
Nata

Client:

LumCAT: 1654-S

Luminaire: 92.70.044.00

Report No: NT2017110402

Test No: nata-0100

LampCAT: NICHIA NVNWS007Z-V1

Lamp flux(lm): 824.0

Number of Lamps: 1

Length(mm): 32

Phm Type: C

Voltage(V): 20.1000

Current(A): 0.3000

Power (W): 6.0300

PF: 0.0000

Ballast type: DC

Width(mm): 32

Height(mm): 0

Photometric Results

Lumens(lm): 720.57, Efficiency(%): 87.45% , Luminous Efficacy(lm/W): 119.50

Central intensity(cd): 4189.379, Maximum intensity(cd): 4189.379

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=18.0

[C90/270]Total=18.0

Field angle(10%Imax): [C0/180]Total=39.8

[C90/270]Total=39.8

Maximum s/h(1/2): C0_180=0.31 C90_270=0.31

Maximum s/h(1/4): C0_180=0.33 C90_270=0.33

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.40%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.021%

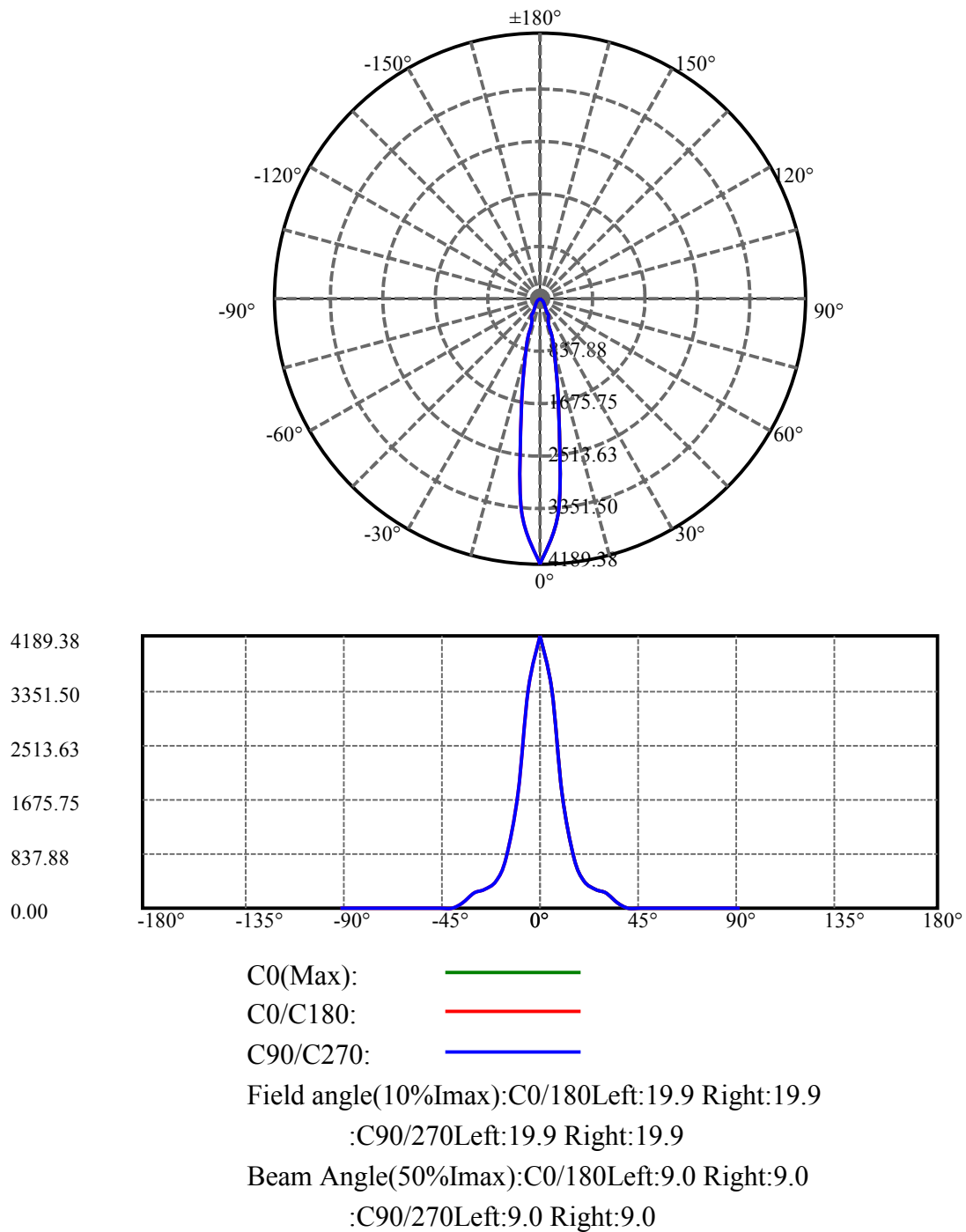
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4189.379	25.053	25.053	3.040%	3.477%
5.0	3353.210	160.194	185.247	19.441%	25.709%
10.0	1761.117	167.628	352.876	20.343%	48.972%
15.0	779.612	110.602	463.478	13.423%	64.321%
20.0	412.992	77.425	540.903	9.396%	75.067%
25.0	293.781	68.055	608.959	8.259%	84.511%
30.0	235.752	64.612	673.571	7.841%	93.478%
35.0	75.957	23.881	697.452	2.898%	96.792%
40.0	8.933	3.147	700.599	.382%	97.229%
45.0	4.804	1.862	702.461	.226%	97.487%
50.0	3.985	1.673	704.134	.203%	97.720%
55.0	4.005	1.798	705.932	.218%	97.969%
60.0	4.019	1.908	707.84	.232%	98.234%
65.0	4.109	2.041	709.881	.248%	98.517%
70.0	4.680	2.410	712.292	.293%	98.852%
75.0	5.705	3.021	715.312	.367%	99.271%
80.0	3.998	2.158	717.471	.262%	99.571%
85.0	4.060	2.217	719.688	.269%	99.878%
90.0	3.200	0.877	720.565	.106%	100.000%

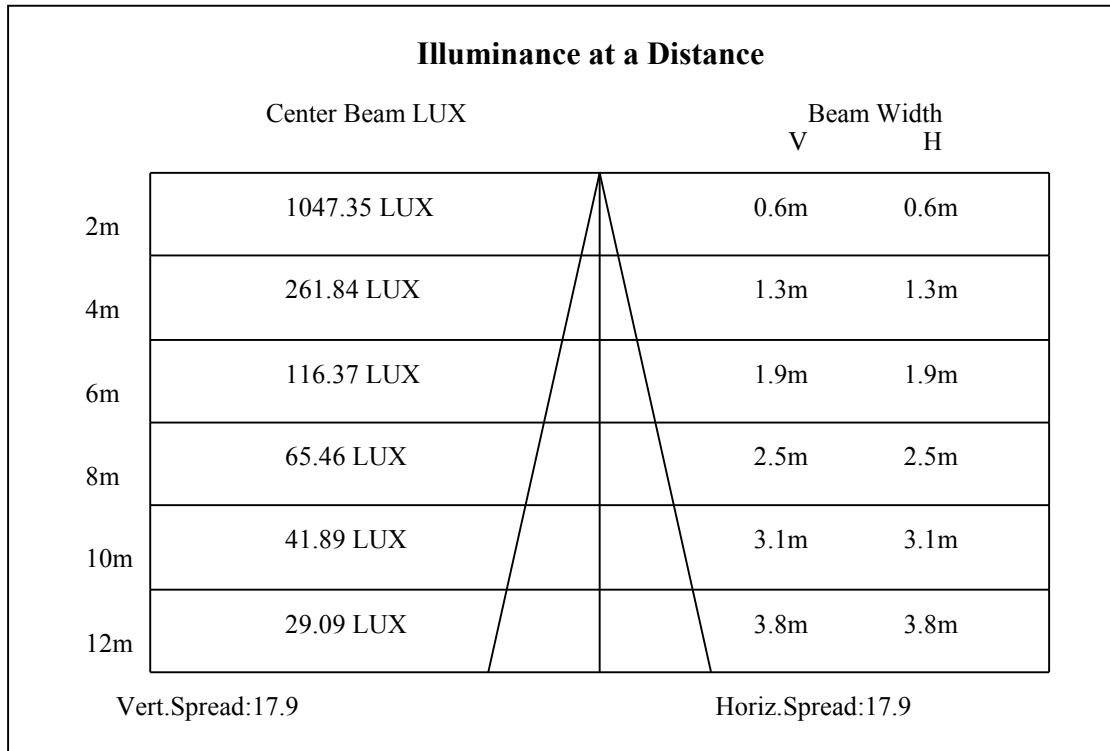
ZONAL LUMEN SUMMARY

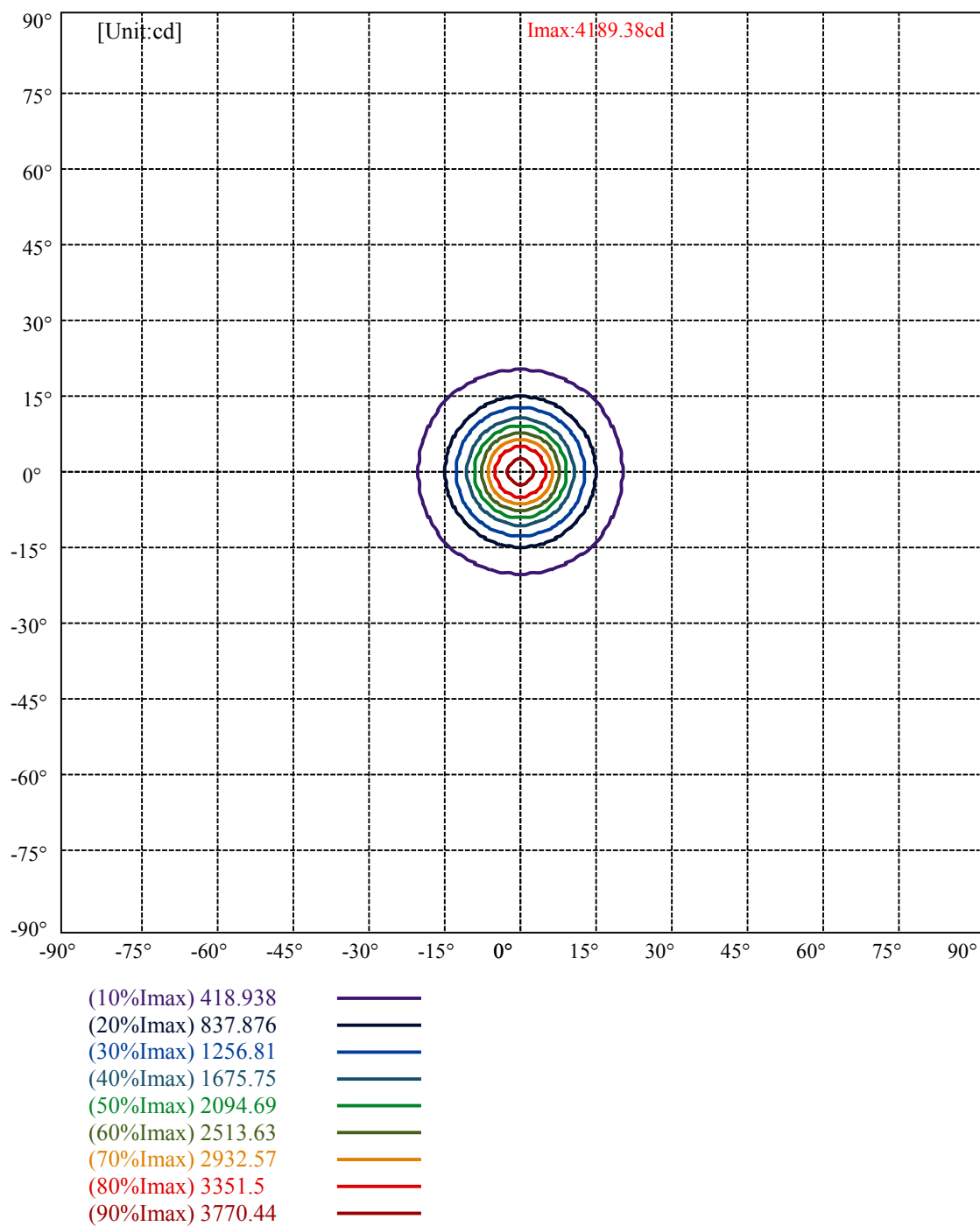
Zone	Lumens	%Lamp	%Fixt
0-30	673.57	81.74%	93.48%
0-40	700.60	85.02%	97.23%
0-60	707.84	85.90%	98.23%
0-90	719.69	87.34%	99.88%
0-120	719.69	87.34%	99.88%
0-180	720.57	87.45%	100.00%
60-90	13.76	1.67%	1.91%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.61	576.45	69.96%	80.00%

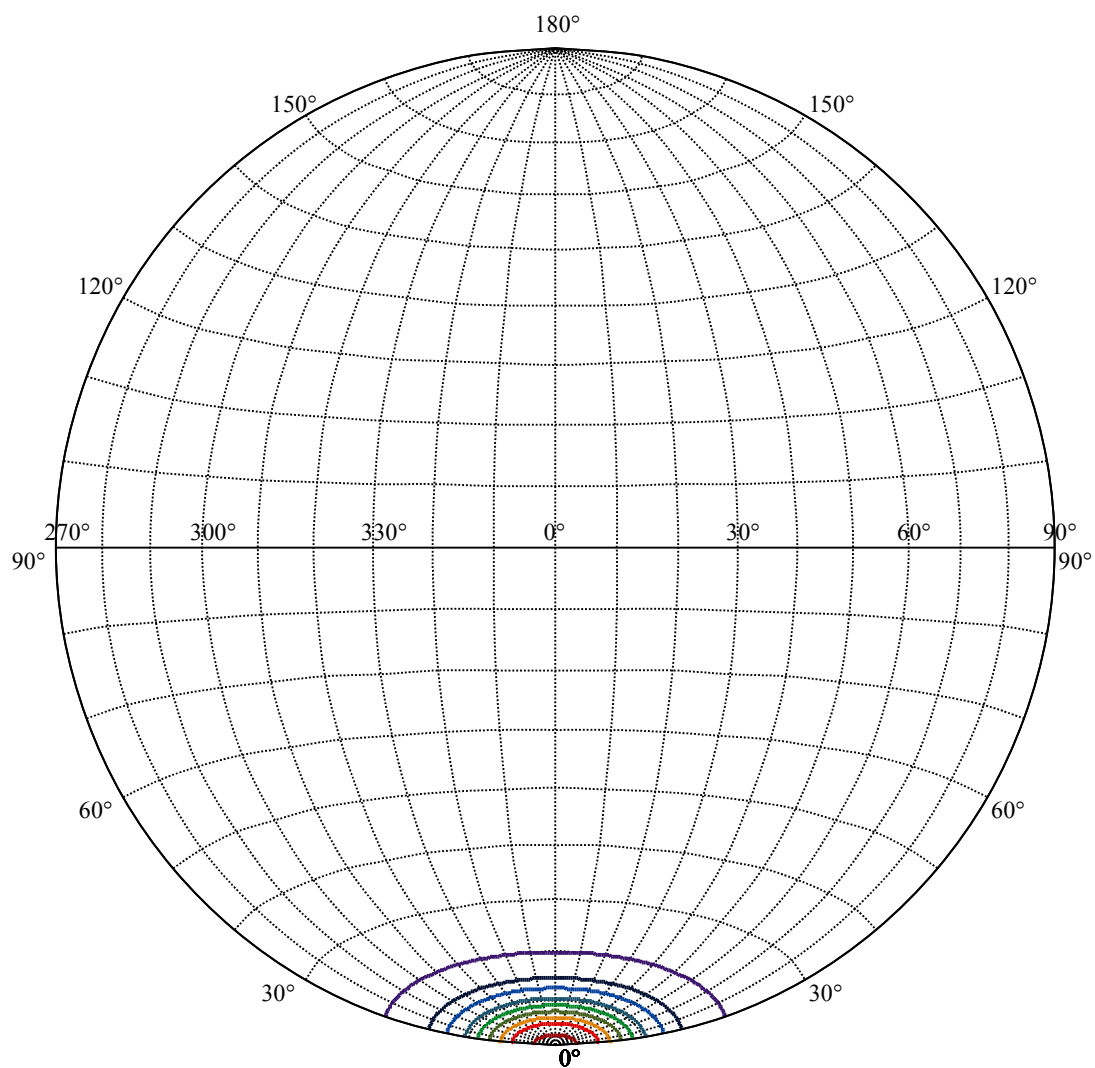
ZONAL LUMEN SUMMARY

0-10	352.88
10-20	188.03
20-30	132.67
30-40	27.03
40-50	3.54
50-60	3.71
60-70	4.45
70-80	5.18
80-90	2.22
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









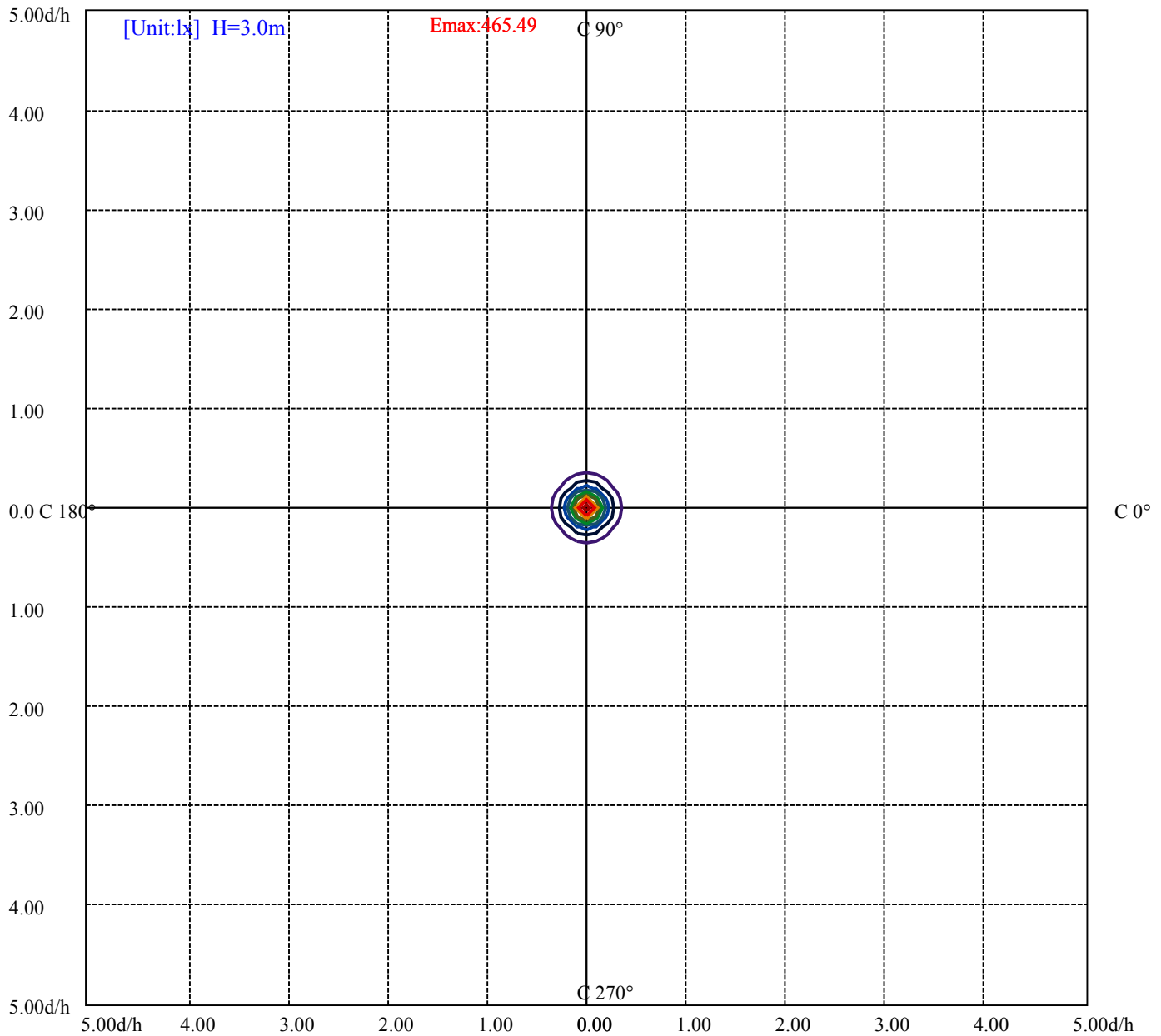
House

[Unit:cd]

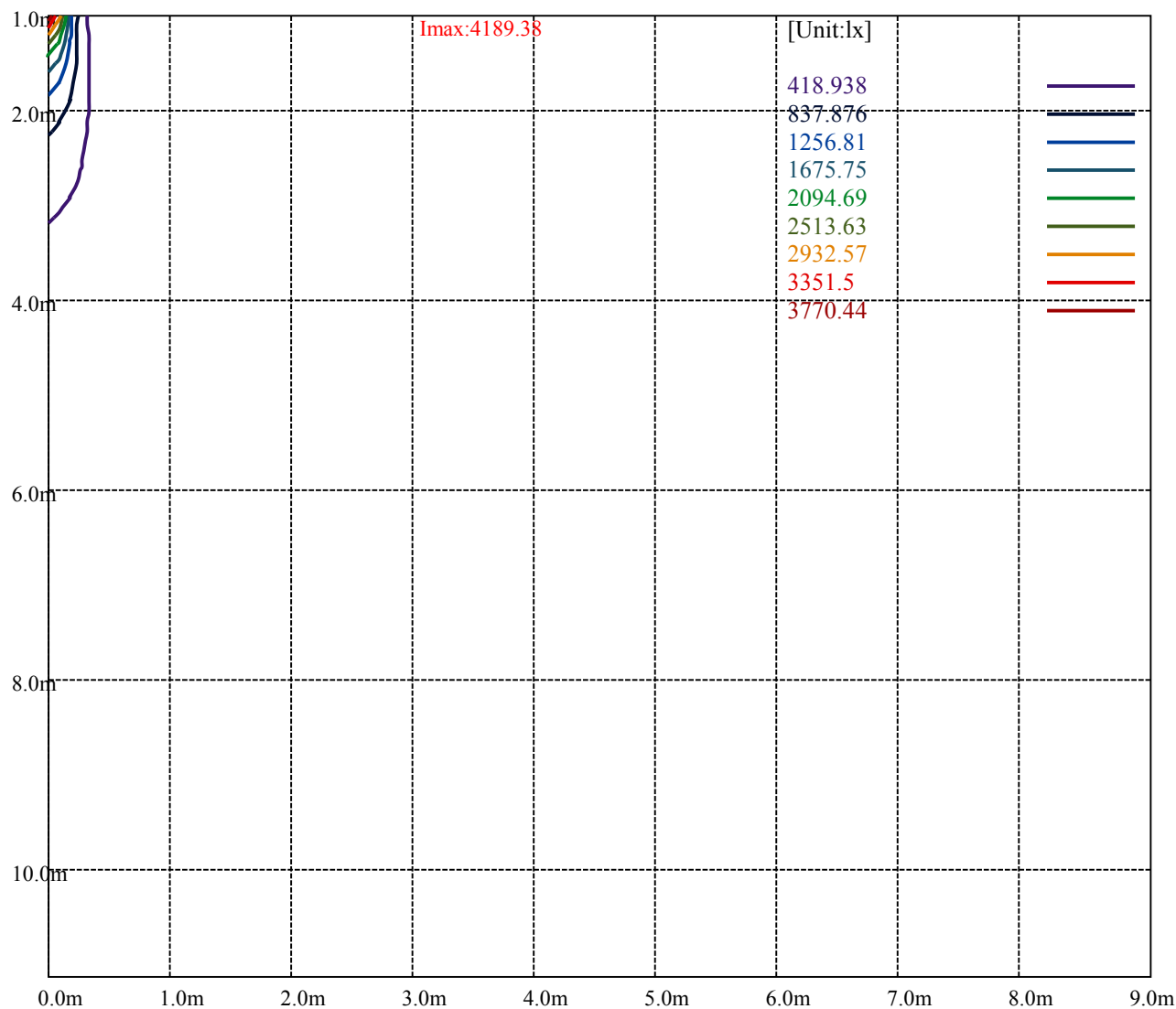
Road

Imax:4189.38

(10%Imax)	418.938	—
(20%Imax)	837.876	—
(30%Imax)	1256.81	—
(40%Imax)	1675.75	—
(50%Imax)	2094.69	—
(60%Imax)	2513.63	—
(70%Imax)	2932.57	—
(80%Imax)	3351.5	—
(90%Imax)	3770.44	—



(10%Emax)	46.54833	—
(20%Emax)	93.09677	—
(30%Emax)	139.6456	—
(40%Emax)	186.1933	—
(50%Emax)	232.7422	—
(60%Emax)	279.29	—
(70%Emax)	325.8389	—
(80%Emax)	372.3867	—
(90%Emax)	418.9355	—



Luminance Table

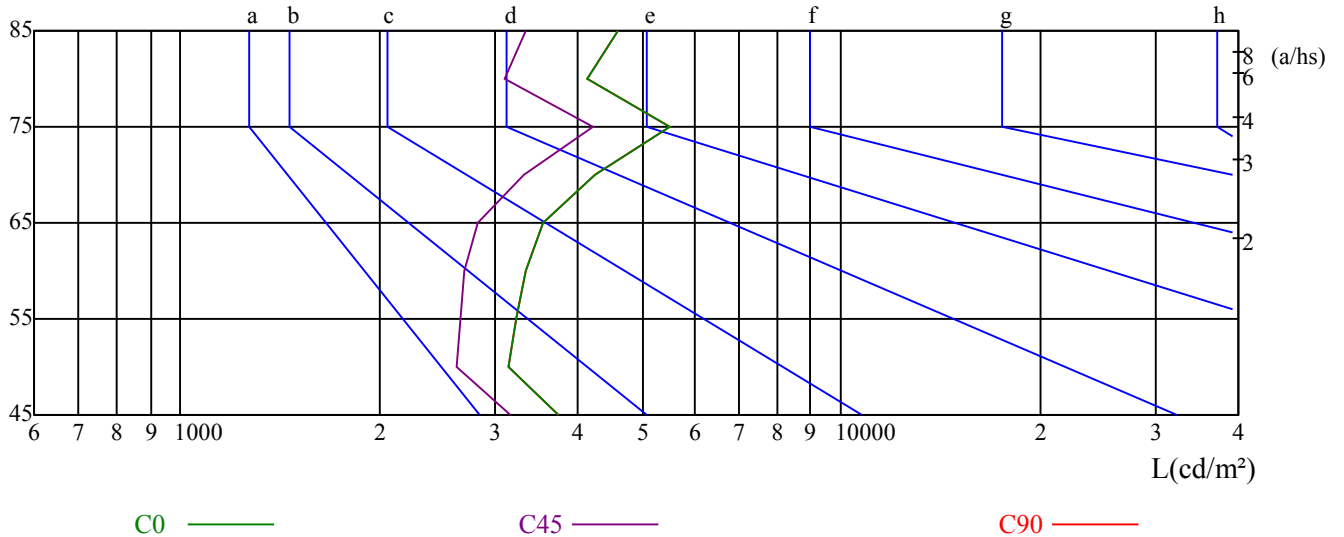
γ	45	50	55	60	65	70	75	80	85
C0	3724	3135	3223	3336	3549	4247	5498	4141	4582
C45	3152	2613	2645	2694	2818	3311	4202	3095	3338
C90	3724	3135	3223	3336	3549	4247	5498	4141	4582

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9494	9494	9494	21527	21527	21527	45496	45496	45496

Glare Table

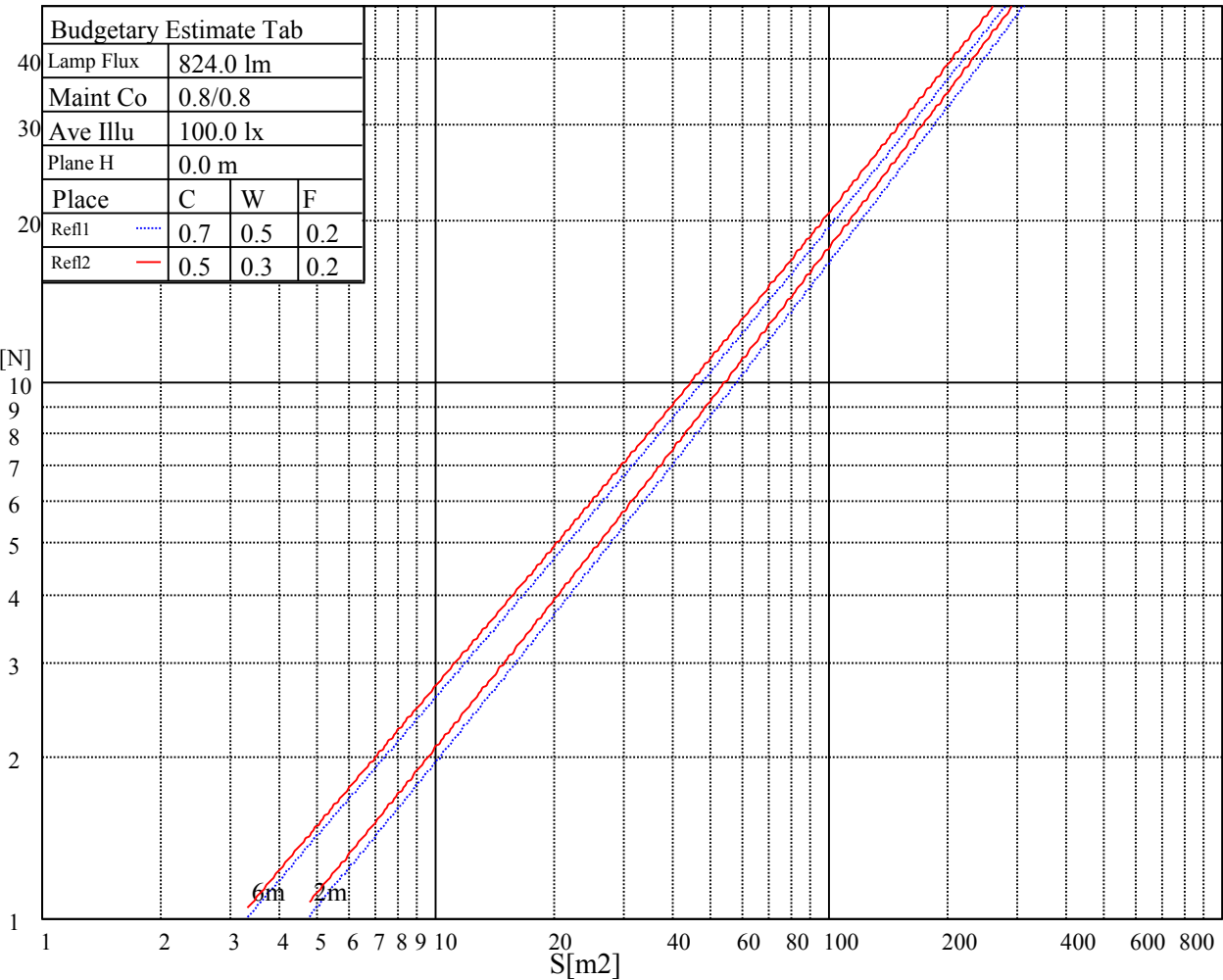
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

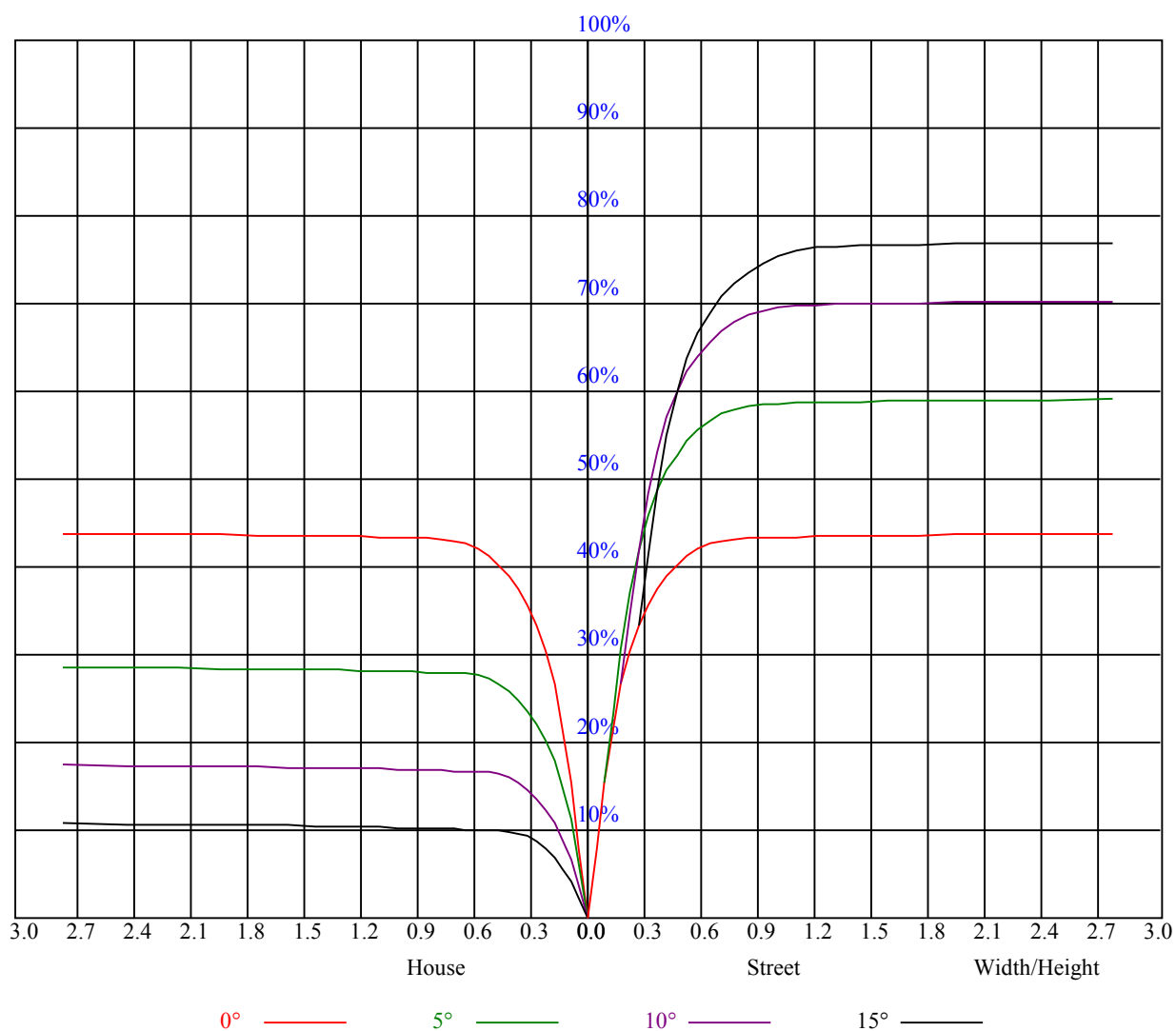
 $\gamma(^{\circ})$ 

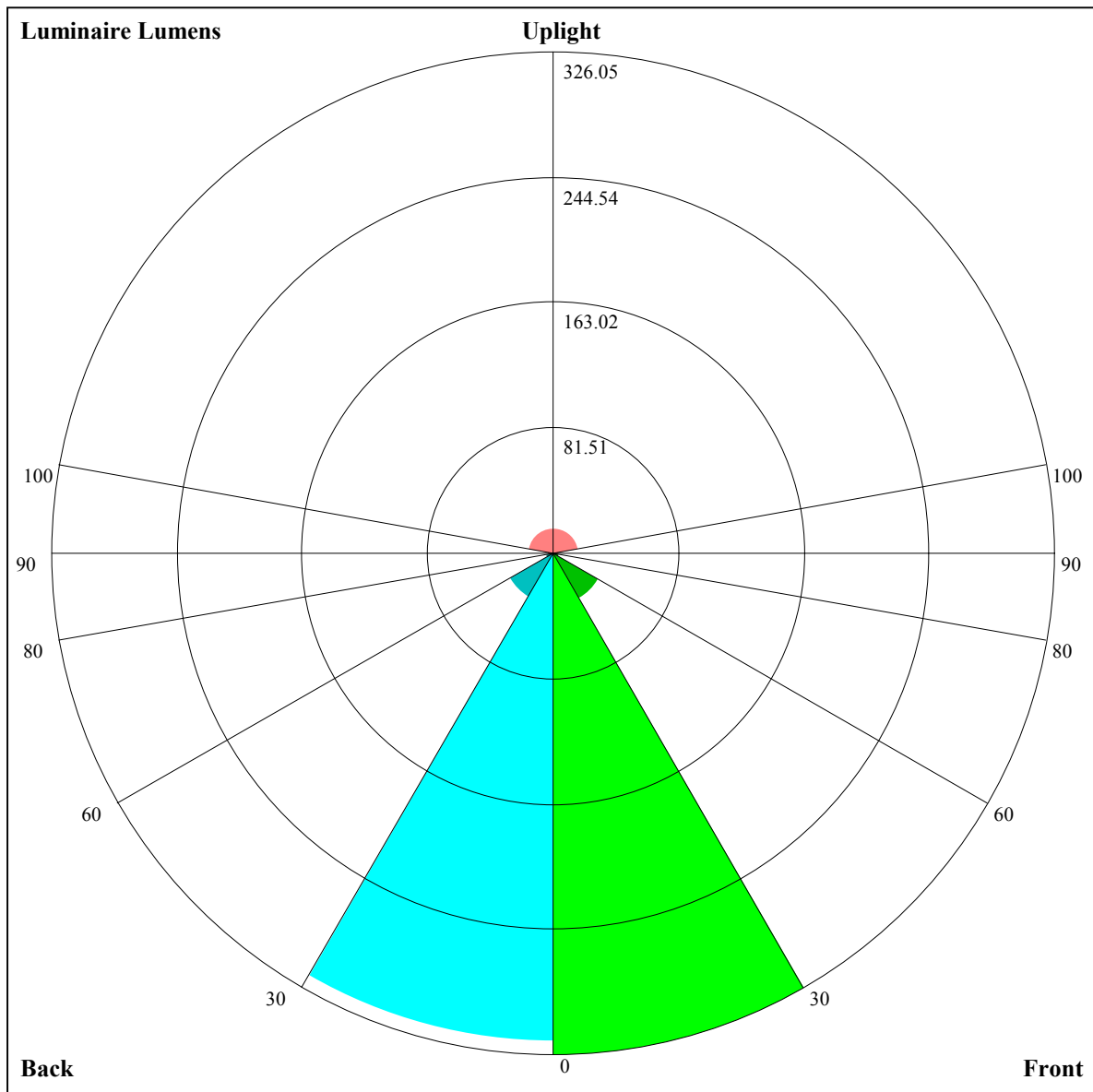
Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	15.15	16.07	15.51	16.38	16.70	14.02	14.95	14.39	15.26	15.57
	3H	15.19	16.01	15.57	16.35	16.69	14.47	15.29	14.85	15.63	15.97
	4H	15.37	16.13	15.77	16.49	16.86	15.09	15.86	15.50	16.21	16.58
	6H	15.65	16.35	16.07	16.73	17.13	15.58	16.28	16.00	16.65	17.05
	8H	15.80	16.47	16.23	16.85	17.26	15.78	16.44	16.20	16.83	17.24
	12H	16.00	16.63	16.43	17.03	17.45	16.05	16.67	16.47	17.07	17.49
4H	2H	14.91	15.67	15.31	16.03	16.39	13.82	14.58	14.22	14.94	15.31
	3H	15.09	15.73	15.52	16.13	16.55	14.53	15.17	14.95	15.56	15.98
	4H	15.55	16.11	15.99	16.53	16.98	15.51	16.06	15.95	16.49	16.94
	6H	15.98	16.47	16.46	16.93	17.38	16.14	16.63	16.62	17.09	17.54
	8H	16.26	16.72	16.75	17.18	17.65	16.46	16.91	16.95	17.37	17.85
	12H	16.61	17.03	17.10	17.48	18.00	16.87	17.29	17.36	17.74	18.26
8H	4H	15.78	16.23	16.27	16.69	17.17	15.74	16.20	16.23	16.65	17.13
	6H	16.35	16.72	16.86	17.20	17.72	16.51	16.88	17.01	17.36	17.87
	8H	16.79	17.10	17.33	17.62	18.12	16.98	17.29	17.52	17.81	18.31
	12H	17.28	17.52	17.83	18.03	18.56	17.54	17.78	18.09	18.30	18.82
12H	4H	15.79	16.20	16.28	16.66	17.18	15.75	16.16	16.24	16.62	17.14
	6H	16.46	16.77	17.00	17.29	17.79	16.60	16.91	17.14	17.44	17.93
	8H	16.93	17.16	17.47	17.68	18.20	17.11	17.34	17.65	17.86	18.38
Variation with the observer position at spacings:											
S = 1.0H		5.2/-4.5					5.2/-4.5				
S = 1.5H		6.8/-2.8					6.8/-2.8				
S = 2.0H		8.1/-2.1					8.1/-2.1				
Standard tables:		BK3					BK3				
Uncorrected UGR		-2.1					-2.1				

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



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	1.08	1.08	1.08	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	0.98	0.95	0.92	0.96	0.93	0.91	0.92	0.90	0.88	0.89	0.87	0.85	0.85	0.84	0.83	0.81
2	0.93	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.83	0.86	0.84	0.82	0.83	0.82	0.80	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	0.85	0.81	0.78	0.84	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
7	0.77	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	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
9	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.64





Luminaire Lumens:

FL=326.05,FM=34.53,FH=4.53,FVH=2.07

BL=317.65,BM=32.41,BH=5.02,BVH=2.12

UL=3.49,UH=16.62

BUG Rating:B1-U2-G0

Nata 1654-S

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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	4167.22	3549.49	2003.50	905.13	454.22	307.21	266.91	107.53	9.63
45.0	4209.06	3363.40	1875.22	776.30	407.97	296.75	235.42	81.26	9.80
90.0	4200.80	3137.11	1318.60	694.59	382.04	284.86	228.59	64.64	8.70
135.0	4180.43	3520.31	1867.51	824.74	428.89	301.16	247.26	86.44	9.36
180.0	4167.22	3100.23	1570.76	674.94	374.11	280.18	209.49	50.32	8.48
225.0	4209.06	3331.46	1790.98	770.84	405.38	288.06	229.64	68.93	8.64
270.0	4200.80	3599.04	1964.96	862.18	445.41	301.16	243.35	81.43	8.70
315.0	4180.43	3224.65	1697.39	728.18	405.93	290.86	225.35	67.11	8.15
360.0	4167.22	3549.49	2003.50	905.13	454.22	307.21	266.91	107.53	9.63
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	5.45	3.63	3.69	3.69	3.80	3.80	3.96	3.85	3.91
45.0	4.90	4.18	4.24	4.29	4.40	4.51	7.71	4.29	4.24
90.0	4.62	4.40	4.46	4.51	4.62	6.66	6.55	4.13	4.46
135.0	5.01	4.35	4.35	4.35	4.46	6.55	10.68	4.46	4.57
180.0	4.51	4.13	4.13	4.13	4.13	4.35	5.01	3.80	3.80
225.0	4.79	3.85	3.91	3.91	4.02	4.07	4.29	3.96	3.96
270.0	4.84	3.74	3.74	3.80	3.85	3.91	3.96	3.96	3.91
315.0	4.29	3.58	3.52	3.47	3.58	3.58	3.47	3.52	3.63
360.0	5.45	3.63	3.69	3.69	3.80	3.80	3.96	3.85	3.91
C/γ(°)	90.0								
0.0	3.19								
45.0	3.19								
90.0	3.19								
135.0	3.19								
180.0	3.19								
225.0	3.25								
270.0	3.19								
315.0	3.19								
360.0	3.19								