
Nata

Client:

LumCAT: 3-2117-N

Luminaire: 92.70.135.00

Report No: nata-0100

Test No: GC2018053114

LampCAT: NICHIA NFCWD084B-V3

Lamp flux(lm): 2168.8

Number of Lamps: 1

Length(mm): 74

Phm Type: C

Voltage(V): 34.2000

Current(A): 0.5000

Power (W): 17.1000

PF: 0.0000

Ballast type: DC

Width(mm): 74

Height(mm): 0

Photometric Results

Lumens(lm): 1761.21, Efficiency(%): 81.21% , Luminous Efficacy(lm/W): 102.99

Central intensity(cd): 4626.252, Maximum intensity(cd): 4626.252

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=35.2

[C90/270]Total=35.2

Field angle(10%Imax): [C0/180]Total=58.6

[C90/270]Total=58.6

Maximum s/h(1/2): C0_180=0.60 C90_270=0.60

Maximum s/h(1/4): C0_180=0.55 C90_270=0.55

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 82.41%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.911%

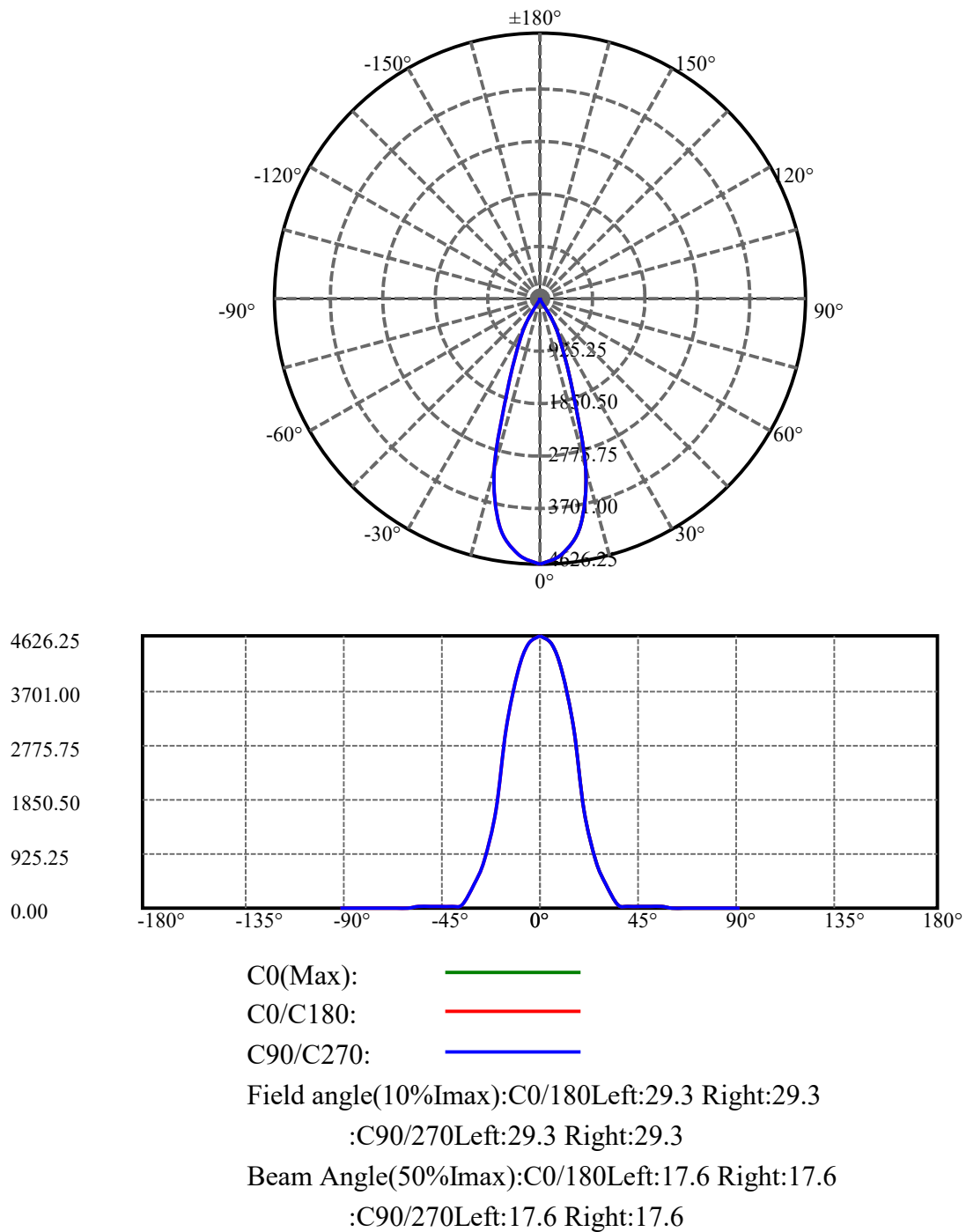
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4626.252	27.666	27.666	1.276%	1.571%
5.0	4468.584	213.479	241.145	9.843%	13.692%
10.0	4018.773	382.519	623.664	17.638%	35.411%
15.0	3053.153	433.146	1056.81	19.972%	60.005%
20.0	1656.757	310.599	1367.409	14.322%	77.640%
25.0	814.663	188.719	1556.128	8.702%	88.356%
30.0	408.346	111.915	1668.043	5.160%	94.710%
35.0	68.421	21.512	1689.554	.992%	95.931%
40.0	35.560	12.529	1702.083	.578%	96.643%
45.0	23.605	9.149	1711.233	.422%	97.162%
50.0	18.072	7.588	1718.821	.350%	97.593%
55.0	15.127	6.792	1725.613	.313%	97.979%
60.0	13.448	6.384	1731.997	.294%	98.341%
65.0	12.181	6.051	1738.048	.279%	98.685%
70.0	11.204	5.771	1743.819	.266%	99.013%
75.0	10.289	5.447	1749.266	.251%	99.322%
80.0	9.408	5.078	1754.345	.234%	99.610%
85.0	8.603	4.697	1759.042	.217%	99.877%
90.0	7.907	2.167	1761.21	.100%	100.000%

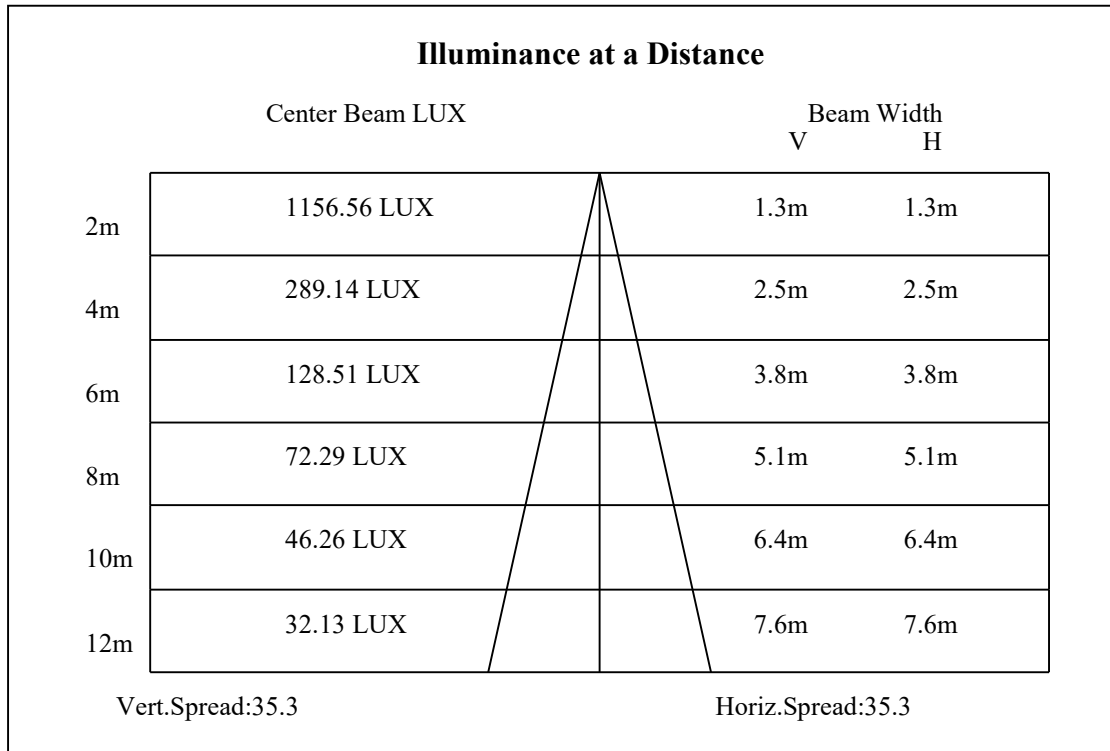
ZONAL LUMEN SUMMARY

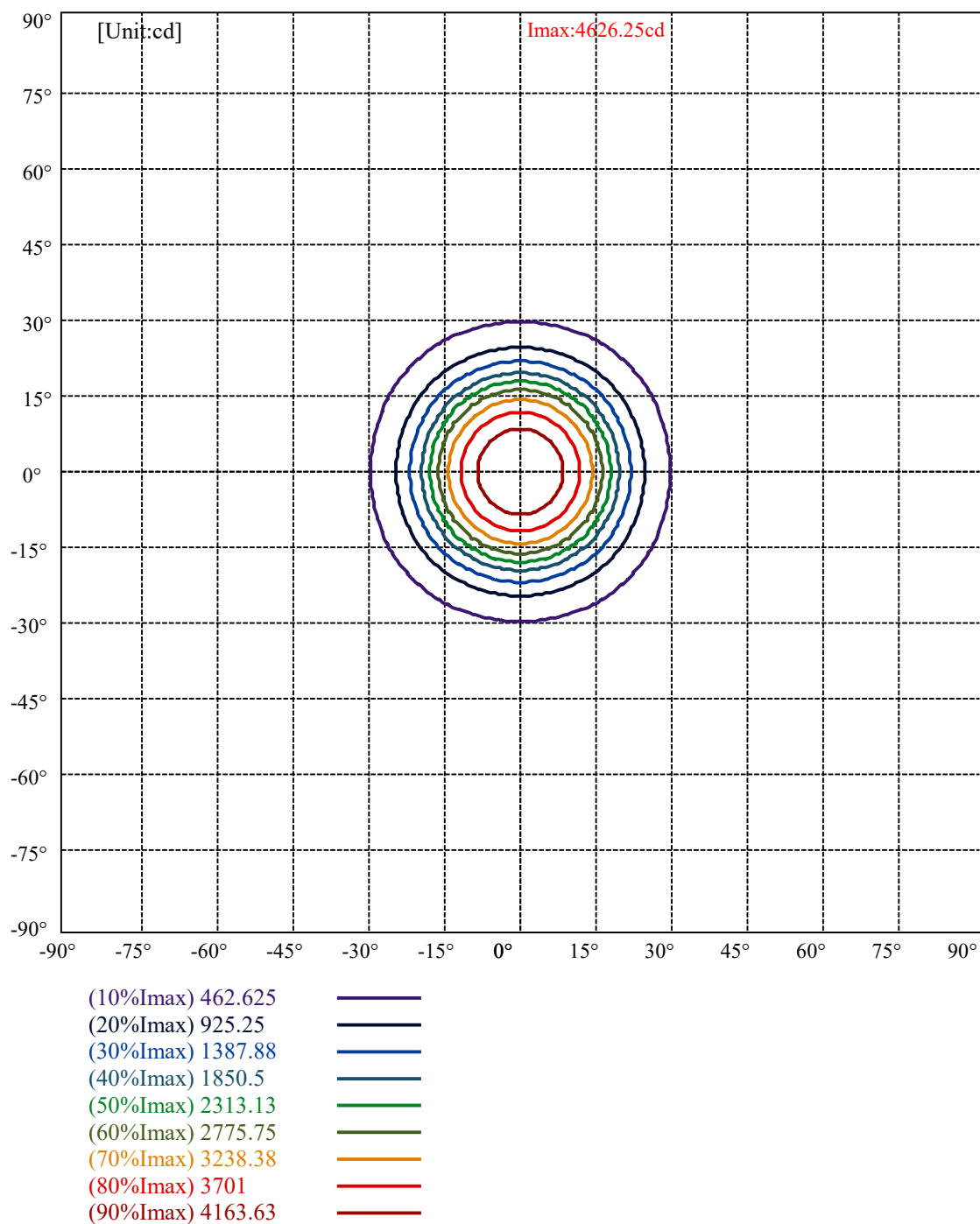
Zone	Lumens	%Lamp	%Fixt
0-30	1668.04	76.91%	94.71%
0-40	1702.08	78.48%	96.64%
0-60	1732.00	79.86%	98.34%
0-90	1759.04	81.11%	99.88%
0-120	1759.04	81.11%	99.88%
0-180	1761.21	81.21%	100.00%
60-90	33.43	1.54%	1.90%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.10	1408.97	64.97%	80.00%

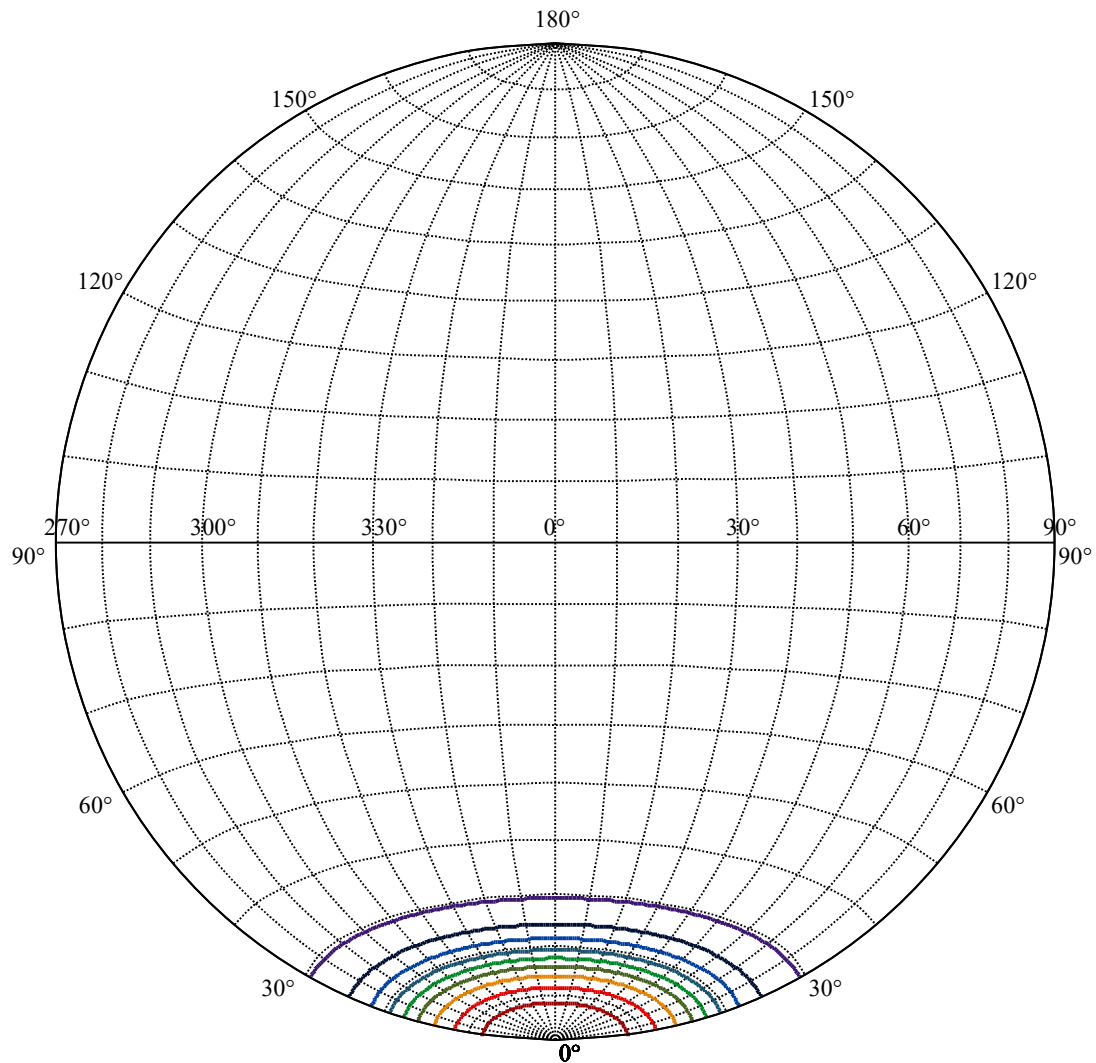
ZONAL LUMEN SUMMARY

0-10	623.66
10-20	743.74
20-30	300.63
30-40	34.04
40-50	16.74
50-60	13.18
60-70	11.82
70-80	10.53
80-90	4.70
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









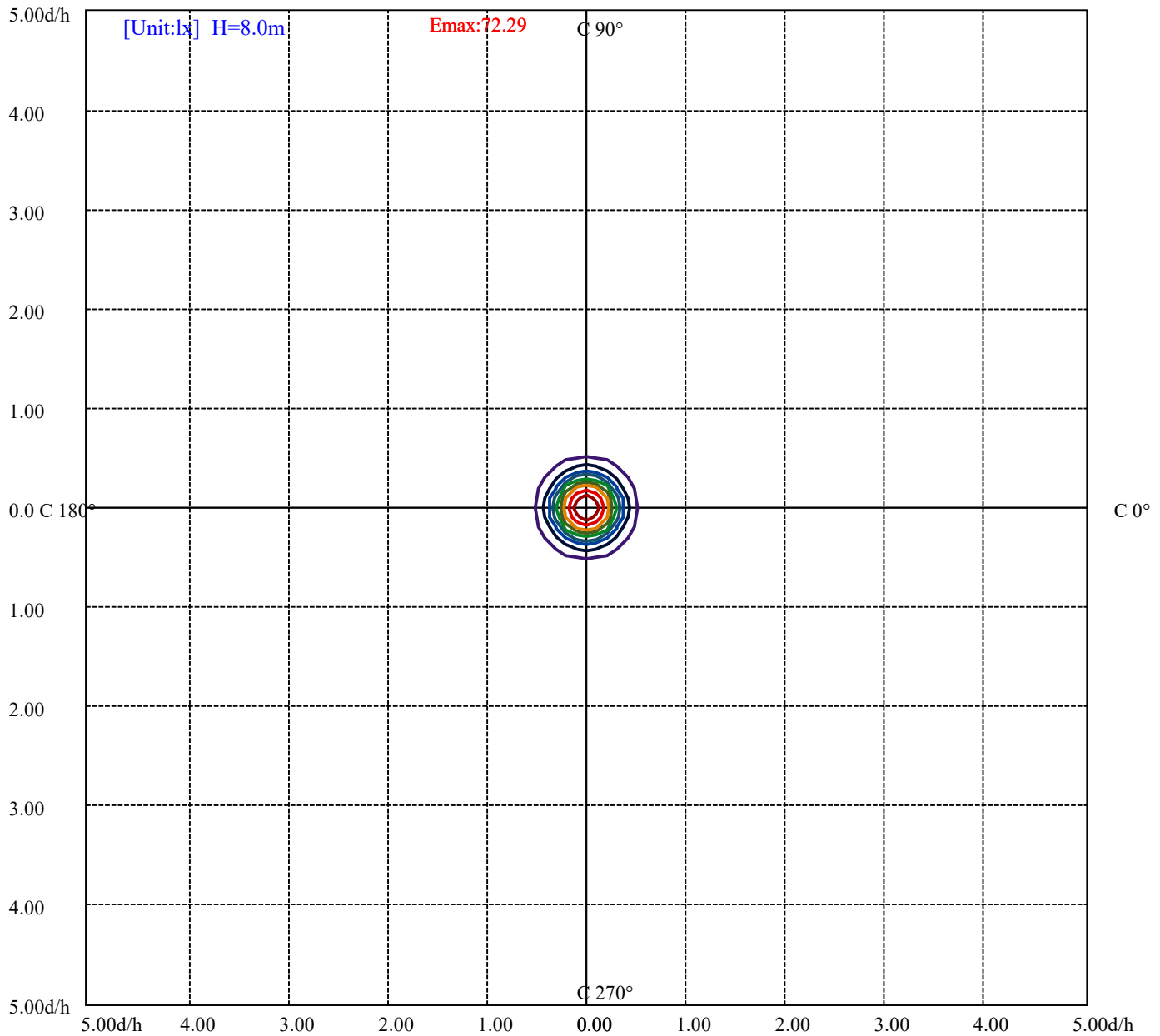
House

[Unit:cd]

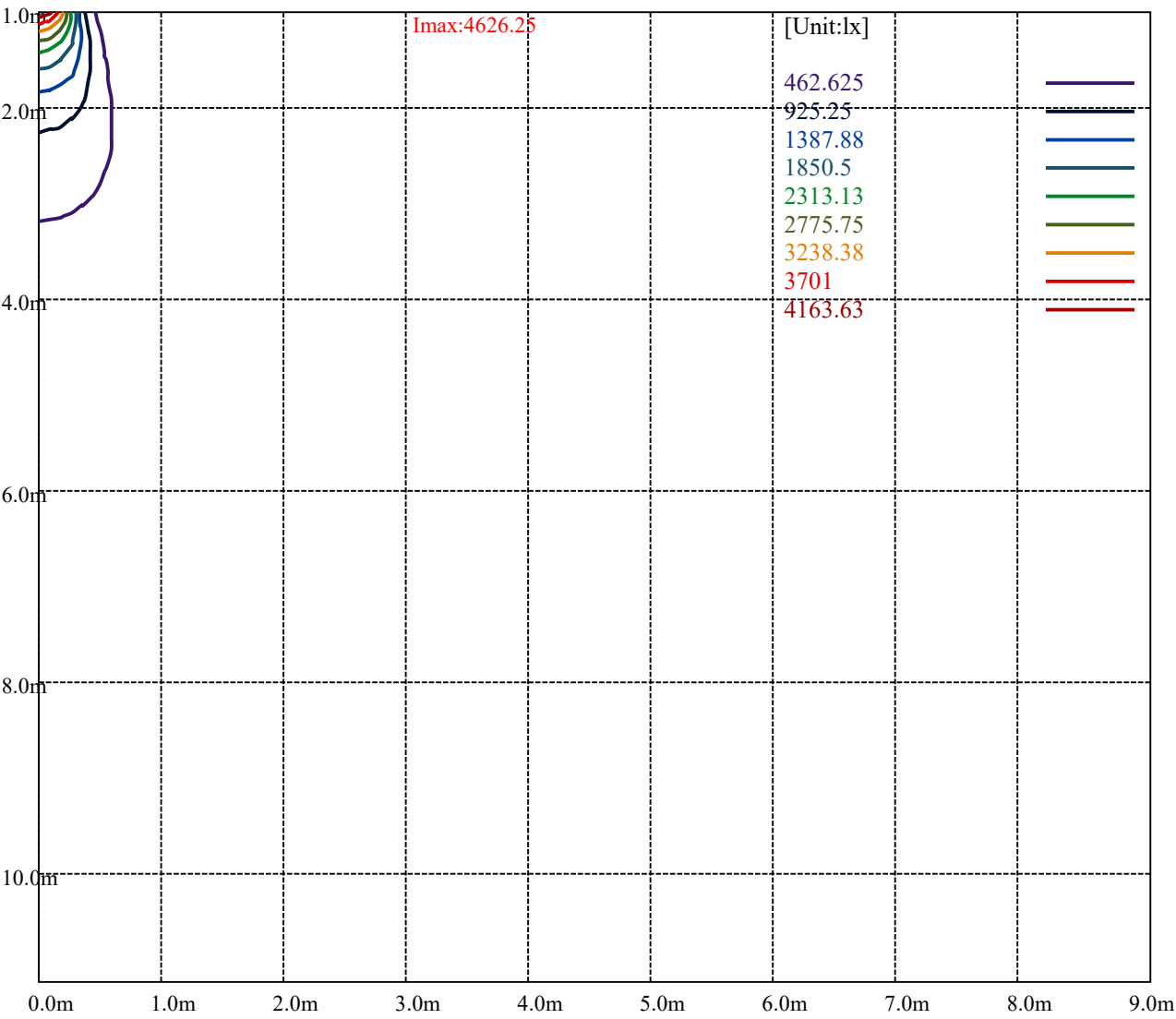
Road

Imax:4626.25

(10%Imax)	462.625	—
(20%Imax)	925.25	—
(30%Imax)	1387.88	—
(40%Imax)	1850.5	—
(50%Imax)	2313.13	—
(60%Imax)	2775.75	—
(70%Imax)	3238.38	—
(80%Imax)	3701	—
(90%Imax)	4163.63	—



(10%Emax) 7.228516	—
(20%Emax) 14.45702	—
(30%Emax) 21.68547	—
(40%Emax) 28.91406	—
(50%Emax) 36.1425	—
(60%Emax) 43.37109	—
(70%Emax) 50.59953	—
(80%Emax) 57.82813	—
(90%Emax) 65.05656	—



Luminance Table

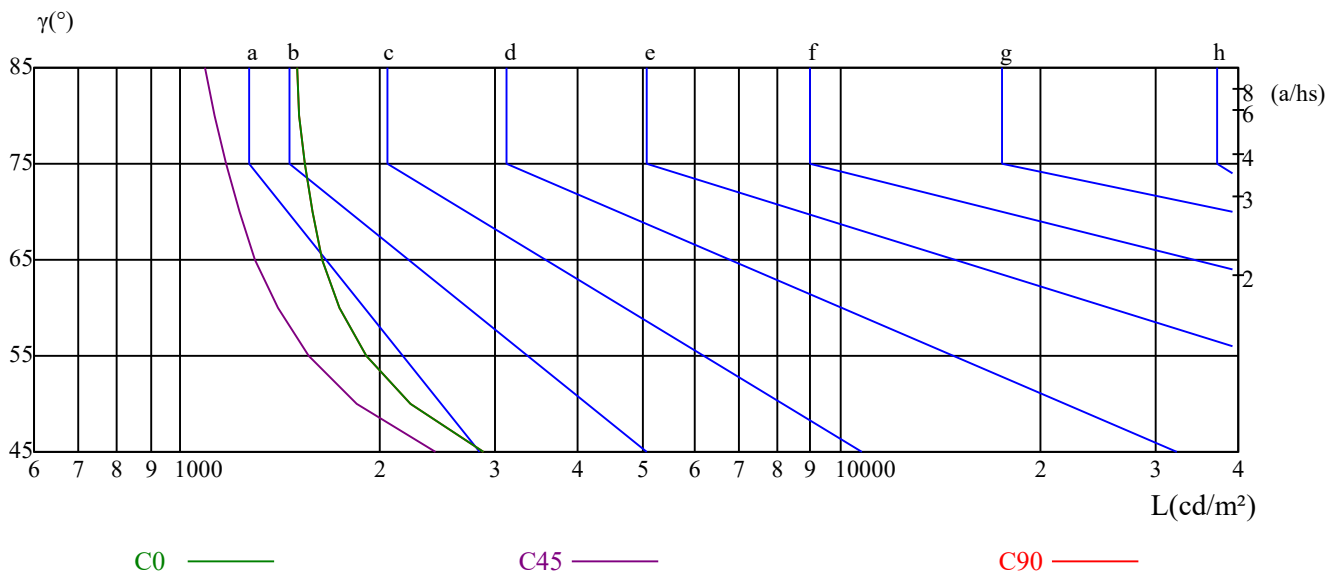
γ	45	50	55	60	65	70	75	80	85
C0	2878	2232	1907	1746	1642	1584	1540	1510	1499
C45	2427	1854	1560	1405	1300	1231	1175	1126	1091
C90	2878	2232	1907	1746	1642	1584	1540	1510	1499

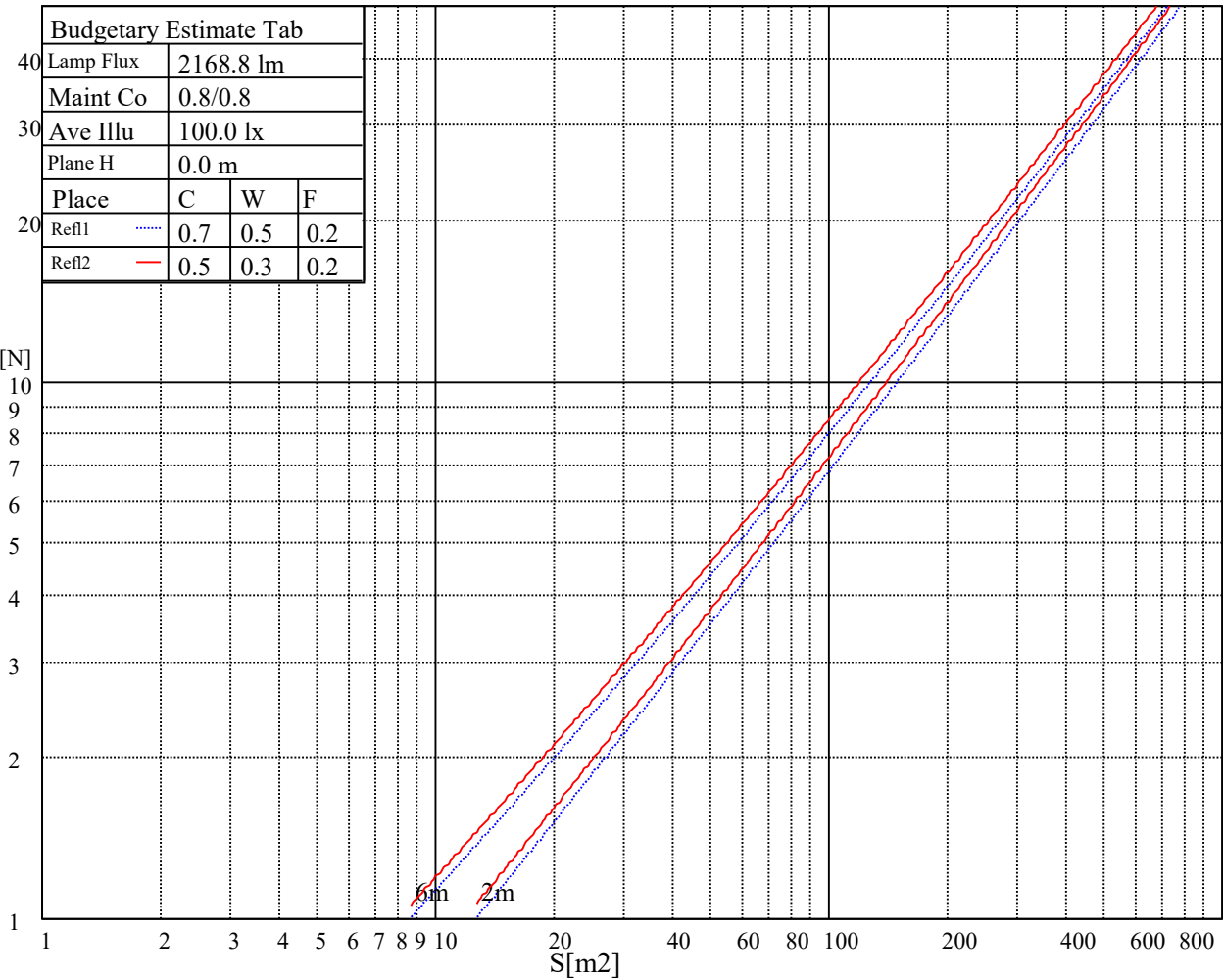
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4504	4504	4504	6211	6211	6211	15422	15422	15422

Glare Table

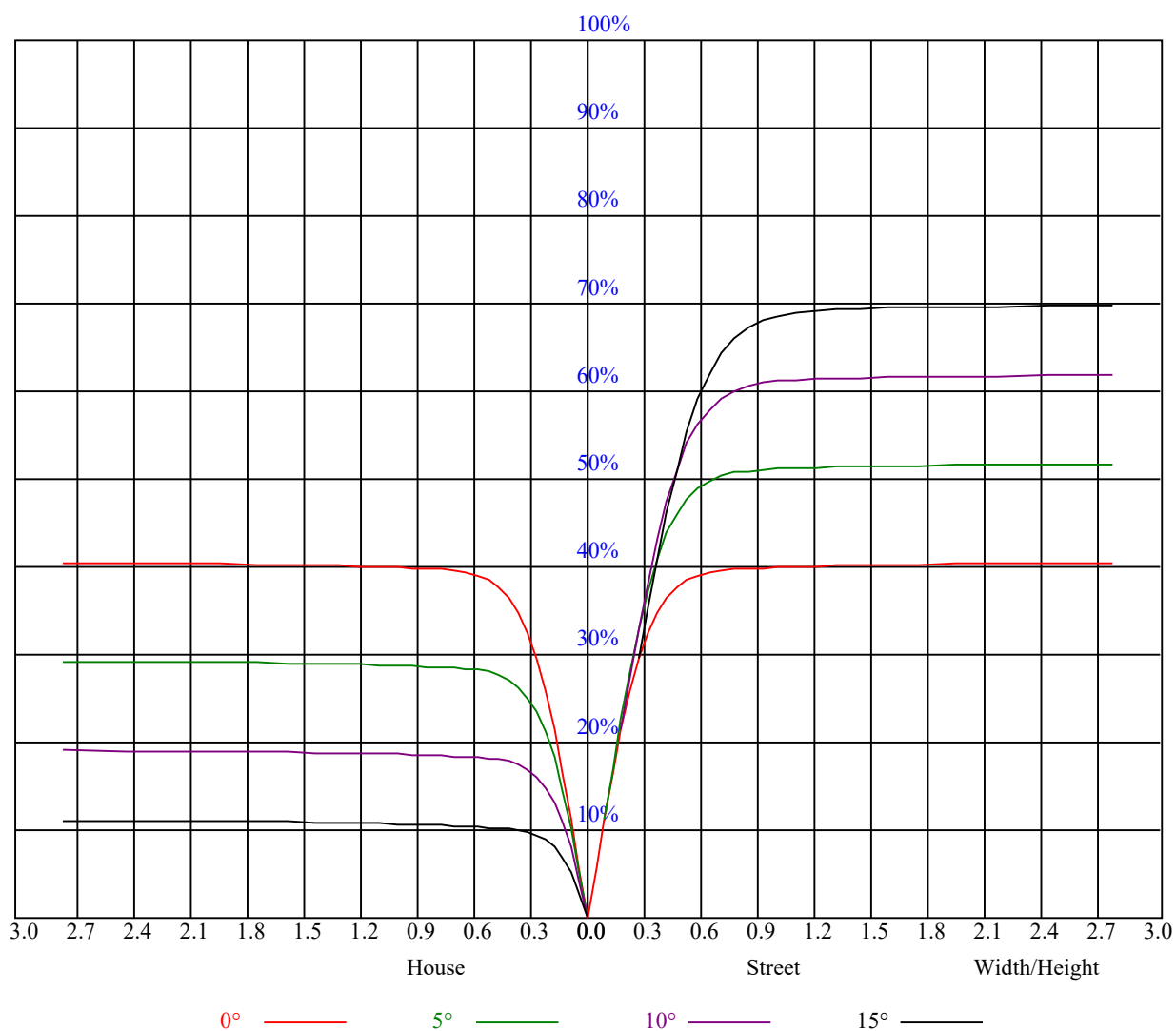
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

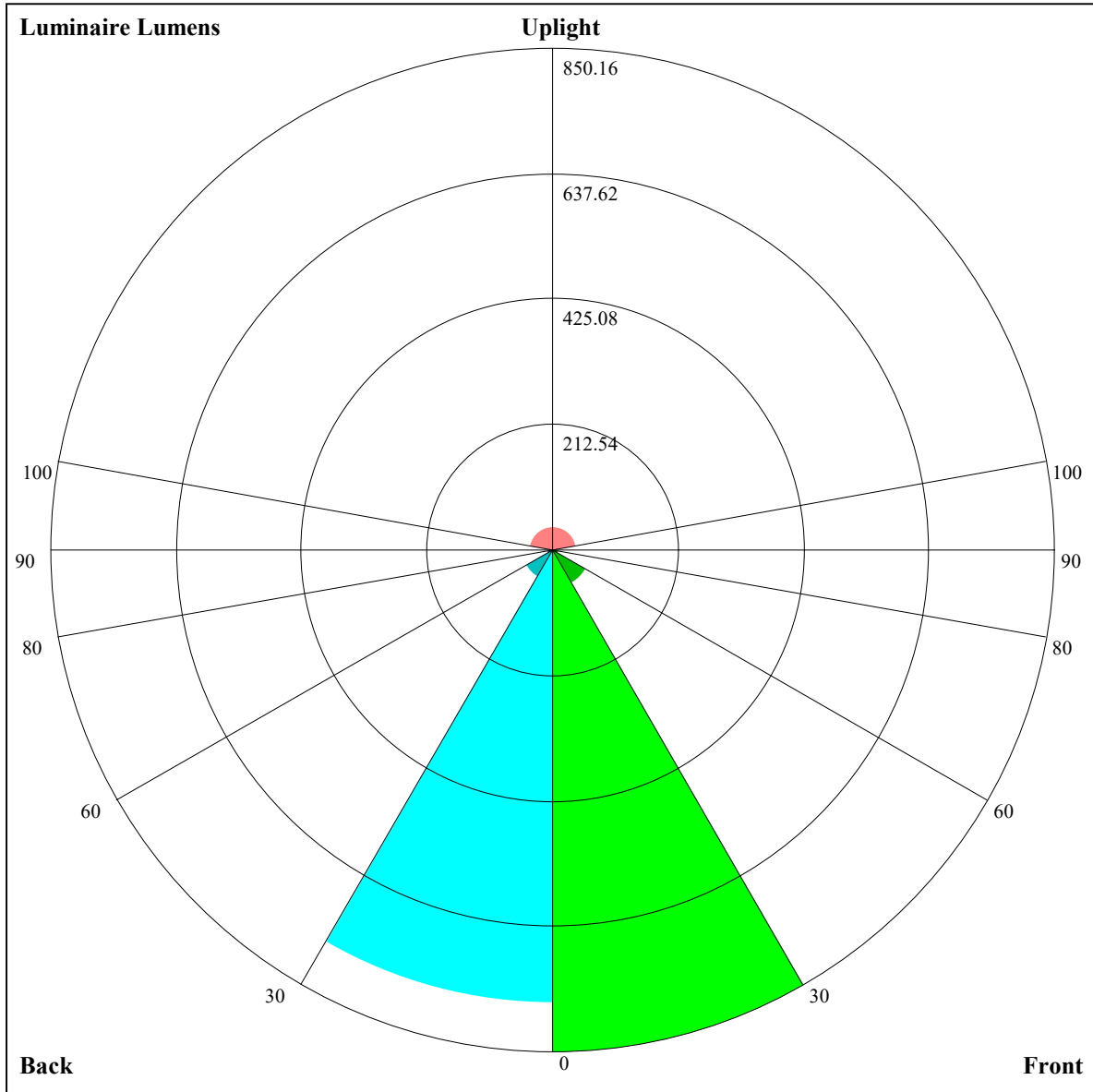
Luminance Limiting Curve





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 RHOF=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	0.86	0.86	0.84	0.83	0.83	0.82	0.80	0.80	0.79	0.78	0.77
2	0.86	0.83	0.81	0.85	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.77	0.78	0.76	0.75	0.74
3	0.82	0.79	0.76	0.81	0.78	0.76	0.79	0.77	0.74	0.77	0.75	0.73	0.76	0.74	0.72	0.71
4	0.79	0.75	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.75	0.72	0.71	0.73	0.71	0.70	0.69
5	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.66
6	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
7	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.63
8	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.62	0.61
9	0.67	0.63	0.61	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.59
10	0.65	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.58	0.63	0.60	0.58	0.58





Luminaire Lumens:

FL=850.16,FM=64.82,FH=11.61,FVH=4.73

BL=768.43,BM=53.59,BH=11.42,BVH=4.68

UL=8.63,UH=41.06

BUG Rating:B2-U2-G0

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	4625.29	4542.15	4245.95	3395.88	2075.63	927.15	545.06	90.62	38.43		
45.0	4619.23	4475.53	4147.95	3400.28	2138.39	989.36	561.58	102.68	41.79		
90.0	4620.88	4394.60	3945.34	3004.98	1717.76	825.30	394.20	63.42	35.62		
135.0	4639.60	4428.19	3992.69	3134.36	1771.71	814.28	436.60	65.13	35.95		
180.0	4625.29	4388.00	3826.97	2695.01	1070.13	738.20	292.57	51.86	31.88		
225.0	4619.23	4418.83	3793.39	2672.99	1087.31	666.57	258.49	50.54	30.72		
270.0	4620.88	4549.86	4126.48	3102.98	1770.61	779.60	385.95	62.43	35.24		
315.0	4639.60	4551.51	4071.42	3018.74	1622.51	776.85	392.33	60.67	34.85		
360.0	4625.29	4542.15	4245.95	3395.88	2075.63	927.15	545.06	90.62	38.43		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	25.38	18.83	15.47	13.71	12.33	11.34	10.52	9.63	8.70		
45.0	26.48	19.55	16.08	14.04	12.66	11.56	10.68	9.74	8.81		
90.0	23.45	18.22	15.20	13.49	12.28	11.23	10.30	9.36	8.59		
135.0	23.95	18.17	15.14	13.49	12.28	11.29	10.30	9.41	8.59		
180.0	21.58	17.07	14.53	13.10	11.89	10.90	10.02	9.14	8.53		
225.0	21.53	17.01	14.53	13.10	11.95	11.01	10.02	9.25	8.53		
270.0	23.45	18.11	15.14	13.43	12.11	11.23	10.30	9.41	8.53		
315.0	23.01	17.62	14.92	13.21	11.95	11.07	10.19	9.30	8.53		
360.0	25.38	18.83	15.47	13.71	12.33	11.34	10.52	9.63	8.70		
C/ γ (°)	90.0										
0.0	7.98										
45.0	7.98										
90.0	7.93										
135.0	7.87										
180.0	7.87										
225.0	7.87										
270.0	7.87										
315.0	7.87										
360.0	7.98										