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NATA

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LumCAT: 2-1793-N  
Luminaire: 92.70.129.00  
Report No: NT2018041016  
Test No: nata-0100  
LampCAT: CREE CXA1816  
Lamp flux(lm): 1313.0  
Number of Lamps: 1  
Length(mm): 70  
Phm Type: C

Voltage(V): 219.4000  
Current(A): 0.0700  
Power (W): 14.1000  
PF: 0.9220  
Ballast type: DC  
Width(mm): 70  
Height(mm): 0

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Photometric Results

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Lumens(lm): 1135.15  
Efficiency(%): 86.45%  
Lumens(lm)/Power(W): 80.51  
Central intensity(cd): 8519.151  
Maximum intensity(cd): 8519.151  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=16.2  
                                  [C90/270]Total=16.2  
Field angle(10%Imax): [C0/180]Total=36.0  
                                  [C90/270]Total=36.0  
Maximum s/h(1/2): C0\_180=0.28 C90\_270=0.28  
Maximum s/h(1/4): C0\_180=0.30 C90\_270=0.30  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 90.25%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 94.582%

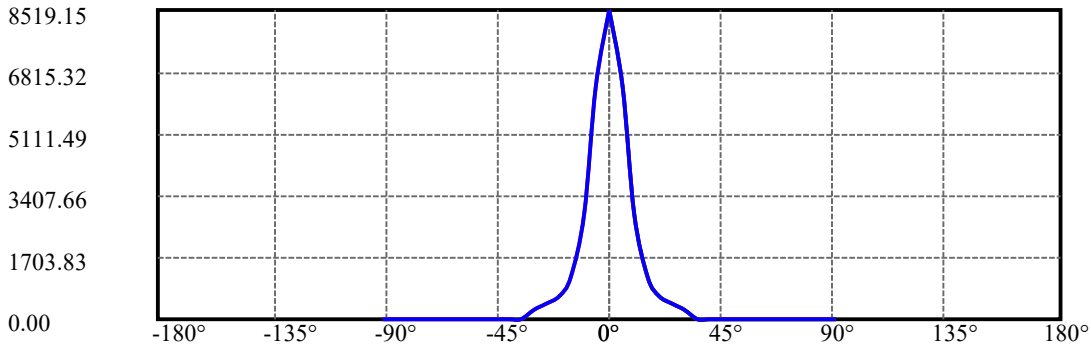
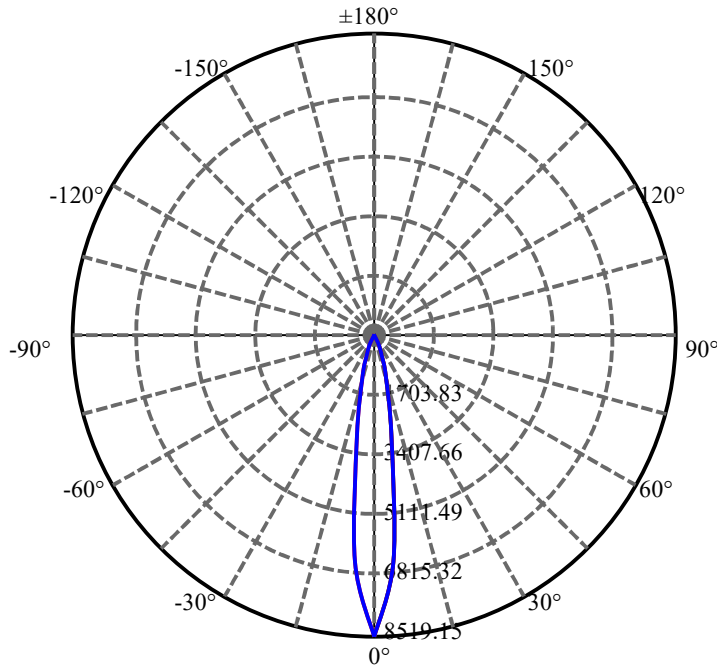
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8519.152	50.946	50.946	3.880%	4.488%
5.0	6402.646	305.876	356.822	23.296%	31.434%
10.0	2935.883	279.446	636.268	21.283%	56.051%
15.0	1174.621	166.642	802.91	12.692%	70.731%
20.0	640.733	120.121	923.031	9.149%	81.313%
25.0	447.547	103.675	1026.706	7.896%	90.446%
30.0	270.423	74.115	1100.821	5.645%	96.975%
35.0	25.395	7.984	1108.805	.608%	97.679%
40.0	7.481	2.636	1111.44	.201%	97.911%
45.0	5.925	2.297	1113.737	.175%	98.113%
50.0	5.409	2.271	1116.008	.173%	98.313%
55.0	5.223	2.345	1118.354	.179%	98.520%
60.0	5.196	2.467	1120.82	.188%	98.737%
65.0	5.162	2.564	1123.384	.195%	98.963%
70.0	5.065	2.609	1125.993	.199%	99.193%
75.0	5.003	2.649	1128.642	.202%	99.426%
80.0	4.893	2.641	1131.284	.201%	99.659%
85.0	4.817	2.631	1133.914	.200%	99.891%
90.0	4.522	1.239	1135.154	.094%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1100.82	83.84%	96.98%
0-40	1111.44	84.65%	97.91%
0-60	1120.82	85.36%	98.74%
0-90	1133.91	86.36%	99.89%
0-120	1133.91	86.36%	99.89%
0-180	1135.15	86.45%	100.00%
60-90	15.56	1.19%	1.37%
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%
0-19.38	908.12	69.16%	80.00%

ZONAL LUMEN SUMMARY

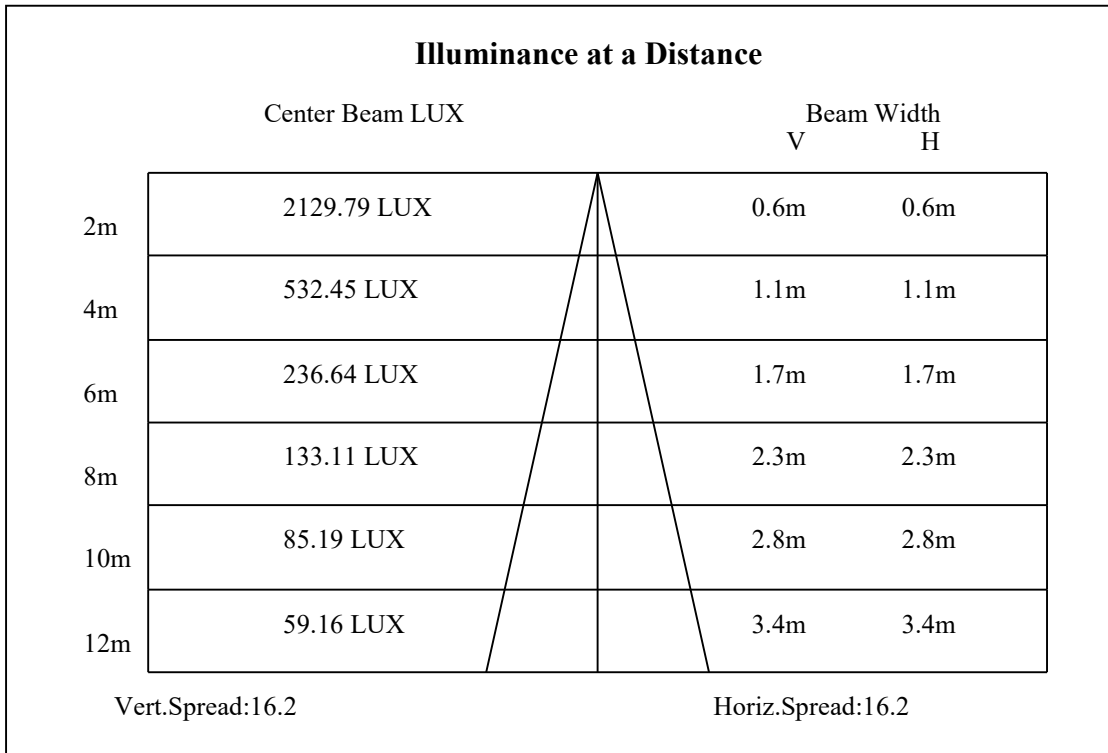
0-10	636.27
10-20	286.76
20-30	177.79
30-40	10.62
40-50	4.57
50-60	4.81
60-70	5.17
70-80	5.29
80-90	2.63
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

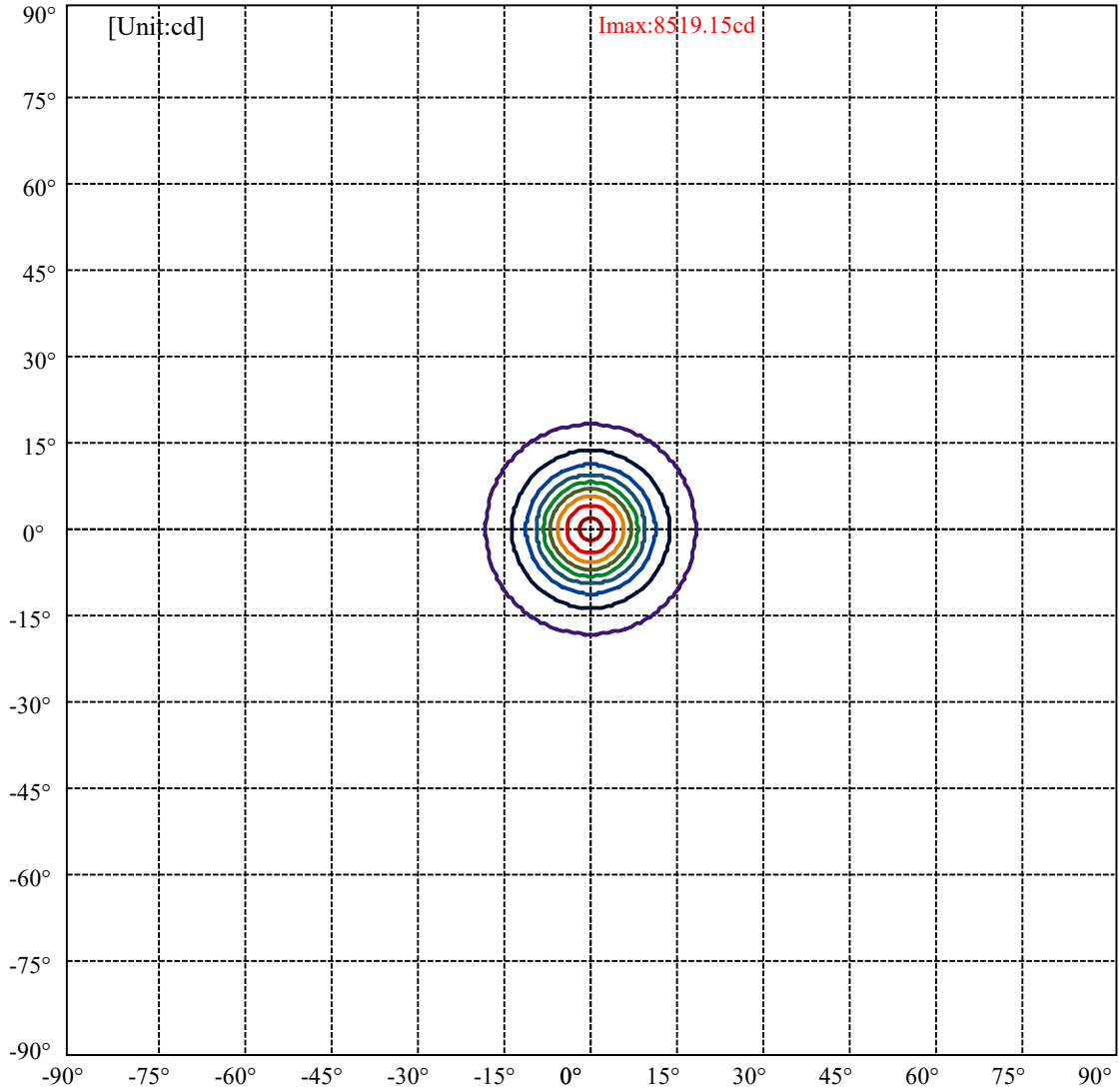


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

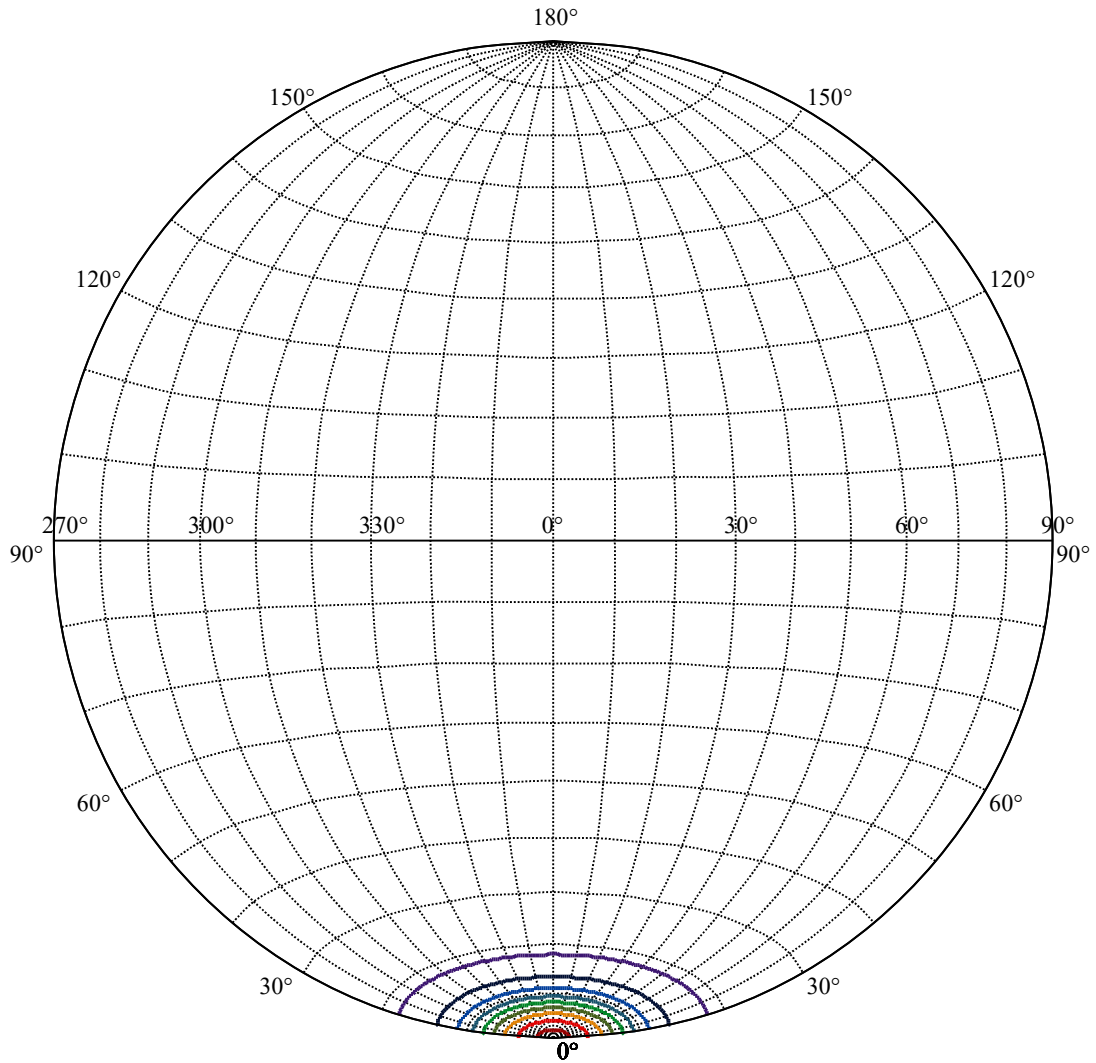
Field angle(10%Imax):C0/180Left:18.0 Right:18.0  
:C90/270Left:18.0 Right:18.0

Beam Angle(50%Imax):C0/180Left:8.1 Right:8.1  
:C90/270Left:8.1 Right:8.1





(10%I <sub>max</sub> ) 851.915	—
(20%I <sub>max</sub> ) 1703.83	—
(30%I <sub>max</sub> ) 2555.75	—
(40%I <sub>max</sub> ) 3407.66	—
(50%I <sub>max</sub> ) 4259.58	—
(60%I <sub>max</sub> ) 5111.49	—
(70%I <sub>max</sub> ) 5963.41	—
(80%I <sub>max</sub> ) 6815.32	—
(90%I <sub>max</sub> ) 7667.24	—



House

[Unit:cd]

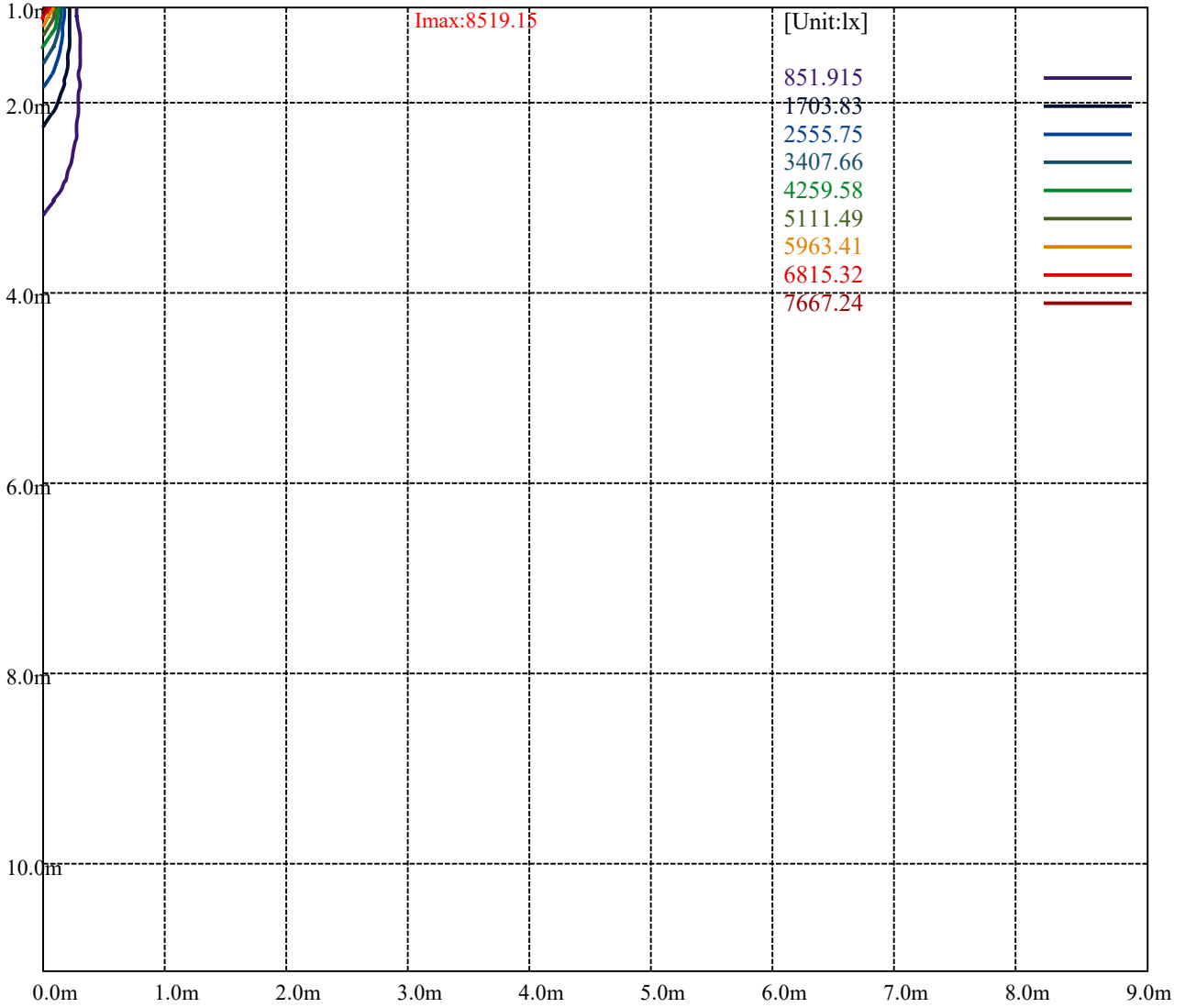
Road

**Imax:8519.15**

(10%Imax) 851.915	—
(20%Imax) 1703.83	—
(30%Imax) 2555.75	—
(40%Imax) 3407.66	—
(50%Imax) 4259.58	—
(60%Imax) 5111.49	—
(70%Imax) 5963.41	—
(80%Imax) 6815.32	—
(90%Imax) 7667.24	—







Luminance Table

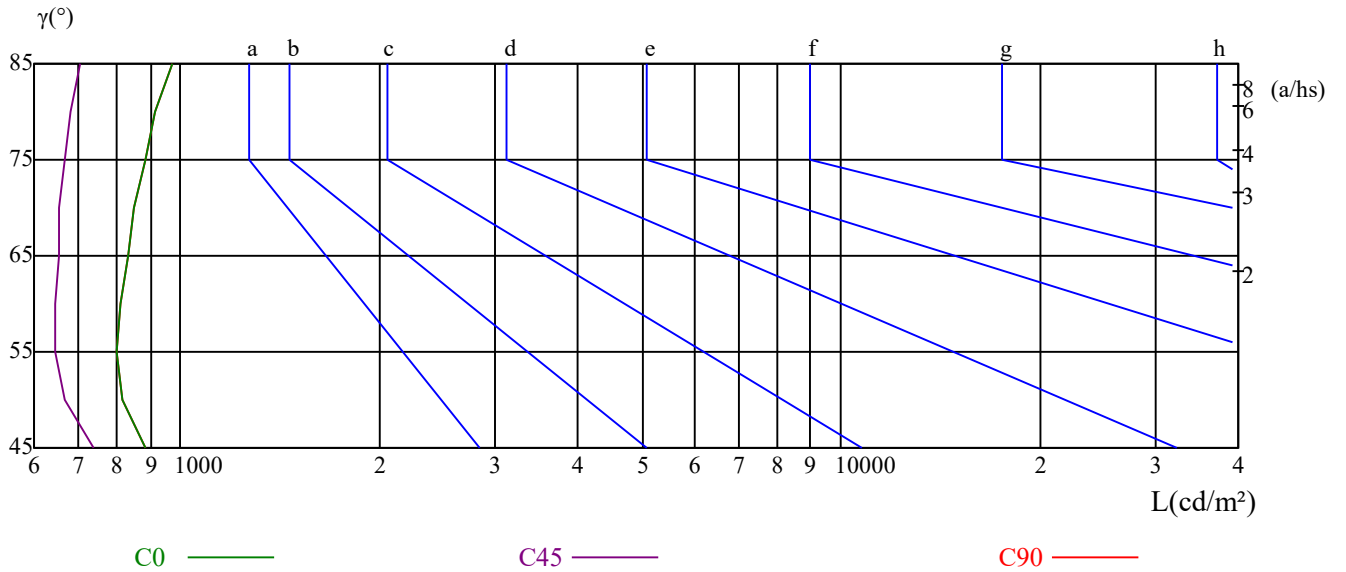
$\gamma$	45	50	55	60	65	70	75	80	85
C0	887	815	799	813	833	851	883	918	971
C45	739	670	646	648	653	656	669	681	705
C90	887	815	799	813	833	851	883	918	971

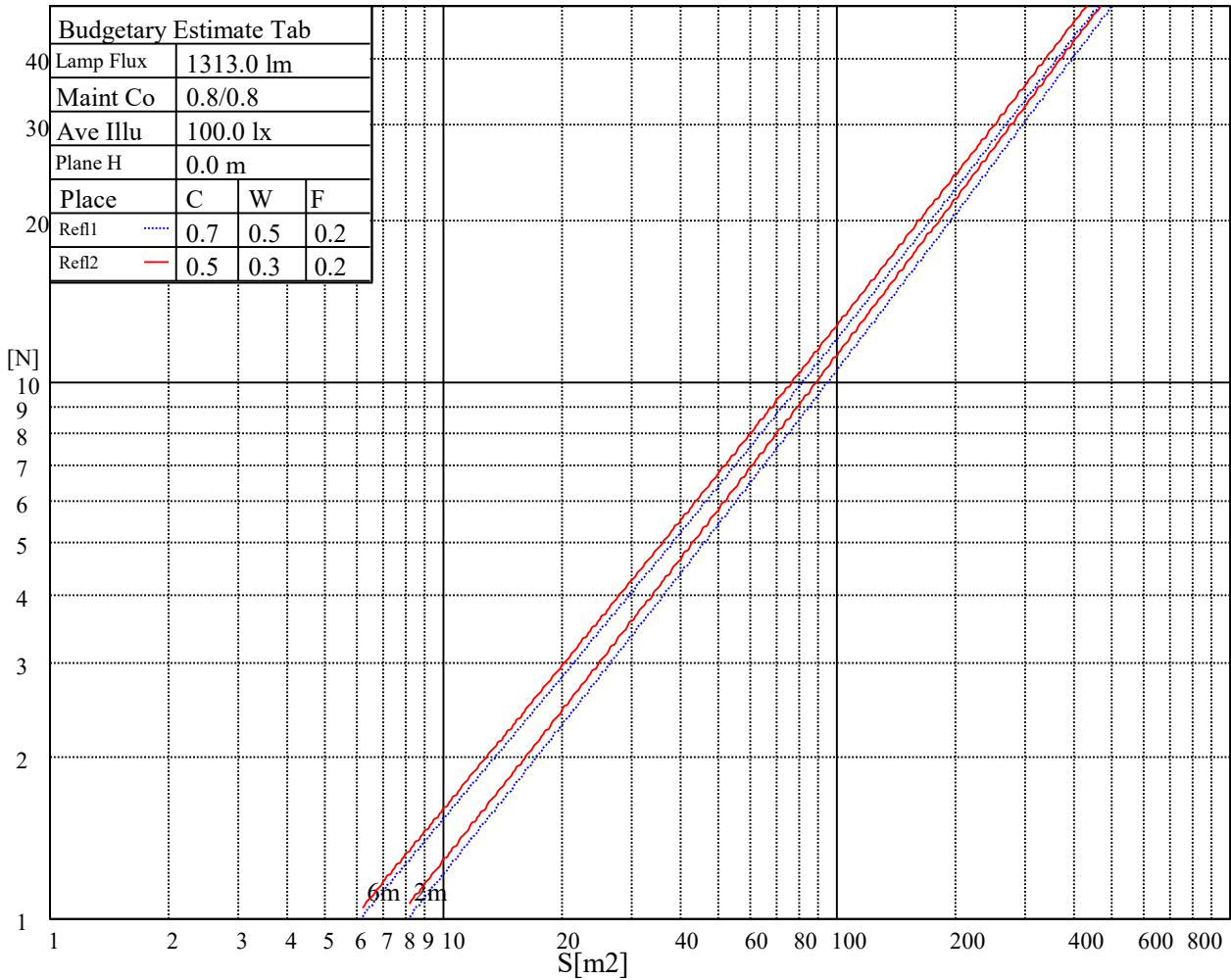
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2492	2492	2492	3945	3945	3945	11280	11280	11280

Glare Table

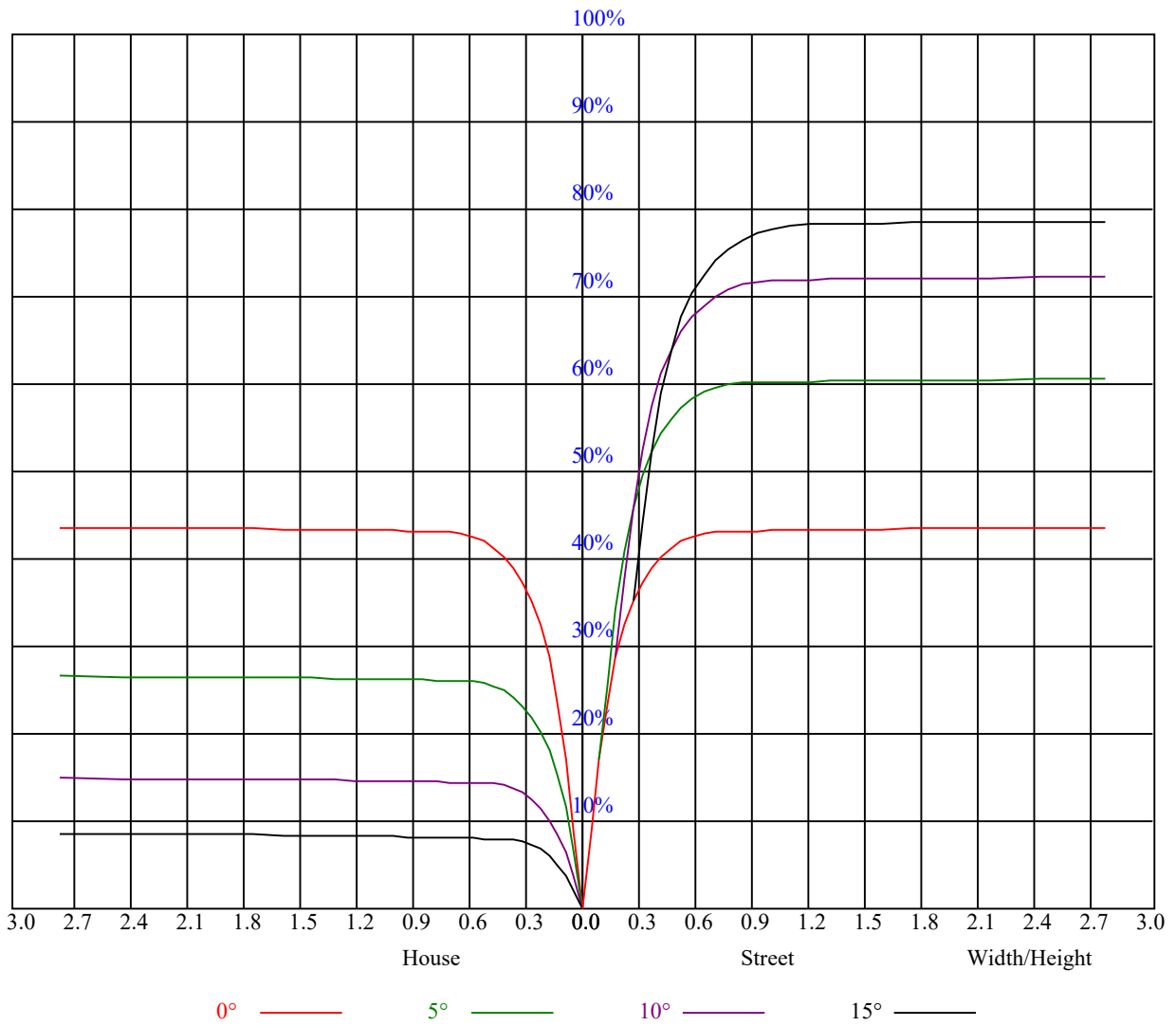
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.07	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	0.97	0.94	0.91	0.95	0.92	0.90	0.91	0.89	0.87	0.88	0.86	0.84	0.85	0.83	0.82	0.80
2	0.93	0.89	0.86	0.91	0.88	0.85	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.78
3	0.89	0.85	0.82	0.88	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.78	0.81	0.79	0.77	0.76
4	0.86	0.82	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.74
5	0.83	0.79	0.76	0.82	0.78	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.72
6	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
7	0.78	0.74	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.70
8	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.74	0.72	0.69	0.74	0.71	0.69	0.68
9	0.75	0.71	0.69	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67
10	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66



Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	8525.48	6928.85	3400.28	1323.56	706.37	472.38	308.87	49.06	7.21
45.0	8510.62	6604.57	3149.23	1242.07	672.24	460.82	282.99	21.47	6.11
90.0	8453.36	5620.71	2413.12	1034.51	564.99	433.29	204.92	9.30	5.89
135.0	8587.15	6137.69	2881.10	1150.68	617.18	445.41	280.79	15.25	8.31
180.0	8525.48	5917.46	2412.02	1046.73	588.33	438.69	218.96	12.83	7.98
225.0	8510.62	6304.51	2748.97	1062.09	638.27	443.86	255.13	16.63	6.83
270.0	8453.36	7096.77	3547.83	1440.83	737.76	477.89	345.75	53.29	7.98
315.0	8587.15	6610.62	2934.51	1096.50	600.72	408.02	265.98	25.33	9.52
360.0	8525.48	6928.85	3400.28	1323.56	706.37	472.38	308.87	49.06	7.21
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	5.78	5.34	5.18	5.23	5.18	5.12	5.07	5.01	4.96
45.0	5.51	5.23	5.12	5.07	5.12	5.07	5.01	5.07	5.01
90.0	5.40	5.12	5.07	5.12	5.18	5.07	5.07	4.84	4.90
135.0	6.22	5.67	5.45	5.51	5.51	5.29	5.23	5.01	4.79
180.0	6.11	5.67	5.40	5.29	5.18	5.07	4.90	4.79	4.73
225.0	5.67	5.23	5.07	5.01	5.01	4.90	4.84	4.73	4.62
270.0	6.00	5.29	5.07	5.07	4.96	4.96	4.84	4.73	4.62
315.0	6.72	5.73	5.45	5.29	5.18	5.07	5.07	4.96	4.90
360.0	5.78	5.34	5.18	5.23	5.18	5.12	5.07	5.01	4.96
C/ $\gamma$ (°)	90.0								
0.0	4.57								
45.0	4.46								
90.0	4.51								
135.0	4.57								
180.0	4.57								
225.0	4.46								
270.0	4.51								
315.0	4.51								
360.0	4.57								