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NATA

LumCAT: 2-1299-N	
Luminaire: 92.70.065.00+92.70.059.00	
Report No: NATA0100	Voltage(V): 36.2000
Test No: GC2018111316	Current(A): 0.5500
LampCAT: OSRAM SOLERIQ S15	Power (W): 19.9100
Lamp flux(lm): 2619.0	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): 2017.05
Efficiency(%): 77.02%
Lumens(lm)/Power(W): 103.85
Central intensity(cd): 8792.156
Maximum intensity(cd): 8792.156
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=21.9
 [C90/270]Total=21.9
Field angle(10%Imax): [C0/180]Total=45.3
 [C90/270]Total=45.3
Maximum s/h(1/2): C0_180=0.37 C90_270=0.37
Maximum s/h(1/4): C0_180=0.38 C90_270=0.38
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.95%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.519%

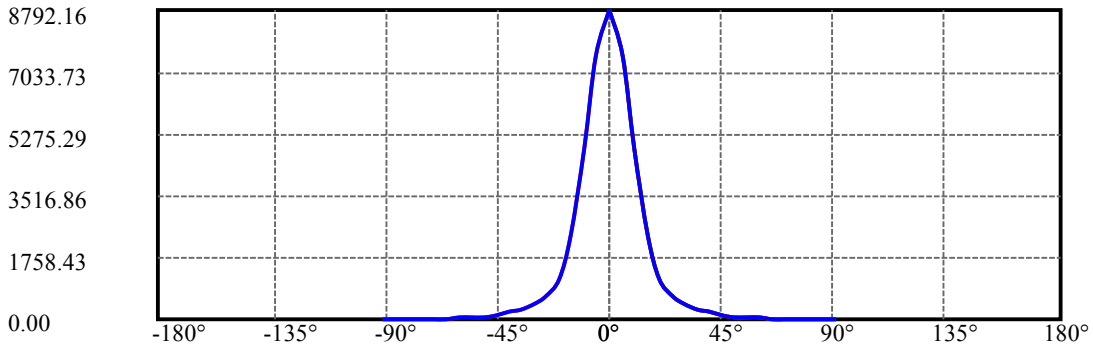
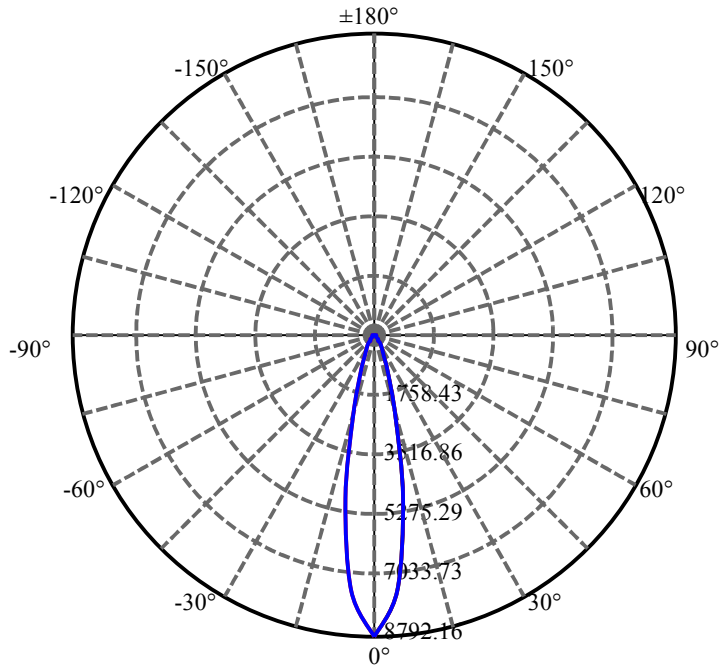
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8792.156	52.579	52.579	2.008%	2.607%
5.0	7487.016	357.680	410.258	13.657%	20.340%
10.0	4857.750	462.376	872.634	17.655%	43.263%
15.0	2420.297	343.364	1215.998	13.110%	60.286%
20.0	1129.310	211.716	1427.714	8.084%	70.782%
25.0	660.839	153.085	1580.799	5.845%	78.372%
30.0	439.376	120.419	1701.218	4.598%	84.342%
35.0	289.048	90.876	1792.095	3.470%	88.848%
40.0	191.869	67.602	1859.697	2.581%	92.199%
45.0	120.424	46.675	1906.372	1.782%	94.513%
50.0	77.379	32.491	1938.863	1.241%	96.124%
55.0	48.080	21.588	1960.452	.824%	97.194%
60.0	30.762	14.603	1975.054	.558%	97.918%
65.0	21.185	10.524	1985.579	.402%	98.440%
70.0	17.831	9.185	1994.763	.351%	98.895%
75.0	15.117	8.004	2002.767	.306%	99.292%
80.0	12.516	6.756	2009.523	.258%	99.627%
85.0	9.738	5.318	2014.841	.203%	99.891%
90.0	8.044	2.205	2017.045	.084%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1701.22	64.96%	84.34%
0-40	1859.70	71.01%	92.20%
0-60	1975.05	75.41%	97.92%
0-90	2014.84	76.93%	99.89%
0-120	2014.84	76.93%	99.89%
0-180	2017.05	77.02%	100.00%
60-90	54.39	2.08%	2.70%
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%
0-26.36	1613.64	61.61%	80.00%

ZONAL LUMEN SUMMARY

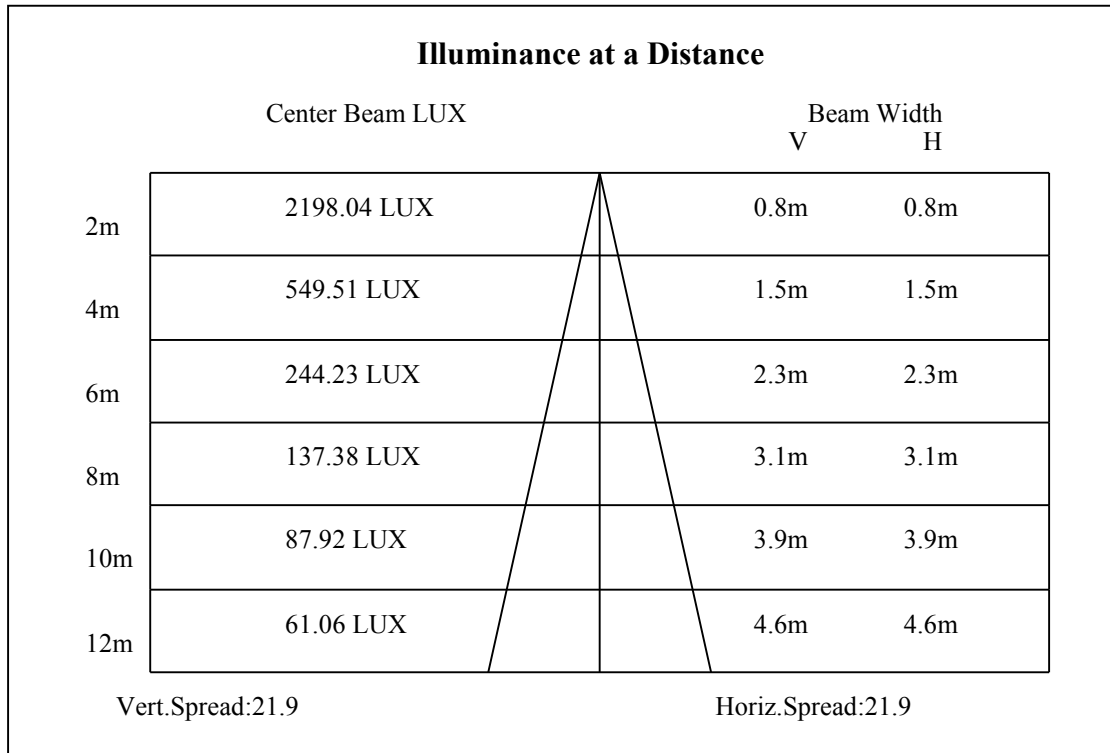
0-10	872.63
10-20	555.08
20-30	273.50
30-40	158.48
40-50	79.17
50-60	36.19
60-70	19.71
70-80	14.76
80-90	5.32
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

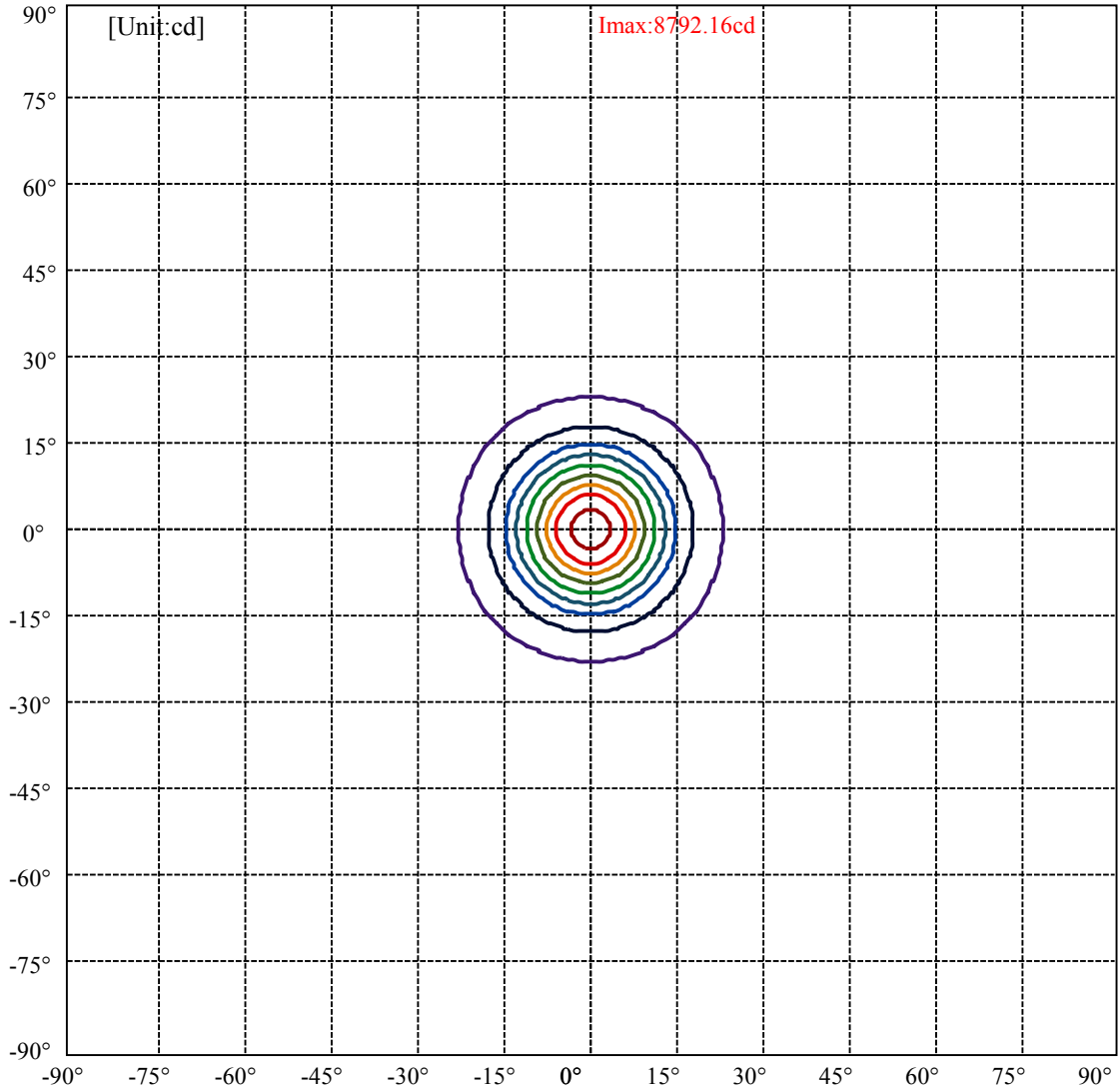


C0(Max): —————
C0/C180: —————
C90/C270: —————

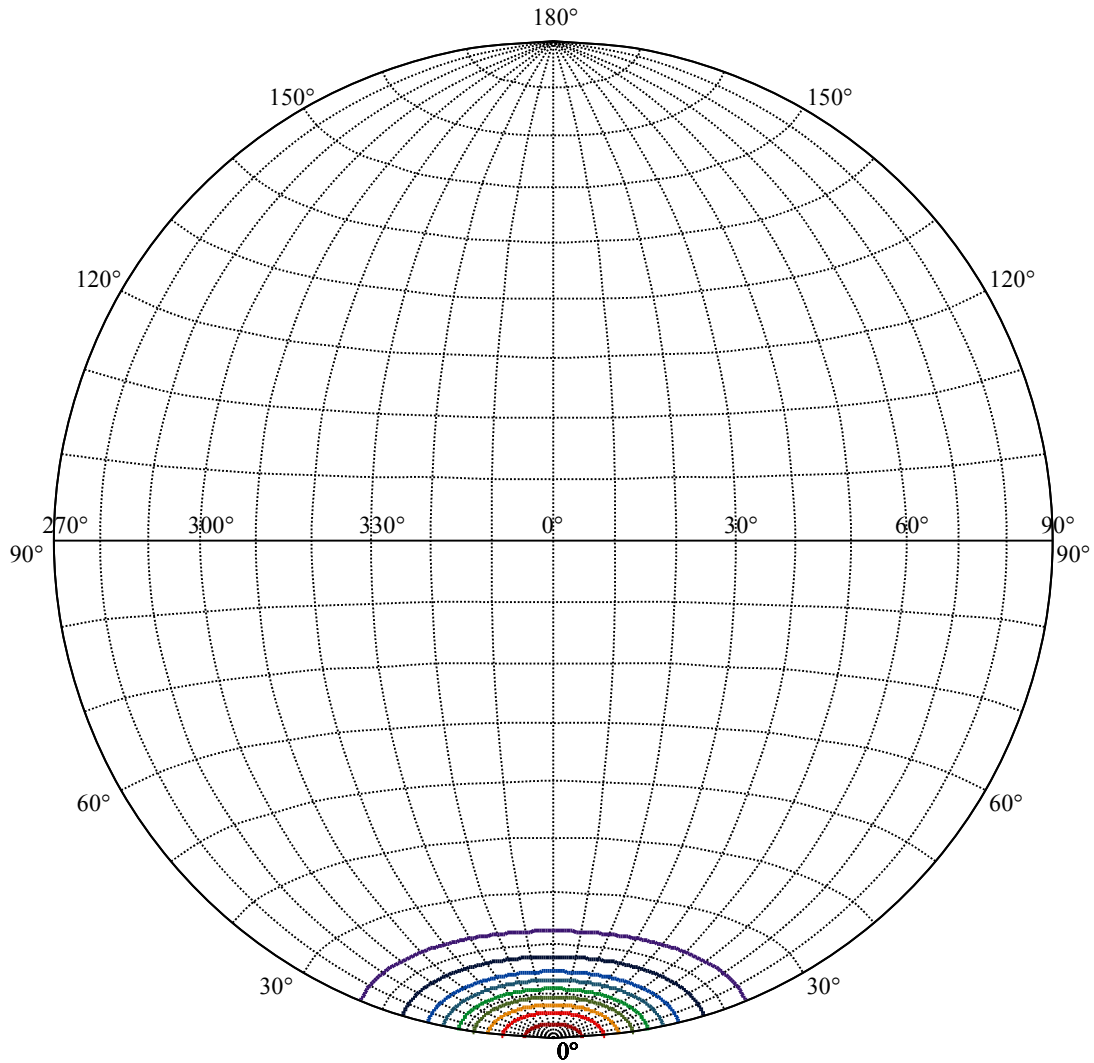
Field angle(10%Imax):C0/180Left:22.7 Right:22.7
:C90/270Left:22.7 Right:22.7

Beam Angle(50%Imax):C0/180Left:10.9 Right:10.9
:C90/270Left:10.9 Right:10.9





(10%Imax) 879.216	—
(20%Imax) 1758.43	—
(30%Imax) 2637.65	—
(40%Imax) 3516.86	—
(50%Imax) 4396.08	—
(60%Imax) 5275.29	—
(70%Imax) 6154.51	—
(80%Imax) 7033.73	—
(90%Imax) 7912.94	—



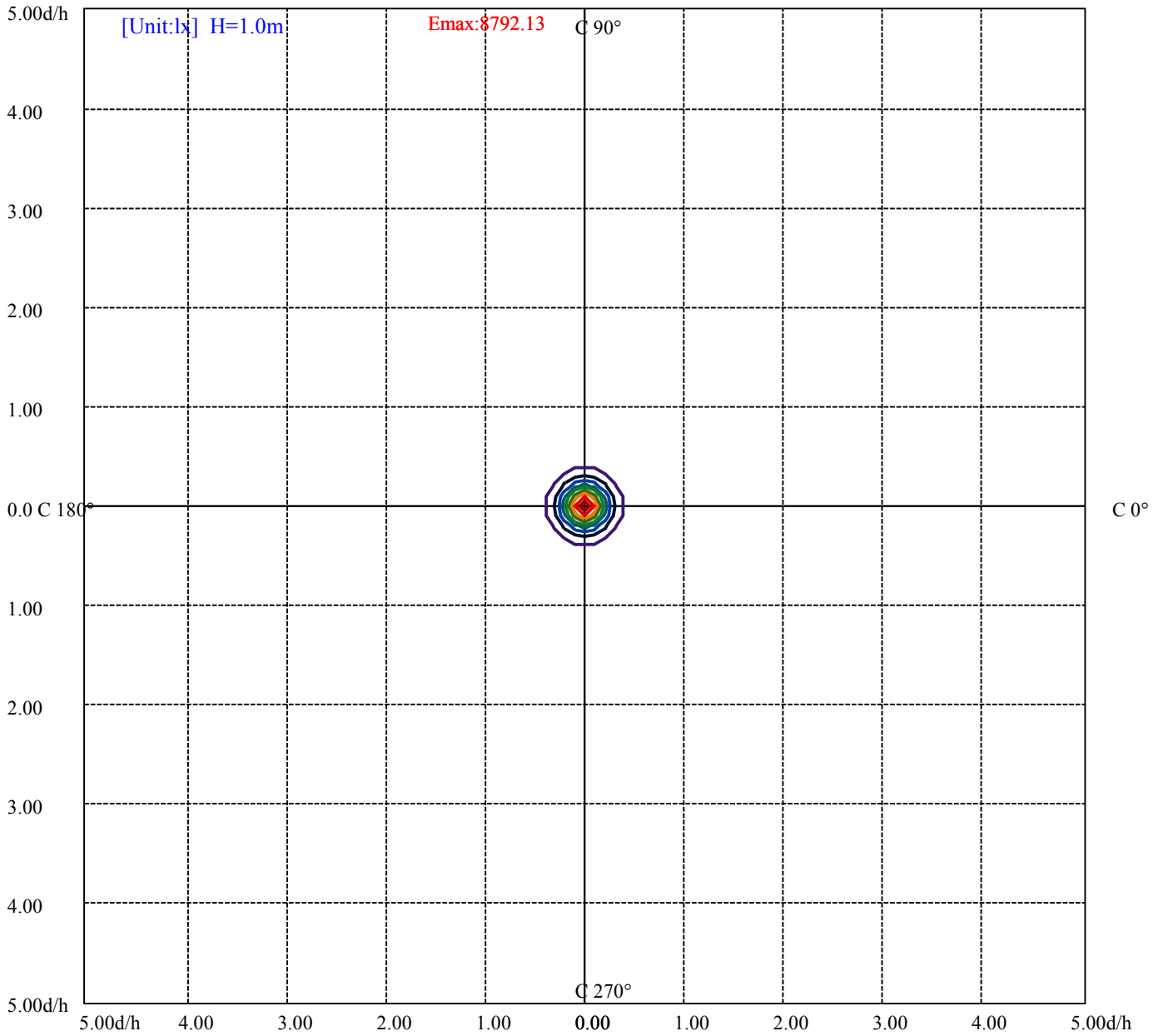
House

[Unit:cd]

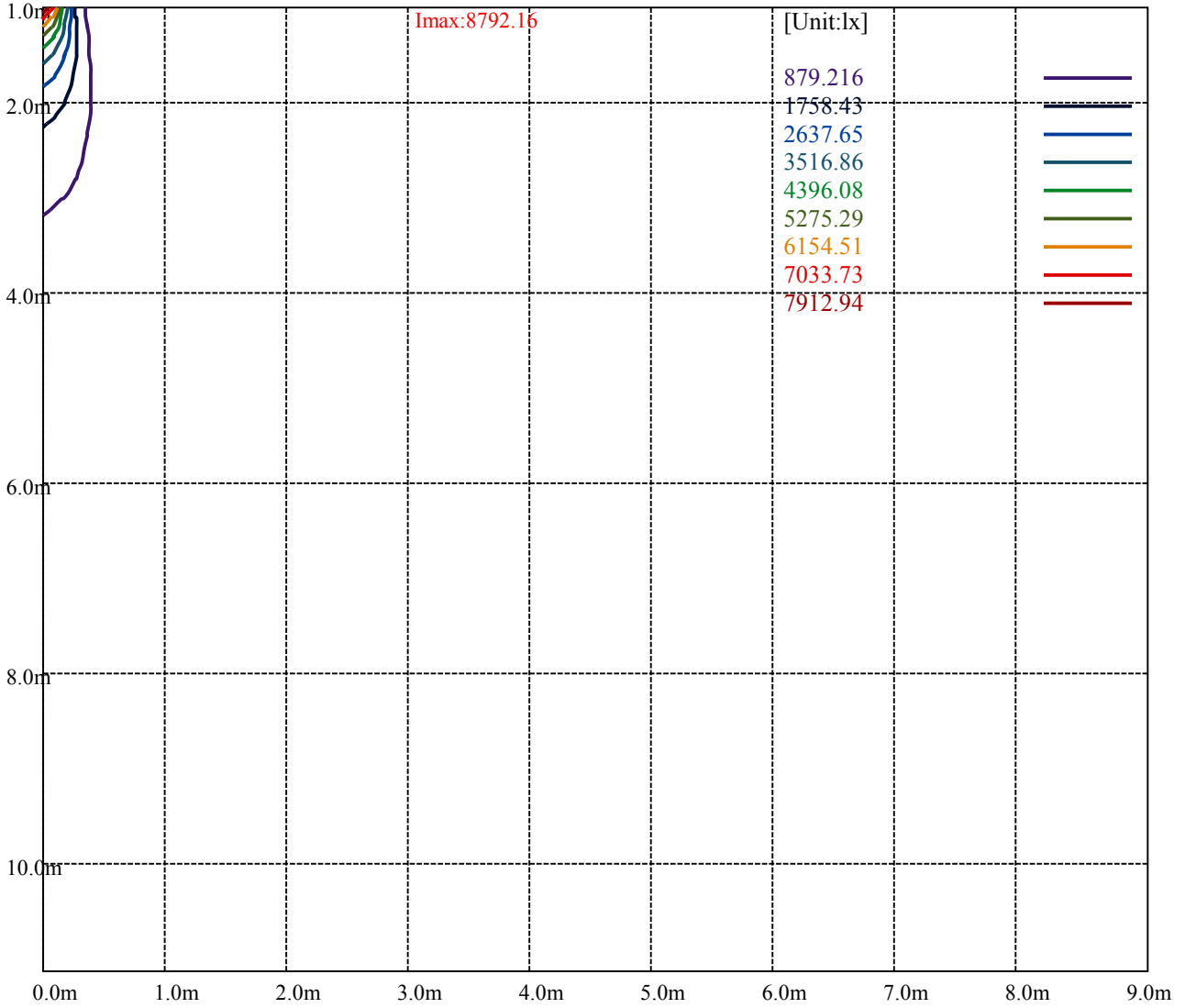
Road

Imax:8792.16

(10%Imax) 879.216	—
(20%Imax) 1758.43	—
(30%Imax) 2637.65	—
(40%Imax) 3516.86	—
(50%Imax) 4396.08	—
(60%Imax) 5275.29	—
(70%Imax) 6154.51	—
(80%Imax) 7033.73	—
(90%Imax) 7912.94	—



(10%E _{max}) 879.212	—
(20%E _{max}) 1758.42	—
(30%E _{max}) 2637.64	—
(40%E _{max}) 3516.85	—
(50%E _{max}) 4396.06	—
(60%E _{max}) 5275.27	—
(70%E _{max}) 6154.48	—
(80%E _{max}) 7033.69	—
(90%E _{max}) 7912.91	—



Luminance Table

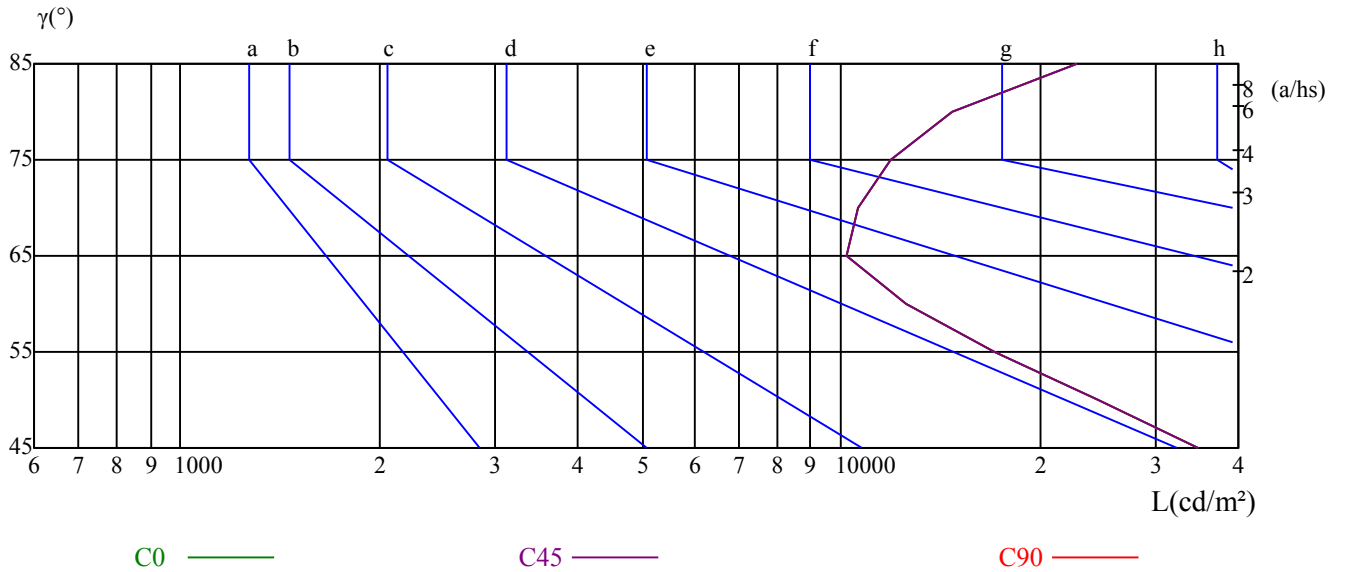
γ	45	50	55	60	65	70	75	80	85
C0	34756	24567	17107	12556	10230	10640	11920	14709	22803
C45	34756	24567	17107	12556	10230	10640	11920	14709	22803
C90	34756	24567	17107	12556	10230	10640	11920	14709	22803

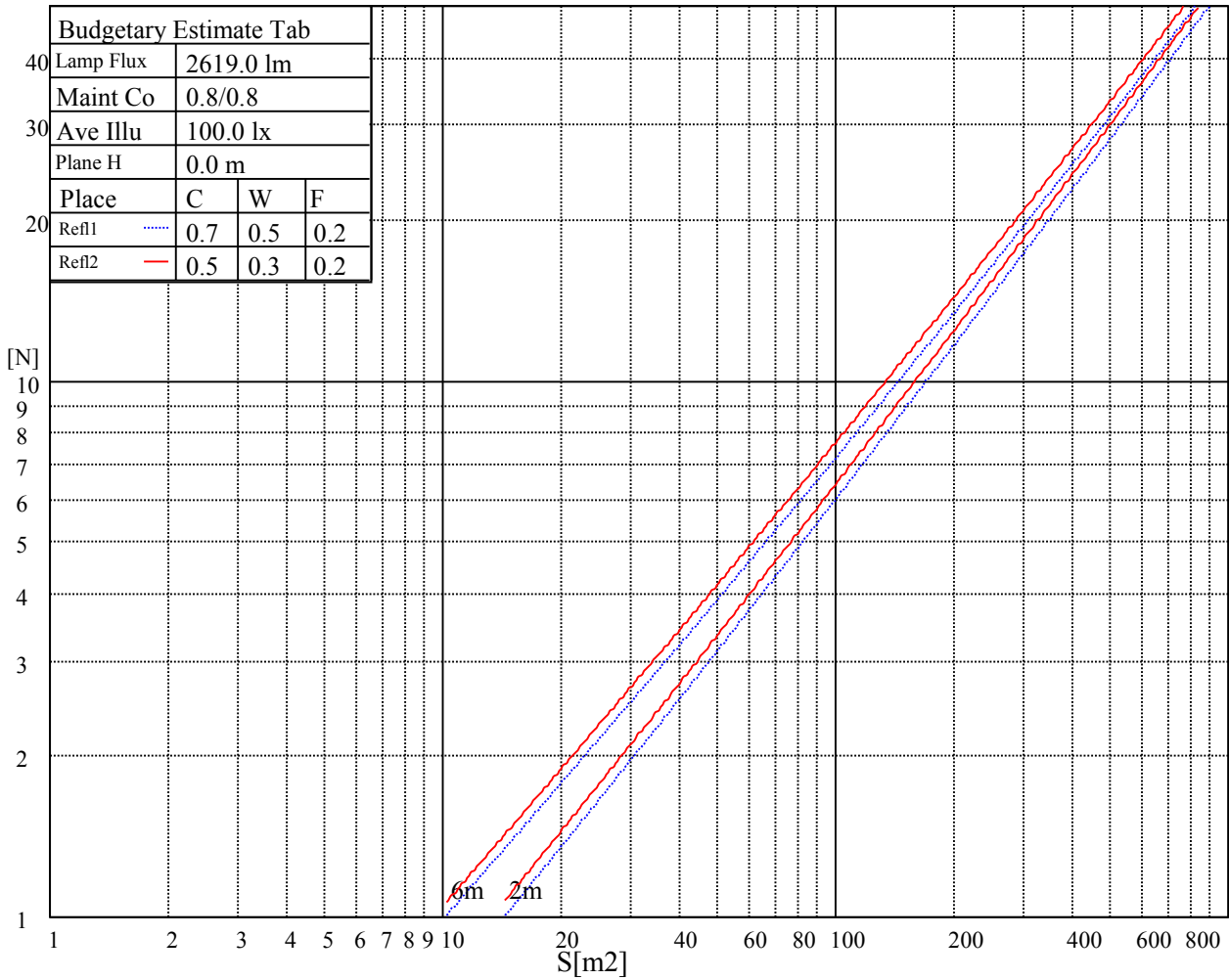
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10230	10230	10230	11920	11920	11920	22803	22803	22803

Glare Table

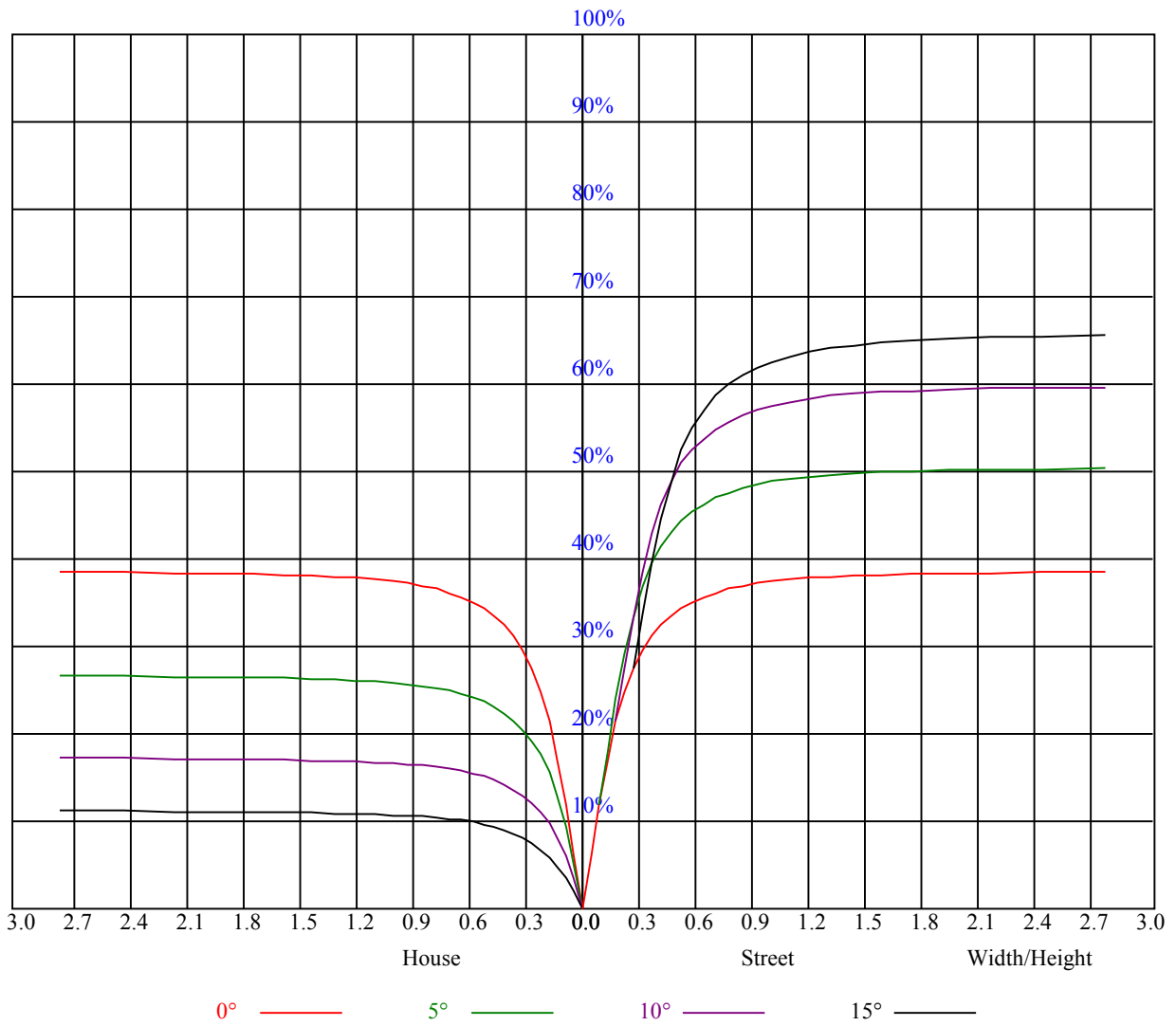
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.79
1	0.86	0.83	0.81	0.84	0.82	0.80	0.81	0.79	0.78	0.78	0.76	0.75	0.75	0.74	0.73	0.72
2	0.81	0.78	0.75	0.80	0.77	0.74	0.77	0.75	0.73	0.75	0.73	0.71	0.73	0.71	0.70	0.68
3	0.77	0.73	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.70	0.68	0.67	0.66
4	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.68	0.66	0.64	0.63
5	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.65	0.63	0.67	0.65	0.62	0.66	0.64	0.62	0.61
6	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.59
7	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.57
8	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.56	0.61	0.58	0.56	0.55
9	0.61	0.58	0.55	0.61	0.58	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.59	0.57	0.55	0.54
10	0.60	0.56	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.58	0.55	0.53	0.58	0.55	0.53	0.52



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	8696.25	8143.31	5866.88	3123.00	1414.69	763.88	497.81	325.13	220.33
45.0	8865.56	7520.63	4894.31	2355.19	1156.50	648.00	426.38	285.19	188.16
90.0	8756.44	7053.75	4204.69	1928.81	963.23	599.46	400.28	264.60	174.94
135.0	8850.38	7359.75	4709.25	2224.13	1037.81	629.44	430.88	289.13	181.41
180.0	8696.25	6729.75	3759.75	1856.25	920.42	577.69	386.49	249.47	163.13
225.0	8865.56	7565.63	4843.69	2440.69	1100.42	663.64	441.79	284.18	188.55
270.0	8756.44	7941.94	5443.88	2911.50	1332.00	734.06	482.63	321.75	214.43
315.0	8850.38	7581.38	5139.56	2522.81	1109.42	670.56	448.76	292.95	204.02
360.0	8696.25	8143.31	5866.88	3123.00	1414.69	763.88	497.81	325.13	220.33
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	137.93	88.65	57.15	35.44	22.89	18.84	15.98	13.39	10.41
45.0	117.06	75.04	47.03	30.26	20.87	17.72	15.02	12.32	9.45
90.0	109.58	68.91	42.86	27.73	19.97	17.10	14.46	11.76	9.17
135.0	116.66	73.86	45.34	29.48	20.48	17.38	14.79	12.15	9.34
180.0	106.26	67.39	41.46	26.55	19.91	17.04	14.23	11.70	8.94
225.0	116.61	78.41	48.32	30.71	21.32	17.94	15.24	12.77	10.07
270.0	134.10	87.47	53.55	34.09	22.56	18.68	15.86	13.44	10.41
315.0	125.21	79.31	48.94	31.84	21.49	17.94	15.36	12.60	10.13
360.0	137.93	88.65	57.15	35.44	22.89	18.84	15.98	13.39	10.41
C/ γ (°)	90.0								
0.0	8.16								
45.0	8.04								
90.0	7.99								
135.0	7.99								
180.0	7.99								
225.0	8.04								
270.0	8.10								
315.0	8.04								
360.0	8.16								