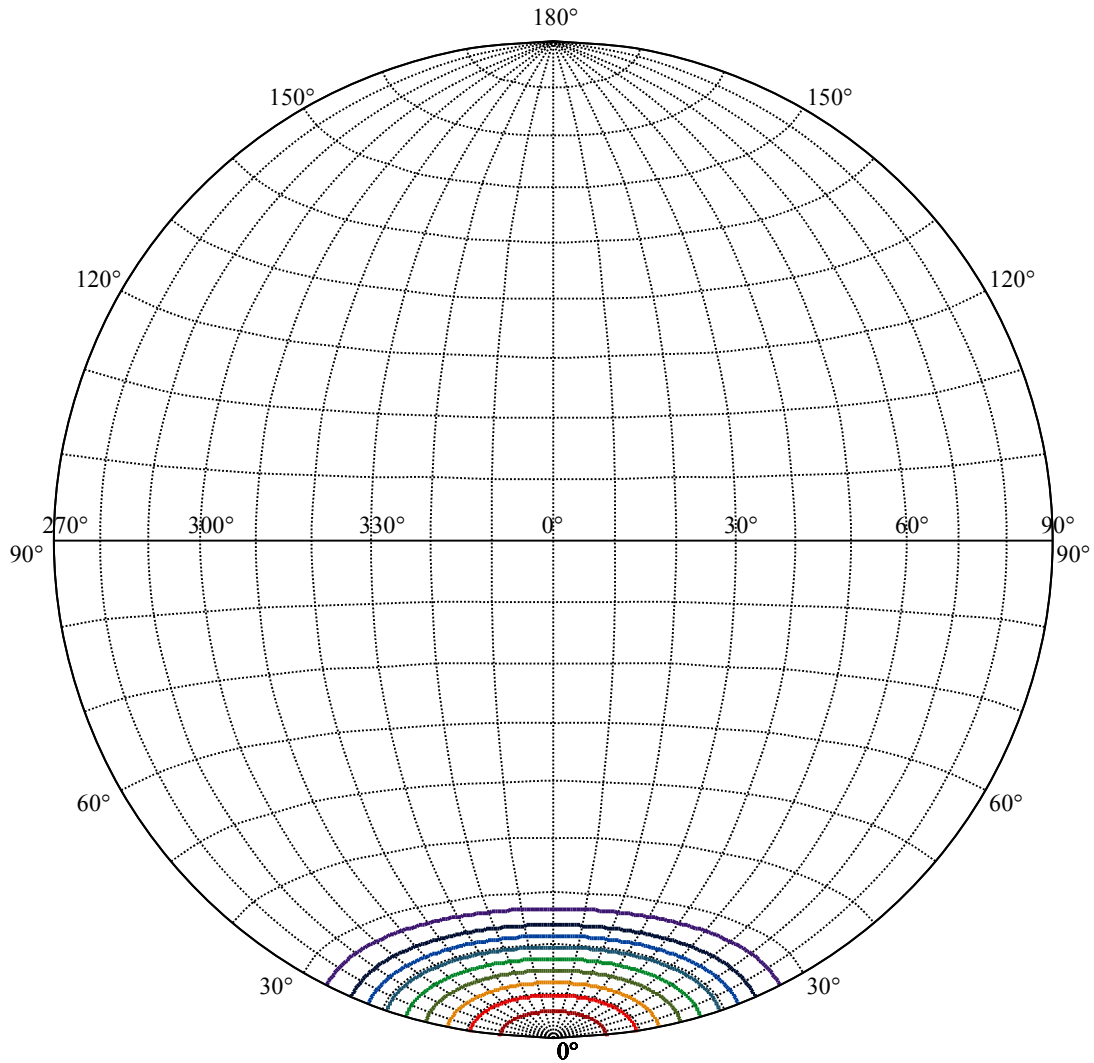


(10%Imax) 911.391	—
(20%Imax) 1822.78	—
(30%Imax) 2734.17	—
(40%Imax) 3645.56	—
(50%Imax) 4556.95	—
(60%Imax) 5468.34	—
(70%Imax) 6379.73	—
(80%Imax) 7291.13	—
(90%Imax) 8202.52	—

Equipment:  
Temperature(°C): 25.0

Date: 2018/10/18  
Humidity(%): 60.0%

Operator: NT07  
Distance(m): 7.50



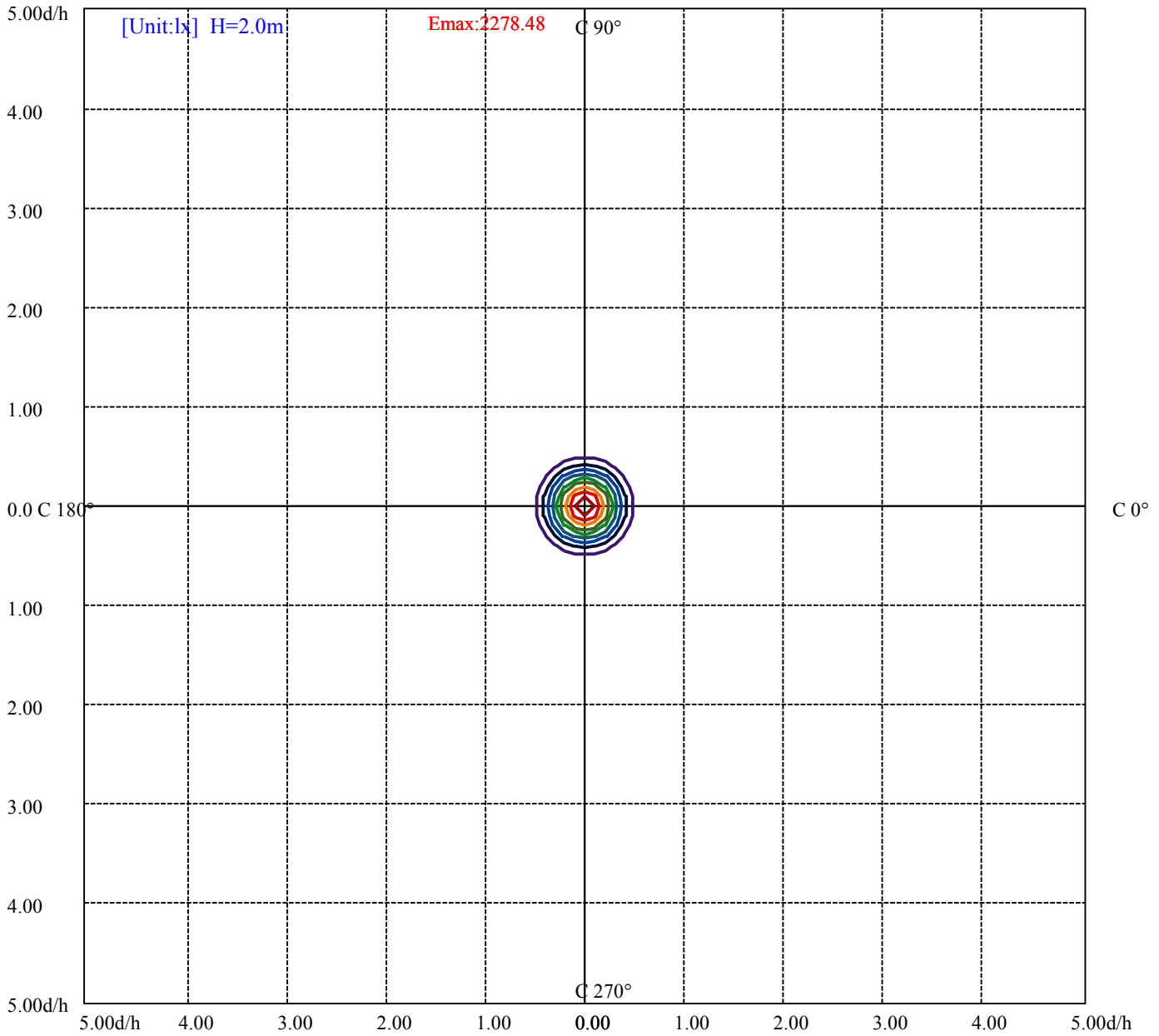
House

[Unit:cd]

Road

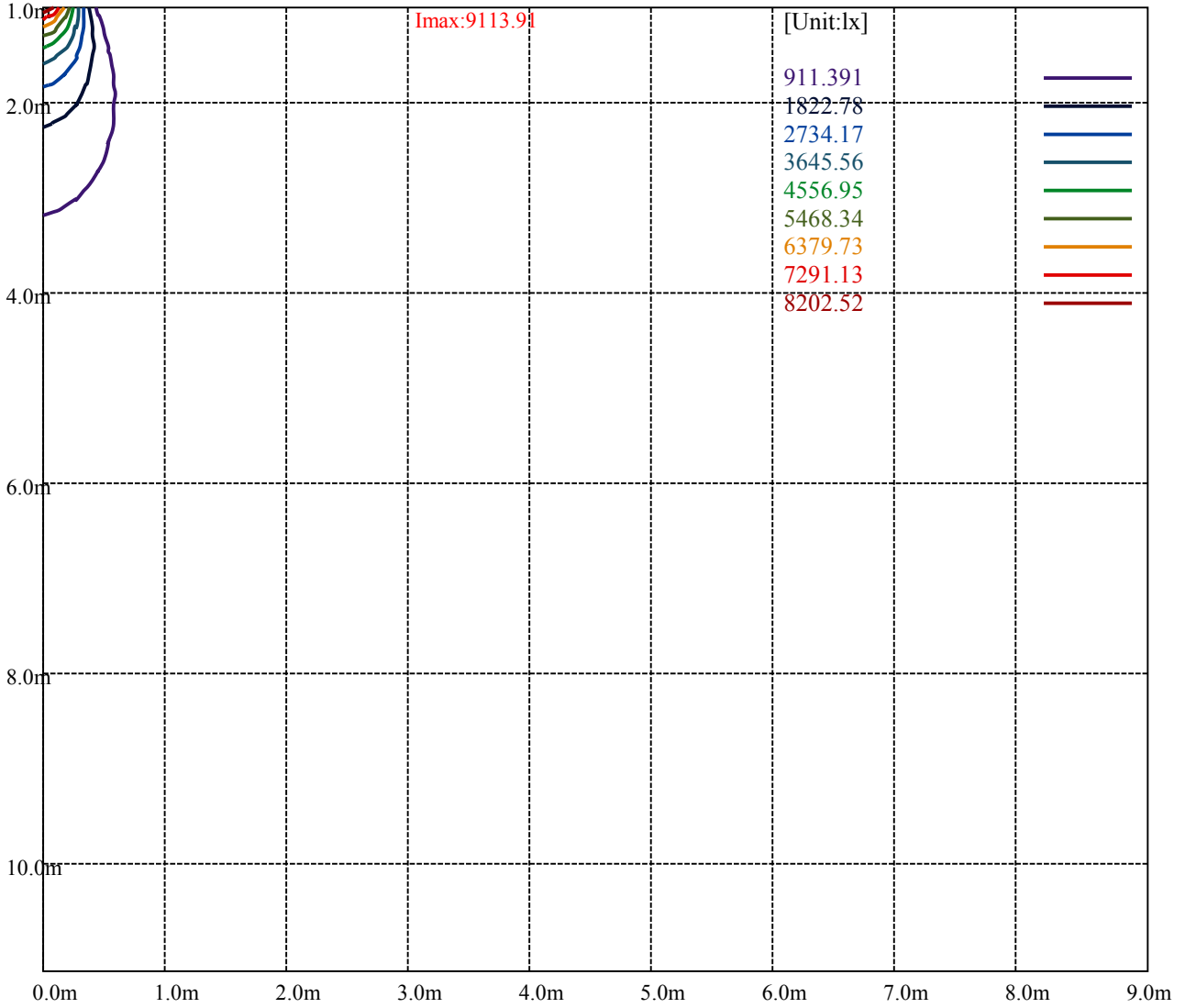
**Imax:9113.91**

(10%Imax) 911.391	—
(20%Imax) 1822.78	—
(30%Imax) 2734.17	—
(40%Imax) 3645.56	—
(50%Imax) 4556.95	—
(60%Imax) 5468.34	—
(70%Imax) 6379.73	—
(80%Imax) 7291.13	—
(90%Imax) 8202.52	—



- (10%Emax) 227.8472
- (20%Emax) 455.695
- (30%Emax) 683.5425
- (40%Emax) 911.39
- (50%Emax) 1139.235
- (60%Emax) 1367.083
- (70%Emax) 1594.93
- (80%Emax) 1822.777
- (90%Emax) 2050.625





Luminance Table

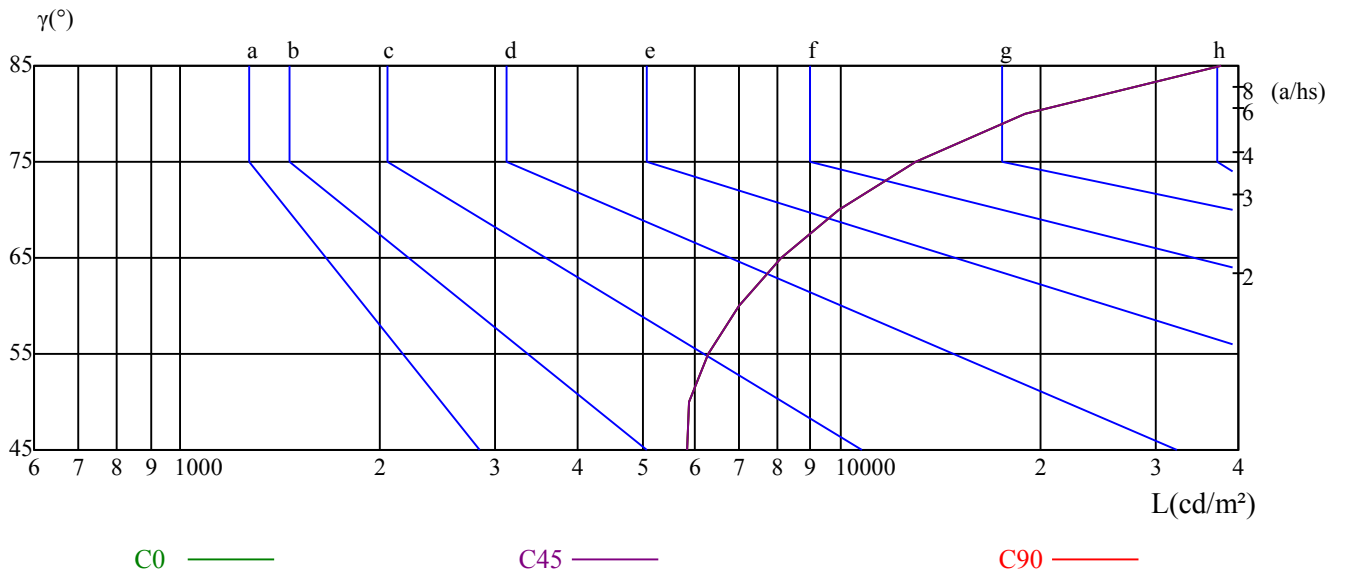
$\gamma$	45	50	55	60	65	70	75	80	85
C0	5870	5902	6300	7021	8148	9928	12967	19069	37600
C45	5870	5902	6300	7021	8148	9928	12967	19069	37600
C90	5870	5902	6300	7021	8148	9928	12967	19069	37600

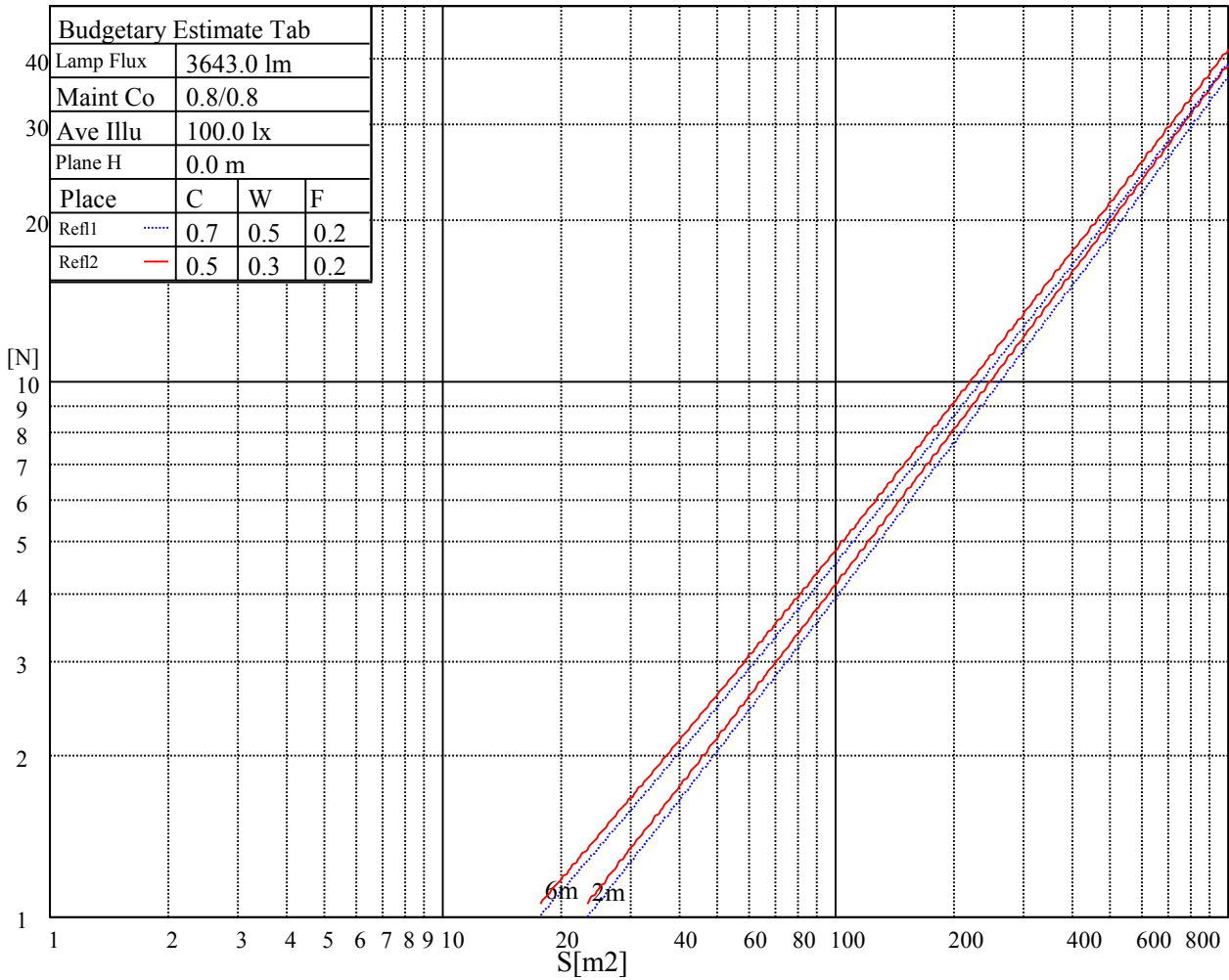
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8148	8148	8148	12967	12967	12967	37600	37600	37600

Glare Table

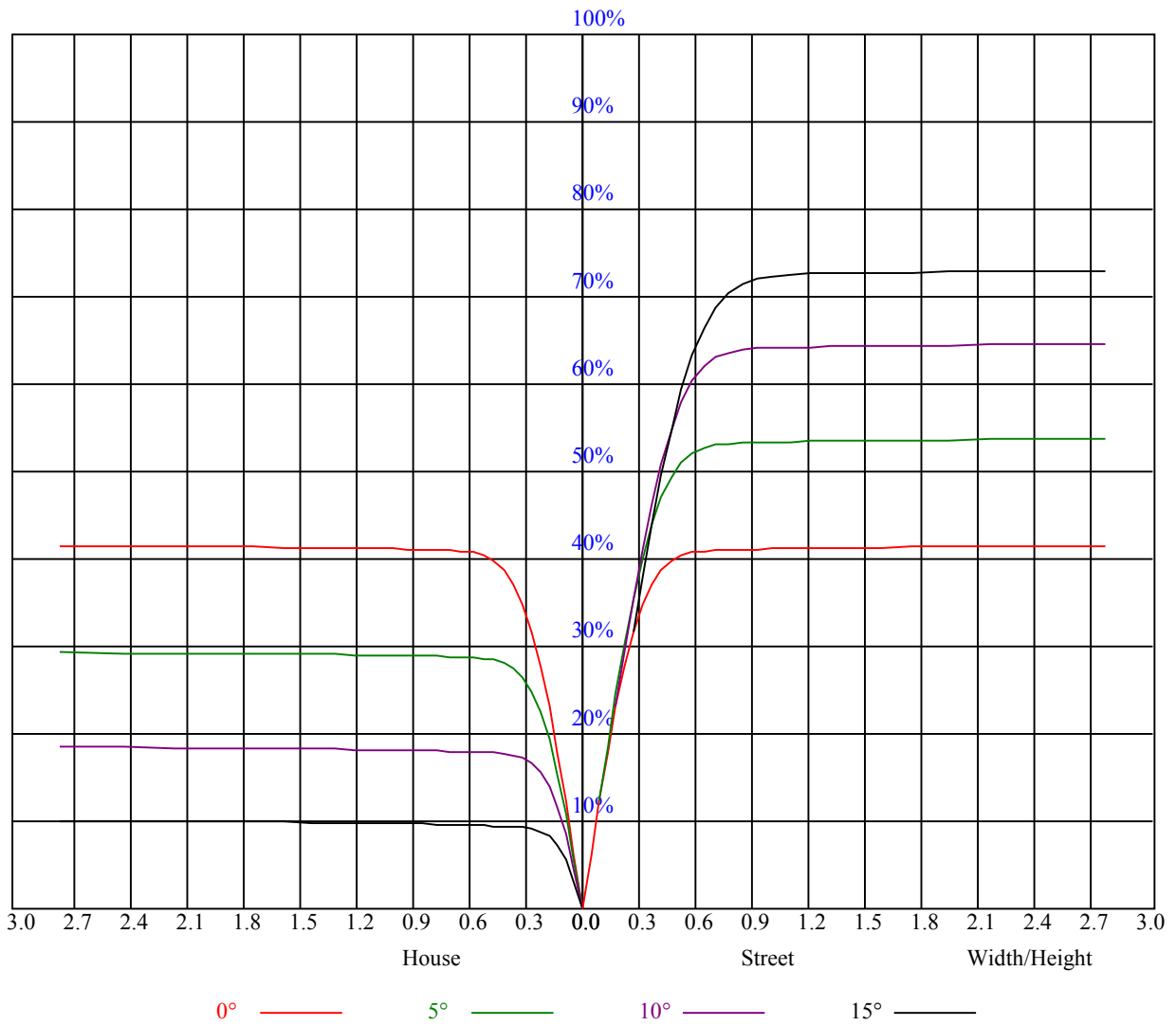
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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



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	9126.00	8583.19	7304.06	5660.44	3677.63	1642.50	316.13	64.18	29.42
45.0	9106.88	8736.19	7458.75	5800.50	3858.75	1726.31	340.31	61.26	28.86
90.0	9131.63	8655.75	7264.69	5335.88	3473.44	1088.72	229.84	50.68	25.09
135.0	9091.13	8853.19	7640.44	5913.56	3777.19	1580.63	320.06	54.00	26.21
180.0	9126.00	8456.06	7023.94	5243.06	3243.38	1121.46	182.08	42.47	22.61
225.0	9106.88	8253.56	6949.69	5043.38	3120.19	1043.66	177.53	42.24	21.60
270.0	9131.63	8370.00	7055.44	5286.94	3393.00	1338.19	298.13	55.52	25.09
315.0	9091.13	8074.69	6820.31	4897.13	3106.13	1070.89	213.02	48.43	24.53
360.0	9126.00	8583.19	7304.06	5660.44	3677.63	1642.50	316.13	64.18	29.42
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	17.38	15.53	14.74	14.23	13.89	13.73	13.56	13.39	13.22
45.0	17.27	15.58	14.85	14.40	14.12	13.89	13.73	13.61	13.39
90.0	17.04	15.92	15.30	14.85	14.51	14.29	14.01	13.73	13.33
135.0	17.21	15.53	14.68	14.29	14.01	13.84	13.67	13.44	13.28
180.0	16.93	15.58	14.79	14.34	14.12	13.89	13.78	13.61	13.73
225.0	16.54	15.30	14.68	14.34	14.12	13.95	13.84	13.73	13.84
270.0	17.10	15.69	14.91	14.51	14.23	14.01	13.84	13.61	13.44
315.0	16.54	15.19	14.46	14.06	13.84	13.67	13.56	13.39	13.16
360.0	17.38	15.53	14.74	14.23	13.89	13.73	13.56	13.39	13.22
C/γ(°)	90.0								
0.0	12.88								
45.0	12.99								
90.0	12.77								
135.0	12.66								
180.0	12.60								
225.0	12.88								
270.0	12.77								
315.0	12.71								
360.0	12.88								