
Nata

Client:

LumCAT: 1657-S

Luminaire: 92.70.125.00

Report No: nata-0100

Test No: GC2018060211

LampCAT: NICHIA NFCWS024B-V3

Lamp flux(lm): 1055.6

Number of Lamps: 1

Length(mm): 47

Phm Type: C

Voltage(V): 36.5000

Current(A): 0.3000

Power (W): 10.9500

PF: 0.0000

Ballast type: DC

Width(mm): 47

Height(mm): 0

Photometric Results

Lumens(lm): 958.35, Efficiency(%): 90.79% , Luminous Efficacy(lm/W): 87.52

Central intensity(cd): 4916.399, Maximum intensity(cd): 4916.399

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=19.6

[C90/270]Total=19.6

Field angle(10%Imax): [C0/180]Total=39.2

[C90/270]Total=39.2

Maximum s/h(1/2): C0_180=0.34 C90_270=0.34

Maximum s/h(1/4): C0_180=0.35 C90_270=0.35

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.48%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.757%

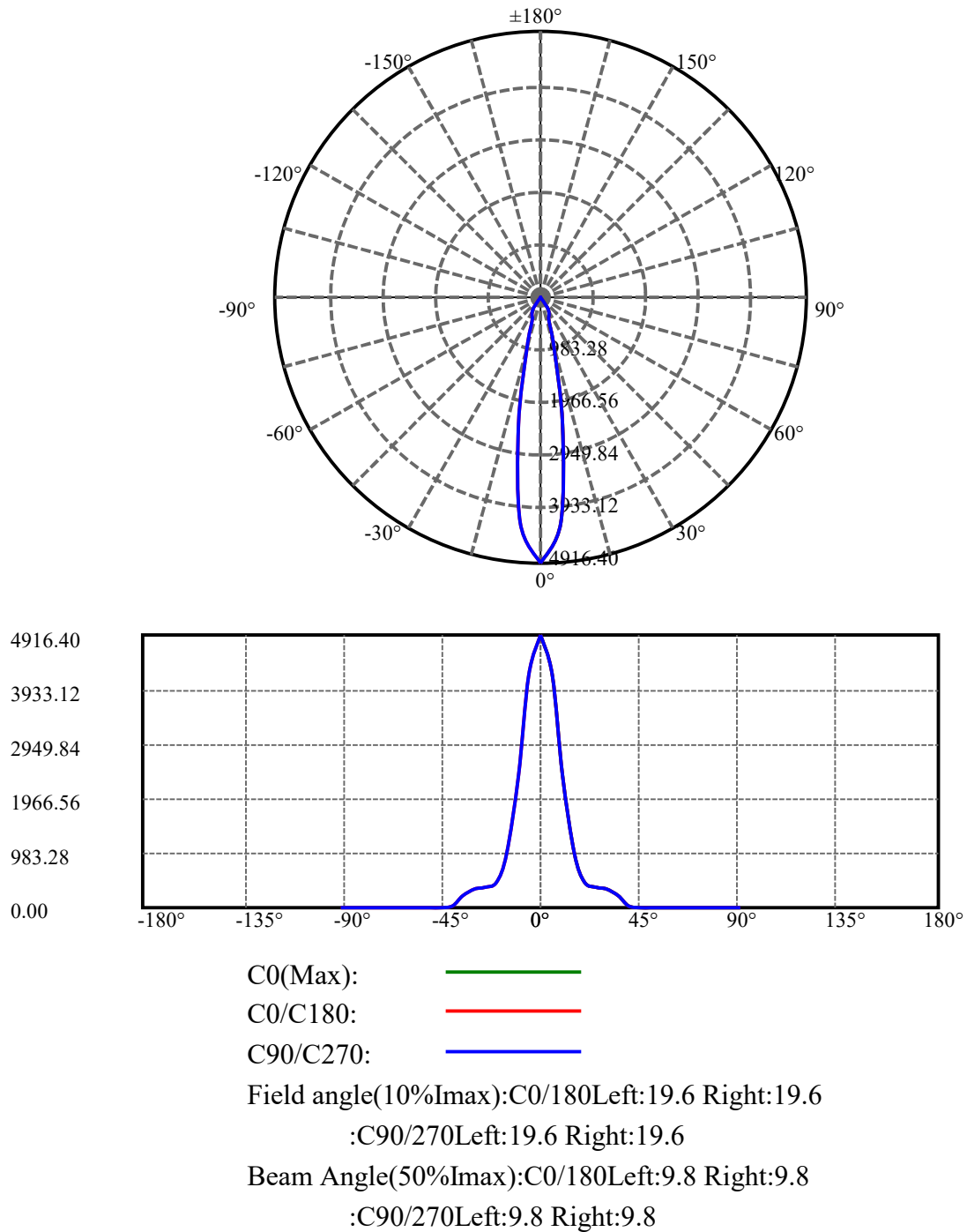
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4916.399	29.401	29.401	2.785%	3.068%
5.0	4175.821	199.493	228.894	18.898%	23.884%
10.0	2396.949	228.149	457.043	21.613%	47.691%
15.0	969.185	137.497	594.54	13.025%	62.038%
20.0	451.958	84.730	679.27	8.027%	70.879%
25.0	364.315	84.395	763.665	7.995%	79.686%
30.0	334.344	91.633	855.298	8.681%	89.247%
35.0	223.254	70.191	925.488	6.649%	96.571%
40.0	19.187	6.760	932.249	.640%	97.277%
45.0	9.318	3.612	935.86	.342%	97.654%
50.0	7.832	3.289	939.149	.312%	97.997%
55.0	6.731	3.022	942.171	.286%	98.312%
60.0	5.884	2.793	944.964	.265%	98.604%
65.0	5.251	2.609	947.573	.247%	98.876%
70.0	4.838	2.492	950.065	.236%	99.136%
75.0	4.590	2.430	952.495	.230%	99.390%
80.0	4.439	2.396	954.892	.227%	99.640%
85.0	4.274	2.334	957.225	.221%	99.883%
90.0	4.088	1.120	958.346	.106%	100.000%

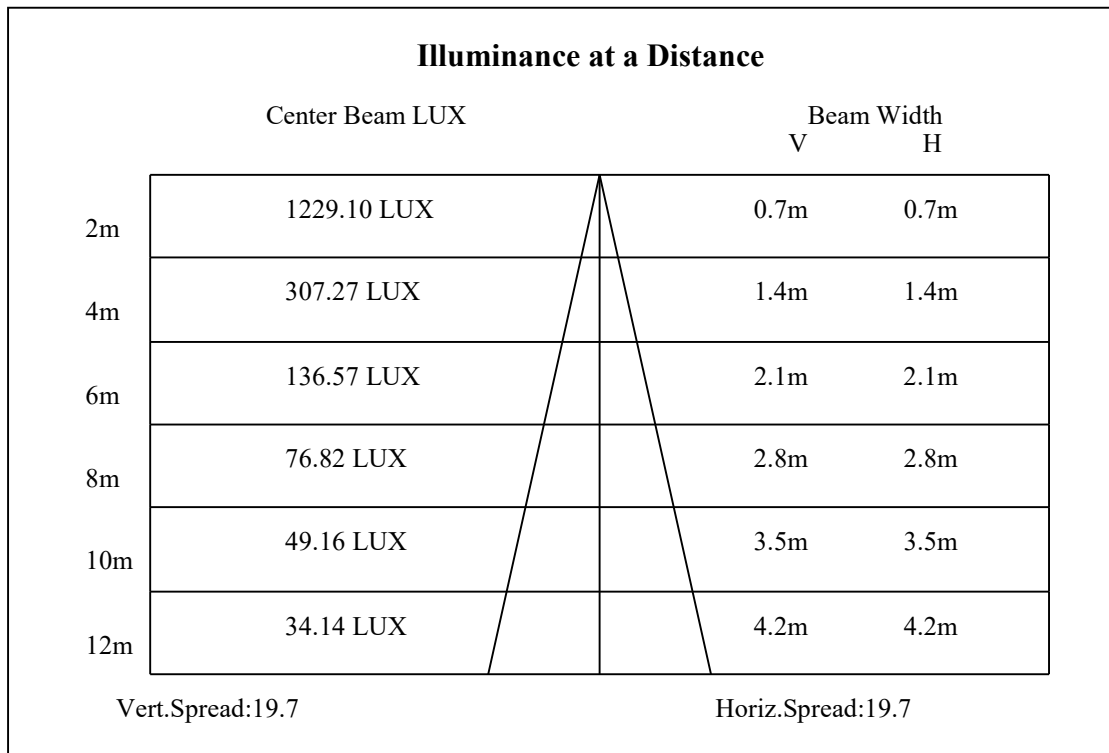
ZONAL LUMEN SUMMARY

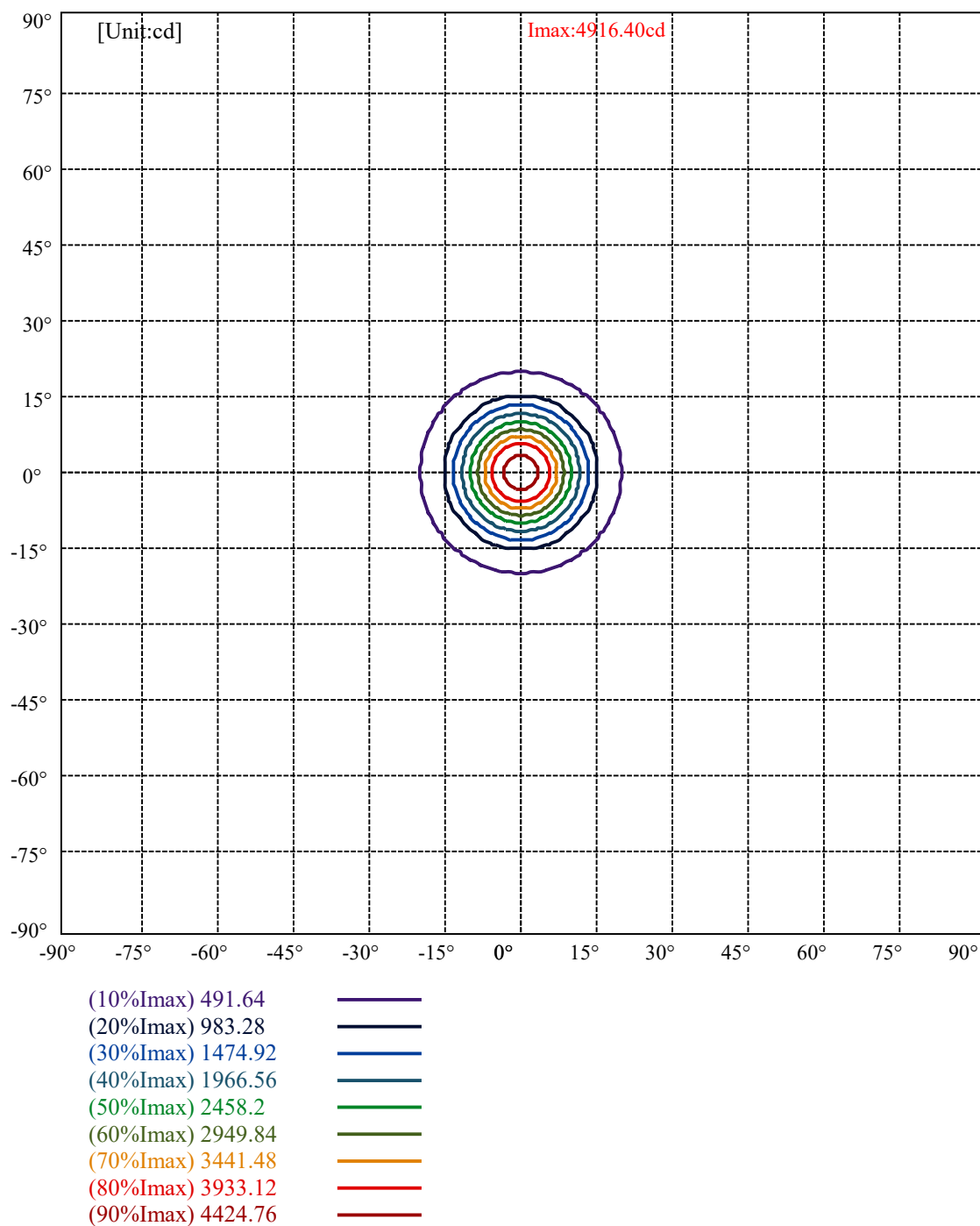
Zone	Lumens	%Lamp	%Fixt
0-30	855.30	81.02%	89.25%
0-40	932.25	88.31%	97.28%
0-60	944.96	89.52%	98.60%
0-90	957.23	90.68%	99.88%
0-120	957.23	90.68%	99.88%
0-180	958.35	90.79%	100.00%
60-90	15.05	1.43%	1.57%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.16	766.68	72.63%	80.00%

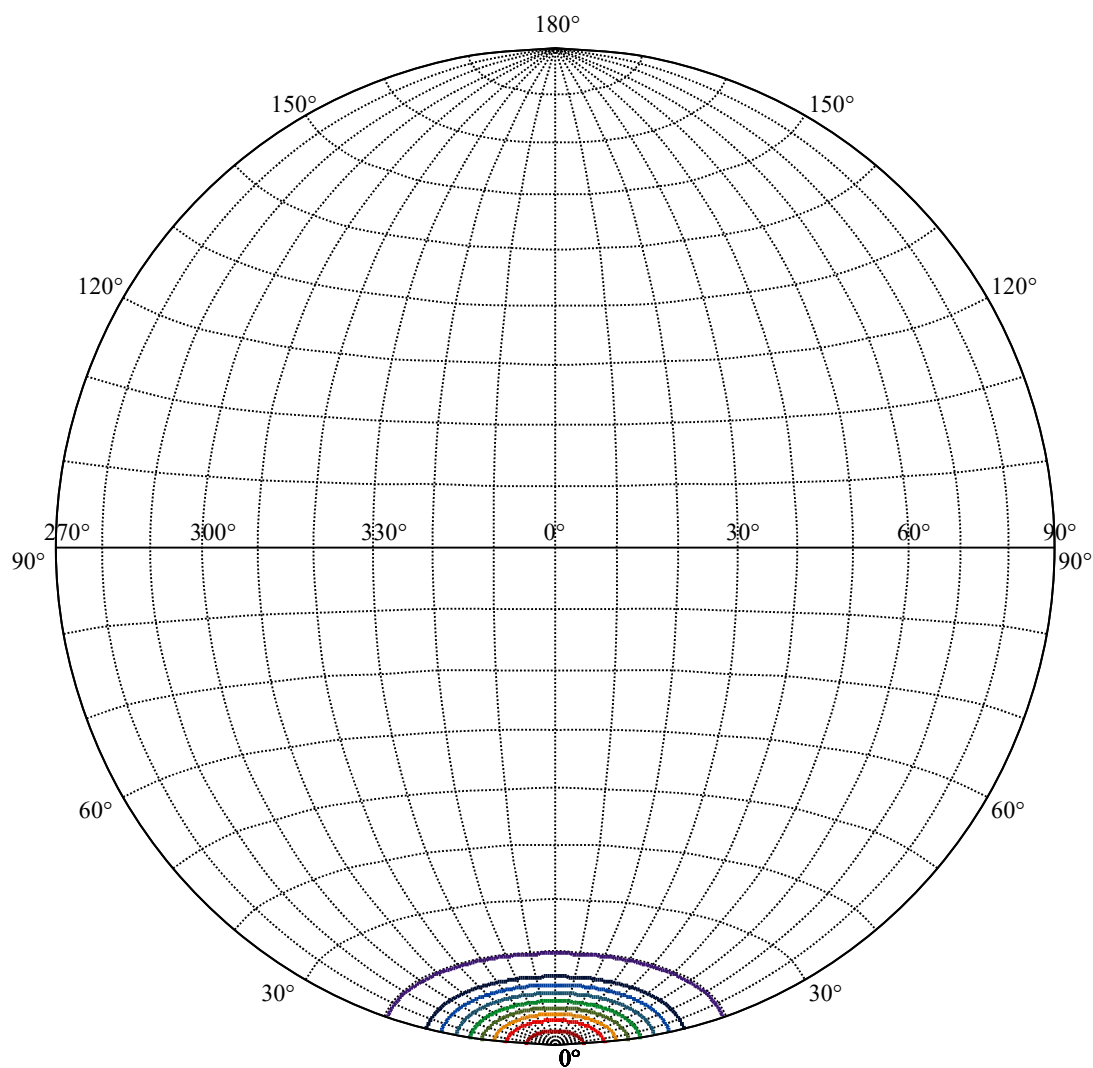
ZONAL LUMEN SUMMARY

0-10	457.04
10-20	222.23
20-30	176.03
30-40	76.95
40-50	6.90
50-60	5.82
60-70	5.10
70-80	4.83
80-90	2.33
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









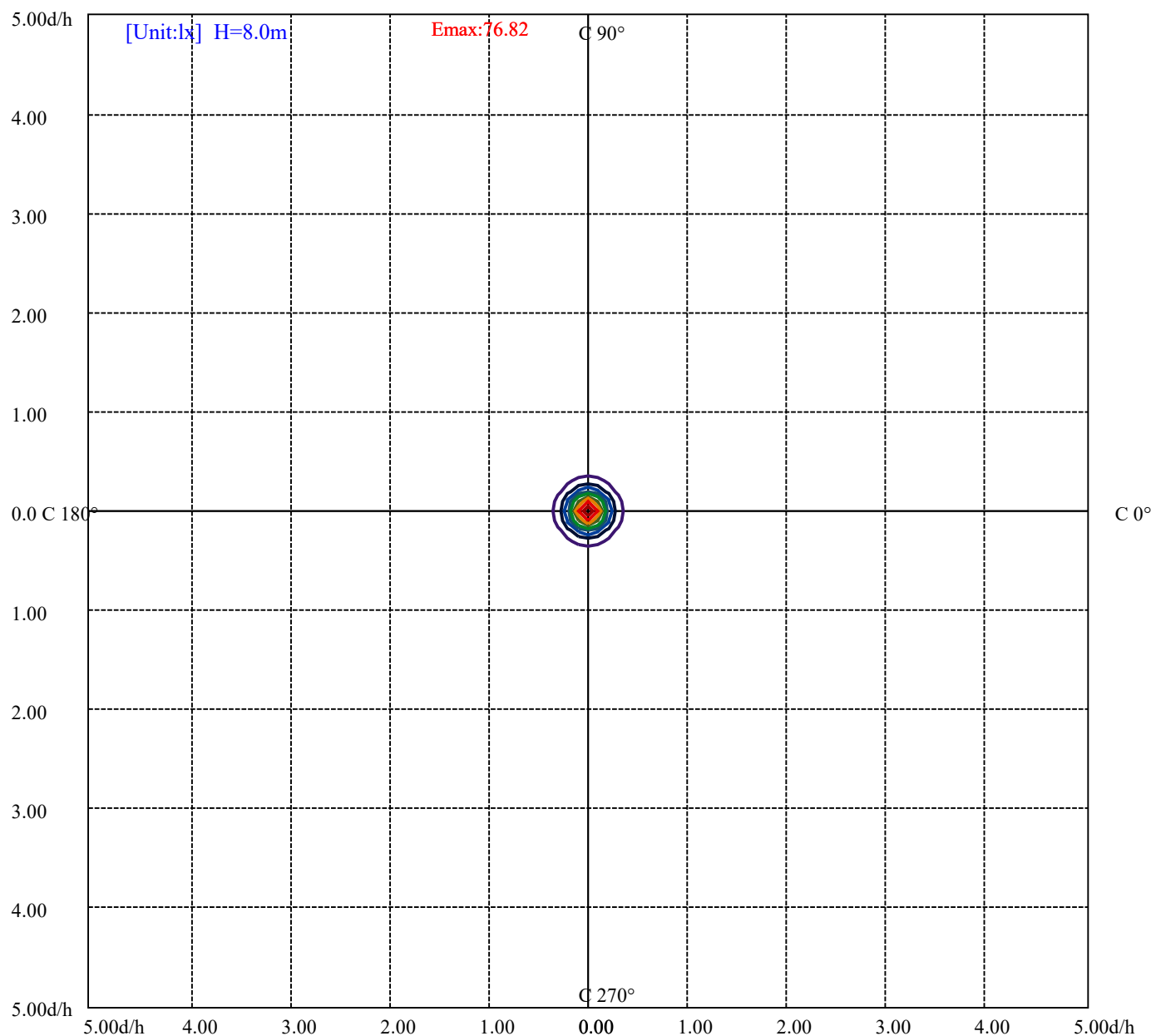
House

[Unit:cd]

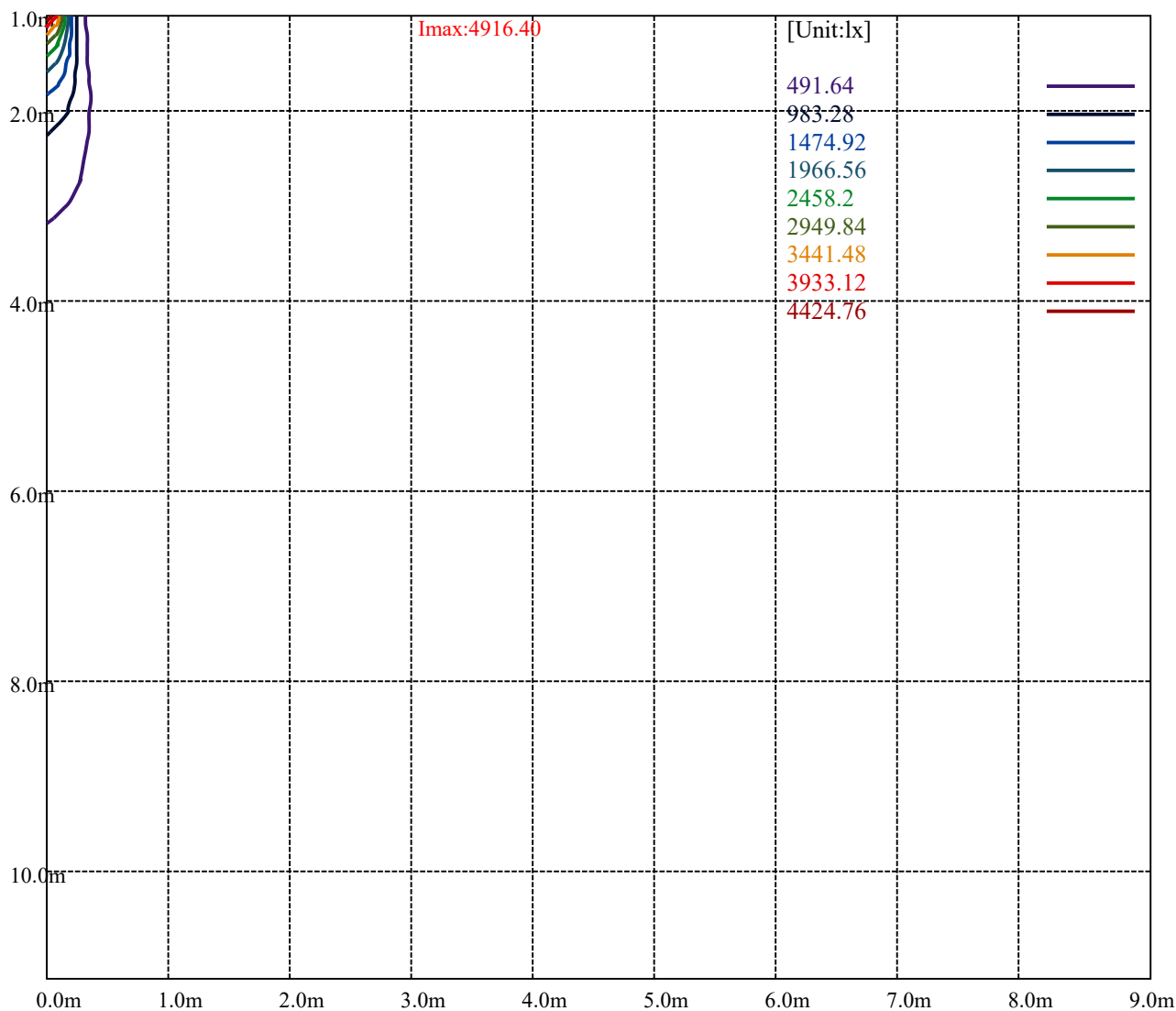
Road

Imax:4916.40

(10%Imax)	491.64	—
(20%Imax)	983.28	—
(30%Imax)	1474.92	—
(40%Imax)	1966.56	—
(50%Imax)	2458.2	—
(60%Imax)	2949.84	—
(70%Imax)	3441.48	—
(80%Imax)	3933.12	—
(90%Imax)	4424.76	—



(10%E _{max}) 7.681844	—
(20%E _{max}) 15.36367	—
(30%E _{max}) 23.04547	—
(40%E _{max}) 30.72734	—
(50%E _{max}) 38.40922	—
(60%E _{max}) 46.09109	—
(70%E _{max}) 53.77281	—
(80%E _{max}) 61.45469	—
(90%E _{max}) 69.13657	—



Luminance Table

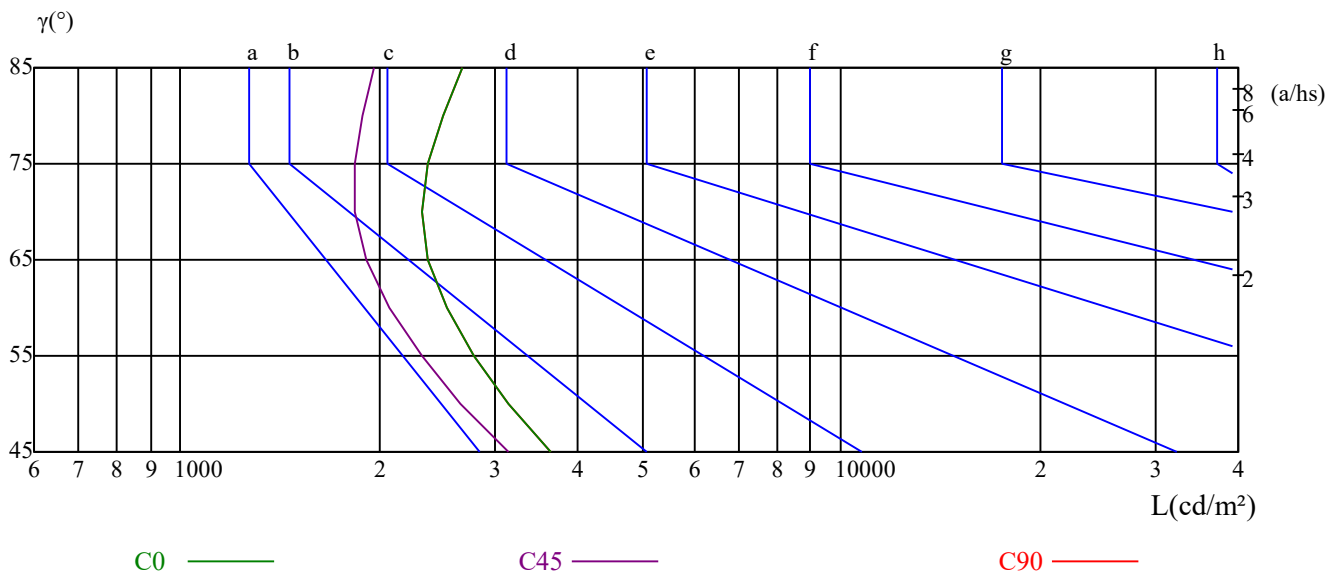
γ	45	50	55	60	65	70	75	80	85
C0	3641	3133	2779	2530	2374	2325	2374	2505	2676
C45	3135	2657	2321	2078	1916	1840	1838	1891	1961
C90	3641	3133	2779	2530	2374	2325	2374	2505	2676

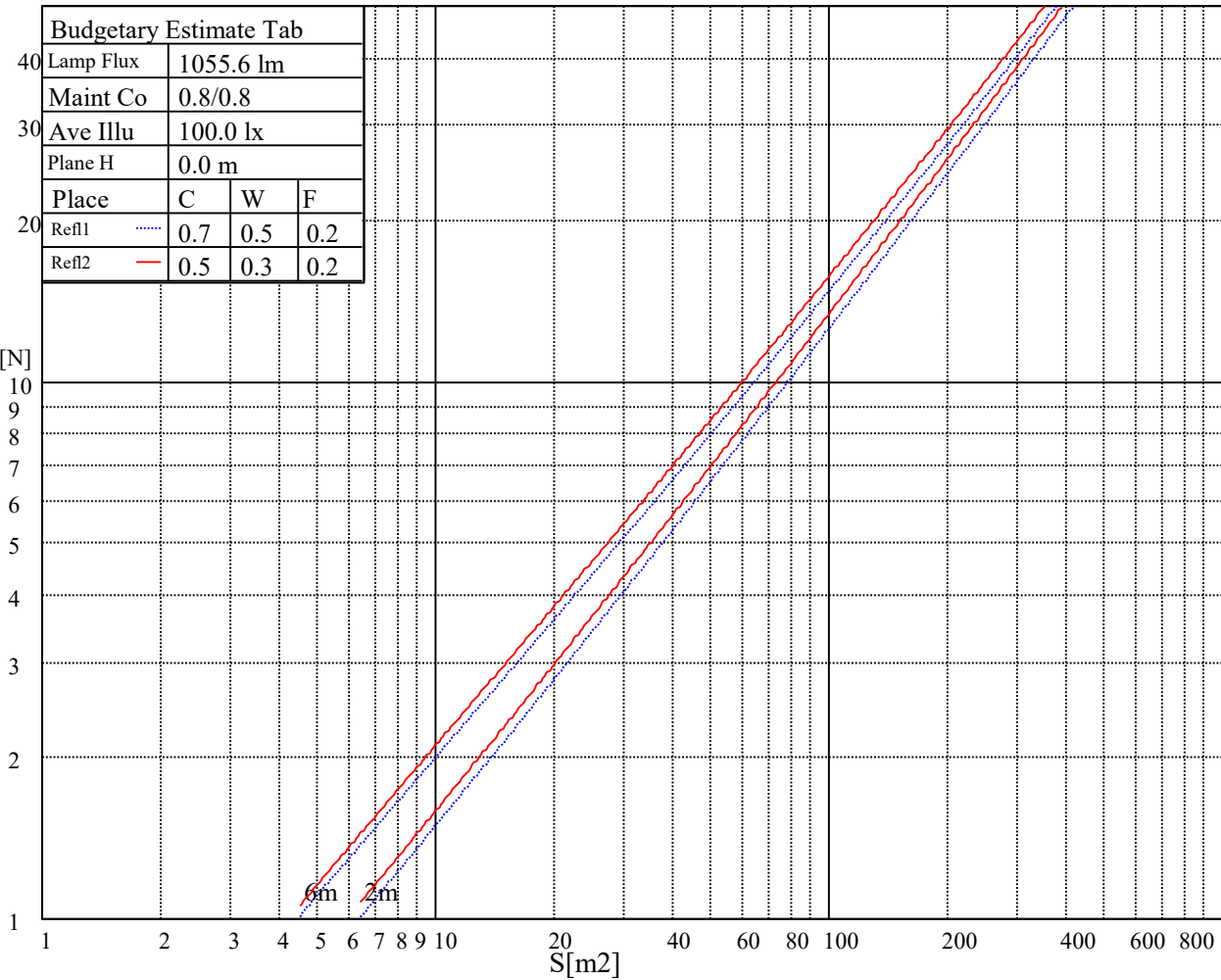
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5625	5625	5625	8029	8029	8029	22198	22198	22198

Glare Table

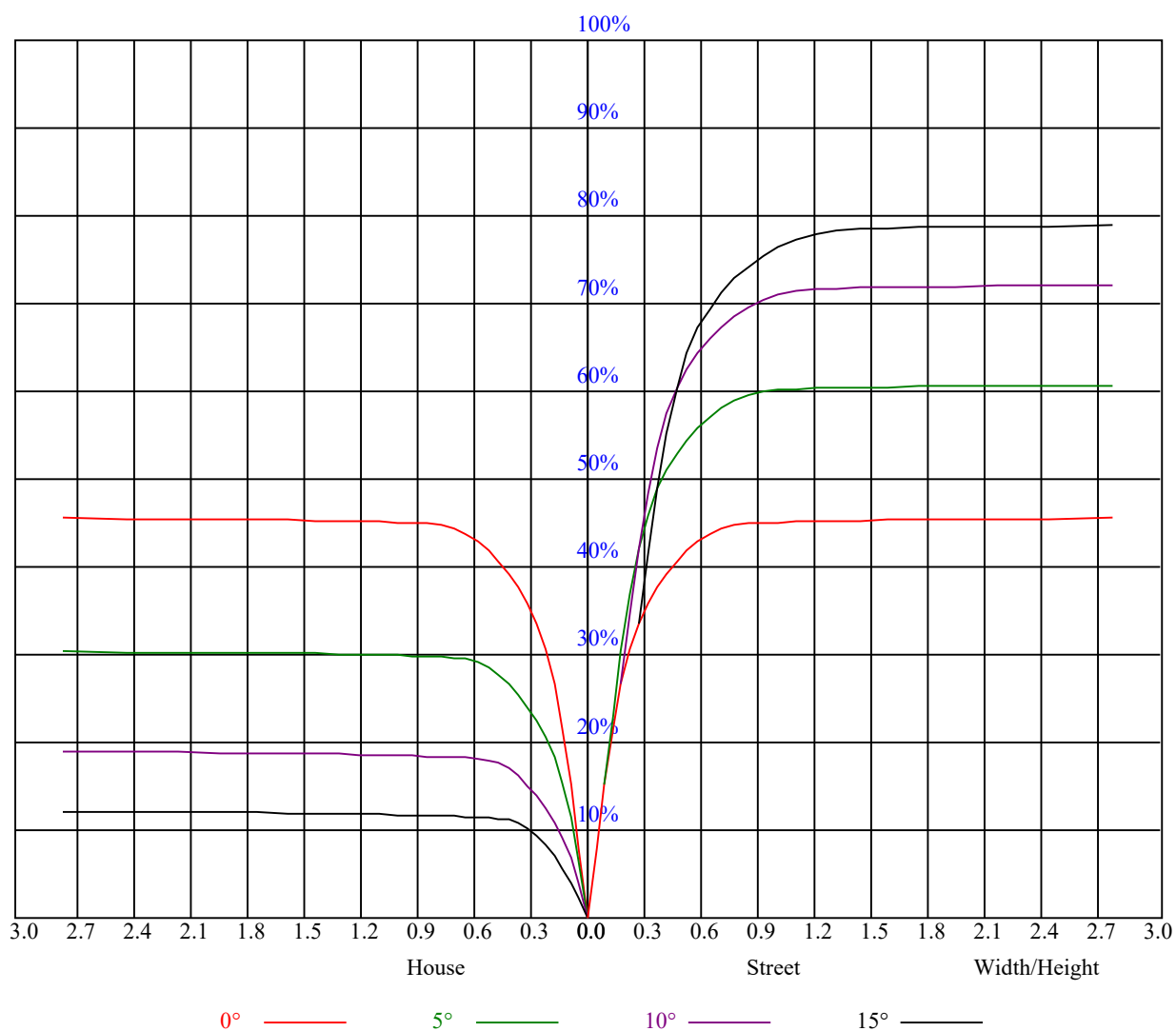
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

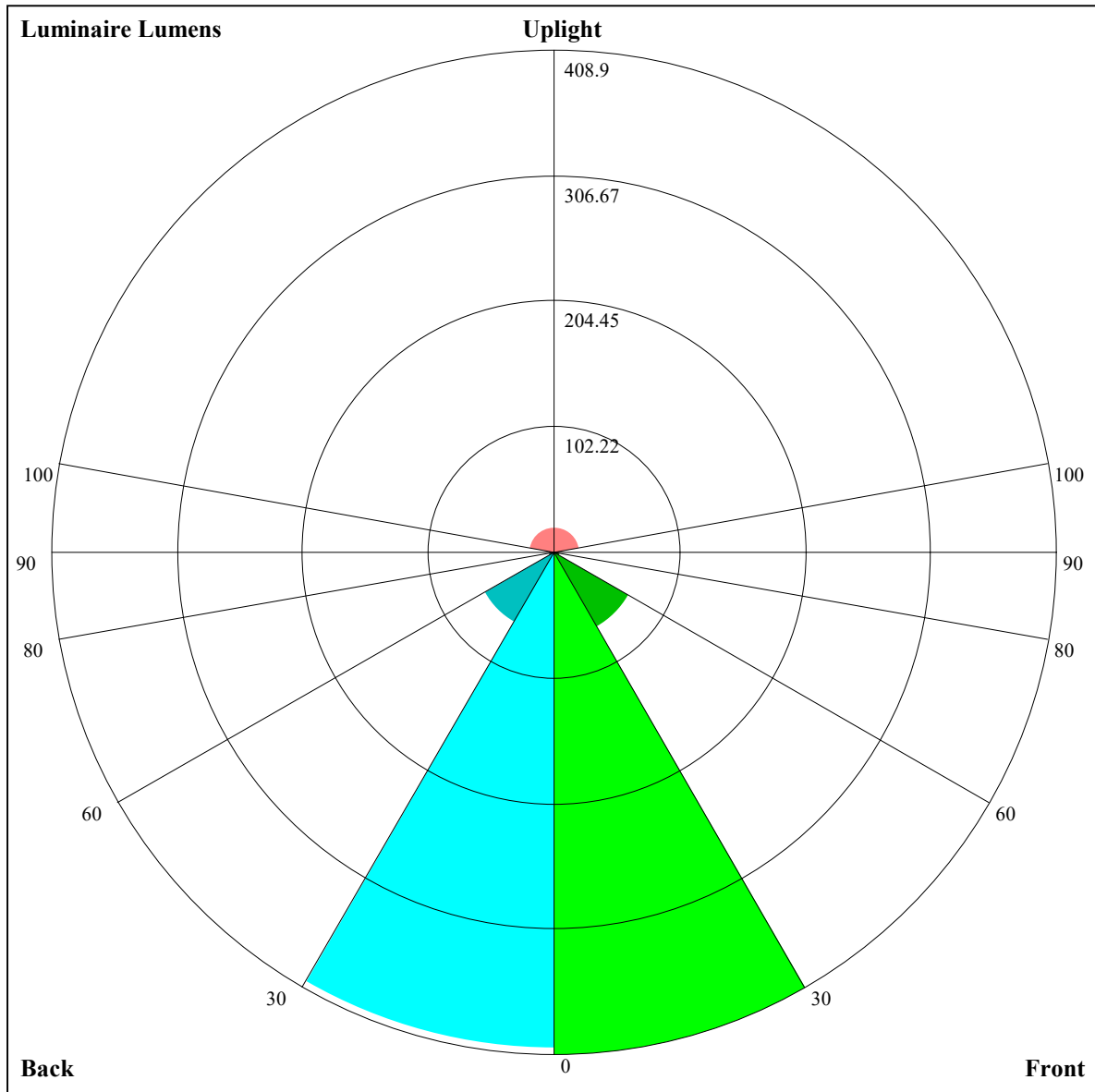
Luminance Limiting Curve





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	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.02	0.99	0.96	0.99	0.97	0.95	0.96	0.94	0.92	0.92	0.90	0.89	0.89	0.88	0.86	0.85
2	0.96	0.93	0.89	0.95	0.91	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.83	0.81
3	0.92	0.88	0.84	0.91	0.87	0.84	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.88	0.84	0.80	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	0.85	0.80	0.77	0.84	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.74
6	0.82	0.77	0.74	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.73	0.71
7	0.79	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.69
8	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.68
9	0.75	0.70	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.66
10	0.73	0.69	0.66	0.72	0.68	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.64





Luminaire Lumens:

FL=408.9,FM=69.4,FH=4.99,FVH=2.34

BL=403.78,BM=65.57,BH=5.21,BVH=2.34

UL=4.46,UH=21.23

BUG Rating:B1-U2-G0

Nata 1657-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	4908.83	4285.04	2501.21	1076.35	487.25	383.74	351.26	288.50	18.00		
45.0	4930.85	4158.96	2398.26	1002.58	470.18	374.38	343.55	279.14	17.56		
90.0	4898.92	3785.68	2052.50	771.84	390.24	326.48	300.44	119.69	19.49		
135.0	4925.35	4250.35	2498.46	971.75	434.39	362.82	335.84	291.80	18.61		
180.0	4912.13	4073.07	2288.69	870.83	447.50	366.18	334.91	173.15	14.04		
225.0	4930.85	4254.76	2388.35	938.05	463.30	370.20	338.82	166.00	17.29		
270.0	4898.92	4461.77	2791.91	1209.59	477.89	354.56	323.18	281.89	31.00		
315.0	4925.35	4136.94	2256.21	912.50	444.91	376.15	346.75	185.87	17.51		
360.0	4908.83	4285.04	2501.21	1076.35	487.25	383.74	351.26	288.50	18.00		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	7.10	5.84	5.34	5.07	4.90	4.73	4.57	4.35	4.29		
45.0	7.60	6.39	5.67	5.18	4.84	4.62	4.51	4.29	4.18		
90.0	11.56	9.03	6.99	5.89	5.18	4.84	4.73	4.68	4.24		
135.0	11.23	9.97	8.31	6.66	5.56	4.96	4.57	4.40	4.24		
180.0	6.55	5.84	5.84	5.84	5.40	4.96	4.57	4.40	4.24		
225.0	9.19	8.31	7.60	6.55	5.67	4.96	4.51	4.35	4.24		
270.0	12.17	9.91	7.87	6.50	5.51	4.96	4.73	4.68	4.51		
315.0	9.14	7.38	6.22	5.40	4.96	4.68	4.51	4.35	4.24		
360.0	7.10	5.84	5.34	5.07	4.90	4.73	4.57	4.35	4.29		
C/γ(°)	90.0										
0.0	4.24										
45.0	4.13										
90.0	4.02										
135.0	4.02										
180.0	4.07										
225.0	4.13										
270.0	4.02										
315.0	4.07										
360.0	4.24										