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Nata

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LumCAT: 3-1545-A3  
Luminaire: TE 2213407-1+92.76.365.00  
Report No: GC2015050807  
Test No: NT-0010  
LampCAT: OSRAM OPTO SOLERIQ S19  
Lamp flux(lm): 3679.0  
Number of Lamps: 1  
Length(mm): 84  
Phm Type: C

Voltage(V): 48.2000  
Current(A): 0.7100  
Power (W): 34.2200  
PF: 0.0000  
Ballast type: DC  
Width(mm): 84  
Height(mm): 0

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Photometric Results

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Lumens(lm): 3522.33  
Efficiency(%): 95.74%  
Lumens(lm)/Power(W): 102.93  
Central intensity(cd): 24372.000  
Maximum intensity(cd): 24372.000  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=15.6  
                                  [C90/270]Total=15.6  
Field angle(10%Imax): [C0/180]Total=31.6  
                                  [C90/270]Total=31.6  
Maximum s/h(1/2): C0\_180=0.27 C90\_270=0.27  
Maximum s/h(1/4): C0\_180=0.28 C90\_270=0.28  
Up flux rate of lamp(%): 1.83%  
Down flux rate of lamp(%): 93.91%  
Up flux rate of LUM(%): 1.91%  
Down flux rate of LUM(%): 98.09%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.076%

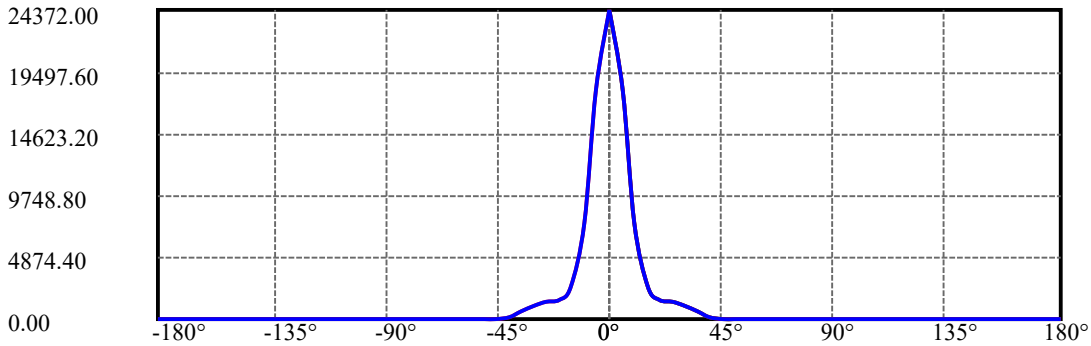
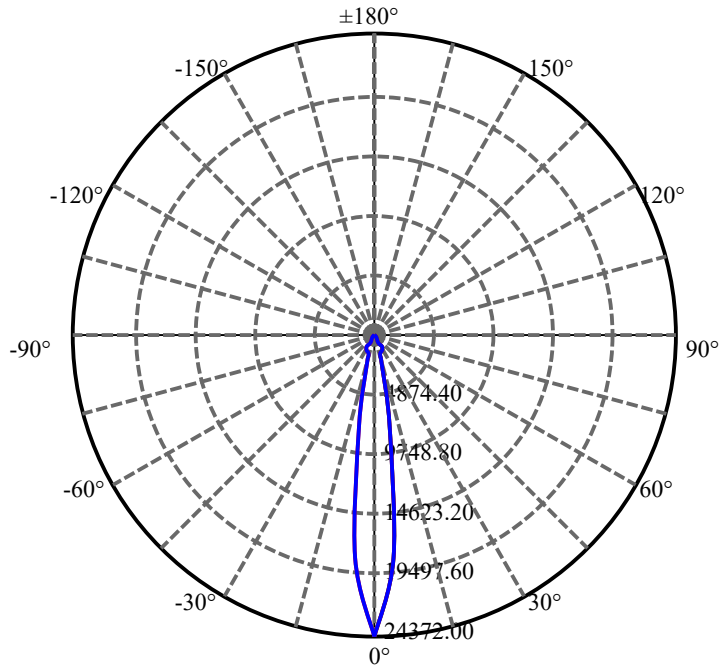
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	24371.994	0.000	0	.000%	.000%
5.0	18067.504	507.352	507.352	13.790%	14.404%
10.0	7537.778	915.982	1423.334	24.898%	40.409%
15.0	2606.589	601.757	2025.091	16.357%	57.493%
20.0	1573.045	344.461	2369.551	9.363%	67.272%
25.0	1298.469	301.169	2670.72	8.186%	75.823%
30.0	1124.589	306.640	2977.36	8.335%	84.528%
35.0	663.285	263.277	3240.637	7.156%	92.003%
40.0	145.100	134.873	3375.51	3.666%	95.832%
45.0	14.288	29.512	3405.022	.802%	96.670%
50.0	10.701	5.049	3410.072	.137%	96.813%
55.0	10.267	4.559	3414.631	.124%	96.942%
60.0	10.155	4.720	3419.351	.128%	97.076%
65.0	10.218	4.953	3424.304	.135%	97.217%
70.0	10.812	5.325	3429.629	.145%	97.368%
75.0	13.064	6.241	3435.87	.170%	97.545%
80.0	13.995	7.240	3443.11	.197%	97.751%
85.0	10.071	6.539	3449.649	.178%	97.937%
90.0	9.672	5.406	3455.055	.147%	98.090%
95.0	9.588	5.274	3460.329	.143%	98.240%
100.0	9.602	5.215	3465.544	.142%	98.388%
105.0	9.505	5.113	3470.656	.139%	98.533%
110.0	9.428	4.949	3475.605	.135%	98.674%
115.0	9.400	4.767	3480.372	.130%	98.809%
120.0	9.365	4.562	3484.934	.124%	98.938%
125.0	9.379	4.332	3489.266	.118%	99.061%
130.0	9.491	4.103	3493.369	.112%	99.178%
135.0	9.623	3.862	3497.231	.105%	99.288%
140.0	9.679	3.574	3500.805	.097%	99.389%
145.0	10.036	3.289	3504.095	.089%	99.482%
150.0	11.820	3.218	3507.313	.087%	99.574%
155.0	15.687	3.481	3510.794	.095%	99.673%
160.0	20.156	3.759	3514.553	.102%	99.779%
165.0	21.429	3.427	3517.98	.093%	99.877%
170.0	20.212	2.470	3520.451	.067%	99.947%
175.0	19.394	1.417	3521.867	.039%	99.987%
180.0	19.023	0.459	3522.327	.012%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2977.36	80.93%	84.53%
0-40	3375.51	91.75%	95.83%
0-60	3419.35	92.94%	97.08%
0-90	3455.06	93.91%	98.09%
0-120	3484.93	94.73%	98.94%
0-180	3522.33	95.74%	100.00%
60-90	40.42	1.10%	1.15%
90-120	35.28	0.96%	1.00%
90-130	43.72	1.19%	1.24%
90-150	57.66	1.57%	1.64%
90-180	72.22	1.96%	2.05%
0-27.40	2817.86	76.59%	80.00%

## ZONAL LUMEN SUMMARY

0-10	1423.33
10-20	946.22
20-30	607.81
30-40	398.15
40-50	34.56
50-60	9.28
60-70	10.28
70-80	13.48
80-90	11.95
90-100	10.49
100-110	10.06
110-120	9.33
120-130	8.44
130-140	7.44
140-150	6.51
150-160	7.24
160-170	5.90
170-180	1.42



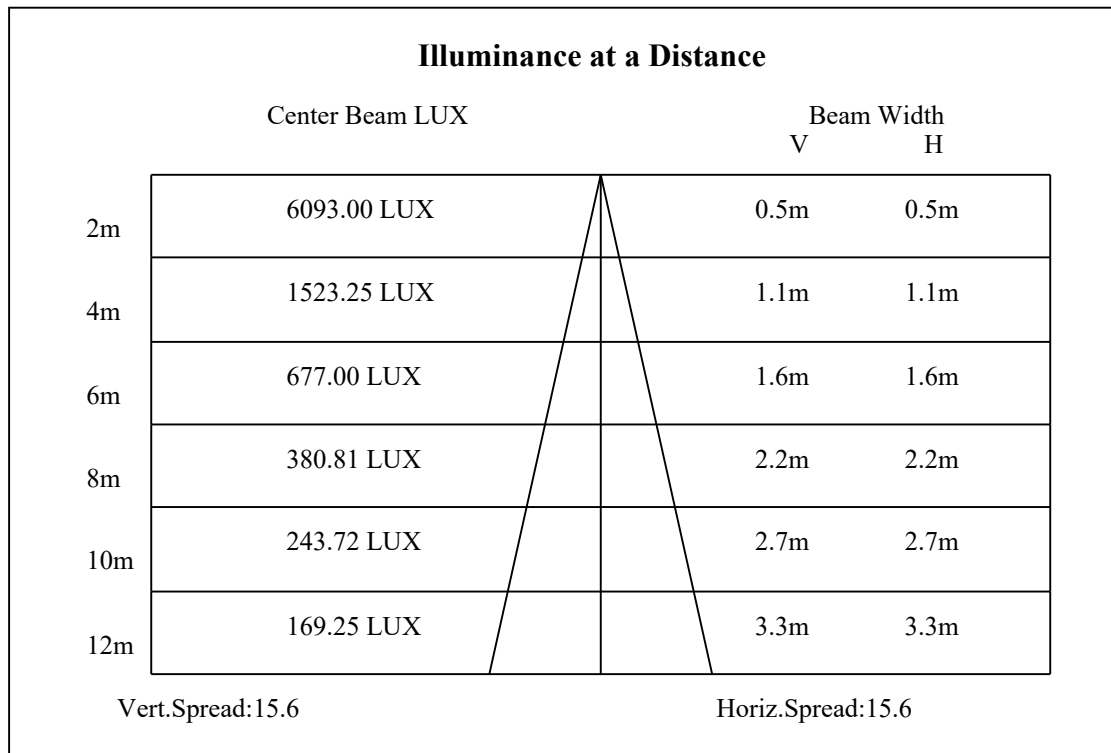
C0(Max): —————

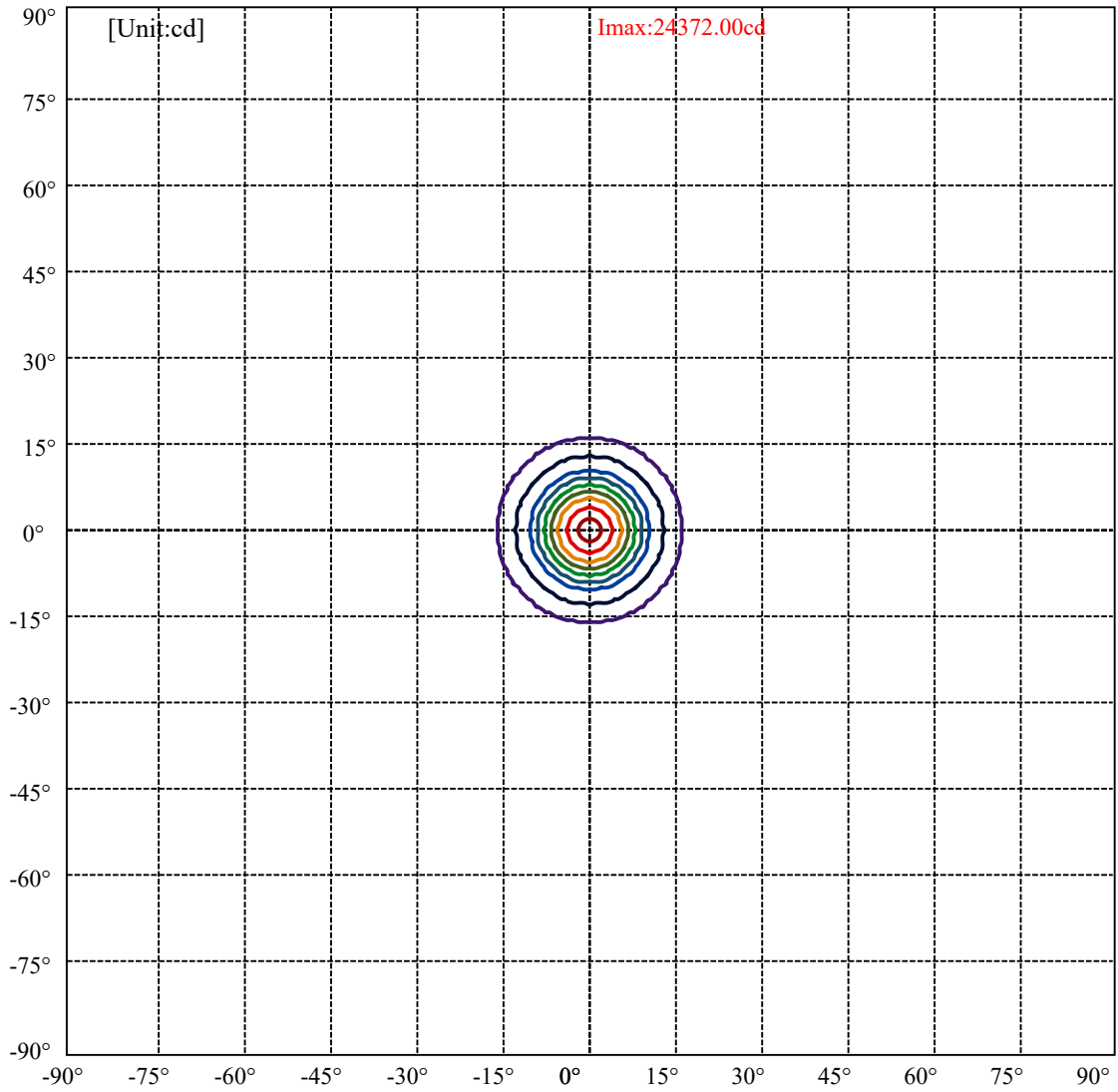
C0/C180: —————

C90/C270: —————

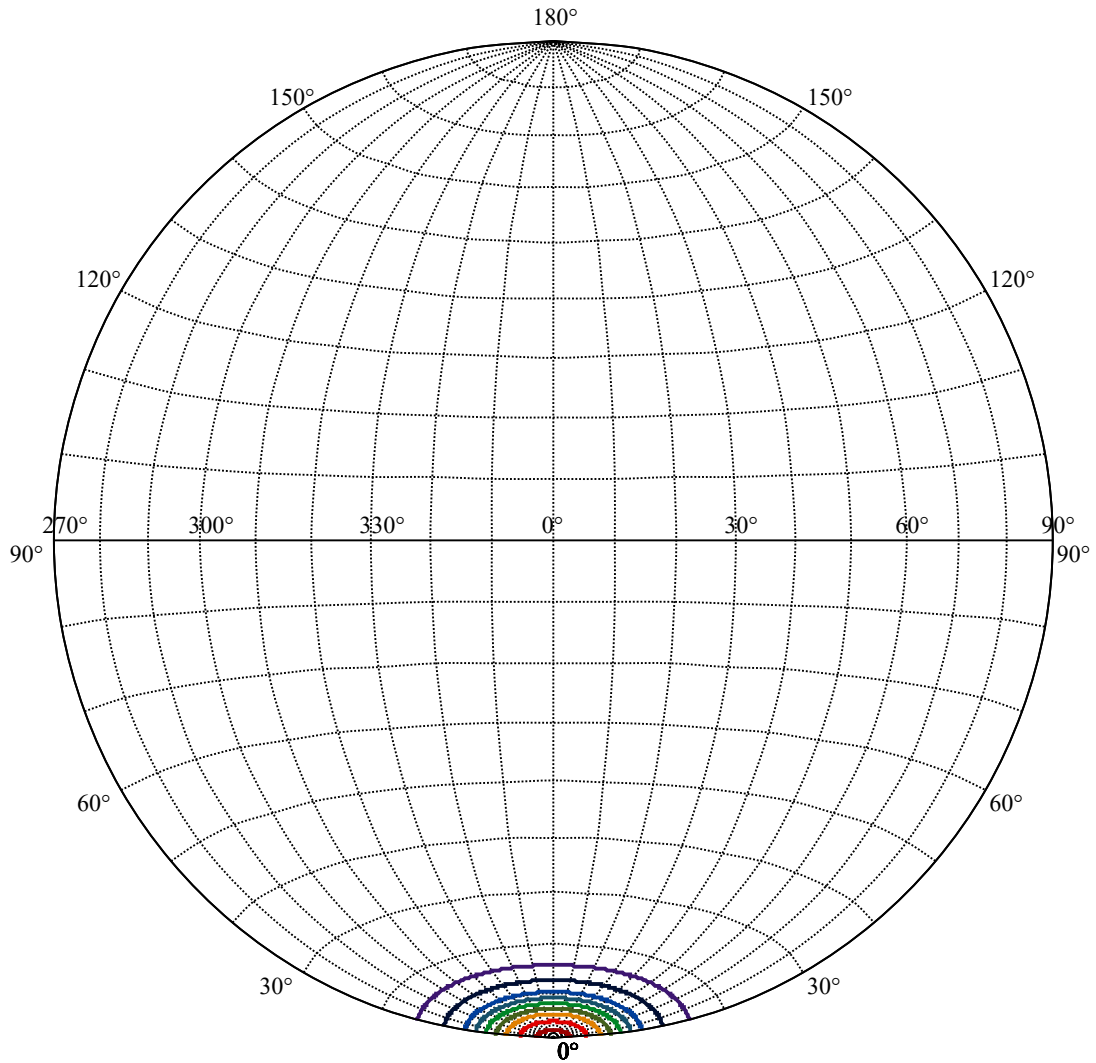
Field angle(10%Imax):C0/180Left:15.8 Right:15.8  
:C90/270Left:15.8 Right:15.8

Beam Angle(50%Imax):C0/180Left:7.8 Right:7.8  
:C90/270Left:7.8 Right:7.8





(10%Imax) 2437.2	—
(20%Imax) 4874.4	—
(30%Imax) 7311.6	—
(40%Imax) 9748.8	—
(50%Imax) 12186	—
(60%Imax) 14623.2	—
(70%Imax) 17060.4	—
(80%Imax) 19497.6	—
(90%Imax) 21934.8	—



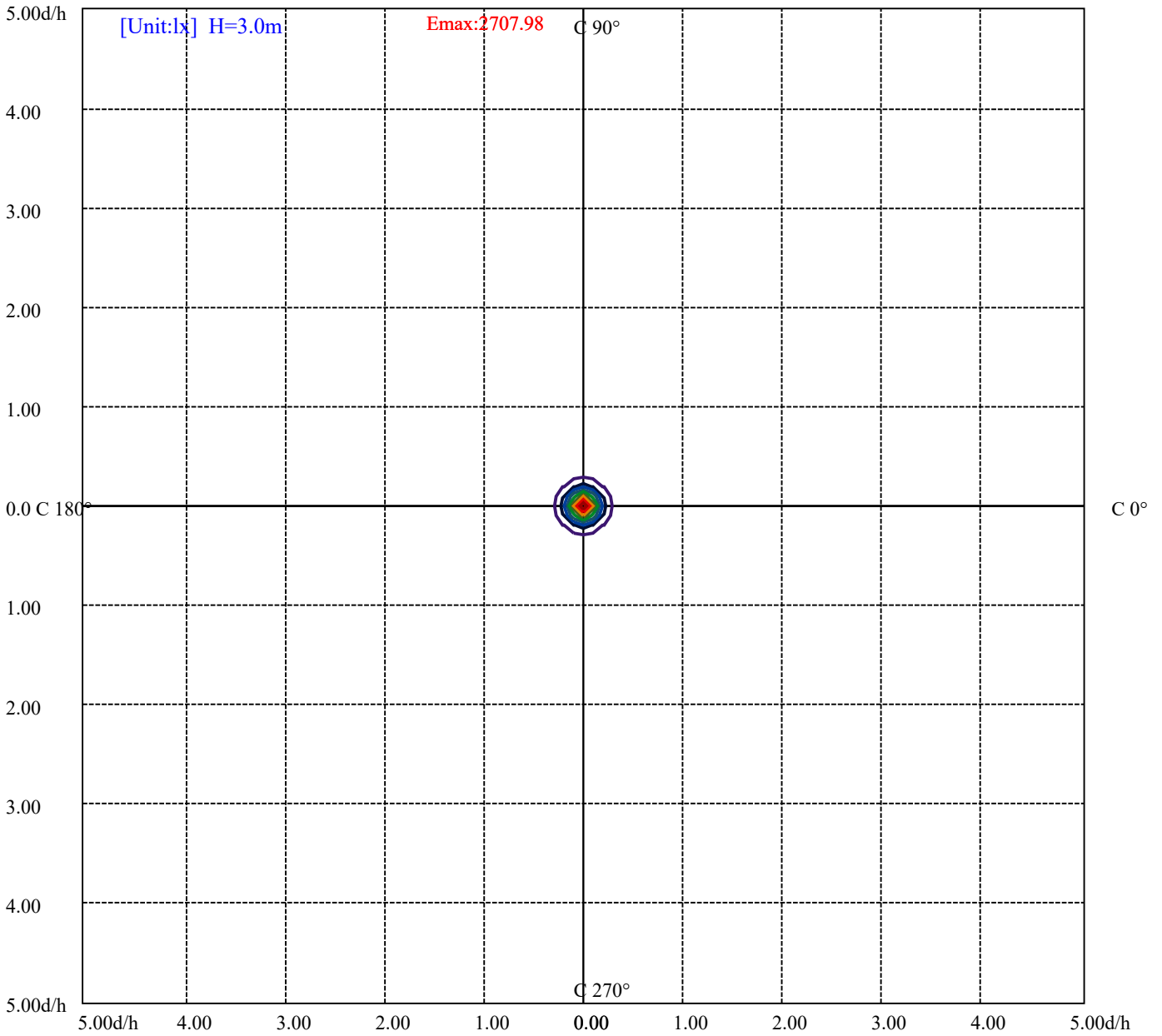
House

[Unit:cd]

Road

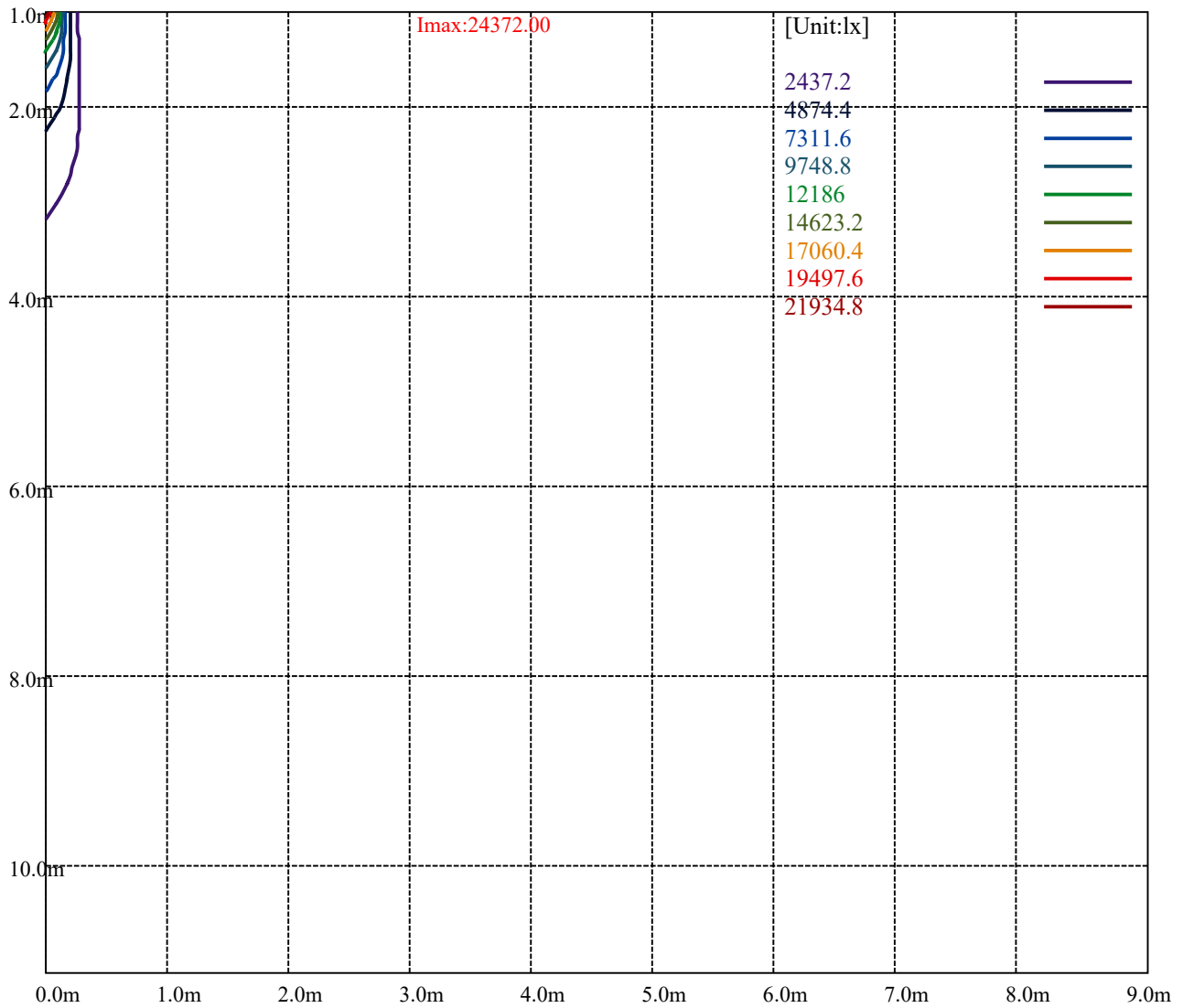
Imax:24372.00

(10%Imax) 2437.2	—
(20%Imax) 4874.4	—
(30%Imax) 7311.6	—
(40%Imax) 9748.8	—
(50%Imax) 12186	—
(60%Imax) 14623.2	—
(70%Imax) 17060.4	—
(80%Imax) 19497.6	—
(90%Imax) 21934.8	—



(10%Emax) 270.7978	—
(20%Emax) 541.5955	—
(30%Emax) 812.3933	—
(40%Emax) 1083.191	—
(50%Emax) 1353.989	—
(60%Emax) 1624.789	—
(70%Emax) 1895.589	—
(80%Emax) 2166.378	—
(90%Emax) 2437.178	—





Luminance Table

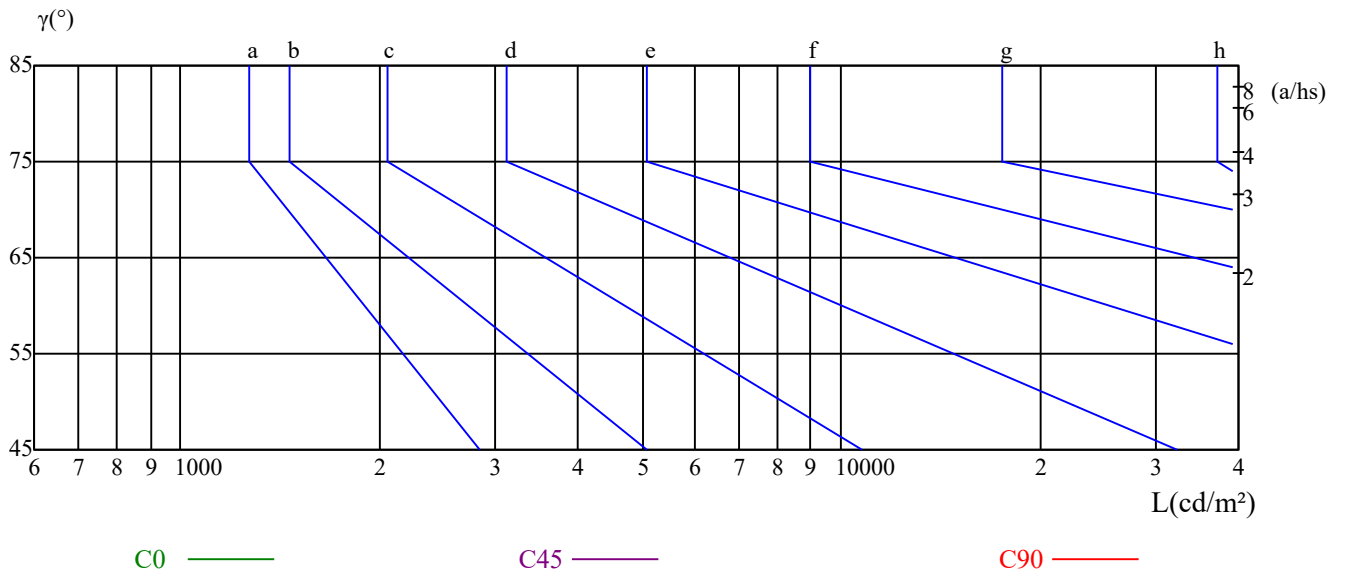
$\gamma$	45	50	55	60	65	70	75	80	85
C0	576	467	494	548	633	794	1188	1689	1827
C45	558	451	473	521	596	737	1082	1491	1520
C90	576	467	494	548	633	794	1188	1689	1827

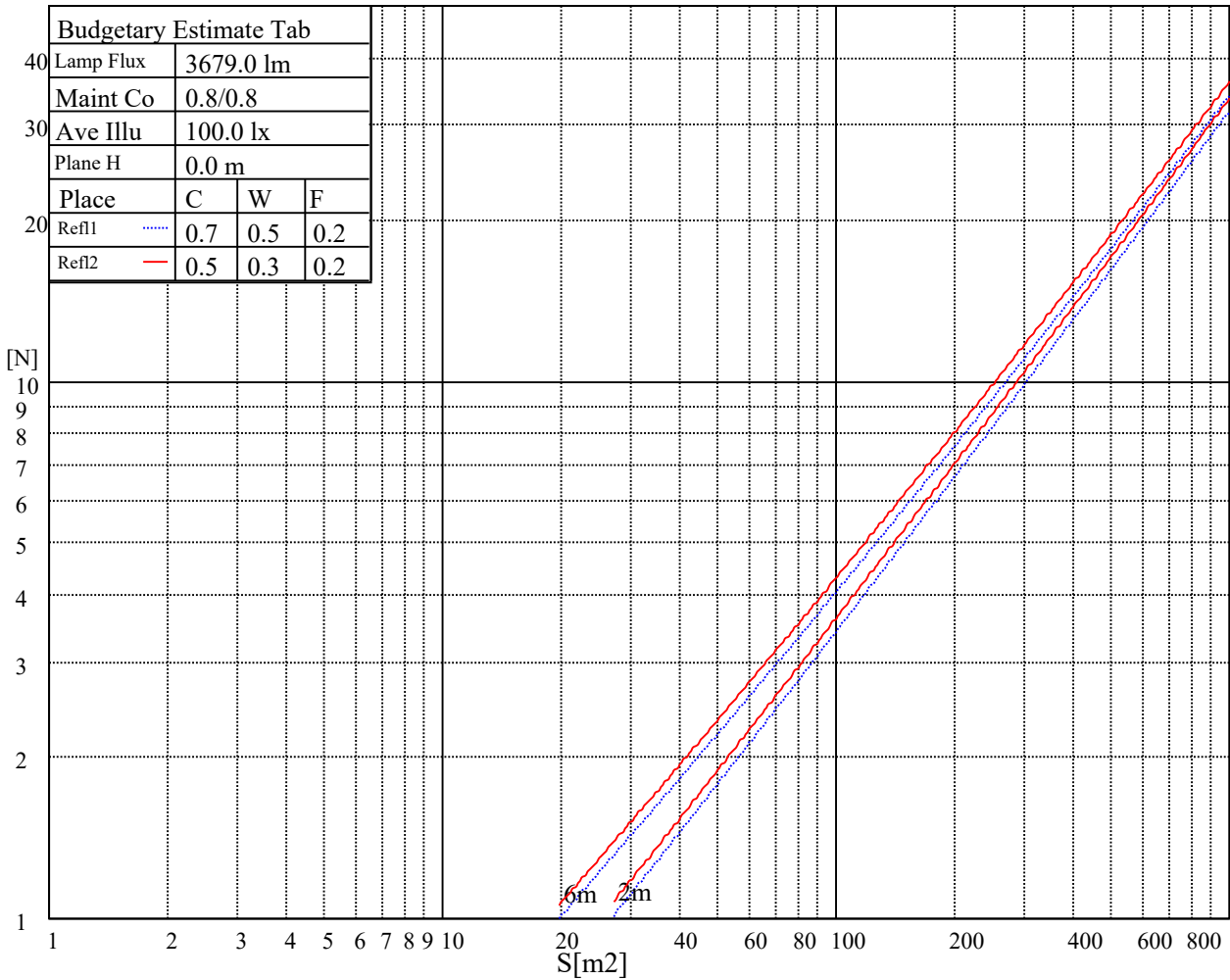
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
746	746	746	1558	1558	1558	3566	3566	3566

Glare Table

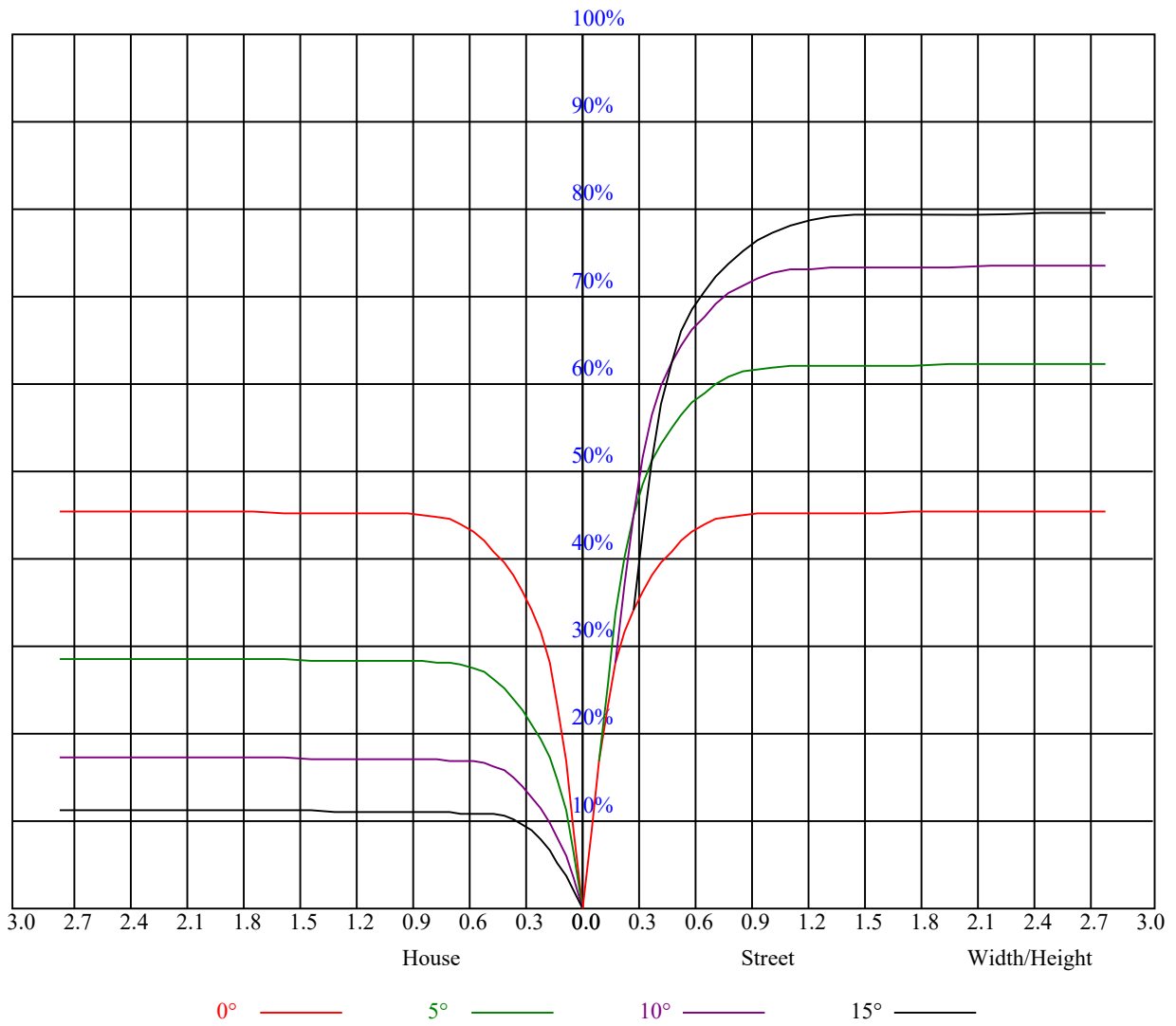
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.14	1.14	1.14	1.11	1.11	1.11	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.07	1.05	1.03	1.05	1.03	1.01	1.01	0.99	0.98	0.97	0.96	0.95	0.93	0.93	0.92	0.90
2	1.02	0.98	0.96	1.00	0.97	0.95	0.96	0.94	0.92	0.93	0.92	0.90	0.91	0.89	0.88	0.86
3	0.97	0.93	0.90	0.95	0.92	0.89	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.85	0.83
4	0.93	0.89	0.85	0.91	0.88	0.85	0.89	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.80
5	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.85	0.82	0.79	0.83	0.81	0.79	0.77
6	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.77	0.81	0.78	0.76	0.75
7	0.83	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.76	0.74	0.78	0.76	0.74	0.73
8	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.74	0.71	0.70
9	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.74	0.72	0.69	0.68
10	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67



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	24573.42	16287.16	4621.50	2010.86	1434.01	1262.24	1091.59	487.33	25.23
45.0	24265.69	23146.68	10983.06	3015.73	1655.01	1329.94	1203.49	867.23	299.33
90.0	24539.85	22794.19	9668.23	3097.41	1662.29	1341.69	1175.52	861.69	203.21
135.0	24109.03	23527.14	13685.47	3827.01	1910.15	1385.33	1230.35	994.80	358.08
180.0	24573.42	22223.50	8863.10	3119.23	1686.90	1354.00	1170.48	860.69	205.90
225.0	24265.69	10475.59	4336.16	2050.02	1430.09	1243.22	1055.28	450.12	22.83
270.0	24539.85	14961.14	4615.91	1966.66	1433.45	1249.93	1088.24	459.35	24.39
315.0	24109.03	11124.62	3528.79	1765.79	1372.46	1221.40	981.76	325.07	21.82
360.0	24573.42	16287.16	4621.50	2010.86	1434.01	1262.24	1091.59	487.33	25.23
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	12.59	10.63	10.41	10.52	10.80	13.15	20.25	20.31	10.02
45.0	16.39	11.02	10.69	10.52	10.69	11.64	16.23	21.15	11.53
90.0	16.28	10.91	10.52	10.24	10.35	10.80	12.98	15.67	10.57
135.0	17.96	11.92	10.52	10.18	9.96	10.35	10.80	11.86	9.90
180.0	16.73	10.35	10.02	9.79	9.68	9.74	9.90	10.13	9.62
225.0	11.75	10.13	9.85	9.74	9.74	9.74	9.79	9.68	9.51
270.0	11.75	10.35	10.02	9.90	10.02	10.07	10.07	10.69	9.68
315.0	10.85	10.29	10.13	10.35	10.52	11.02	14.49	12.48	9.74
360.0	12.59	10.63	10.41	10.52	10.80	13.15	20.25	20.31	10.02
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	9.74	9.62	9.57	9.40	9.40	9.34	9.34	9.40	9.57
45.0	10.02	9.79	9.74	9.62	9.40	9.46	9.40	9.40	9.46
90.0	9.79	9.68	9.68	9.51	9.34	9.34	9.34	9.34	9.34
135.0	9.79	9.57	9.62	9.57	9.46	9.34	9.29	9.29	9.34
180.0	9.46	9.40	9.46	9.40	9.34	9.29	9.23	9.23	9.29
225.0	9.51	9.51	9.57	9.57	9.57	9.51	9.46	9.51	9.68
270.0	9.57	9.57	9.62	9.57	9.51	9.51	9.46	9.46	9.62
315.0	9.51	9.57	9.57	9.40	9.40	9.40	9.40	9.40	9.62
360.0	9.74	9.62	9.57	9.40	9.40	9.34	9.34	9.40	9.57
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	9.79	9.90	10.57	13.09	18.63	23.39	24.28	22.04	20.76
45.0	9.51	9.51	9.51	10.29	12.48	16.67	19.02	18.80	18.24
90.0	9.46	9.40	9.51	10.41	12.87	17.23	19.41	19.19	18.91
135.0	9.40	9.40	9.40	10.24	12.59	17.12	20.03	20.25	19.75
180.0	9.34	9.34	9.51	10.85	14.32	19.14	21.21	20.76	20.42
225.0	9.85	9.96	10.41	12.76	17.40	21.99	21.99	19.69	18.58
270.0	9.85	9.96	10.52	12.81	17.74	22.21	22.44	20.20	18.97
315.0	9.79	9.96	10.85	14.10	19.47	23.50	23.05	20.76	19.53
360.0	9.79	9.90	10.57	13.09	18.63	23.39	24.28	22.04	20.76
C/γ(°)	180.0								
0.0	20.14								
45.0	18.02								
90.0	18.52								
135.0	19.41								
180.0	20.14								
225.0	18.02								
270.0	18.52								
315.0	19.41								
360.0	20.14								