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## NATA

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LumCAT: 2-1430-A	
Luminaire:H48185AC	
Report No: NT2016042703	Voltage(V): 219.9000
Test No: GC2016042703	Current(A): 0.0950
LampCAT: CBAC-88-36185-240V-30	Power (W): 18.0000
Lamp flux(lm): 1472.0	PF: 0.8560
Number of Lamps: 1	Ballast type: DC
Length(mm): 68	Width(mm): 68
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 1350.99  
Efficiency(%): 91.78%  
Lumens(lm)/Power(W): 75.06  
Central intensity(cd): 5060.372  
Maximum intensity(cd): 5060.372  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=23.0  
                                  [C90/270]Total=23.0  
Field angle(10%Imax): [C0/180]Total=60.7  
                                  [C90/270]Total=60.7  
Maximum s/h(1/2): C0\_180=0.39 C90\_270=0.39  
Maximum s/h(1/4): C0\_180=0.40 C90\_270=0.40  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 92.27%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.334%

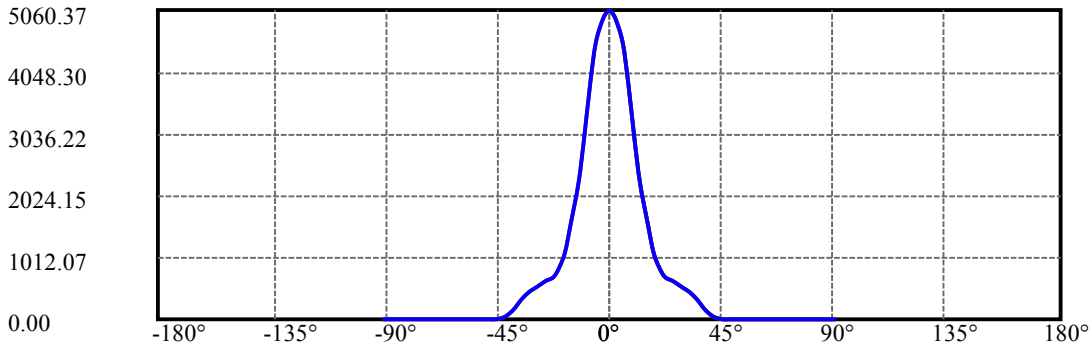
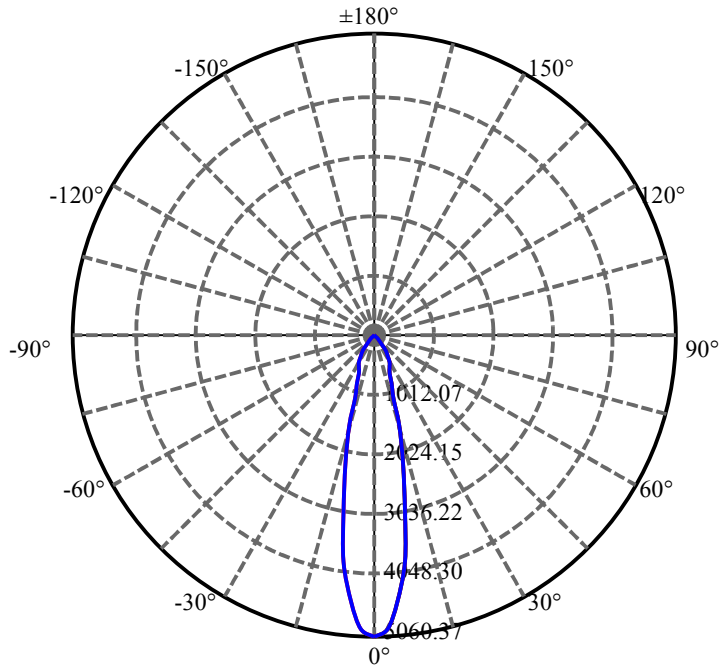
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5060.371	7.566	7.566	.514%	.560%
2.5	4924.038	58.879	66.446	4.000%	4.918%
5.0	4511.253	107.784	174.23	7.322%	12.896%
7.5	3830.136	137.049	311.279	9.310%	23.041%
10.0	2998.096	142.718	453.997	9.696%	33.605%
12.5	2227.733	132.179	586.176	8.980%	43.389%
15.0	1562.721	110.877	697.053	7.532%	51.596%
17.5	1104.927	91.083	788.136	6.188%	58.338%
20.0	842.501	78.992	867.128	5.366%	64.185%
22.5	694.440	72.851	939.979	4.949%	69.577%
25.0	615.173	71.270	1011.25	4.842%	74.852%
27.5	565.044	71.524	1082.773	4.859%	80.147%
30.0	516.319	70.770	1153.544	4.808%	85.385%
32.5	439.488	64.733	1218.277	4.398%	90.177%
35.0	324.778	51.067	1269.344	3.469%	93.956%
37.5	193.317	32.261	1301.605	2.192%	96.344%
40.0	89.797	15.823	1317.428	1.075%	97.516%
42.5	37.700	6.982	1324.41	.474%	98.032%
45.0	14.549	2.820	1327.23	.192%	98.241%
47.5	7.419	1.499	1328.73	.102%	98.352%
50.0	6.703	1.408	1330.137	.096%	98.456%
52.5	6.387	1.389	1331.526	.094%	98.559%
55.0	6.139	1.379	1332.905	.094%	98.661%
57.5	5.864	1.356	1334.26	.092%	98.762%
60.0	5.671	1.346	1335.607	.091%	98.861%
62.5	5.533	1.345	1336.952	.091%	98.961%
65.0	5.409	1.344	1338.296	.091%	99.060%
67.5	5.313	1.346	1339.642	.091%	99.160%
70.0	5.203	1.340	1340.982	.091%	99.259%
72.5	5.148	1.346	1342.328	.091%	99.359%
75.0	5.093	1.349	1343.676	.092%	99.459%
77.5	5.010	1.341	1345.017	.091%	99.558%
80.0	4.969	1.341	1346.359	.091%	99.657%
82.5	4.914	1.336	1347.694	.091%	99.756%
85.0	4.859	1.327	1349.021	.090%	99.854%
87.5	4.817	1.319	1350.34	.090%	99.952%
90.0	4.749	0.651	1350.991	.044%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1153.54	78.37%	85.38%
0-40	1317.43	89.50%	97.52%
0-60	1335.61	90.73%	98.86%
0-90	1350.34	91.74%	99.95%
0-120	1350.34	91.74%	99.95%
0-180	1350.99	91.78%	100.00%
60-90	16.08	1.09%	1.19%
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%
0-27.43	1080.79	73.42%	80.00%

ZONAL LUMEN SUMMARY

0-10	454.00
10-20	413.13
20-30	286.42
30-40	163.88
40-50	12.71
50-60	5.47
60-70	5.38
70-80	5.38
80-90	3.98
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: ———

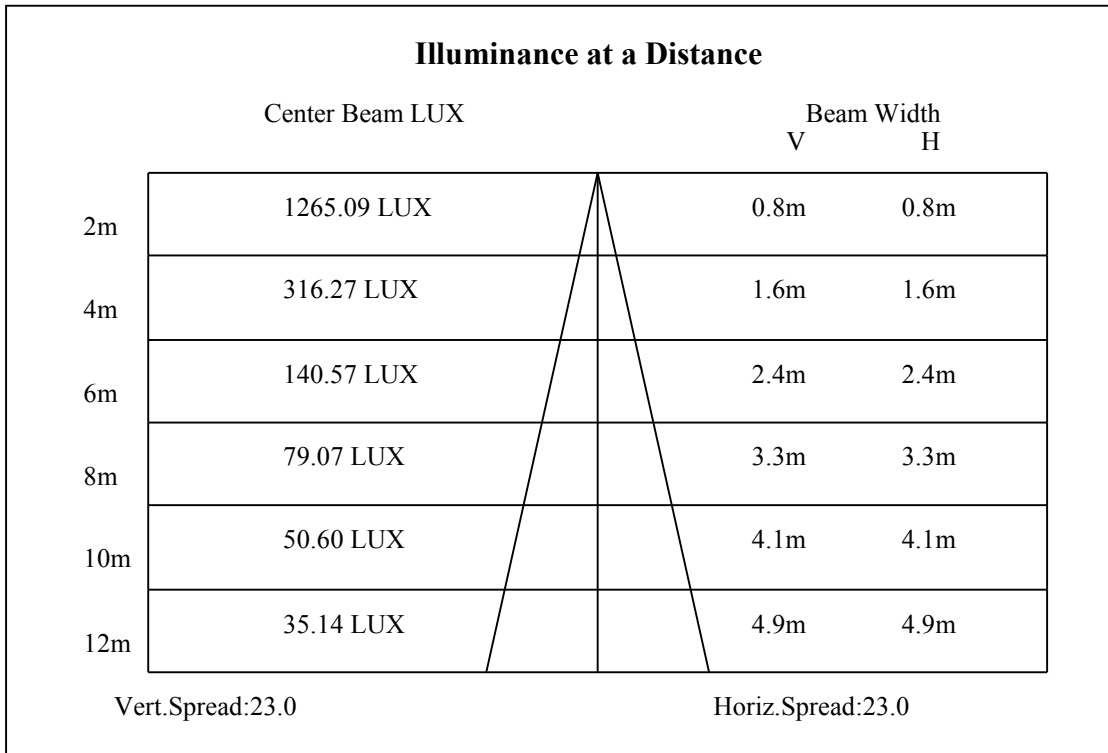
C90/C270: ———

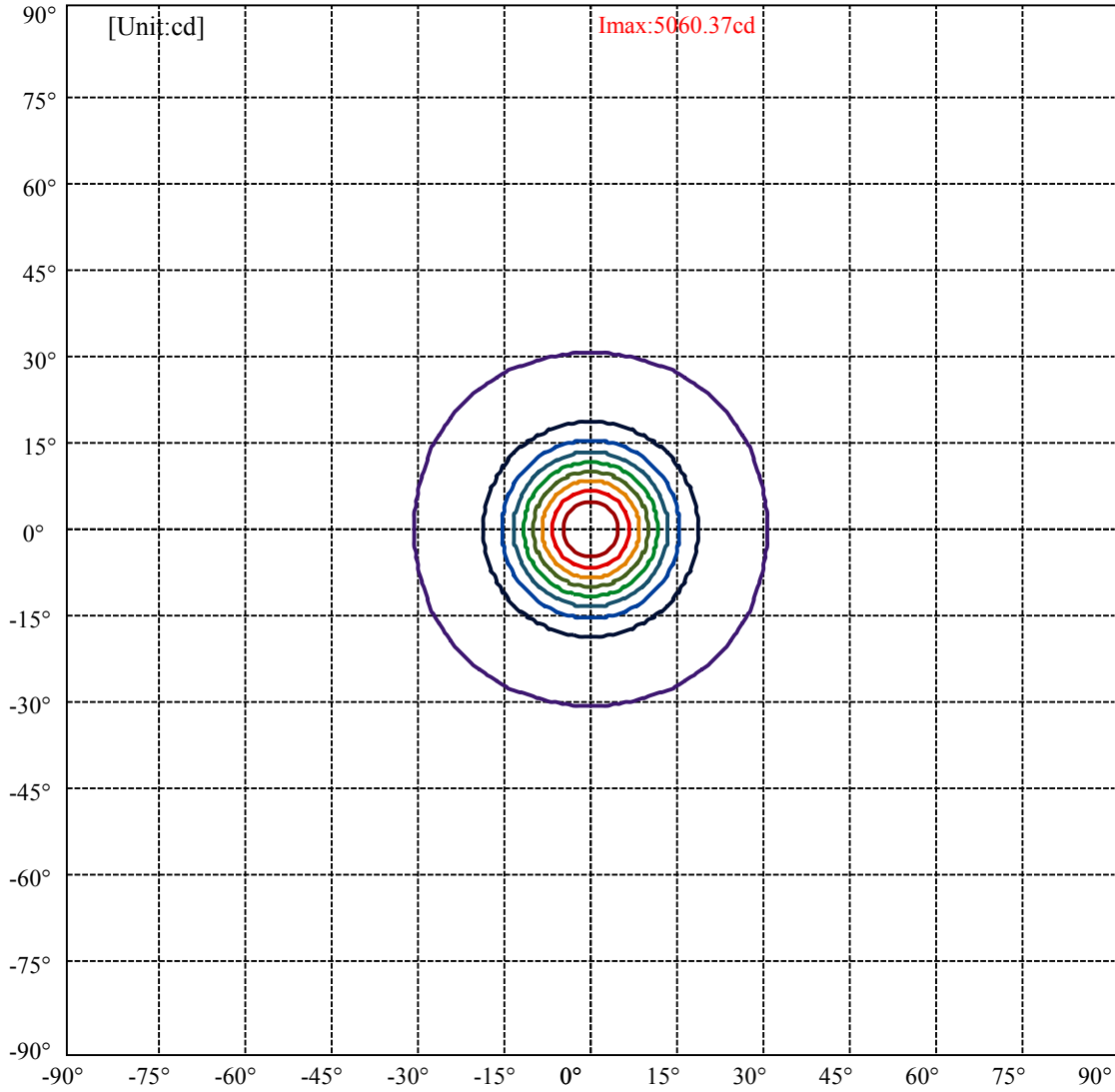
Field angle(10%Imax):C0/180Left:30.3 Right:30.3

:C90/270Left:30.3 Right:30.3

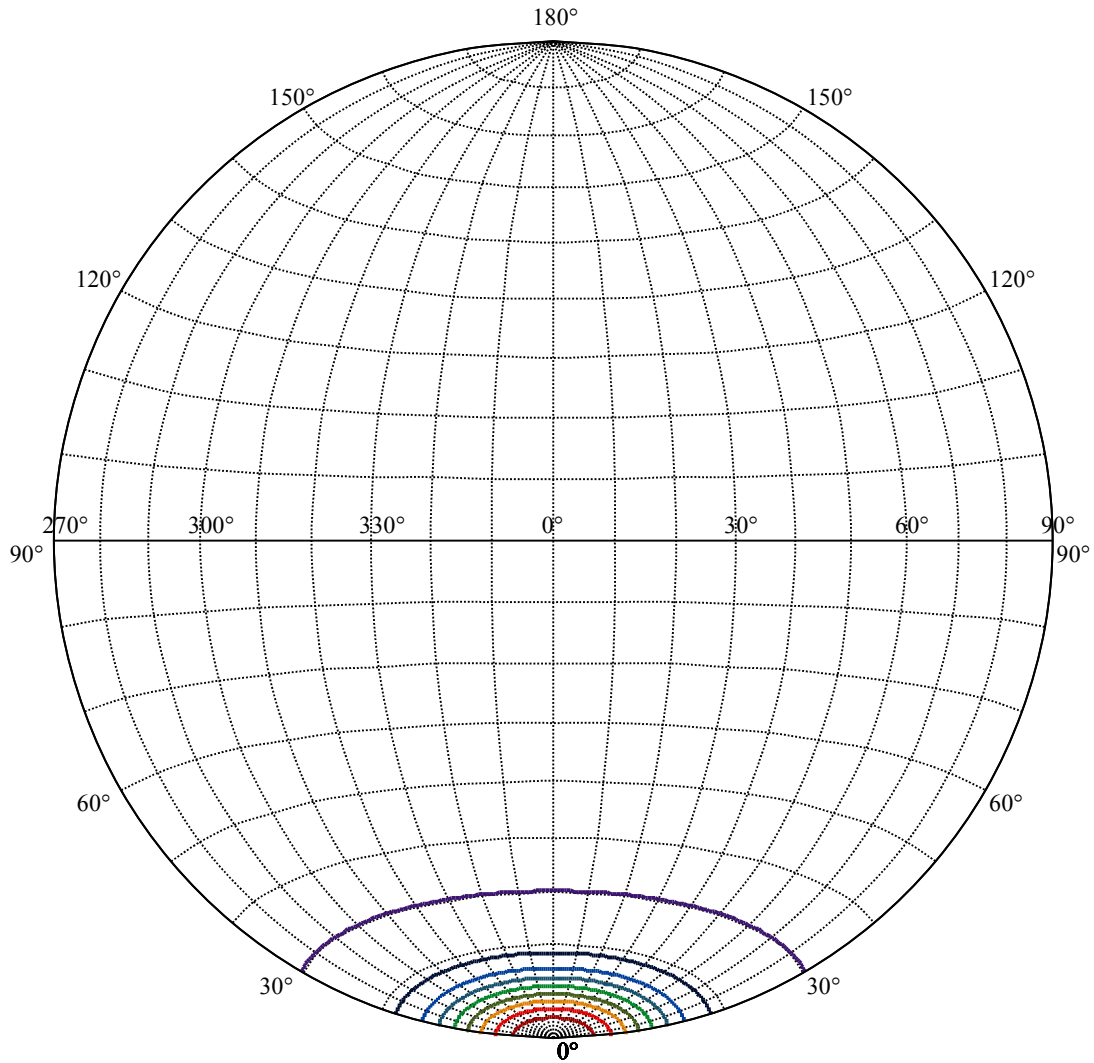
Beam Angle(50%Imax):C0/180Left:11.5 Right:11.5

:C90/270Left:11.5 Right:11.5





(10%Imax) 506.037	—
(20%Imax) 1012.07	—
(30%Imax) 1518.11	—
(40%Imax) 2024.15	—
(50%Imax) 2530.19	—
(60%Imax) 3036.22	—
(70%Imax) 3542.26	—
(80%Imax) 4048.3	—
(90%Imax) 4554.33	—



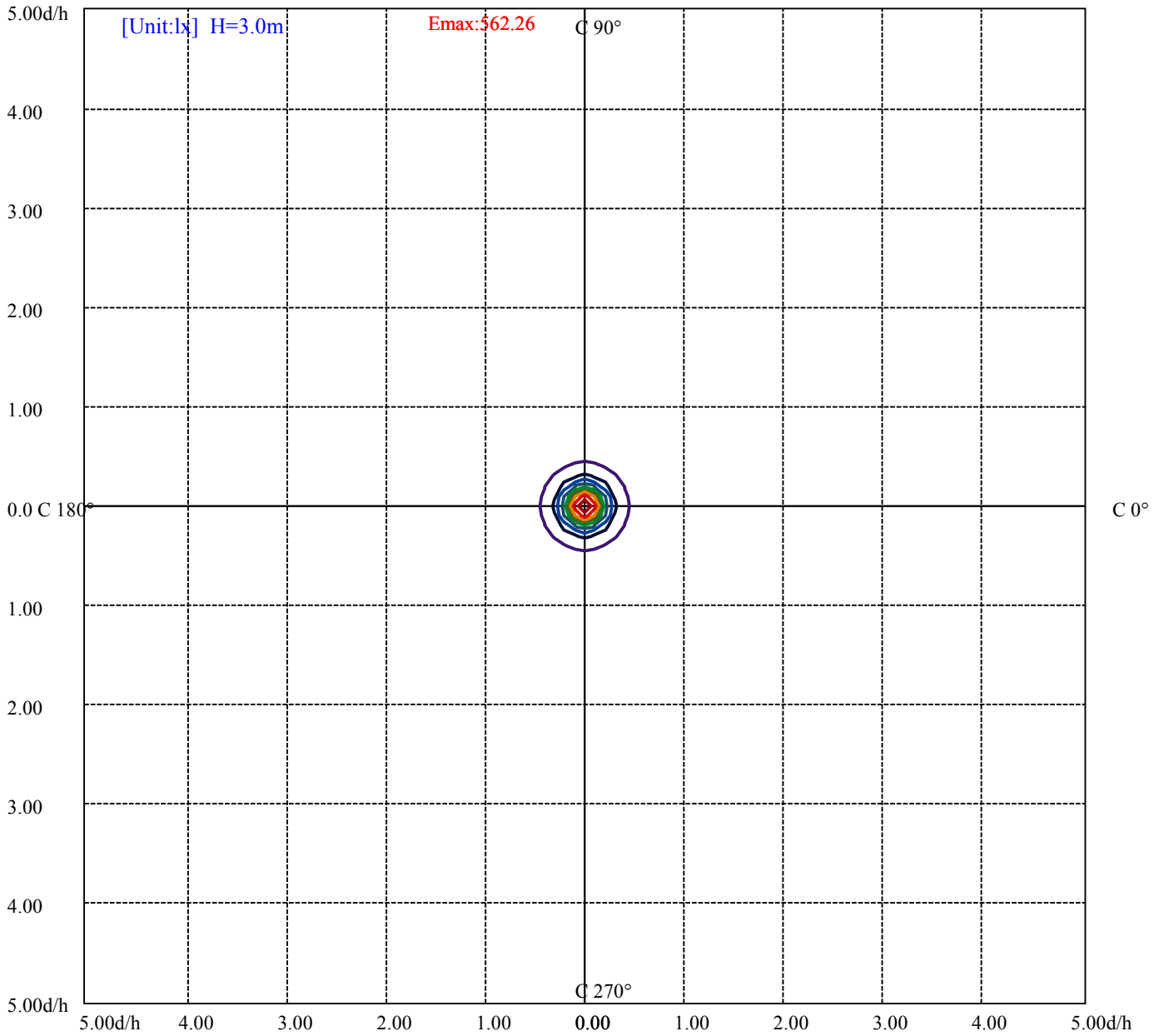
House

[Unit:cd]

Road

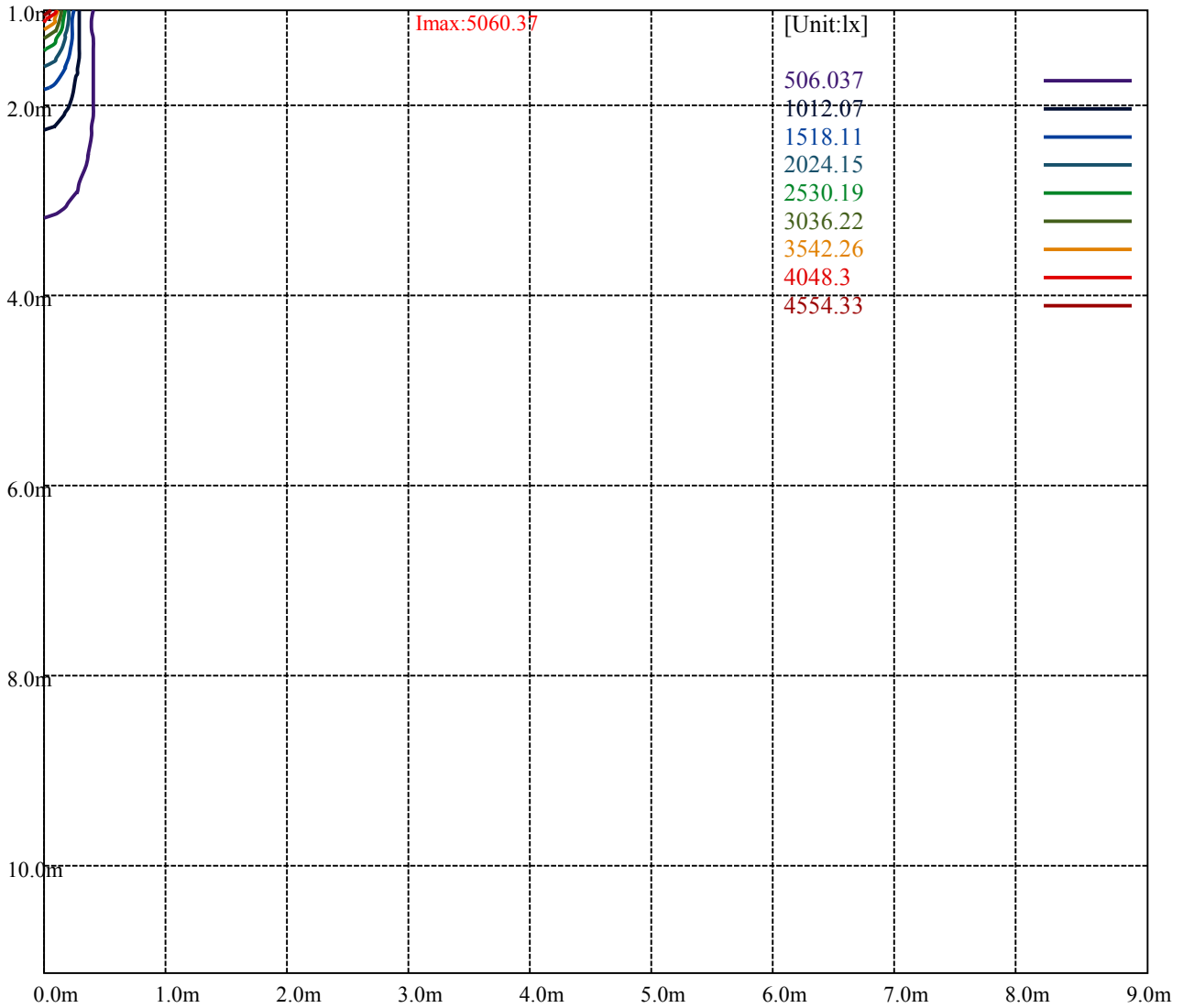
**Imax:5060.37**

(10%Imax) 506.037	—
(20%Imax) 1012.07	—
(30%Imax) 1518.11	—
(40%Imax) 2024.15	—
(50%Imax) 2530.19	—
(60%Imax) 3036.22	—
(70%Imax) 3542.26	—
(80%Imax) 4048.3	—
(90%Imax) 4554.33	—



(10%E <sub>max</sub> ) 56.22622	—
(20%E <sub>max</sub> ) 112.4522	—
(30%E <sub>max</sub> ) 168.6789	—
(40%E <sub>max</sub> ) 224.9056	—
(50%E <sub>max</sub> ) 281.1311	—
(60%E <sub>max</sub> ) 337.3578	—
(70%E <sub>max</sub> ) 393.5833	—
(80%E <sub>max</sub> ) 449.81	—
(90%E <sub>max</sub> ) 506.0367	—





Luminance Table

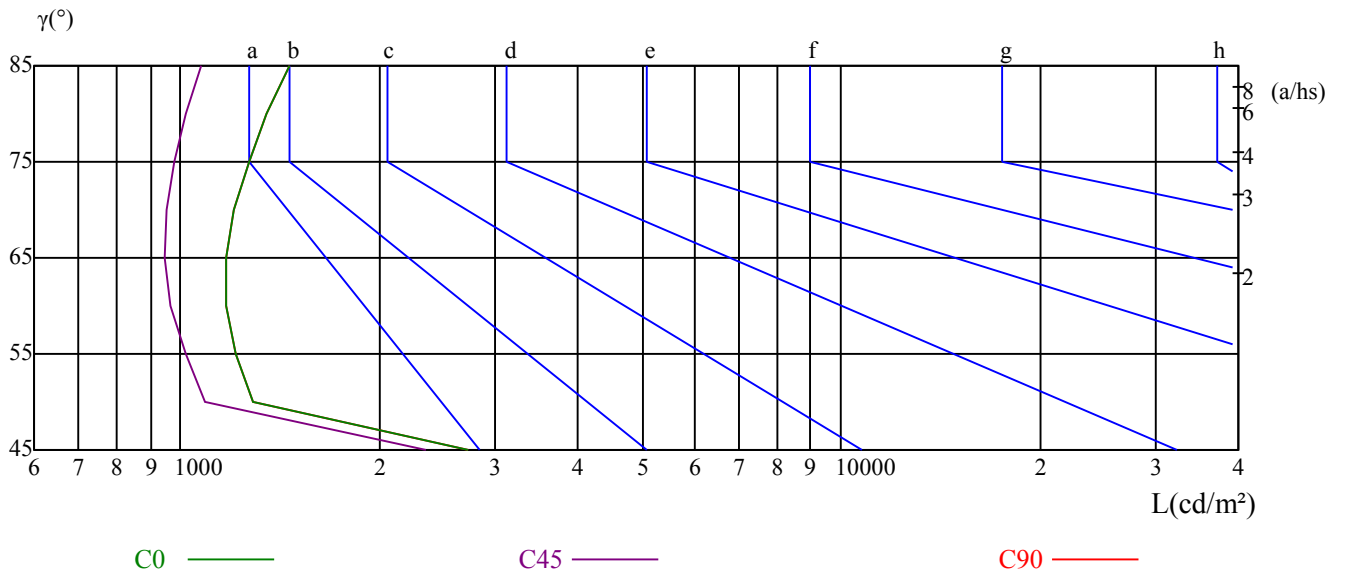
$\gamma$	45	50	55	60	65	70	75	80	85
C0	2726	1286	1216	1171	1175	1202	1266	1349	1465
C45	2349	1092	1016	962	949	952	981	1019	1074
C90	2726	1286	1216	1171	1175	1202	1266	1349	1465

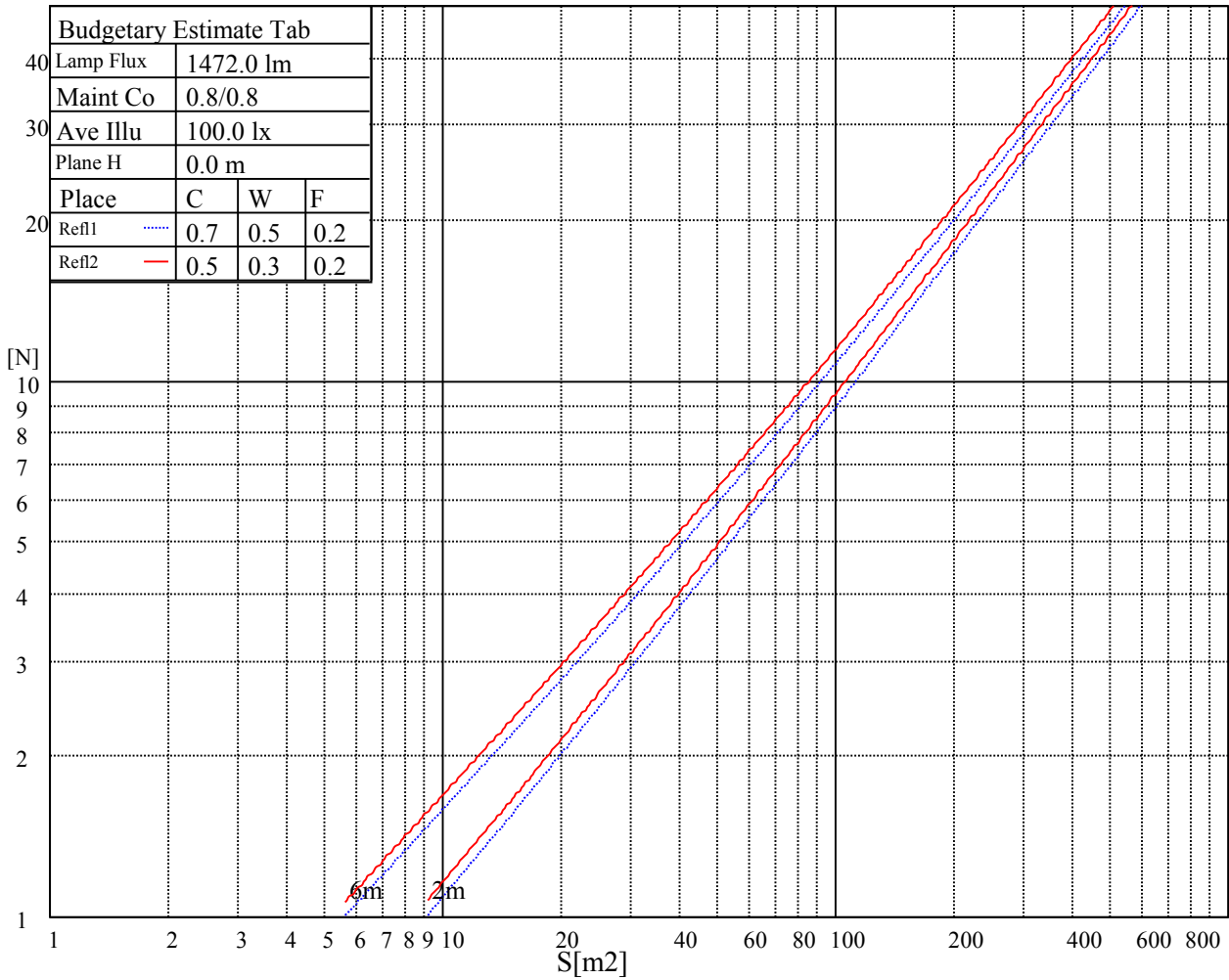
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2768	2768	2768	4255	4255	4255	12056	12056	12056

Glare Table

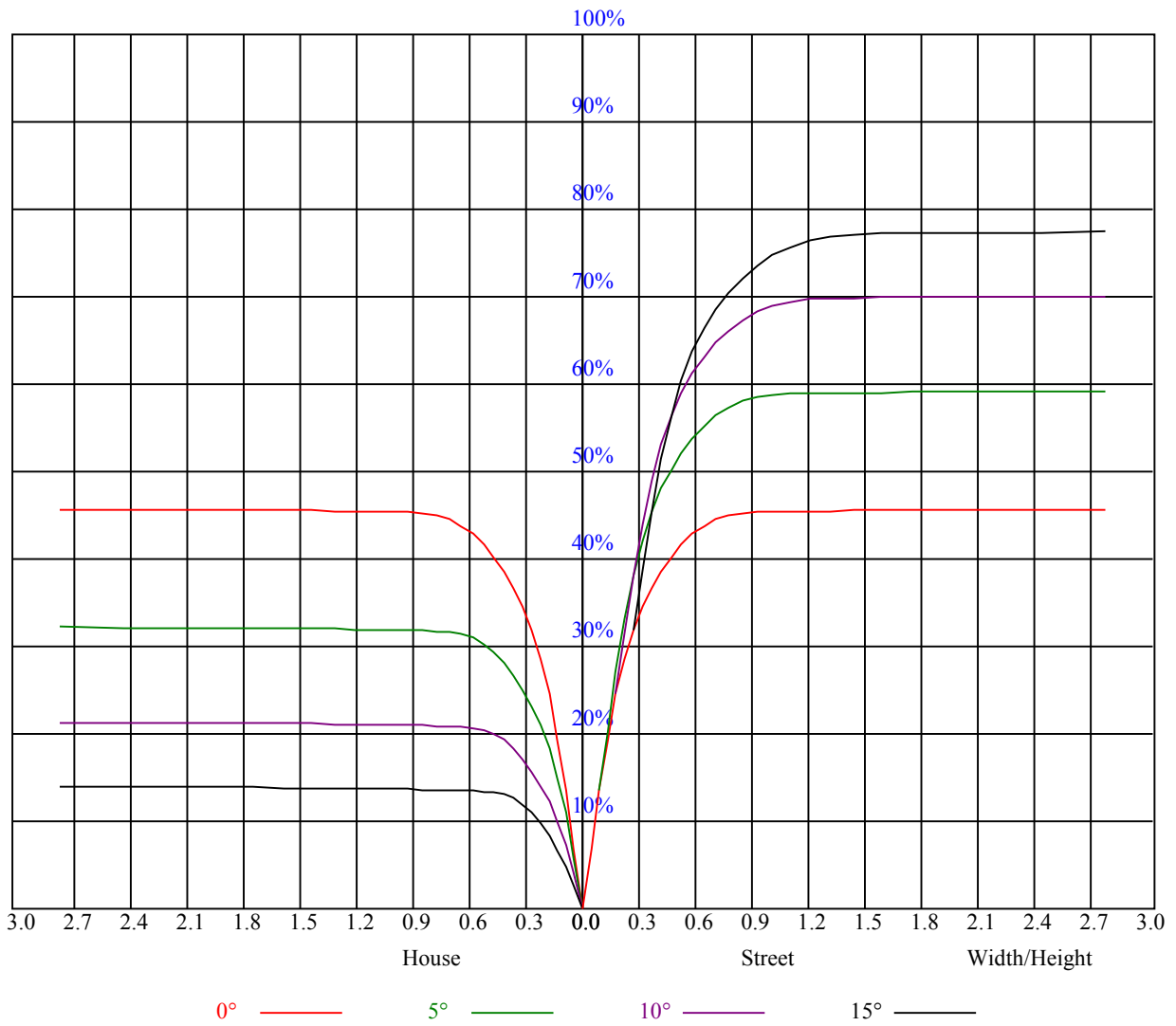
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.10	1.10	1.10	1.07	1.07	1.07	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.03	1.01	0.99	1.01	0.99	0.97	0.97	0.95	0.94	0.94	0.92	0.91	0.90	0.90	0.89	0.87
2	0.97	0.94	0.91	0.96	0.93	0.90	0.93	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.85	0.83
3	0.92	0.88	0.85	0.91	0.88	0.85	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.80
4	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.81	0.78	0.82	0.79	0.77	0.76
5	0.84	0.80	0.77	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.74	0.72	0.70
7	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
8	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
9	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.70	0.67	0.64	0.63
10	0.70	0.66	0.63	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.68	0.64	0.62	0.61



Intensity data(cd)

C/γ(°)	0.0	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0
0.0	5013.99	4865.61	4457.37	3823.12	3048.75	2310.17	1623.39	1180.13	899.90
45.0	5095.47	4943.51	4534.17	3841.01	2990.94	2213.71	1560.85	1092.04	835.81
90.0	5069.59	4943.51	4519.30	3815.41	2961.76	2173.35	1505.79	1055.49	798.48
135.0	5062.44	4943.51	4534.17	3841.01	2990.94	2213.71	1560.85	1092.04	835.81
180.0	5013.99	4865.61	4457.37	3823.12	3048.75	2310.17	1623.39	1180.13	899.90
225.0	5095.47	4943.51	4534.17	3841.01	2990.94	2213.71	1560.85	1092.04	835.81
270.0	5069.59	4943.51	4519.30	3815.41	2961.76	2173.35	1505.79	1055.49	798.48
315.0	5062.44	4943.51	4534.17	3841.01	2990.94	2213.71	1560.85	1092.04	835.81
360.0	5013.99	4865.61	4457.37	3823.12	3048.75	2310.17	1623.39	1180.13	899.90
C/γ(°)	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5
0.0	725.81	626.87	562.62	495.12	417.38	326.92	215.66	118.70	49.66
45.0	689.75	613.99	565.26	520.23	444.69	327.48	188.35	86.55	35.68
90.0	672.46	605.84	567.03	529.70	451.19	317.23	180.92	67.39	29.79
135.0	689.75	613.99	565.26	520.23	444.69	327.48	188.35	86.55	35.68
180.0	725.81	626.87	562.62	495.12	417.38	326.92	215.66	118.70	49.66
225.0	689.75	613.99	565.26	520.23	444.69	327.48	188.35	86.55	35.68
270.0	672.46	605.84	567.03	529.70	451.19	317.23	180.92	67.39	29.79
315.0	689.75	613.99	565.26	520.23	444.69	327.48	188.35	86.55	35.68
360.0	725.81	626.87	562.62	495.12	417.38	326.92	215.66	118.70	49.66
C/γ(°)	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0
0.0	21.36	8.26	6.99	6.66	6.28	6.00	5.84	5.62	5.51
45.0	12.99	7.21	6.66	6.33	6.11	5.84	5.67	5.51	5.40
90.0	10.85	6.99	6.50	6.22	6.06	5.78	5.51	5.51	5.34
135.0	12.99	7.21	6.66	6.33	6.11	5.84	5.67	5.51	5.40
180.0	21.36	8.26	6.99	6.66	6.28	6.00	5.84	5.62	5.51
225.0	12.99	7.21	6.66	6.33	6.11	5.84	5.67	5.51	5.40
270.0	10.85	6.99	6.50	6.22	6.06	5.78	5.51	5.51	5.34
315.0	12.99	7.21	6.66	6.33	6.11	5.84	5.67	5.51	5.40
360.0	21.36	8.26	6.99	6.66	6.28	6.00	5.84	5.62	5.51
C/γ(°)	67.5	70.0	72.5	75.0	77.5	80.0	82.5	85.0	87.5
0.0	5.45	5.34	5.29	5.23	5.12	5.07	5.07	4.96	4.90
45.0	5.29	5.18	5.12	5.07	5.01	4.96	4.90	4.84	4.79
90.0	5.23	5.12	5.07	5.01	4.90	4.90	4.79	4.79	4.79
135.0	5.29	5.18	5.12	5.07	5.01	4.96	4.90	4.84	4.79
180.0	5.45	5.34	5.29	5.23	5.12	5.07	5.07	4.96	4.90
225.0	5.29	5.18	5.12	5.07	5.01	4.96	4.90	4.84	4.79
270.0	5.23	5.12	5.07	5.01	4.90	4.90	4.79	4.79	4.79
315.0	5.29	5.18	5.12	5.07	5.01	4.96	4.90	4.84	4.79
360.0	5.45	5.34	5.29	5.23	5.12	5.07	5.07	4.96	4.90
C/γ(°)	90.0								
0.0	4.79								
45.0	4.73								
90.0	4.73								
135.0	4.73								
180.0	4.79								
225.0	4.73								
270.0	4.73								
315.0	4.73								
360.0	4.79								