
Nata

Client:

LumCAT: 1681-S

Luminaire: 92.70.124.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1420

Lamp flux(lm): 1956.5

Number of Lamps: 1

Length(mm): 47

Phm Type: C

Voltage(V): 35.1000

Current(A): 0.3900

Power (W): 13.6890

PF: 0.0000

Ballast type: DC

Width(mm): 47

Height(mm): 0

Photometric Results

Lumens(lm): 1749.58, Efficiency(%): 89.42% , Luminous Efficacy(lm/W): 127.81

Central intensity(cd): 2141.831, Maximum intensity(cd): 2141.831

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=58.4

[C90/270]Total=58.4

Field angle(10%Imax): [C0/180]Total=78.2

[C90/270]Total=78.2

Maximum s/h(1/2): C0_180=0.91 C90_270=0.91

Maximum s/h(1/4): C0_180=0.87 C90_270=0.87

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 89.99%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.210%

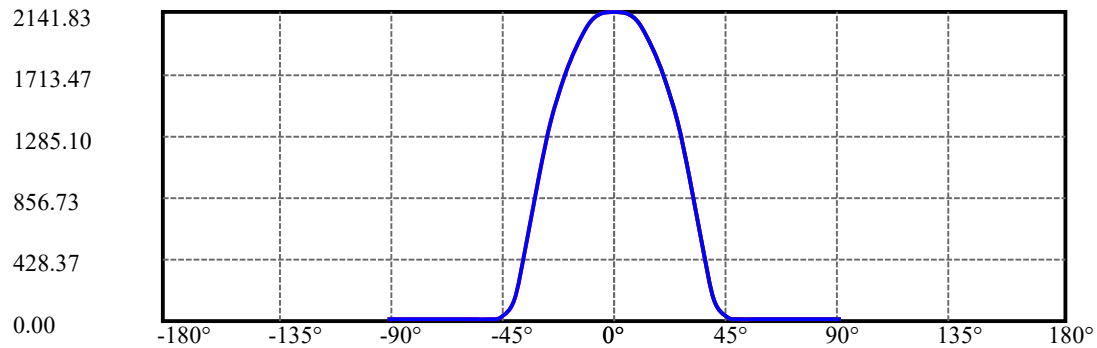
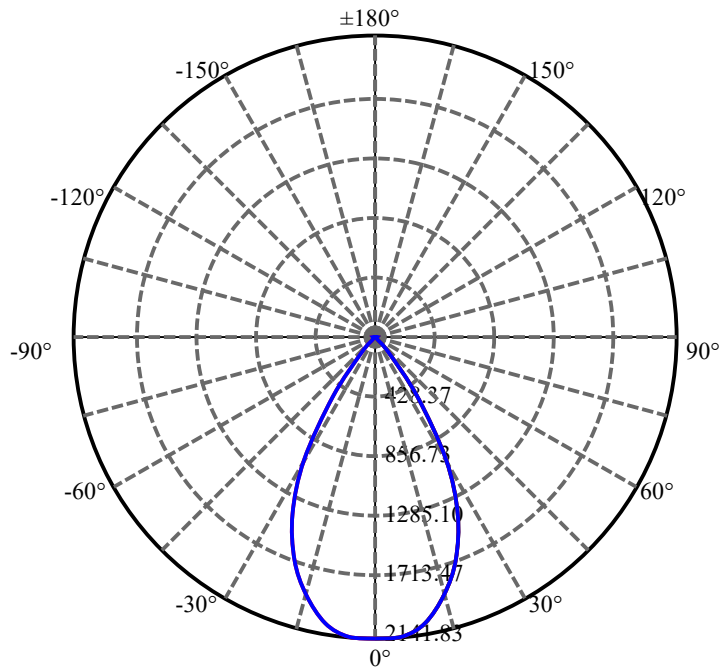
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2141.832	12.809	12.809	.655%	.732%
5.0	2132.541	101.879	114.687	5.207%	6.555%
10.0	2059.247	196.005	310.693	10.018%	17.758%
15.0	1890.224	268.163	578.856	13.706%	33.085%
20.0	1683.969	315.700	894.556	16.136%	51.130%
25.0	1385.907	321.049	1215.605	16.410%	69.480%
30.0	1009.893	276.780	1492.385	14.147%	85.300%
35.0	518.920	163.148	1655.533	8.339%	94.625%
40.0	147.599	52.005	1707.538	2.658%	97.597%
45.0	26.978	10.456	1717.994	.534%	98.195%
50.0	10.426	4.378	1722.372	.224%	98.445%
55.0	7.598	3.411	1725.784	.174%	98.640%
60.0	7.199	3.417	1729.201	.175%	98.835%
65.0	7.033	3.494	1732.695	.179%	99.035%
70.0	6.978	3.594	1736.289	.184%	99.240%
75.0	6.965	3.687	1739.977	.188%	99.451%
80.0	6.972	3.763	1743.74	.192%	99.666%
85.0	7.240	3.953	1747.693	.202%	99.892%
90.0	6.882	1.886	1749.58	.096%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1492.39	76.28%	85.30%
0-40	1707.54	87.28%	97.60%
0-60	1729.20	88.38%	98.84%
0-90	1747.69	89.33%	99.89%
0-120	1747.69	89.33%	99.89%
0-180	1749.58	89.42%	100.00%
60-90	21.91	1.12%	1.25%
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%
0-28.32	1399.66	71.54%	80.00%

ZONAL LUMEN SUMMARY

0-10	310.69
10-20	583.86
20-30	597.83
30-40	215.15
40-50	14.83
50-60	6.83
60-70	7.09
70-80	7.45
80-90	3.95
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:

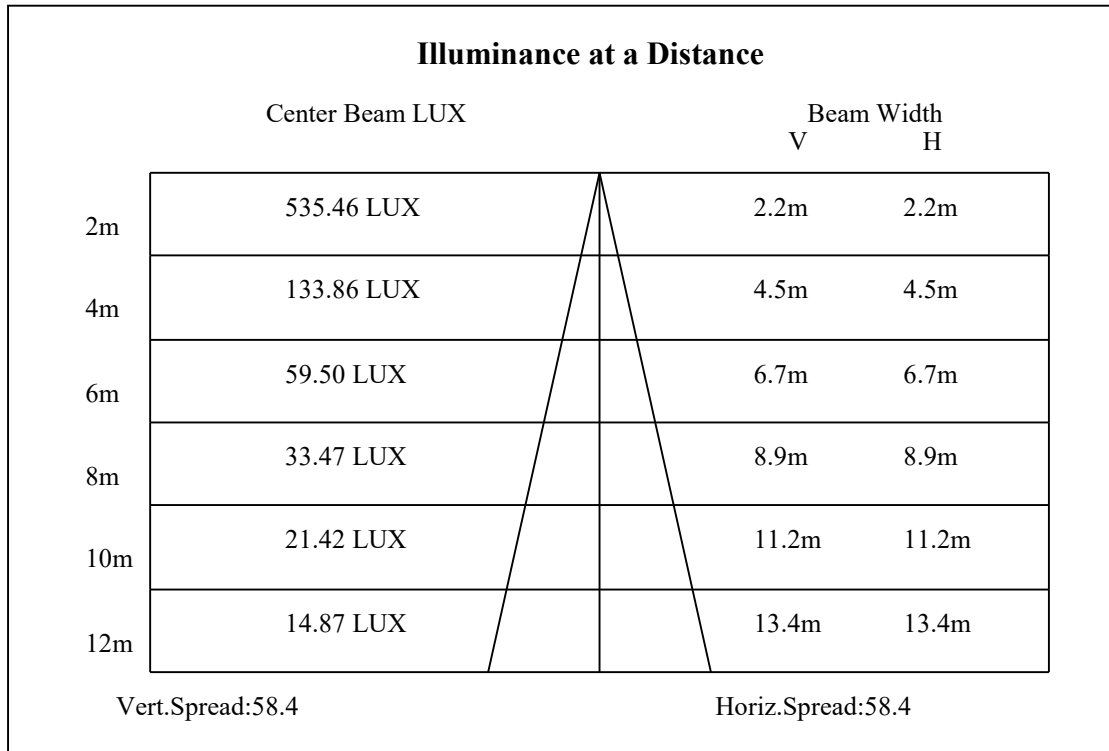
C90/C270:

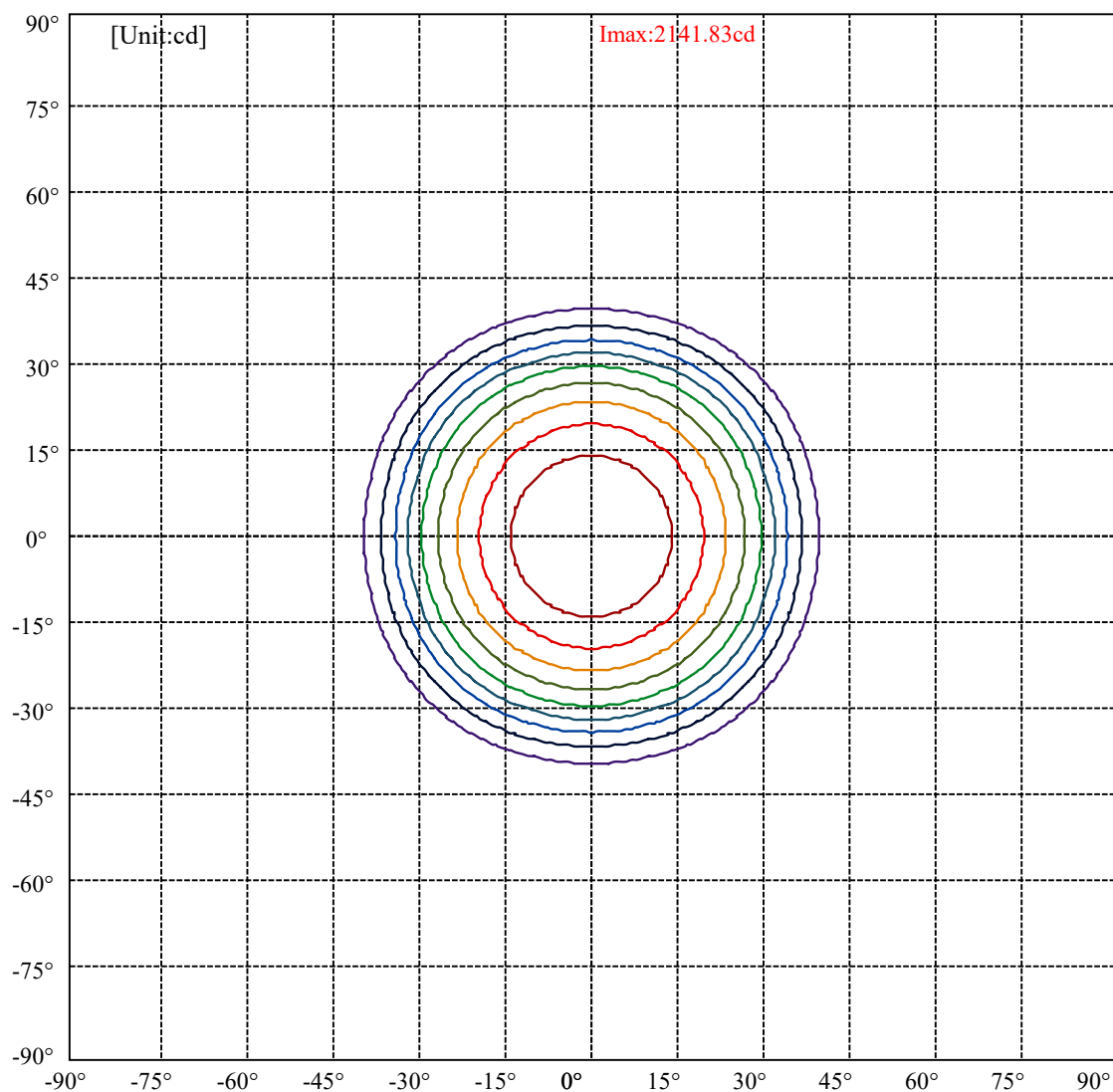
Field angle(10%Imax):C0/180Left:39.1 Right:39.1

:C90/270Left:39.1 Right:39.1

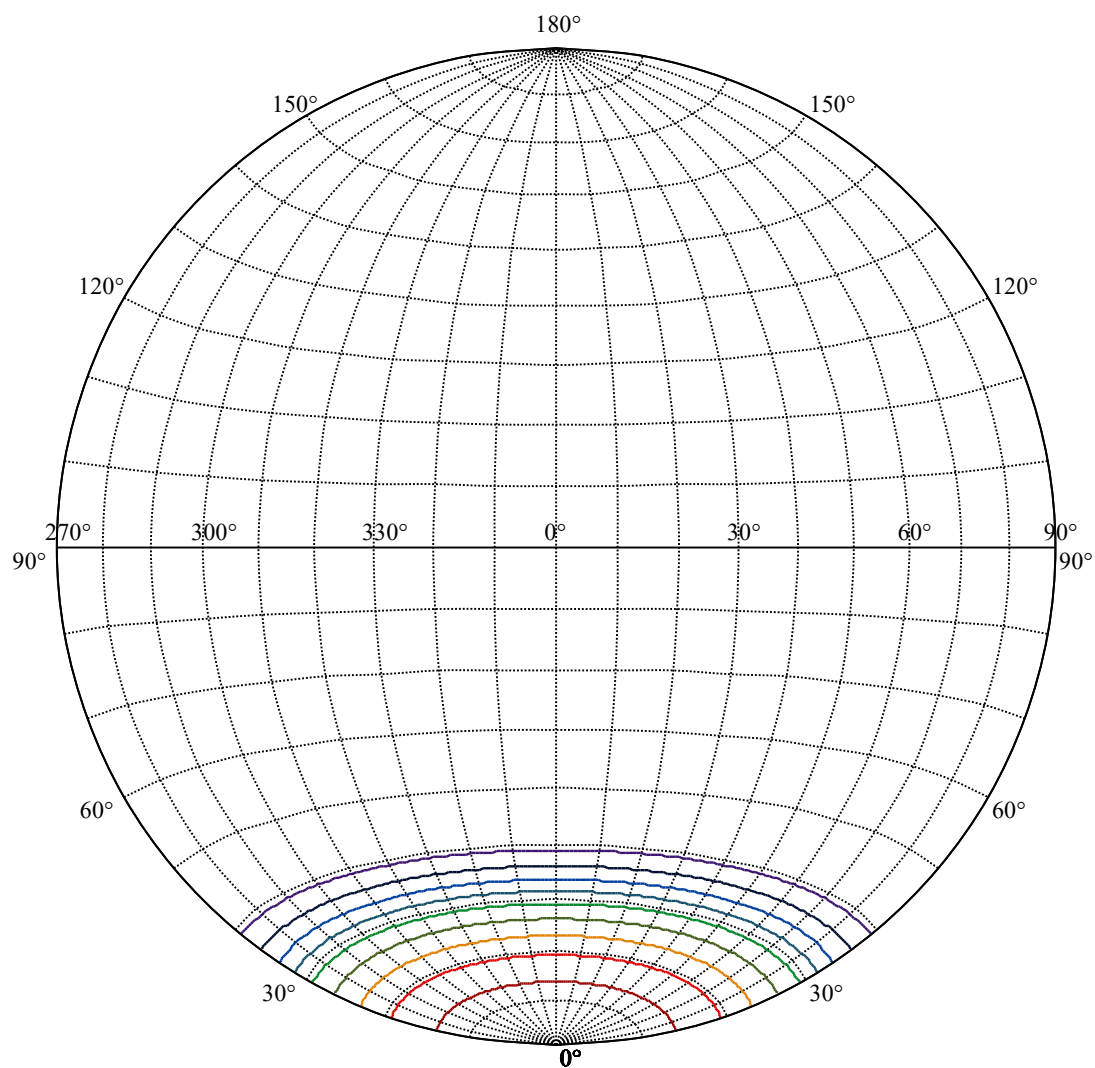
Beam Angle(50%Imax):C0/180Left:29.2 Right:29.2

:C90/270Left:29.2 Right:29.2





(10%Imax) 214.183	—
(20%Imax) 428.366	—
(30%Imax) 642.549	—
(40%Imax) 856.733	—
(50%Imax) 1070.92	—
(60%Imax) 1285.1	—
(70%Imax) 1499.28	—
(80%Imax) 1713.47	—
(90%Imax) 1927.65	—



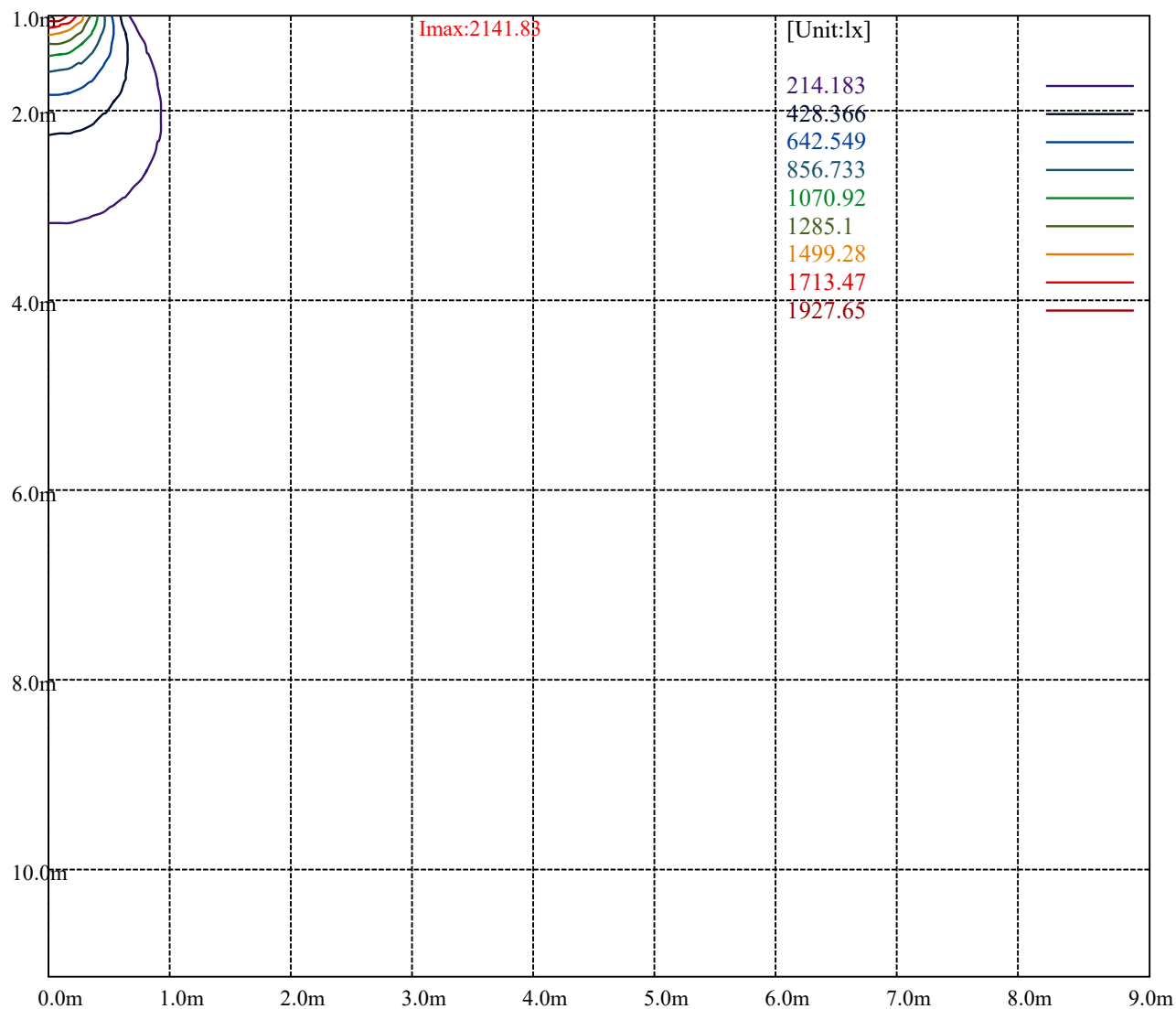
House

[Unit:cd]

Road

Imax:2141.83

(10%Imax)	214.183	—
(20%Imax)	428.366	—
(30%Imax)	642.549	—
(40%Imax)	856.733	—
(50%Imax)	1070.92	—
(60%Imax)	1285.1	—
(70%Imax)	1499.28	—
(80%Imax)	1713.47	—
(90%Imax)	1927.65	—



Luminance Table

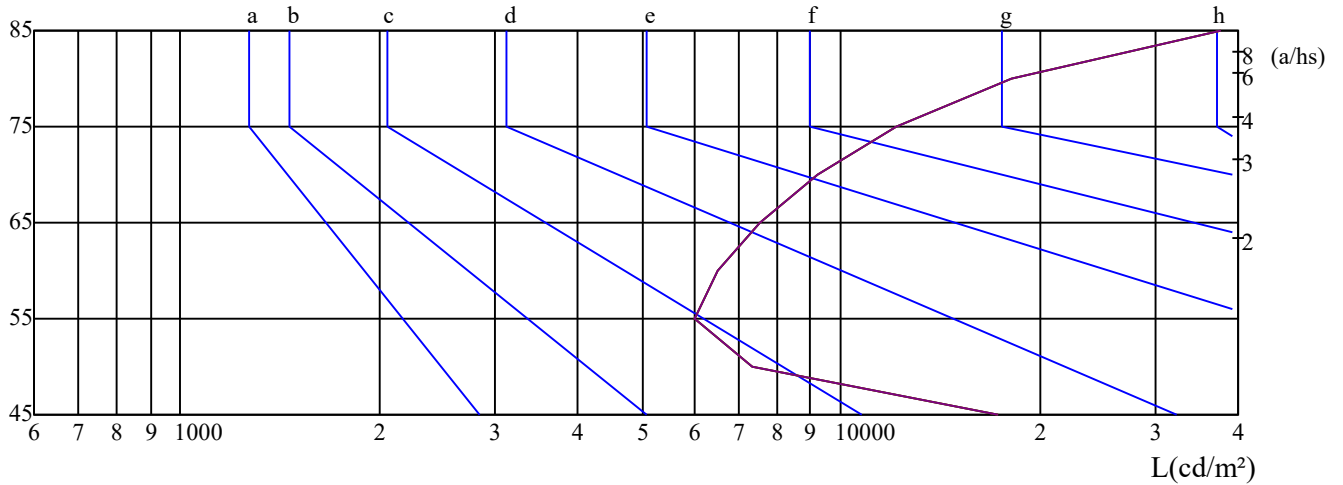
γ	45	50	55	60	65	70	75	80	85
C0	17271	7343	5997	6518	7534	9237	12182	18174	37605
C45	17271	7343	5997	6518	7534	9237	12182	18174	37605
C90	17271	7343	5997	6518	7534	9237	12182	18174	37605

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7534	7534	7534	12182	12182	12182	37605	37605	37605

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

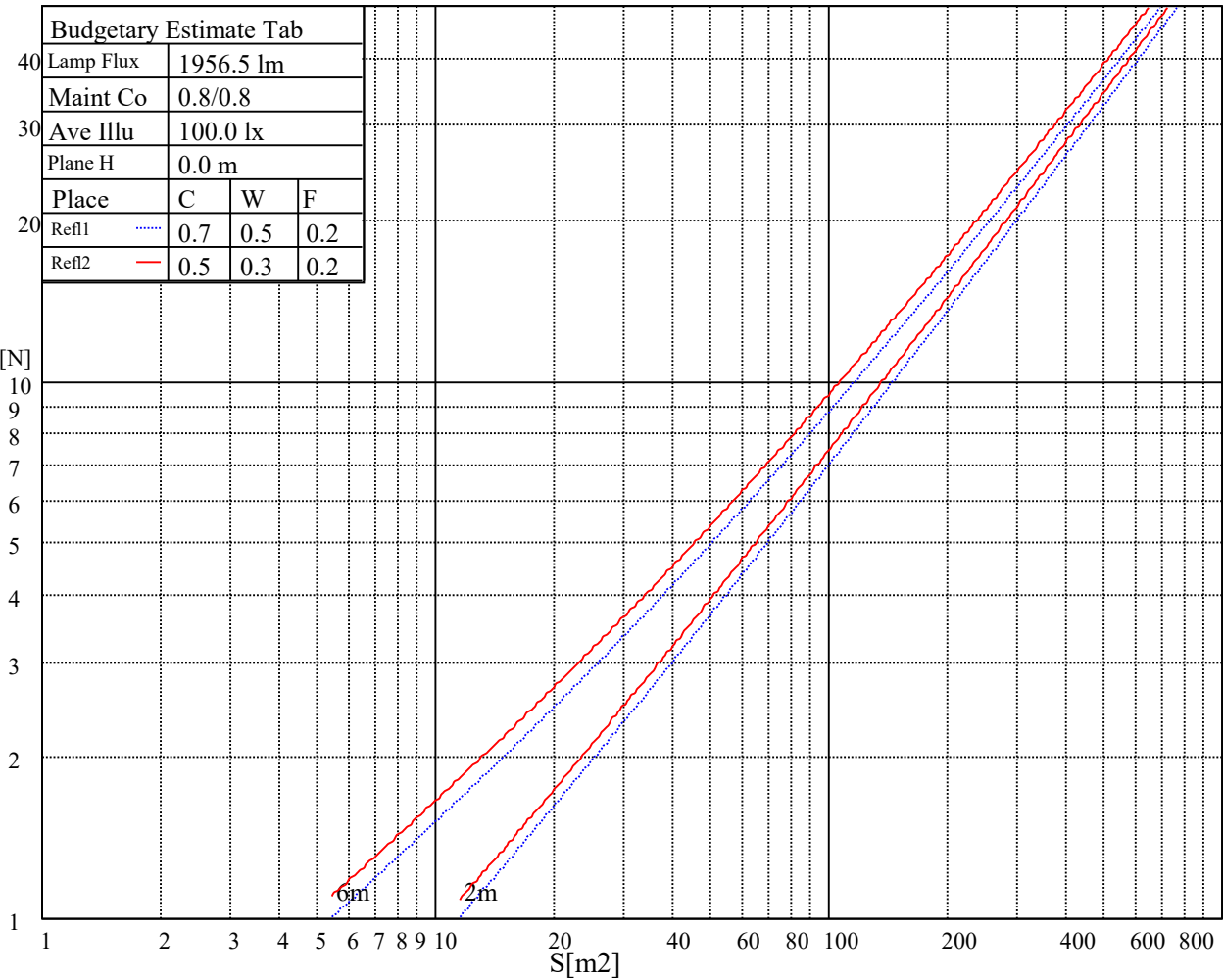
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

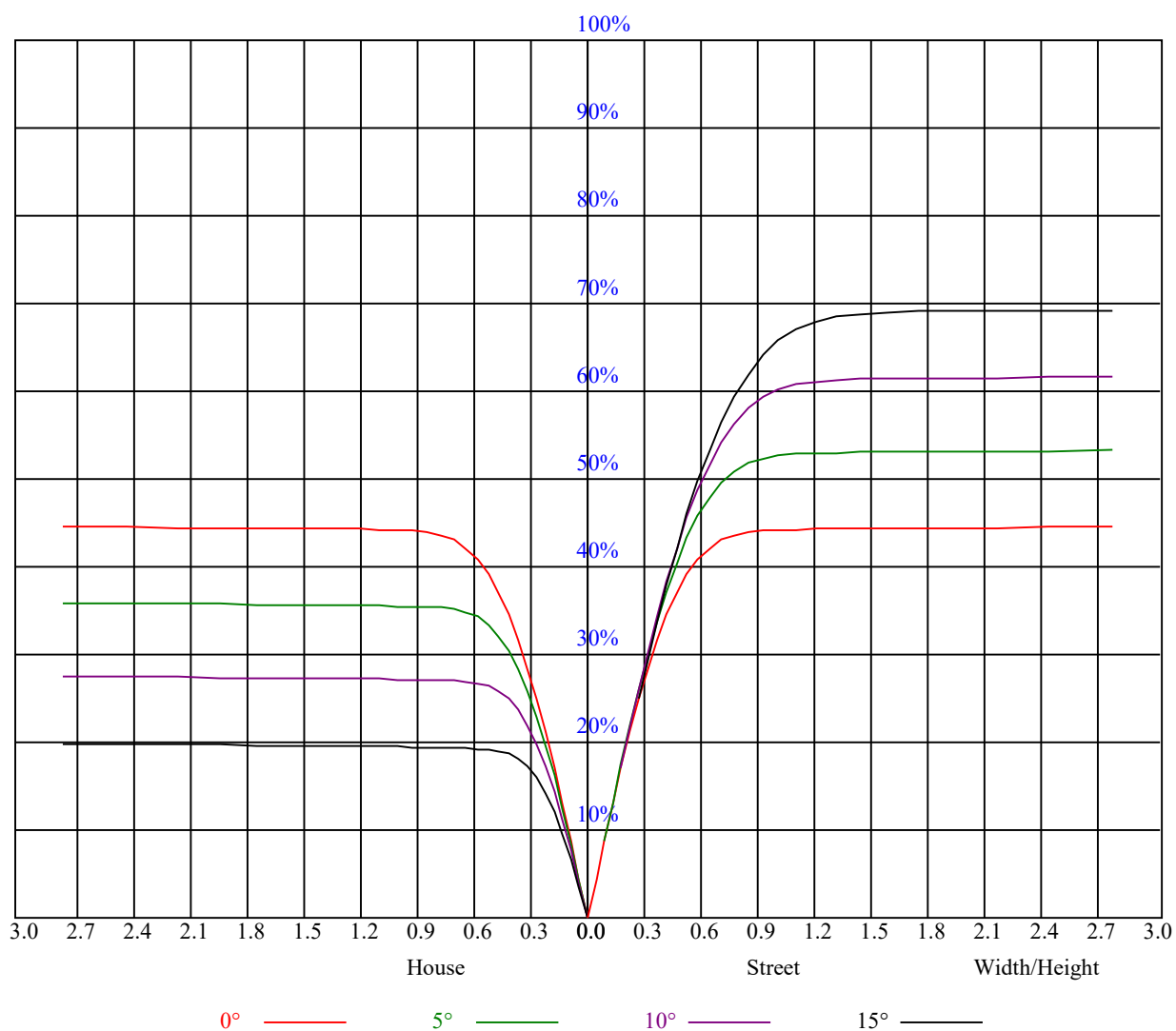
C0 ———

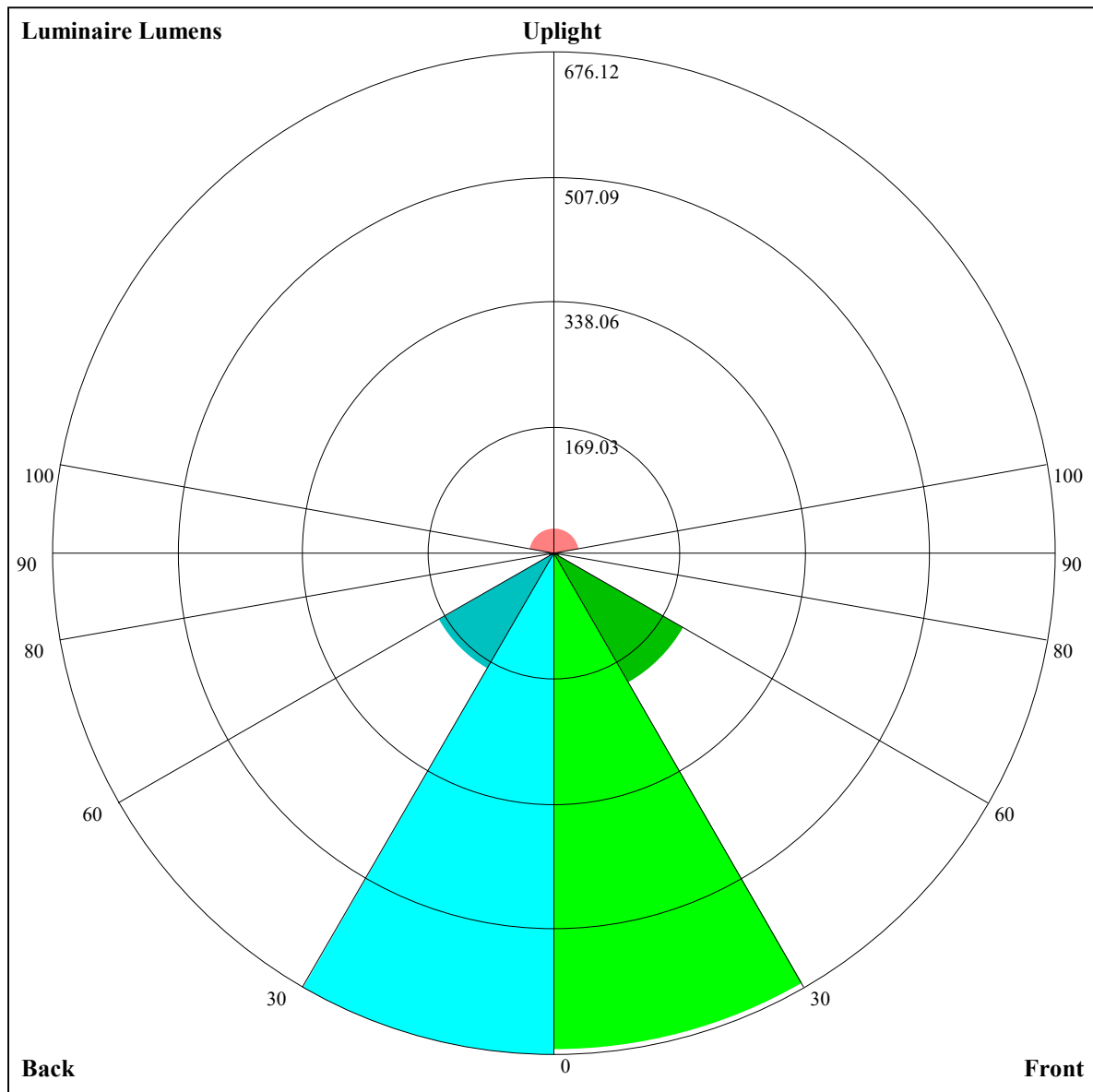
C45 ———

C90 ———



RHOC	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	0.99	0.97	0.95	0.97	0.95	0.94	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.90	0.87	0.92	0.89	0.86	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.81	0.79
3	0.88	0.84	0.80	0.87	0.83	0.80	0.84	0.81	0.78	0.82	0.80	0.77	0.80	0.78	0.76	0.75
4	0.83	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
5	0.79	0.74	0.70	0.78	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.73	0.71	0.68	0.67
6	0.75	0.70	0.66	0.74	0.69	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64
7	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.60
8	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.65	0.61	0.59	0.58
9	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.55
10	0.62	0.57	0.54	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.52





Luminaire Lumens:

FL=670.86,FM=202.78,FH=7.19,FVH=3.82

BL=676.12,BM=180.38,BH=7.2,BVH=3.91

UL=7.51,UH=35.73

BUG Rating:B2-U2-G0

Nata 1681-S

Intensity data(cd)									
Appendix Page: 15 Total:15									
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2141.14	2135.64	2072.32	1902.20	1669.86	1433.12	1057.08	608.92	292.35
45.0	2145.00	2127.38	2024.97	1807.50	1600.49	1303.18	906.23	476.24	87.26
90.0	2140.04	2096.00	1970.47	1753.00	1534.42	1082.41	784.33	271.87	55.66
135.0	2141.14	2118.57	2033.23	1852.10	1659.95	1347.23	940.91	390.90	67.66
180.0	2141.14	2137.29	2060.21	1906.05	1714.46	1390.17	960.13	400.65	67.83
225.0	2145.00	2154.36	2103.71	1963.31	1785.48	1507.99	1074.21	599.51	138.47
270.0	2140.04	2150.50	2123.53	2015.06	1805.30	1574.06	1261.89	773.54	297.86
315.0	2141.14	2140.59	2085.54	1922.57	1701.79	1449.08	1094.36	629.74	173.70
360.0	2141.14	2135.64	2072.32	1902.20	1669.86	1433.12	1057.08	608.92	292.35
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	32.26	10.96	7.65	7.21	6.99	6.88	6.88	6.88	6.88
45.0	19.82	9.58	7.60	7.27	7.10	7.05	7.10	7.10	7.21
90.0	15.03	8.42	7.54	7.21	7.05	7.05	6.99	6.99	7.54
135.0	18.11	8.92	7.49	7.21	7.05	7.05	6.99	7.05	7.93
180.0	17.78	8.70	7.32	7.05	6.99	6.94	6.94	6.94	7.43
225.0	26.10	10.52	7.60	7.16	7.05	6.99	6.99	6.99	7.10
270.0	50.87	14.59	7.98	7.27	7.05	6.94	6.94	6.94	6.94
315.0	35.84	11.73	7.60	7.21	6.99	6.94	6.88	6.88	6.88
360.0	32.26	10.96	7.65	7.21	6.99	6.88	6.88	6.88	6.88
C/γ(°)	90.0								
0.0	6.83								
45.0	6.88								
90.0	6.88								
135.0	6.88								
180.0	6.83								
225.0	6.94								
270.0	6.94								
315.0	6.88								
360.0	6.83								