NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 1-0936-N
Luminaire: 92.70.246.00

Report No: 210706-B006	Voltage(V): 36.5300
Test No: 210706-C006	Current(A): 0.4510
LampCAT: Fortimo LED SLM 1203 G7N	Power (W): 16.4750
Lamp flux(lm): 2143.4	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

Photometric Results

Lumens(lm): 1676.56
Efficiency(%): 78.22%
Lumens(lm)/Power(W): 101.76
Central intensity(cd): 6837.890
Maximum intensity(cd): 6837.890
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=24.5
[C90/270]Total=24.5
Field angle(10%Imax): [C0/180]Total=50.4
[C90/270]Total=50.4
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.22%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.049%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6837.891	0.000	0	.000%	.000%
1.0	6804.000	6.527	6.527	.305%	.389%
2.0	6688.336	19.365	25.893	.903%	1.544%
3.0	6515.156	31.578	57.471	1.473%	3.428%
4.0	6301.266	42.901	100.372	2.001%	5.987%
5.0	6004.266	52.938	153.31	2.470%	9.144%
6.0	5701.500	61.517	214.827	2.870%	12.814%
7.0	5371.945	68.733	283.559	3.207%	16.913%
8.0	4998.094	74.216	357.776	3.462%	21.340%
9.0	4631.133	78.040	435.815	3.641%	25.995%
10.0	4251.094	80.381	516.196	3.750%	30.789%
11.0	3851.016	80.957	597.153	3.777%	35.618%
12.0	3502.195	80.381	677.534	3.750%	40.412%
13.0	3146.344	78.901	756.435	3.681%	45.118%
14.0	2779.664	75.852	832.288	3.539%	49.643%
15.0	2498.906	72.467	904.754	3.381%	53.965%
16.0	2233.125	69.337	974.092	3.235%	58.101%
17.0	1974.586	65.525	1039.617	3.057%	62.009%
18.0	1760.625	61.586	1101.203	2.873%	65.682%
19.0	1580.555	58.130	1159.333	2.712%	69.149%
20.0	1395.211	54.465	1213.797	2.541%	72.398%
21.0	1204.355	49.917	1263.714	2.329%	75.375%
22.0	1105.615	46.420	1310.134	2.166%	78.144%
23.0	957.916	43.298	1353.433	2.020%	80.727%
24.0	831.227	39.117	1392.55	1.825%	83.060%
25.0	707.977	34.998	1427.548	1.633%	85.147%
26.0	591.891	30.684	1458.231	1.432%	86.978%
27.0	480.382	26.233	1484.465	1.224%	88.542%
28.0	383.723	21.877	1506.342	1.021%	89.847%
29.0	294.349	17.740	1524.082	.828%	90.905%
30.0	242.332	14.490	1538.573	.676%	91.770%
31.0	166.388	11.374	1549.947	.531%	92.448%
32.0	122.280	8.270	1558.217	.386%	92.941%
33.0	95.112	6.404	1564.621	.299%	93.323%
34.0	82.406	5.372	1569.993	.251%	93.644%
35.0	75.973	4.919	1574.912	.229%	93.937%
36.0	71.480	4.695	1579.607	.219%	94.217%
37.0	67.458	4.531	1584.138	.211%	94.487%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	63.141	4.359	1588.497	.203%	94.747%
39.0	59.365	4.181	1592.679	.195%	94.997%
40.0	55.448	4.004	1596.683	.187%	95.236%
41.0	51.680	3.815	1600.498	.178%	95.463%
42.0	47.820	3.615	1604.113	.169%	95.679%
43.0	44.423	3.417	1607.53	.159%	95.883%
44.0	41.470	3.242	1610.772	.151%	96.076%
45.0	38.447	3.071	1613.843	.143%	96.259%
46.0	35.430	2.889	1616.732	.135%	96.432%
47.0	32.723	2.711	1619.443	.126%	96.593%
48.0	30.424	2.553	1621.996	.119%	96.745%
49.0	28.132	2.405	1624.4	.112%	96.889%
50.0	26.009	2.257	1626.658	.105%	97.024%
51.0	24.138	2.122	1628.779	.099%	97.150%
52.0	22.416	1.998	1630.777	.093%	97.269%
53.0	20.848	1.882	1632.659	.088%	97.381%
54.0	19.547	1.780	1634.439	.083%	97.488%
55.0	18.640	1.705	1636.144	.080%	97.589%
56.0	17.726	1.643	1637.787	.077%	97.687%
57.0	16.903	1.583	1639.37	.074%	97.782%
58.0	16.242	1.533	1640.903	.072%	97.873%
59.0	15.659	1.491	1642.395	.070%	97.962%
60.0	15.110	1.454	1643.848	.068%	98.049%
61.0	14.653	1.420	1645.269	.066%	98.134%
62.0	14.245	1.392	1646.661	.065%	98.217%
63.0	13.838	1.366	1648.027	.064%	98.298%
64.0	13.542	1.344	1649.37	.063%	98.378%
65.0	13.177	1.322	1650.693	.062%	98.457%
66.0	12.797	1.296	1651.989	.060%	98.534%
67.0	12.466	1.270	1653.259	.059%	98.610%
68.0	12.136	1.246	1654.505	.058%	98.685%
69.0	11.834	1.223	1655.728	.057%	98.757%
70.0	11.552	1.201	1656.929	.056%	98.829%
71.0	11.236	1.178	1658.107	.055%	98.899%
72.0	10.891	1.151	1659.257	.054%	98.968%
73.0	10.624	1.125	1660.383	.052%	99.035%
74.0	10.357	1.103	1661.486	.051%	99.101%
75.0	10.111	1.081	1662.567	.050%	99.165%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.879	1.061	1663.628	.050%	99.229%
77.0	9.654	1.041	1664.67	.049%	99.291%
78.0	9.380	1.019	1665.688	.048%	99.352%
79.0	9.176	0.997	1666.685	.047%	99.411%
80.0	8.986	0.979	1667.665	.046%	99.469%
81.0	8.859	0.965	1668.63	.045%	99.527%
82.0	8.789	0.957	1669.587	.045%	99.584%
83.0	8.655	0.948	1670.535	.044%	99.641%
84.0	8.452	0.932	1671.467	.043%	99.696%
85.0	8.205	0.909	1672.376	.042%	99.750%
86.0	7.896	0.880	1673.256	.041%	99.803%
87.0	7.671	0.852	1674.108	.040%	99.854%
88.0	7.509	0.832	1674.94	.039%	99.903%
89.0	7.362	0.815	1675.755	.038%	99.952%
90.0	7.320	0.805	1676.56	.038%	100.000%

Zonal flux distribution table

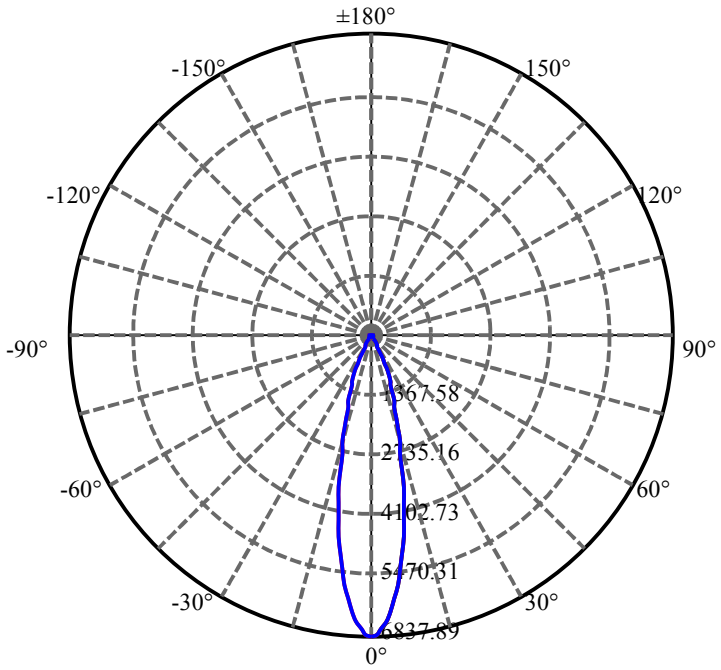
ZONAL LUMEN SUMMARY

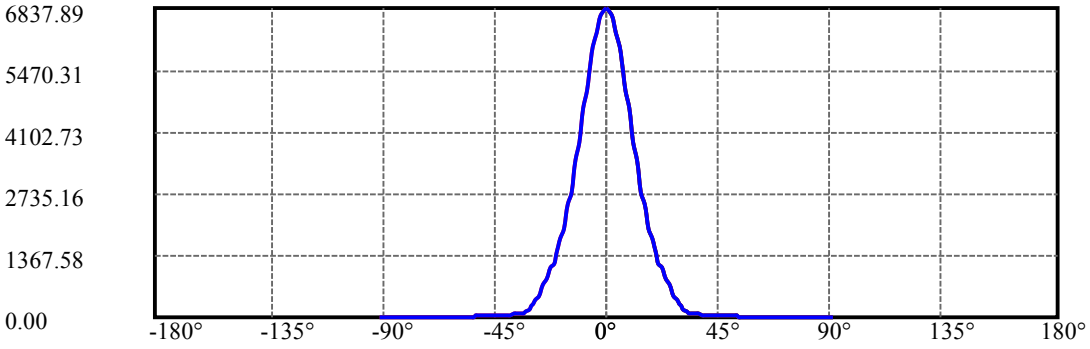
Zone	Lumens	%Lamp	%Fixt
0-30	1538.57	71.78%	91.77%
0-40	1596.68	74.49%	95.24%
0-60	1643.85	76.69%	98.05%
0-90	1675.75	78.18%	99.95%
0-120	1675.75	78.18%	99.95%
0-180	1676.56	78.22%	100.00%
60-90	33.36	1.56%	1.99%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.72	1341.25	62.57%	80.00%

ZONAL LUMEN SUMMARY

0-10	516.20
10-20	697.60
20-30	324.78
30-40	58.11
40-50	29.97
50-60	17.19
60-70	13.08
70-80	10.74
80-90	8.09
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

Light Distribution Curve [Unit:cd]





C0(Max):

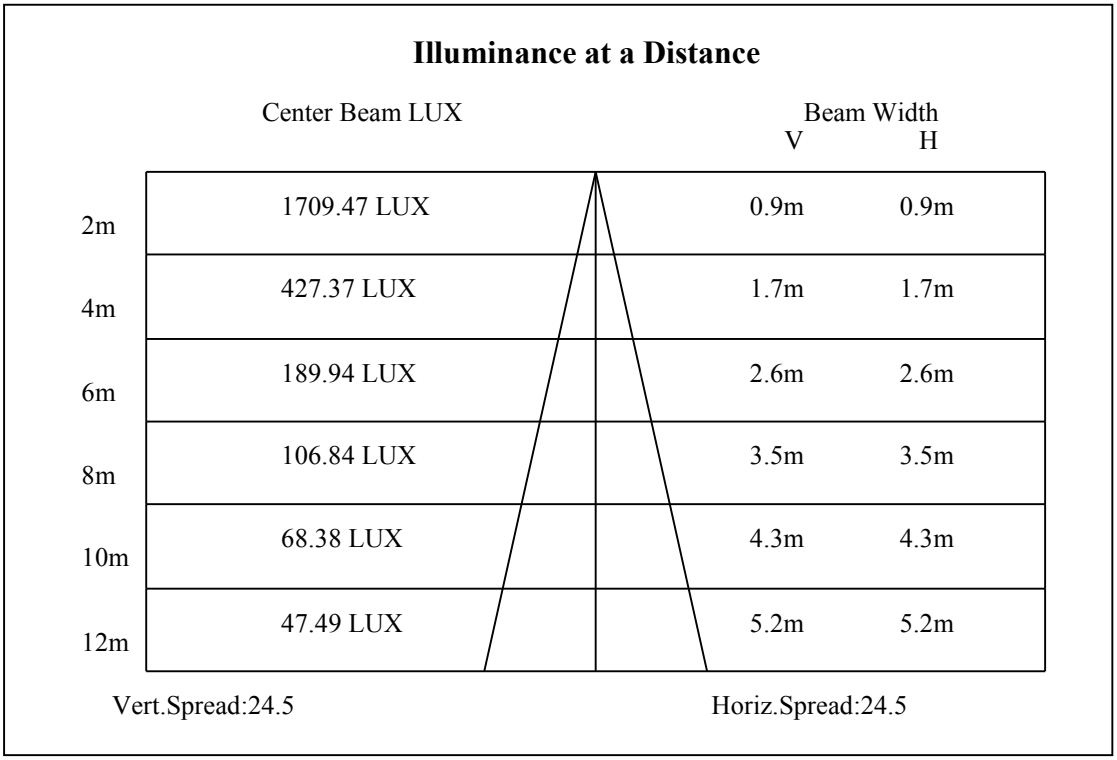
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:25.2 Right:25.2
:C90/270Left:25.2 Right:25.2

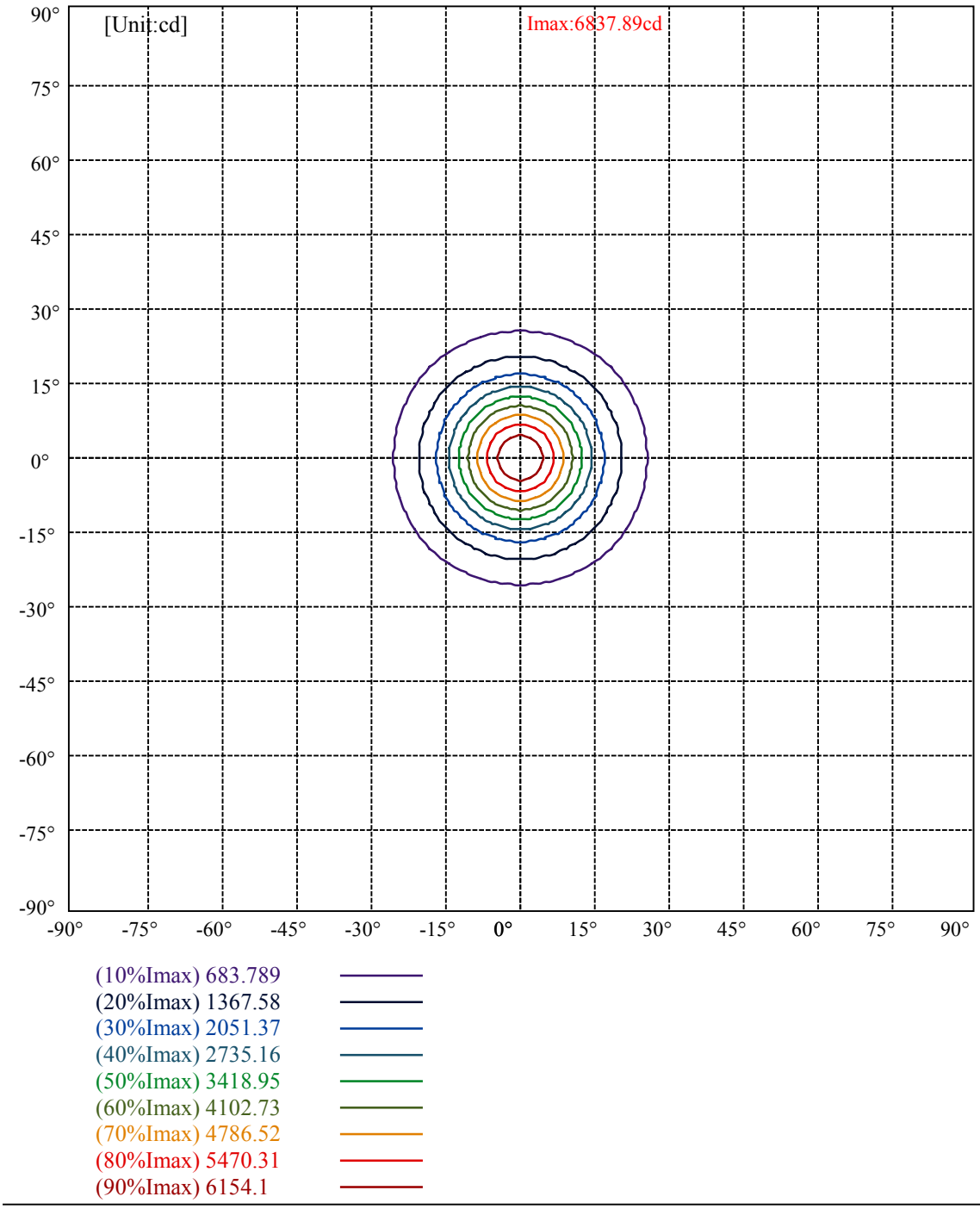
Beam Angle(50%Imax):C0/180Left:12.2 Right:12.2
:C90/270Left:12.2 Right:12.2

Lux distance Curve



Equipment: GMS1980 Date: 2021/7/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)



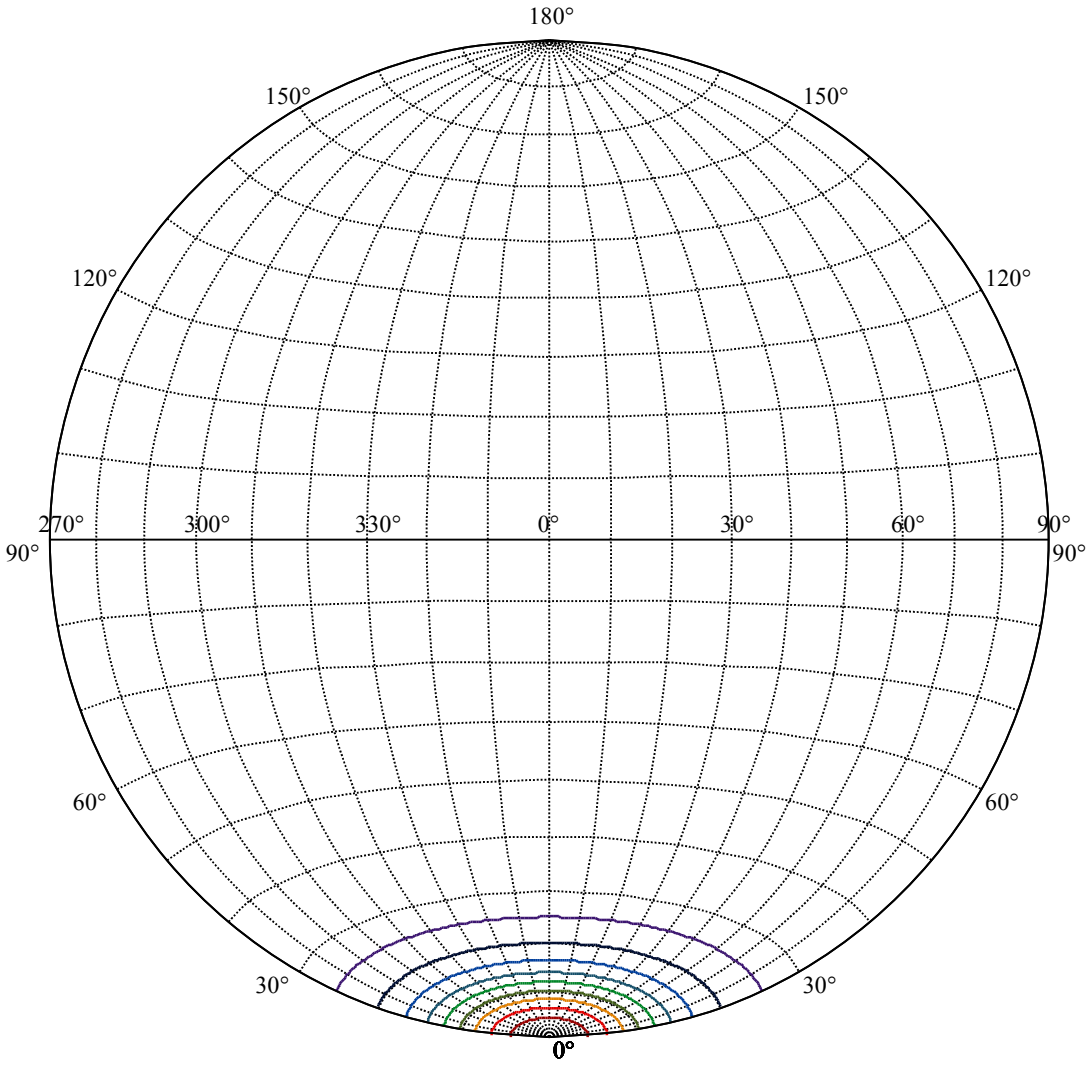
(10%Imax) 683.789
(20%Imax) 1367.58
(30%Imax) 2051.37
(40%Imax) 2735.16
(50%Imax) 3418.95
(60%Imax) 4102.73
(70%Imax) 4786.52
(80%Imax) 5470.31
(90%Imax) 6154.1

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:6837.89

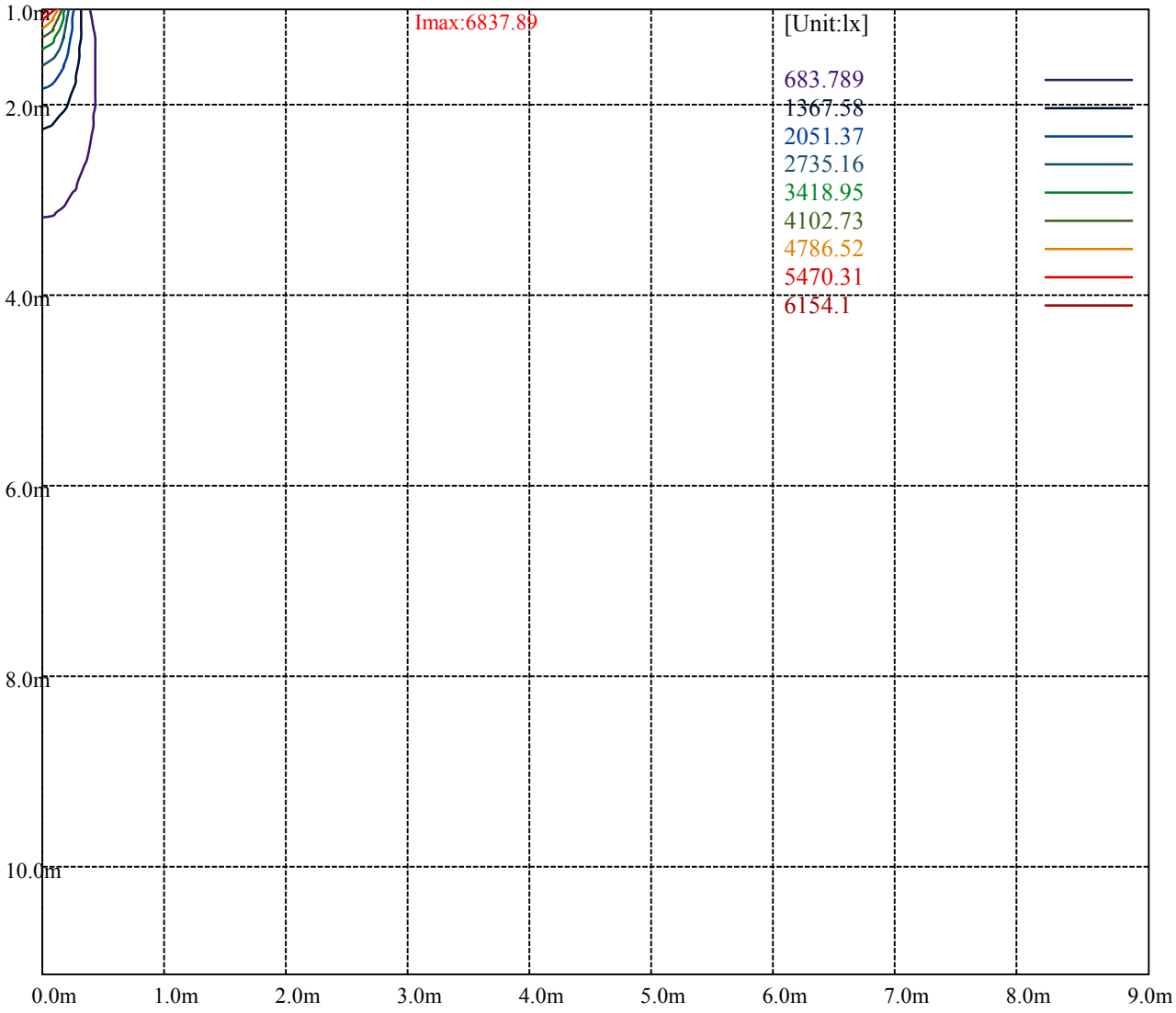
(10%Imax) 683.789
(20%Imax) 1367.58
(30%Imax) 2051.37
(40%Imax) 2735.16
(50%Imax) 3418.95
(60%Imax) 4102.73
(70%Imax) 4786.52
(80%Imax) 5470.31
(90%Imax) 6154.1

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

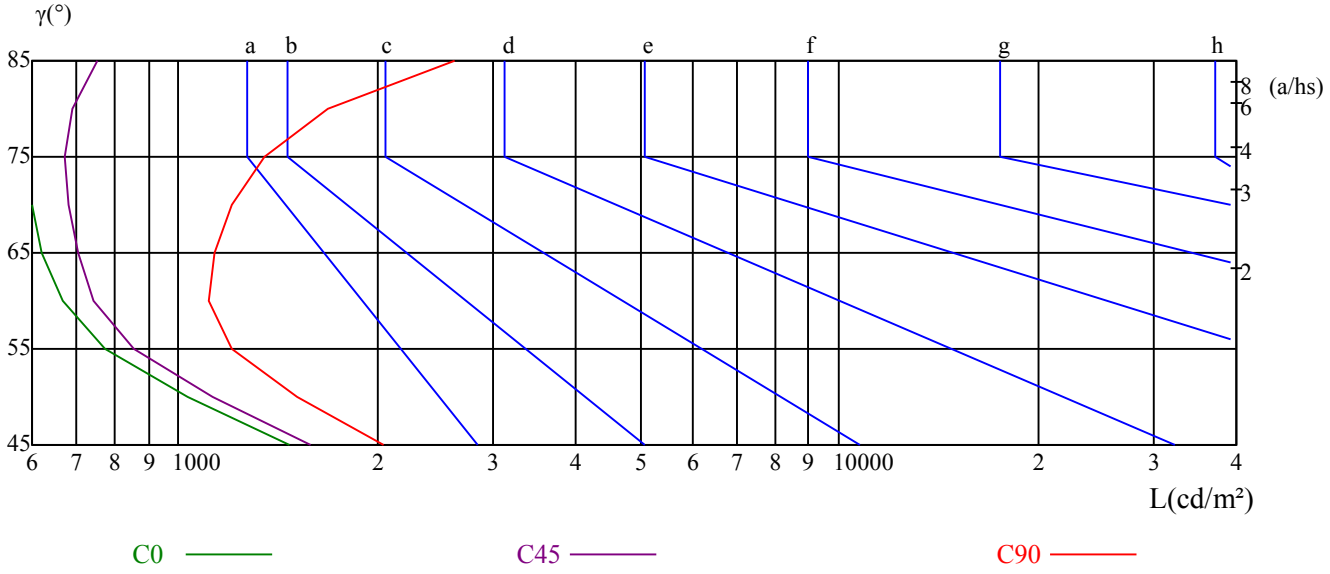
γ	45	50	55	60	65	70	75	80	85
C0	1468	1031	775	666	622	593	573	573	604
C45	1583	1123	854	742	704	682	672	690	753
C90	2048	1514	1207	1111	1130	1201	1347	1683	2620

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1216	1216	1216	1523	1523	1523	3670	3670	3670

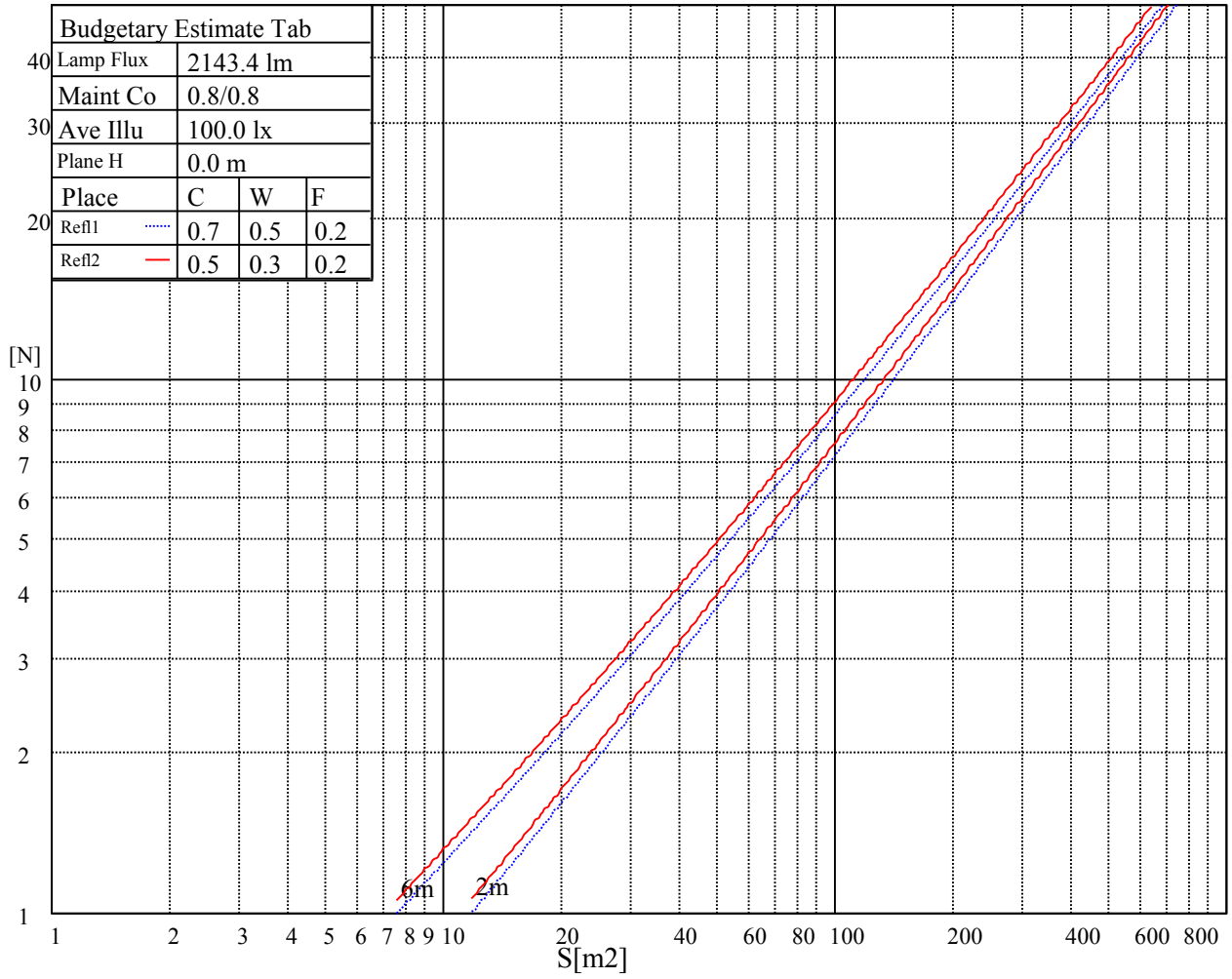
Glare Table

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 Limitting Curve



Budgetary Estimate Table

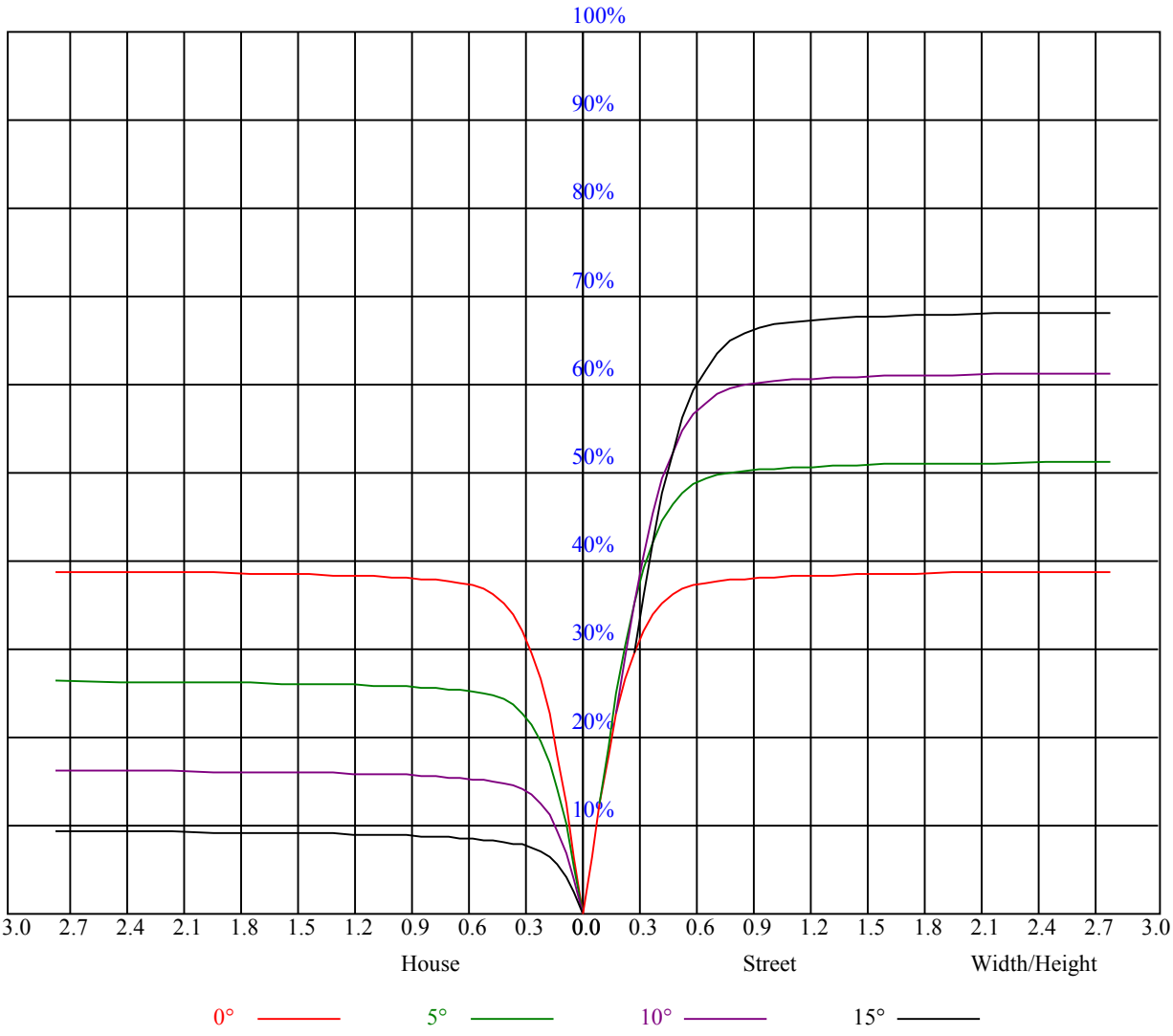


Equipment: GMS1980 Date: 2021/7/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Utilization factor table for indoor luminaire

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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	0.93	0.93	0.93	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.80	0.80	0.80	0.78
1	0.88	0.86	0.84	0.86	0.84	0.83	0.83	0.82	0.81	0.80	0.79	0.78	0.77	0.77	0.76	0.75
2	0.83	0.80	0.78	0.82	0.79	0.77	0.79	0.77	0.76	0.77	0.75	0.74	0.75	0.74	0.73	0.71
3	0.79	0.76	0.73	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.73	0.71	0.70	0.68
4	0.76	0.72	0.70	0.75	0.72	0.69	0.73	0.70	0.68	0.72	0.69	0.68	0.70	0.68	0.67	0.66
5	0.72	0.69	0.66	0.72	0.68	0.66	0.70	0.68	0.65	0.69	0.67	0.65	0.68	0.66	0.64	0.63
6	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.63	0.66	0.64	0.62	0.61
7	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.59
8	0.65	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.58	0.62	0.60	0.58	0.57
9	0.63	0.59	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.58	0.57	0.61	0.58	0.56	0.56
10	0.61	0.57	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.59	0.57	0.55	0.59	0.56	0.55	0.54

Coefficient Utilization Curve



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	6830.44	6832.69	6740.44	6592.50	6400.13	6097.50	5814.00	5511.38	5158.69
45.0	6840.00	6796.13	6660.00	6476.63	6258.94	5974.31	5645.25	5331.94	5003.44
90.0	6840.00	6786.56	6654.38	6462.56	6226.88	5941.13	5611.50	5283.00	4906.69
135.0	6841.13	6827.63	6742.69	6604.31	6402.38	6102.00	5815.13	5502.38	5137.88
180.0	6830.44	6764.63	6606.56	6417.56	6184.69	5851.69	5573.25	5203.13	4764.94
225.0	6840.00	6814.69	6719.63	6539.06	6341.63	6040.69	5755.50	5419.13	5037.19
270.0	6840.00	6827.06	6729.19	6581.81	6378.75	6099.19	5778.56	5466.94	5097.94
315.0	6841.13	6782.63	6653.81	6446.81	6216.75	5927.63	5618.81	5257.69	4878.00
360.0	6830.44	6832.69	6740.44	6592.50	6400.13	6097.50	5814.00	5511.38	5158.69

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4780.13	4431.94	4037.63	3687.19	3302.44	2935.13	2634.19	2333.81	2059.31
45.0	4577.63	4219.31	3855.94	3457.69	3101.06	2786.63	2476.13	2198.81	1978.88
90.0	4553.44	4151.81	3754.69	3412.69	3054.38	2713.50	2440.69	2197.13	1925.44
135.0	4761.00	4393.13	3992.06	3639.38	3263.06	2899.69	2613.38	2319.19	2058.19
180.0	4451.06	4044.94	3607.88	3314.81	2995.31	2592.56	2361.94	2118.94	1881.00
225.0	4691.25	4291.31	3877.31	3527.44	3189.94	2793.94	2513.81	2259.00	1999.13
270.0	4708.69	4353.19	3953.25	3604.50	3224.25	2860.31	2566.13	2301.75	2007.00
315.0	4525.88	4123.13	3729.38	3373.88	3040.31	2655.56	2385.00	2136.38	1887.75
360.0	4780.13	4431.94	4037.63	3687.19	3302.44	2935.13	2634.19	2333.81	2059.31

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1847.81	1659.38	1450.69	1299.38	1161.56	1001.25	878.63	761.63	632.81
45.0	1752.75	1570.50	1398.94	1230.19	1100.81	952.31	815.06	692.44	604.69
90.0	1729.69	1551.94	1374.19	1110.60	1077.92	920.48	799.31	686.64	551.59
135.0	1843.88	1648.69	1450.13	1290.38	1168.88	1010.81	881.44	758.81	631.69
180.0	1661.63	1496.81	1325.81	1108.63	1044.73	916.14	789.98	658.52	556.54
225.0	1774.69	1595.25	1416.38	1209.94	1120.05	972.28	851.96	716.34	596.36
270.0	1802.25	1619.44	1416.38	1267.31	1131.75	988.88	852.19	733.50	622.69
315.0	1672.31	1502.44	1329.19	1118.42	1039.22	901.18	781.26	655.93	538.76
360.0	1847.81	1659.38	1450.69	1299.38	1161.56	1001.25	878.63	761.63	632.81

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	516.94	418.50	327.38	290.81	190.35	141.92	107.49	89.27	80.61
45.0	462.38	376.31	304.88	240.75	158.40	119.48	94.84	83.70	78.24
90.0	464.96	363.43	265.05	209.03	157.84	109.07	93.60	84.21	76.78
135.0	518.63	418.50	327.38	287.44	180.06	139.73	102.54	84.09	77.46
180.0	441.17	353.98	268.14	195.08	147.04	103.89	84.21	75.60	71.33
225.0	492.69	397.69	294.69	228.09	171.73	119.59	92.48	79.71	73.07
270.0	504.56	397.13	304.31	286.31	171.17	133.93	96.13	81.96	75.15
315.0	441.73	344.25	262.97	201.15	154.52	110.64	89.61	80.72	75.15
360.0	516.94	418.50	327.38	290.81	190.35	141.92	107.49	89.27	80.61

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	75.83	72.00	66.43	62.83	59.23	55.18	50.63	47.36	43.71
45.0	73.74	68.96	64.58	60.30	56.08	52.43	48.09	44.61	41.91
90.0	73.35	68.85	64.13	60.36	55.86	51.69	48.32	44.55	41.29
135.0	72.39	68.74	64.24	60.47	57.15	53.27	48.71	45.45	42.53
180.0	67.22	63.45	60.02	56.76	52.48	49.16	45.56	42.19	39.54
225.0	68.79	64.86	60.86	57.21	53.49	50.01	46.69	43.48	40.50
270.0	70.09	66.26	62.10	58.11	54.28	50.63	46.97	43.93	41.23
315.0	70.43	66.54	62.78	58.89	55.01	51.08	47.59	43.82	41.06
360.0	75.83	72.00	66.43	62.83	59.23	55.18	50.63	47.36	43.71

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	40.44	37.80	34.54	32.06	29.76	27.23	25.37	23.68	21.77
45.0	38.48	35.38	32.96	30.54	27.96	26.10	24.19	22.28	20.59
90.0	38.64	35.16	32.63	30.38	27.96	25.82	24.02	22.16	20.70
135.0	38.98	36.28	33.58	31.05	28.80	26.55	24.53	22.84	21.09
180.0	36.62	33.64	31.33	29.08	26.83	24.92	23.06	21.43	20.14
225.0	37.74	34.93	32.01	29.93	27.79	25.65	23.91	22.33	20.81
270.0	38.64	35.27	32.63	30.32	28.24	26.16	24.30	22.61	21.09
315.0	38.03	34.99	32.12	30.04	27.73	25.65	23.74	21.99	20.59
360.0	40.44	37.80	34.54	32.06	29.76	27.23	25.37	23.68	21.77

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	20.19	19.35	18.28	17.33	16.71	16.09	15.41	14.91	14.51
45.0	19.46	18.51	17.49	16.76	16.14	15.58	15.02	14.63	14.23
90.0	19.35	18.39	17.55	16.71	16.09	15.53	14.96	14.46	14.06
135.0	19.52	18.62	17.72	16.71	16.09	15.53	14.91	14.51	14.12
180.0	18.84	18.00	17.21	16.43	15.69	15.13	14.68	14.23	13.89
225.0	19.80	18.90	17.89	17.27	16.54	15.86	15.47	14.96	14.46
270.0	19.86	18.96	18.11	17.27	16.65	16.03	15.47	15.02	14.57
315.0	19.35	18.39	17.55	16.76	16.03	15.53	14.96	14.51	14.12
360.0	20.19	19.35	18.28	17.33	16.71	16.09	15.41	14.91	14.51

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	14.01	13.61	13.22	12.83	12.49	12.15	11.81	11.53	11.19
45.0	13.78	13.50	13.11	12.77	12.38	12.09	11.81	11.53	11.19
90.0	13.73	13.39	13.05	12.60	12.32	11.98	11.76	11.42	11.14
135.0	13.67	13.39	13.11	12.71	12.32	11.98	11.70	11.48	11.19
180.0	13.56	13.33	12.94	12.49	12.21	11.93	11.59	11.36	11.03
225.0	14.12	13.89	13.50	13.22	12.88	12.49	12.21	11.93	11.59
270.0	14.18	13.84	13.50	13.16	12.83	12.49	12.15	11.87	11.53
315.0	13.67	13.39	12.99	12.60	12.32	11.98	11.64	11.31	11.03
360.0	14.01	13.61	13.22	12.83	12.49	12.15	11.81	11.53	11.19

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	10.86	10.58	10.24	10.01	9.79	9.56	9.23	9.00	8.78
45.0	10.91	10.63	10.35	10.13	9.90	9.68	9.39	9.23	9.06
90.0	10.80	10.52	10.24	10.01	9.79	9.56	9.28	9.06	8.89
135.0	10.80	10.58	10.29	10.07	9.84	9.68	9.34	9.11	8.94
180.0	10.63	10.41	10.18	9.90	9.68	9.39	9.17	9.00	8.83
225.0	11.31	10.97	10.69	10.46	10.24	10.07	9.84	9.68	9.51
270.0	11.14	10.91	10.69	10.41	10.18	9.96	9.68	9.45	9.23
315.0	10.69	10.41	10.18	9.90	9.62	9.34	9.11	8.89	8.66
360.0	10.86	10.58	10.24	10.01	9.79	9.56	9.23	9.00	8.78

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.55	8.38	8.16	8.04	7.93	7.82	7.65	7.48	7.43
45.0	8.83	8.72	8.49	8.33	8.04	7.82	7.65	7.54	7.43
90.0	8.72	8.61	8.44	8.27	8.10	7.88	7.65	7.54	7.31
135.0	8.78	8.66	8.55	8.44	8.21	7.93	7.71	7.48	7.31
180.0	8.66	8.55	8.44	8.27	8.10	7.76	7.54	7.37	7.26
225.0	9.68	9.84	9.79	9.56	8.78	8.21	7.88	7.65	7.48
270.0	9.17	9.23	9.17	8.66	8.55	7.99	7.76	7.59	7.43
315.0	8.49	8.33	8.21	8.04	7.93	7.76	7.54	7.43	7.26
360.0	8.55	8.38	8.16	8.04	7.93	7.82	7.65	7.48	7.43

Intensity data(cd)

C/γ(°)	90.0
0.0	7.26
45.0	7.43
90.0	7.31
135.0	7.26
180.0	7.26
225.0	7.43
270.0	7.37
315.0	7.26
360.0	7.26