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Nata

Client:

LumCAT: 3-2020-A

Luminaire: 92.70.065.00+92.70.089.00

Report No: nt0100

Test No: NATA07

LampCAT: LUMINUS CXM-14-AC40

Lamp flux(lm): 1357.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 220.4000

Current(A): 0.0690

Power (W): 14.2300

PF: 0.9290

Ballast type: AC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1190.78, Efficiency(%): 87.75% , Luminous Efficacy(lm/W): 83.68

Central intensity(cd): 4591.889, Maximum intensity(cd): 4591.889

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=25.0

[C90/270]Total=25.0

Field angle(10%Imax): [C0/180]Total=49.2

[C90/270]Total=49.2

Maximum s/h(1/2): C0_180=0.42 C90_270=0.42

Maximum s/h(1/4): C0_180=0.44 C90_270=0.44

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 87.75%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 99.650%

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/1/9
Humidity(%): 60.0%

Operator: GC20200102
Distance(m): 6.81

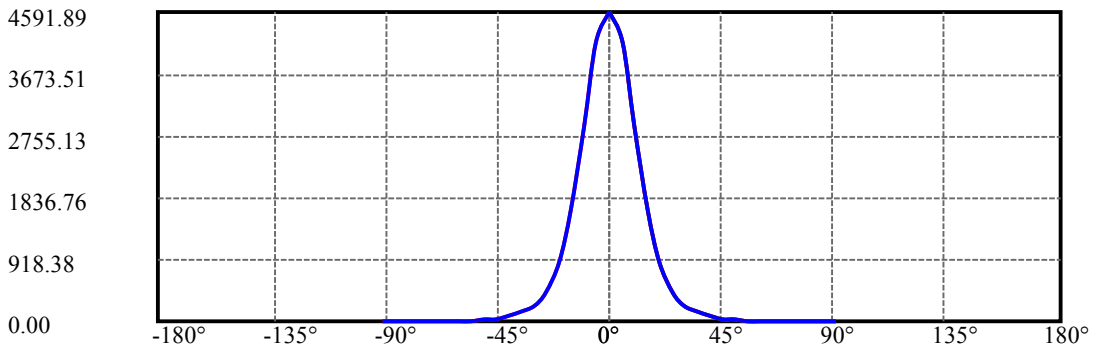
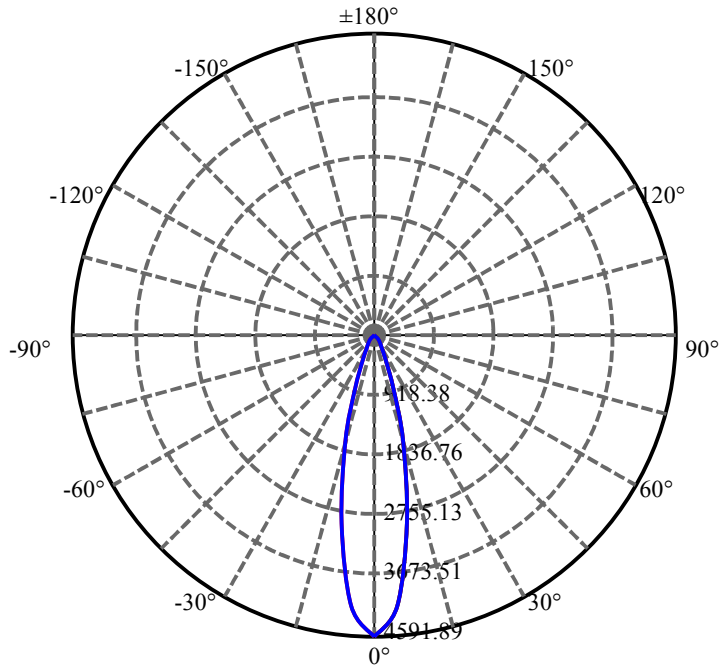
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4591.889	0.000	0	.000%	.000%
5.0	4131.278	104.283	104.283	7.685%	8.758%
10.0	2907.912	251.814	356.097	18.557%	29.904%
15.0	1659.958	270.963	627.06	19.968%	52.660%
20.0	884.860	209.729	836.789	15.455%	70.272%
25.0	422.381	137.105	973.894	10.104%	81.786%
30.0	224.383	81.849	1055.742	6.032%	88.660%
35.0	148.914	54.971	1110.713	4.051%	93.276%
40.0	76.809	37.660	1148.373	2.775%	96.439%
45.0	37.424	21.151	1169.525	1.559%	98.215%
50.0	16.177	10.831	1180.356	.798%	99.124%
55.0	5.278	4.665	1185.021	.344%	99.516%
60.0	1.636	1.598	1186.619	.118%	99.650%
65.0	1.357	0.728	1187.347	.054%	99.712%
70.0	1.276	0.667	1188.013	.049%	99.768%
75.0	1.259	0.663	1188.676	.049%	99.823%
80.0	1.264	0.675	1189.351	.050%	99.880%
85.0	1.305	0.698	1190.049	.051%	99.939%
90.0	1.369	0.732	1190.781	.054%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1055.74	77.80%	88.66%
0-40	1148.37	84.63%	96.44%
0-60	1186.62	87.44%	99.65%
0-90	1190.05	87.70%	99.94%
0-120	1190.05	87.70%	99.94%
0-180	1190.78	87.75%	100.00%
60-90	5.03	0.37%	0.42%
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%
0-24.22	952.63	70.20%	80.00%

ZONAL LUMEN SUMMARY

0-10	356.10
10-20	480.69
20-30	218.95
30-40	92.63
40-50	31.98
50-60	6.26
60-70	1.39
70-80	1.34
80-90	0.70
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: —————

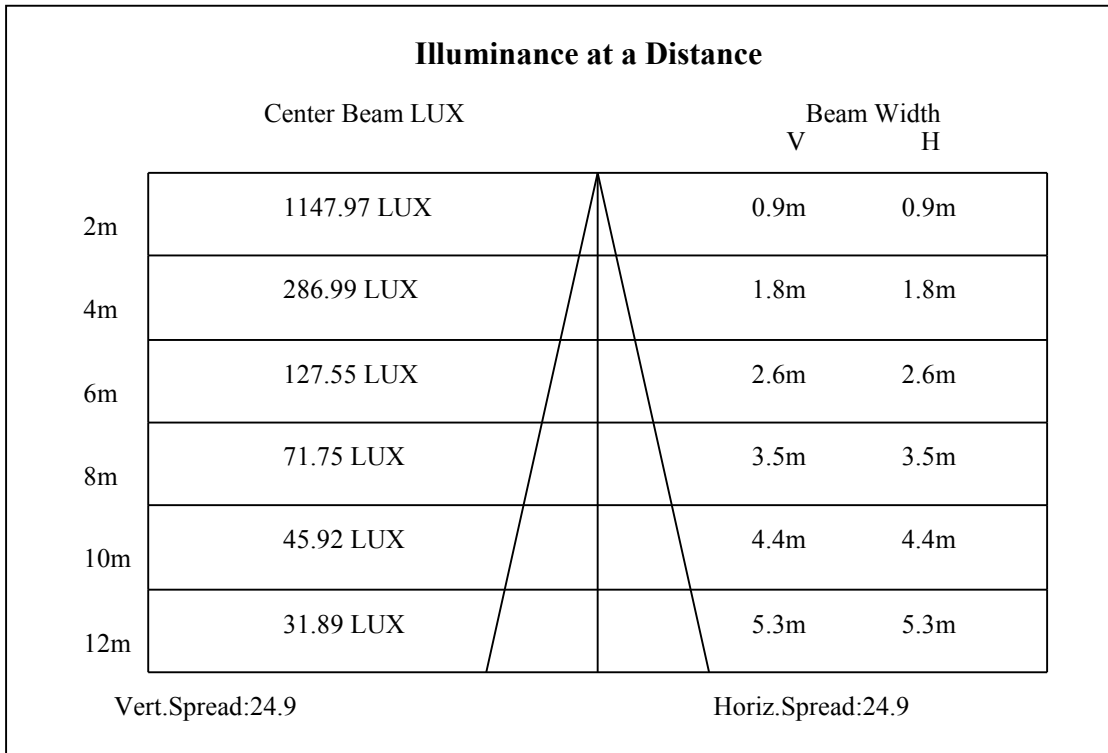
C90/C270: —————

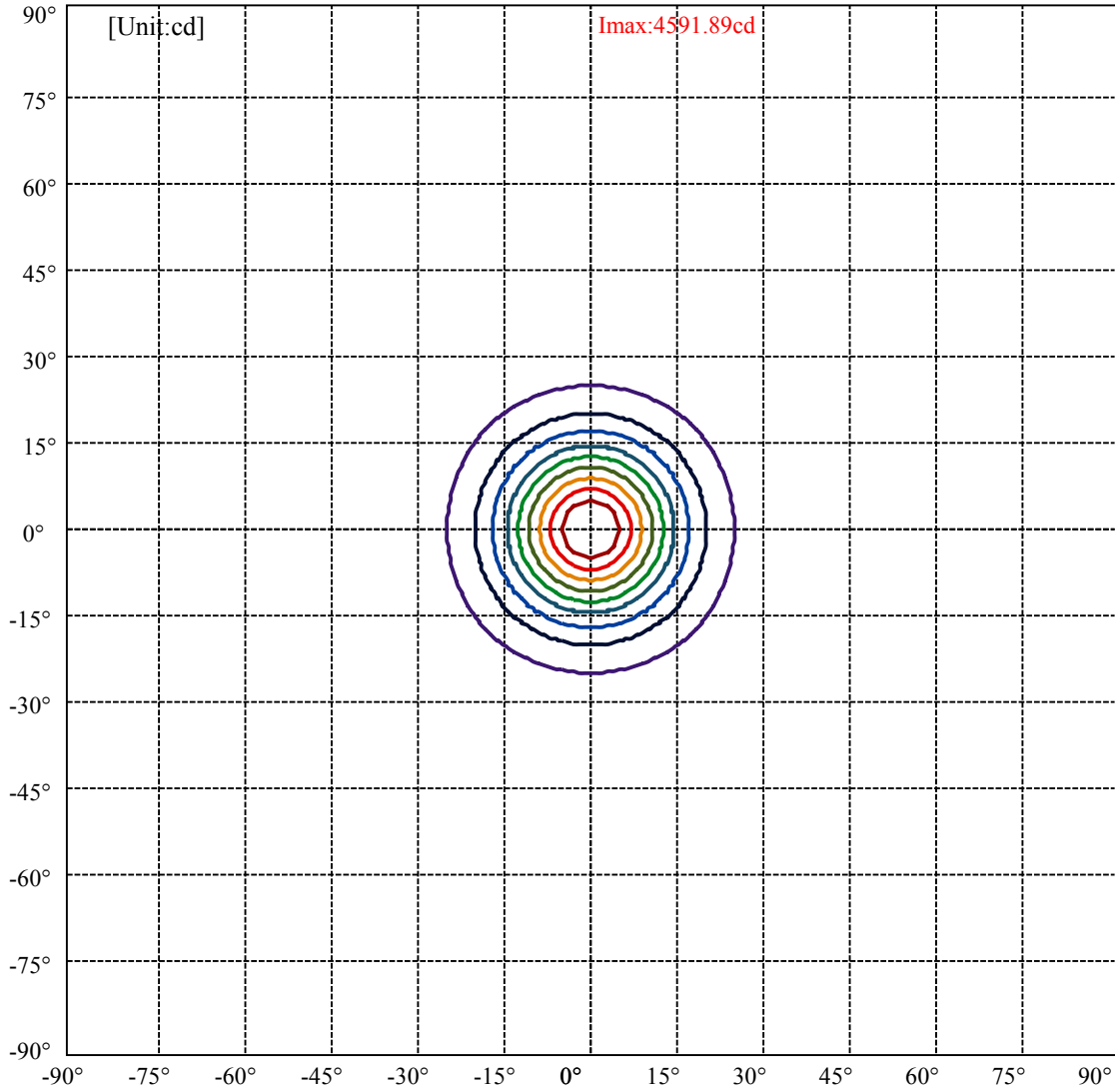
Field angle(10%Imax):C0/180Left:24.6 Right:24.6

:C90/270Left:24.6 Right:24.6

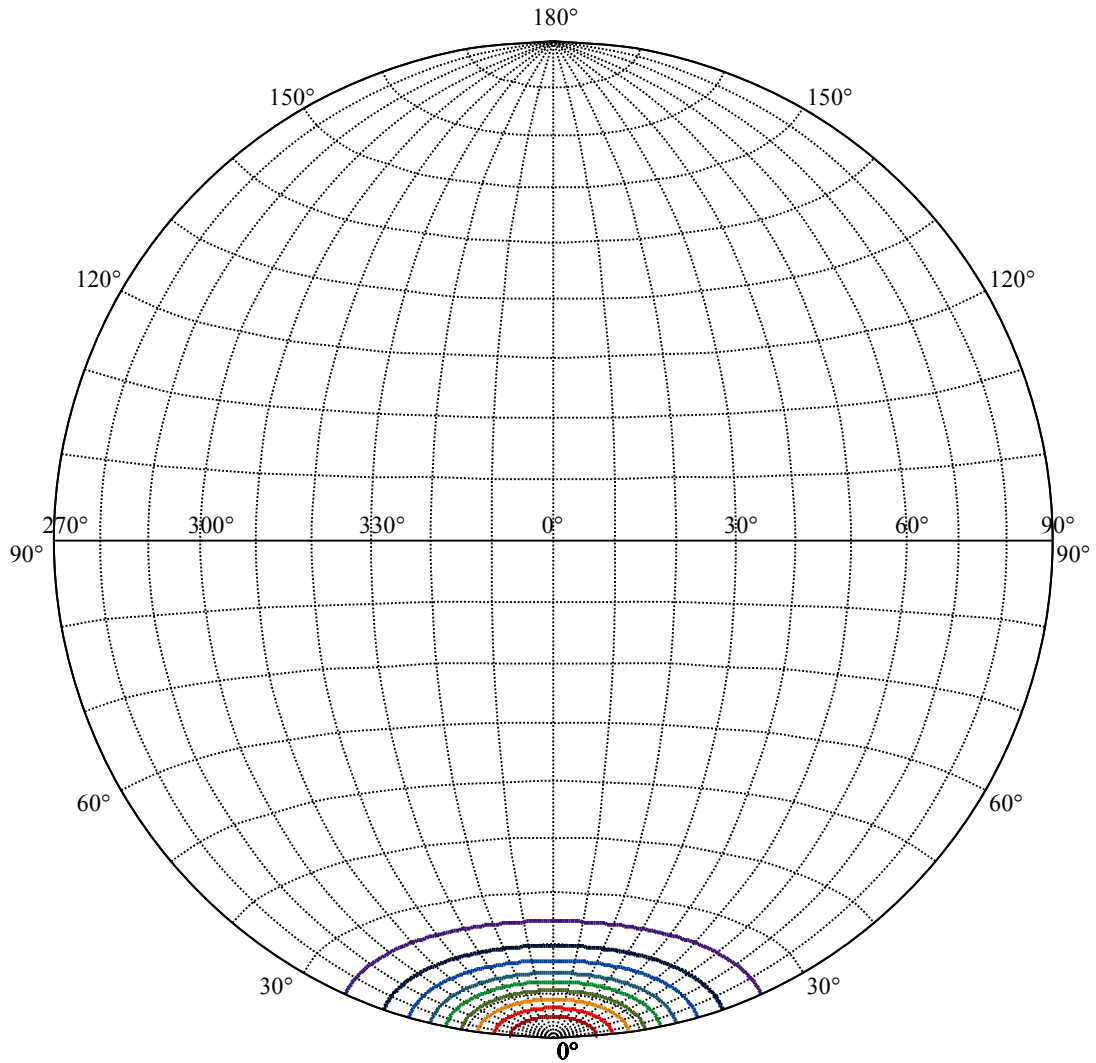
Beam Angle(50%Imax):C0/180Left:12.5 Right:12.5

:C90/270Left:12.5 Right:12.5





(10%Imax) 459.189	—
(20%Imax) 918.378	—
(30%Imax) 1377.57	—
(40%Imax) 1836.76	—
(50%Imax) 2295.94	—
(60%Imax) 2755.13	—
(70%Imax) 3214.32	—
(80%Imax) 3673.51	—
(90%Imax) 4132.7	—



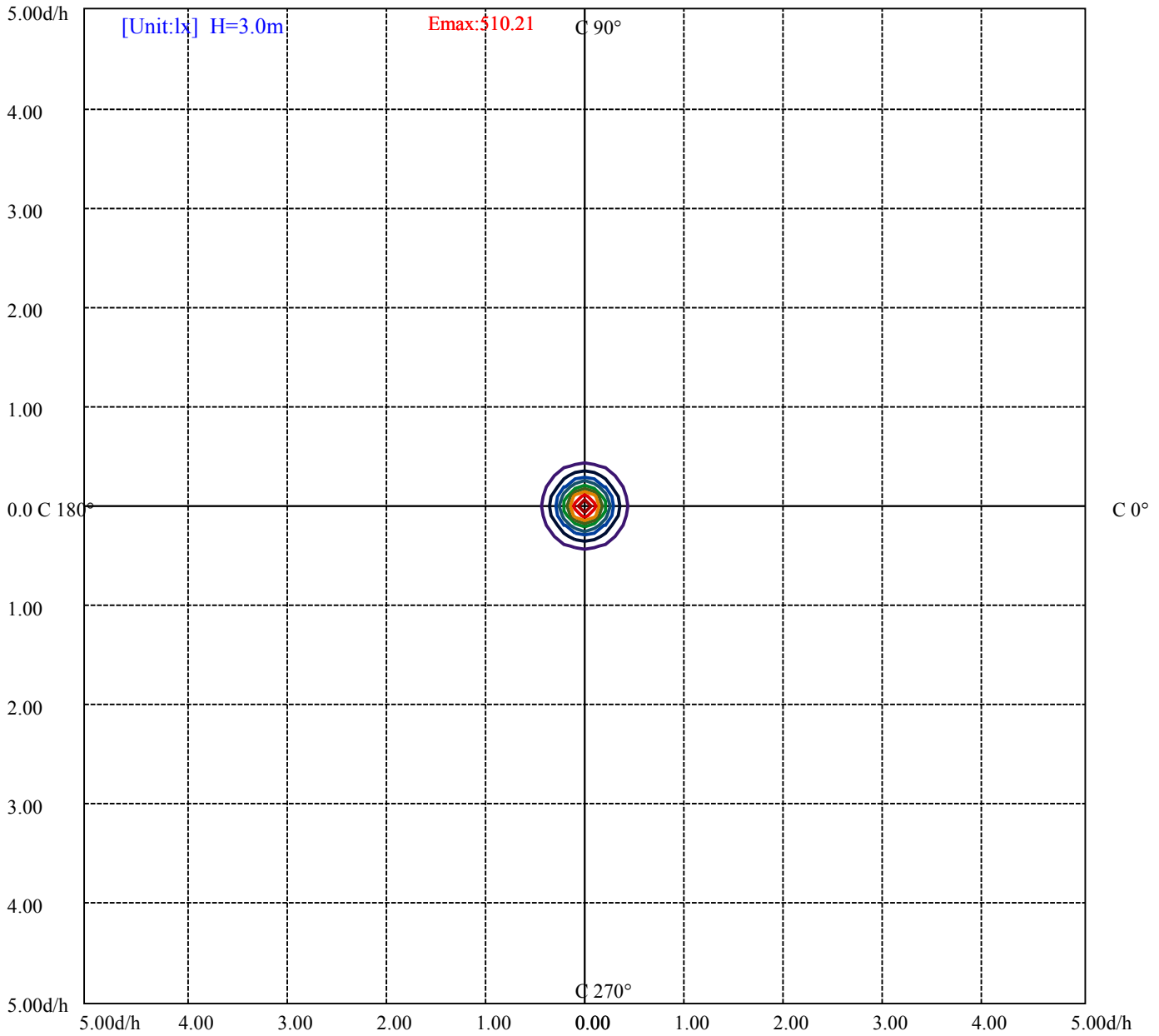
House

[Unit:cd]

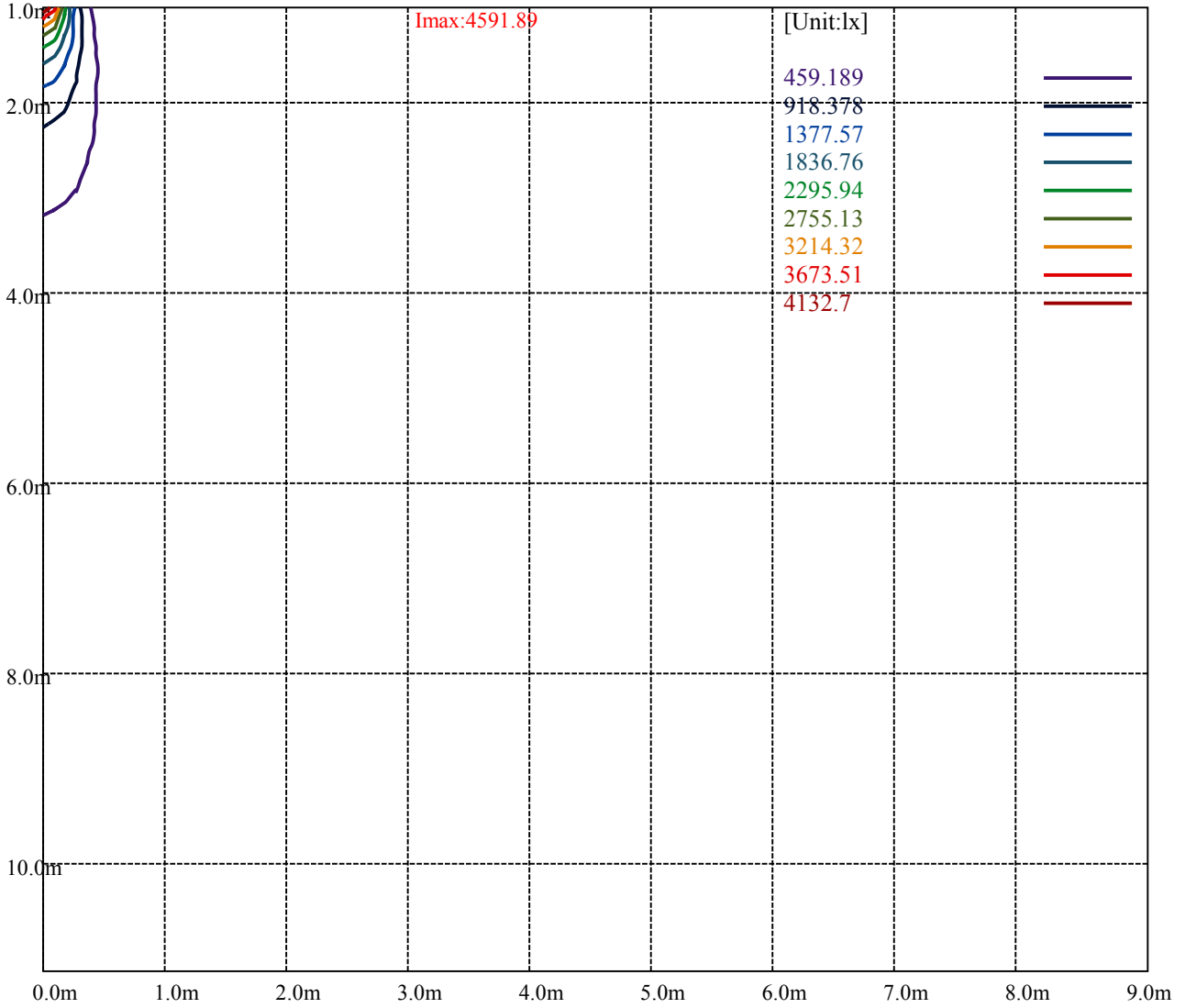
Road

Imax:4591.89

(10%Imax) 459.189	—
(20%Imax) 918.378	—
(30%Imax) 1377.57	—
(40%Imax) 1836.76	—
(50%Imax) 2295.94	—
(60%Imax) 2755.13	—
(70%Imax) 3214.32	—
(80%Imax) 3673.51	—
(90%Imax) 4132.7	—



- (10%Emax) 51.02089
- (20%Emax) 102.0417
- (30%Emax) 153.0622
- (40%Emax) 204.0833
- (50%Emax) 255.1044
- (60%Emax) 306.1255
- (70%Emax) 357.1456
- (80%Emax) 408.1667
- (90%Emax) 459.1878



Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

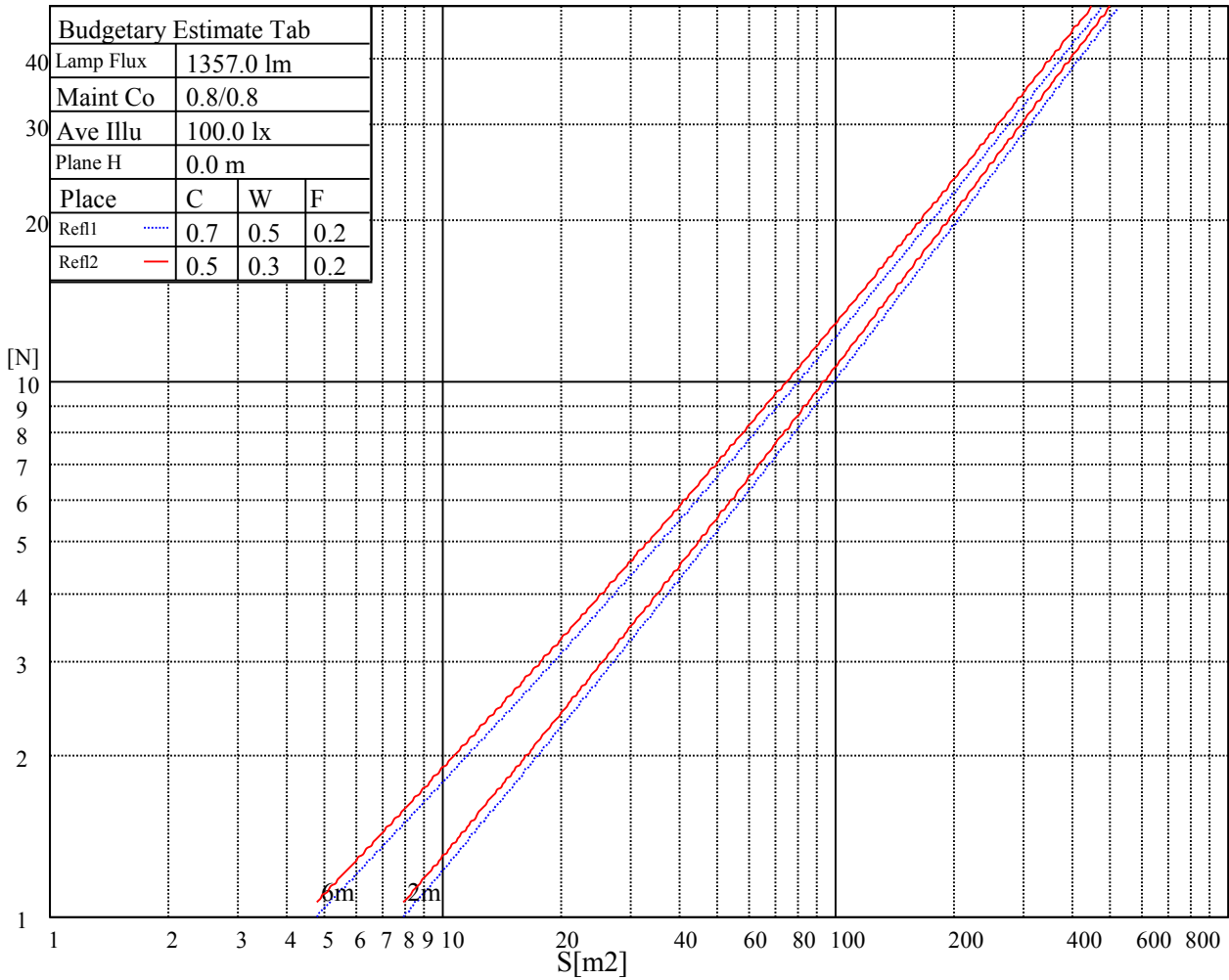
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

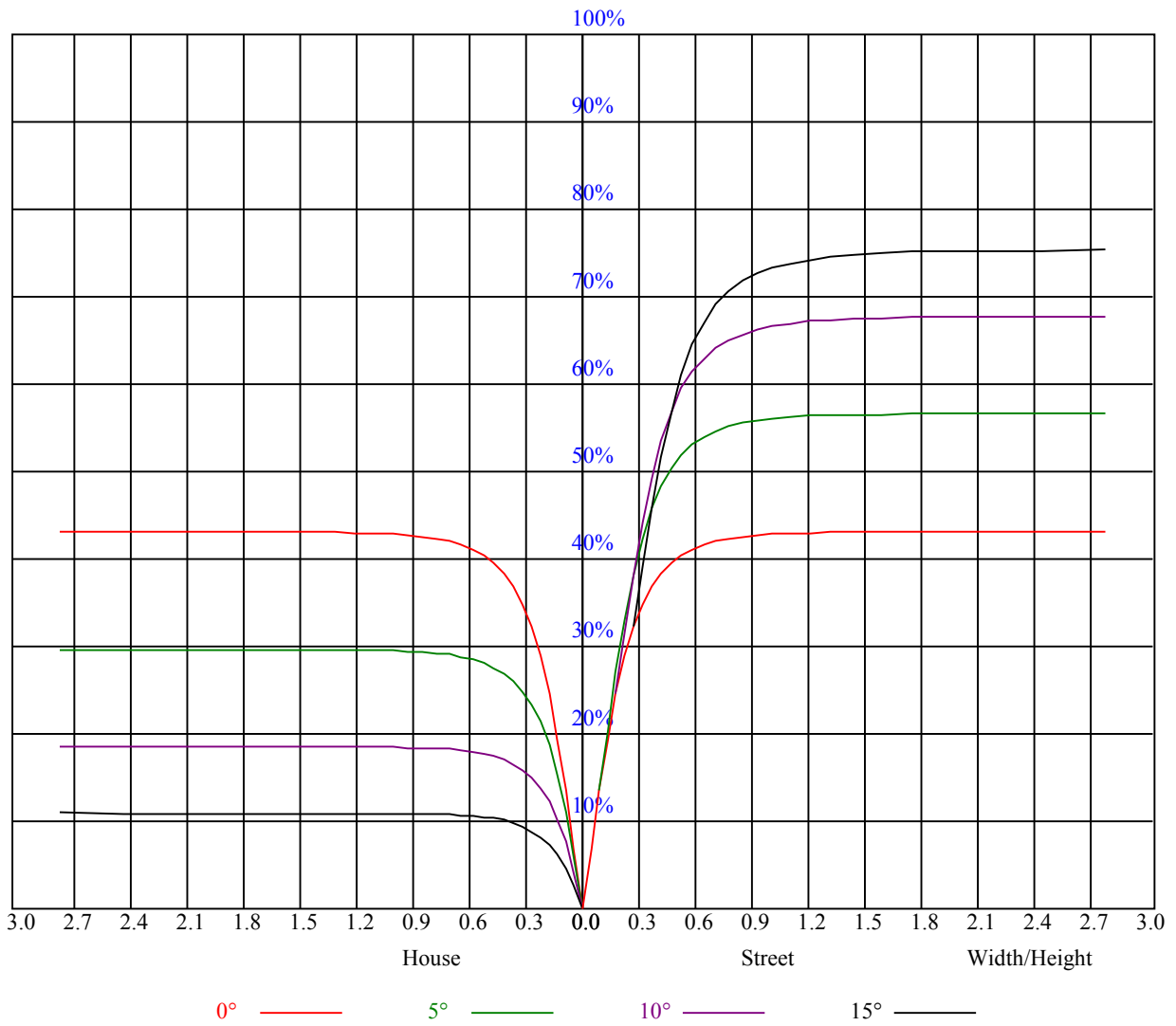
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

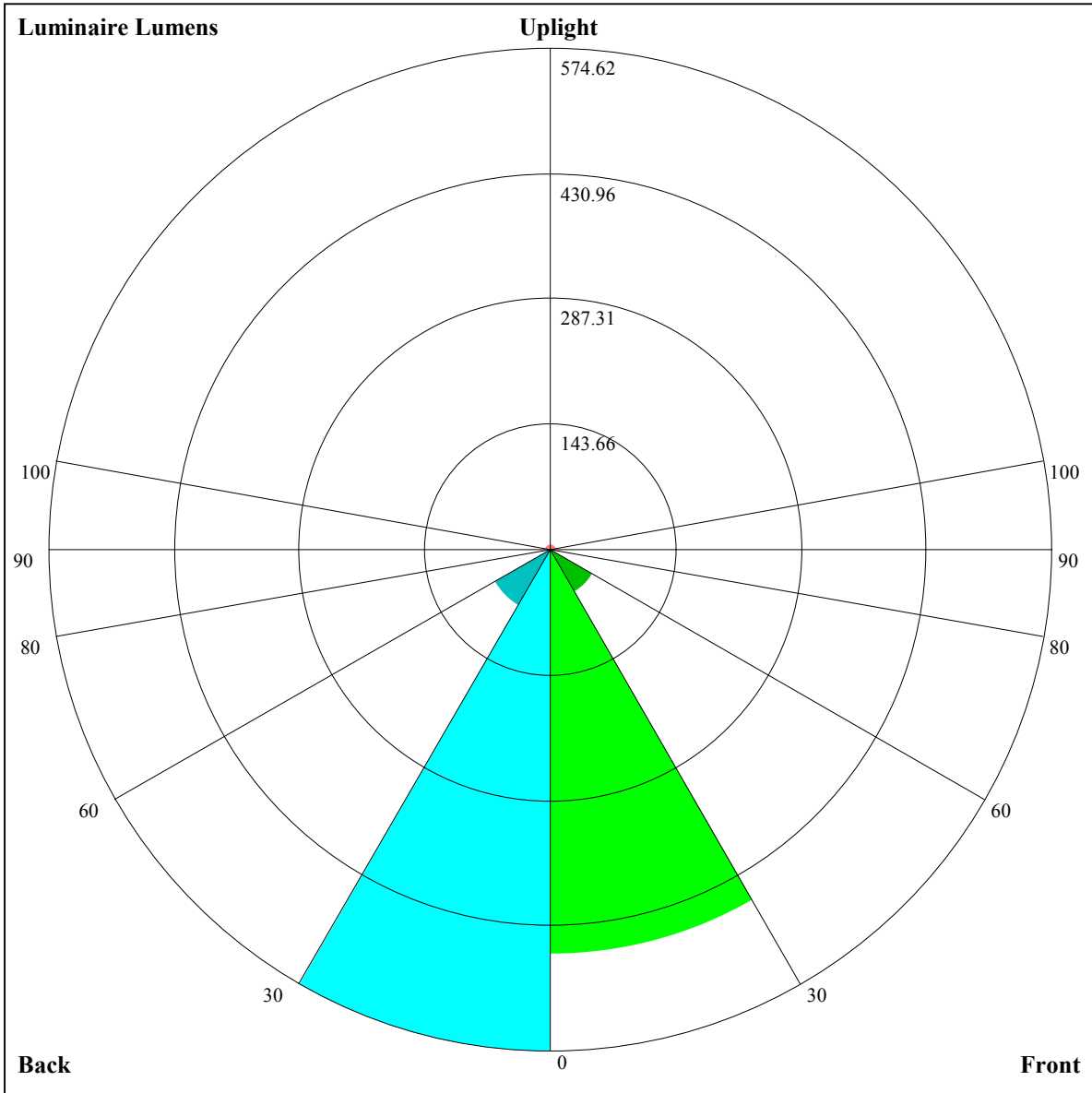
Luminance Limiting Curve





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	1.04	1.04	1.04	1.02	1.02	1.02	0.98	0.98	0.98	0.93	0.93	0.93	0.90	0.90	0.90	0.88
1	0.99	0.97	0.95	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.86	0.84
2	0.93	0.91	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.84	0.84	0.83	0.82	0.80
3	0.89	0.85	0.83	0.88	0.85	0.82	0.86	0.83	0.81	0.83	0.81	0.80	0.82	0.80	0.78	0.77
4	0.85	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.81	0.77	0.74	0.80	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.76	0.74	0.72	0.71
6	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.70	0.68
7	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.72	0.68	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64
9	0.70	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62
10	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60





Luminaire Lumens:

FL=464.76,FM=55.4,FH=1.36,FVH=0.73

BL=574.62,BM=74.53,BH=1.37,BVH=0.71

UL=1.49,UH=7.11

BUG Rating:B2-U1-G0

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	4534.12	3517.42	2062.68	836.65	541.30	251.83	137.96	81.30	45.80
45.0	4620.43	4373.10	3196.77	1985.65	1108.62	542.04	266.40	157.96	95.54
90.0	4714.16	4363.35	3254.31	1849.22	825.98	448.72	242.69	148.17	91.46
135.0	4498.85	4749.43	3863.12	2497.01	1408.39	657.58	308.16	247.38	110.35
180.0	4534.12	4669.15	3634.36	2404.20	1276.60	557.81	283.57	230.67	101.02
225.0	4620.43	3840.39	2586.10	1178.23	684.22	320.23	190.95	121.21	60.32
270.0	4714.16	4183.31	2738.31	1673.35	749.46	384.27	239.95	127.42	68.63
315.0	4498.85	3354.08	1927.64	855.35	484.31	216.56	125.38	77.22	41.35
360.0	4534.12	3517.42	2062.68	836.65	541.30	251.83	137.96	81.30	45.80

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	19.77	8.58	2.04	1.44	1.30	1.25	1.25	1.35	1.39
45.0	48.77	21.02	7.15	1.90	1.44	1.35	1.35	1.35	1.39
90.0	38.70	17.82	4.92	1.58	1.39	1.35	1.35	1.30	1.39
135.0	60.97	26.26	10.35	2.09	1.44	1.30	1.30	1.30	1.30
180.0	50.49	22.13	8.86	1.72	1.39	1.30	1.25	1.21	1.25
225.0	28.77	11.74	2.32	1.44	1.30	1.25	1.16	1.21	1.21
270.0	32.90	14.11	4.69	1.58	1.35	1.25	1.21	1.21	1.25
315.0	19.03	7.75	1.90	1.35	1.25	1.16	1.21	1.21	1.25
360.0	19.77	8.58	2.04	1.44	1.30	1.25	1.25	1.35	1.39

C/γ(°)	90.0
0.0	1.30
45.0	1.58
90.0	1.58
135.0	1.48
180.0	1.35
225.0	1.21
270.0	1.25
315.0	1.21
360.0	1.30