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Nata

LumCAT: 1-1006-M
Luminaire: BJB 47.360.1030
Report No: NATA0100
Test No: GC2019101908
LampCAT: LUMILEDS LUXEON 1203
Lamp flux(lm): 1293.3
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 35.4400
Current(A): 0.2970
Power (W): 10.5000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 960.35
Efficiency(%): 74.26%
Lumens(lm)/Power(W): 91.46
Central intensity(cd): 5263.313
Maximum intensity(cd): 5263.313
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=23.2
 [C90/270]Total=23.2
Field angle(10%Imax): [C0/180]Total=41.7
 [C90/270]Total=41.7
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 74.26%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.170%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5263.313	0.000	0	.000%	.000%
2.0	5158.055	19.944	19.944	1.542%	2.077%
4.0	4888.406	57.657	77.601	4.458%	8.080%
6.0	4449.023	89.240	166.841	6.900%	17.373%
8.0	3866.133	111.122	277.963	8.592%	28.944%
10.0	3181.711	120.899	398.862	9.348%	41.533%
12.0	2500.383	118.889	517.751	9.193%	53.913%
14.0	1834.945	106.941	624.692	8.269%	65.049%
16.0	1329.483	89.810	714.503	6.944%	74.400%
18.0	941.977	72.824	787.327	5.631%	81.983%
20.0	628.910	56.082	843.409	4.336%	87.823%
22.0	387.120	39.927	883.336	3.087%	91.981%
24.0	185.948	24.554	907.89	1.899%	94.538%
26.0	74.510	12.070	919.96	.933%	95.794%
28.0	25.896	4.999	924.959	.386%	96.315%
30.0	13.191	2.078	927.037	.161%	96.531%
32.0	9.851	1.301	928.338	.101%	96.667%
34.0	8.684	1.107	929.445	.086%	96.782%
36.0	7.938	1.045	930.491	.081%	96.891%
38.0	7.446	1.015	931.506	.079%	96.997%
40.0	7.066	1.001	932.507	.077%	97.101%
42.0	6.799	0.998	933.505	.077%	97.205%
44.0	6.595	1.002	934.507	.077%	97.309%
46.0	6.441	1.011	935.517	.078%	97.414%
48.0	6.293	1.021	936.539	.079%	97.521%
50.0	6.152	1.030	937.569	.080%	97.628%
52.0	6.019	1.037	938.606	.080%	97.736%
54.0	5.871	1.041	939.647	.081%	97.844%
56.0	5.738	1.043	940.69	.081%	97.953%
58.0	5.604	1.043	941.733	.081%	98.062%
60.0	5.484	1.042	942.775	.081%	98.170%
62.0	5.421	1.046	943.821	.081%	98.279%
64.0	5.379	1.055	944.876	.082%	98.389%
66.0	5.351	1.066	945.942	.082%	98.500%
68.0	5.695	1.115	947.057	.086%	98.616%
70.0	6.560	1.255	948.312	.097%	98.747%
72.0	7.073	1.414	949.726	.109%	98.894%
74.0	7.137	1.490	951.216	.115%	99.049%

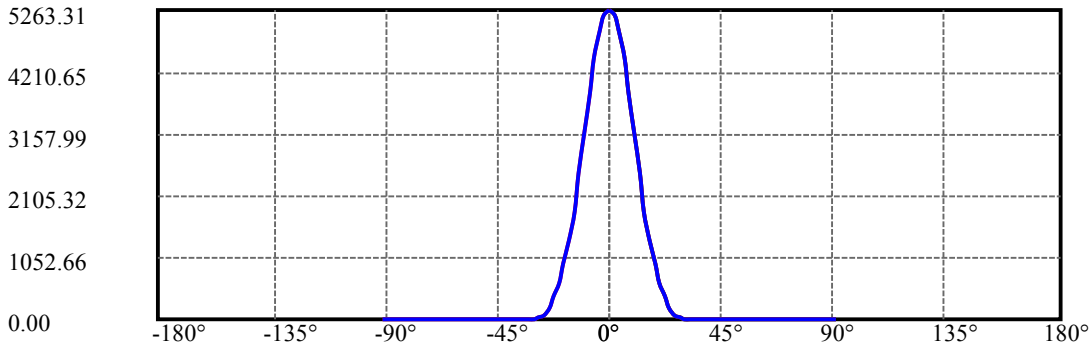
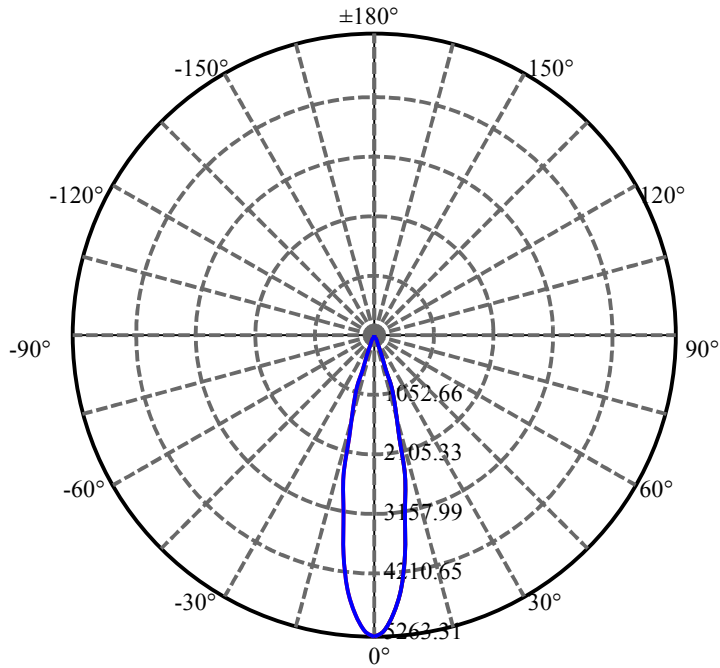
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.052	1.503	952.719	.116%	99.206%
78.0	6.180	1.414	954.133	.109%	99.353%
80.0	4.880	1.191	955.323	.092%	99.477%
82.0	4.739	1.042	956.365	.081%	99.585%
84.0	4.662	1.023	957.388	.079%	99.692%
86.0	4.584	1.010	958.398	.078%	99.797%
88.0	4.409	0.985	959.383	.076%	99.899%
90.0	4.395	0.965	960.348	.075%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	927.04	71.68%	96.53%
0-40	932.51	72.10%	97.10%
0-60	942.77	72.90%	98.17%
0-90	959.38	74.18%	99.90%
0-120	959.38	74.18%	99.90%
0-180	960.35	74.26%	100.00%
60-90	17.65	1.36%	1.84%
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%
0-17.48	768.28	59.40%	80.00%

ZONAL LUMEN SUMMARY

0-10	398.86
10-20	444.55
20-30	83.63
30-40	5.47
40-50	5.06
50-60	5.21
60-70	5.54
70-80	7.01
80-90	4.06
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: ———

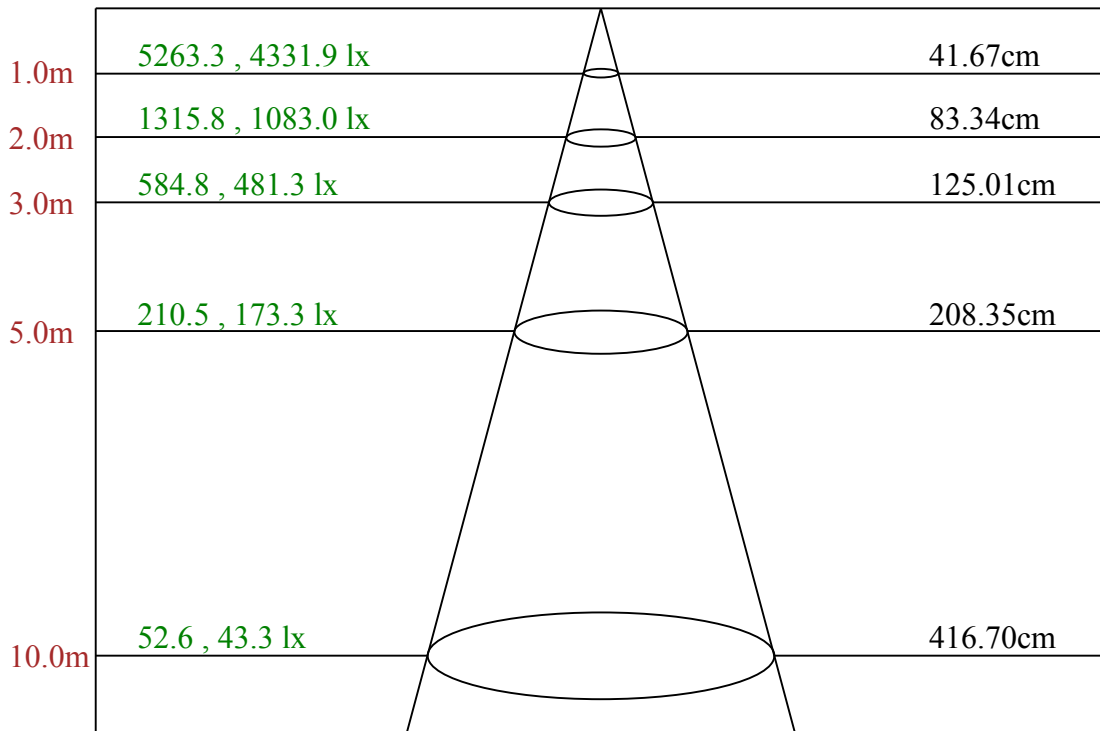
C90/C270: ———

Field angle(10%Imax):C0/180Left:20.8 Right:20.8

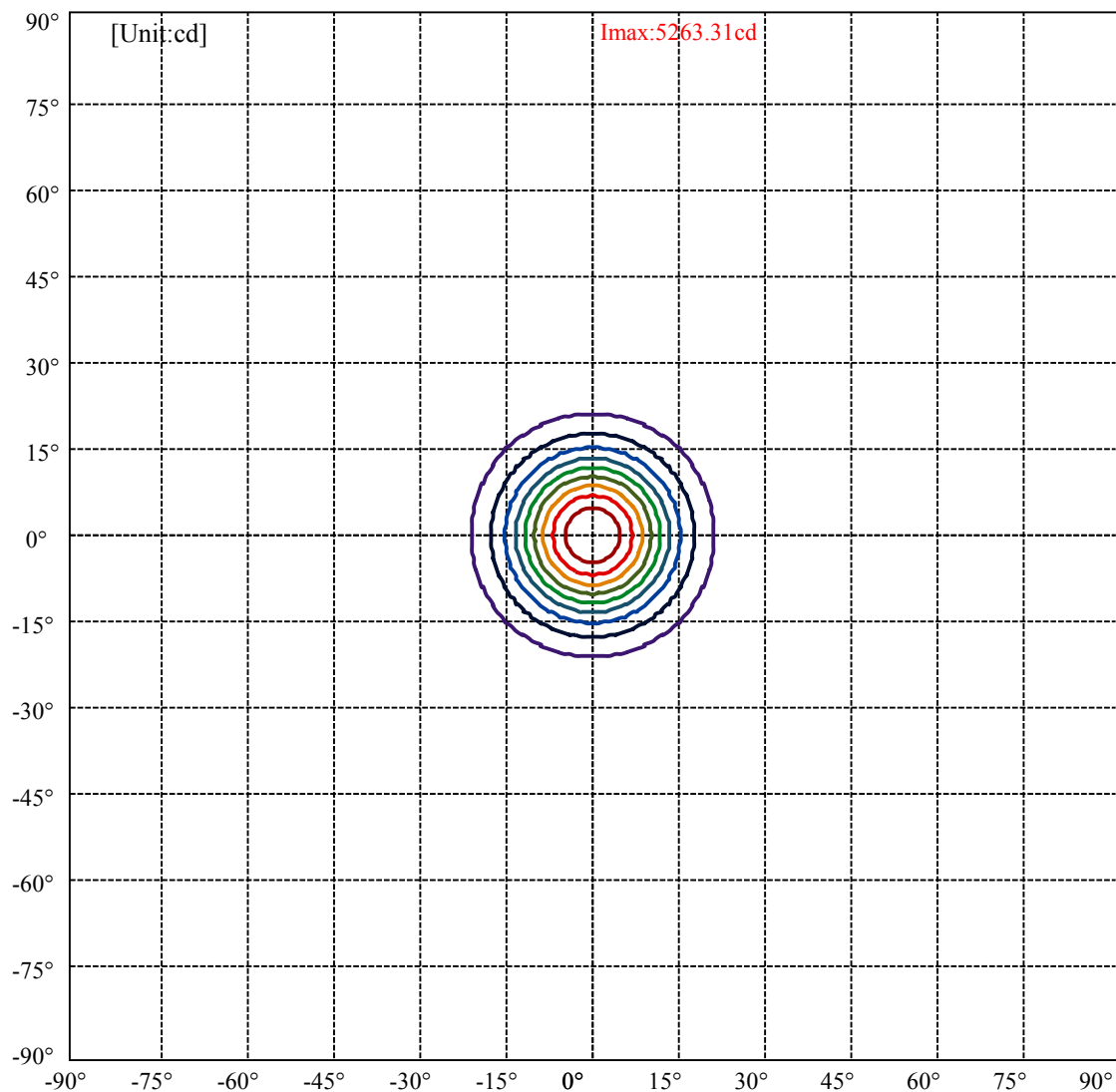
:C90/270Left:20.8 Right:20.8

Beam Angle(50%Imax):C0/180Left:11.6 Right:11.6

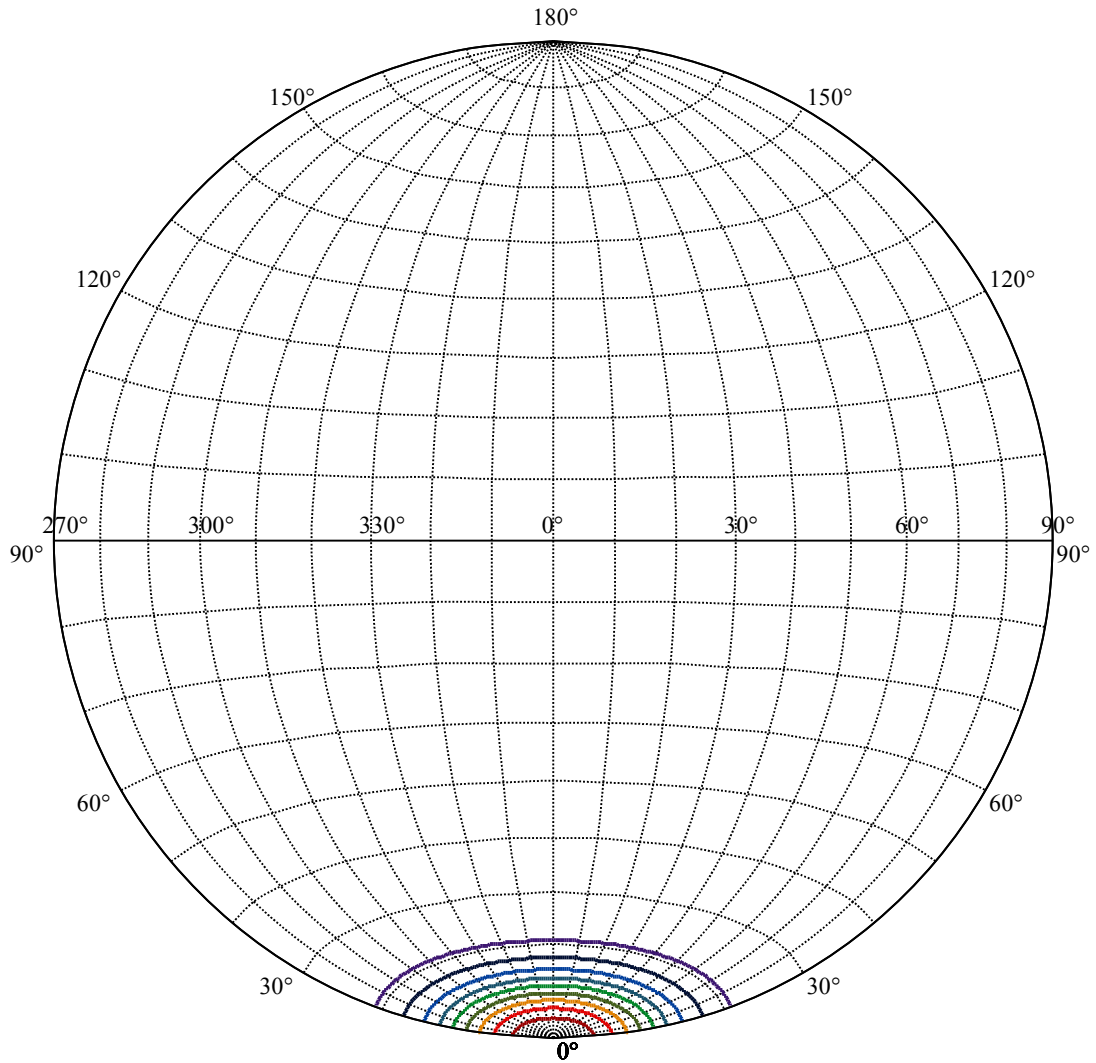
:C90/270Left:11.6 Right:11.6



Max , Ave Beam angle of C0 plane 23.54



(10%Imax) 526.331	—
(20%Imax) 1052.66	—
(30%Imax) 1578.99	—
(40%Imax) 2105.32	—
(50%Imax) 2631.66	—
(60%Imax) 3157.99	—
(70%Imax) 3684.32	—
(80%Imax) 4210.65	—
(90%Imax) 4736.98	—



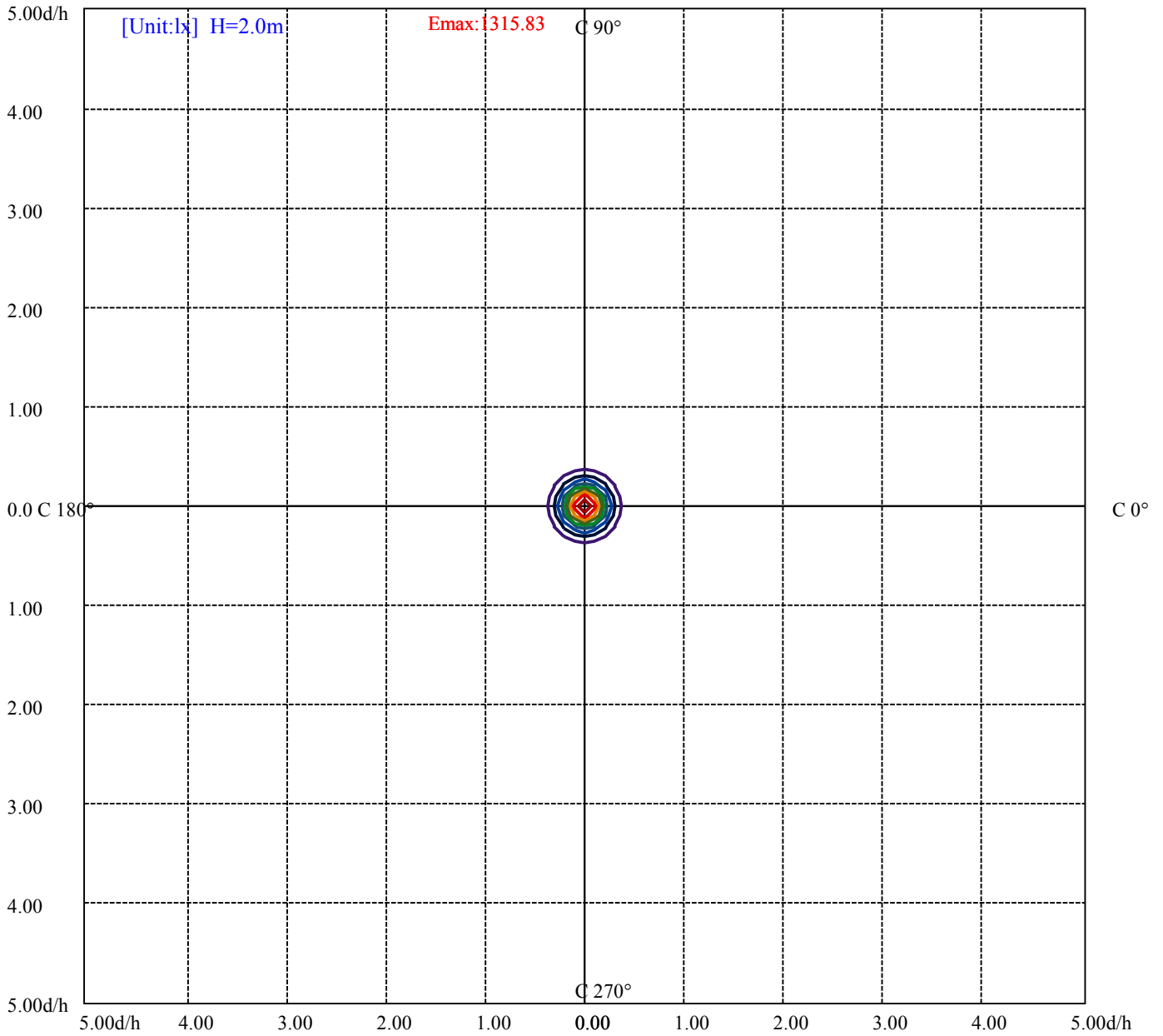
House

[Unit:cd]

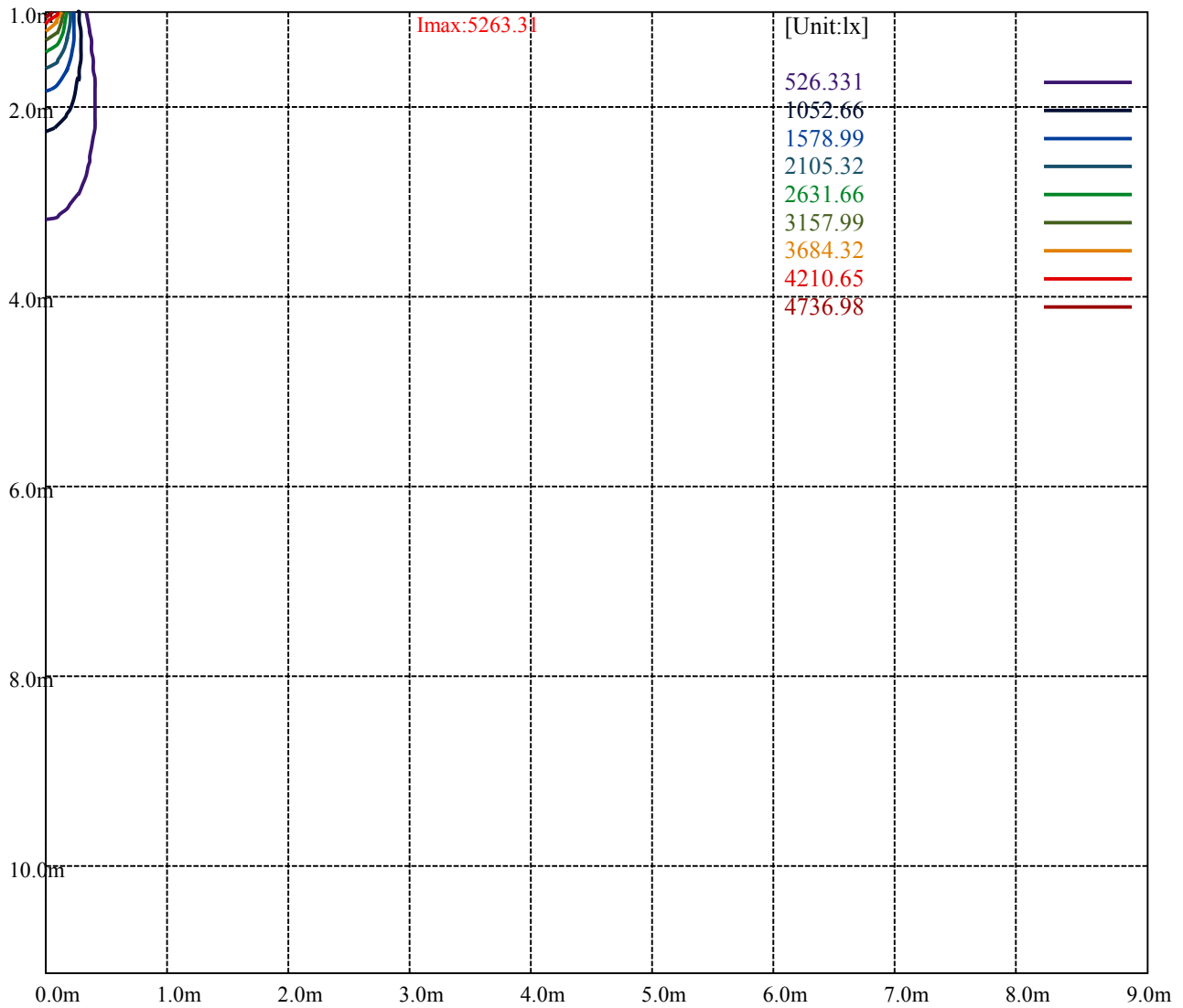
Road

Imax:5263.31

(10%Imax)	526.331	—
(20%Imax)	1052.66	—
(30%Imax)	1578.99	—
(40%Imax)	2105.32	—
(50%Imax)	2631.66	—
(60%Imax)	3157.99	—
(70%Imax)	3684.32	—
(80%Imax)	4210.65	—
(90%Imax)	4736.98	—



(10%Emax) 131.5825	—
(20%Emax) 263.165	—
(30%Emax) 394.7475	—
(40%Emax) 526.33	—
(50%Emax) 657.9125	—
(60%Emax) 789.495	—
(70%Emax) 921.0775	—
(80%Emax) 1052.66	—
(90%Emax) 1184.243	—



Luminance Table

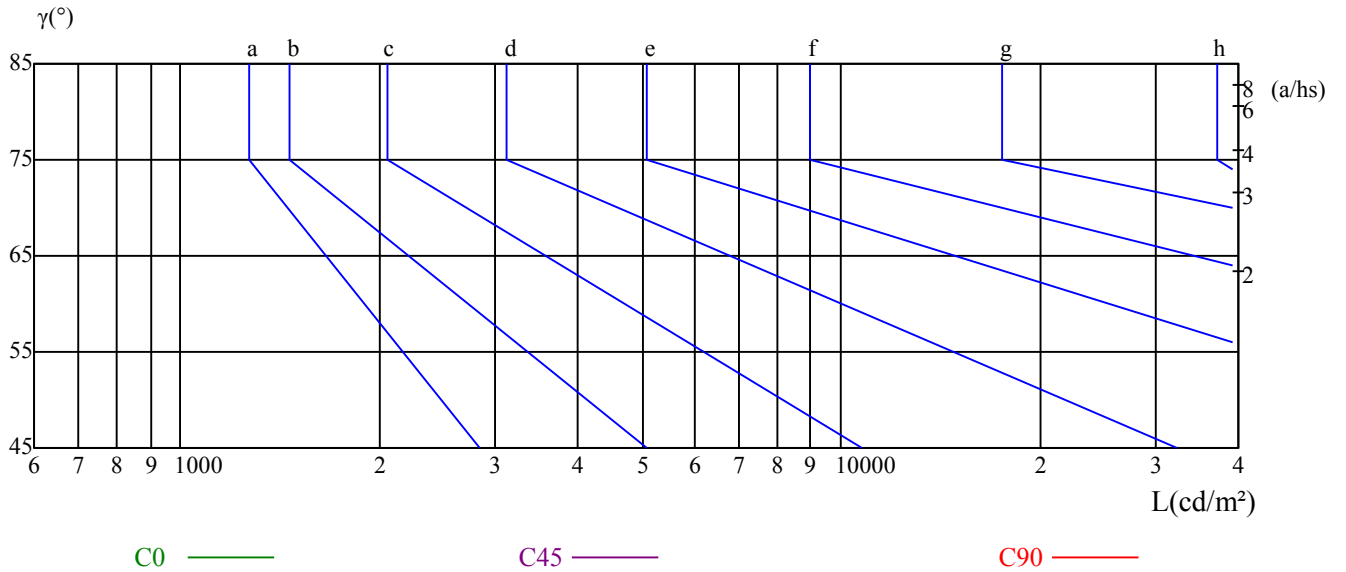
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

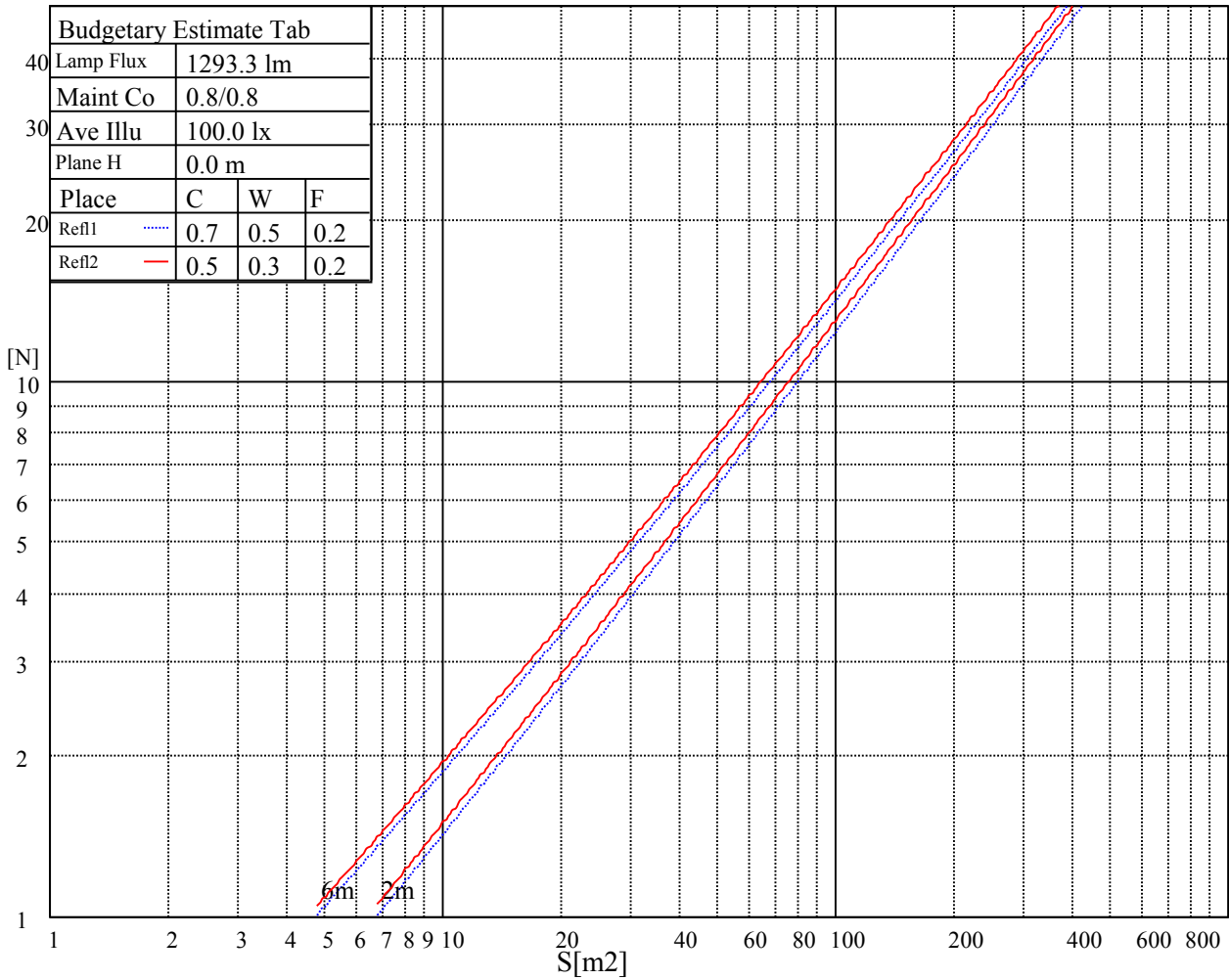
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

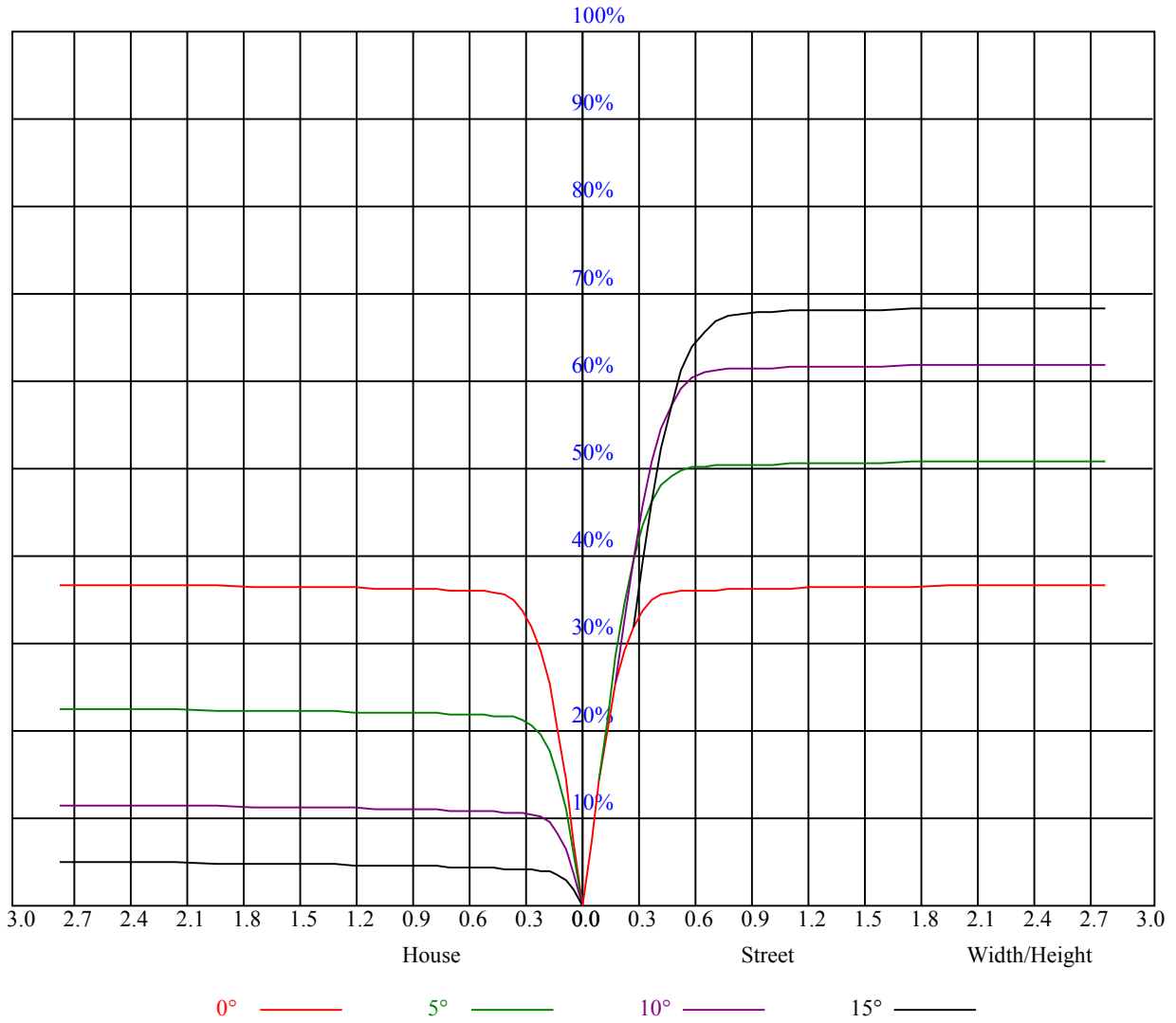
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.88	0.88	0.88	0.86	0.86	0.86	0.83	0.83	0.83	0.79	0.79	0.79	0.76	0.76	0.76	0.74
1	0.84	0.82	0.81	0.82	0.81	0.80	0.79	0.78	0.77	0.76	0.76	0.75	0.74	0.73	0.73	0.72
2	0.80	0.78	0.76	0.79	0.77	0.75	0.76	0.75	0.73	0.74	0.73	0.72	0.72	0.71	0.70	0.69
3	0.77	0.74	0.72	0.76	0.73	0.72	0.74	0.72	0.70	0.72	0.71	0.69	0.71	0.69	0.68	0.67
4	0.74	0.71	0.69	0.73	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.66	0.66
5	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.64
6	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.66	0.65	0.63	0.62
7	0.68	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
8	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.61	0.64	0.62	0.60	0.60
9	0.64	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.59	0.63	0.61	0.59	0.62	0.60	0.59	0.58
10	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.58	0.61	0.59	0.58	0.57



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	5275.13	5052.94	4718.25	4176.00	3533.06	2835.56	2148.75	1540.13	1094.06
45.0	5271.75	5177.25	4921.31	4492.69	3943.69	3219.75	2505.38	1859.63	1321.31
90.0	5275.69	5266.69	5076.56	4707.56	4177.69	3511.13	2806.88	2099.81	1578.94
135.0	5230.69	5322.38	5229.00	4936.50	4505.06	3920.06	3229.31	2487.38	1865.25
180.0	5275.13	5266.13	5075.44	4726.69	4142.81	3536.44	2854.69	2113.88	1612.69
225.0	5271.75	5149.13	4838.63	4421.25	3806.44	3051.56	2432.81	1768.50	1109.81
270.0	5275.69	5089.50	4732.31	4191.19	3601.13	2872.13	2179.13	1583.44	1117.13
315.0	5230.69	4940.44	4515.75	3940.31	3219.19	2507.06	1846.13	1226.81	936.68
360.0	5275.13	5052.94	4718.25	4176.00	3533.06	2835.56	2148.75	1540.13	1094.06
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	766.13	475.88	289.69	99.68	30.54	13.56	9.73	8.44	7.59
45.0	946.13	640.13	384.19	175.22	60.81	21.49	10.91	9.00	8.04
90.0	1107.17	776.14	496.91	259.14	101.81	30.04	13.95	9.90	8.78
135.0	1353.94	941.63	641.25	372.94	187.31	54.45	21.71	11.87	9.45
180.0	1116.62	783.96	482.46	262.01	106.88	33.36	15.58	10.58	9.23
225.0	876.54	577.13	337.44	156.26	49.39	25.31	12.54	10.41	9.34
270.0	755.44	482.63	286.88	102.71	36.79	16.76	11.31	10.01	9.11
315.0	613.86	353.81	178.14	59.63	22.56	12.21	9.79	8.61	7.93
360.0	766.13	475.88	289.69	99.68	30.54	13.56	9.73	8.44	7.59
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	7.03	6.58	6.30	6.08	5.91	5.74	5.57	5.46	5.34
45.0	7.43	6.98	6.69	6.41	6.24	6.08	5.96	5.85	5.74
90.0	7.99	7.43	7.09	6.81	6.69	6.58	6.53	6.41	6.36
135.0	8.44	7.76	7.14	6.69	6.41	6.19	6.02	5.91	5.79
180.0	8.27	7.71	7.14	6.81	6.47	6.24	6.02	5.85	5.74
225.0	8.49	7.99	7.54	7.26	6.98	6.81	6.58	6.41	6.24
270.0	8.49	8.16	7.93	7.82	7.76	7.71	7.59	7.37	7.14
315.0	7.37	6.98	6.69	6.53	6.30	6.19	6.08	5.96	5.79
360.0	7.03	6.58	6.30	6.08	5.91	5.74	5.57	5.46	5.34
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	5.23	5.18	5.12	5.01	5.01	4.95	4.89	4.84	4.78
45.0	5.68	5.57	5.46	5.40	5.40	5.29	5.23	5.23	5.23
90.0	6.24	6.08	5.85	5.63	5.57	5.57	5.51	5.74	8.55
135.0	5.63	5.57	5.51	5.40	5.34	5.29	5.23	5.18	5.18
180.0	5.63	5.51	5.40	5.34	5.29	5.23	5.12	5.01	5.01
225.0	6.08	5.96	5.85	5.74	5.63	5.57	5.46	5.40	5.40
270.0	6.75	6.41	6.08	5.85	5.74	5.79	6.08	9.00	13.22
315.0	5.74	5.63	5.57	5.51	5.40	5.34	5.29	5.18	5.12
360.0	5.23	5.18	5.12	5.01	5.01	4.95	4.89	4.84	4.78
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	4.73	4.73	4.61	4.56	4.50	4.39	4.39	4.33	4.22
45.0	5.18	5.23	5.23	5.12	4.95	4.73	4.61	4.56	4.50
90.0	11.25	11.93	12.04	9.45	4.84	4.67	4.67	4.73	4.44
135.0	5.12	5.12	5.40	5.63	5.18	5.29	4.95	4.89	4.39
180.0	4.95	4.84	4.84	4.78	4.61	4.56	4.50	4.44	4.33
225.0	5.51	5.63	5.68	5.57	5.18	4.78	4.67	4.61	4.56
270.0	14.79	14.57	13.50	9.34	4.84	4.67	4.73	4.73	4.50
315.0	5.06	5.06	5.12	5.01	4.95	4.84	4.78	4.39	4.33
360.0	4.73	4.73	4.61	4.56	4.50	4.39	4.39	4.33	4.22

Intensity data(cd)

C/ γ (°)	90.0
0.0	4.28
45.0	4.50
90.0	4.44
135.0	4.33
180.0	4.28
225.0	4.56
270.0	4.44
315.0	4.33
360.0	4.28