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Nata

LumCAT: 1-1005-M
Luminaire: BJB 47.360.1020

Report No: 210720-B005	Voltage(V): 36.1500
Test No: 210720-C005	Current(A): 0.5110
LampCAT: Fortimo LED SLM 1204 G7N	Power (W): 18.4720
Lamp flux(lm): 2455.6	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): 1798.13
Efficiency(%): 73.23%
Lumens(lm)/Power(W): 97.34
Central intensity(cd): 11034.700
Maximum intensity(cd): 11034.700
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=20.6
[C90/270]Total=20.6
Field angle(10%Imax): [C0/180]Total=41.0
[C90/270]Total=41.0
Maximum s/h(1/2): C0_180=0.35 C90_270=0.35
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 73.23%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.540%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11034.703	0.000	0	.000%	.000%
1.0	10978.172	10.533	10.533	.429%	.586%
2.0	10779.258	31.228	41.761	1.272%	2.322%
3.0	10453.711	50.782	92.543	2.068%	5.147%
4.0	10021.992	68.539	161.082	2.791%	8.958%
5.0	9434.320	83.700	244.782	3.409%	13.613%
6.0	8711.156	95.359	340.141	3.883%	18.916%
7.0	7976.672	103.581	443.723	4.218%	24.677%
8.0	7250.766	108.980	552.702	4.438%	30.738%
9.0	6456.797	111.092	663.795	4.524%	36.916%
10.0	5714.719	110.148	773.942	4.486%	43.042%
11.0	5064.609	107.708	881.65	4.386%	49.032%
12.0	4445.086	103.955	985.605	4.233%	54.813%
13.0	3846.727	98.403	1084.008	4.007%	60.285%
14.0	3341.320	92.006	1176.014	3.747%	65.402%
15.0	2887.875	85.517	1261.531	3.483%	70.158%
16.0	2487.094	78.758	1340.289	3.207%	74.538%
17.0	2120.203	71.748	1412.037	2.922%	78.528%
18.0	1790.086	64.472	1476.51	2.626%	82.114%
19.0	1487.187	57.018	1533.528	2.322%	85.285%
20.0	1222.193	49.589	1583.117	2.019%	88.043%
21.0	972.696	42.146	1625.263	1.716%	90.387%
22.0	772.812	35.077	1660.34	1.428%	92.337%
23.0	569.798	28.172	1688.511	1.147%	93.904%
24.0	396.584	21.129	1709.64	.860%	95.079%
25.0	270.014	15.157	1724.797	.617%	95.922%
26.0	155.510	10.045	1734.841	.409%	96.481%
27.0	82.104	5.813	1740.655	.237%	96.804%
28.0	45.380	3.228	1743.882	.131%	96.983%
29.0	29.939	1.971	1745.853	.080%	97.093%
30.0	21.586	1.391	1747.244	.057%	97.170%
31.0	17.845	1.097	1748.341	.045%	97.231%
32.0	16.130	0.973	1749.315	.040%	97.285%
33.0	14.984	0.917	1750.231	.037%	97.336%
34.0	14.098	0.880	1751.111	.036%	97.385%
35.0	13.310	0.851	1751.963	.035%	97.433%
36.0	12.656	0.827	1752.789	.034%	97.479%
37.0	12.143	0.809	1753.598	.033%	97.524%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	11.686	0.795	1754.394	.032%	97.568%
39.0	11.285	0.784	1755.178	.032%	97.612%
40.0	10.976	0.776	1755.954	.032%	97.655%
41.0	10.716	0.772	1756.726	.031%	97.698%
42.0	10.463	0.769	1757.496	.031%	97.740%
43.0	10.259	0.768	1758.263	.031%	97.783%
44.0	10.090	0.768	1759.031	.031%	97.826%
45.0	9.942	0.770	1759.801	.031%	97.869%
46.0	9.816	0.773	1760.574	.031%	97.912%
47.0	9.696	0.776	1761.35	.032%	97.955%
48.0	9.598	0.780	1762.13	.032%	97.998%
49.0	9.520	0.785	1762.915	.032%	98.042%
50.0	9.422	0.790	1763.705	.032%	98.086%
51.0	9.338	0.794	1764.498	.032%	98.130%
52.0	9.260	0.798	1765.297	.032%	98.174%
53.0	9.211	0.803	1766.1	.033%	98.219%
54.0	9.148	0.809	1766.909	.033%	98.264%
55.0	9.098	0.814	1767.724	.033%	98.309%
56.0	9.042	0.820	1768.543	.033%	98.355%
57.0	9.000	0.825	1769.368	.034%	98.401%
58.0	8.944	0.830	1770.198	.034%	98.447%
59.0	8.909	0.835	1771.033	.034%	98.493%
60.0	8.866	0.840	1771.872	.034%	98.540%
61.0	8.831	0.845	1772.717	.034%	98.587%
62.0	8.803	0.850	1773.567	.035%	98.634%
63.0	8.775	0.855	1774.422	.035%	98.682%
64.0	8.747	0.860	1775.281	.035%	98.730%
65.0	8.726	0.865	1776.146	.035%	98.778%
66.0	8.691	0.869	1777.015	.035%	98.826%
67.0	8.677	0.873	1777.888	.036%	98.875%
68.0	8.641	0.877	1778.766	.036%	98.923%
69.0	8.620	0.881	1779.646	.036%	98.972%
70.0	8.613	0.885	1780.531	.036%	99.022%
71.0	8.592	0.889	1781.421	.036%	99.071%
72.0	8.578	0.893	1782.313	.036%	99.121%
73.0	8.543	0.895	1783.209	.036%	99.170%
74.0	8.515	0.897	1784.106	.037%	99.220%
75.0	8.494	0.899	1785.004	.037%	99.270%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.480	0.901	1785.905	.037%	99.320%
77.0	8.409	0.900	1786.806	.037%	99.370%
78.0	8.353	0.897	1787.703	.037%	99.420%
79.0	8.269	0.893	1788.596	.036%	99.470%
80.0	8.198	0.888	1789.484	.036%	99.519%
81.0	8.128	0.883	1790.367	.036%	99.569%
82.0	8.030	0.876	1791.243	.036%	99.617%
83.0	7.966	0.870	1792.113	.035%	99.666%
84.0	7.938	0.866	1792.979	.035%	99.714%
85.0	7.903	0.865	1793.844	.035%	99.762%
86.0	7.868	0.862	1794.706	.035%	99.810%
87.0	7.819	0.859	1795.564	.035%	99.858%
88.0	7.791	0.855	1796.419	.035%	99.905%
89.0	7.777	0.853	1797.272	.035%	99.953%
90.0	7.777	0.853	1798.125	.035%	100.000%

Zonal flux distribution table

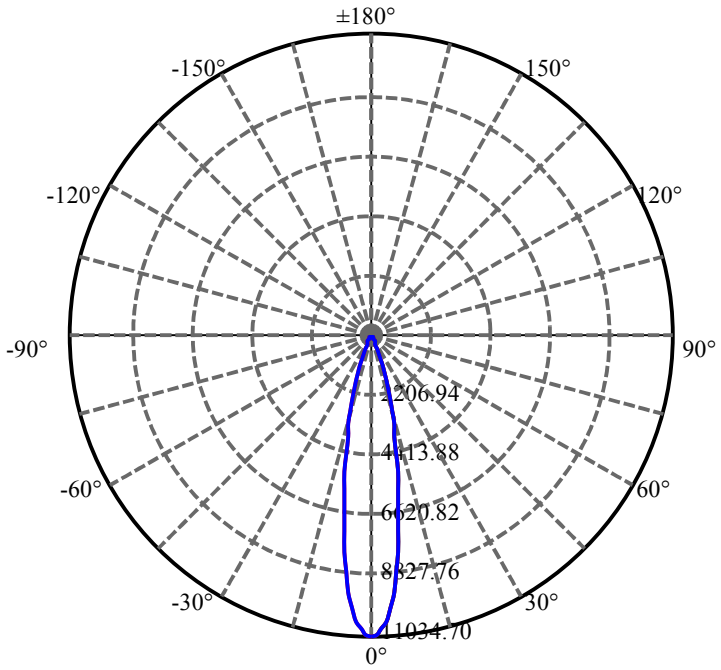
ZONAL LUMEN SUMMARY

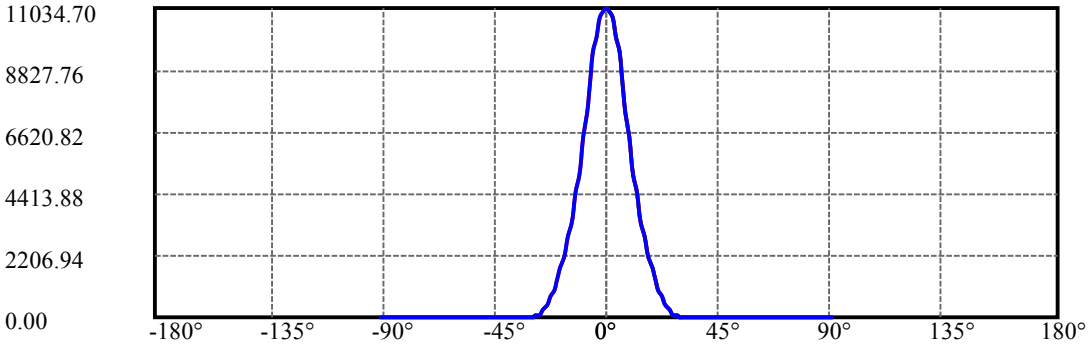
Zone	Lumens	%Lamp	%Fixt
0-30	1747.24	71.15%	97.17%
0-40	1755.95	71.51%	97.65%
0-60	1771.87	72.16%	98.54%
0-90	1797.27	73.19%	99.95%
0-120	1797.27	73.19%	99.95%
0-180	1798.13	73.23%	100.00%
60-90	26.24	1.07%	1.46%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-17.41	1438.50	58.58%	80.00%

ZONAL LUMEN SUMMARY

0-10	773.94
10-20	809.17
20-30	164.13
30-40	8.71
40-50	7.75
50-60	8.17
60-70	8.66
70-80	8.95
80-90	7.79
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):

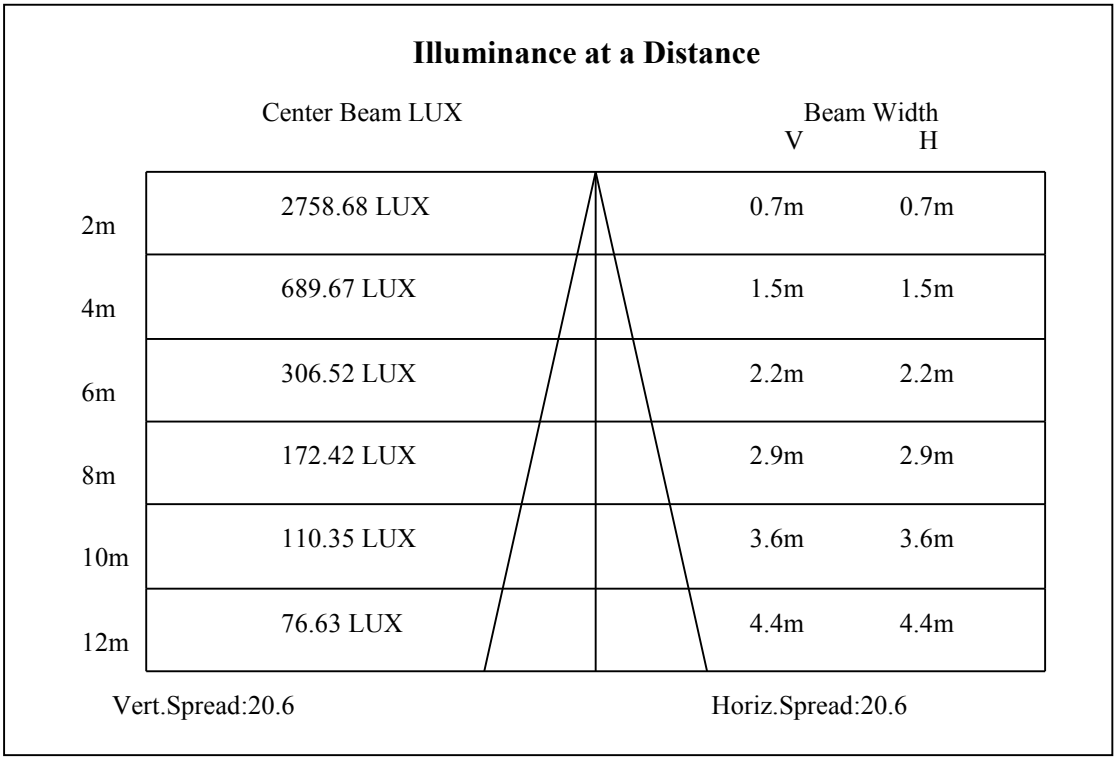
C0/C180:

C90/C270:

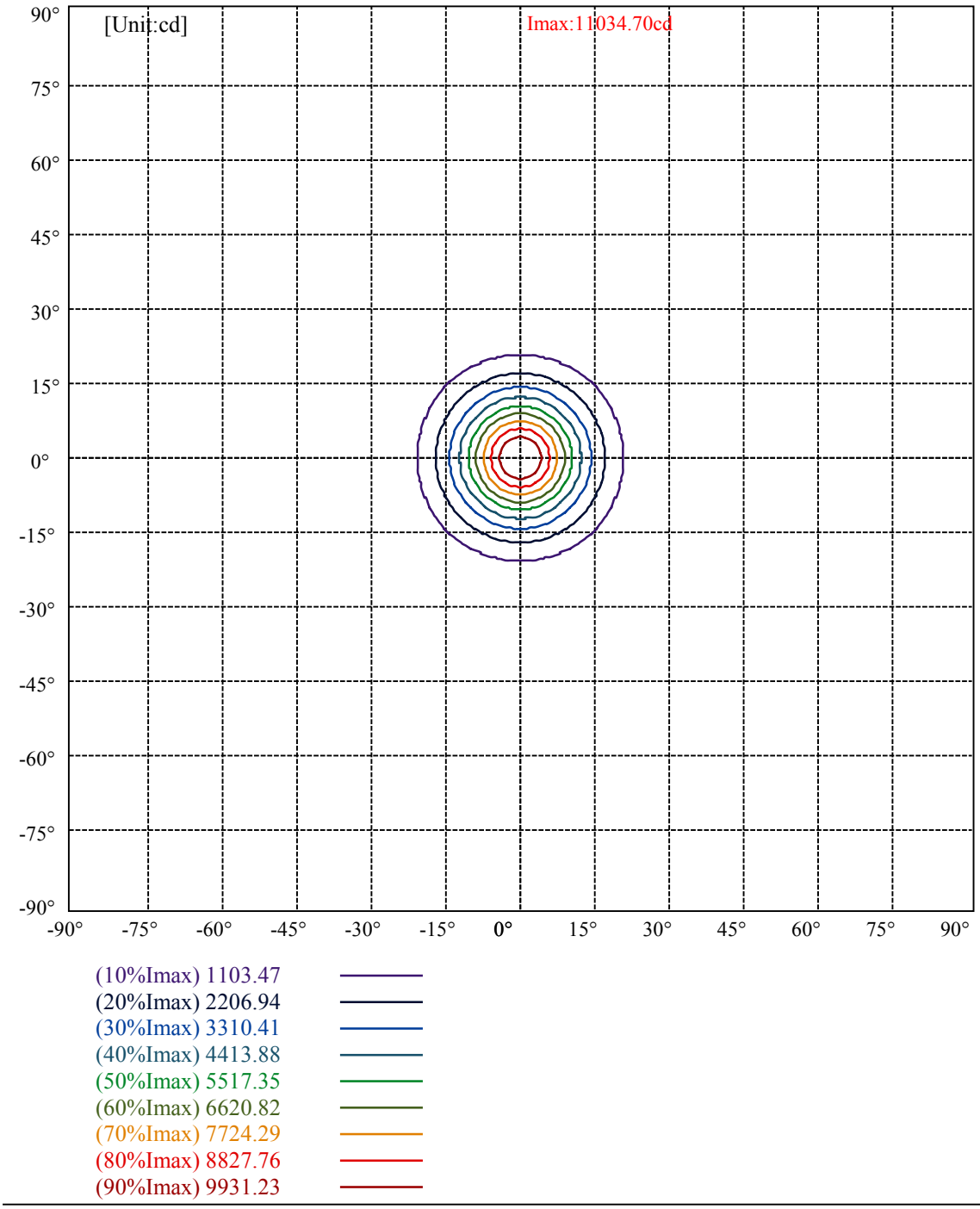
Field angle(10%Imax):C0/180Left:20.5 Right:20.5
:C90/270Left:20.5 Right:20.5

Beam Angle(50%Imax):C0/180Left:10.3 Right:10.3
:C90/270Left:10.3 Right:10.3

Lux distance Curve



ISO-Intensity(V-H)

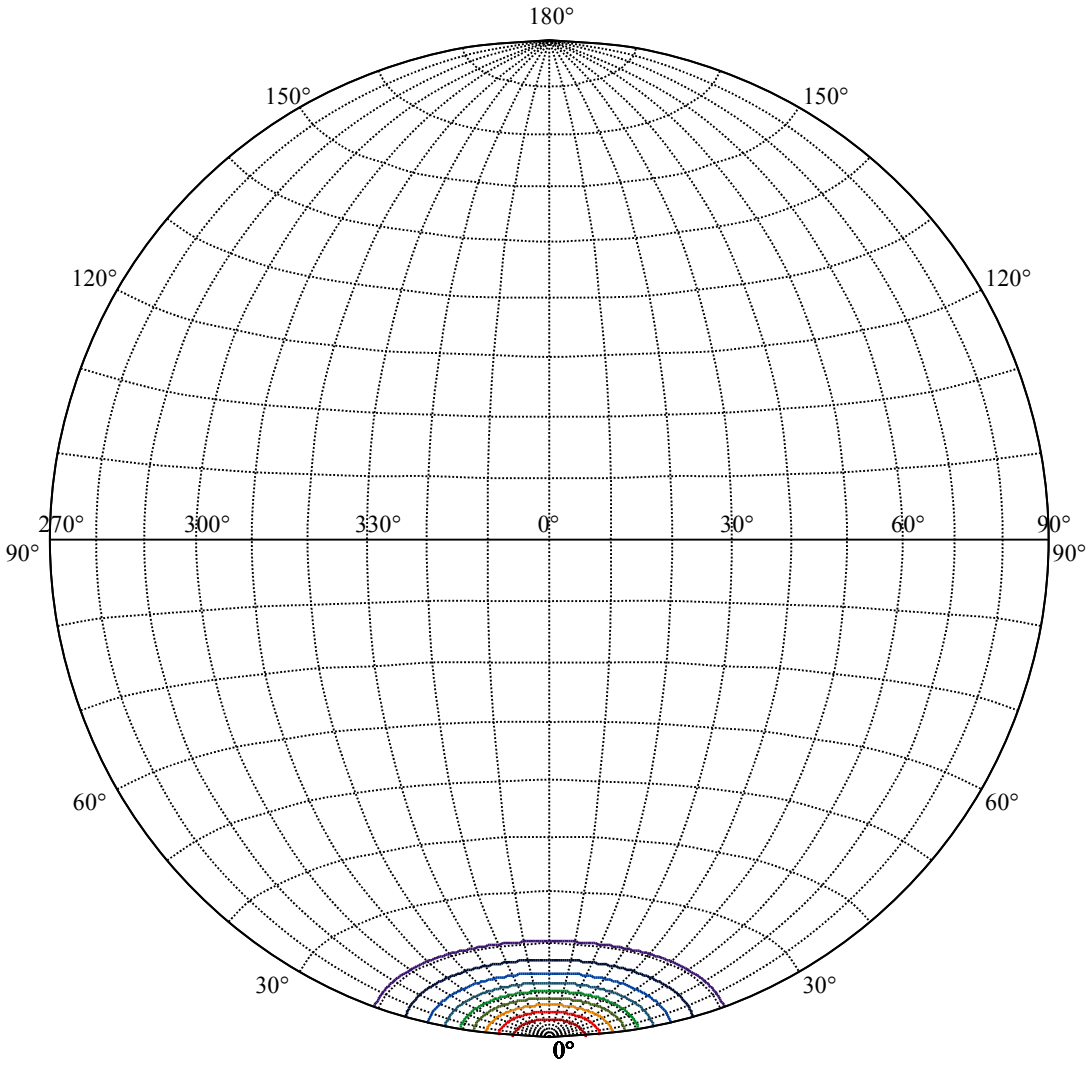


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/20
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web

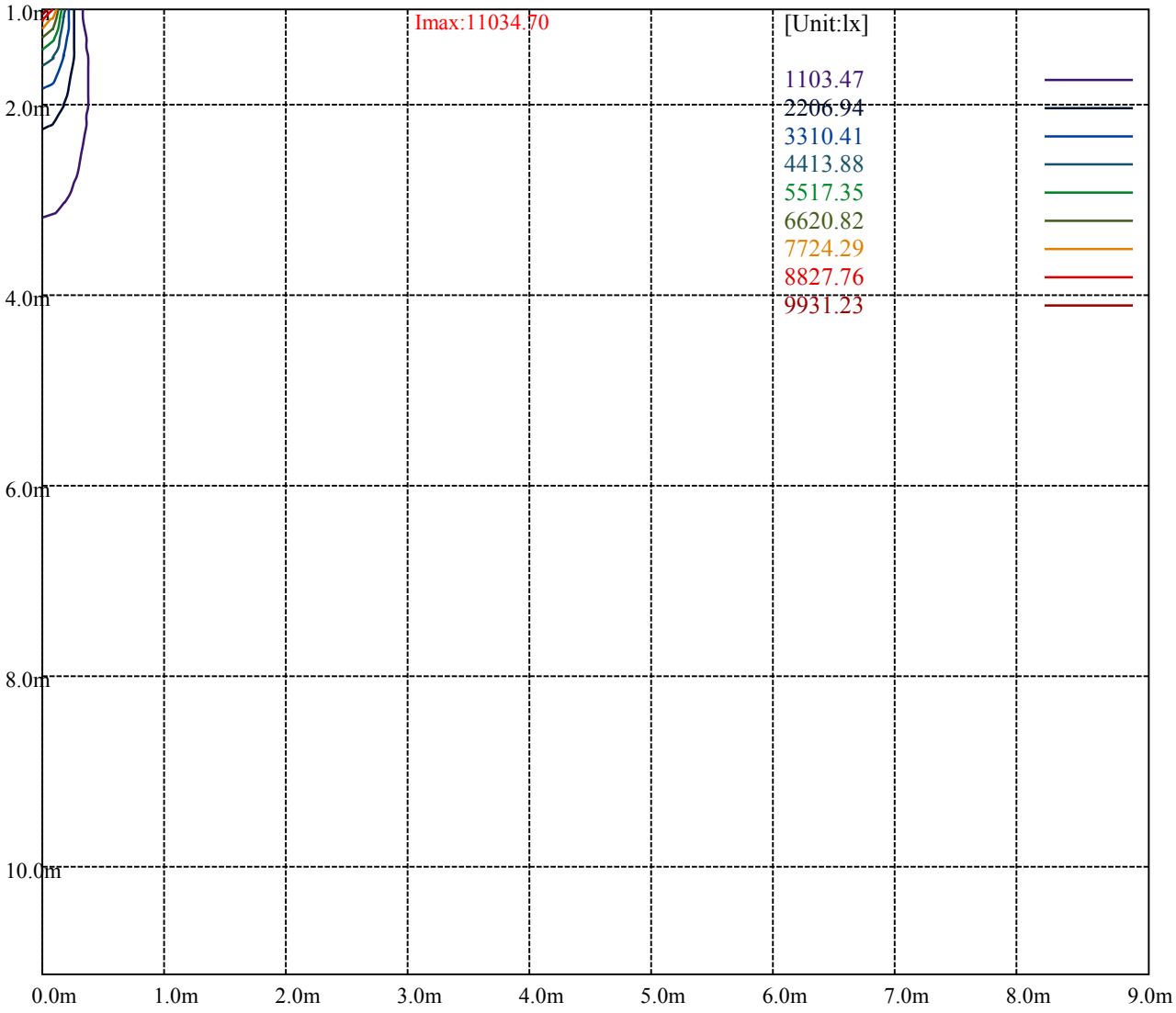


House [Unit:cd] Road

Imax:11034.70

(10%Imax) 1103.47
(20%Imax) 2206.94
(30%Imax) 3310.41
(40%Imax) 4413.88
(50%Imax) 5517.35
(60%Imax) 6620.82
(70%Imax) 7724.29
(80%Imax) 8827.76
(90%Imax) 9931.23

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/20
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

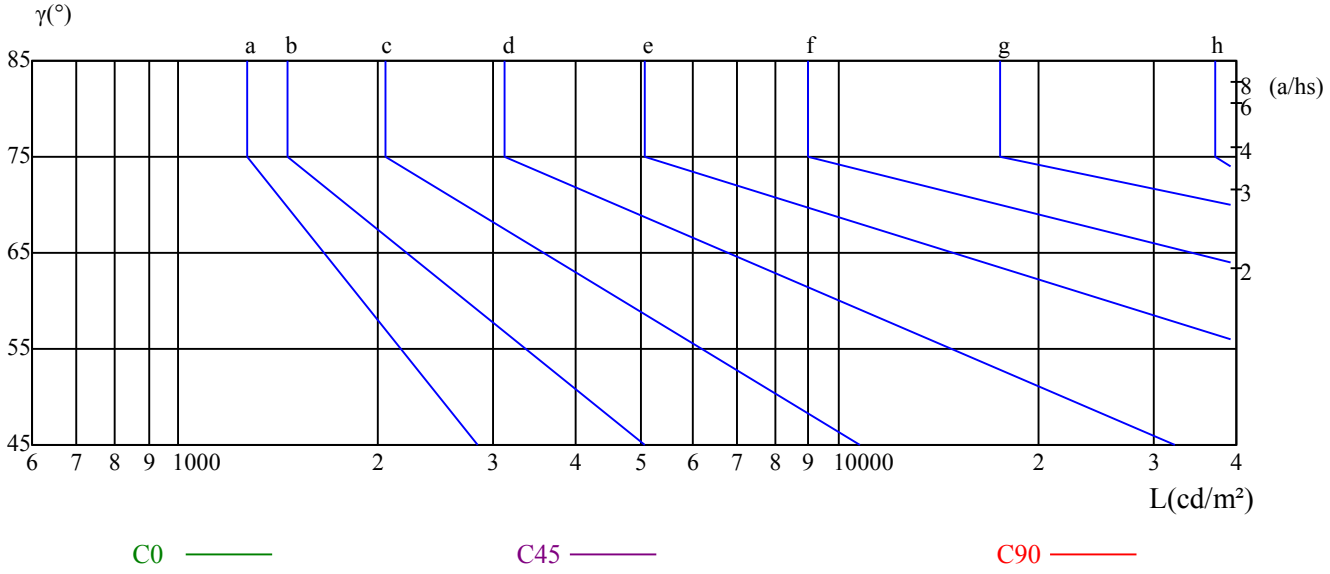
γ	45	50	55	60	65	70	75	80	85
C0	379	374	378	391	412	442	481	523	581
C45	409	407	417	436	466	508	565	630	725
C90	530	549	589	652	749	895	1131	1535	2523

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
805	805	805	1279	1279	1279	3535	3535	3535

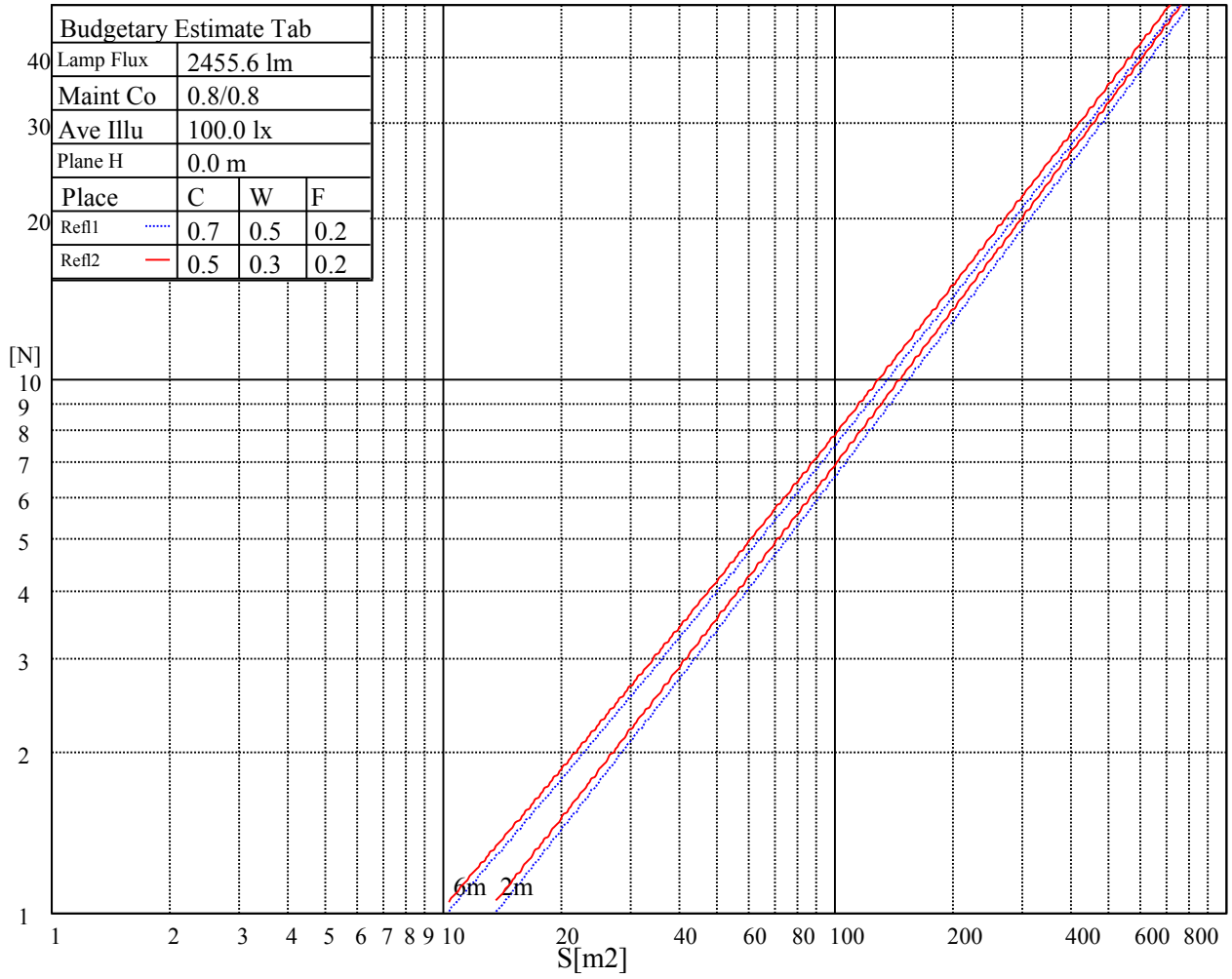
Glare Table

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

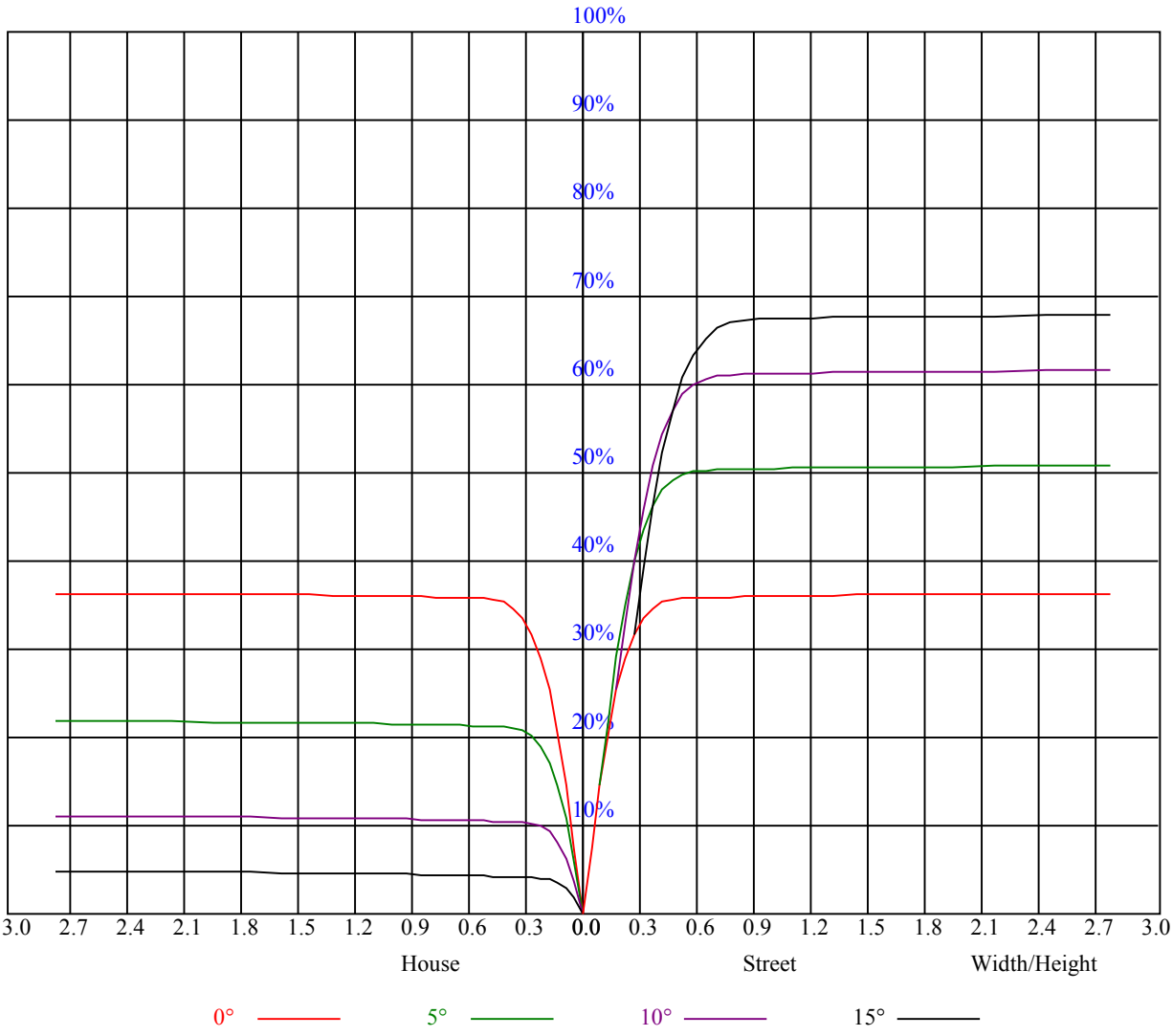


Equipment: GMS1980 Date: 2021/7/20 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.87	0.87	0.87	0.85	0.85	0.85	0.81	0.81	0.81	0.78	0.78	0.78	0.75	0.75	0.75	0.73
1	0.83	0.81	0.80	0.81	0.80	0.79	0.78	0.77	0.76	0.76	0.75	0.74	0.73	0.72	0.72	0.71
2	0.79	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.73	0.73	0.72	0.71	0.72	0.71	0.70	0.69
3	0.76	0.73	0.71	0.75	0.73	0.71	0.73	0.71	0.70	0.72	0.70	0.69	0.70	0.69	0.68	0.67
4	0.73	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.69	0.67	0.66	0.65
5	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.67	0.66	0.64	0.64
6	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.66	0.64	0.63	0.62
7	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.65	0.63	0.61	0.61
8	0.65	0.63	0.61	0.65	0.63	0.61	0.64	0.62	0.60	0.64	0.62	0.60	0.63	0.61	0.60	0.59
9	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.59	0.58
10	0.62	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.58	0.61	0.59	0.58	0.61	0.59	0.58	0.57

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/7/20	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	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	11021.63	11097.00	11112.75	11001.38	10756.13	10261.13	9702.56	9051.19	8255.25
45.0	11082.38	10966.50	10713.94	10299.38	9770.06	9055.69	8247.38	7489.69	6765.19
90.0	10981.13	10702.69	10263.94	9705.94	9054.56	8259.75	7415.44	6585.75	5895.56
135.0	11053.69	10877.06	10434.38	9920.81	9309.94	8632.69	7709.06	6974.44	6281.44
180.0	11021.63	10815.75	10406.25	9828.00	9220.50	8448.75	7707.38	6870.94	6082.31
225.0	11082.38	11097.56	11007.00	10752.75	10352.81	9827.44	9208.69	8358.19	7628.06
270.0	10981.13	11110.50	11149.88	11090.81	10895.63	10612.69	9949.50	9354.94	8773.88
315.0	11053.69	11158.31	11145.94	11030.63	10816.31	10376.44	9749.25	9128.25	8324.44
360.0	11021.63	11097.00	11112.75	11001.38	10756.13	10261.13	9702.56	9051.19	8255.25

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	7419.38	6683.06	5907.38	5265.00	4579.88	3950.44	3446.44	2951.44	2507.06
45.0	5913.00	5255.44	4658.06	4050.56	3506.06	3079.69	2656.13	2277.56	1977.75
90.0	5258.81	4534.88	4015.69	3548.25	3081.94	2667.94	2332.69	2034.00	1697.63
135.0	5464.69	4858.31	4295.25	3731.63	3235.50	2837.25	2444.06	2127.38	1819.69
180.0	5428.69	4746.38	4129.31	3636.56	3197.81	2703.38	2355.75	2042.44	1725.19
225.0	6881.63	5986.13	5330.81	4700.25	3989.25	3483.00	3040.88	2548.69	2239.88
270.0	7738.88	6963.75	6307.88	5430.38	4697.44	4172.06	3494.25	3032.44	2612.25
315.0	7549.31	6689.81	5872.50	5198.06	4485.94	3836.81	3332.81	2882.81	2382.19
360.0	7419.38	6683.06	5907.38	5265.00	4579.88	3950.44	3446.44	2951.44	2507.06

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2161.69	1861.31	1527.75	1284.75	1052.44	785.81	590.63	419.63	289.69
45.0	1676.81	1423.69	1152.00	897.19	694.69	508.50	313.88	295.88	94.28
90.0	1440.00	1101.21	933.53	700.88	516.09	336.32	195.98	108.79	49.50
135.0	1524.38	1275.75	1019.25	780.19	586.13	437.06	291.94	139.33	73.58
180.0	1431.00	1100.48	904.89	701.21	520.09	327.94	222.98	125.10	61.54
225.0	1891.13	1549.69	1238.63	1068.53	853.43	635.34	464.85	300.88	172.74
270.0	2156.06	1844.44	1564.31	1246.50	1022.63	816.75	584.44	417.38	291.38
315.0	2039.63	1740.94	1437.19	1102.33	937.01	710.66	507.99	353.14	211.39
360.0	2161.69	1861.31	1527.75	1284.75	1052.44	785.81	590.63	419.63	289.69

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	139.39	72.79	43.54	25.99	19.97	18.23	16.43	15.19	14.34
45.0	40.78	25.37	19.52	16.88	15.36	14.40	13.56	12.77	12.26
90.0	28.24	19.86	17.16	15.81	14.79	13.73	13.05	12.49	11.93
135.0	37.69	22.11	17.89	16.03	14.74	13.84	13.11	12.54	11.98
180.0	39.43	23.06	17.33	16.03	14.91	13.78	13.16	12.60	12.04
225.0	97.76	55.97	34.88	22.84	19.46	17.33	16.09	15.08	14.06
270.0	153.17	80.16	49.67	32.12	22.61	19.69	17.83	16.59	15.47
315.0	120.38	63.73	39.54	27.00	20.93	18.06	16.65	15.53	14.40
360.0	139.39	72.79	43.54	25.99	19.97	18.23	16.43	15.19	14.34

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	13.44	12.83	12.21	11.76	11.31	11.03	10.69	10.41	10.24
45.0	11.76	11.31	10.91	10.63	10.35	10.18	9.96	9.84	9.68
90.0	11.53	11.19	10.86	10.58	10.41	10.24	10.07	9.90	9.79
135.0	11.53	11.19	10.91	10.58	10.35	10.24	10.01	9.90	9.79
180.0	11.59	11.19	10.91	10.63	10.41	10.18	10.01	9.84	9.68
225.0	13.28	12.66	12.09	11.64	11.31	10.91	10.63	10.41	10.18
270.0	14.51	13.78	13.16	12.49	12.04	11.70	11.31	11.03	10.86
315.0	13.61	12.99	12.43	11.98	11.64	11.25	11.03	10.74	10.52
360.0	13.44	12.83	12.21	11.76	11.31	11.03	10.69	10.41	10.24

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	10.01	9.90	9.73	9.62	9.51	9.39	9.34	9.23	9.17
45.0	9.56	9.45	9.39	9.28	9.23	9.17	9.06	9.00	8.94
90.0	9.68	9.56	9.45	9.39	9.34	9.28	9.23	9.17	9.17
135.0	9.68	9.56	9.51	9.39	9.34	9.28	9.23	9.11	9.11
180.0	9.62	9.51	9.39	9.28	9.28	9.11	9.06	9.00	8.94
225.0	10.01	9.90	9.73	9.68	9.56	9.45	9.34	9.28	9.23
270.0	10.63	10.41	10.29	10.18	10.07	9.96	9.84	9.73	9.68
315.0	10.35	10.24	10.07	9.96	9.84	9.73	9.62	9.56	9.45
360.0	10.01	9.90	9.73	9.62	9.51	9.39	9.34	9.23	9.17

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.06	9.00	8.94	8.94	8.83	8.78	8.72	8.66	8.66
45.0	8.94	8.89	8.83	8.78	8.72	8.66	8.66	8.61	8.61
90.0	9.11	9.06	9.00	9.00	9.00	9.00	8.94	8.94	8.94
135.0	9.06	9.00	8.94	8.89	8.83	8.83	8.78	8.78	8.72
180.0	8.89	8.83	8.78	8.72	8.66	8.66	8.61	8.55	8.55
225.0	9.11	9.11	9.06	9.00	8.94	8.89	8.89	8.83	8.78
270.0	9.62	9.56	9.51	9.45	9.39	9.34	9.28	9.28	9.23
315.0	9.39	9.34	9.28	9.23	9.17	9.11	9.06	9.00	8.94
360.0	9.06	9.00	8.94	8.94	8.83	8.78	8.72	8.66	8.66

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.61	8.55	8.55	8.49	8.49	8.44	8.44	8.44	8.38
45.0	8.61	8.55	8.55	8.49	8.49	8.44	8.44	8.44	8.38
90.0	8.94	8.94	8.94	8.94	8.94	8.94	8.94	8.94	8.94
135.0	8.66	8.66	8.61	8.55	8.61	8.49	8.49	8.44	8.44
180.0	8.49	8.49	8.44	8.38	8.38	8.33	8.33	8.33	8.33
225.0	8.72	8.72	8.72	8.66	8.61	8.61	8.55	8.55	8.49
270.0	9.23	9.17	9.17	9.17	9.11	9.17	9.11	9.11	9.11
315.0	8.94	8.89	8.83	8.83	8.78	8.72	8.66	8.66	8.66
360.0	8.61	8.55	8.55	8.49	8.49	8.44	8.44	8.44	8.38

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.38	8.33	8.33	8.27	8.27	8.27	8.21	8.21	8.16
45.0	8.38	8.33	8.33	8.33	8.27	8.27	8.21	8.21	8.16
90.0	9.00	8.94	8.89	8.89	8.89	8.55	8.33	7.99	7.88
135.0	8.38	8.38	8.33	8.33	8.27	8.27	8.27	8.16	8.16
180.0	8.27	8.21	8.21	8.16	8.16	8.10	8.10	8.04	8.04
225.0	8.49	8.44	8.38	8.38	8.38	8.33	8.33	8.27	8.21
270.0	9.11	9.11	9.11	9.11	9.11	9.06	9.00	8.89	8.66
315.0	8.61	8.61	8.55	8.49	8.49	8.44	8.38	8.38	8.33
360.0	8.38	8.33	8.33	8.27	8.27	8.27	8.21	8.21	8.16

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.16	8.10	8.10	8.04	8.04	7.99	7.93	7.88	7.88
45.0	8.04	7.99	7.88	7.93	7.82	7.76	7.71	7.71	7.71
90.0	7.88	7.88	7.88	7.88	7.76	7.76	7.76	7.71	7.71
135.0	8.10	8.04	7.93	7.88	7.88	7.82	7.82	7.82	7.76
180.0	7.99	7.99	7.93	7.93	7.93	7.88	7.88	7.88	7.88
225.0	8.21	8.10	7.99	7.93	7.88	7.88	7.76	7.71	7.71
270.0	8.38	7.99	7.93	7.93	7.93	7.93	7.82	7.82	7.76
315.0	8.27	8.16	8.10	7.99	7.99	7.93	7.88	7.82	7.82
360.0	8.16	8.10	8.10	8.04	8.04	7.99	7.93	7.88	7.88

Intensity data(cd)

C/γ(°)	90.0
0.0	7.88
45.0	7.71
90.0	7.71
135.0	7.82
180.0	7.88
225.0	7.71
270.0	7.71
315.0	7.82
360.0	7.88