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Nata

LumCAT: 1-0914-S
Luminaire: 92.70.185.00
Report No: 220525-B010
Test No: 220525-C010
LampCAT: CREE CXA1507
Lamp flux(lm): 915.1
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 36.1000
Current(A): 0.2270
Power (W): 8.1940
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 702.29
Efficiency(%): 76.74%
Lumens(lm)/Power(W): 85.71
Central intensity(cd): 1705.497
Maximum intensity(cd): 1705.497
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=37.0
[C90/270]Total=37.0
Field angle(10%Imax): [C0/180]Total=59.8
[C90/270]Total=59.8
Maximum s/h(1/2): C0_180=0.61 C90_270=0.61
Maximum s/h(1/4): C0_180=0.59 C90_270=0.59
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 76.74%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.312%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2022/5/25
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.73

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1705.497	0.000	0	.000%	.000%
1.0	1703.331	1.631	1.631	.178%	.232%
2.0	1693.547	4.876	6.507	.533%	.926%
3.0	1679.878	8.068	14.575	.882%	2.075%
4.0	1659.637	11.178	25.753	1.221%	3.667%
5.0	1632.897	14.164	39.917	1.548%	5.684%
6.0	1602.647	17.004	56.921	1.858%	8.105%
7.0	1567.244	19.675	76.597	2.150%	10.907%
8.0	1527.583	22.149	98.746	2.420%	14.061%
9.0	1478.212	24.360	123.106	2.662%	17.529%
10.0	1427.497	26.296	149.402	2.873%	21.274%
11.0	1373.122	27.984	177.386	3.058%	25.258%
12.0	1305.705	29.283	206.669	3.200%	29.428%
13.0	1251.136	30.343	237.012	3.316%	33.749%
14.0	1177.528	31.087	268.099	3.397%	38.175%
15.0	1117.260	31.504	299.603	3.443%	42.661%
16.0	1045.392	31.689	331.292	3.463%	47.173%
17.0	969.087	31.371	362.662	3.428%	51.640%
18.0	891.371	30.675	393.337	3.352%	56.008%
19.0	815.933	29.704	423.041	3.246%	60.237%
20.0	736.671	28.417	451.458	3.105%	64.284%
21.0	660.860	26.835	478.293	2.932%	68.105%
22.0	591.957	25.176	503.469	2.751%	71.690%
23.0	527.902	23.498	526.967	2.568%	75.036%
24.0	468.351	21.782	548.749	2.380%	78.137%
25.0	412.041	20.018	568.767	2.187%	80.988%
26.0	356.837	18.149	586.916	1.983%	83.572%
27.0	308.168	16.269	603.186	1.778%	85.889%
28.0	257.759	14.328	617.514	1.566%	87.929%
29.0	212.003	12.290	629.804	1.343%	89.679%
30.0	166.531	10.220	640.025	1.117%	91.134%
31.0	128.932	8.222	648.247	.898%	92.305%
32.0	93.991	6.386	654.633	.698%	93.214%
33.0	66.206	4.719	659.353	.516%	93.886%
34.0	44.225	3.342	662.695	.365%	94.362%
35.0	30.414	2.318	665.013	.253%	94.692%
36.0	22.781	1.694	666.706	.185%	94.933%
37.0	18.456	1.345	668.051	.147%	95.125%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	14.266	1.092	669.144	.119%	95.280%
39.0	11.017	0.863	670.007	.094%	95.403%
40.0	9.359	0.711	670.717	.078%	95.504%
41.0	8.769	0.646	671.363	.071%	95.596%
42.0	8.261	0.619	671.981	.068%	95.684%
43.0	7.865	0.597	672.579	.065%	95.770%
44.0	7.581	0.583	673.162	.064%	95.853%
45.0	7.320	0.573	673.734	.063%	95.934%
46.0	7.215	0.568	674.303	.062%	96.015%
47.0	7.193	0.573	674.876	.063%	96.097%
48.0	7.223	0.583	675.459	.064%	96.180%
49.0	7.245	0.594	676.053	.065%	96.264%
50.0	7.260	0.605	676.658	.066%	96.350%
51.0	7.267	0.615	677.272	.067%	96.438%
52.0	7.260	0.623	677.896	.068%	96.527%
53.0	7.238	0.631	678.526	.069%	96.616%
54.0	7.290	0.640	679.167	.070%	96.708%
55.0	7.402	0.656	679.822	.072%	96.801%
56.0	7.574	0.677	680.499	.074%	96.897%
57.0	7.745	0.700	681.199	.077%	96.997%
58.0	7.880	0.723	681.922	.079%	97.100%
59.0	7.932	0.739	682.661	.081%	97.205%
60.0	7.887	0.747	683.409	.082%	97.312%
61.0	7.820	0.750	684.158	.082%	97.418%
62.0	7.731	0.749	684.908	.082%	97.525%
63.0	7.648	0.748	685.656	.082%	97.632%
64.0	7.604	0.748	686.404	.082%	97.738%
65.0	7.581	0.751	687.155	.082%	97.845%
66.0	7.559	0.755	687.911	.083%	97.953%
67.0	7.462	0.755	688.666	.083%	98.060%
68.0	7.275	0.747	689.413	.082%	98.167%
69.0	7.073	0.732	690.145	.080%	98.271%
70.0	6.946	0.720	690.865	.079%	98.373%
71.0	6.909	0.716	691.581	.078%	98.475%
72.0	6.789	0.712	692.293	.078%	98.577%
73.0	6.573	0.699	692.992	.076%	98.676%
74.0	6.491	0.687	693.678	.075%	98.774%
75.0	6.334	0.678	694.356	.074%	98.870%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.132	0.662	695.018	.072%	98.965%
77.0	6.020	0.648	695.666	.071%	99.057%
78.0	5.841	0.635	696.301	.069%	99.147%
79.0	5.721	0.621	696.922	.068%	99.236%
80.0	5.564	0.608	697.53	.066%	99.322%
81.0	5.438	0.595	698.125	.065%	99.407%
82.0	5.311	0.583	698.708	.064%	99.490%
83.0	5.191	0.571	699.279	.062%	99.571%
84.0	5.094	0.560	699.839	.061%	99.651%
85.0	4.579	0.528	700.367	.058%	99.726%
86.0	4.183	0.479	700.846	.052%	99.795%
87.0	3.264	0.408	701.254	.045%	99.853%
88.0	3.167	0.352	701.606	.038%	99.903%
89.0	3.107	0.344	701.95	.038%	99.952%
90.0	3.077	0.339	702.289	.037%	100.000%

Zonal flux distribution table

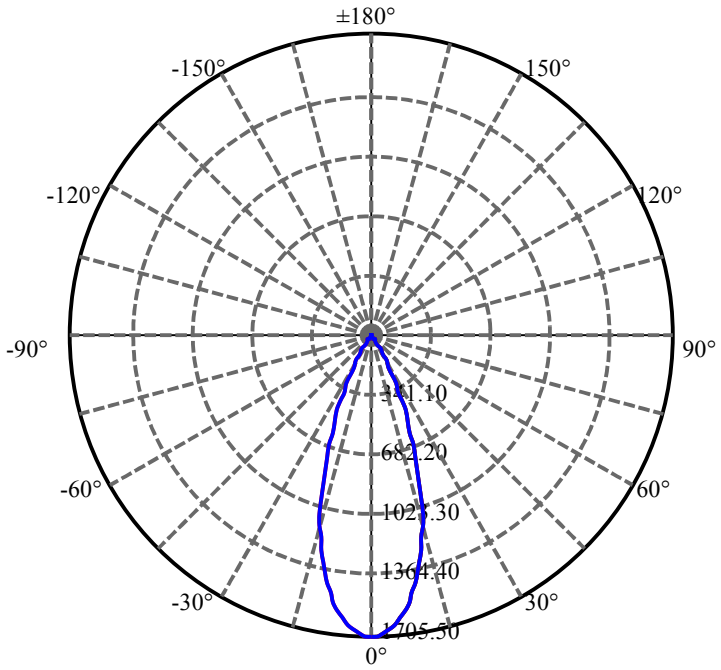
ZONAL LUMEN SUMMARY

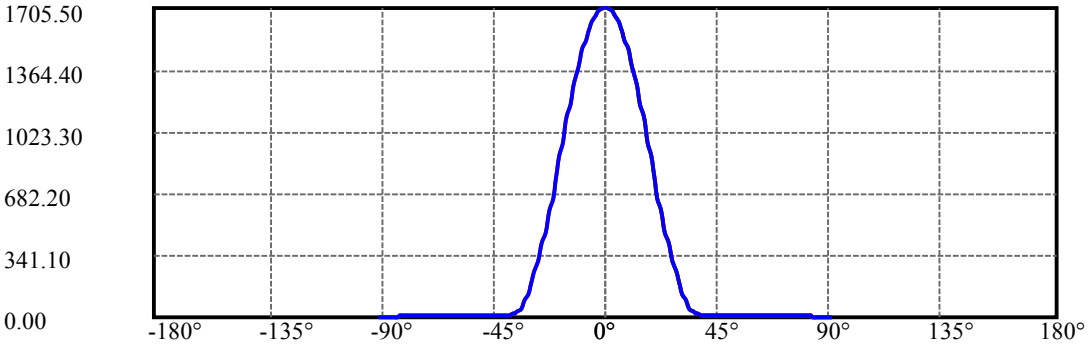
Zone	Lumens	%Lamp	%Fixt
0-30	640.02	69.94%	91.13%
0-40	670.72	73.29%	95.50%
0-60	683.41	74.68%	97.31%
0-90	701.95	76.70%	99.95%
0-120	701.95	76.70%	99.95%
0-180	702.29	76.74%	100.00%
60-90	19.29	2.11%	2.75%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.65	561.83	61.39%	80.00%

ZONAL LUMEN SUMMARY

0-10	149.40
10-20	302.06
20-30	188.57
30-40	30.69
40-50	5.94
50-60	6.75
60-70	7.46
70-80	6.67
80-90	4.42
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:29.9 Right:29.9
:C90/270Left:29.9 Right:29.9

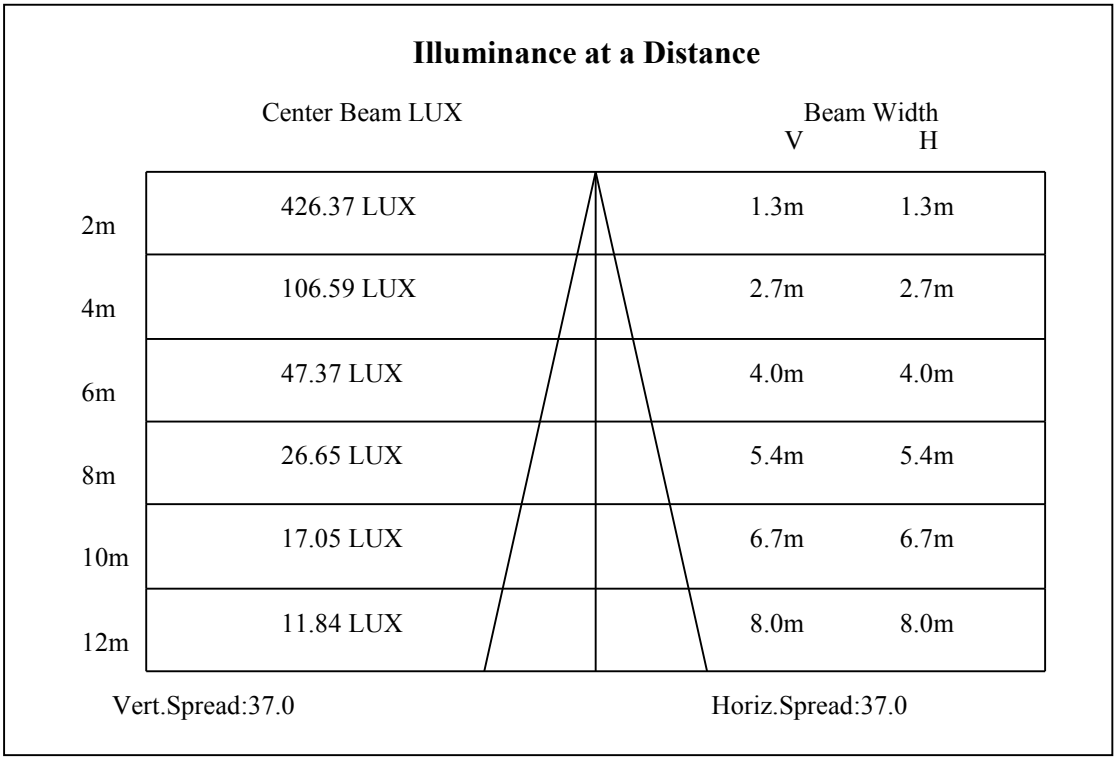
Beam Angle(50%Imax):C0/180Left:18.5 Right:18.5
:C90/270Left:18.5 Right:18.5

Equipment: GMS1980
Temperature(°C): 25.0

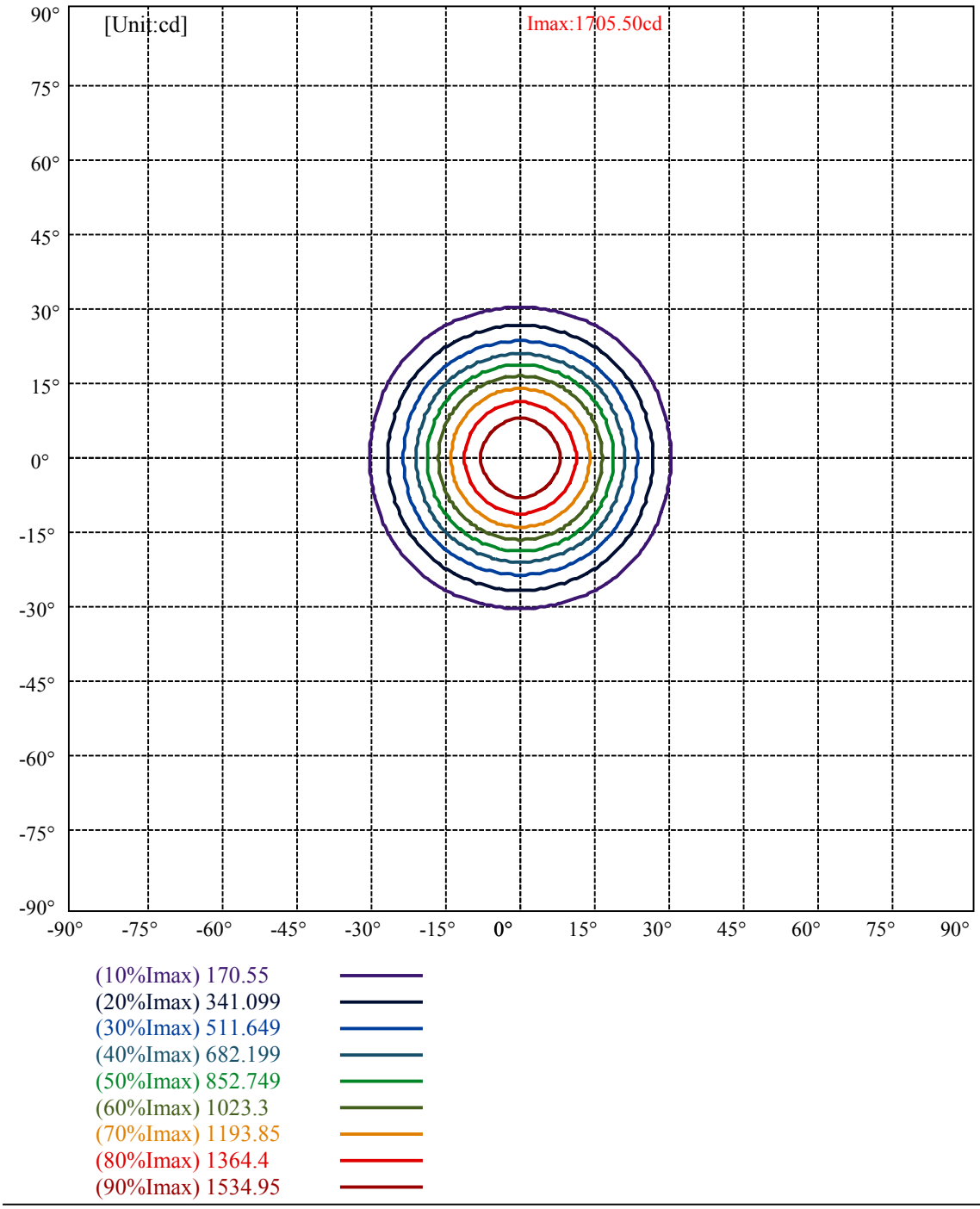
Date: 2022/5/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Lux distance Curve



ISO-Intensity(V-H)

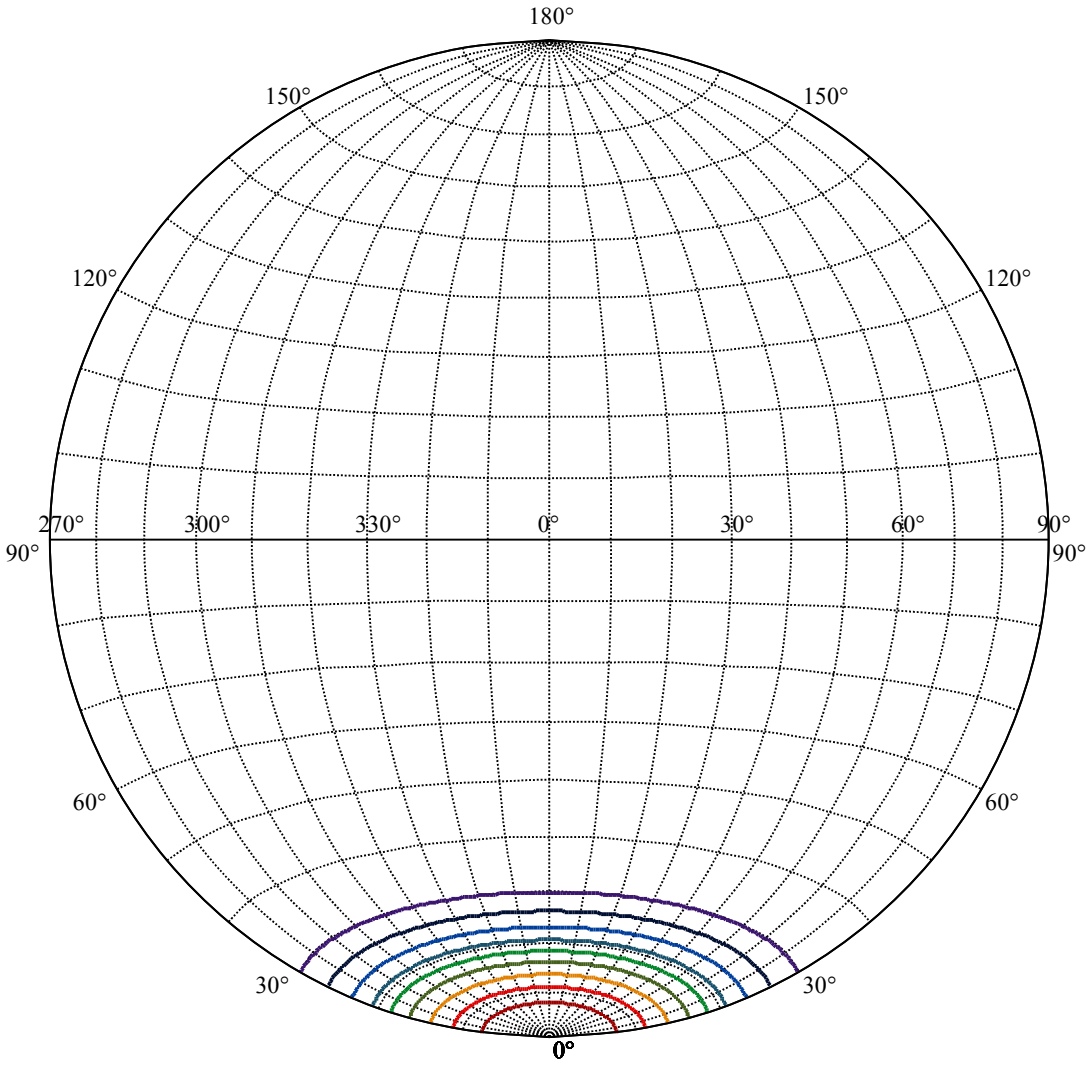


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:1705.50

(10%Imax) 170.55
(20%Imax) 341.099
(30%Imax) 511.649
(40%Imax) 682.199
(50%Imax) 852.749
(60%Imax) 1023.3
(70%Imax) 1193.85
(80%Imax) 1364.4
(90%Imax) 1534.95

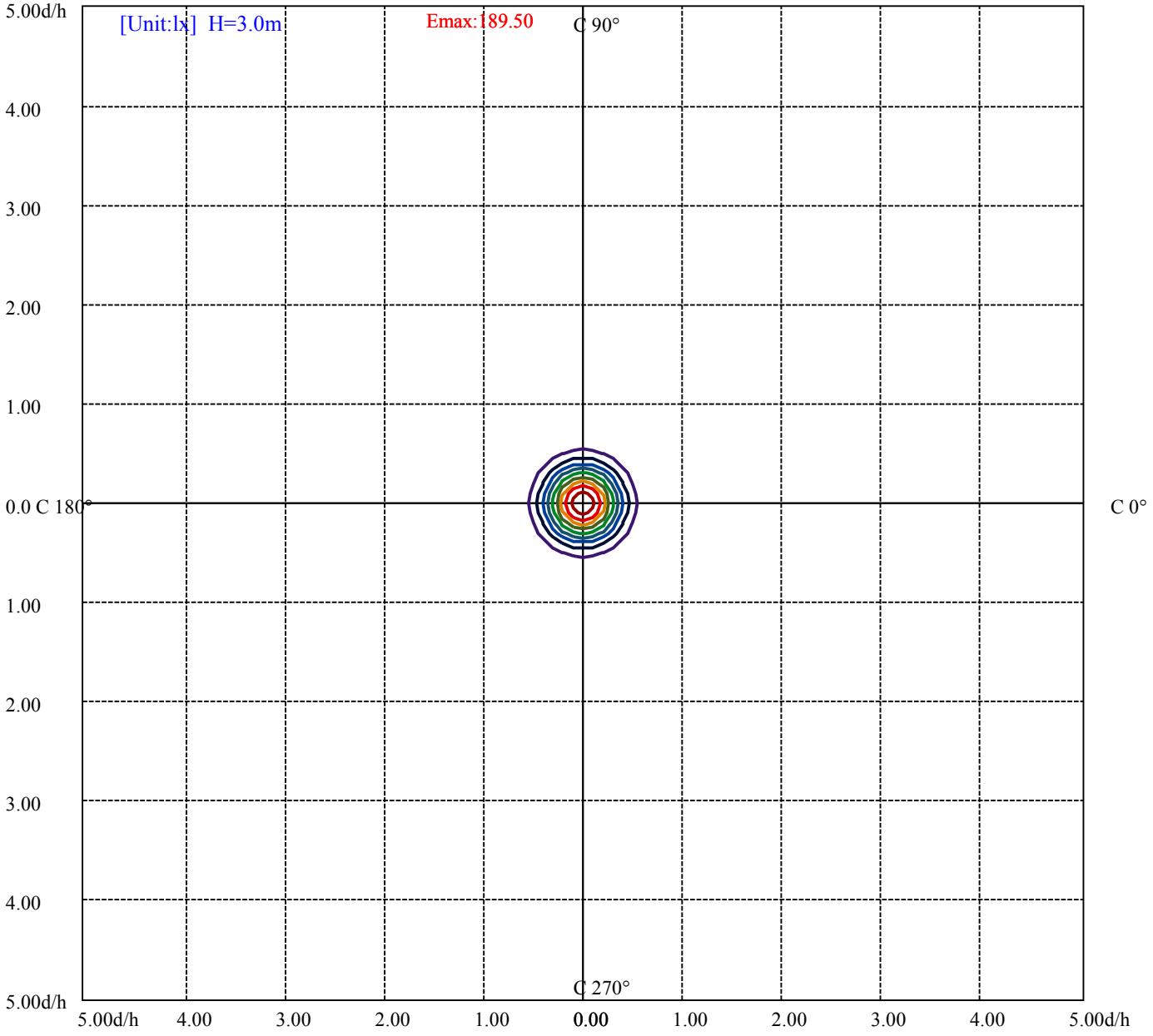
Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Nata 1-0914-S

ISO illuminance diagram



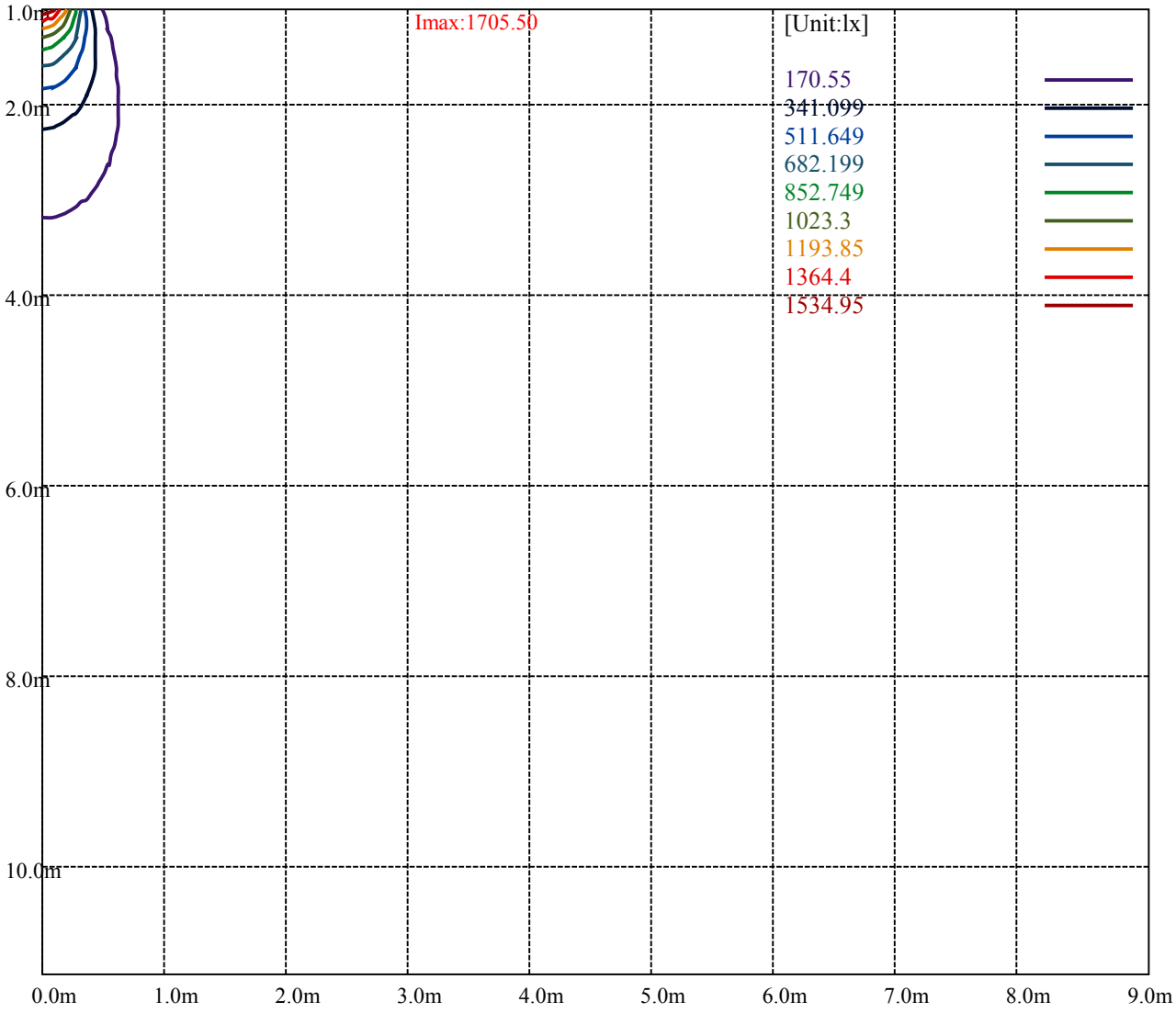
(10%Emax) 18.95
(20%Emax) 37.89989
(30%Emax) 56.84989
(40%Emax) 75.79989
(50%Emax) 94.74978
(60%Emax) 113.7
(70%Emax) 132.65
(80%Emax) 151.6
(90%Emax) 170.55

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Luminance Limitting Curve(no luminous side)

Luminance Table

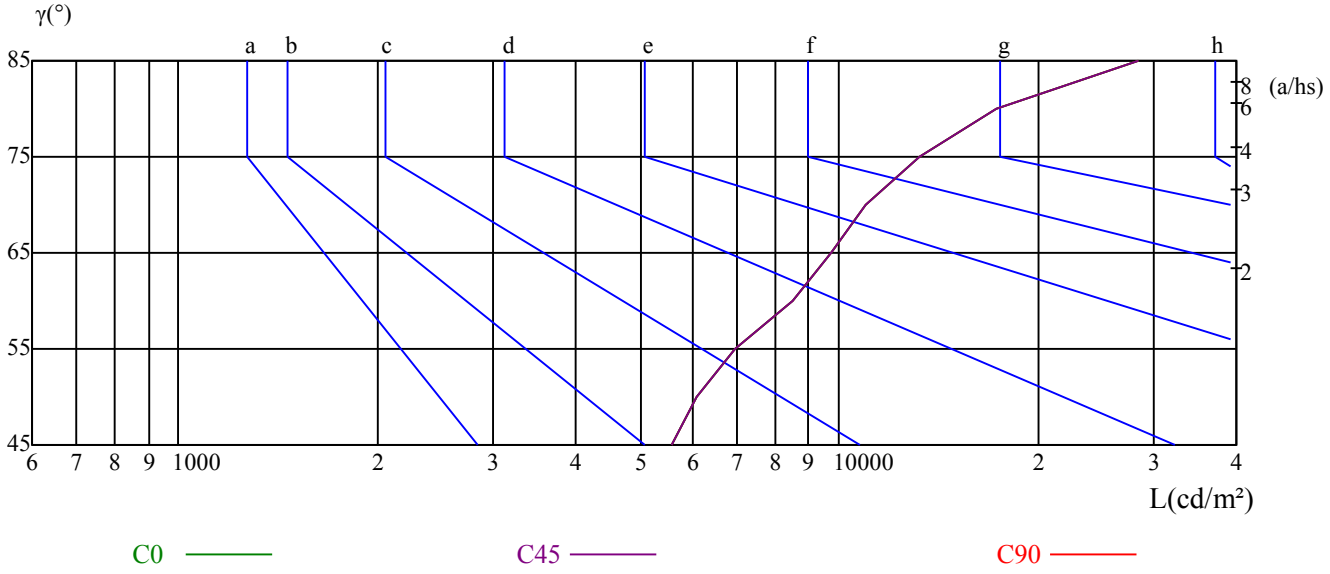
γ	45	50	55	60	65	70	75	80	85
C0	5599	6108	6979	8532	9702	10984	13235	17331	28412
C45	5599	6108	6979	8532	9702	10984	13235	17331	28412
C90	5599	6108	6979	8532	9702	10984	13235	17331	28412

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9702	9702	9702	13235	13235	13235	28412	28412	28412

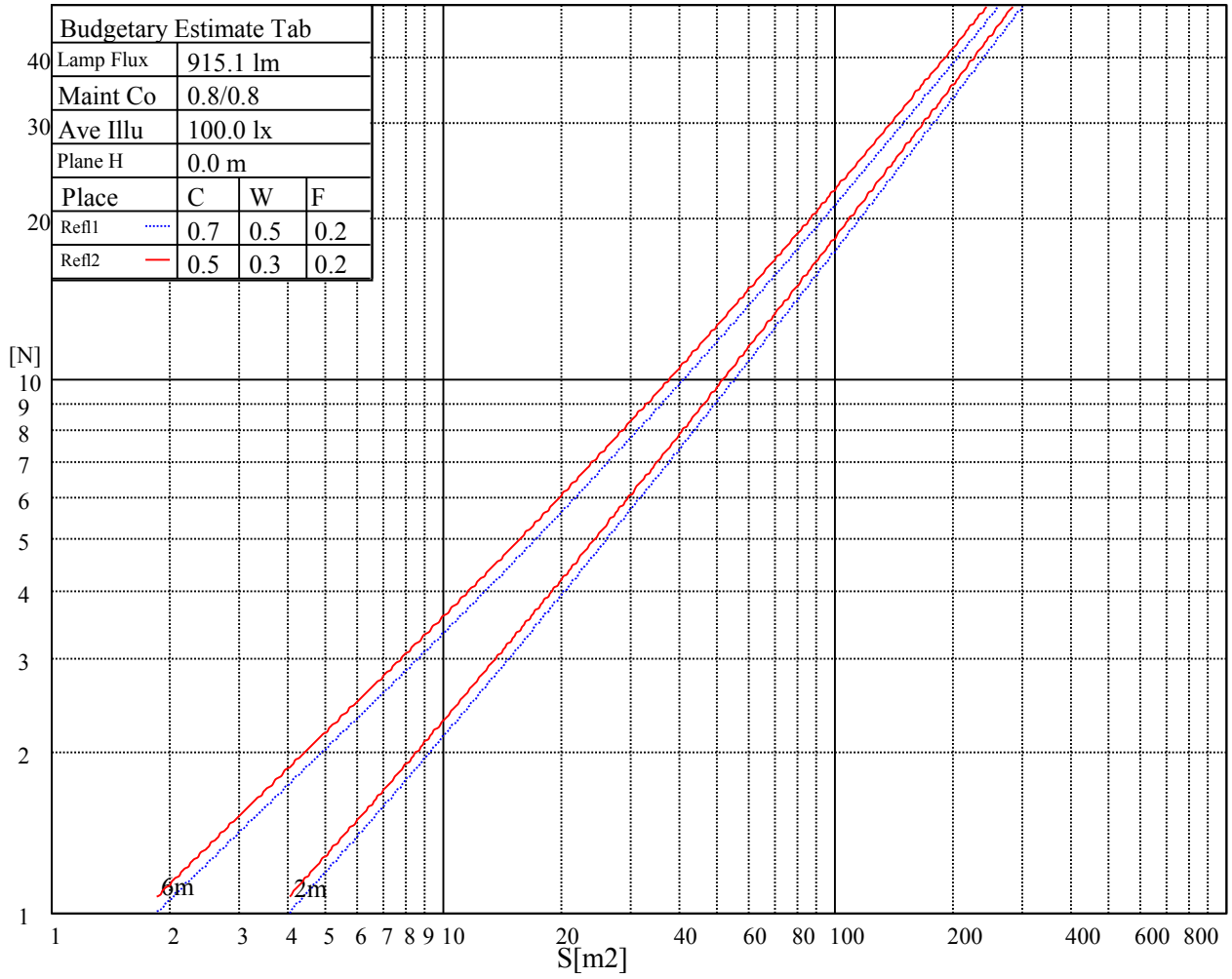
Glare Table

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

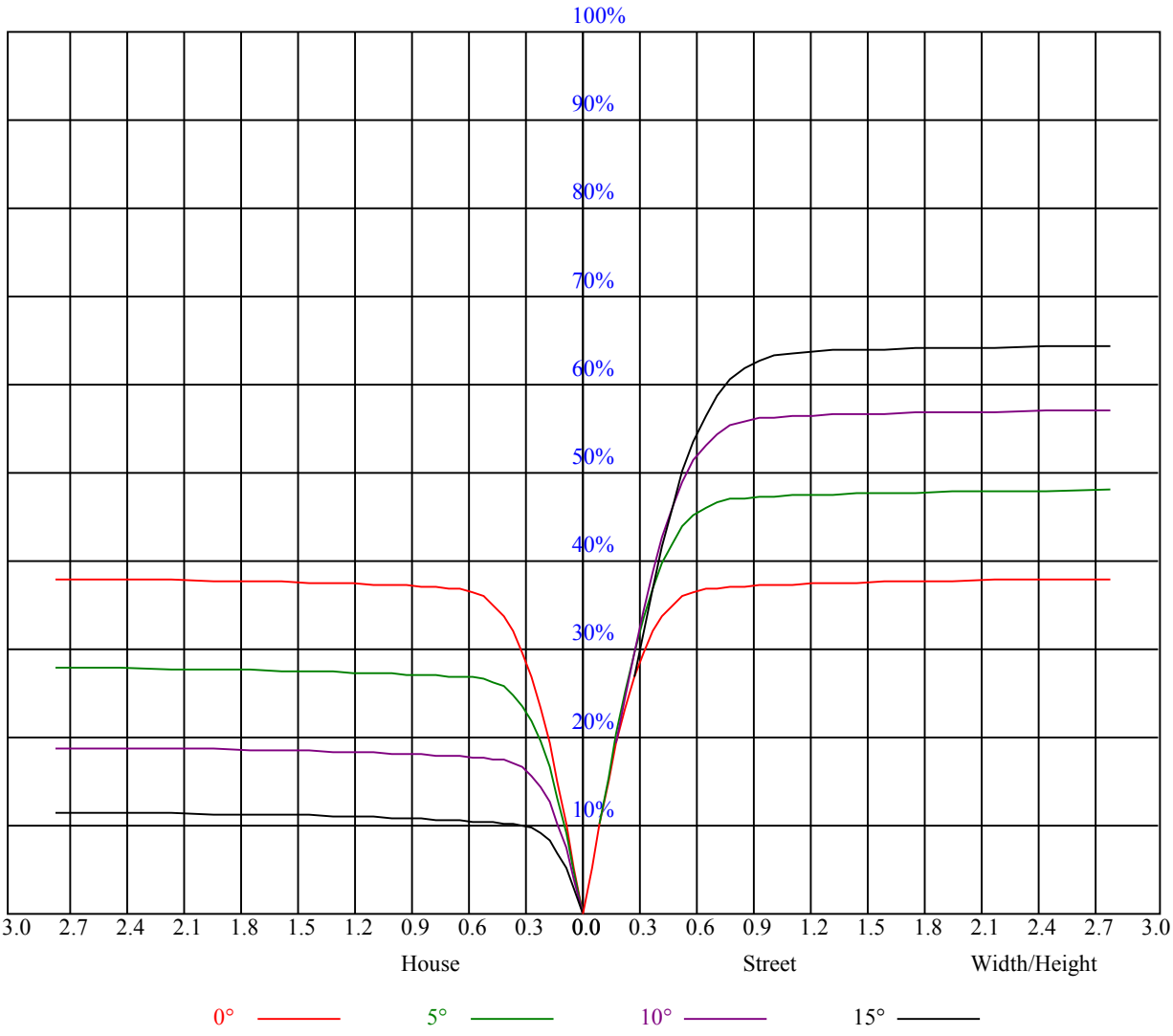


Equipment: GMS1980	Date: 2022/5/25	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.73

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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.78	0.78	0.78	0.77
1	0.85	0.84	0.82	0.84	0.82	0.81	0.81	0.79	0.78	0.78	0.77	0.76	0.75	0.75	0.74	0.72
2	0.81	0.78	0.75	0.79	0.77	0.75	0.77	0.75	0.73	0.75	0.73	0.71	0.72	0.71	0.70	0.69
3	0.76	0.73	0.70	0.75	0.72	0.70	0.73	0.71	0.69	0.72	0.69	0.68	0.70	0.68	0.67	0.66
4	0.73	0.69	0.66	0.72	0.68	0.66	0.70	0.67	0.65	0.69	0.66	0.64	0.67	0.65	0.64	0.63
5	0.69	0.65	0.63	0.69	0.65	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.60
6	0.66	0.62	0.60	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.58	0.57
7	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.61	0.58	0.56	0.60	0.58	0.56	0.55
8	0.61	0.57	0.55	0.60	0.57	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.58	0.56	0.54	0.53
9	0.59	0.55	0.52	0.58	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.52	0.56	0.54	0.52	0.51
10	0.56	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.50	0.54	0.52	0.50	0.49

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2022/5/25	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.73

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	1698.18	1704.75	1701.76	1701.76	1683.84	1662.33	1645.00	1610.94	1579.87
45.0	1706.54	1705.35	1693.99	1673.68	1653.96	1622.89	1590.02	1553.58	1510.55
90.0	1708.34	1697.58	1683.24	1666.51	1639.02	1613.33	1573.29	1535.65	1487.85
135.0	1708.93	1700.57	1683.84	1672.48	1647.39	1619.30	1588.23	1547.60	1506.97
180.0	1698.18	1692.80	1682.04	1655.75	1630.06	1600.18	1559.55	1521.91	1484.86
225.0	1706.54	1708.93	1698.77	1690.41	1674.28	1649.78	1627.07	1591.82	1552.38
270.0	1708.34	1710.73	1707.14	1692.80	1680.25	1649.18	1622.89	1597.20	1557.76
315.0	1708.93	1705.95	1697.58	1685.63	1668.30	1646.19	1615.12	1579.27	1540.43
360.0	1698.18	1704.75	1701.76	1701.76	1683.84	1662.33	1645.00	1610.94	1579.87

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1536.25	1492.03	1446.62	1392.84	1327.71	1273.33	1212.98	1137.70	1074.95
45.0	1464.54	1413.16	1355.20	1297.24	1230.91	1159.80	1103.64	1033.13	949.47
90.0	1430.48	1370.73	1318.75	1243.46	1189.38	1115.89	1039.76	972.72	897.31
135.0	1453.19	1394.63	1343.25	1285.28	1214.18	1149.05	1087.50	1002.65	930.35
180.0	1421.52	1370.13	1316.36	1191.71	1183.88	1114.09	1050.28	970.33	885.60
225.0	1514.74	1467.53	1410.17	1357.59	1300.82	1192.25	1162.91	1098.50	1020.10
270.0	1514.14	1472.91	1409.57	1356.99	1300.22	1228.52	1163.39	1098.86	1009.82
315.0	1490.83	1438.85	1385.07	1320.54	1261.98	1187.29	1117.62	1049.26	985.09
360.0	1536.25	1492.03	1446.62	1392.84	1327.71	1273.33	1212.98	1137.70	1074.95

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1003.85	924.97	845.50	775.59	697.32	632.78	561.68	502.52	448.15
45.0	878.37	810.25	723.61	653.10	588.57	519.85	463.68	411.10	349.55
90.0	807.80	734.66	665.23	587.55	523.55	468.70	411.10	357.62	307.19
135.0	855.66	777.39	696.12	627.41	554.51	495.35	442.17	384.21	333.42
180.0	811.44	725.40	657.40	579.36	510.59	458.07	405.42	343.40	292.55
225.0	940.03	864.74	782.70	701.20	631.23	554.81	497.86	437.57	377.22
270.0	940.51	869.40	780.37	704.49	640.55	567.65	503.72	451.13	390.19
315.0	893.31	820.65	742.43	658.18	589.34	526.00	461.17	408.77	356.43
360.0	1003.85	924.97	845.50	775.59	697.32	632.78	561.68	502.52	448.15

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	386.00	326.25	307.13	230.77	180.10	141.79	107.73	71.70	50.01
45.0	307.13	244.33	201.85	158.11	116.94	85.03	57.12	36.87	26.35
90.0	258.13	207.58	169.22	128.53	98.59	69.25	45.41	31.25	23.96
135.0	302.35	242.18	189.54	151.41	115.68	79.05	56.11	36.09	24.14
180.0	248.69	199.81	155.24	119.45	84.31	56.83	37.58	25.16	21.03
225.0	326.79	278.63	223.54	182.60	145.32	102.54	72.78	47.20	30.77
270.0	335.81	305.34	236.50	194.56	152.85	114.13	84.43	56.77	33.94
315.0	300.44	257.95	213.02	166.83	137.67	103.31	68.48	48.76	33.10
360.0	386.00	326.25	307.13	230.77	180.10	141.79	107.73	71.70	50.01

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	34.42	26.47	22.11	17.51	10.88	9.92	9.26	8.72	8.31
45.0	21.99	18.40	13.09	10.04	9.38	8.90	8.37	8.07	7.77
90.0	19.30	15.72	11.47	9.56	8.96	8.48	8.01	7.65	7.35
135.0	20.20	16.97	11.77	9.38	8.84	8.31	7.83	7.53	7.29
180.0	17.69	12.61	8.90	8.31	7.83	7.41	7.11	6.81	6.63
225.0	20.79	17.51	14.28	9.62	8.72	8.31	7.83	7.47	7.29
270.0	24.02	19.90	15.66	11.65	9.74	9.02	8.48	8.07	7.71
315.0	23.84	20.08	16.85	12.07	10.52	9.80	9.20	8.60	8.31
360.0	34.42	26.47	22.11	17.51	10.88	9.92	9.26	8.72	8.31

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	7.83	7.47	7.23	6.99	6.69	6.57	6.45	6.39	6.33
45.0	7.53	7.47	7.41	7.41	7.47	7.47	7.41	7.29	7.17
90.0	7.17	7.05	6.99	6.99	7.05	6.99	6.87	6.75	6.63
135.0	7.05	6.99	6.99	7.05	6.99	6.87	6.81	6.69	6.63
180.0	6.39	6.21	6.09	6.04	5.98	6.04	6.09	6.15	6.21
225.0	7.17	7.23	7.29	7.47	7.59	7.65	7.77	7.77	7.71
270.0	7.41	7.29	7.23	7.29	7.53	7.77	8.01	8.25	8.43
315.0	8.01	8.01	8.31	8.54	8.66	8.72	8.72	8.78	8.78
360.0	7.83	7.47	7.23	6.99	6.69	6.57	6.45	6.39	6.33

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	6.33	6.33	6.45	6.51	6.51	6.63	6.75	6.99	7.11
45.0	7.17	7.23	7.23	7.17	7.05	6.87	6.63	6.45	6.39
90.0	6.63	6.63	6.63	6.63	6.57	6.39	6.27	6.21	6.15
135.0	6.57	6.51	6.51	6.45	6.33	6.21	6.09	6.04	5.98
180.0	6.27	6.33	6.39	6.39	6.51	6.63	6.69	6.75	6.75
225.0	7.77	8.01	8.31	8.72	9.08	9.32	9.38	9.32	9.14
270.0	8.60	8.96	9.62	10.34	11.11	11.59	11.53	11.17	10.82
315.0	8.96	9.20	9.44	9.74	9.86	9.80	9.74	9.62	9.50
360.0	6.33	6.33	6.45	6.51	6.51	6.63	6.75	6.99	7.11

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.11	7.11	7.11	6.93	6.75	6.51	6.39	6.33	6.33
45.0	6.15	6.04	5.98	5.92	5.74	5.74	5.62	5.56	5.50
90.0	6.15	6.09	6.04	5.98	5.92	5.92	5.80	5.74	5.74
135.0	5.86	5.80	5.74	5.68	5.56	5.50	5.50	5.44	5.44
180.0	6.75	6.69	6.57	6.45	6.27	6.15	6.04	5.98	5.92
225.0	8.96	8.78	8.66	8.78	8.90	8.90	8.48	7.95	7.65
270.0	10.76	10.93	11.23	11.53	11.65	11.05	10.58	10.46	10.70
315.0	9.44	9.38	9.32	9.20	8.90	8.43	8.19	8.13	8.01
360.0	7.11	7.11	7.11	6.93	6.75	6.51	6.39	6.33	6.33

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.21	6.15	5.98	5.86	5.80	5.62	5.50	5.44	5.38
45.0	5.44	5.38	5.32	5.26	5.20	5.14	5.08	5.02	4.96
90.0	5.68	5.62	5.62	5.56	5.56	5.44	5.38	5.32	5.26
135.0	5.44	5.38	5.38	5.32	5.26	5.26	5.20	5.14	5.14
180.0	5.80	5.68	5.62	5.50	5.38	5.26	5.20	5.14	5.02
225.0	7.47	7.35	7.11	6.69	6.45	6.21	5.98	5.80	5.62
270.0	10.40	9.68	9.80	9.44	8.66	8.78	8.01	7.89	7.29
315.0	7.89	7.35	7.11	7.05	6.75	6.45	6.39	6.04	5.86
360.0	6.21	6.15	5.98	5.86	5.80	5.62	5.50	5.44	5.38

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.32	5.20	5.14	5.08	4.96	4.84	3.29	3.23	3.17
45.0	4.84	4.84	4.72	4.66	3.41	3.23	3.23	3.17	3.17
90.0	5.20	5.14	5.02	4.90	3.35	3.17	3.11	3.11	3.05
135.0	5.02	4.96	4.90	4.84	4.60	3.23	3.11	3.11	3.05
180.0	4.96	4.84	4.78	4.72	3.94	3.23	3.11	3.17	2.99
225.0	5.50	5.38	5.26	5.14	5.08	4.96	3.41	3.23	3.17
270.0	6.93	6.45	6.15	5.98	5.92	5.80	3.64	3.17	3.17
315.0	5.74	5.68	5.56	5.44	5.38	5.02	3.23	3.17	3.11
360.0	5.32	5.20	5.14	5.08	4.96	4.84	3.29	3.23	3.17

Intensity data(cd)

C/γ(°)	90.0
0.0	3.11
45.0	3.05
90.0	3.05
135.0	3.05
180.0	3.05
225.0	3.17
270.0	3.11
315.0	3.05
360.0	3.11