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Address:380JinOu Road,Gaoxin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 2-1672-M
Luminaire: 92.70.129.00
Report No: NT2017061901
Test No: GC2017061901
LampCAT: CREE CXA1830
Lamp flux(lm): 2036.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 218.3000
Current(A): 0.1000
Power (W): 19.8000
PF: 0.9010
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 1828.42
Efficiency(%): 89.80%
Lumens(lm)/Power(W): 92.34
Central intensity(cd): 6503.813
Maximum intensity(cd): 6503.813
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=25.8
[C90/270]Total=25.8
Field angle(10%Imax): [C0/180]Total=61.2
[C90/270]Total=61.2
Maximum s/h(1/2): C0_180=0.44 C90_270=0.44
Maximum s/h(1/4): C0_180=0.40 C90_270=0.40
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.80%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.718%

Equipment: gms1980
Temperature(°C): 25.0
Date: 2017/6/3
Humidity(%): 60.0%
Operator: NT07
Distance(m): 7.42

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6503.813	0.000	0	.000%	.000%
1.0	6480.414	6.213	6.213	.305%	.340%
2.0	6412.557	18.505	24.718	.909%	1.352%
3.0	6329.972	30.476	55.194	1.497%	3.019%
4.0	6231.834	42.048	97.242	2.065%	5.318%
5.0	6100.524	53.053	150.295	2.606%	8.220%
6.0	5934.529	63.247	213.543	3.106%	11.679%
7.0	5725.315	72.372	285.915	3.555%	15.637%
8.0	5462.421	80.068	365.984	3.933%	20.016%
9.0	5138.139	85.912	451.896	4.220%	24.715%
10.0	4716.957	89.185	541.081	4.380%	29.593%
11.0	4251.180	89.610	630.691	4.401%	34.494%
12.0	3754.021	87.508	718.199	4.298%	39.280%
13.0	3198.777	82.512	800.711	4.053%	43.793%
14.0	2674.778	75.181	875.892	3.693%	47.904%
15.0	2215.607	67.137	943.03	3.298%	51.576%
16.0	1806.676	58.938	1001.967	2.895%	54.800%
17.0	1462.298	50.907	1052.874	2.500%	57.584%
18.0	1207.414	44.018	1096.892	2.162%	59.991%
19.0	1074.164	39.695	1136.586	1.950%	62.162%
20.0	954.375	37.128	1173.714	1.824%	64.193%
21.0	873.470	35.098	1208.813	1.724%	66.112%
22.0	826.204	34.156	1242.968	1.678%	67.981%
23.0	792.895	33.973	1276.941	1.669%	69.839%
24.0	767.844	34.123	1311.065	1.676%	71.705%
25.0	749.758	34.507	1345.572	1.695%	73.592%
26.0	731.218	34.959	1380.53	1.717%	75.504%
27.0	710.007	35.260	1415.79	1.732%	77.433%
28.0	691.908	35.494	1451.284	1.743%	79.374%
29.0	675.735	35.781	1487.065	1.757%	81.331%
30.0	659.108	36.040	1523.106	1.770%	83.302%
31.0	643.953	36.262	1559.368	1.781%	85.285%
32.0	618.022	36.154	1595.522	1.776%	87.262%
33.0	569.517	34.985	1630.507	1.718%	89.176%
34.0	516.429	32.864	1663.371	1.614%	90.973%
35.0	441.910	29.762	1693.134	1.462%	92.601%
36.0	367.033	25.757	1718.891	1.265%	94.010%
37.0	301.571	21.806	1740.697	1.071%	95.202%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	250.961	18.443	1759.14	.906%	96.211%
39.0	152.355	13.766	1772.906	.676%	96.964%
40.0	97.243	8.705	1781.611	.428%	97.440%
41.0	51.712	5.304	1786.915	.261%	97.730%
42.0	24.665	2.775	1789.69	.136%	97.882%
43.0	18.857	1.612	1791.302	.079%	97.970%
44.0	16.021	1.316	1792.619	.065%	98.042%
45.0	13.021	1.116	1793.735	.055%	98.103%
46.0	10.984	0.939	1794.674	.046%	98.154%
47.0	10.199	0.843	1795.516	.041%	98.201%
48.0	9.415	0.793	1796.309	.039%	98.244%
49.0	8.974	0.755	1797.064	.037%	98.285%
50.0	8.575	0.732	1797.796	.036%	98.325%
51.0	8.437	0.720	1798.516	.035%	98.365%
52.0	8.300	0.718	1799.234	.035%	98.404%
53.0	8.176	0.717	1799.951	.035%	98.443%
54.0	8.093	0.717	1800.668	.035%	98.482%
55.0	7.983	0.718	1801.385	.035%	98.522%
56.0	7.901	0.718	1802.103	.035%	98.561%
57.0	7.804	0.718	1802.821	.035%	98.600%
58.0	7.722	0.718	1803.539	.035%	98.639%
59.0	7.680	0.720	1804.259	.035%	98.679%
60.0	7.598	0.722	1804.981	.035%	98.718%
61.0	7.543	0.723	1805.703	.035%	98.758%
62.0	7.529	0.726	1806.43	.036%	98.797%
63.0	7.474	0.730	1807.159	.036%	98.837%
64.0	7.433	0.731	1807.891	.036%	98.877%
65.0	7.405	0.734	1808.625	.036%	98.917%
66.0	7.350	0.736	1809.361	.036%	98.958%
67.0	7.309	0.737	1810.098	.036%	98.998%
68.0	7.295	0.740	1810.838	.036%	99.039%
69.0	7.281	0.744	1811.582	.037%	99.079%
70.0	7.226	0.745	1812.327	.037%	99.120%
71.0	7.226	0.747	1813.074	.037%	99.161%
72.0	7.199	0.750	1813.824	.037%	99.202%
73.0	7.212	0.754	1814.577	.037%	99.243%
74.0	7.199	0.758	1815.335	.037%	99.284%
75.0	7.309	0.767	1816.102	.038%	99.326%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.832	0.804	1816.905	.039%	99.370%
77.0	8.327	0.862	1817.767	.042%	99.417%
78.0	8.644	0.908	1818.675	.045%	99.467%
79.0	8.382	0.915	1819.59	.045%	99.517%
80.0	8.080	0.887	1820.478	.044%	99.566%
81.0	7.790	0.858	1821.336	.042%	99.613%
82.0	7.419	0.825	1822.161	.041%	99.658%
83.0	7.240	0.797	1822.957	.039%	99.701%
84.0	7.254	0.790	1823.747	.039%	99.745%
85.0	7.226	0.790	1824.537	.039%	99.788%
86.0	7.212	0.789	1825.327	.039%	99.831%
87.0	7.144	0.786	1826.112	.039%	99.874%
88.0	7.006	0.775	1826.887	.038%	99.916%
89.0	6.978	0.767	1827.654	.038%	99.958%
90.0	6.965	0.764	1828.418	.038%	100.000%

Zonal flux distribution table

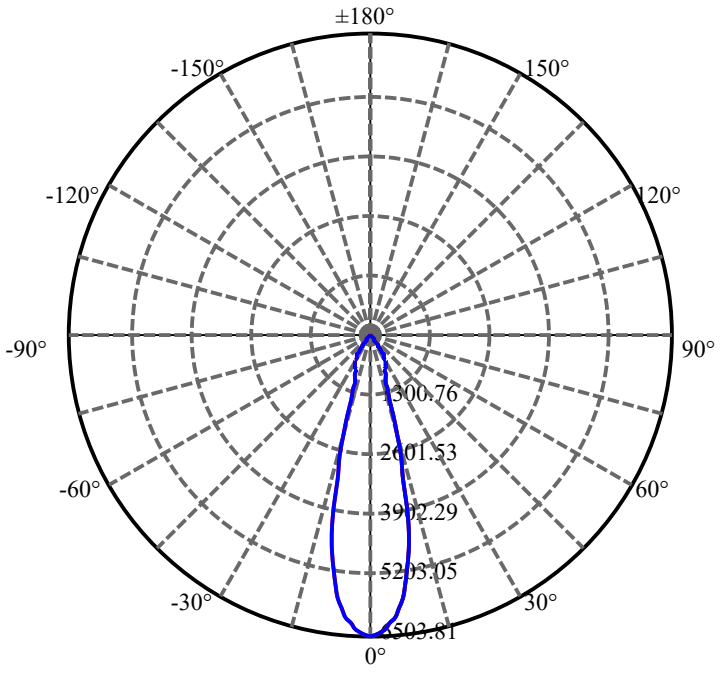
ZONAL LUMEN SUMMARY

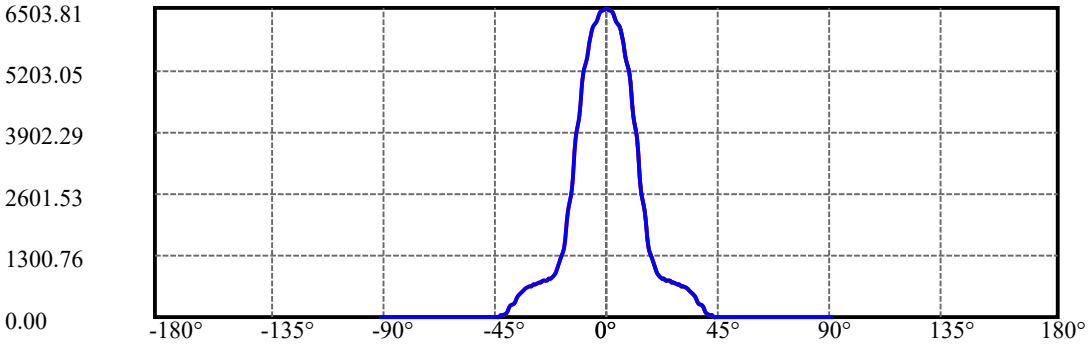
Zone	Lumens	%Lamp	%Fixt
0-30	1523.11	74.81%	83.30%
0-40	1781.61	87.51%	97.44%
0-60	1804.98	88.65%	98.72%
0-90	1827.65	89.77%	99.96%
0-120	1827.65	89.77%	99.96%
0-180	1828.42	89.80%	100.00%
60-90	23.39	1.15%	1.28%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.32	1462.74	71.84%	80.00%

ZONAL LUMEN SUMMARY

0-10	541.08
10-20	632.63
20-30	349.39
30-40	258.51
40-50	16.18
50-60	7.18
60-70	7.35
70-80	8.15
80-90	7.18
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:

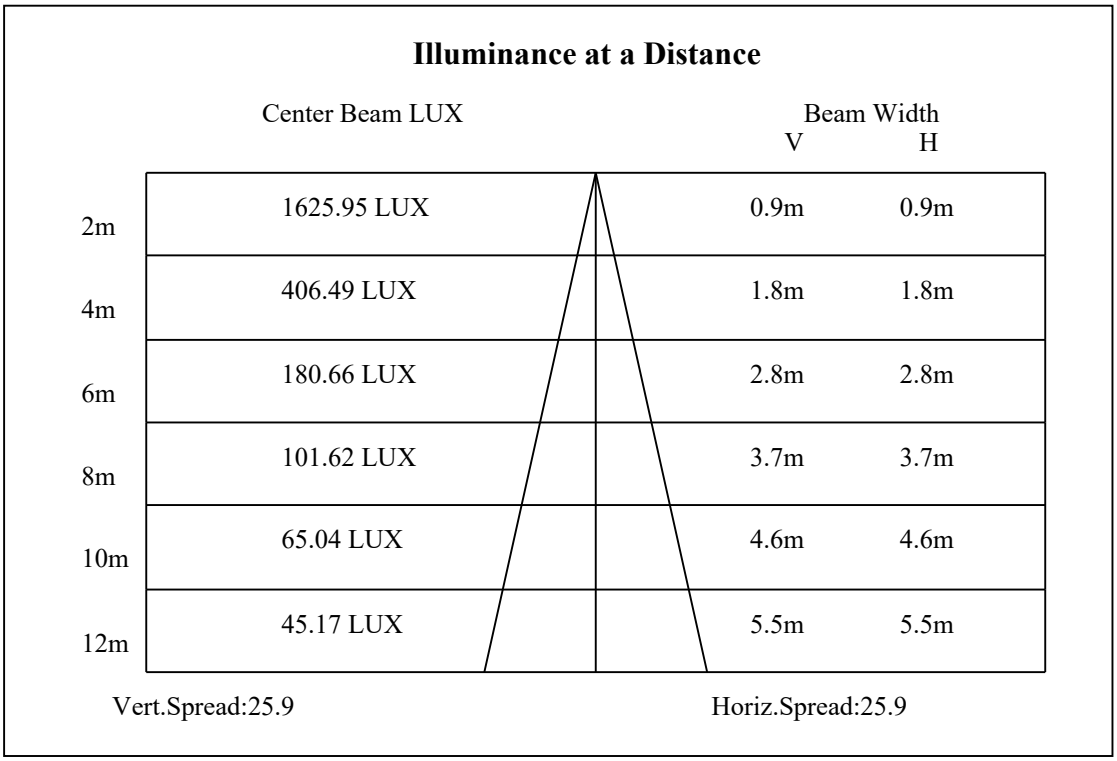
C90/C270:

Field angle(10%Imax):C0/180Left:30.6 Right:30.6
:C90/270Left:30.6 Right:30.6

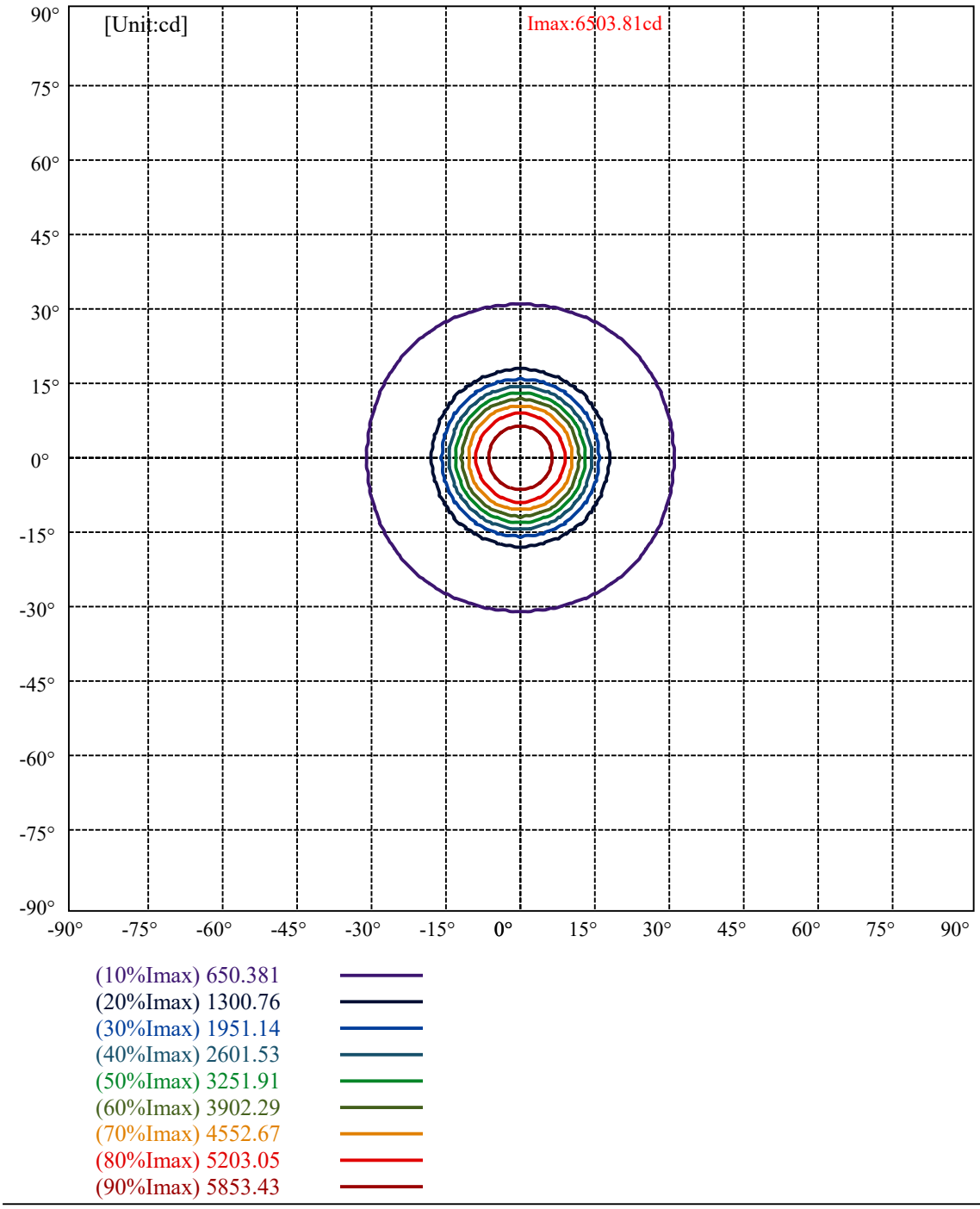
Beam Angle(50%Imax):C0/180Left:12.9 Right:12.9
:C90/270Left:12.9 Right:12.9

Equipment: gms1980 Date: 2017/6/3 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

Lux distance Curve



ISO-Intensity(V-H)

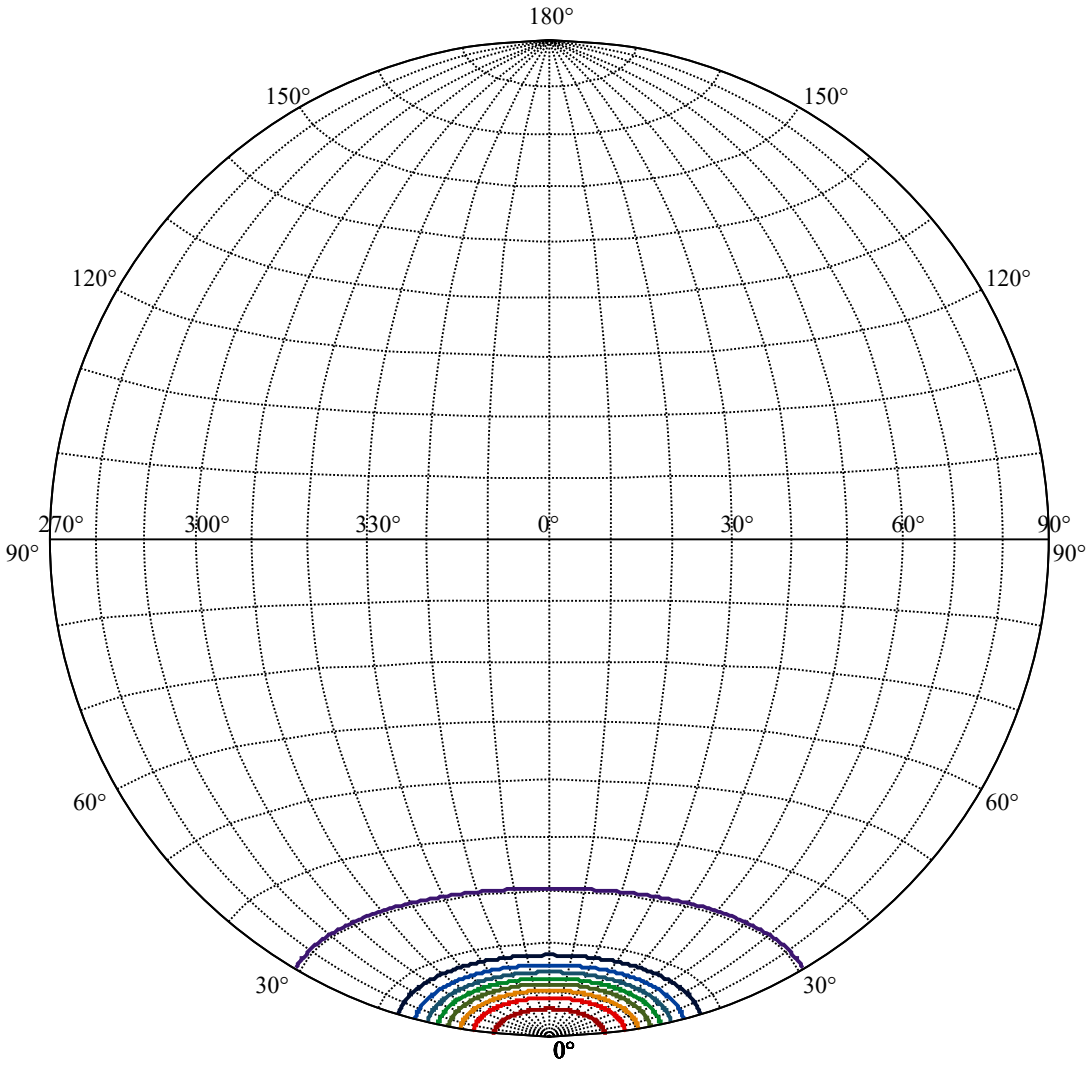


Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/3
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:6503.81

(10%Imax) 650.381
(20%Imax) 1300.76
(30%Imax) 1951.14
(40%Imax) 2601.53
(50%Imax) 3251.91
(60%Imax) 3902.29
(70%Imax) 4552.67
(80%Imax) 5203.05
(90%Imax) 5853.43

Equipment: gms1980 Date: 2017/6/3 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.42

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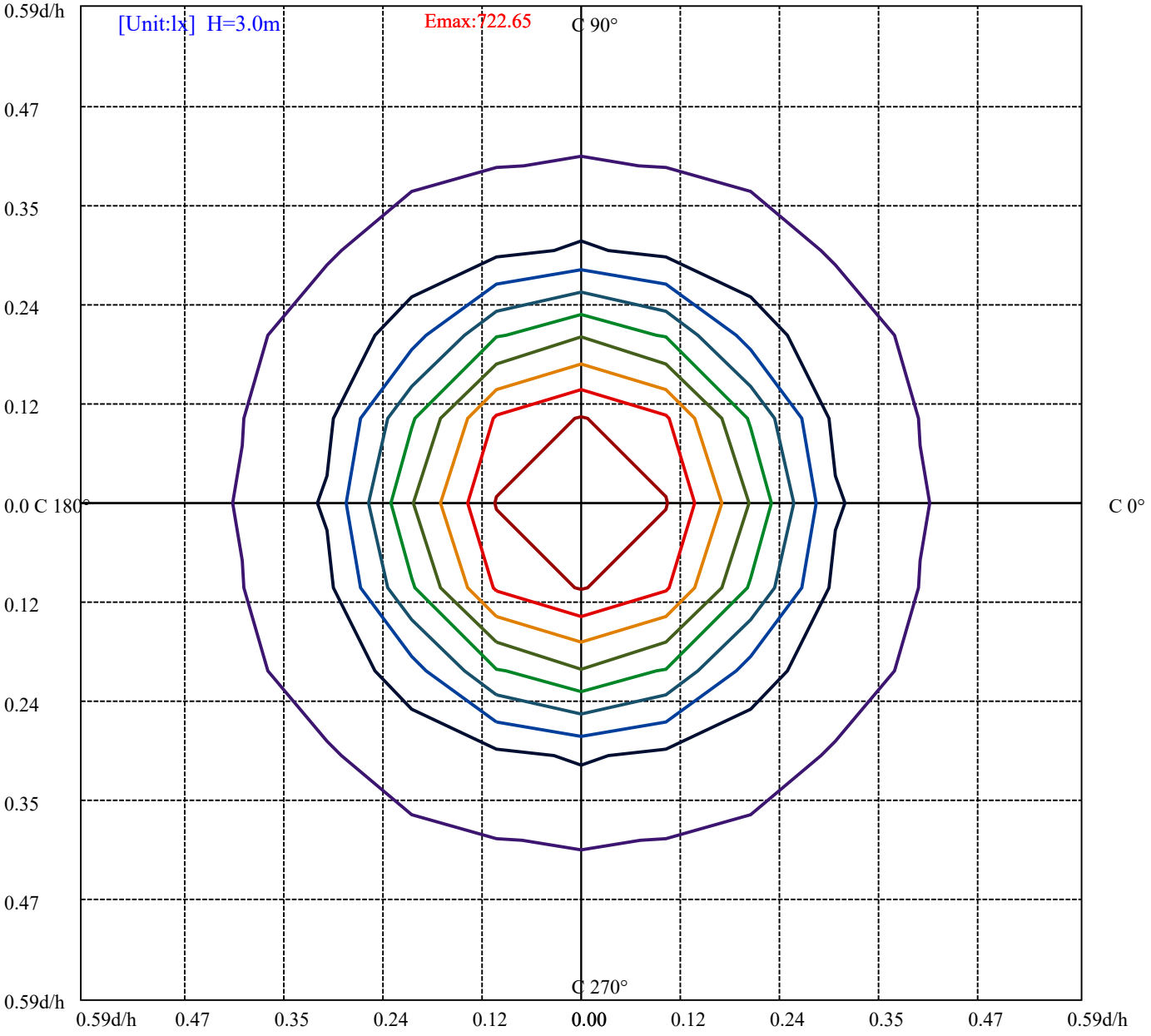
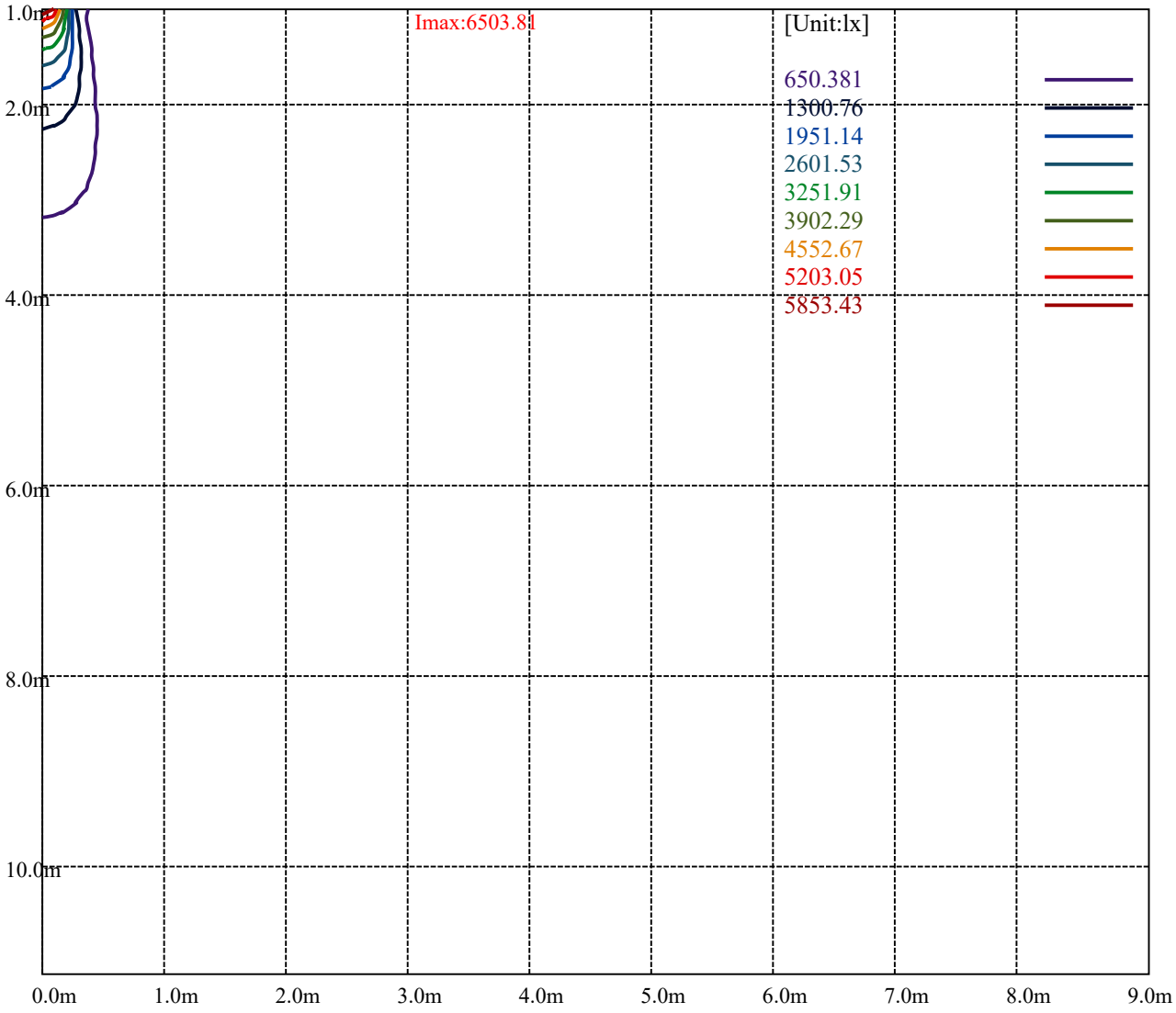
ISO illuminance diagram



(10%Emax) 72.26456
(20%Emax) 144.5289
(30%Emax) 216.7933
(40%Emax) 289.0578
(50%Emax) 361.3222
(60%Emax) 433.5878
(70%Emax) 505.8522
(80%Emax) 578.1166
(90%Emax) 650.3811

Equipment: gms1980
Temperature(°C): 25.0
Date: 2017/6/3
Humidity(%): 60.0%
Operator: NT07
Distance(m): 7.42

Space ISO Lux diagram



Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/6/3
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

Luminance Limitting Curve(no luminous side)

Luminance Table

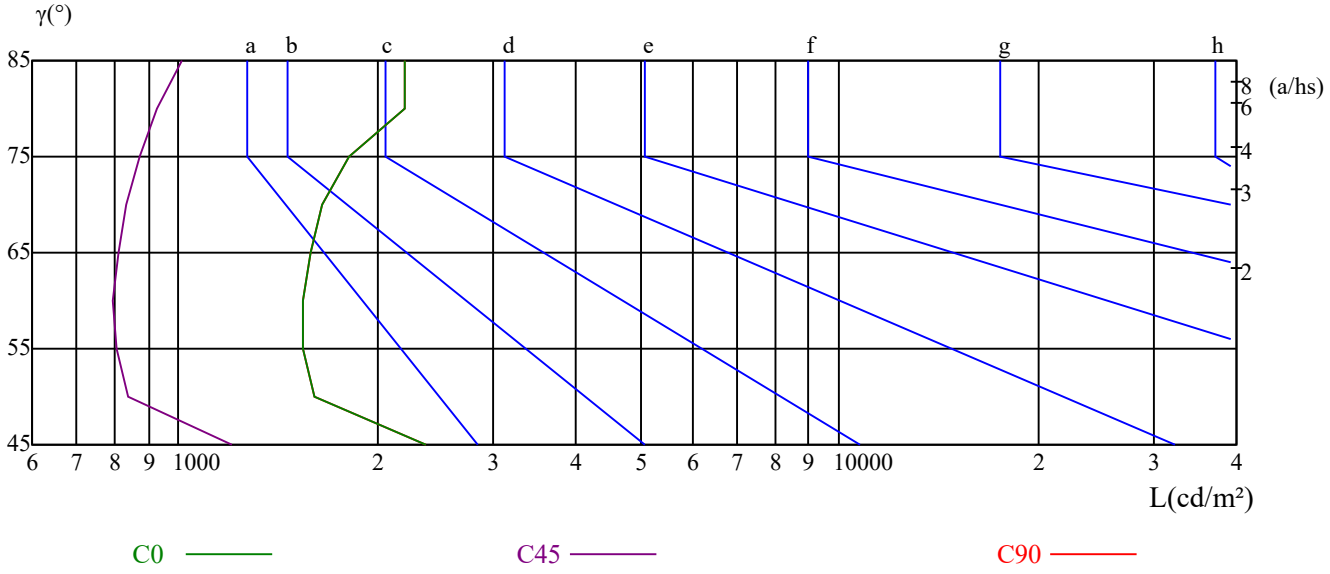
γ	45	50	55	60	65	70	75	80	85
C0	2370	1603	1547	1539	1585	1653	1809	2197	2199
C45	1205	837	808	797	810	832	873	927	1008
C90	2370	1603	1547	1539	1585	1653	1809	2197	2199

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3576	3576	2250	5763	5763	3571	16921	16921	10555

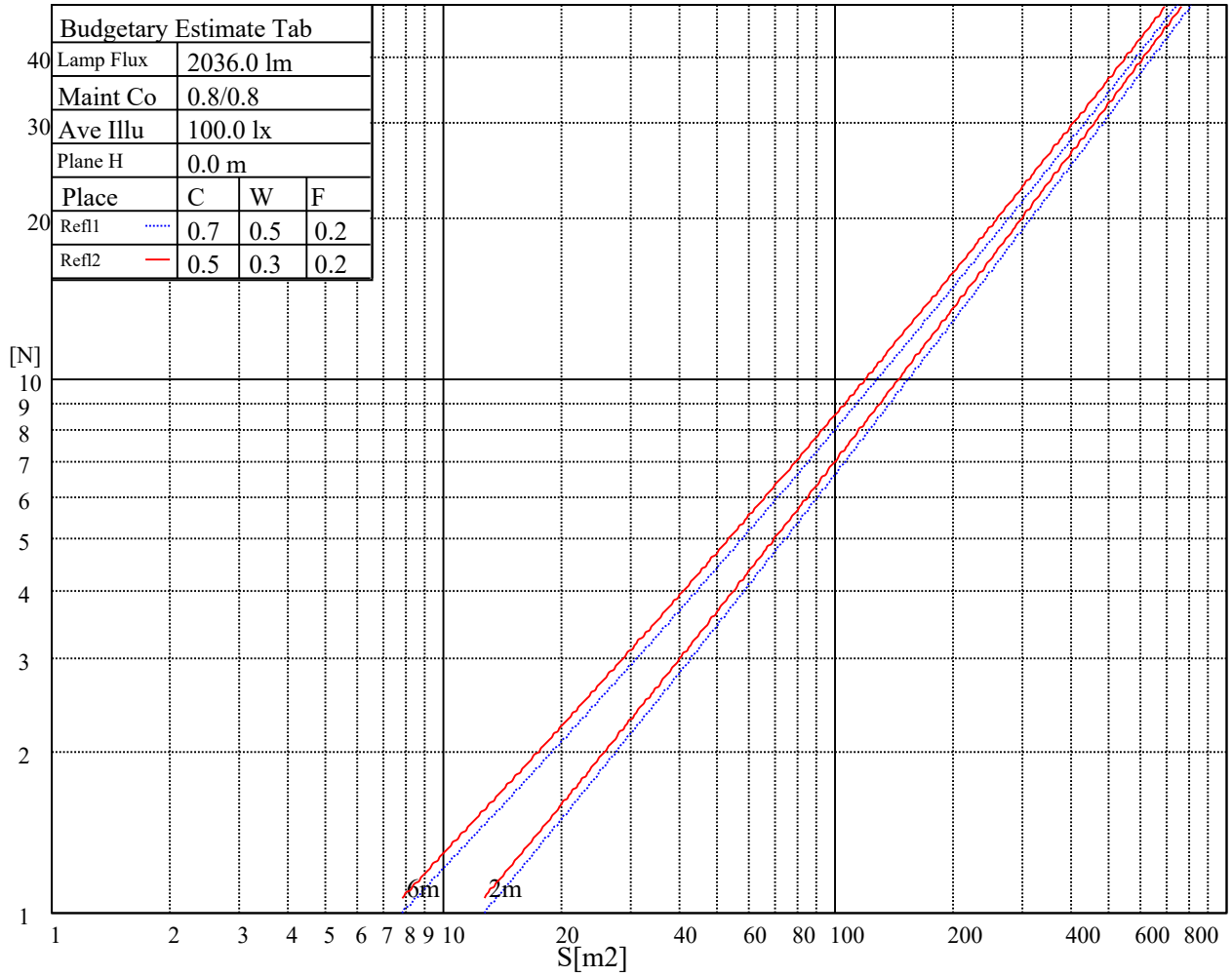
Glare Table

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

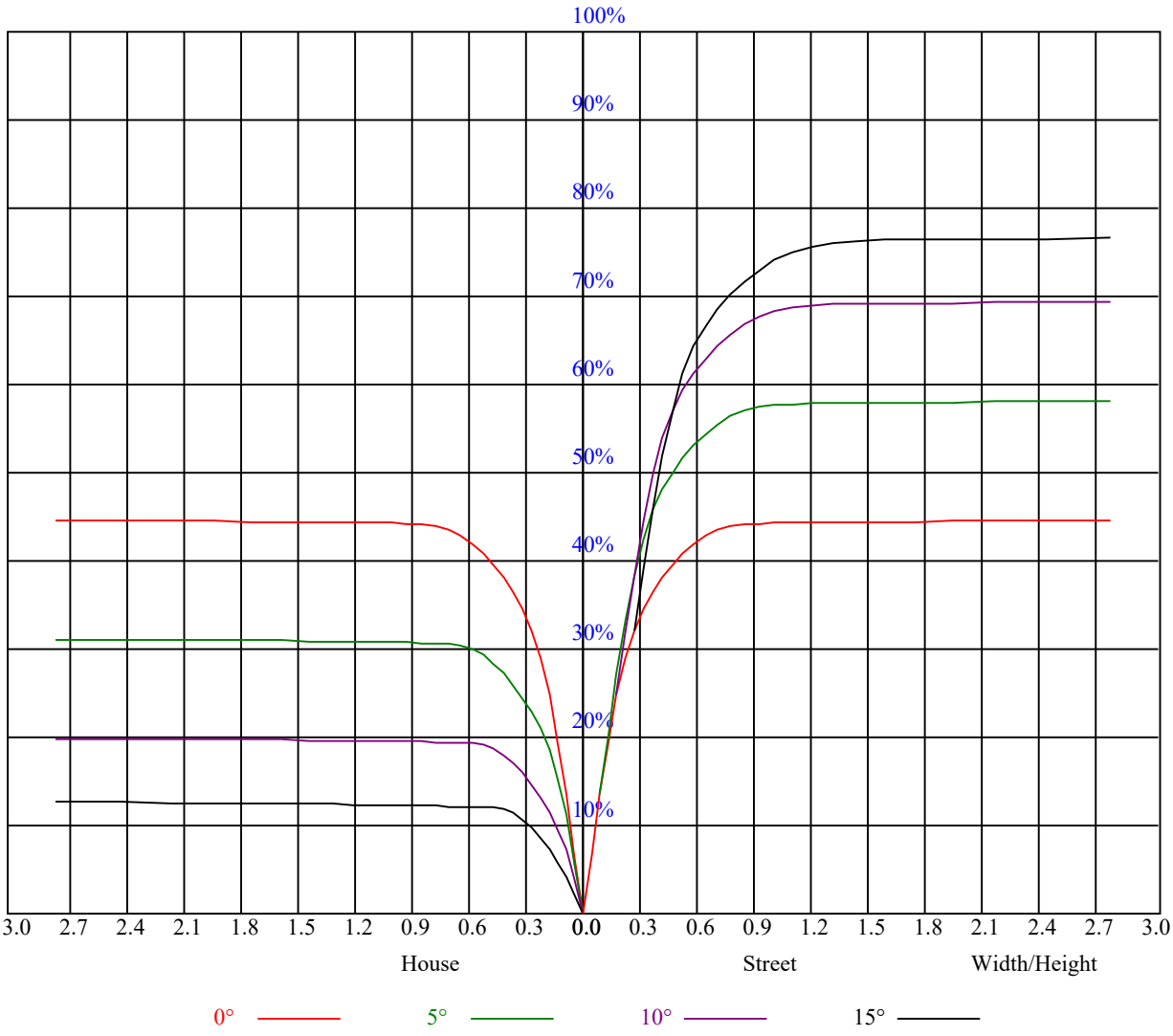


Equipment: gms1980	Date: 2017/6/3	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.98	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.95	0.92	0.89	0.93	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.83	0.81
3	0.90	0.86	0.83	0.89	0.85	0.83	0.87	0.84	0.81	0.84	0.82	0.80	0.83	0.81	0.79	0.78
4	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.76	0.80	0.77	0.75	0.74
5	0.82	0.78	0.74	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
6	0.78	0.74	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.72	0.69	0.68
7	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.66
8	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
9	0.70	0.65	0.63	0.69	0.65	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59

Coefficient Utilization Curve



Equipment: gms1980	Date: 2017/6/3	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.42

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	6499.96	6475.73	6386.54	6290.19	6180.08	6009.41	5843.14	5642.18	5356.44
90.0	6507.67	6483.44	6425.63	6358.46	6258.81	6145.40	5973.62	5742.93	5483.07
180.0	6499.96	6482.34	6433.89	6367.82	6292.95	6178.43	6041.34	5826.07	5554.09
270.0	6507.67	6480.14	6404.16	6303.41	6195.50	6068.87	5880.02	5690.08	5456.09
360.0	6499.96	6475.73	6386.54	6290.19	6180.08	6009.41	5843.14	5642.18	5356.44

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5009.58	4644.56	4172.17	3705.85	3169.05	2643.81	2208.31	1784.38	1457.89
90.0	5166.49	4678.69	4215.67	3716.31	3078.75	2596.46	2155.46	1739.23	1422.66
180.0	5242.47	4803.12	4293.30	3795.59	3283.56	2660.33	2204.46	1810.25	1432.02
270.0	5134.01	4741.46	4323.58	3798.34	3263.74	2798.52	2294.20	1892.84	1536.62
360.0	5009.58	4644.56	4172.17	3705.85	3169.05	2643.81	2208.31	1784.38	1457.89

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1244.83	1085.71	945.32	872.09	821.44	780.70	758.68	741.61	722.34
90.0	1215.09	1064.79	939.81	875.95	828.60	799.97	776.30	756.47	735.55
180.0	1091.33	1057.69	951.43	868.96	829.59	801.40	777.23	758.35	739.30
270.0	1278.41	1088.47	980.94	876.88	825.19	789.51	759.17	742.60	727.68
360.0	1244.83	1085.71	945.32	872.09	821.44	780.70	758.68	741.61	722.34

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	700.87	684.90	667.83	652.97	636.45	604.52	559.37	503.22	425.59
90.0	716.28	694.26	676.64	660.68	641.96	616.08	570.38	520.83	434.39
180.0	718.71	699.16	681.43	661.78	647.96	626.32	579.14	523.81	461.70
270.0	704.17	689.31	677.03	661.01	649.45	625.17	569.17	517.86	445.96
360.0	700.87	684.90	667.83	652.97	636.45	604.52	559.37	503.22	425.59

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	360.07	292.35	240.98	143.70	88.04	49.72	22.35	18.99	16.41
90.0	365.02	294.55	278.03	147.33	90.95	44.16	22.13	18.61	15.03
180.0	381.60	316.52	249.13	168.20	108.52	58.36	27.47	18.94	16.08
270.0	361.45	302.87	235.70	150.19	101.47	54.62	26.70	18.88	16.57
360.0	360.07	292.35	240.98	143.70	88.04	49.72	22.35	18.99	16.41

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	13.49	11.34	10.63	9.30	8.92	8.64	8.42	8.31	8.20
90.0	12.22	10.74	10.02	9.74	9.14	8.64	8.53	8.37	8.20
180.0	12.61	10.41	9.52	9.25	8.86	8.42	8.31	8.20	8.09
270.0	13.76	11.45	10.63	9.36	8.97	8.59	8.48	8.31	8.20
360.0	13.49	11.34	10.63	9.30	8.92	8.64	8.42	8.31	8.20

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.15	8.04	7.93	7.82	7.71	7.71	7.65	7.60	7.54
90.0	8.15	8.04	7.98	7.82	7.76	7.65	7.60	7.54	7.54
180.0	7.98	7.87	7.76	7.71	7.65	7.65	7.54	7.49	7.49
270.0	8.09	7.98	7.93	7.87	7.76	7.71	7.60	7.54	7.54
360.0	8.15	8.04	7.93	7.82	7.71	7.71	7.65	7.60	7.54

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.49	7.43	7.43	7.38	7.38	7.32	7.27	7.21	7.21
90.0	7.49	7.43	7.38	7.32	7.27	7.27	7.27	7.21	7.21
180.0	7.43	7.43	7.38	7.32	7.27	7.27	7.27	7.21	7.21
270.0	7.49	7.43	7.43	7.38	7.32	7.32	7.32	7.27	7.27
360.0	7.49	7.43	7.43	7.38	7.38	7.32	7.27	7.21	7.21

Intensity data(cd)

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.21	7.21	7.21	7.16	7.16	7.16	7.21	7.16	7.10
90.0	7.21	7.21	7.16	7.10	7.21	7.65	7.60	7.32	7.16
180.0	7.16	7.16	7.16	7.16	7.16	7.43	8.04	7.93	7.60
270.0	7.21	7.27	7.27	7.82	9.80	11.07	11.73	11.12	10.46
360.0	7.21	7.21	7.21	7.16	7.16	7.16	7.21	7.16	7.10

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.10	7.05	7.05	7.10	7.05	7.05	7.05	7.05	6.99
90.0	7.10	7.10	7.05	7.05	7.05	6.94	6.99	6.99	6.94
180.0	7.38	7.21	7.21	7.21	7.16	7.10	6.99	6.99	6.99
270.0	9.58	8.31	7.65	7.65	7.65	7.76	7.54	6.99	6.99
360.0	7.10	7.05	7.05	7.10	7.05	7.05	7.05	7.05	6.99

C/γ(°)	90.0
0.0	6.99
90.0	6.94
180.0	6.99
270.0	6.94
360.0	6.99