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Nata

LumCAT: 1-0926-M
Luminaire: 92.70.124.00

Report No: 210715-B004	Voltage(V): 36.5600
Test No: 210715-C004	Current(A): 0.3050
LampCAT: Fortimo LED SLM 1202 G7N	Power (W): 10.8450
Lamp flux(lm): 1428.3	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): 1120.90
Efficiency(%): 78.48%
Lumens(lm)/Power(W): 103.36
Central intensity(cd): 8165.391
Maximum intensity(cd): 8165.391
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=17.8
[C90/270]Total=17.8
Field angle(10%Imax): [C0/180]Total=39.0
[C90/270]Total=39.0
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.34 C90_270=0.34
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.48%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.595%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8165.391	0.000	0	.000%	.000%
1.0	8049.445	7.758	7.758	.543%	.692%
2.0	7704.914	22.612	30.371	1.583%	2.709%
3.0	7228.758	35.716	66.087	2.501%	5.896%
4.0	6756.469	46.813	112.9	3.278%	10.072%
5.0	6261.609	56.003	168.903	3.921%	15.069%
6.0	5707.336	62.900	231.803	4.404%	20.680%
7.0	5119.664	67.203	299.006	4.705%	26.675%
8.0	4574.320	69.378	368.384	4.857%	32.865%
9.0	4019.906	69.652	438.036	4.876%	39.079%
10.0	3538.898	68.404	506.44	4.789%	45.181%
11.0	3144.656	66.782	573.223	4.676%	51.139%
12.0	2768.977	64.644	637.867	4.526%	56.907%
13.0	2404.898	61.401	699.268	4.299%	62.384%
14.0	2099.742	57.659	756.927	4.037%	67.528%
15.0	1829.180	53.938	810.865	3.776%	72.340%
16.0	1563.820	49.717	860.582	3.481%	76.776%
17.0	1277.065	44.240	904.822	3.097%	80.723%
18.0	1107.668	39.319	944.141	2.753%	84.230%
19.0	916.545	35.217	979.358	2.466%	87.372%
20.0	725.484	30.054	1009.412	2.104%	90.054%
21.0	547.038	24.435	1033.847	1.711%	92.233%
22.0	401.808	19.067	1052.914	1.335%	93.935%
23.0	272.946	14.158	1067.073	.991%	95.198%
24.0	180.745	9.919	1076.992	.694%	96.083%
25.0	79.383	5.915	1082.907	.414%	96.610%
26.0	37.301	2.754	1085.661	.193%	96.856%
27.0	21.038	1.427	1087.088	.100%	96.983%
28.0	16.123	0.941	1088.029	.066%	97.067%
29.0	14.140	0.792	1088.821	.055%	97.138%
30.0	12.825	0.728	1089.549	.051%	97.203%
31.0	11.637	0.681	1090.23	.048%	97.264%
32.0	10.702	0.640	1090.87	.045%	97.321%
33.0	9.970	0.609	1091.479	.043%	97.375%
34.0	9.309	0.583	1092.062	.041%	97.427%
35.0	8.782	0.562	1092.624	.039%	97.477%
36.0	8.311	0.544	1093.168	.038%	97.526%
37.0	7.952	0.530	1093.699	.037%	97.573%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	7.629	0.520	1094.219	.036%	97.619%
39.0	7.334	0.511	1094.729	.036%	97.665%
40.0	7.109	0.504	1095.233	.035%	97.710%
41.0	6.919	0.500	1095.733	.035%	97.754%
42.0	6.722	0.496	1096.228	.035%	97.799%
43.0	6.574	0.493	1096.721	.034%	97.843%
44.0	6.448	0.491	1097.212	.034%	97.886%
45.0	6.335	0.491	1097.703	.034%	97.930%
46.0	6.230	0.491	1098.195	.034%	97.974%
47.0	6.110	0.491	1098.686	.034%	98.018%
48.0	6.040	0.491	1099.177	.034%	98.062%
49.0	5.934	0.492	1099.668	.034%	98.106%
50.0	5.871	0.492	1100.161	.034%	98.150%
51.0	5.794	0.494	1100.654	.035%	98.194%
52.0	5.738	0.495	1101.149	.035%	98.238%
53.0	5.667	0.496	1101.645	.035%	98.282%
54.0	5.611	0.497	1102.142	.035%	98.326%
55.0	5.562	0.499	1102.641	.035%	98.371%
56.0	5.498	0.500	1103.141	.035%	98.415%
57.0	5.456	0.501	1103.642	.035%	98.460%
58.0	5.400	0.502	1104.144	.035%	98.505%
59.0	5.372	0.504	1104.647	.035%	98.550%
60.0	5.330	0.506	1105.153	.035%	98.595%
61.0	5.295	0.507	1105.66	.035%	98.640%
62.0	5.252	0.508	1106.168	.036%	98.685%
63.0	5.224	0.510	1106.678	.036%	98.731%
64.0	5.196	0.511	1107.189	.036%	98.777%
65.0	5.161	0.513	1107.701	.036%	98.822%
66.0	5.140	0.514	1108.215	.036%	98.868%
67.0	5.112	0.515	1108.731	.036%	98.914%
68.0	5.098	0.517	1109.248	.036%	98.960%
69.0	5.070	0.519	1109.767	.036%	99.007%
70.0	5.055	0.520	1110.287	.036%	99.053%
71.0	5.041	0.522	1110.809	.037%	99.099%
72.0	5.020	0.523	1111.332	.037%	99.146%
73.0	5.006	0.524	1111.856	.037%	99.193%
74.0	4.978	0.525	1112.381	.037%	99.240%
75.0	4.978	0.526	1112.907	.037%	99.287%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.957	0.527	1113.434	.037%	99.334%
77.0	4.957	0.529	1113.963	.037%	99.381%
78.0	4.950	0.530	1114.493	.037%	99.428%
79.0	4.943	0.532	1115.025	.037%	99.476%
80.0	4.929	0.532	1115.557	.037%	99.523%
81.0	4.929	0.533	1116.09	.037%	99.571%
82.0	4.922	0.534	1116.624	.037%	99.618%
83.0	4.915	0.535	1117.159	.037%	99.666%
84.0	4.908	0.535	1117.694	.037%	99.714%
85.0	4.908	0.536	1118.23	.038%	99.762%
86.0	4.887	0.535	1118.765	.037%	99.809%
87.0	4.873	0.534	1119.299	.037%	99.857%
88.0	4.873	0.534	1119.833	.037%	99.905%
89.0	4.880	0.535	1120.368	.037%	99.952%
90.0	4.873	0.535	1120.903	.037%	100.000%

Zonal flux distribution table

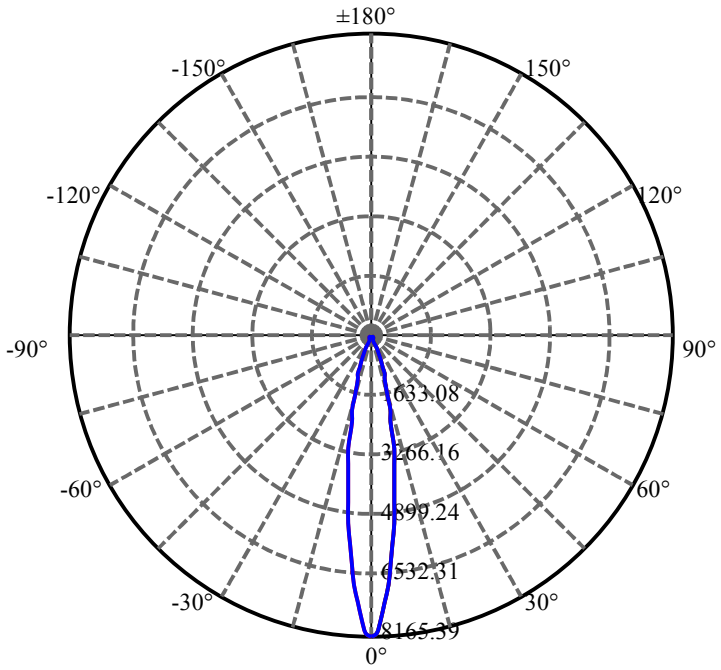
ZONAL LUMEN SUMMARY

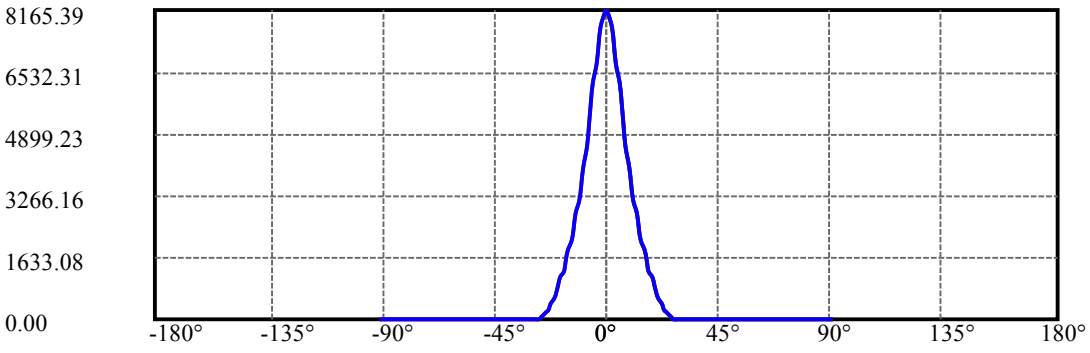
Zone	Lumens	%Lamp	%Fixt
0-30	1089.55	76.28%	97.20%
0-40	1095.23	76.68%	97.71%
0-60	1105.15	77.37%	98.59%
0-90	1120.37	78.44%	99.95%
0-120	1120.37	78.44%	99.95%
0-180	1120.90	78.48%	100.00%
60-90	15.72	1.10%	1.40%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.82	896.72	62.78%	80.00%

ZONAL LUMEN SUMMARY

0-10	506.44
10-20	502.97
20-30	80.14
30-40	5.68
40-50	4.93
50-60	4.99
60-70	5.13
70-80	5.27
80-90	4.81
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):

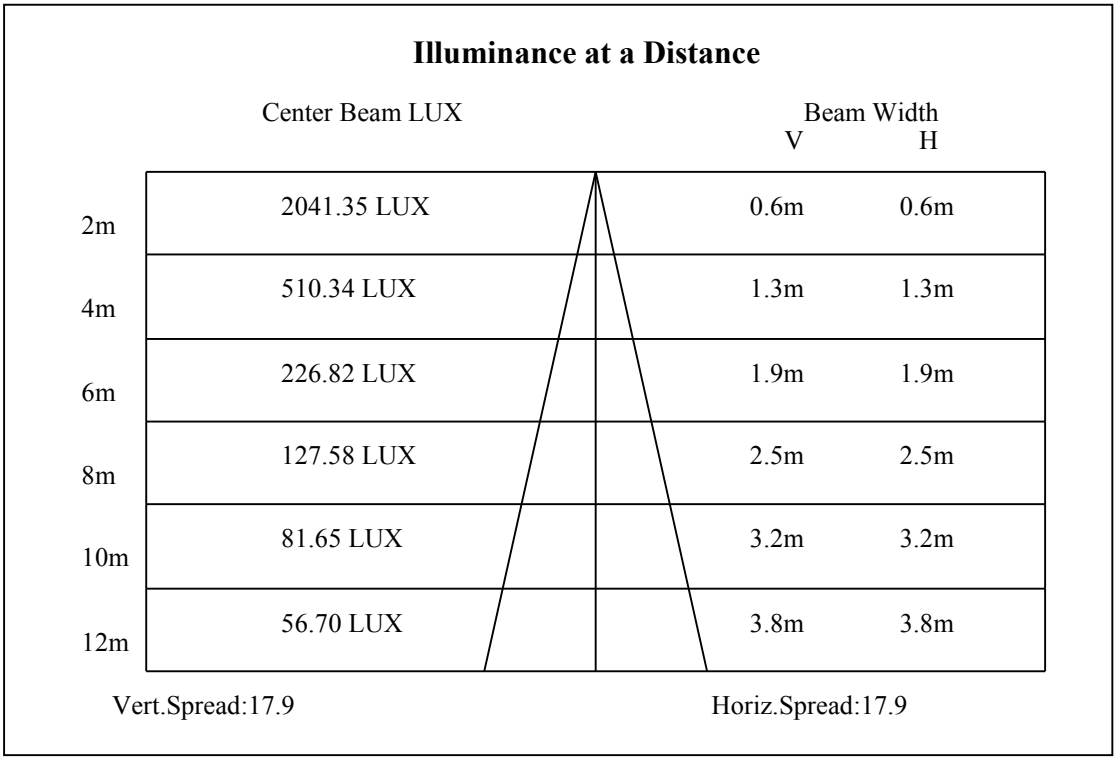
C0/C180:

C90/C270:

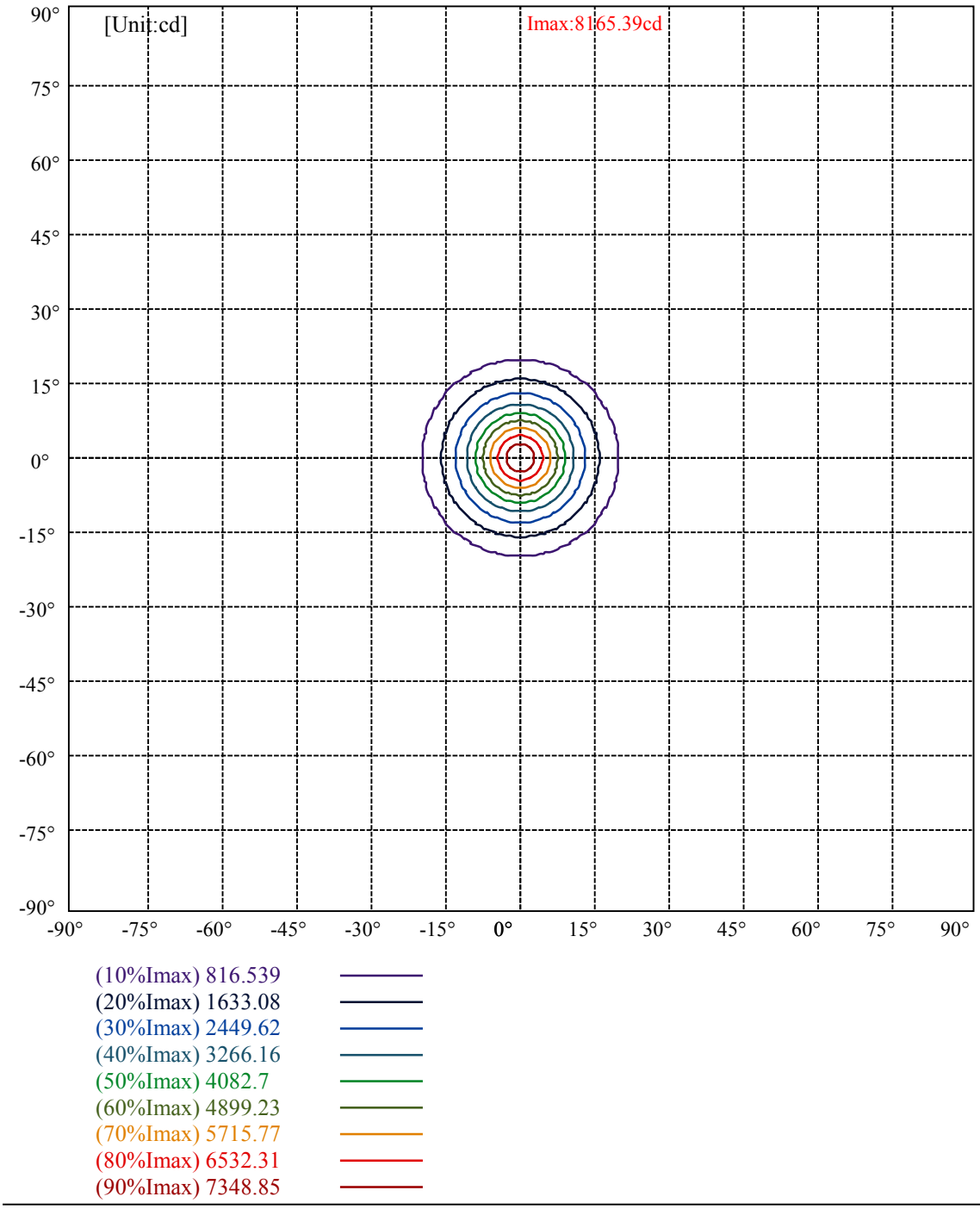
Field angle(10%Imax):C0/180Left:19.5 Right:19.5
:C90/270Left:19.5 Right:19.5

Beam Angle(50%Imax):C0/180Left:8.9 Right:8.9
:C90/270Left:8.9 Right:8.9

Lux distance Curve



ISO-Intensity(V-H)



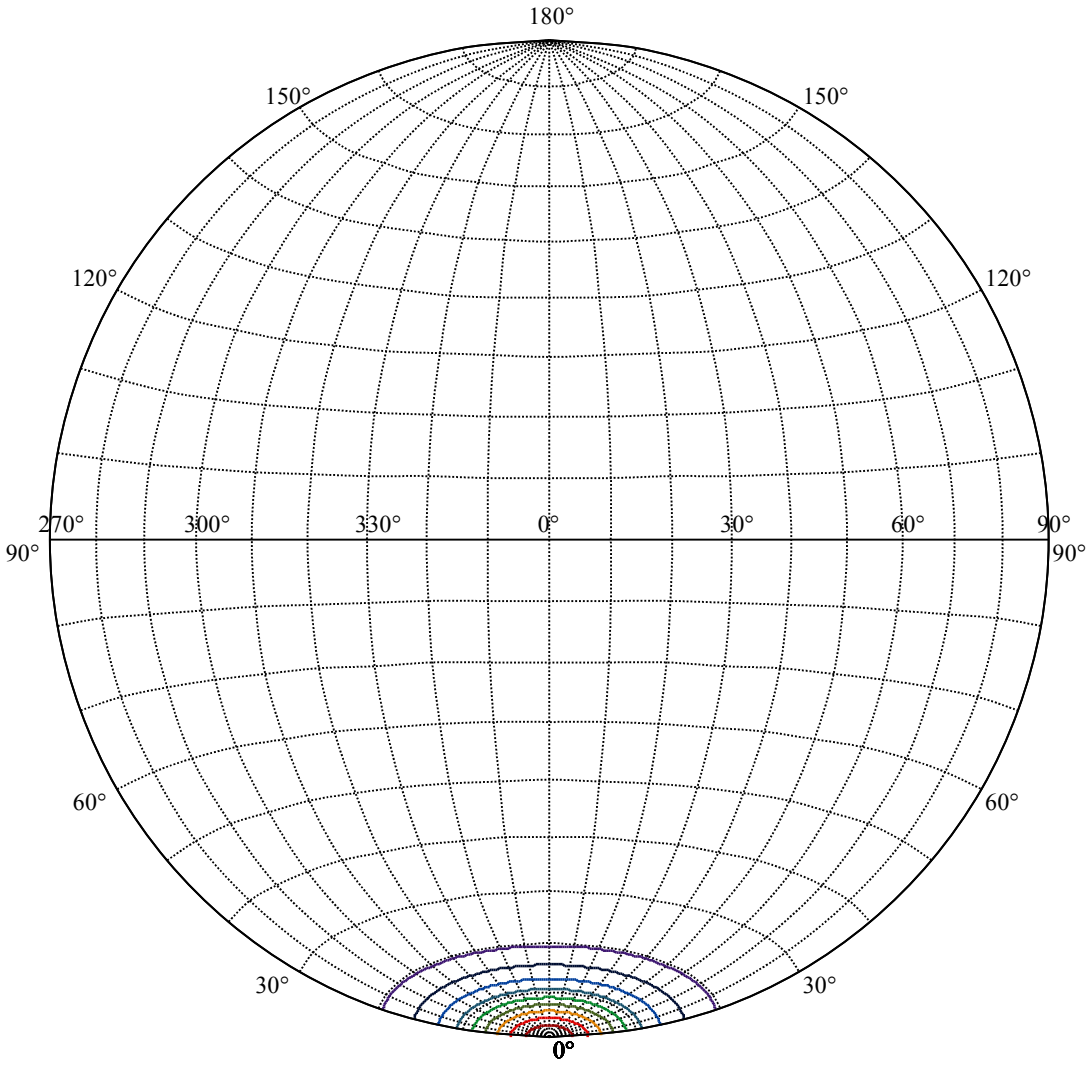
(10%Imax) 816.539
(20%Imax) 1633.08
(30%Imax) 2449.62
(40%Imax) 3266.16
(50%Imax) 4082.7
(60%Imax) 4899.23
(70%Imax) 5715.77
(80%Imax) 6532.31
(90%Imax) 7348.85

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:8165.39

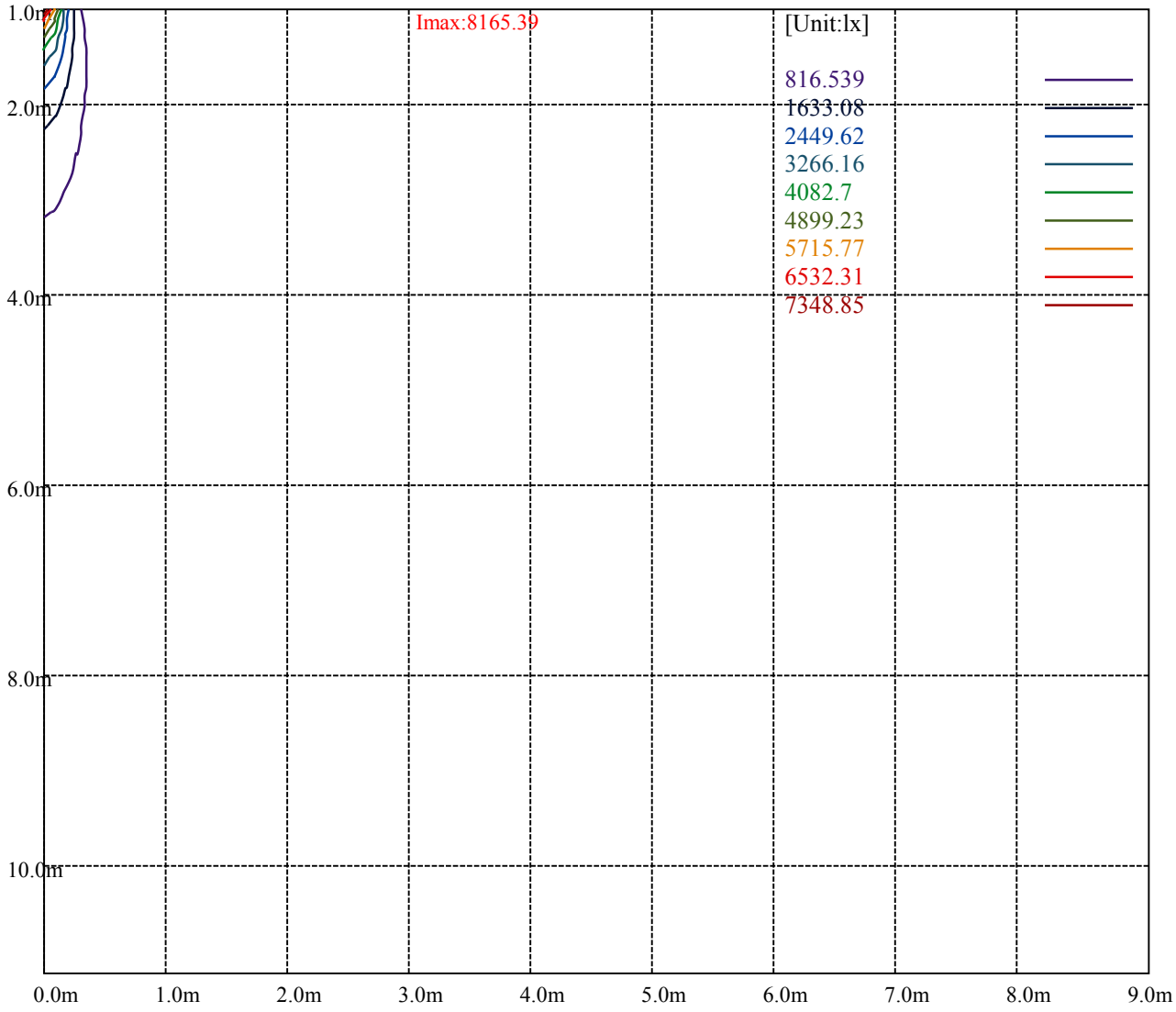
(10%Imax) 816.539
(20%Imax) 1633.08
(30%Imax) 2449.62
(40%Imax) 3266.16
(50%Imax) 4082.7
(60%Imax) 4899.23
(70%Imax) 5715.77
(80%Imax) 6532.31
(90%Imax) 7348.85

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

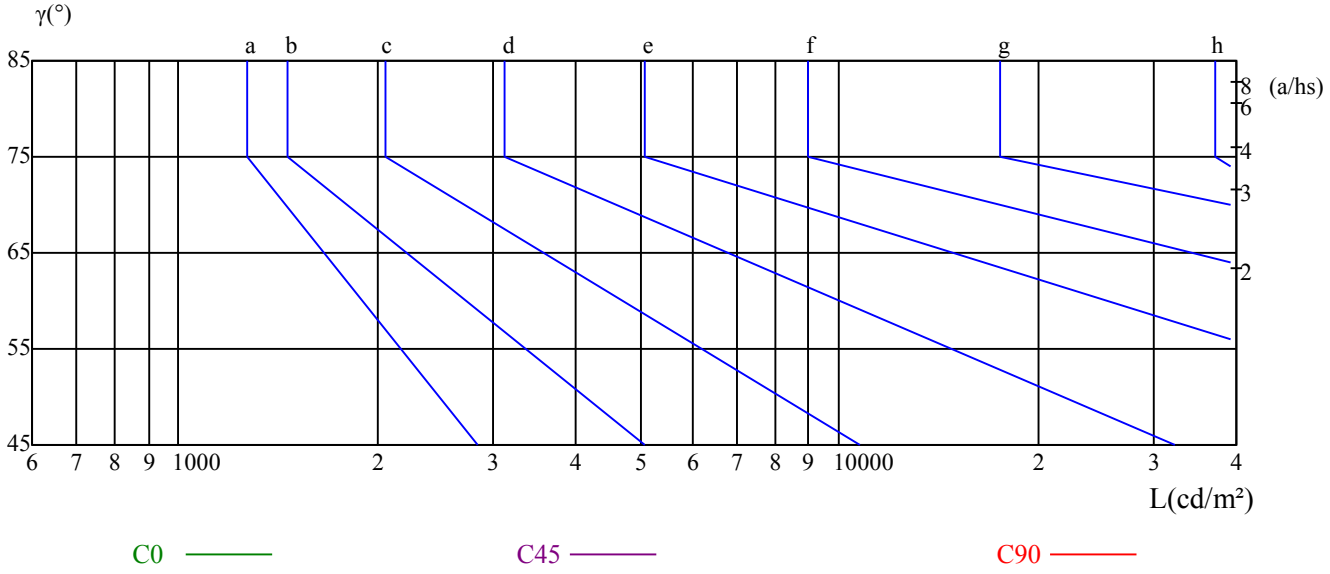
γ	45	50	55	60	65	70	75	80	85
C0	242	233	231	235	244	259	282	314	361
C45	261	254	255	262	276	298	331	379	450
C90	337	342	360	392	443	526	663	923	1567

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
476	476	476	750	750	750	2195	2195	2195

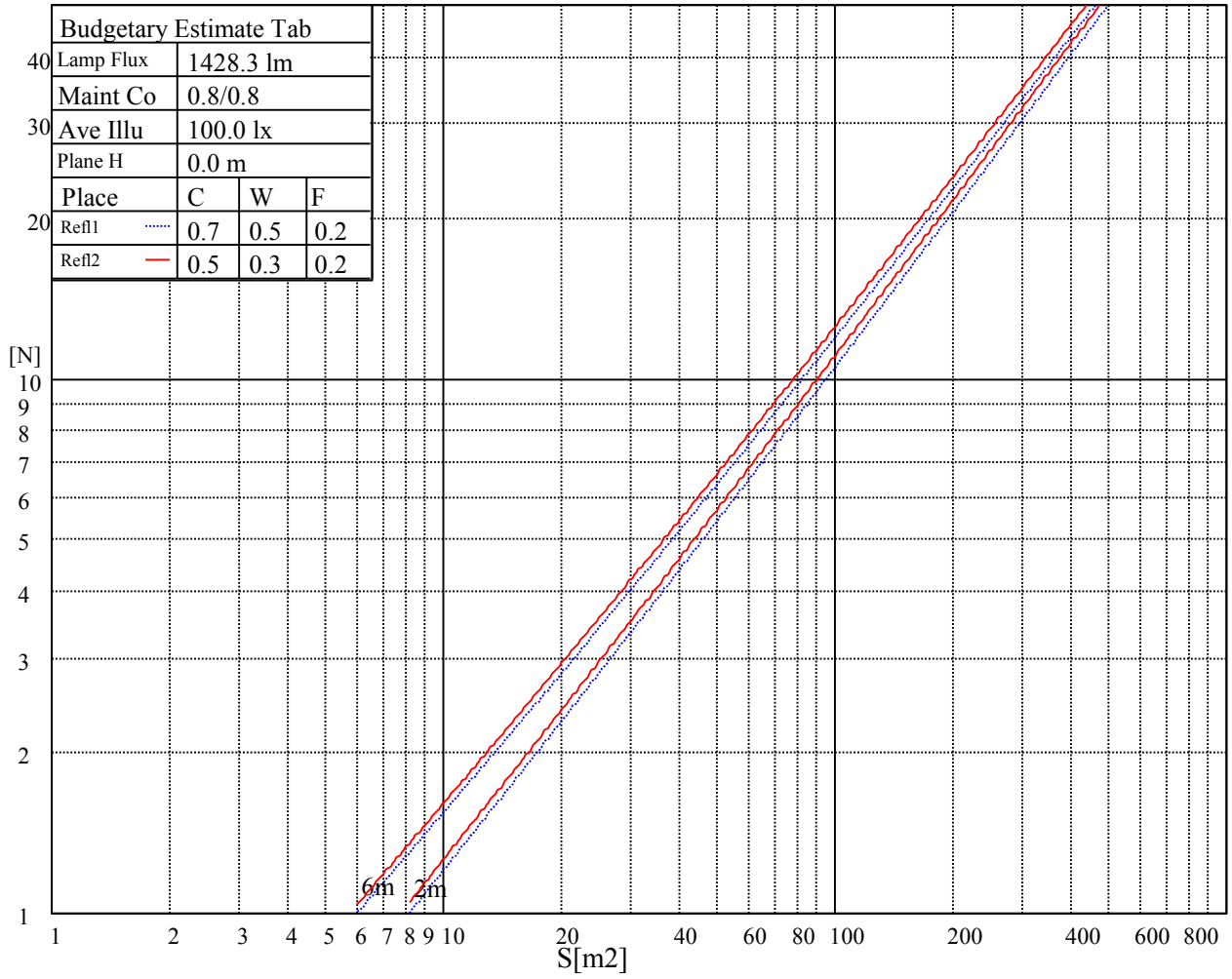
Glare Table

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

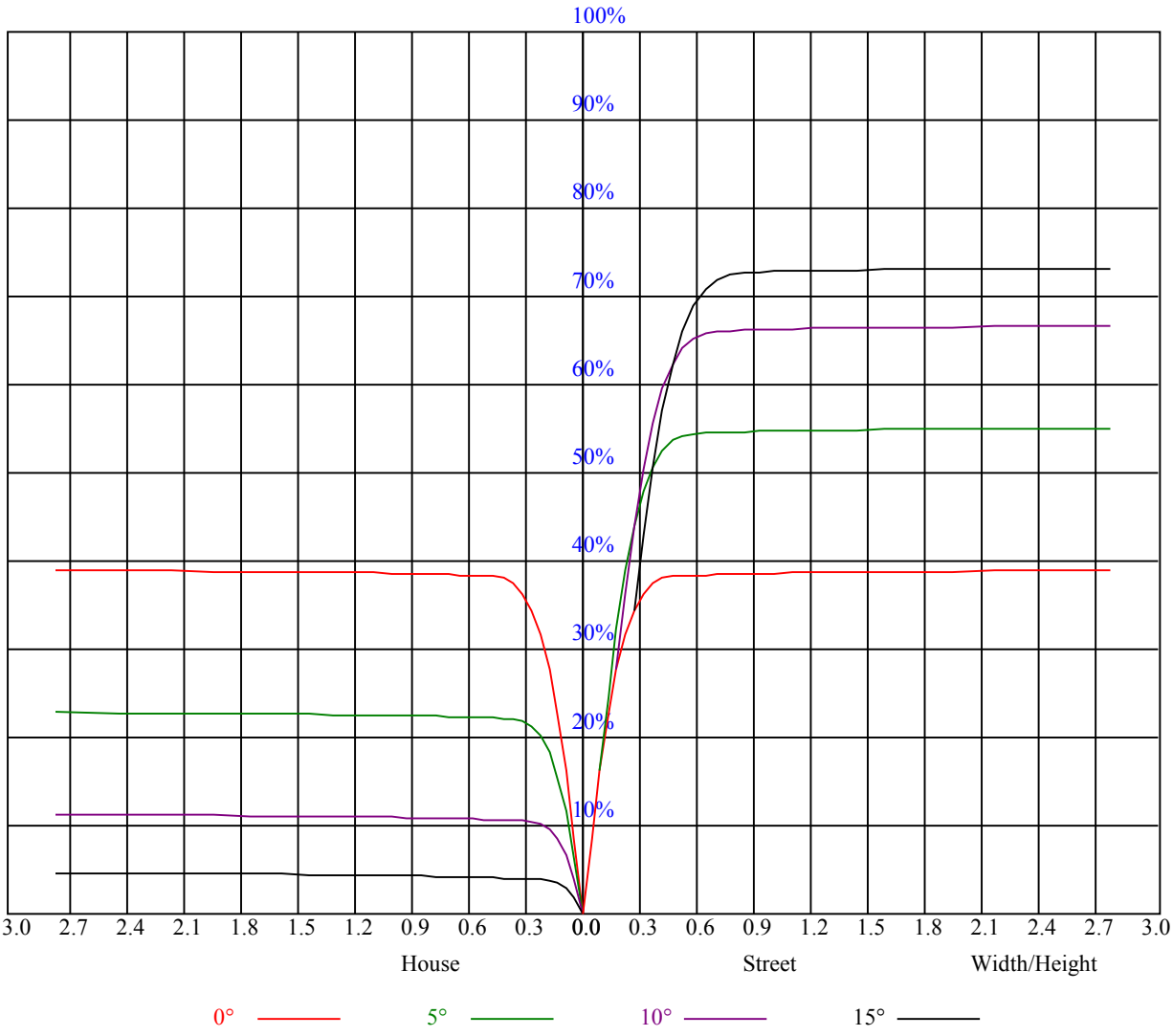


Equipment: GMS1980 Date: 2021/7/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.89	0.87	0.86	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.78	0.78	0.77	0.76
2	0.85	0.83	0.81	0.84	0.82	0.80	0.81	0.80	0.78	0.79	0.78	0.77	0.77	0.76	0.75	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	0.75	0.74	0.73	0.72
4	0.79	0.76	0.74	0.78	0.76	0.74	0.77	0.74	0.73	0.75	0.73	0.72	0.74	0.72	0.71	0.70
5	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.71	0.74	0.72	0.70	0.73	0.71	0.69	0.69
6	0.74	0.72	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.68	0.67
7	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.71	0.68	0.67	0.70	0.68	0.66	0.66
8	0.71	0.68	0.66	0.70	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.65	0.69	0.67	0.65	0.64
9	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.63
10	0.68	0.65	0.63	0.67	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.63	0.66	0.64	0.63	0.62

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/7/15	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	8137.69	8107.88	7844.06	7419.38	6927.75	6464.81	5959.13	5357.25	4815.56
45.0	8147.81	8146.13	7821.00	7362.00	6941.81	6405.19	5908.50	5358.38	4729.50
90.0	8230.50	8102.25	7750.69	7323.19	6829.88	6338.25	5722.31	5173.31	4609.69
135.0	8145.56	8179.88	7938.56	7518.38	7022.81	6492.38	5988.94	5409.56	4858.31
180.0	8137.69	7959.94	7544.81	6950.25	6556.50	6077.81	5469.19	4842.56	4331.25
225.0	8147.81	7968.38	7581.94	7041.94	6605.44	6132.94	5550.19	4948.31	4433.06
270.0	8230.50	8046.56	7653.38	7256.25	6679.13	6186.38	5640.75	5040.56	4510.69
315.0	8145.56	7884.56	7504.88	6958.69	6488.44	5995.13	5419.69	4827.38	4306.50
360.0	8137.69	8107.88	7844.06	7419.38	6927.75	6464.81	5959.13	5357.25	4815.56

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4226.63	3718.13	3315.94	2946.38	2511.56	2208.38	1935.00	1624.50	1393.31
45.0	4150.13	3691.69	3227.06	2848.50	2467.13	2130.75	1865.25	1600.88	1343.25
90.0	4037.06	3529.13	3131.44	2735.44	2376.56	2089.13	1806.75	1572.19	1248.75
135.0	4273.88	3755.81	3341.81	2967.75	2543.06	2243.25	1970.44	1666.13	1432.69
180.0	3810.94	3353.06	2983.50	2599.31	2299.50	1999.13	1747.69	1485.00	1120.05
225.0	3905.44	3446.44	3075.19	2688.75	2374.88	2057.63	1773.00	1534.50	1239.75
270.0	3974.06	3501.00	3132.00	2791.69	2400.75	2112.19	1851.75	1576.13	1326.38
315.0	3781.13	3315.94	2950.31	2574.00	2265.75	1957.50	1683.56	1451.25	1112.34
360.0	4226.63	3718.13	3315.94	2946.38	2511.56	2208.38	1935.00	1624.50	1393.31

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1181.25	970.88	775.13	610.31	444.38	300.94	285.75	100.97	47.81
45.0	1141.31	972.00	722.25	567.56	432.00	286.88	165.15	91.52	38.48
90.0	1073.19	909.90	739.07	522.62	402.86	279.17	143.27	80.16	36.96
135.0	1225.69	1017.00	811.13	641.81	477.56	334.69	291.94	111.88	50.57
180.0	1051.71	846.45	676.13	505.35	352.24	229.89	134.16	55.13	27.73
225.0	1069.65	886.39	714.88	515.53	377.49	250.14	142.37	62.16	32.40
270.0	1123.88	916.88	722.81	558.00	401.06	290.81	157.22	82.58	36.79
315.0	994.67	812.87	642.49	455.12	326.87	211.05	126.11	50.68	27.68
360.0	1181.25	970.88	775.13	610.31	444.38	300.94	285.75	100.97	47.81

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	24.98	17.83	15.41	13.89	12.43	11.42	10.63	9.73	9.17
45.0	21.60	16.88	14.40	12.99	11.87	10.91	10.13	9.51	9.00
90.0	19.91	15.81	14.12	12.77	11.76	10.74	10.01	9.45	8.89
135.0	24.47	16.43	14.40	13.16	11.70	10.97	10.13	9.45	8.94
180.0	17.78	14.29	12.66	11.59	10.58	9.79	9.23	8.66	8.21
225.0	19.58	15.75	13.84	12.43	11.42	10.46	9.73	9.06	8.61
270.0	21.09	16.31	14.34	13.05	11.81	10.80	10.07	9.45	8.78
315.0	18.90	15.69	13.95	12.71	11.53	10.52	9.84	9.17	8.66
360.0	24.98	17.83	15.41	13.89	12.43	11.42	10.63	9.73	9.17

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	8.66	8.21	7.82	7.48	7.20	7.03	6.81	6.58	6.47
45.0	8.55	8.21	7.82	7.59	7.37	7.09	6.92	6.75	6.58
90.0	8.44	8.10	7.82	7.48	7.26	7.09	6.86	6.69	6.58
135.0	8.49	8.16	7.76	7.54	7.31	7.09	6.86	6.69	6.58
180.0	7.88	7.54	7.31	7.03	6.81	6.69	6.53	6.41	6.30
225.0	8.04	7.71	7.43	7.14	6.92	6.75	6.58	6.47	6.36
270.0	8.27	7.93	7.59	7.26	7.09	6.86	6.64	6.58	6.41
315.0	8.16	7.76	7.48	7.14	6.92	6.75	6.58	6.41	6.30
360.0	8.66	8.21	7.82	7.48	7.20	7.03	6.81	6.58	6.47

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	6.36	6.24	6.13	6.08	5.91	5.85	5.74	5.74	5.63
45.0	6.47	6.41	6.24	6.19	6.08	6.02	5.91	5.85	5.79
90.0	6.47	6.36	6.24	6.13	6.08	5.96	5.91	5.79	5.74
135.0	6.47	6.36	6.24	6.13	6.02	5.96	5.91	5.85	5.74
180.0	6.19	6.08	5.96	5.91	5.79	5.74	5.68	5.63	5.57
225.0	6.19	6.13	6.02	5.96	5.85	5.79	5.74	5.68	5.63
270.0	6.30	6.19	6.08	6.02	5.91	5.85	5.79	5.74	5.68
315.0	6.24	6.08	5.96	5.91	5.85	5.79	5.68	5.63	5.57
360.0	6.36	6.24	6.13	6.08	5.91	5.85	5.74	5.74	5.63

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.57	5.57	5.46	5.40	5.40	5.34	5.29	5.29	5.23
45.0	5.74	5.68	5.63	5.57	5.51	5.46	5.46	5.40	5.34
90.0	5.68	5.63	5.63	5.51	5.46	5.40	5.40	5.34	5.29
135.0	5.68	5.63	5.57	5.51	5.46	5.40	5.34	5.34	5.29
180.0	5.51	5.46	5.34	5.34	5.29	5.29	5.23	5.18	5.18
225.0	5.57	5.51	5.46	5.46	5.40	5.40	5.34	5.29	5.23
270.0	5.63	5.57	5.51	5.46	5.40	5.40	5.34	5.29	5.29
315.0	5.51	5.46	5.40	5.40	5.29	5.29	5.23	5.23	5.18
360.0	5.57	5.57	5.46	5.40	5.40	5.34	5.29	5.29	5.23

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.18	5.12	5.12	5.12	5.06	5.06	5.01	5.01	5.01
45.0	5.34	5.29	5.23	5.23	5.18	5.18	5.18	5.18	5.12
90.0	5.29	5.23	5.23	5.18	5.18	5.12	5.12	5.06	5.06
135.0	5.23	5.23	5.18	5.12	5.12	5.12	5.06	5.06	5.06
180.0	5.12	5.12	5.06	5.06	5.06	5.01	5.01	4.95	4.95
225.0	5.23	5.23	5.18	5.18	5.12	5.12	5.12	5.12	5.06
270.0	5.23	5.23	5.18	5.18	5.12	5.12	5.06	5.06	5.06
315.0	5.18	5.12	5.12	5.06	5.06	5.06	5.01	5.01	5.01
360.0	5.18	5.12	5.12	5.12	5.06	5.06	5.01	5.01	5.01

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.01	4.95	4.95	4.95	4.89	4.89	4.89	4.89	4.84
45.0	5.12	5.06	5.06	5.06	5.06	5.06	5.01	5.01	5.01
90.0	5.06	5.06	5.01	5.01	5.01	5.01	5.01	5.01	5.01
135.0	5.01	5.01	4.95	5.01	4.95	4.95	4.95	4.95	4.89
180.0	4.95	4.95	4.89	4.89	4.84	4.84	4.84	4.84	4.84
225.0	5.06	5.06	5.01	5.01	5.01	5.01	5.01	5.01	4.95
270.0	5.01	5.01	5.01	5.01	5.01	5.01	5.01	4.95	5.01
315.0	4.95	4.95	4.95	4.89	4.89	4.89	4.89	4.89	4.89
360.0	5.01	4.95	4.95	4.95	4.89	4.89	4.89	4.89	4.84

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.89	4.89	4.84	4.84	4.84	4.84	4.84	4.89	4.84
45.0	5.01	5.01	5.01	5.01	5.01	4.95	4.95	4.89	4.95
90.0	4.95	4.95	4.95	4.95	4.95	4.89	4.89	4.89	4.89
135.0	4.89	4.89	4.89	4.89	4.89	4.84	4.84	4.84	4.84
180.0	4.84	4.84	4.84	4.84	4.84	4.84	4.84	4.78	4.84
225.0	4.95	4.95	4.95	4.95	4.95	4.95	4.89	4.95	4.95
270.0	5.01	4.95	4.95	4.95	4.95	4.95	4.89	4.89	4.89
315.0	4.89	4.89	4.89	4.84	4.84	4.84	4.84	4.84	4.84
360.0	4.89	4.89	4.84	4.84	4.84	4.84	4.84	4.89	4.84

Intensity data(cd)

C/γ(°)	90.0
0.0	4.84
45.0	4.95
90.0	4.89
135.0	4.84
180.0	4.78
225.0	4.95
270.0	4.89
315.0	4.84
360.0	4.84