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NATA

LumCAT: 3-2116-N
Luminaire: 92.70.135.00
Report No: NATA0100
Test No: GC2018101803
LampCAT: LUMILEDS LUXEON 1208
Lamp flux(lm): 3565.0
Number of Lamps: 1
Length(mm): 80
Phm Type: C

Voltage(V): 35.0000
Current(A): 0.7000
Power (W): 24.5000
PF: 0.0000
Ballast type: DC
Width(mm): 80
Height(mm): 0

Photometric Results

Lumens(lm): 3017.75
Efficiency(%): 84.65%
Lumens(lm)/Power(W): 123.17
Central intensity(cd): 10351.550
Maximum intensity(cd): 10351.550
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=27.1
 [C90/270]Total=27.1
Field angle(10%Imax): [C0/180]Total=55.8
 [C90/270]Total=55.8
Maximum s/h(1/2): C0_180=0.46 C90_270=0.46
Maximum s/h(1/4): C0_180=0.47 C90_270=0.47
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.31%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.368%

Equipment:
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

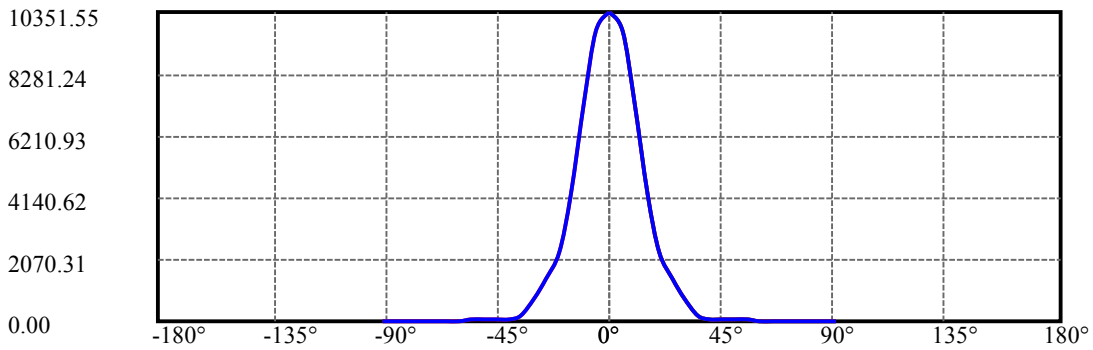
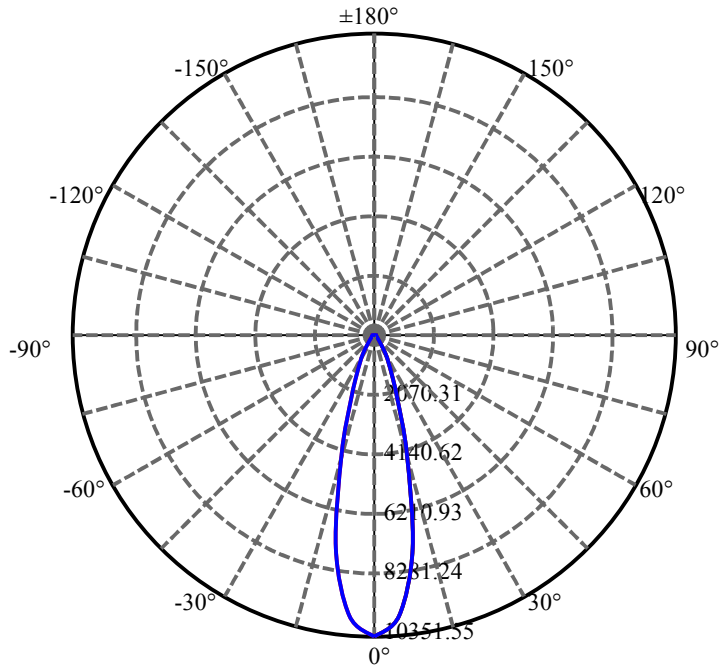
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10351.547	61.904	61.904	1.736%	2.051%
5.0	9692.156	463.026	524.931	12.988%	17.395%
10.0	7414.664	705.750	1230.681	19.797%	40.781%
15.0	4241.953	601.799	1832.48	16.881%	60.723%
20.0	2302.875	431.729	2264.21	12.110%	75.030%
25.0	1436.808	332.841	2597.05	9.336%	86.059%
30.0	742.521	203.502	2800.552	5.708%	92.803%
35.0	190.322	59.837	2860.389	1.678%	94.785%
40.0	78.841	27.779	2888.168	.779%	95.706%
45.0	62.578	24.255	2912.422	.680%	96.510%
50.0	49.598	20.826	2933.249	.584%	97.200%
55.0	38.004	17.064	2950.313	.479%	97.765%
60.0	31.036	14.733	2965.045	.413%	98.253%
65.0	25.952	12.893	2977.938	.362%	98.681%
70.0	19.252	9.916	2987.854	.278%	99.009%
75.0	17.719	9.381	2997.236	.263%	99.320%
80.0	16.502	8.908	3006.144	.250%	99.615%
85.0	14.913	8.143	3014.287	.228%	99.885%
90.0	12.649	3.467	3017.754	.097%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2800.55	78.56%	92.80%
0-40	2888.17	81.01%	95.71%
0-60	2965.05	83.17%	98.25%
0-90	3014.29	84.55%	99.89%
0-120	3014.29	84.55%	99.89%
0-180	3017.75	84.65%	100.00%
60-90	63.97	1.79%	2.12%
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%
0-22.25	2414.20	67.72%	80.00%

ZONAL LUMEN SUMMARY

0-10	1230.68
10-20	1033.53
20-30	536.34
30-40	87.62
40-50	45.08
50-60	31.80
60-70	22.81
70-80	18.29
80-90	8.14
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: —————

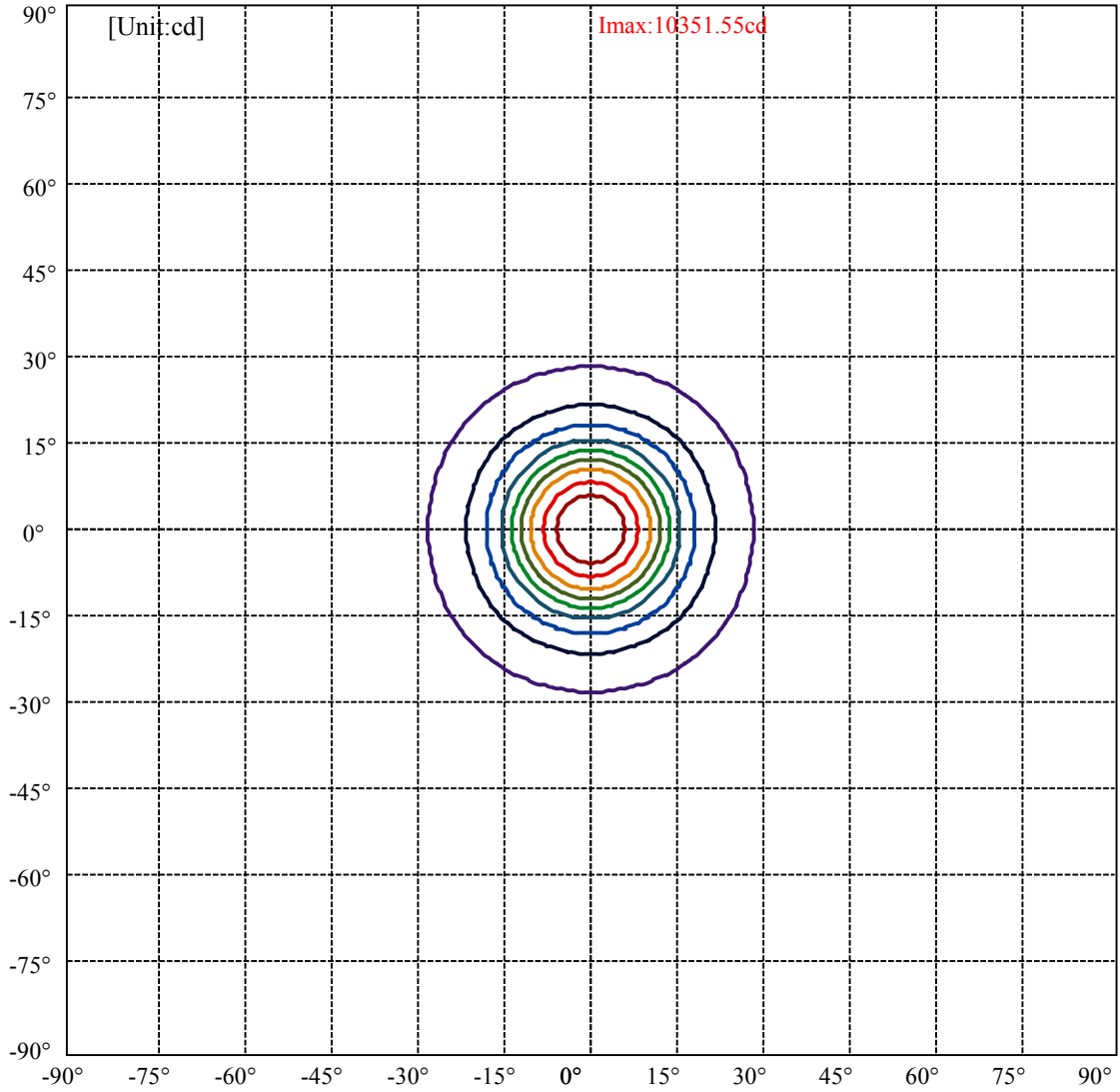
C90/C270: —————

Field angle(10%Imax):C0/180Left:27.9 Right:27.9

:C90/270Left:27.9 Right:27.9

Beam Angle(50%Imax):C0/180Left:13.5 Right:13.5

:C90/270Left:13.5 Right:13.5

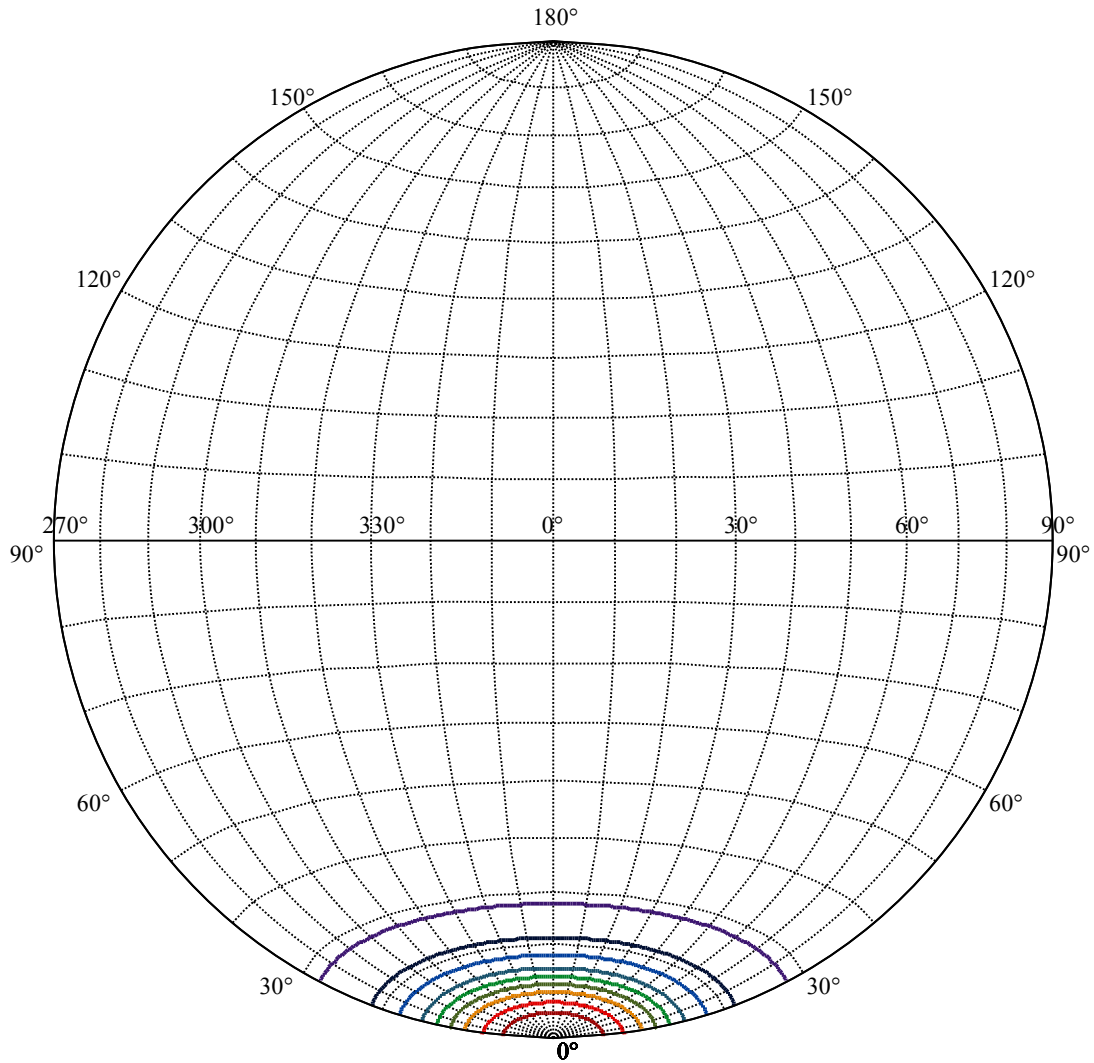


(10%Imax) 1035.15	—
(20%Imax) 2070.31	—
(30%Imax) 3105.46	—
(40%Imax) 4140.62	—
(50%Imax) 5175.77	—
(60%Imax) 6210.93	—
(70%Imax) 7246.08	—
(80%Imax) 8281.24	—
(90%Imax) 9316.39	—

Equipment:
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50



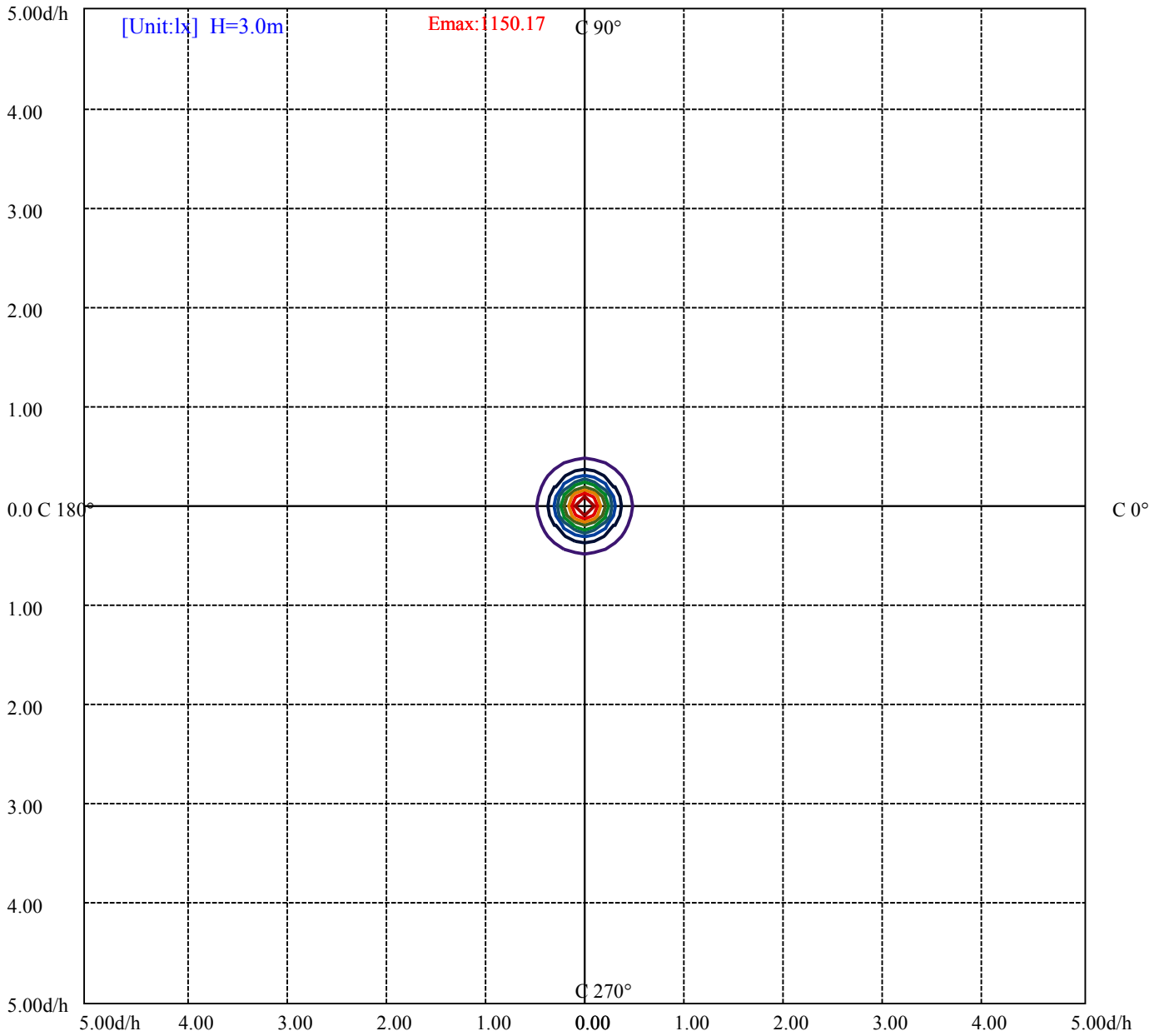
House

[Unit:cd]

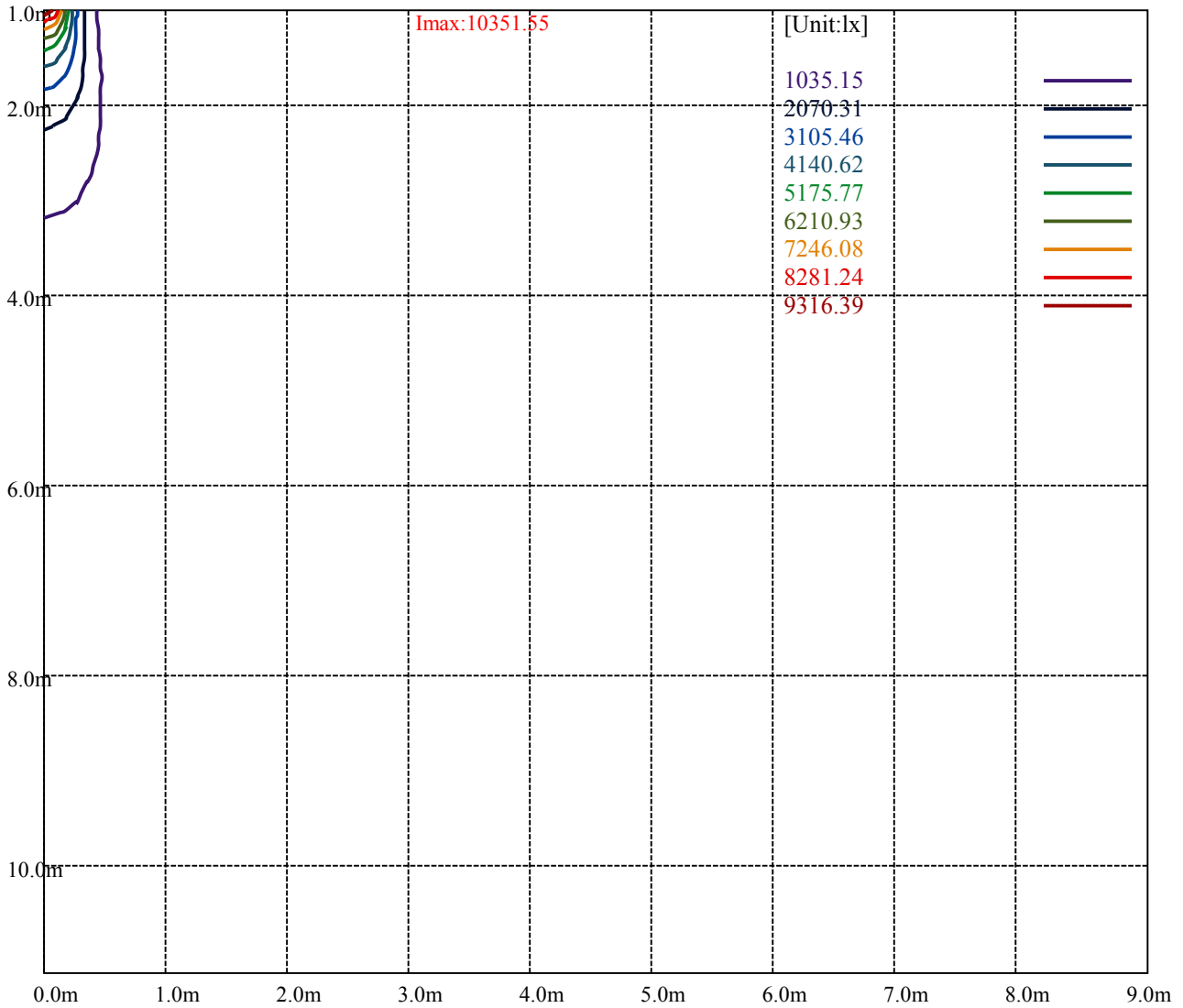
Road

I_{max}:10351.55

(10%I _{max}) 1035.15	—
(20%I _{max}) 2070.31	—
(30%I _{max}) 3105.46	—
(40%I _{max}) 4140.62	—
(50%I _{max}) 5175.77	—
(60%I _{max}) 6210.93	—
(70%I _{max}) 7246.08	—
(80%I _{max}) 8281.24	—
(90%I _{max}) 9316.39	—



(10%Emax) 115.0167	—
(20%Emax) 230.0345	—
(30%Emax) 345.0511	—
(40%Emax) 460.0677	—
(50%Emax) 575.0844	—
(60%Emax) 690.1022	—
(70%Emax) 805.1189	—
(80%Emax) 920.1355	—
(90%Emax) 1035.153	—



Luminance Table

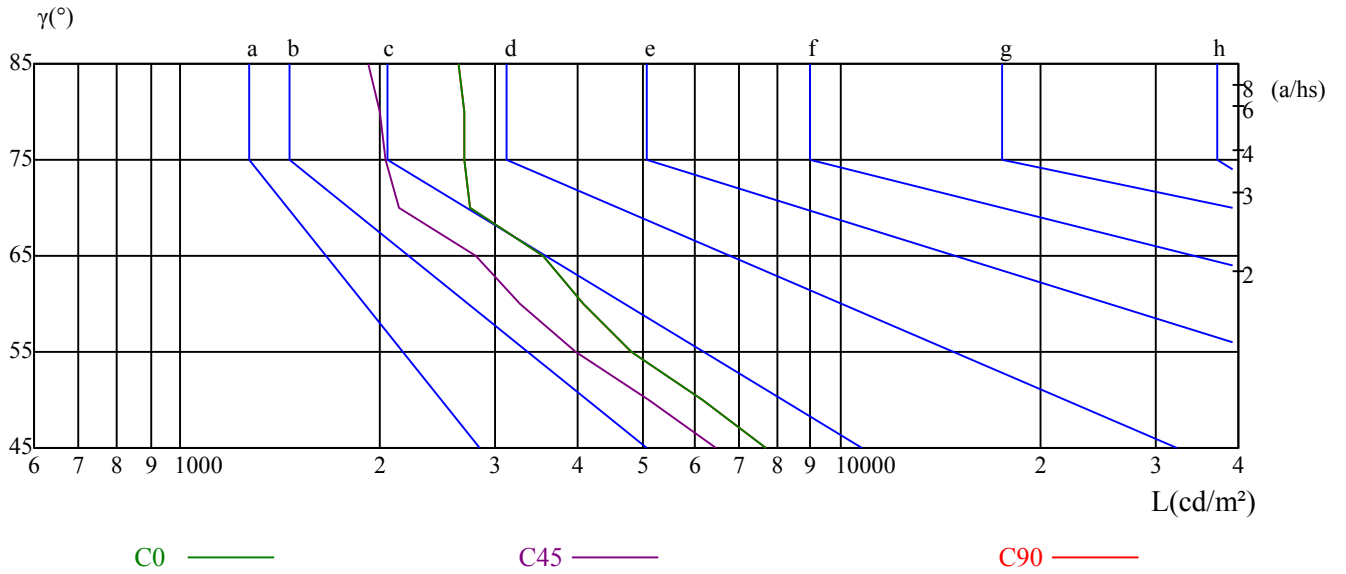
γ	45	50	55	60	65	70	75	80	85
C0	7682	6172	4832	4065	3533	2750	2684	2682	2636
C45	6488	5134	3958	3277	2800	2141	2048	2002	1919
C90	7682	6172	4832	4065	3533	2750	2684	2682	2636

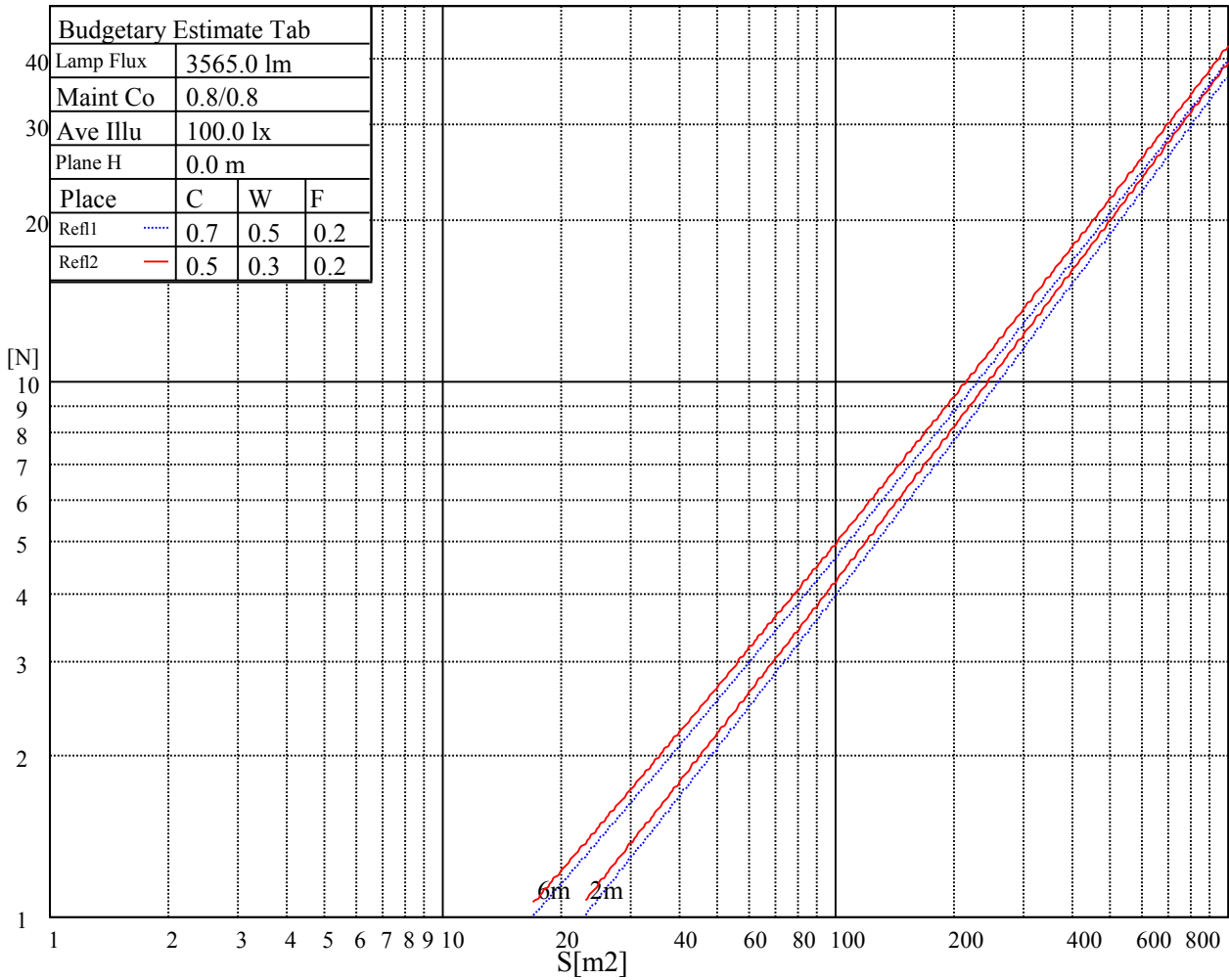
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9595	9595	9595	10697	10697	10697	26736	26736	26736

Glare Table

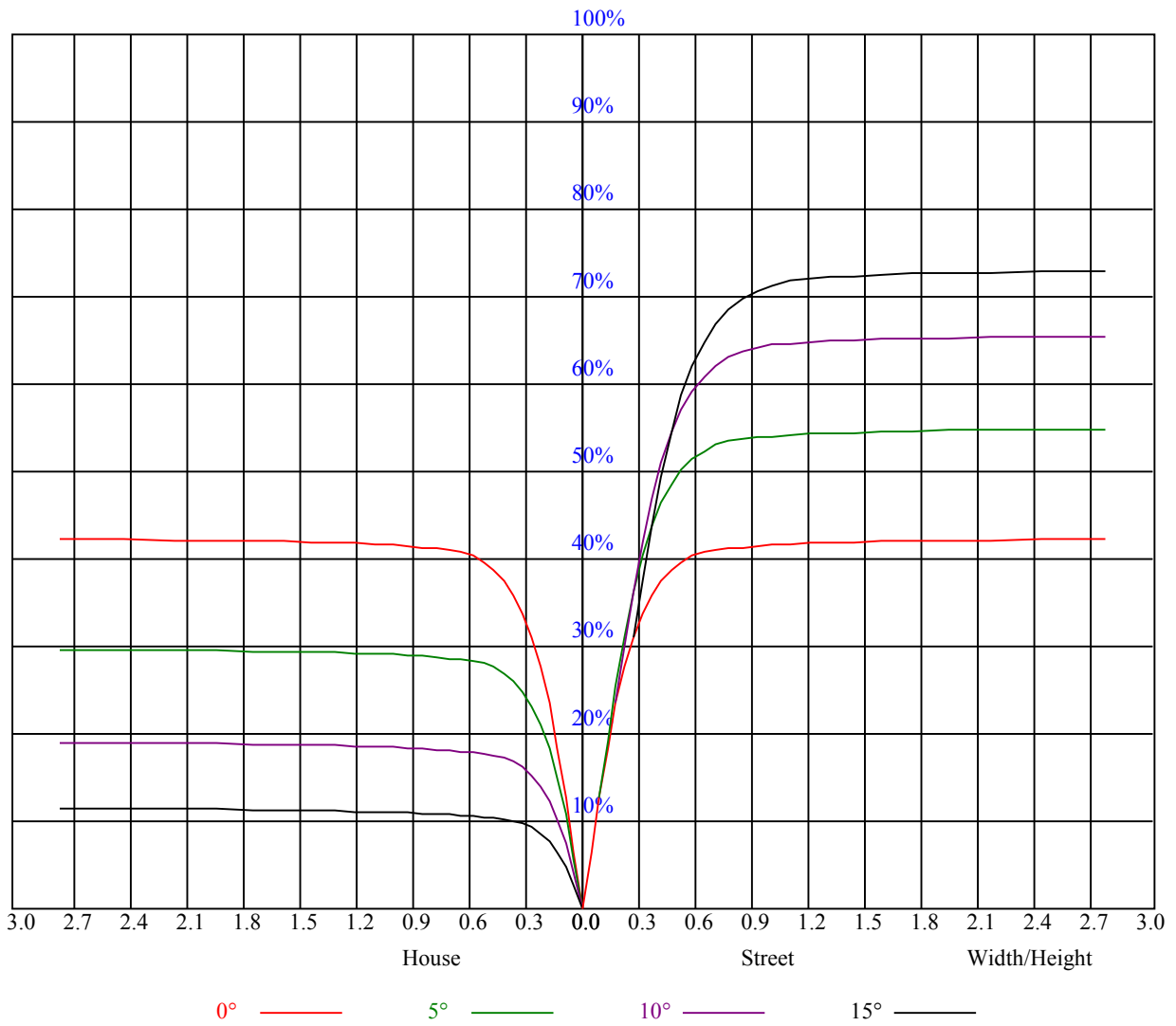
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.03	1.03	1.03	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.86
1	0.95	0.92	0.90	0.93	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.79
2	0.90	0.87	0.84	0.88	0.86	0.83	0.86	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.76
3	0.86	0.82	0.79	0.85	0.81	0.79	0.82	0.80	0.77	0.80	0.78	0.76	0.79	0.77	0.75	0.74
4	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
5	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.74	0.72	0.70	0.69
6	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.73	0.71	0.68	0.72	0.70	0.68	0.67
7	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.71	0.68	0.66	0.65
8	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
9	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.63	0.62
10	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60



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	10347.75	9762.19	7584.19	4480.88	2409.75	1497.38	784.13	284.06	79.99
45.0	10360.69	9715.50	7295.06	4294.69	2231.44	1413.56	730.13	169.76	77.91
90.0	10337.63	9318.38	6707.25	3600.00	1990.13	1111.84	528.92	109.69	76.33
135.0	10360.13	9871.88	7514.44	4255.88	2307.94	1486.69	750.38	287.44	81.79
180.0	10347.75	9576.56	7175.81	3991.50	2256.19	1449.00	686.03	118.41	77.91
225.0	10360.69	9716.06	7476.75	4239.56	2320.31	1497.94	763.09	123.02	77.29
270.0	10337.63	9945.00	8289.56	4894.31	2622.94	1597.50	942.75	303.19	81.45
315.0	10360.13	9631.69	7274.25	4178.81	2284.31	1440.56	754.76	127.01	78.08
360.0	10347.75	9762.19	7584.19	4480.88	2409.75	1497.38	784.13	284.06	79.99
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	63.17	50.18	39.15	31.39	26.72	19.29	17.83	16.76	15.02
45.0	62.72	48.99	37.91	31.05	26.33	18.79	17.27	16.26	14.68
90.0	59.85	47.03	36.06	30.54	22.78	19.29	17.78	16.71	14.51
135.0	63.73	51.02	38.81	31.67	26.83	19.35	17.78	16.31	14.57
180.0	62.04	50.29	36.96	30.54	24.75	19.07	17.44	16.20	14.68
225.0	61.71	48.71	37.69	30.49	26.44	18.90	17.38	16.09	15.02
270.0	64.86	51.58	39.54	31.78	27.62	20.08	18.56	16.99	15.75
315.0	62.55	48.99	37.91	30.83	26.16	19.24	17.72	16.71	15.08
360.0	63.17	50.18	39.15	31.39	26.72	19.29	17.83	16.76	15.02
C/γ(°)	90.0								
0.0	12.66								
45.0	12.60								
90.0	12.66								
135.0	12.71								
180.0	12.60								
225.0	12.54								
270.0	12.71								
315.0	12.71								
360.0	12.66								