
Nata

Client:

LumCAT: 3-2018-A

Luminaire: 92.70.045.00+92.70.089.00

Report No: NT2018032103

Test No: nata-0100

LampCAT: NICHIA NEVWJ048Z-V1

Lamp flux(lm): 3055.0

Number of Lamps: 1

Length(mm): 82

Phm Type: C

Voltage(V): 43.8000

Current(A): 0.5000

Power (W): 21.9000

PF: 1.0000

Ballast type: DC

Width(mm): 82

Height(mm): 0

Photometric Results

Lumens(lm): 2490.84, Efficiency(%): 81.53% , Luminous Efficacy(lm/W): 113.74

Central intensity(cd): 5194.021, Maximum intensity(cd): 5194.021

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=39.0

[C90/270]Total=39.0

Field angle(10%Imax): [C0/180]Total=65.4

[C90/270]Total=65.4

Maximum s/h(1/2): C0_180=0.64 C90_270=0.64

Maximum s/h(1/4): C0_180=0.62 C90_270=0.62

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.47%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.660%

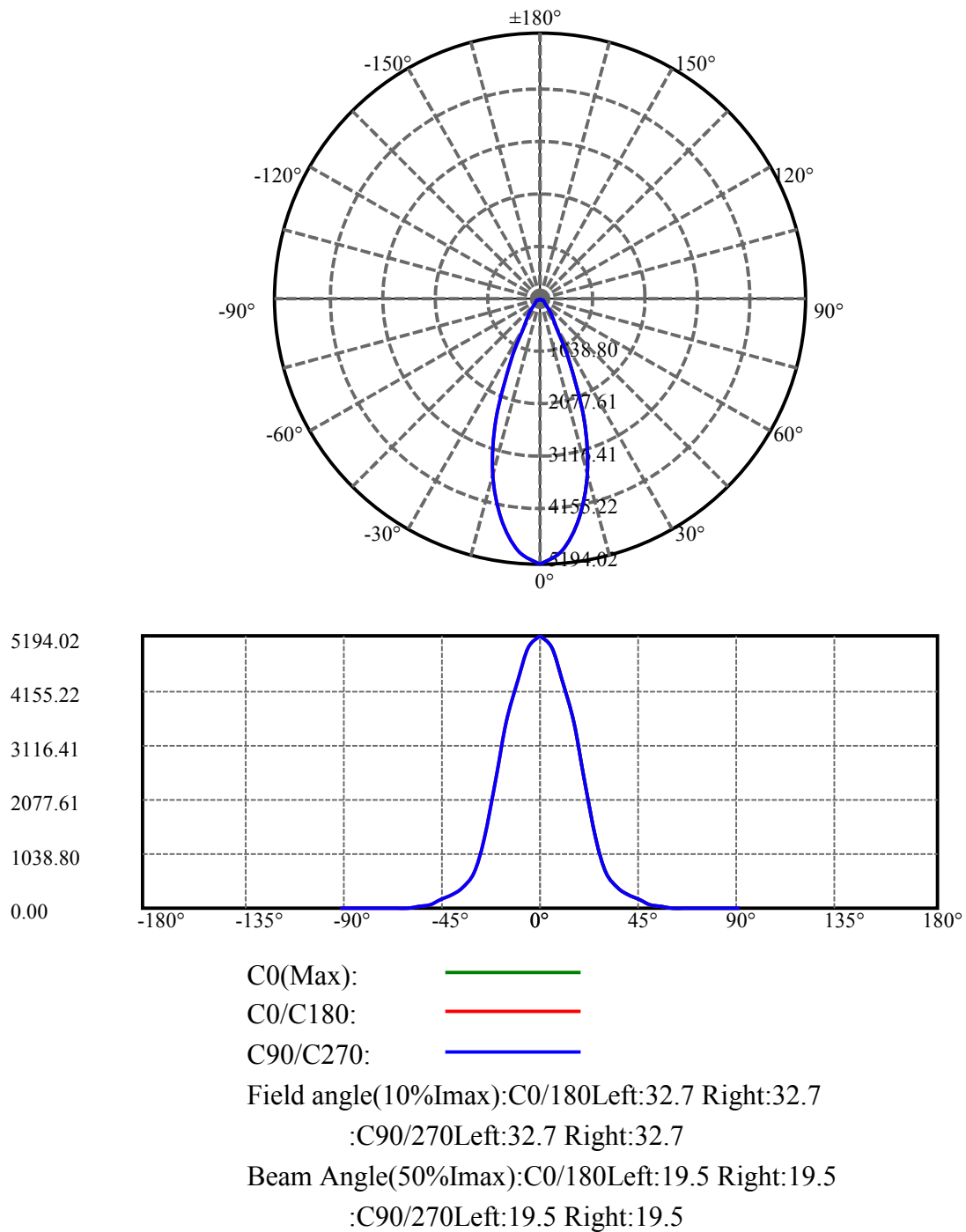
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5194.021	31.061	31.061	1.017%	1.247%
5.0	4952.530	236.599	267.66	7.745%	10.746%
10.0	4356.200	414.636	682.297	13.572%	27.392%
15.0	3536.410	501.705	1184.001	16.422%	47.534%
20.0	2487.655	466.371	1650.372	15.266%	66.258%
25.0	1317.562	305.217	1955.589	9.991%	78.511%
30.0	673.539	184.596	2140.185	6.042%	85.922%
35.0	386.166	121.410	2261.595	3.974%	90.796%
40.0	259.715	91.507	2353.102	2.995%	94.470%
45.0	146.223	56.675	2409.777	1.855%	96.746%
50.0	75.331	31.631	2441.408	1.035%	98.015%
55.0	29.882	13.417	2454.825	.439%	98.554%
60.0	12.099	5.743	2460.568	.188%	98.785%
65.0	10.702	5.316	2465.885	.174%	98.998%
70.0	10.502	5.409	2471.294	.177%	99.215%
75.0	10.399	5.506	2476.8	.180%	99.436%
80.0	10.364	5.595	2482.395	.183%	99.661%
85.0	10.337	5.644	2488.039	.185%	99.888%
90.0	10.220	2.801	2490.84	.092%	100.000%

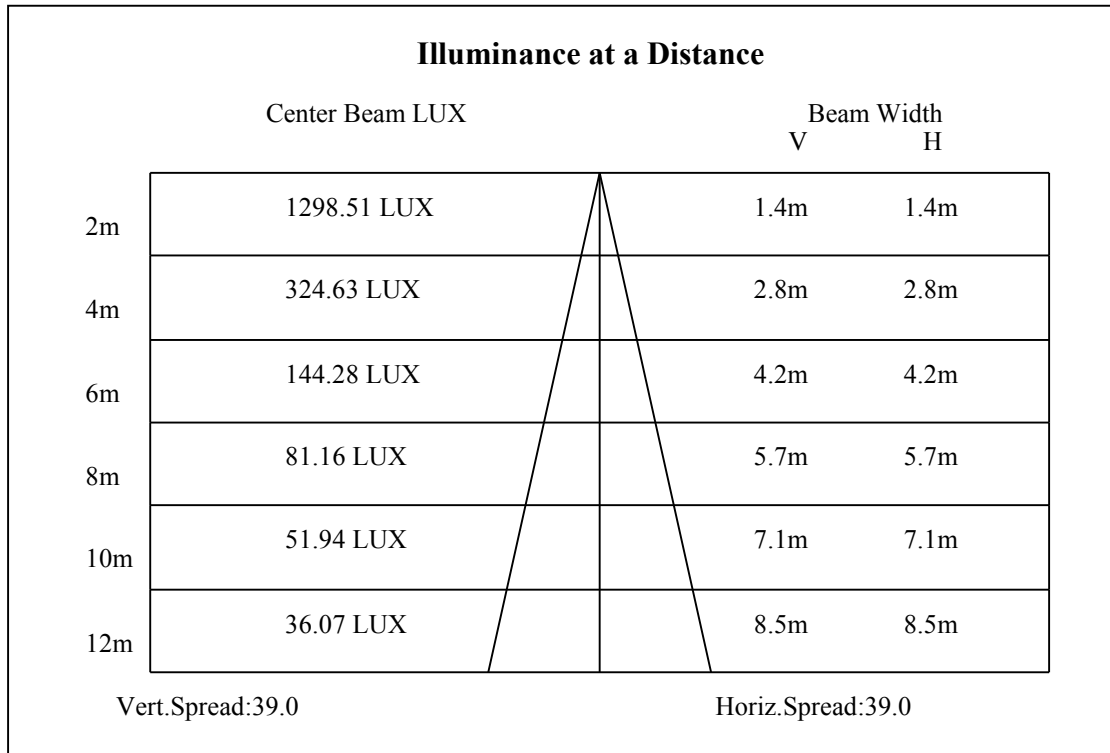
ZONAL LUMEN SUMMARY

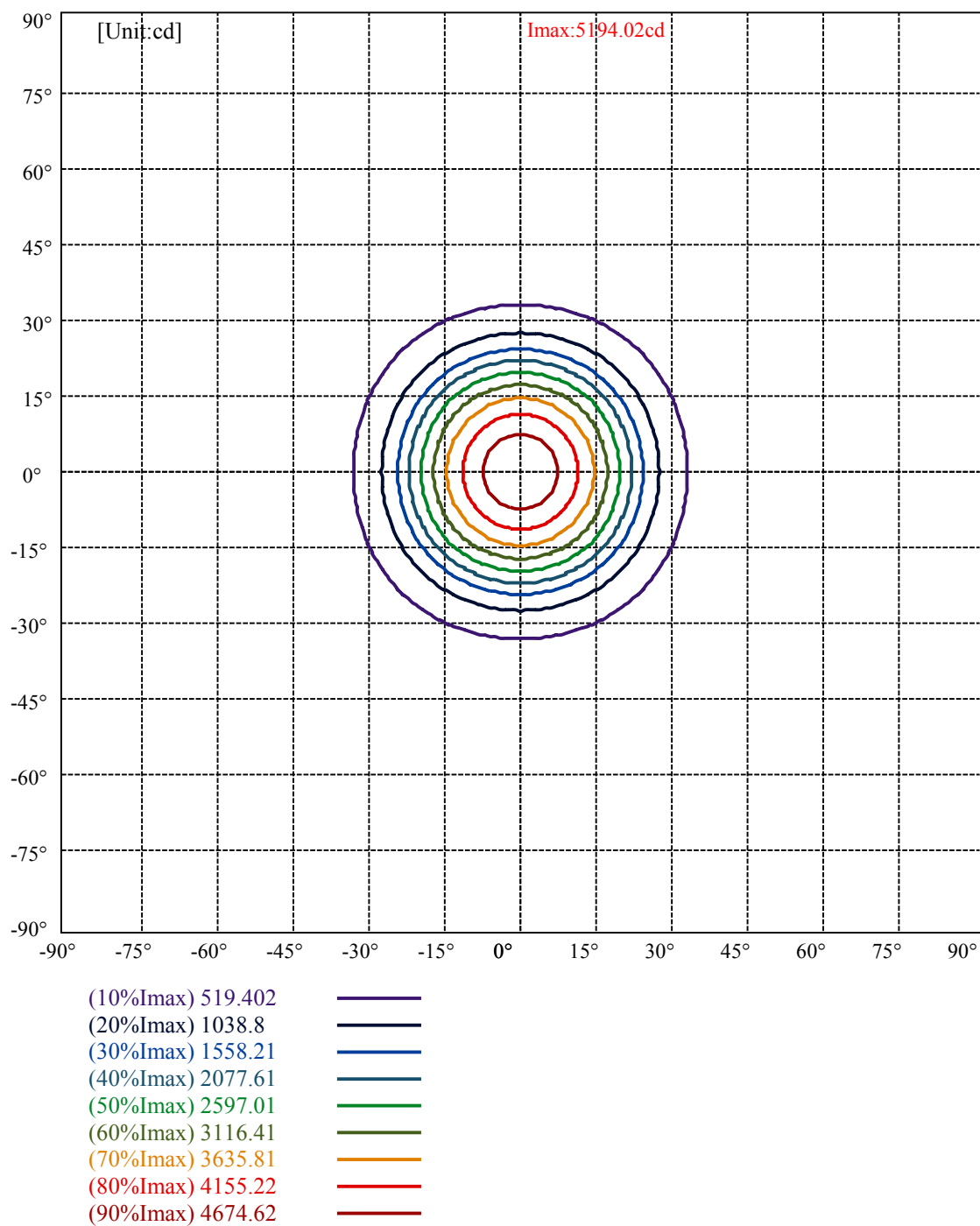
Zone	Lumens	%Lamp	%Fixt
0-30	2140.18	70.06%	85.92%
0-40	2353.10	77.02%	94.47%
0-60	2460.57	80.54%	98.78%
0-90	2488.04	81.44%	99.89%
0-120	2488.04	81.44%	99.89%
0-180	2490.84	81.53%	100.00%
60-90	33.21	1.09%	1.33%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.00	1992.67	65.23%	80.00%

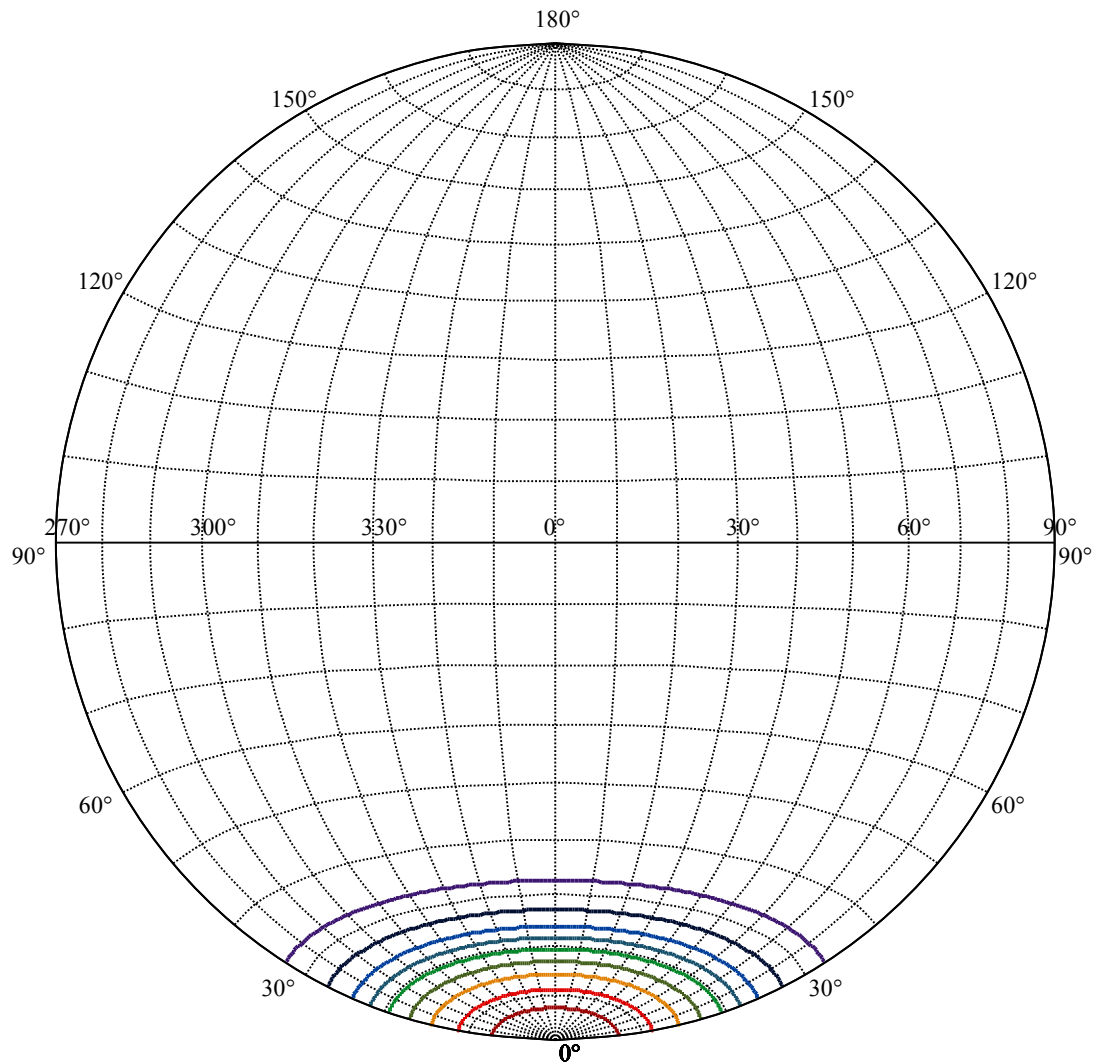
ZONAL LUMEN SUMMARY

0-10	682.30
10-20	968.08
20-30	489.81
30-40	212.92
40-50	88.31
50-60	19.16
60-70	10.73
70-80	11.10
80-90	5.64
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:5194.02

(10%Imax) 519.402

(20%Imax) 1038.8

(30%Imax) 1558.21

(40%Imax) 2077.61

(50%Imax) 2597.01

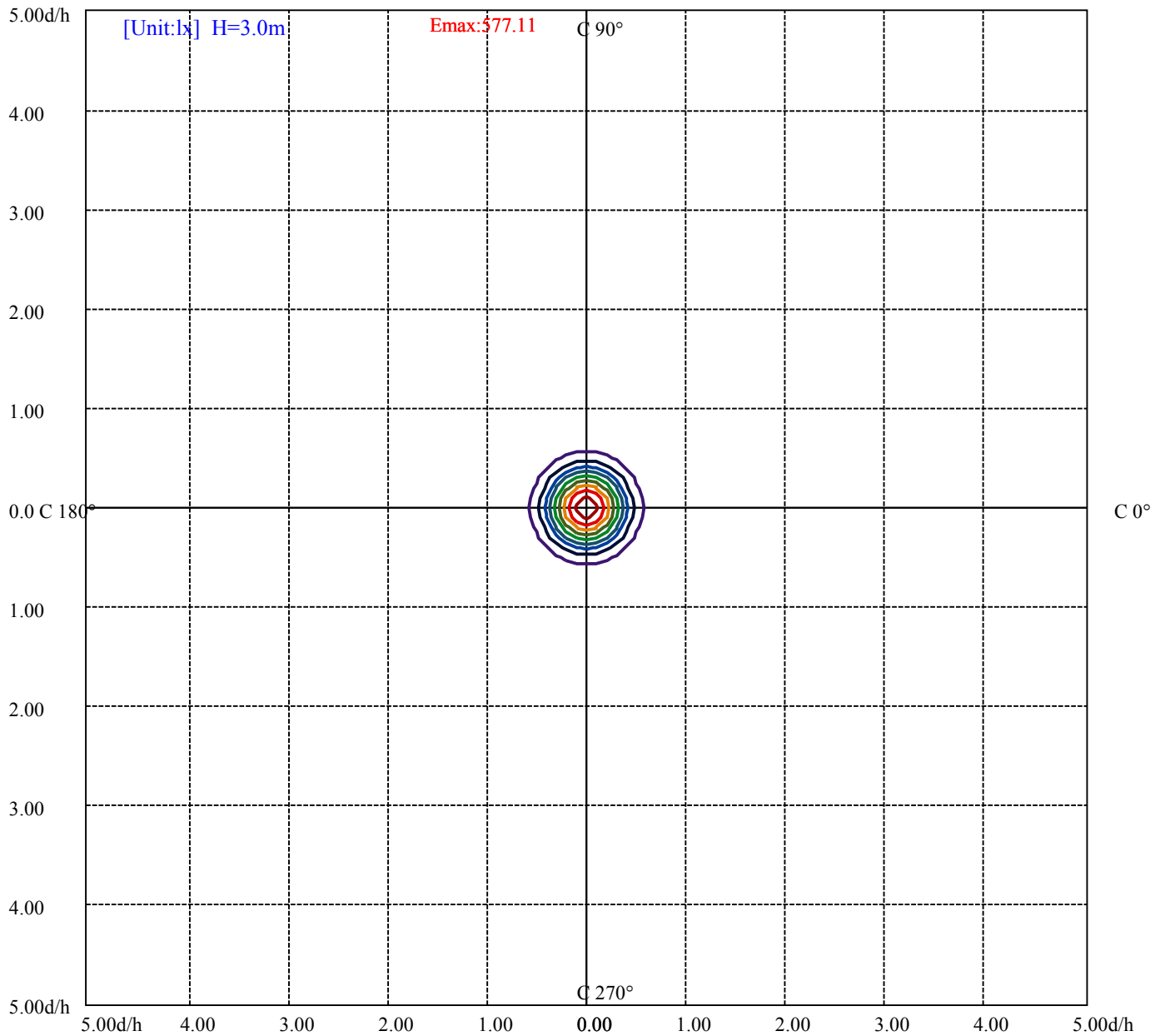
(60%Imax) 3116.41

(70%Imax) 3635.81

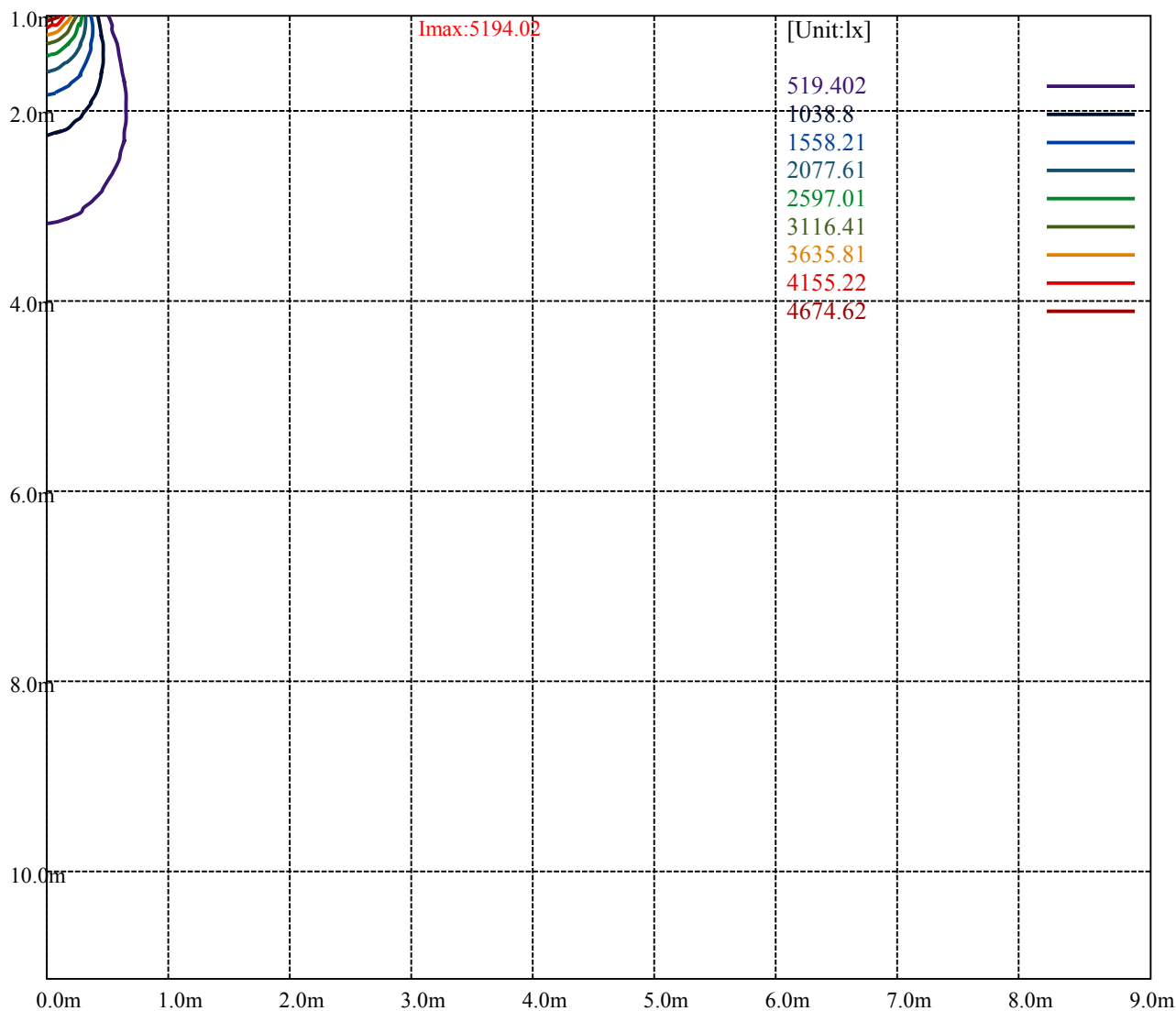
(80%Imax) 4155.22

(90%Imax) 4674.62





(10%Emax)	57.71122	—
(20%Emax)	115.4222	—
(30%Emax)	173.1333	—
(40%Emax)	230.8456	—
(50%Emax)	288.5567	—
(60%Emax)	346.2678	—
(70%Emax)	403.9789	—
(80%Emax)	461.69	—
(90%Emax)	519.4011	—



Luminance Table

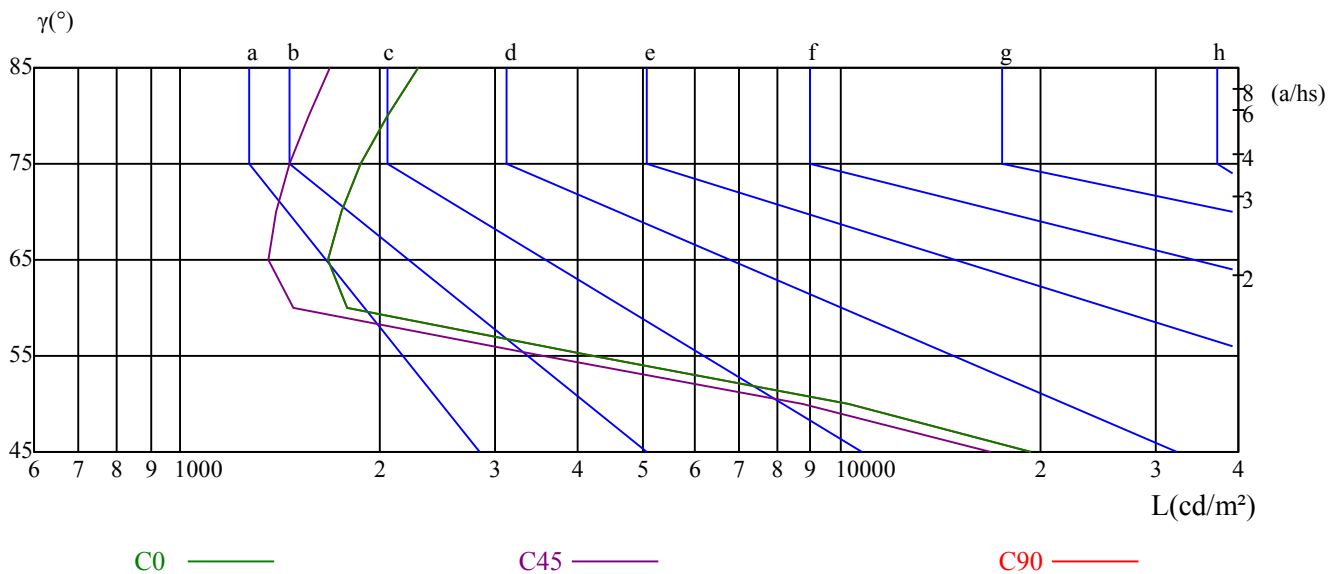
γ	45	50	55	60	65	70	75	80	85
C0	19399	10267	4220	1787	1670	1751	1876	2055	2293
C45	16825	8774	3550	1479	1357	1395	1461	1559	1686
C90	19399	10267	4220	1787	1670	1751	1876	2055	2293

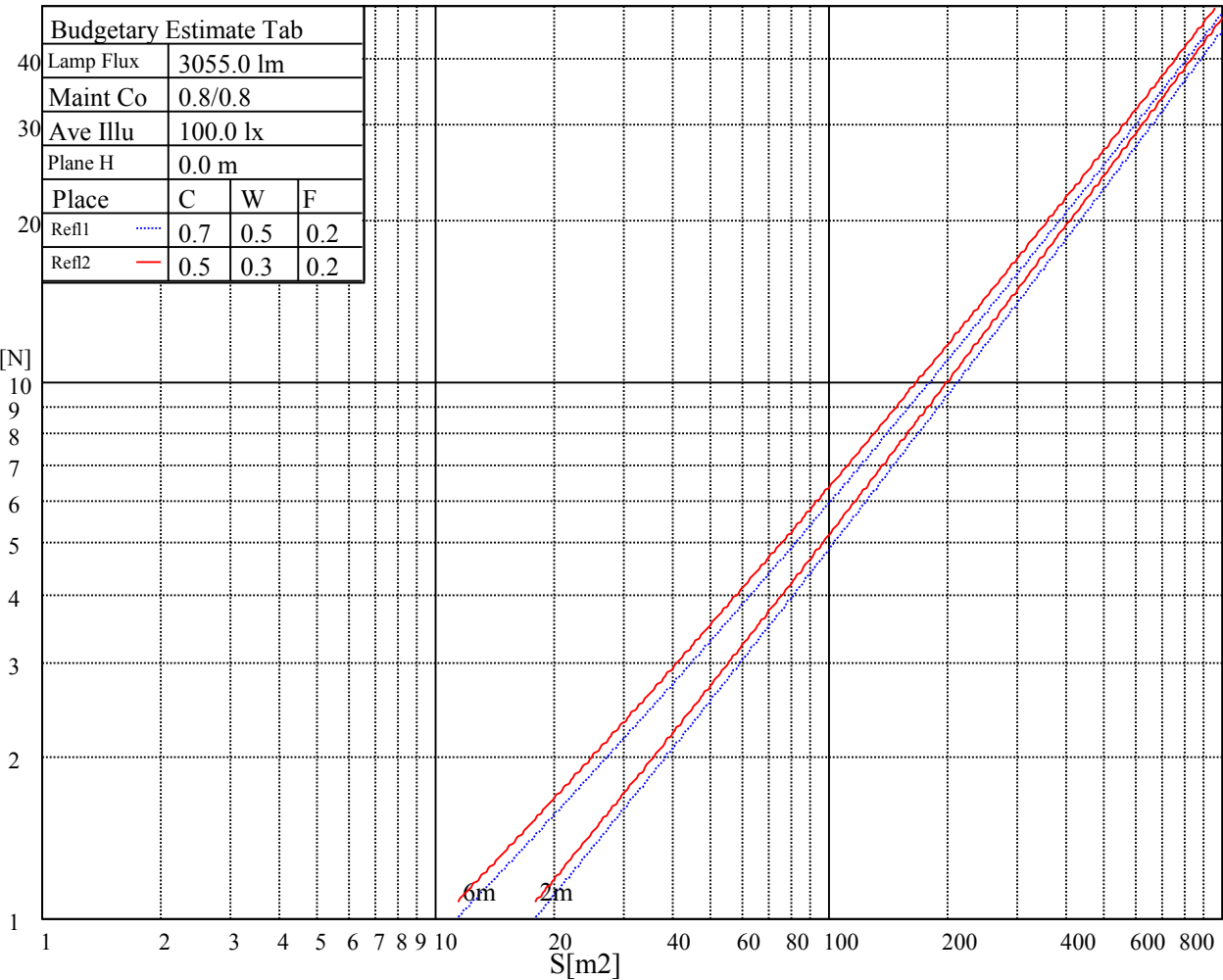
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3766	3766	3766	5975	5975	5975	17639	17639	17639

Glare Table

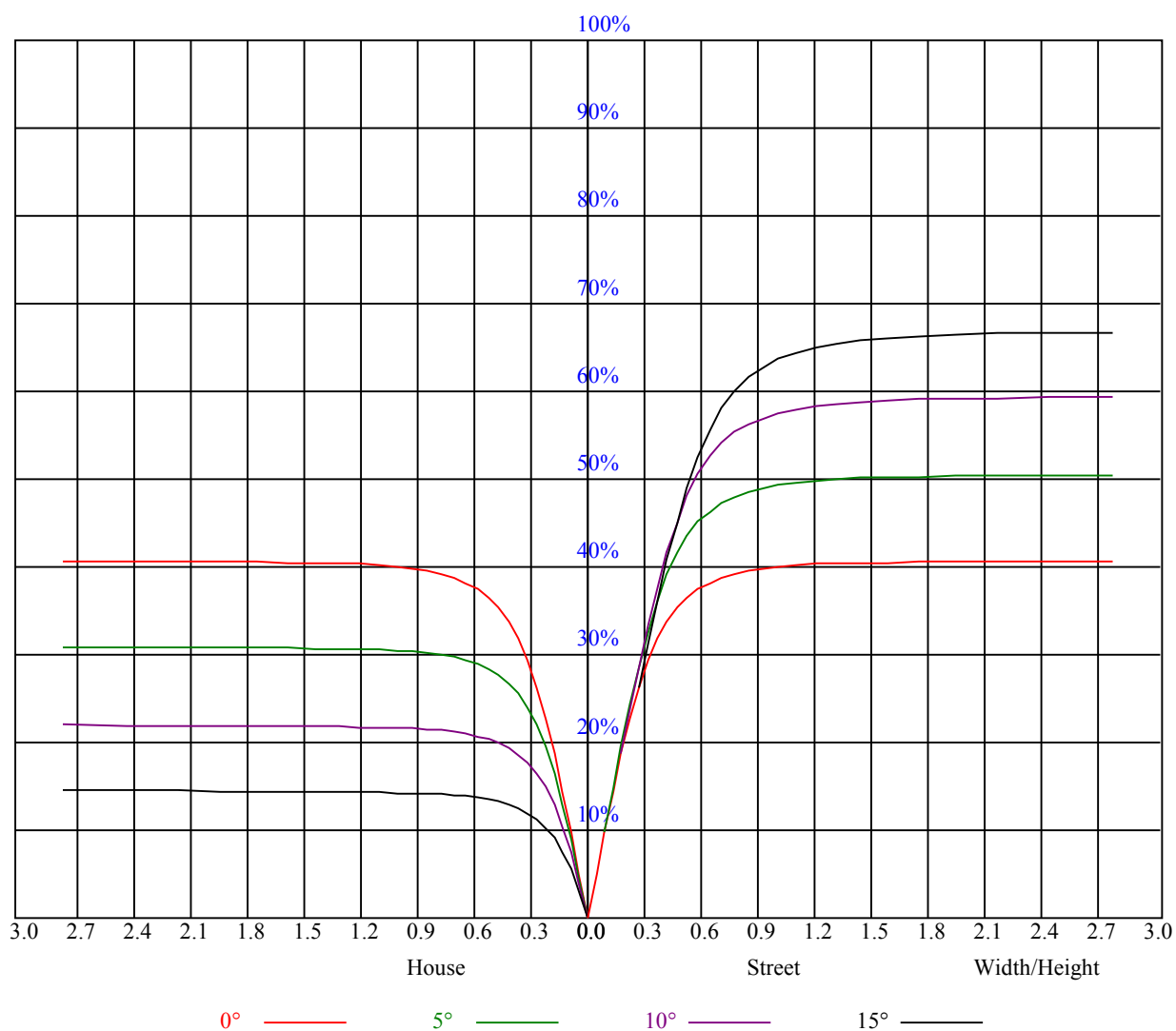
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

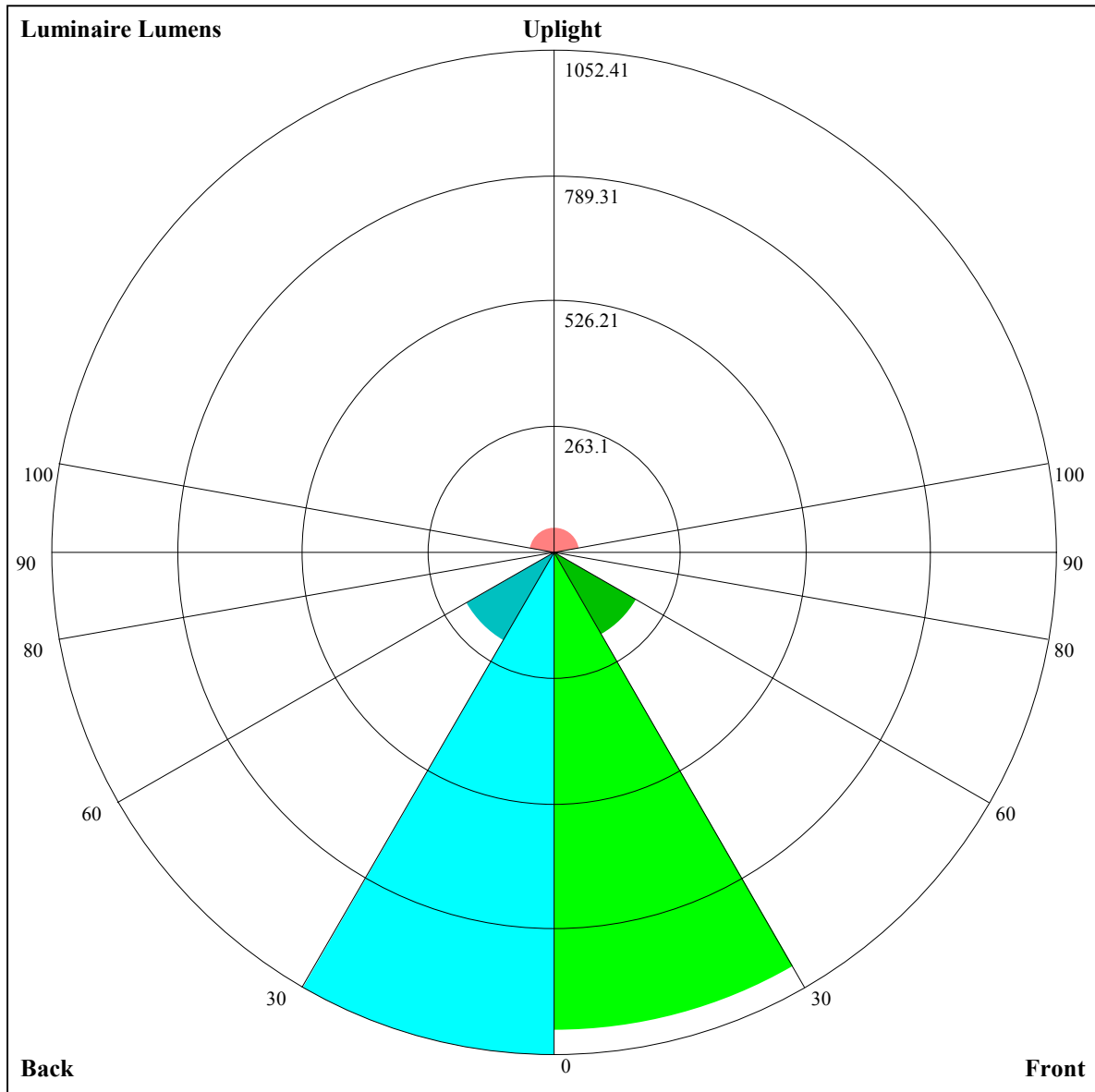
Luminance Limiting Curve





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	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.82
1	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.81	0.80	0.80	0.79	0.78	0.77
2	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.79	0.77	0.79	0.77	0.76	0.77	0.75	0.74	0.73
3	0.81	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.69
4	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.71	0.69	0.73	0.70	0.68	0.72	0.69	0.67	0.66
5	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.65	0.63
6	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
7	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.62	0.59	0.58
8	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.56
9	0.62	0.58	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.58	0.55	0.60	0.57	0.55	0.54
10	0.60	0.56	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.59	0.56	0.53	0.58	0.55	0.53	0.52





Luminaire Lumens:

FL=1001.63,FM=199.94,FH=10.98,FVH=5.64

BL=1052.41,BM=214.93,BH=11.01,BVH=5.61

UL=11.15,UH=53.06

BUG Rating:B3-U2-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	5218.80	4953.97	4355.51	3543.98	2500.11	1362.65	652.97	386.50	284.09
45.0	5191.27	4794.31	4074.72	3271.45	2140.59	1117.64	547.81	338.05	214.11
90.0	5166.49	4718.88	4079.68	3171.80	2077.28	1031.81	529.20	327.37	206.35
135.0	5199.53	4958.93	4348.35	3515.35	2559.57	1414.95	678.85	380.99	278.03
180.0	5218.80	4996.92	4371.48	3499.38	2478.09	1088.19	634.41	381.38	252.98
225.0	5191.27	5114.74	4647.86	3871.02	2855.22	1719.41	834.16	441.11	294.88
270.0	5166.49	5128.50	4663.83	3897.44	2870.09	1750.79	850.07	454.22	299.51
315.0	5199.53	4953.97	4308.16	3520.86	2420.28	1055.05	660.84	379.72	247.75
360.0	5218.80	4953.97	4355.51	3543.98	2500.11	1362.65	652.97	386.50	284.09
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	142.60	75.04	29.73	11.34	10.63	10.46	10.35	10.35	10.41
45.0	122.61	57.92	20.54	11.01	10.57	10.46	10.35	10.41	10.24
90.0	119.14	59.02	21.42	11.01	10.57	10.35	10.35	10.35	10.30
135.0	146.51	76.20	31.82	11.73	10.68	10.46	10.35	10.30	10.35
180.0	142.38	72.29	29.40	11.18	10.52	10.35	10.19	10.19	10.19
225.0	177.34	94.04	37.49	14.26	10.79	10.52	10.41	10.35	10.30
270.0	179.87	95.63	40.80	14.87	11.01	10.74	10.63	10.41	10.41
315.0	139.35	72.51	27.86	11.40	10.85	10.68	10.57	10.57	10.52
360.0	142.60	75.04	29.73	11.34	10.63	10.46	10.35	10.35	10.41
C/ γ (°)	90.0								
0.0	10.13								
45.0	10.24								
90.0	10.24								
135.0	10.24								
180.0	10.13								
225.0	10.24								
270.0	10.30								
315.0	10.24								
360.0	10.13								