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Nata

LumCAT: 1-1061-N
Luminaire: 92.70.246.00

Report No: 210630-B008	Voltage(V): 39.7400
Test No: 210630-C008	Current(A): 0.2510
LampCAT: Fortimo LED SLM 1201 G7N	Power (W): 9.9740
Lamp flux(lm): 1156.7	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): 940.04
Efficiency(%): 81.27%
Lumens(lm)/Power(W): 94.25
Central intensity(cd): 4065.609
Maximum intensity(cd): 4065.609
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=23.1
[C90/270]Total=23.1
Field angle(10%Imax): [C0/180]Total=50.3
[C90/270]Total=50.3
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.41 C90_270=0.41
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 81.27%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.225%

Equipment: GMS1980	Date: 2021/6/30	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4065.609	0.000	0	.000%	.000%
1.0	4039.383	3.878	3.878	.335%	.413%
2.0	3963.867	11.487	15.365	.993%	1.635%
3.0	3854.602	18.699	34.064	1.617%	3.624%
4.0	3731.203	25.392	59.456	2.195%	6.325%
5.0	3567.375	31.398	90.855	2.715%	9.665%
6.0	3357.984	36.395	127.249	3.146%	13.537%
7.0	3135.375	40.304	167.553	3.485%	17.824%
8.0	2900.813	43.200	210.753	3.735%	22.420%
9.0	2641.852	44.920	255.673	3.884%	27.198%
10.0	2392.453	45.559	301.232	3.939%	32.045%
11.0	2159.227	45.481	346.713	3.932%	36.883%
12.0	1934.789	44.753	391.466	3.869%	41.644%
13.0	1711.477	43.272	434.738	3.741%	46.247%
14.0	1508.977	41.222	475.96	3.564%	50.632%
15.0	1318.198	38.813	514.772	3.356%	54.761%
16.0	1162.441	36.348	551.121	3.142%	58.627%
17.0	1043.269	34.349	585.469	2.970%	62.281%
18.0	926.930	32.484	617.954	2.808%	65.737%
19.0	831.284	30.589	648.543	2.645%	68.991%
20.0	740.377	28.766	677.309	2.487%	72.051%
21.0	655.516	26.804	704.113	2.317%	74.902%
22.0	588.600	25.001	729.114	2.161%	77.562%
23.0	529.439	23.459	752.573	2.028%	80.058%
24.0	469.069	21.831	774.404	1.887%	82.380%
25.0	413.262	20.062	794.467	1.734%	84.514%
26.0	359.705	18.246	812.713	1.577%	86.455%
27.0	308.468	16.347	829.06	1.413%	88.194%
28.0	260.170	14.397	843.456	1.245%	89.726%
29.0	211.767	12.347	855.803	1.067%	91.039%
30.0	165.480	10.186	865.989	.881%	92.123%
31.0	125.205	8.089	874.078	.699%	92.983%
32.0	92.025	6.223	880.302	.538%	93.645%
33.0	68.597	4.732	885.034	.409%	94.148%
34.0	53.353	3.691	888.724	.319%	94.541%
35.0	44.445	3.037	891.762	.263%	94.864%
36.0	39.164	2.662	894.424	.230%	95.147%
37.0	35.220	2.426	896.85	.210%	95.405%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	31.549	2.229	899.078	.193%	95.643%
39.0	28.195	2.039	901.118	.176%	95.859%
40.0	25.601	1.876	902.994	.162%	96.059%
41.0	23.168	1.737	904.73	.150%	96.244%
42.0	20.911	1.601	906.332	.138%	96.414%
43.0	18.998	1.478	907.81	.128%	96.571%
44.0	17.346	1.372	909.182	.119%	96.717%
45.0	15.891	1.277	910.459	.110%	96.853%
46.0	14.611	1.193	911.652	.103%	96.980%
47.0	13.402	1.114	912.766	.096%	97.099%
48.0	12.438	1.045	913.811	.090%	97.210%
49.0	11.573	0.986	914.797	.085%	97.315%
50.0	10.723	0.930	915.727	.080%	97.414%
51.0	10.083	0.880	916.607	.076%	97.507%
52.0	9.548	0.842	917.449	.073%	97.597%
53.0	9.042	0.809	918.258	.070%	97.683%
54.0	8.606	0.778	919.036	.067%	97.766%
55.0	8.290	0.754	919.79	.065%	97.846%
56.0	7.995	0.736	920.526	.064%	97.924%
57.0	7.763	0.720	921.246	.062%	98.001%
58.0	7.587	0.710	921.956	.061%	98.076%
59.0	7.425	0.702	922.658	.061%	98.151%
60.0	7.270	0.694	923.352	.060%	98.225%
61.0	7.116	0.687	924.039	.059%	98.298%
62.0	6.989	0.680	924.718	.059%	98.370%
63.0	6.848	0.673	925.391	.058%	98.442%
64.0	6.680	0.664	926.055	.057%	98.512%
65.0	6.518	0.653	926.708	.056%	98.582%
66.0	6.349	0.642	927.35	.056%	98.650%
67.0	6.180	0.630	927.98	.054%	98.717%
68.0	6.033	0.619	928.599	.053%	98.783%
69.0	5.878	0.608	929.207	.053%	98.848%
70.0	5.752	0.597	929.804	.052%	98.911%
71.0	5.618	0.588	930.392	.051%	98.974%
72.0	5.484	0.577	930.969	.050%	99.035%
73.0	5.379	0.568	931.537	.049%	99.095%
74.0	5.266	0.560	932.097	.048%	99.155%
75.0	5.154	0.551	932.647	.048%	99.214%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.055	0.542	933.189	.047%	99.271%
77.0	4.978	0.535	933.724	.046%	99.328%
78.0	4.880	0.528	934.252	.046%	99.384%
79.0	4.802	0.520	934.772	.045%	99.440%
80.0	4.725	0.514	935.286	.044%	99.494%
81.0	4.662	0.508	935.793	.044%	99.548%
82.0	4.613	0.503	936.296	.043%	99.602%
83.0	4.570	0.499	936.795	.043%	99.655%
84.0	4.528	0.496	937.291	.043%	99.708%
85.0	4.380	0.486	937.777	.042%	99.759%
86.0	4.282	0.474	938.251	.041%	99.810%
87.0	4.155	0.462	938.712	.040%	99.859%
88.0	4.071	0.451	939.163	.039%	99.907%
89.0	3.994	0.442	939.605	.038%	99.954%
90.0	3.945	0.435	940.04	.038%	100.000%

Zonal flux distribution table

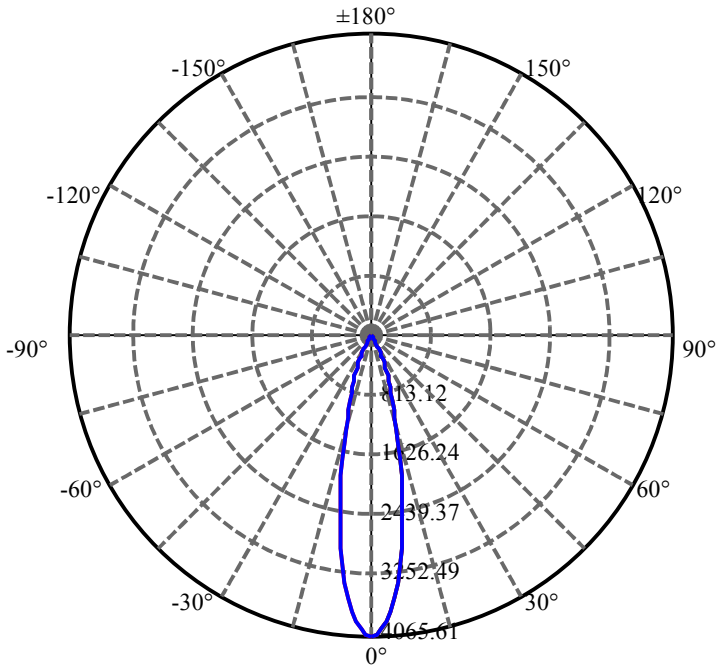
ZONAL LUMEN SUMMARY

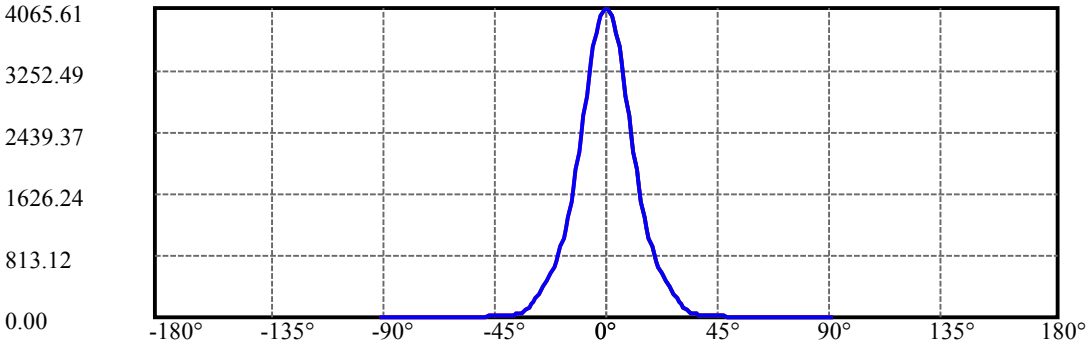
Zone	Lumens	%Lamp	%Fixt
0-30	865.99	74.87%	92.12%
0-40	902.99	78.07%	96.06%
0-60	923.35	79.83%	98.22%
0-90	939.61	81.23%	99.95%
0-120	939.61	81.23%	99.95%
0-180	940.04	81.27%	100.00%
60-90	16.95	1.47%	1.80%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.98	752.03	65.02%	80.00%

ZONAL LUMEN SUMMARY

0-10	301.23
10-20	376.08
20-30	188.68
30-40	37.00
40-50	12.73
50-60	7.63
60-70	6.45
70-80	5.48
80-90	4.32
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):

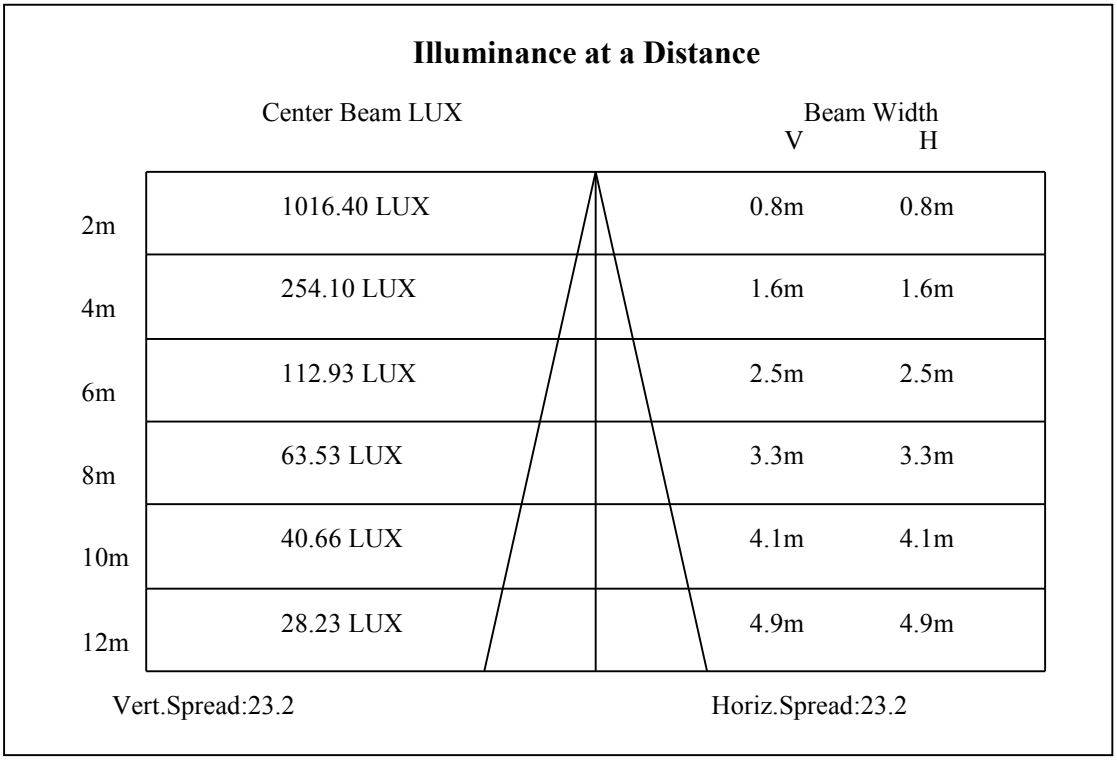
C0/C180:

C90/C270:

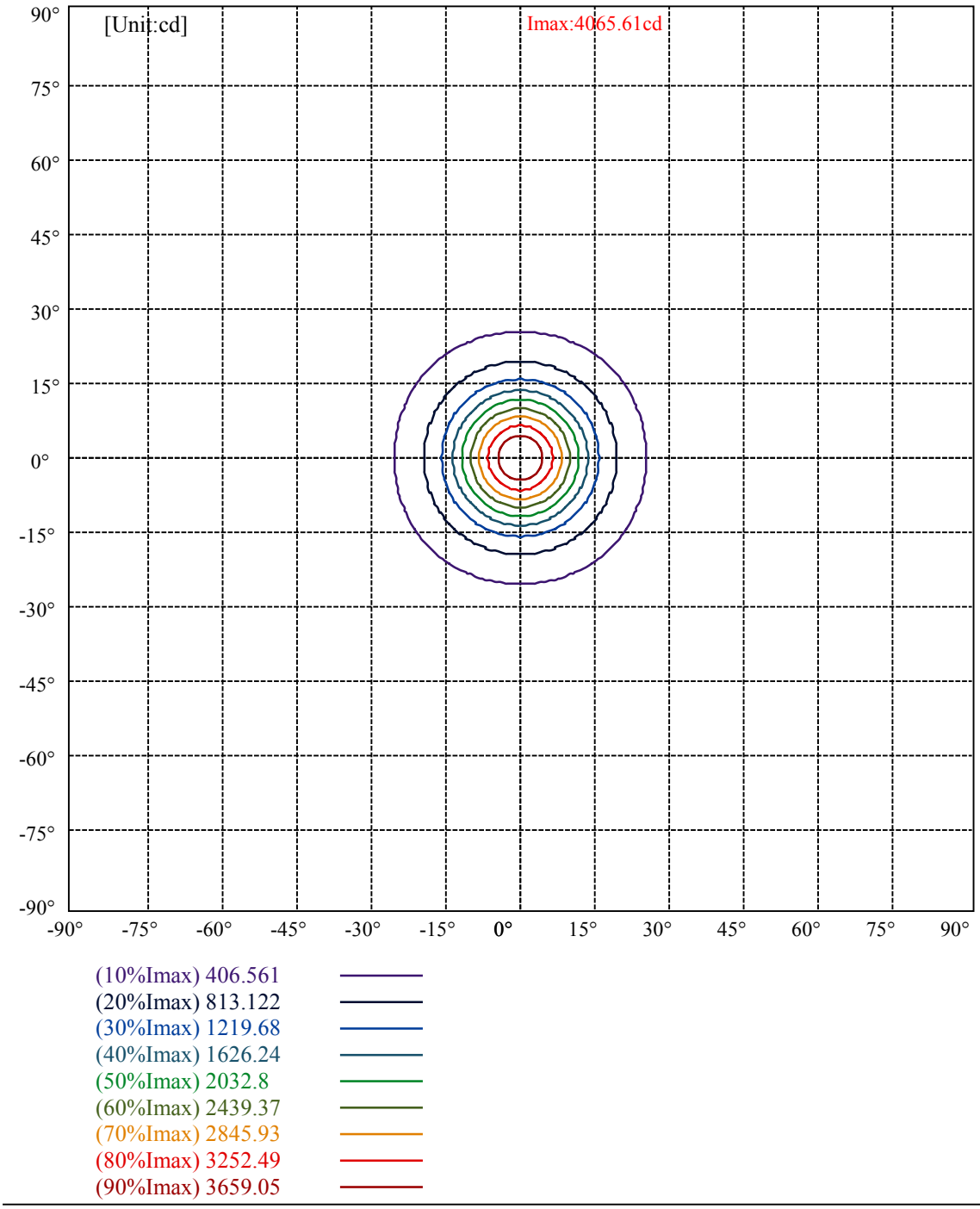
Field angle(10%Imax):C0/180Left:25.1 Right:25.1
:C90/270Left:25.1 Right:25.1

Beam Angle(50%Imax):C0/180Left:11.6 Right:11.6
:C90/270Left:11.6 Right:11.6

Lux distance Curve



ISO-Intensity(V-H)

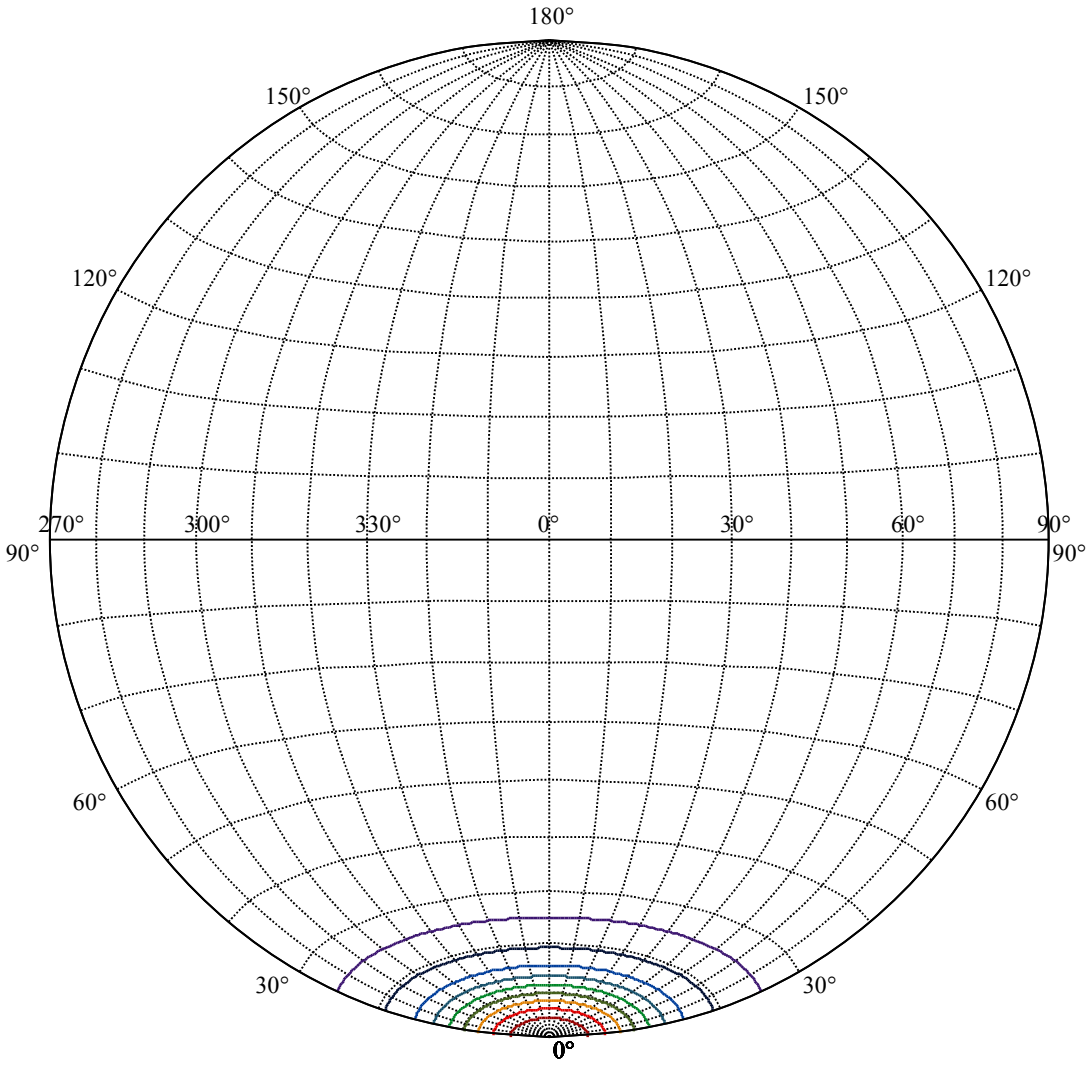


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/30
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



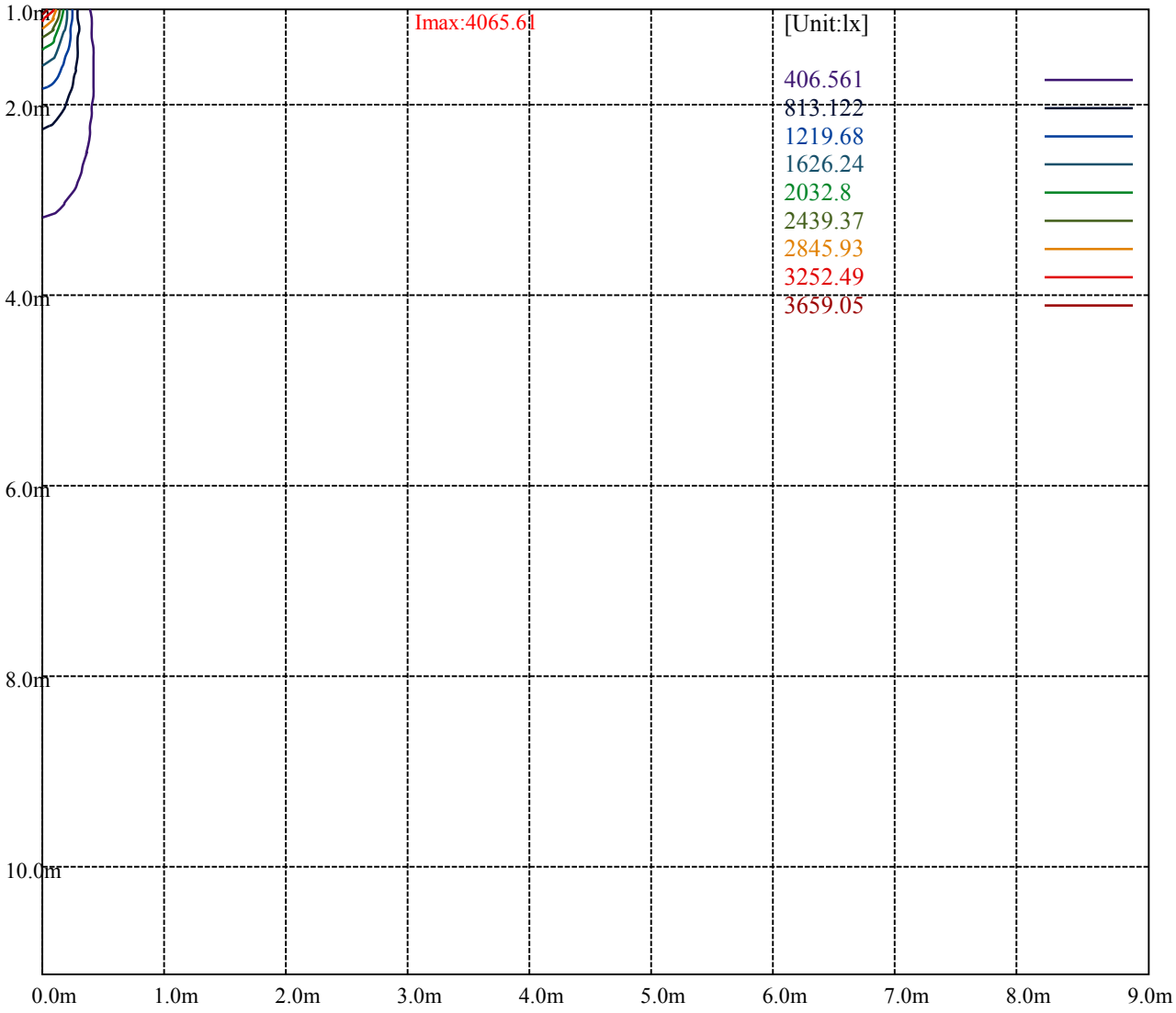
House [Unit:cd] Road

Imax:4065.61

(10%Imax) 406.561
(20%Imax) 813.122
(30%Imax) 1219.68
(40%Imax) 1626.24
(50%Imax) 2032.8
(60%Imax) 2439.37
(70%Imax) 2845.93
(80%Imax) 3252.49
(90%Imax) 3659.05

Equipment: GMS1980 Date: 2021/6/30 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/6/30
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

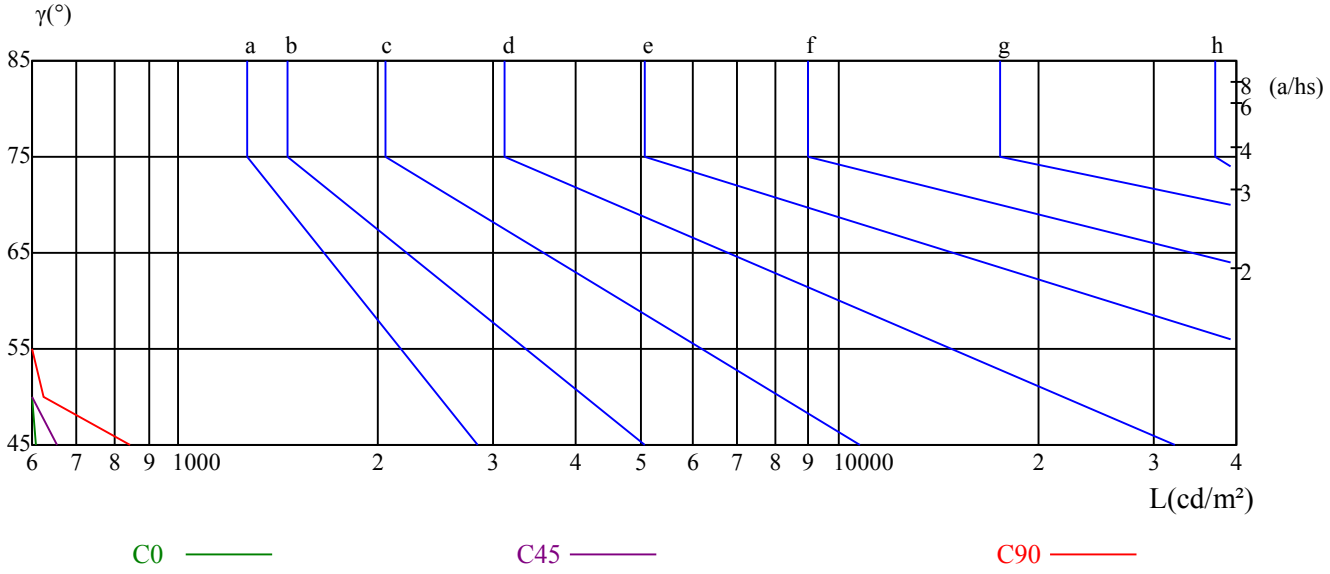
γ	45	50	55	60	65	70	75	80	85
C0	607	425	345	320	308	295	292	301	322
C45	654	463	380	357	348	339	343	363	402
C90	846	624	537	534	559	598	686	885	1399

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
601	601	601	776	776	776	1959	1959	1959

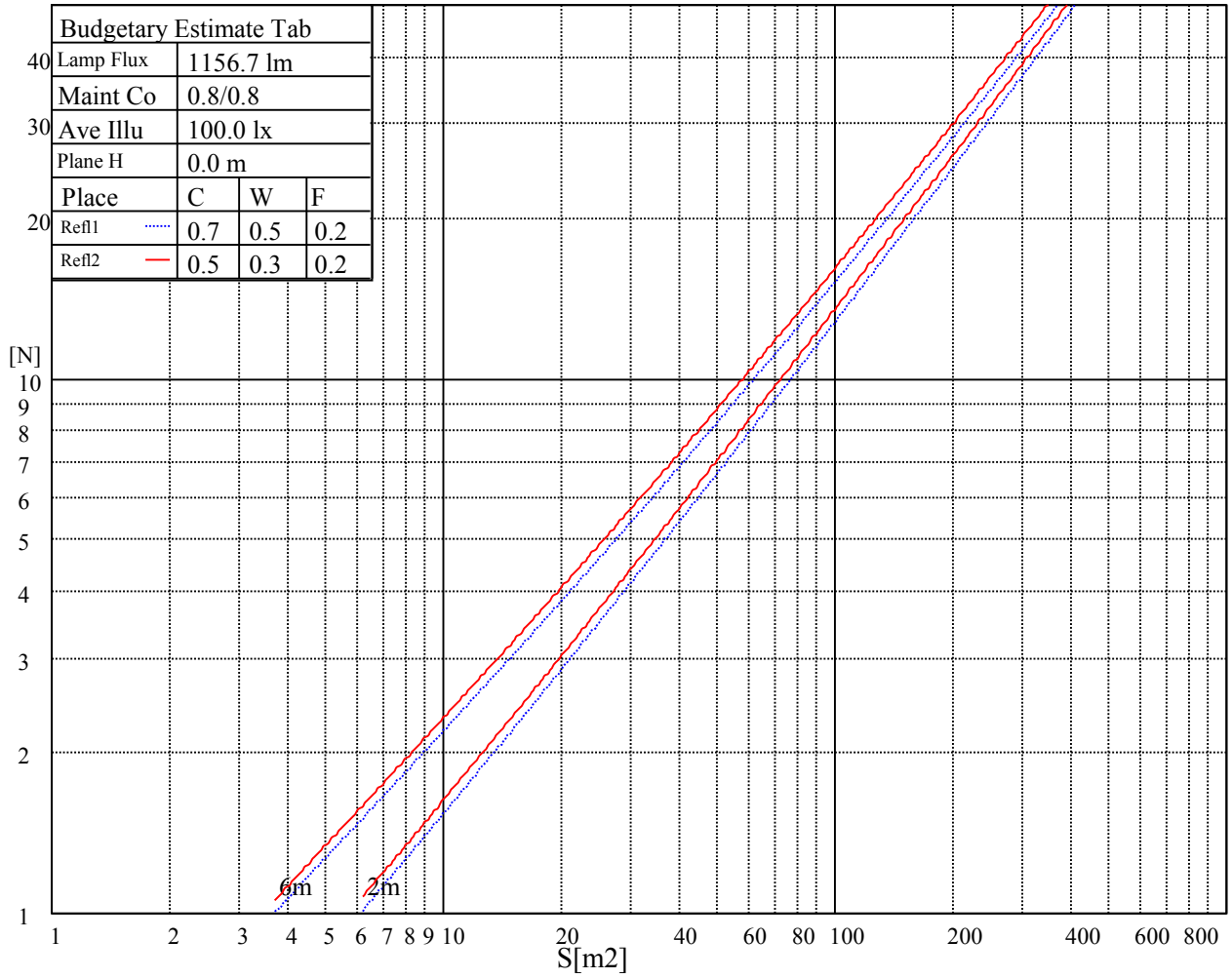
Glare Table

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

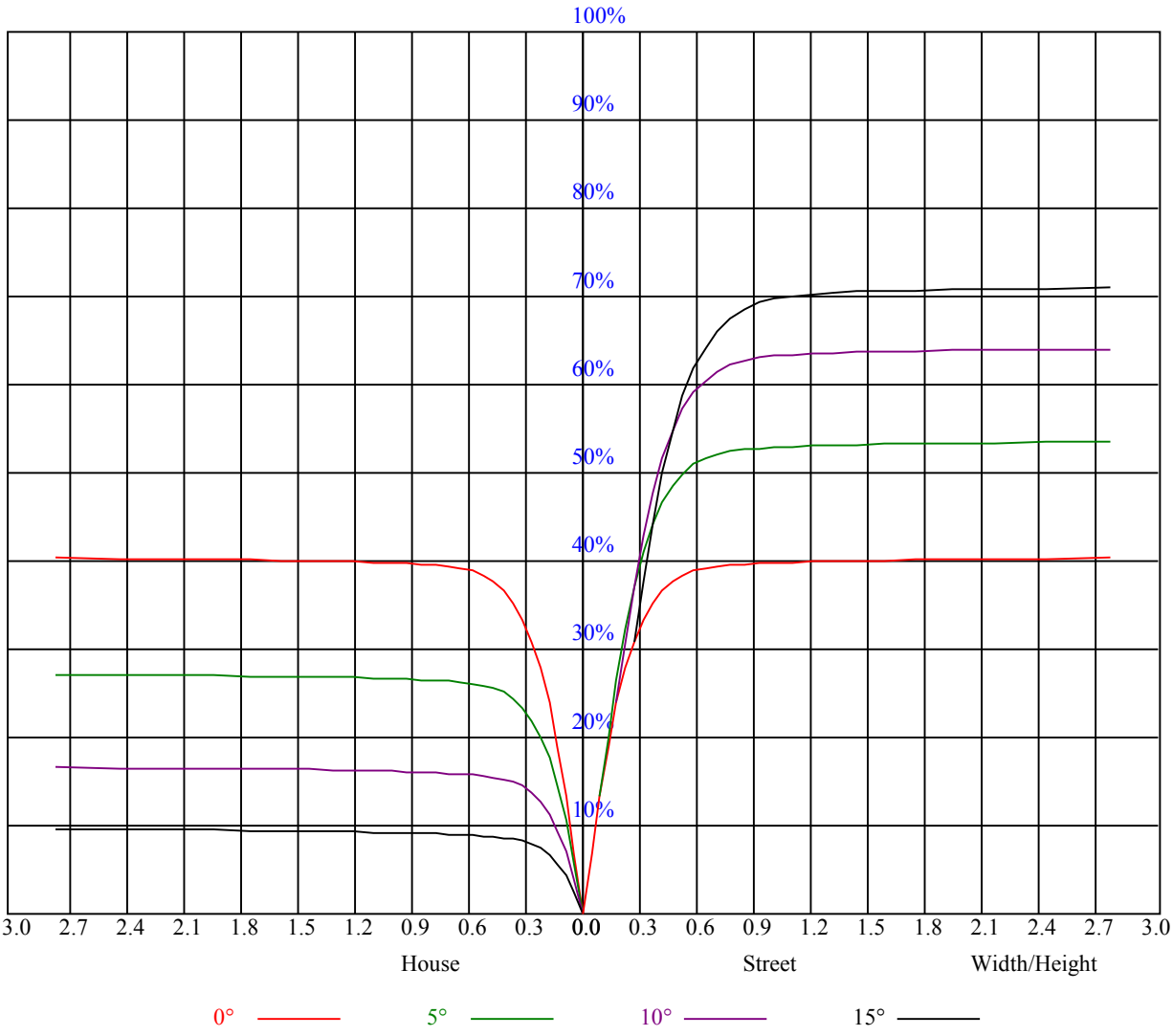


Equipment: GMS1980 Date: 2021/6/30 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.97	0.97	0.97	0.95	0.95	0.95	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.81
1	0.91	0.89	0.88	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.79	0.78
2	0.86	0.84	0.81	0.85	0.83	0.81	0.82	0.80	0.79	0.80	0.79	0.77	0.78	0.77	0.76	0.74
3	0.82	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.76	0.74	0.73	0.71
4	0.79	0.75	0.73	0.78	0.75	0.72	0.76	0.73	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	0.71	0.69	0.74	0.71	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.66
6	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.65	0.64
7	0.70	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62
8	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
9	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58
10	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.62	0.59	0.57	0.56

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/6/30	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	4039.31	4094.44	4071.38	3990.38	3889.13	3789.56	3627.56	3413.81	3206.25
45.0	4082.63	4076.44	3975.19	3880.13	3791.25	3603.38	3407.63	3219.19	2941.31
90.0	4061.81	4003.31	3917.25	3785.06	3646.13	3471.19	3216.94	2992.50	2761.88
135.0	4078.69	4011.75	3915.56	3818.25	3669.19	3467.81	3265.88	3022.31	2792.25
180.0	4039.31	3961.69	3867.75	3693.94	3527.44	3336.75	3069.00	2842.31	2601.00
225.0	4082.63	4037.06	3953.81	3843.56	3705.19	3517.88	3326.63	3089.25	2832.19
270.0	4061.81	4065.19	3999.38	3912.19	3817.13	3682.69	3477.94	3263.63	3049.31
315.0	4078.69	4065.19	4010.63	3913.31	3804.19	3669.75	3472.31	3240.00	3022.31
360.0	4039.31	4094.44	4071.38	3990.38	3889.13	3789.56	3627.56	3413.81	3206.25

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2957.06	2694.94	2459.81	2239.88	1965.38	1760.63	1568.25	1365.19	1196.44
45.0	2684.25	2475.00	2189.81	1973.81	1773.56	1537.88	1364.63	1212.75	1059.75
90.0	2498.06	2241.56	2026.69	1795.50	1581.75	1400.63	1107.90	1092.26	967.78
135.0	2529.56	2272.50	2051.44	1845.56	1600.31	1416.38	1262.25	1095.75	978.19
180.0	2305.13	2085.75	1878.19	1631.25	1450.69	1289.25	1116.06	1015.88	900.11
225.0	2599.88	2343.38	2097.56	1885.50	1681.88	1451.81	1296.56	1119.21	1031.85
270.0	2795.63	2523.94	2301.19	2084.63	1822.50	1622.81	1436.63	1276.88	1106.44
315.0	2765.25	2502.56	2269.13	2022.19	1815.75	1592.44	1393.31	1121.63	1105.59
360.0	2957.06	2694.94	2459.81	2239.88	1965.38	1760.63	1568.25	1365.19	1196.44

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1074.38	952.88	849.38	766.13	682.88	614.81	547.88	488.81	435.94
45.0	950.63	855.56	751.50	676.13	607.50	532.13	483.19	429.75	370.69
90.0	853.48	767.31	689.40	601.43	539.83	493.37	427.33	374.91	329.63
135.0	879.75	779.06	685.69	612.56	544.50	495.00	437.06	374.63	329.06
180.0	807.86	716.85	642.88	561.04	508.56	461.53	393.58	345.26	288.06
225.0	902.87	813.21	731.48	639.79	574.37	518.12	464.23	397.29	352.86
270.0	992.25	893.25	785.81	706.50	632.81	563.63	502.31	453.38	387.56
315.0	954.23	872.16	786.88	680.57	618.36	556.93	496.97	442.07	383.85
360.0	1074.38	952.88	849.38	766.13	682.88	614.81	547.88	488.81	435.94

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	380.25	318.94	288.00	225.62	173.81	128.81	105.64	70.48	52.14
45.0	318.38	286.88	220.73	175.33	125.04	96.58	65.19	50.68	42.69
90.0	268.82	228.60	186.24	133.43	109.74	70.37	54.39	46.13	40.73
135.0	285.19	230.34	179.83	134.66	105.86	69.08	56.03	47.03	41.68
180.0	246.15	197.55	147.38	119.19	82.01	61.48	51.13	44.83	39.94
225.0	292.33	247.67	206.21	150.58	121.78	86.96	63.00	51.69	45.06
270.0	341.44	294.75	232.59	193.95	142.71	111.49	79.48	59.29	46.58
315.0	335.19	276.64	233.16	191.08	140.68	111.43	73.91	56.70	46.74
360.0	380.25	318.94	288.00	225.62	173.81	128.81	105.64	70.48	52.14

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	44.16	38.93	34.99	31.28	28.01	25.48	23.01	20.76	18.96
45.0	38.48	34.82	30.77	27.96	25.54	23.01	20.70	18.96	17.21
90.0	36.28	32.85	29.81	26.49	24.19	21.99	19.58	17.94	16.54
135.0	37.63	34.65	30.26	27.56	25.43	22.61	20.42	18.96	17.10
180.0	36.11	32.29	29.36	26.38	23.68	21.60	19.74	17.72	16.31
225.0	38.98	35.04	31.67	27.84	25.37	23.01	20.70	18.73	17.16
270.0	41.06	36.62	32.46	28.86	26.16	23.51	21.21	19.41	17.66
315.0	40.61	36.56	33.08	29.19	26.44	24.13	21.94	19.52	17.83
360.0	44.16	38.93	34.99	31.28	28.01	25.48	23.01	20.76	18.96

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	17.44	15.92	14.57	13.50	12.49	11.42	10.69	10.07	9.45
45.0	15.69	14.51	13.28	12.38	11.48	10.63	10.01	9.51	8.94
90.0	14.96	13.89	12.88	11.76	11.08	10.35	9.68	9.23	8.83
135.0	15.64	14.63	13.28	12.43	11.59	10.74	10.13	9.62	9.06
180.0	15.08	13.67	12.66	11.87	11.08	10.35	9.79	9.28	8.89
225.0	15.64	14.40	13.22	12.15	11.36	10.58	9.96	9.39	8.94
270.0	16.26	14.91	13.67	12.71	11.81	10.86	10.24	9.68	9.11
315.0	16.43	14.96	13.67	12.71	11.70	10.86	10.18	9.62	9.11
360.0	17.44	15.92	14.57	13.50	12.49	11.42	10.69	10.07	9.45

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.00	8.61	8.21	7.93	7.76	7.59	7.43	7.26	7.20
45.0	8.55	8.21	7.93	7.65	7.54	7.37	7.26	7.14	7.03
90.0	8.33	8.10	7.82	7.59	7.48	7.31	7.20	7.09	6.86
135.0	8.66	8.38	8.04	7.88	7.71	7.48	7.31	7.14	6.98
180.0	8.44	8.16	7.93	7.76	7.54	7.43	7.20	7.03	6.92
225.0	8.49	8.21	7.93	7.71	7.54	7.37	7.20	7.03	6.86
270.0	8.72	8.38	8.10	7.82	7.59	7.43	7.31	7.14	7.03
315.0	8.66	8.27	7.99	7.76	7.54	7.43	7.26	7.09	7.03
360.0	9.00	8.61	8.21	7.93	7.76	7.59	7.43	7.26	7.20

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.09	6.92	6.86	6.64	6.47	6.30	6.13	6.02	5.79
45.0	6.86	6.75	6.58	6.41	6.30	6.08	5.96	5.85	5.68
90.0	6.81	6.58	6.41	6.24	6.08	5.96	5.79	5.63	5.57
135.0	6.86	6.64	6.47	6.36	6.13	5.96	5.85	5.74	5.63
180.0	6.69	6.53	6.36	6.19	5.96	5.85	5.68	5.57	5.46
225.0	6.75	6.58	6.36	6.19	6.02	5.91	5.74	5.63	5.51
270.0	6.86	6.69	6.53	6.36	6.24	6.08	5.91	5.79	5.63
315.0	6.86	6.75	6.58	6.41	6.24	6.13	5.96	5.79	5.68
360.0	7.09	6.92	6.86	6.64	6.47	6.30	6.13	6.02	5.79

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.68	5.57	5.46	5.29	5.23	5.12	5.01	4.89	4.78
45.0	5.57	5.46	5.34	5.18	5.06	5.01	4.89	4.84	4.73
90.0	5.40	5.29	5.23	5.12	5.01	4.95	4.84	4.78	4.73
135.0	5.46	5.40	5.23	5.18	5.06	5.01	4.89	4.84	4.78
180.0	5.34	5.23	5.12	5.01	4.89	4.84	4.78	4.67	4.61
225.0	5.34	5.23	5.18	5.06	5.01	4.89	4.78	4.73	4.61
270.0	5.51	5.40	5.29	5.18	5.06	5.01	4.89	4.84	4.73
315.0	5.57	5.46	5.29	5.23	5.12	5.01	4.95	4.84	4.84
360.0	5.68	5.57	5.46	5.29	5.23	5.12	5.01	4.89	4.78

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.73	4.67	4.61	4.56	4.50	4.44	4.33	4.22	4.11
45.0	4.61	4.56	4.56	4.50	4.44	4.39	4.22	4.05	3.99
90.0	4.67	4.61	4.56	4.56	4.39	4.28	4.11	4.05	3.94
135.0	4.73	4.73	4.73	4.78	4.44	4.28	4.11	4.05	3.99
180.0	4.56	4.50	4.39	4.33	4.22	4.16	4.05	3.99	3.94
225.0	4.56	4.50	4.44	4.39	4.28	4.22	4.11	4.05	3.99
270.0	4.67	4.61	4.50	4.44	4.33	4.22	4.16	4.05	3.99
315.0	4.78	4.73	4.78	4.67	4.44	4.28	4.16	4.11	3.99
360.0	4.73	4.67	4.61	4.56	4.50	4.44	4.33	4.22	4.11

Intensity data(cd)

C/γ(°)	90.0
0.0	3.99
45.0	3.94
90.0	3.94
135.0	3.94
180.0	3.94
225.0	3.94
270.0	3.94
315.0	3.94
360.0	3.99