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Nata

LumCAT: LN01D02824DA-N
Luminaire: 92.70.307.00
Report No: 211115-B006
Test No: 211115-C006
LampCAT: Bridgelux V6HD LES7
Lamp flux(lm): 1006.7
Number of Lamps: 1
Length(mm): 111
Phm Type: C

Voltage(V): 34.5800
Current(A): 0.2100
Power (W): 7.2610
PF: 0.0000
Ballast type: DC
Width(mm): 111
Height(mm): 0

Photometric Results

Lumens(lm): 643.54
Efficiency(%): 63.93%
Lumens(lm)/Power(W): 88.63
Central intensity(cd): 1688.916
Maximum intensity(cd): 1688.916
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=29.6
[C90/270]Total=29.6
Field angle(10%Imax): [C0/180]Total=58.6
[C90/270]Total=58.6
Maximum s/h(1/2): C0_180=0.49 C90_270=0.49
Maximum s/h(1/4): C0_180=0.50 C90_270=0.50
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 63.93%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.153%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2021/11/15
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	1688.916	0.000	0	.000%	.000%
1.0	1685.106	1.614	1.614	.160%	.251%
2.0	1669.048	4.814	6.429	.478%	.999%
3.0	1643.952	7.924	14.352	.787%	2.230%
4.0	1613.254	10.903	25.255	1.083%	3.924%
5.0	1568.215	13.687	38.942	1.360%	6.051%
6.0	1515.558	16.206	55.148	1.610%	8.569%
7.0	1458.419	18.459	73.607	1.834%	11.438%
8.0	1390.599	20.390	93.997	2.026%	14.606%
9.0	1314.033	21.920	115.917	2.177%	18.012%
10.0	1241.837	23.130	139.046	2.298%	21.607%
11.0	1148.951	23.889	162.935	2.373%	25.319%
12.0	1079.615	24.361	187.297	2.420%	29.104%
13.0	995.513	24.627	211.923	2.446%	32.931%
14.0	905.809	24.337	236.26	2.418%	36.713%
15.0	828.691	23.812	260.072	2.365%	40.413%
16.0	753.477	23.183	283.255	2.303%	44.015%
17.0	672.721	22.210	305.465	2.206%	47.466%
18.0	604.064	21.051	326.516	2.091%	50.738%
19.0	544.707	19.986	346.502	1.985%	53.843%
20.0	483.281	18.815	365.318	1.869%	56.767%
21.0	428.757	17.513	382.83	1.740%	59.488%
22.0	385.040	16.354	399.184	1.625%	62.030%
23.0	341.010	15.234	414.419	1.513%	64.397%
24.0	305.390	14.133	428.551	1.404%	66.593%
25.0	271.599	13.119	441.671	1.303%	68.632%
26.0	249.289	12.296	453.966	1.221%	70.542%
27.0	216.246	11.389	465.356	1.131%	72.312%
28.0	194.048	10.388	475.743	1.032%	73.926%
29.0	173.948	9.628	485.371	.956%	75.422%
30.0	156.724	8.928	494.299	.887%	76.810%
31.0	141.592	8.302	502.601	.825%	78.100%
32.0	127.580	7.711	510.313	.766%	79.298%
33.0	115.824	7.171	517.483	.712%	80.412%
34.0	105.666	6.703	524.186	.666%	81.454%
35.0	95.956	6.262	530.448	.622%	82.427%
36.0	87.478	5.841	536.288	.580%	83.334%
37.0	80.644	5.483	541.772	.545%	84.186%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	73.705	5.152	546.924	.512%	84.987%
39.0	67.528	4.821	551.744	.479%	85.736%
40.0	62.606	4.539	556.283	.451%	86.441%
41.0	57.998	4.295	560.578	.427%	87.109%
42.0	53.583	4.054	564.631	.403%	87.739%
43.0	49.871	3.832	568.464	.381%	88.334%
44.0	46.525	3.638	572.102	.361%	88.899%
45.0	43.396	3.456	575.558	.343%	89.436%
46.0	40.639	3.286	578.844	.326%	89.947%
47.0	38.122	3.133	581.977	.311%	90.434%
48.0	35.822	2.989	584.966	.297%	90.898%
49.0	33.798	2.859	587.825	.284%	91.343%
50.0	31.721	2.732	590.557	.271%	91.767%
51.0	29.936	2.609	593.165	.259%	92.173%
52.0	28.405	2.503	595.669	.249%	92.562%
53.0	26.844	2.403	598.072	.239%	92.935%
54.0	25.298	2.298	600.37	.228%	93.292%
55.0	24.073	2.204	602.574	.219%	93.635%
56.0	22.848	2.120	604.694	.211%	93.964%
57.0	21.571	2.031	606.725	.202%	94.280%
58.0	20.555	1.948	608.673	.194%	94.582%
59.0	19.524	1.874	610.547	.186%	94.873%
60.0	18.479	1.795	612.342	.178%	95.152%
61.0	17.560	1.720	614.062	.171%	95.420%
62.0	16.708	1.651	615.713	.164%	95.676%
63.0	15.849	1.583	617.297	.157%	95.922%
64.0	15.117	1.520	618.816	.151%	96.158%
65.0	14.378	1.460	620.276	.145%	96.385%
66.0	13.683	1.400	621.676	.139%	96.603%
67.0	13.078	1.346	623.022	.134%	96.812%
68.0	12.451	1.293	624.315	.128%	97.013%
69.0	11.839	1.239	625.554	.123%	97.205%
70.0	11.331	1.190	626.744	.118%	97.390%
71.0	10.935	1.151	627.895	.114%	97.569%
72.0	10.681	1.124	629.019	.112%	97.744%
73.0	10.502	1.108	630.127	.110%	97.916%
74.0	10.285	1.093	631.219	.109%	98.086%
75.0	10.024	1.073	632.292	.107%	98.253%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	10.038	1.065	633.357	.106%	98.418%
77.0	10.121	1.075	634.432	.107%	98.585%
78.0	10.307	1.094	635.526	.109%	98.755%
79.0	10.307	1.108	636.633	.110%	98.927%
80.0	9.852	1.087	637.72	.108%	99.096%
81.0	9.112	1.026	638.746	.102%	99.255%
82.0	8.156	0.936	639.682	.093%	99.401%
83.0	6.999	0.824	640.506	.082%	99.529%
84.0	6.177	0.718	641.224	.071%	99.640%
85.0	4.892	0.604	641.828	.060%	99.734%
86.0	3.406	0.454	642.282	.045%	99.805%
87.0	3.003	0.351	642.632	.035%	99.859%
88.0	2.786	0.317	642.949	.031%	99.909%
89.0	2.644	0.298	643.247	.030%	99.955%
90.0	2.666	0.291	643.538	.029%	100.000%

Zonal flux distribution table

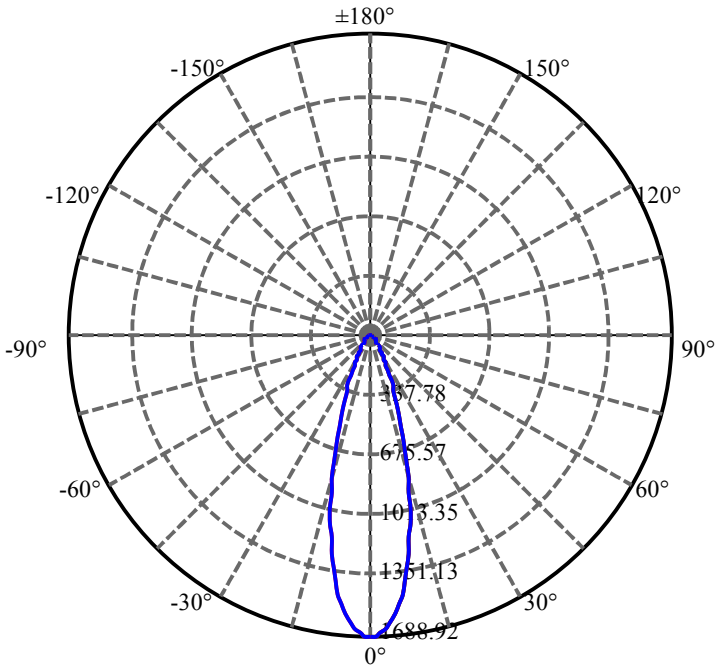
ZONAL LUMEN SUMMARY

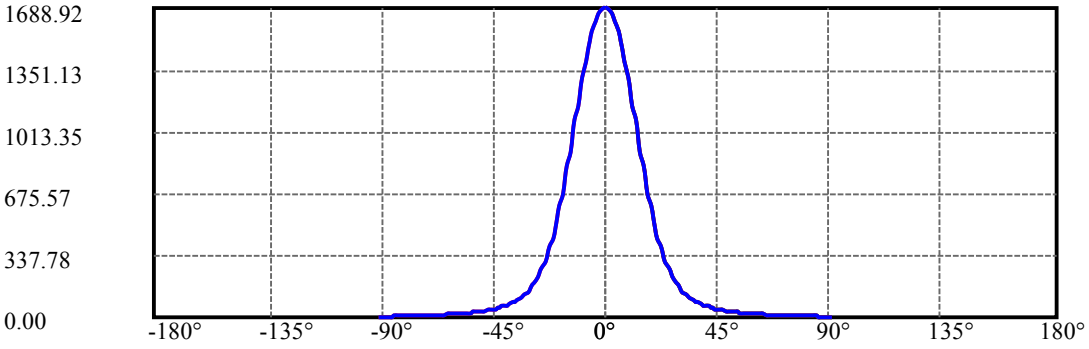
Zone	Lumens	%Lamp	%Fixt
0-30	494.30	49.10%	76.81%
0-40	556.28	55.26%	86.44%
0-60	612.34	60.83%	95.15%
0-90	643.25	63.90%	99.95%
0-120	643.25	63.90%	99.95%
0-180	643.54	63.93%	100.00%
60-90	32.70	3.25%	5.08%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-32.63	514.83	51.14%	80.00%

ZONAL LUMEN SUMMARY

0-10	139.05
10-20	226.27
20-30	128.98
30-40	61.98
40-50	34.27
50-60	21.79
60-70	14.40
70-80	10.98
80-90	5.53
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:29.3 Right:29.3
:C90/270Left:29.3 Right:29.3

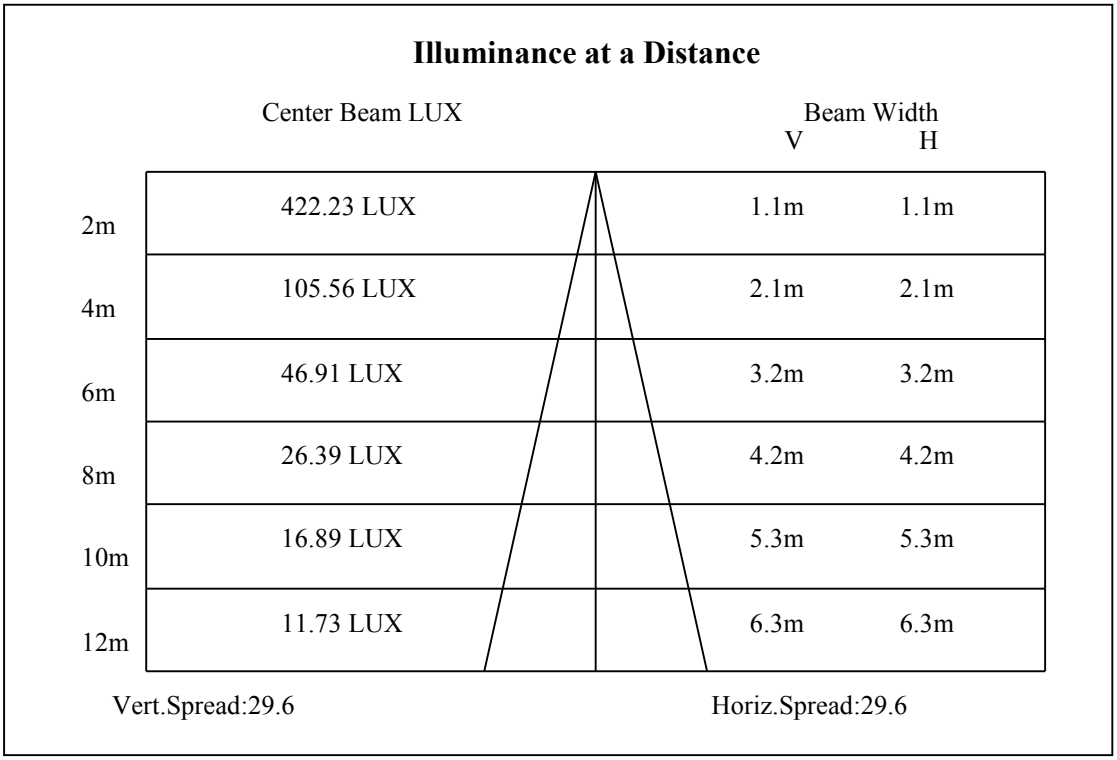
Beam Angle(50%Imax):C0/180Left:14.8 Right:14.8
:C90/270Left:14.8 Right:14.8

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/11/15
Humidity(%): 65.0%

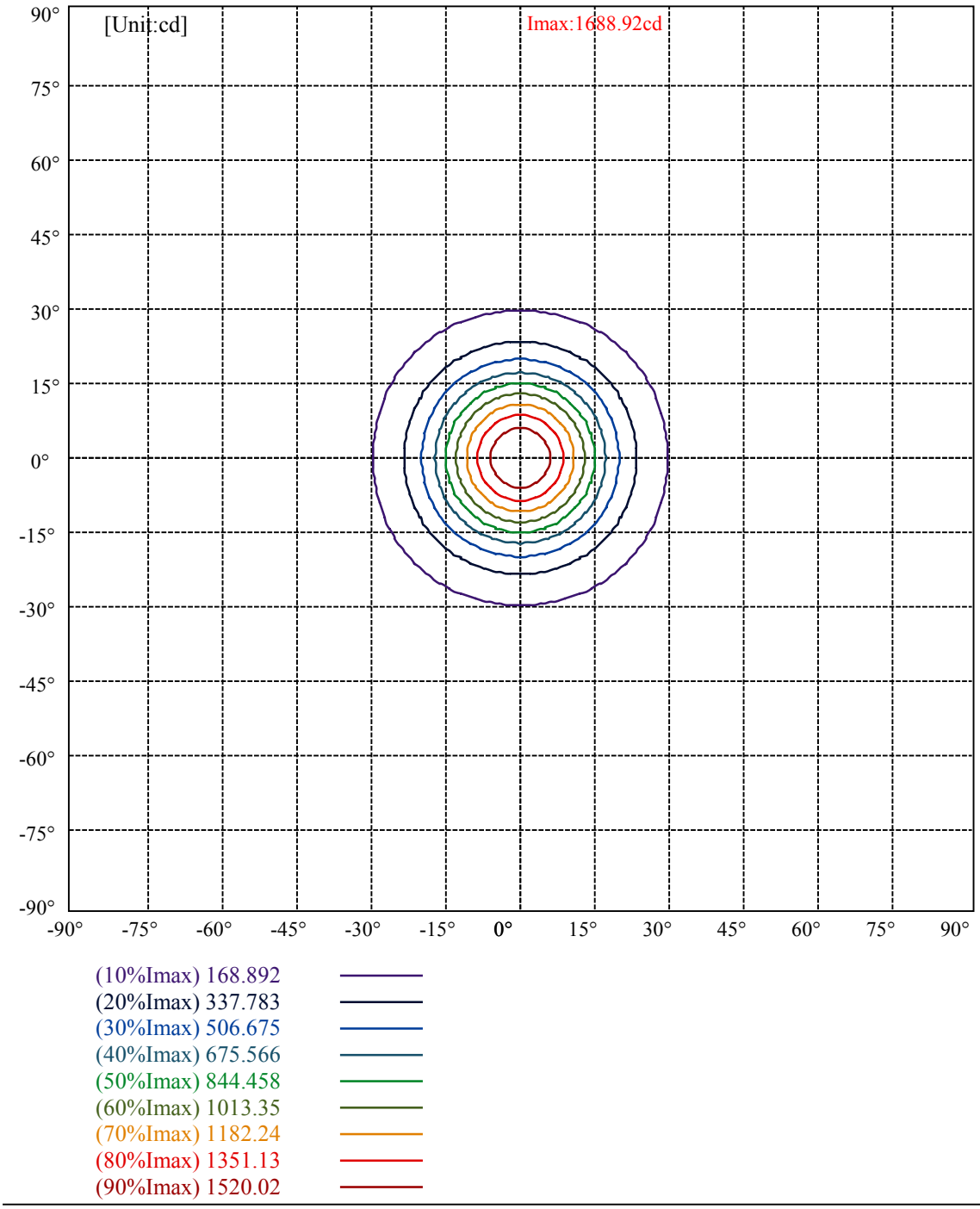
Operator: NT07
Distance(m): 7.73

Lux distance Curve



Equipment: GMS1980 Date: 2021/11/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

ISO-Intensity(V-H)



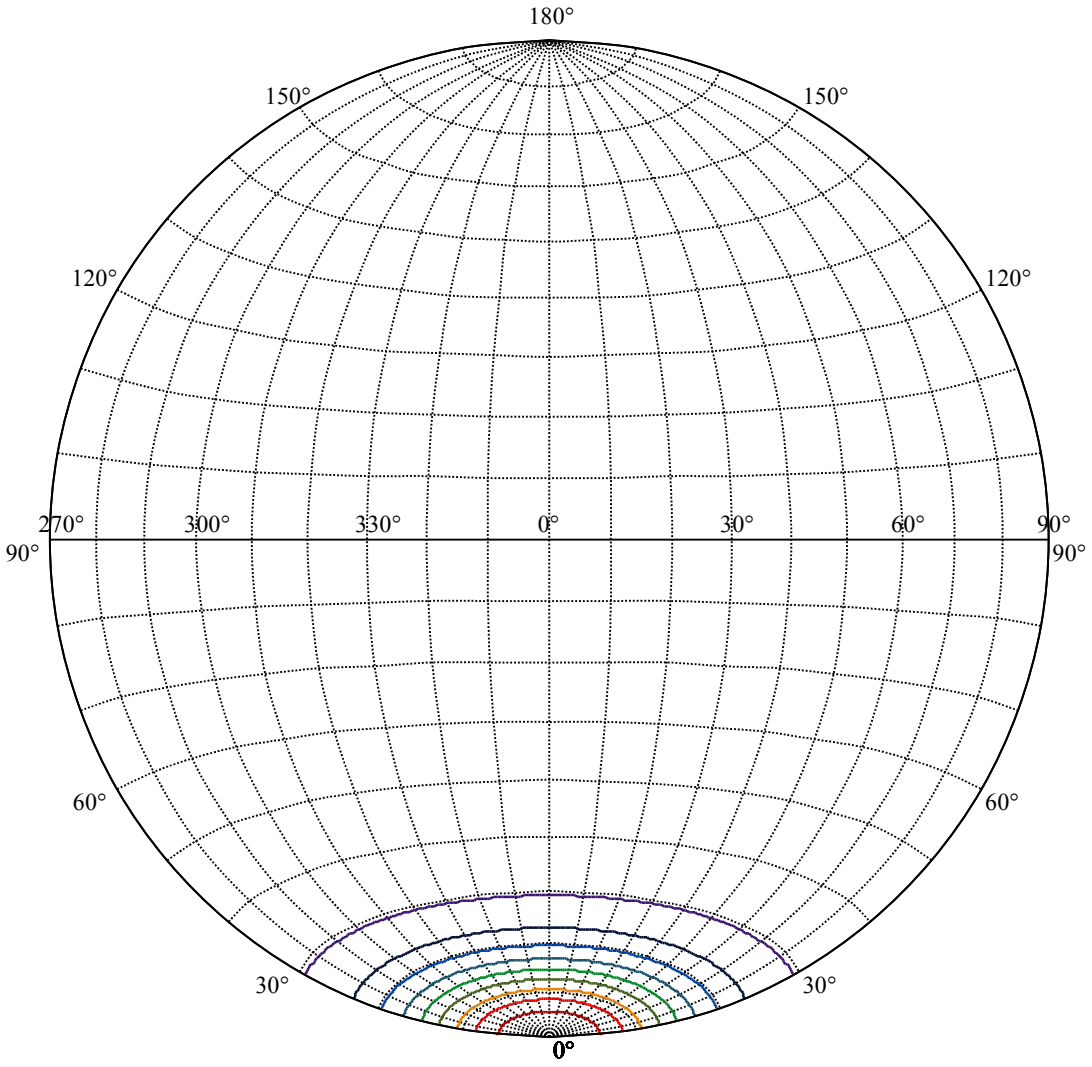
(10%Imax) 168.892
(20%Imax) 337.783
(30%Imax) 506.675
(40%Imax) 675.566
(50%Imax) 844.458
(60%Imax) 1013.35
(70%Imax) 1182.24
(80%Imax) 1351.13
(90%Imax) 1520.02

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/11/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:1688.92

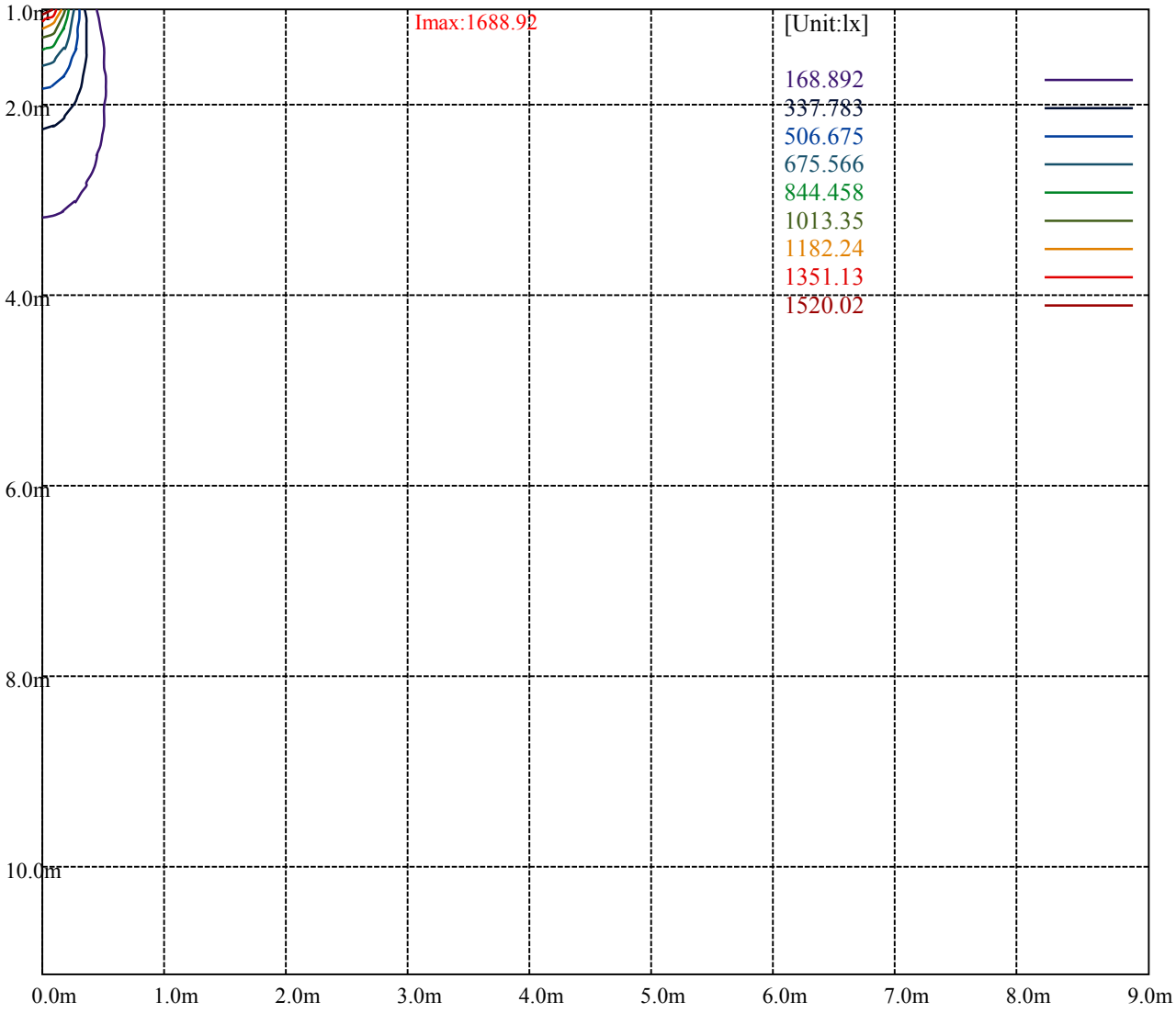
(10%Imax) 168.892
(20%Imax) 337.783
(30%Imax) 506.675
(40%Imax) 675.566
(50%Imax) 844.458
(60%Imax) 1013.35
(70%Imax) 1182.24
(80%Imax) 1351.13
(90%Imax) 1520.02

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/11/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/11/15
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Nata LN01D02824DA-N

Luminance Limitting Curve(no luminous side)

Luminance Table

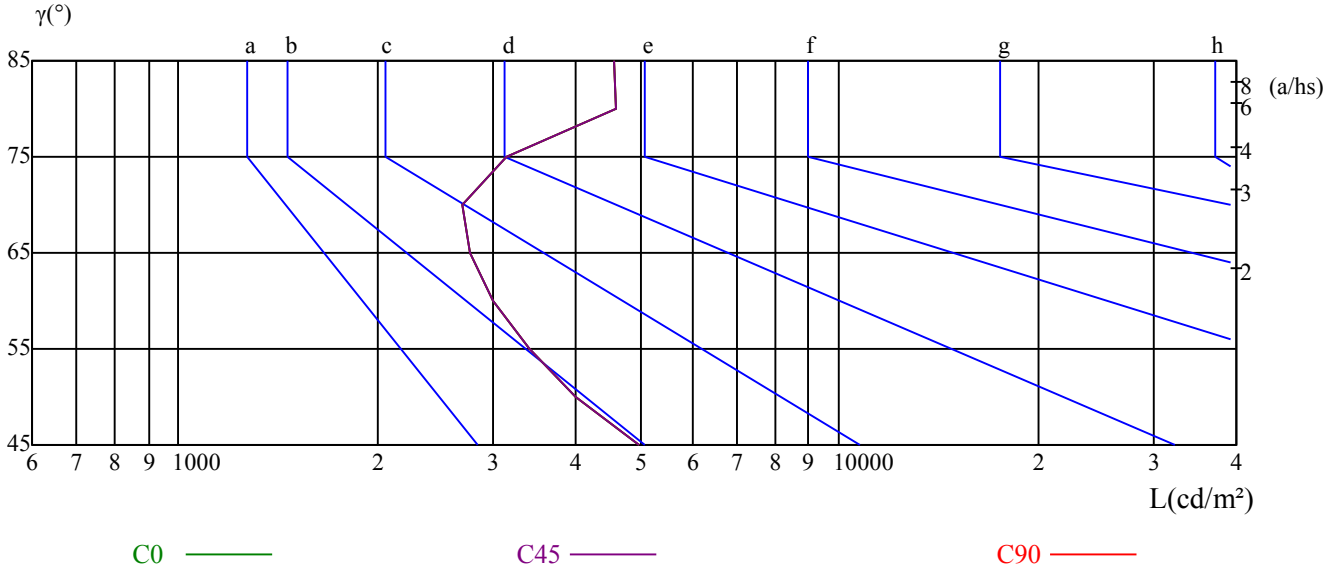
γ	45	50	55	60	65	70	75	80	85
C0	4981	4005	3406	3000	2761	2689	3143	4605	4556
C45	4981	4005	3406	3000	2761	2689	3143	4605	4556
C90	4981	4005	3406	3000	2761	2689	3143	4605	4556

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2761	2761	2761	3143	3143	3143	4556	4556	4556

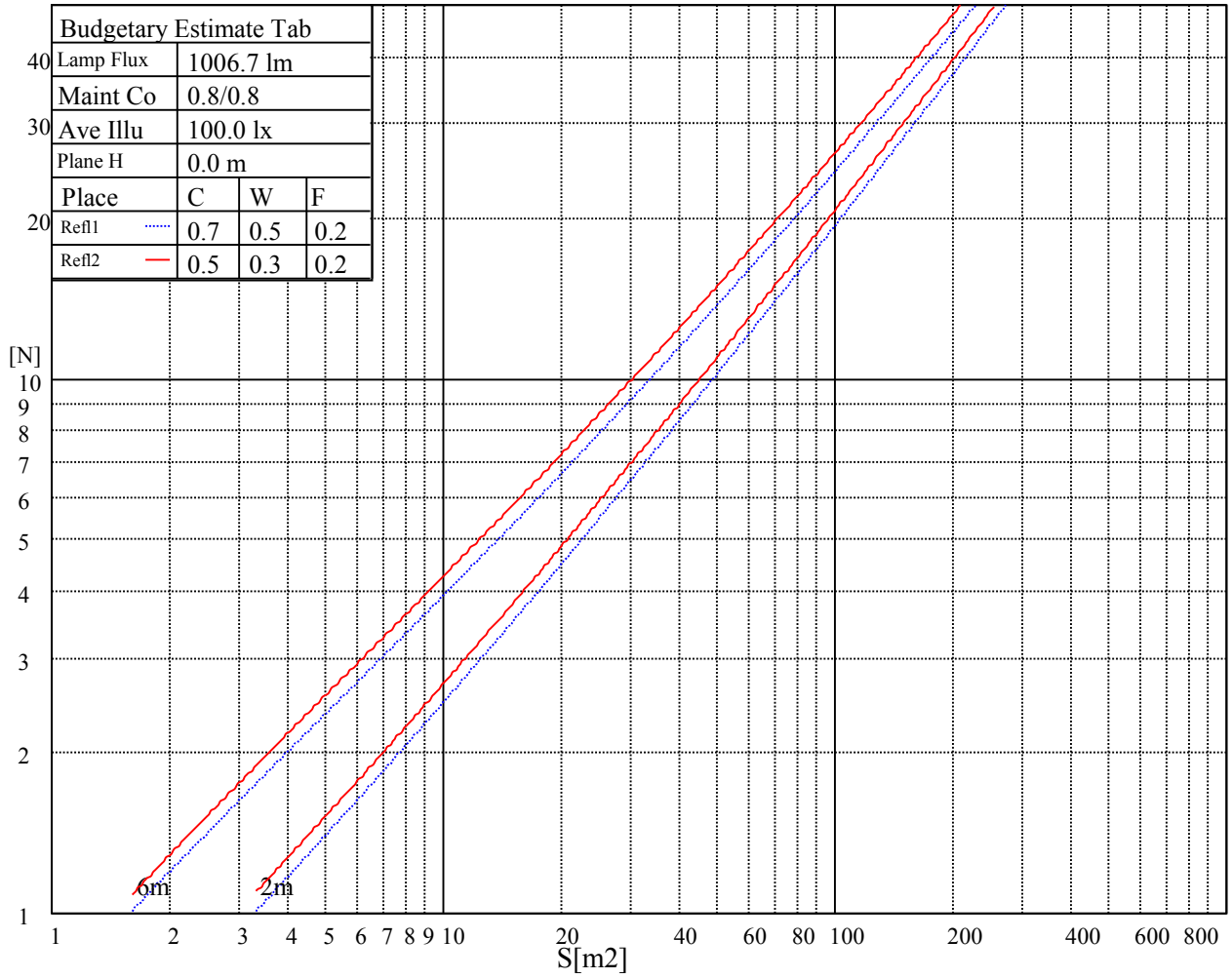
Glare Table

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

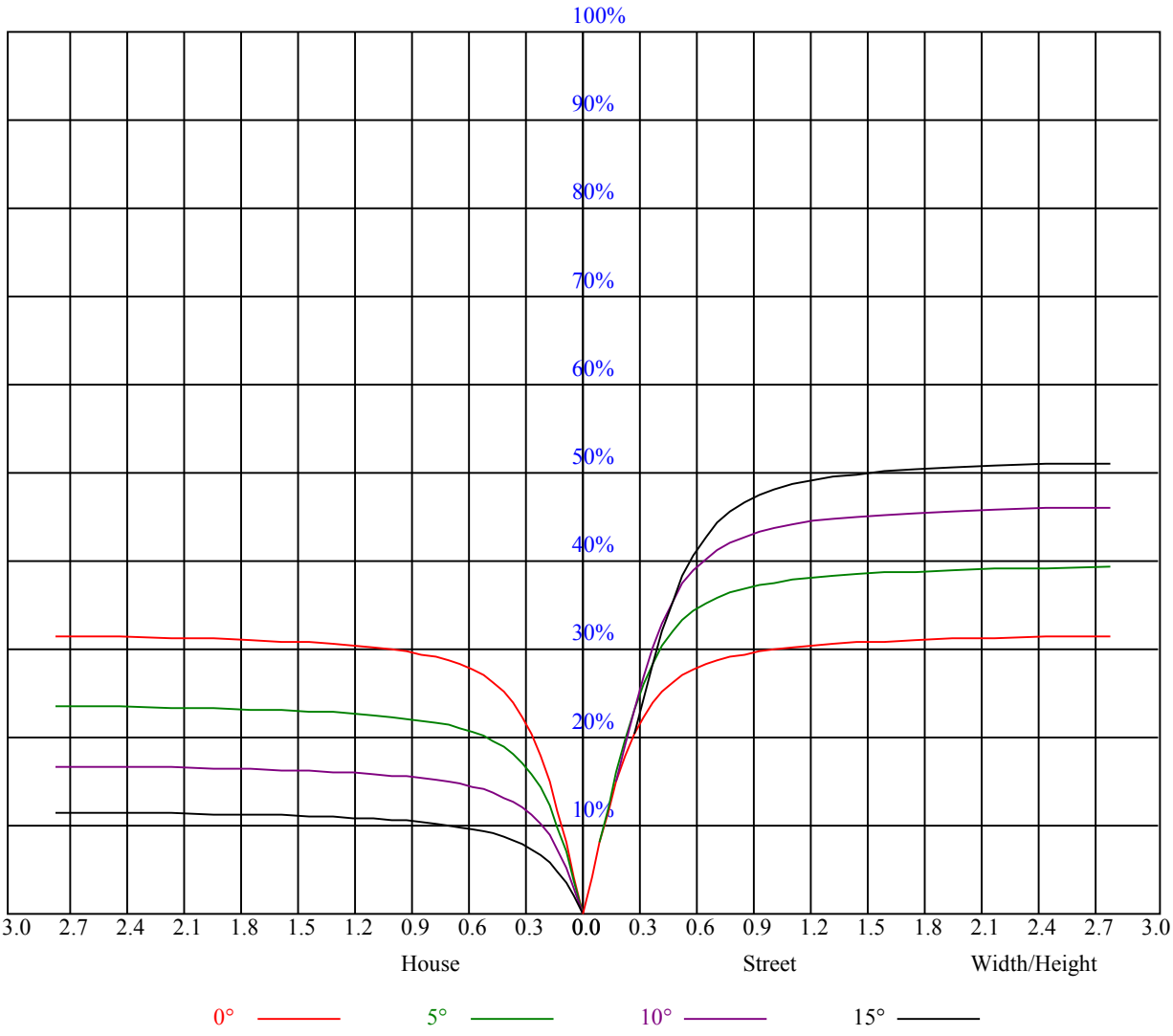


Equipment: GMS1980 Date: 2021/11/15 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	0.76	0.76	0.76	0.74	0.74	0.74	0.71	0.71	0.71	0.68	0.68	0.68	0.65	0.65	0.65	0.64
1	0.71	0.69	0.67	0.69	0.68	0.66	0.67	0.65	0.64	0.64	0.63	0.62	0.62	0.61	0.61	0.59
2	0.66	0.63	0.61	0.65	0.62	0.60	0.63	0.61	0.59	0.61	0.59	0.58	0.59	0.58	0.56	0.55
3	0.62	0.59	0.56	0.61	0.58	0.56	0.59	0.57	0.55	0.58	0.56	0.54	0.56	0.54	0.53	0.52
4	0.58	0.55	0.52	0.57	0.54	0.52	0.56	0.53	0.51	0.55	0.52	0.51	0.54	0.52	0.50	0.49
5	0.55	0.51	0.49	0.54	0.51	0.49	0.53	0.50	0.48	0.52	0.50	0.48	0.51	0.49	0.47	0.46
6	0.52	0.49	0.46	0.52	0.48	0.46	0.51	0.48	0.46	0.50	0.47	0.45	0.49	0.47	0.45	0.44
7	0.50	0.46	0.44	0.49	0.46	0.44	0.49	0.46	0.43	0.48	0.45	0.43	0.47	0.45	0.43	0.42
8	0.48	0.44	0.42	0.47	0.44	0.42	0.47	0.44	0.41	0.46	0.43	0.41	0.45	0.43	0.41	0.40
9	0.46	0.42	0.40	0.45	0.42	0.40	0.45	0.42	0.40	0.44	0.41	0.39	0.44	0.41	0.39	0.39
10	0.44	0.40	0.38	0.43	0.40	0.38	0.43	0.40	0.38	0.42	0.40	0.38	0.42	0.40	0.38	0.37

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/11/15	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	1681.45	1693.40	1694.59	1686.23	1665.91	1634.84	1597.79	1547.00	1494.42
45.0	1693.99	1685.63	1662.92	1635.44	1600.78	1552.38	1493.22	1433.47	1361.77
90.0	1688.62	1671.29	1640.81	1601.38	1557.76	1500.40	1441.24	1368.34	1289.47
135.0	1691.60	1678.46	1645.00	1610.94	1575.68	1515.93	1452.00	1397.02	1313.37
180.0	1681.45	1661.73	1633.64	1588.23	1544.01	1492.03	1425.70	1351.61	1281.70
225.0	1693.99	1693.40	1682.64	1661.13	1634.24	1593.61	1543.42	1492.03	1427.50
270.0	1688.62	1698.18	1697.58	1687.42	1668.30	1631.85	1593.61	1548.20	1489.04
315.0	1691.60	1698.77	1695.19	1680.85	1659.34	1624.68	1577.48	1529.67	1467.53
360.0	1681.45	1693.40	1694.59	1686.23	1665.91	1634.84	1597.79	1547.00	1494.42

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1428.09	1354.00	1282.30	1208.80	1119.77	1028.35	946.49	856.86	769.02
45.0	1283.49	1208.80	1120.37	1040.90	951.86	864.62	788.14	717.63	633.38
90.0	1192.37	1125.33	1028.65	960.95	884.58	782.52	720.44	653.10	581.99
135.0	1232.70	1166.97	1069.58	991.30	914.22	819.81	747.51	679.99	601.11
180.0	1185.14	1109.01	1032.05	945.77	870.18	787.18	708.01	641.87	579.36
225.0	1363.56	1285.28	1189.26	1122.64	1034.80	946.55	870.60	796.57	706.82
270.0	1422.12	1357.59	1277.52	1204.02	1116.18	1025.96	945.89	856.86	770.21
315.0	1404.79	1327.71	1191.89	1162.55	1072.50	991.48	902.45	824.95	739.86
360.0	1428.09	1354.00	1282.30	1208.80	1119.77	1028.35	946.49	856.86	769.02

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	696.12	628.60	552.71	495.95	444.56	387.80	348.36	312.51	303.54
45.0	571.24	514.47	457.11	402.14	362.70	323.26	303.54	254.67	229.45
90.0	516.50	464.22	411.64	365.09	328.46	292.13	263.57	235.19	210.09
135.0	541.96	488.18	428.43	383.61	344.77	304.74	269.78	243.73	217.14
180.0	507.18	455.56	409.07	357.80	321.71	289.68	257.83	229.93	207.82
225.0	640.55	579.13	515.73	457.83	411.22	364.25	322.67	289.80	257.48
270.0	697.91	630.99	554.51	498.34	446.35	389.59	348.96	312.51	304.14
315.0	661.05	596.51	537.06	469.30	420.54	376.62	328.40	294.46	264.65
360.0	696.12	628.60	552.71	495.95	444.56	387.80	348.36	312.51	303.54

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	242.78	218.46	194.67	176.33	158.35	142.45	129.90	117.41	106.42
45.0	205.07	183.20	166.11	148.84	133.73	121.90	110.24	100.98	91.66
90.0	190.31	172.69	152.91	139.04	126.74	113.35	103.85	95.37	87.66
135.0	196.17	175.79	157.27	142.63	128.29	115.86	106.06	97.22	87.48
180.0	185.83	168.56	151.06	135.64	123.57	111.74	101.34	93.15	85.86
225.0	232.32	206.80	184.58	167.25	151.83	134.98	122.91	112.22	100.38
270.0	242.24	217.74	196.29	175.37	157.21	142.93	128.65	116.22	106.30
315.0	235.25	209.14	188.70	168.68	153.03	137.43	123.63	112.75	101.88
360.0	242.78	218.46	194.67	176.33	158.35	142.45	129.90	117.41	106.42

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	97.70	89.75	80.97	74.81	69.31	63.94	59.22	55.45	51.57
45.0	83.65	77.38	71.17	64.59	59.87	55.57	50.67	47.26	44.16
90.0	79.29	73.20	67.04	62.08	57.18	52.70	49.06	45.47	42.19
135.0	80.73	74.87	68.42	62.74	58.38	53.96	49.95	46.61	43.32
180.0	77.80	72.00	66.92	61.19	57.18	53.42	49.59	46.25	43.62
225.0	92.02	84.67	76.48	70.69	65.49	59.81	56.17	51.99	47.80
270.0	96.38	88.49	80.55	73.50	68.00	63.70	57.72	53.84	50.73
315.0	92.26	84.79	78.10	70.63	65.43	60.89	56.29	52.10	48.82
360.0	97.70	89.75	80.97	74.81	69.31	63.94	59.22	55.45	51.57

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	48.10	45.29	42.54	40.21	37.88	35.67	33.94	32.33	30.47
45.0	41.05	38.24	35.91	33.58	31.67	29.64	27.84	26.29	24.74
90.0	39.56	37.11	34.60	32.39	30.53	28.38	26.83	25.39	24.02
135.0	40.69	38.06	35.61	33.70	31.85	29.76	28.20	26.77	25.10
180.0	40.93	38.78	36.57	34.54	32.86	31.31	29.46	28.14	26.89
225.0	45.17	41.95	38.84	36.87	34.78	32.09	30.59	28.98	27.25
270.0	46.31	43.38	41.11	38.06	35.61	33.82	31.49	29.76	28.20
315.0	45.35	42.31	39.80	37.23	35.19	33.10	31.13	29.58	28.08
360.0	48.10	45.29	42.54	40.21	37.88	35.67	33.94	32.33	30.47

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	29.10	27.79	26.35	25.28	24.14	23.00	21.93	21.03	20.02
45.0	23.24	22.05	20.97	19.60	18.70	17.75	16.67	15.83	15.06
90.0	22.41	21.21	20.14	19.00	17.93	17.03	16.07	15.18	14.40
135.0	23.84	22.65	21.39	20.26	19.36	18.28	17.33	16.49	15.72
180.0	25.39	24.44	23.42	22.23	21.39	20.55	19.54	18.76	18.05
225.0	25.69	24.38	22.95	21.63	20.50	19.30	18.34	17.27	16.25
270.0	26.35	25.04	23.72	22.23	21.15	20.02	18.76	17.81	16.91
315.0	26.35	25.04	23.84	22.35	21.27	20.26	19.18	18.11	17.27
360.0	29.10	27.79	26.35	25.28	24.14	23.00	21.93	21.03	20.02

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	19.12	18.34	17.57	16.91	16.19	15.54	14.94	14.40	13.74
45.0	14.22	13.44	12.85	12.13	11.59	10.93	10.34	9.86	9.32
90.0	13.62	12.97	12.31	11.59	11.05	10.52	9.86	9.38	8.90
135.0	14.88	14.16	13.44	12.91	12.37	11.77	11.29	10.82	10.22
180.0	17.21	16.61	15.95	15.18	14.70	14.16	13.44	13.09	13.68
225.0	15.48	14.70	13.80	13.15	12.49	11.71	11.11	10.52	10.04
270.0	15.89	15.06	14.28	13.50	12.73	12.13	11.47	10.88	10.34
315.0	16.37	15.66	14.82	14.10	13.50	12.85	12.25	11.71	11.23
360.0	19.12	18.34	17.57	16.91	16.19	15.54	14.94	14.40	13.74

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	13.32	13.15	14.16	15.66	16.97	17.75	19.48	21.27	22.77
45.0	8.78	8.31	7.83	7.23	6.87	7.71	7.83	7.53	6.04
90.0	8.31	7.83	7.35	6.87	6.33	5.98	5.50	5.08	4.72
135.0	9.86	9.44	9.02	8.43	8.07	7.83	8.37	8.31	7.41
180.0	15.48	17.03	17.15	16.97	18.34	19.24	18.94	17.21	15.24
225.0	9.38	8.90	8.37	7.83	7.41	6.99	7.35	8.01	7.11
270.0	9.68	9.14	8.66	8.01	7.59	7.11	6.57	6.15	5.74
315.0	10.64	10.22	9.74	9.20	8.72	8.37	8.43	8.90	9.80
360.0	13.32	13.15	14.16	15.66	16.97	17.75	19.48	21.27	22.77

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	23.30	21.69	19.30	16.97	12.61	5.32	3.94	3.47	2.87
45.0	4.90	4.42	4.18	3.88	3.05	2.81	2.63	2.57	2.57
90.0	4.36	4.00	3.64	3.23	2.87	2.63	2.57	2.57	2.57
135.0	6.57	5.98	5.62	6.09	3.76	2.99	2.75	2.69	2.63
180.0	13.21	10.52	6.69	4.54	3.53	3.05	2.75	2.69	2.63
225.0	5.68	5.02	4.54	4.24	3.94	3.11	2.87	2.69	2.63
270.0	5.26	4.90	4.54	4.12	3.82	3.35	2.99	2.75	2.57
315.0	9.62	8.72	7.47	6.33	5.56	4.00	3.53	2.87	2.69
360.0	23.30	21.69	19.30	16.97	12.61	5.32	3.94	3.47	2.87

Intensity data(cd)

C/γ(°)	90.0
0.0	2.75
45.0	2.57
90.0	2.57
135.0	2.63
180.0	3.05
225.0	2.57
270.0	2.57
315.0	2.63
360.0	2.75