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Nata

LumCAT: LN01D03524EE-N
Luminaire: 92.70.307.00
Report No: 210518-B006
Test No: 210518-C006
LampCAT: CREE CXA1304 LES6
Lamp flux(lm): 738.2
Number of Lamps: 1
Length(mm): 74
Phm Type: C

Voltage(V): 221.2000
Current(A): 0.0790
Power (W): 8.9000
PF: 0.5080
Ballast type: DC
Width(mm): 74
Height(mm): 56

Photometric Results

Lumens(lm): 516.15
Efficiency(%): 69.92%
Lumens(lm)/Power(W): 57.99
Central intensity(cd): 1727.438
Maximum intensity(cd): 1727.438
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=25.7
[C90/270]Total=25.7
Field angle(10%Imax): [C0/180]Total=51.0
[C90/270]Total=51.0
Maximum s/h(1/2): C0_180=0.43 C90_270=0.43
Maximum s/h(1/4): C0_180=0.44 C90_270=0.44
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 69.92%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 93.989%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1727.438	0.000	0	.000%	.000%
1.0	1719.773	1.649	1.649	.223%	.320%
2.0	1699.313	4.907	6.557	.665%	1.270%
3.0	1664.719	8.046	14.602	1.090%	2.829%
4.0	1619.016	10.992	25.594	1.489%	4.959%
5.0	1560.305	13.677	39.271	1.853%	7.609%
6.0	1485.914	16.009	55.28	2.169%	10.710%
7.0	1409.344	17.971	73.251	2.434%	14.192%
8.0	1322.044	19.548	92.799	2.648%	17.979%
9.0	1224.014	20.634	113.433	2.795%	21.977%
10.0	1132.488	21.325	134.759	2.889%	26.109%
11.0	1037.932	21.687	156.446	2.938%	30.310%
12.0	945.893	21.686	178.132	2.938%	34.512%
13.0	847.090	21.278	199.41	2.882%	38.634%
14.0	757.463	20.538	219.948	2.782%	42.614%
15.0	675.366	19.671	239.619	2.665%	46.425%
16.0	600.560	18.696	258.315	2.533%	50.047%
17.0	521.128	17.468	275.782	2.366%	53.431%
18.0	458.093	16.145	291.928	2.187%	56.559%
19.0	404.149	15.001	306.929	2.032%	59.466%
20.0	351.232	13.826	320.754	1.873%	62.144%
21.0	307.575	12.650	333.405	1.714%	64.595%
22.0	271.413	11.635	345.04	1.576%	66.849%
23.0	239.808	10.727	355.767	1.453%	68.928%
24.0	205.805	9.743	365.509	1.320%	70.815%
25.0	182.573	8.831	374.34	1.196%	72.526%
26.0	162.162	8.138	382.478	1.102%	74.103%
27.0	144.141	7.494	389.971	1.015%	75.555%
28.0	127.842	6.886	396.857	.933%	76.889%
29.0	113.738	6.320	403.178	.856%	78.113%
30.0	102.579	5.840	409.018	.791%	79.245%
31.0	92.236	5.421	414.44	.734%	80.295%
32.0	82.955	5.019	419.459	.680%	81.268%
33.0	75.368	4.664	424.123	.632%	82.171%
34.0	68.723	4.361	428.484	.591%	83.016%
35.0	61.833	4.055	432.538	.549%	83.802%
36.0	56.588	3.771	436.309	.511%	84.532%
37.0	52.151	3.546	439.855	.480%	85.219%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	47.848	3.338	443.193	.452%	85.866%
39.0	43.713	3.125	446.318	.423%	86.471%
40.0	40.444	2.935	449.253	.398%	87.040%
41.0	37.385	2.771	452.025	.375%	87.577%
42.0	34.404	2.608	454.633	.353%	88.082%
43.0	31.936	2.457	457.09	.333%	88.558%
44.0	29.721	2.327	459.418	.315%	89.009%
45.0	27.759	2.209	461.627	.299%	89.437%
46.0	25.924	2.099	463.726	.284%	89.844%
47.0	24.363	2.000	465.726	.271%	90.232%
48.0	22.908	1.911	467.637	.259%	90.602%
49.0	21.473	1.823	469.46	.247%	90.955%
50.0	20.081	1.733	471.192	.235%	91.291%
51.0	18.984	1.653	472.845	.224%	91.611%
52.0	18.000	1.587	474.432	.215%	91.918%
53.0	16.973	1.521	475.953	.206%	92.213%
54.0	16.045	1.455	477.409	.197%	92.495%
55.0	15.300	1.399	478.808	.190%	92.766%
56.0	14.639	1.353	480.161	.183%	93.028%
57.0	13.915	1.306	481.466	.177%	93.281%
58.0	13.310	1.259	482.725	.171%	93.525%
59.0	12.762	1.219	483.944	.165%	93.761%
60.0	12.178	1.178	485.122	.160%	93.989%
61.0	11.679	1.139	486.261	.154%	94.210%
62.0	11.243	1.105	487.365	.150%	94.424%
63.0	10.842	1.074	488.439	.146%	94.632%
64.0	10.631	1.054	489.493	.143%	94.836%
65.0	10.659	1.054	490.547	.143%	95.040%
66.0	10.891	1.075	491.622	.146%	95.249%
67.0	11.257	1.114	492.736	.151%	95.464%
68.0	11.862	1.171	493.907	.159%	95.691%
69.0	12.361	1.236	495.143	.167%	95.931%
70.0	12.818	1.293	496.436	.175%	96.181%
71.0	13.282	1.349	497.785	.183%	96.443%
72.0	13.739	1.405	499.19	.190%	96.715%
73.0	14.119	1.457	500.647	.197%	96.997%
74.0	14.463	1.503	502.149	.204%	97.288%
75.0	14.534	1.532	503.681	.208%	97.585%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	14.161	1.523	505.204	.206%	97.880%
77.0	13.486	1.474	506.678	.200%	98.166%
78.0	12.656	1.399	508.078	.190%	98.437%
79.0	11.714	1.309	509.387	.177%	98.691%
80.0	10.856	1.217	510.604	.165%	98.926%
81.0	9.935	1.124	511.728	.152%	99.144%
82.0	8.262	0.987	512.715	.134%	99.335%
83.0	5.934	0.772	513.487	.105%	99.485%
84.0	4.380	0.562	514.049	.076%	99.594%
85.0	3.902	0.452	514.501	.061%	99.681%
86.0	3.389	0.399	514.9	.054%	99.759%
87.0	3.052	0.352	515.252	.048%	99.827%
88.0	2.784	0.320	515.572	.043%	99.889%
89.0	2.602	0.295	515.867	.040%	99.946%
90.0	2.482	0.279	516.146	.038%	100.000%

Zonal flux distribution table

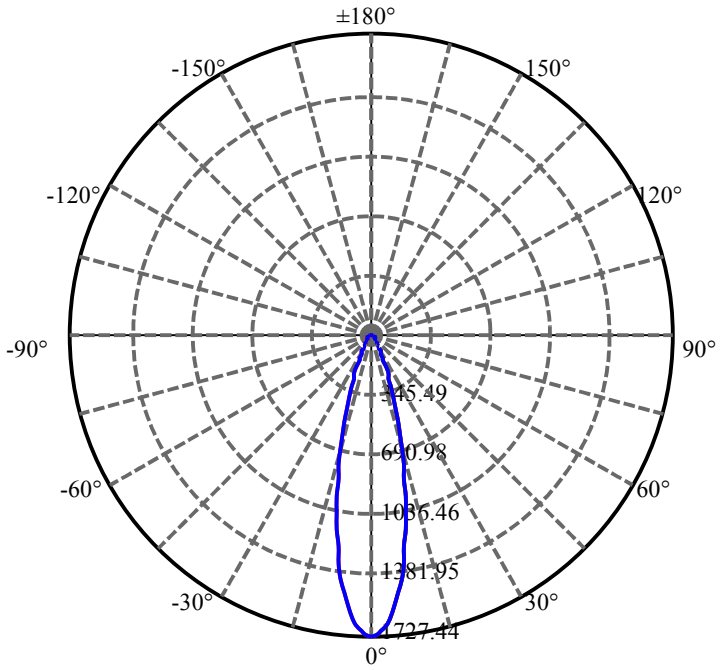
ZONAL LUMEN SUMMARY

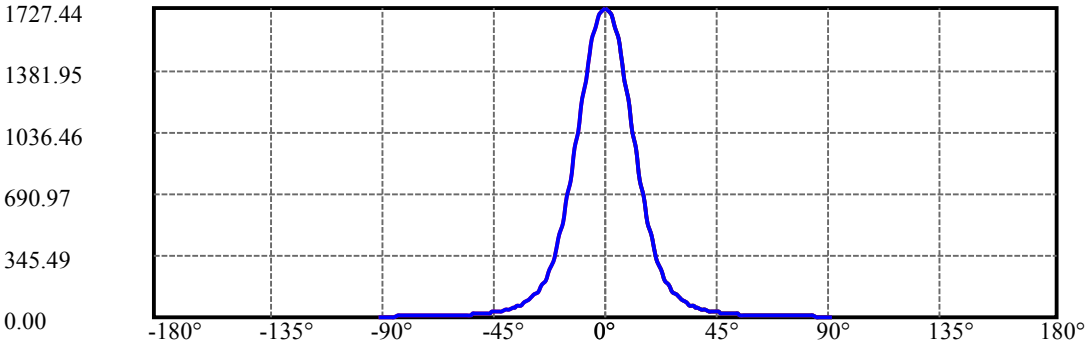
Zone	Lumens	%Lamp	%Fixt
0-30	409.02	55.41%	79.24%
0-40	449.25	60.86%	87.04%
0-60	485.12	65.72%	93.99%
0-90	515.87	69.88%	99.95%
0-120	515.87	69.88%	99.95%
0-180	516.15	69.92%	100.00%
60-90	31.92	4.32%	6.18%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-30.72	412.92	55.93%	80.00%

ZONAL LUMEN SUMMARY

0-10	134.76
10-20	186.00
20-30	88.26
30-40	40.23
40-50	21.94
50-60	13.93
60-70	11.31
70-80	14.17
80-90	5.26
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):

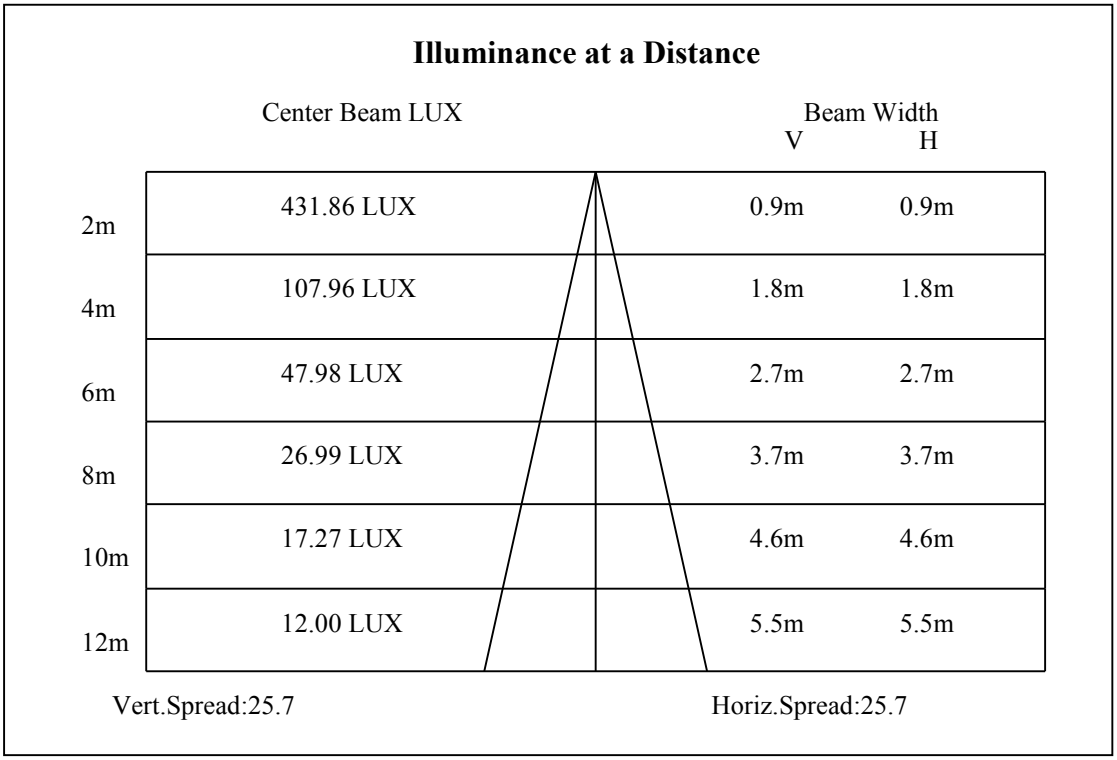
C0/C180:

C90/C270:

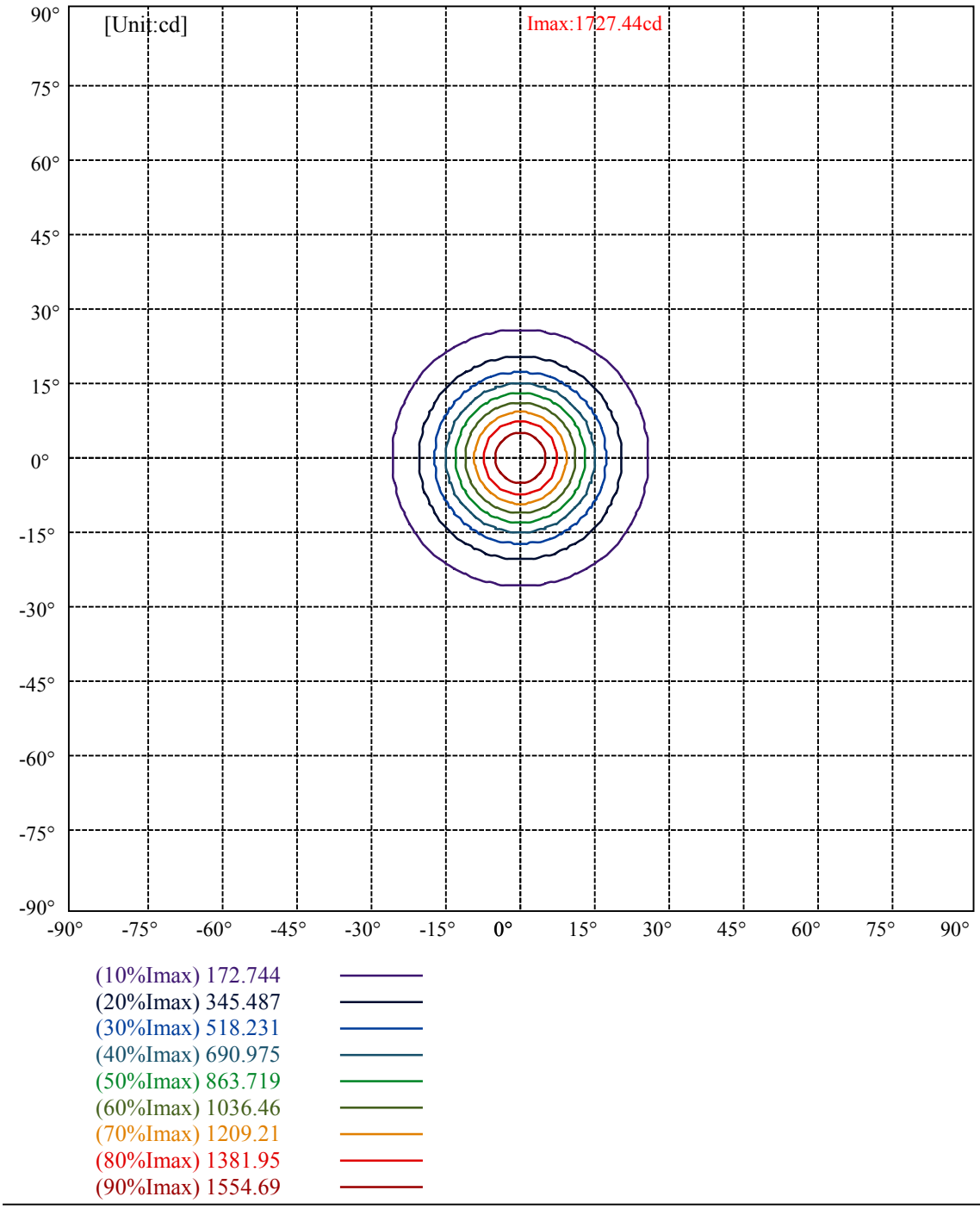
Field angle(10%Imax):C0/180Left:25.5 Right:25.5
:C90/270Left:25.5 Right:25.5

Beam Angle(50%Imax):C0/180Left:12.8 Right:12.8
:C90/270Left:12.8 Right:12.8

Lux distance Curve



ISO-Intensity(V-H)



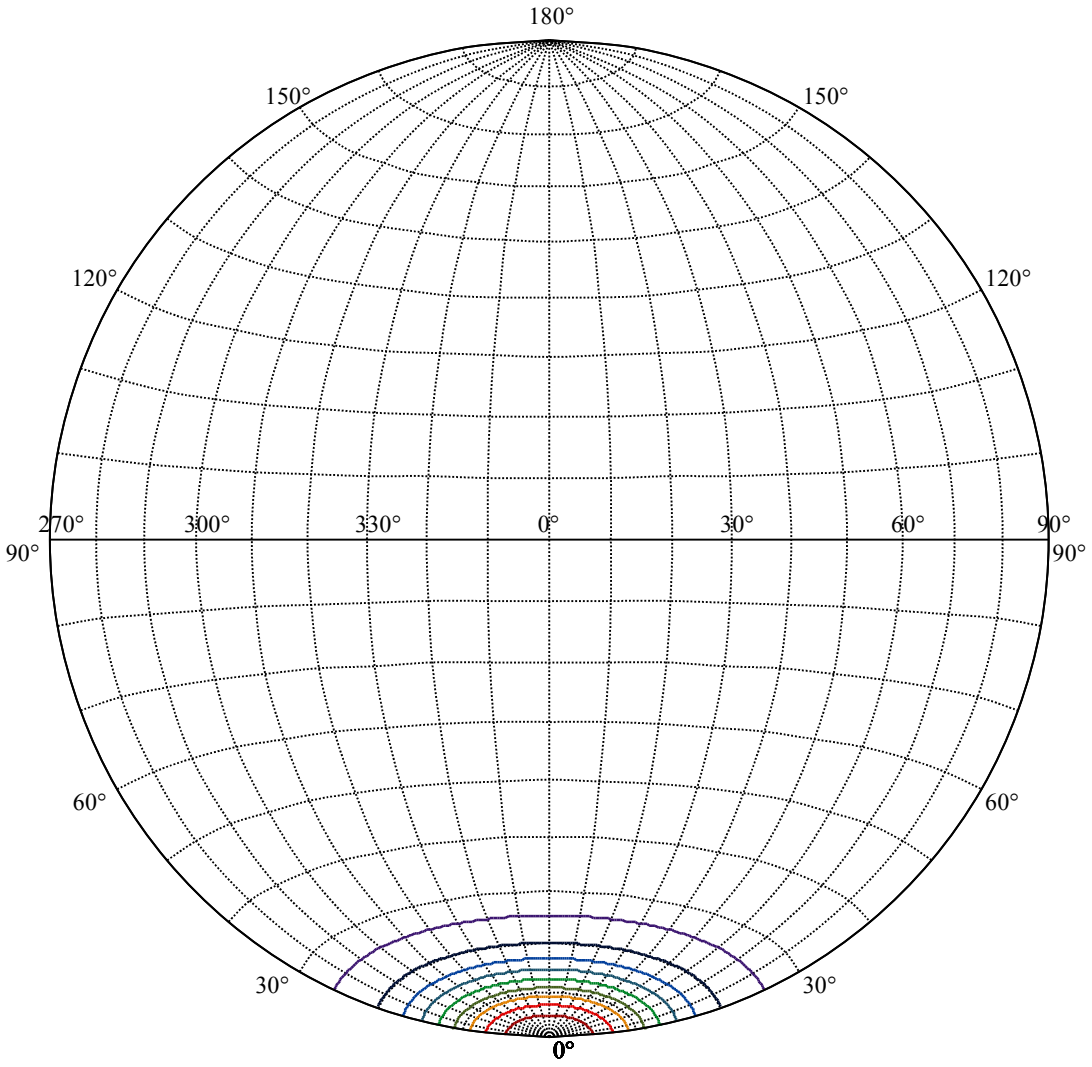
(10%Imax) 172.744
(20%Imax) 345.487
(30%Imax) 518.231
(40%Imax) 690.975
(50%Imax) 863.719
(60%Imax) 1036.46
(70%Imax) 1209.21
(80%Imax) 1381.95
(90%Imax) 1554.69

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:1727.44

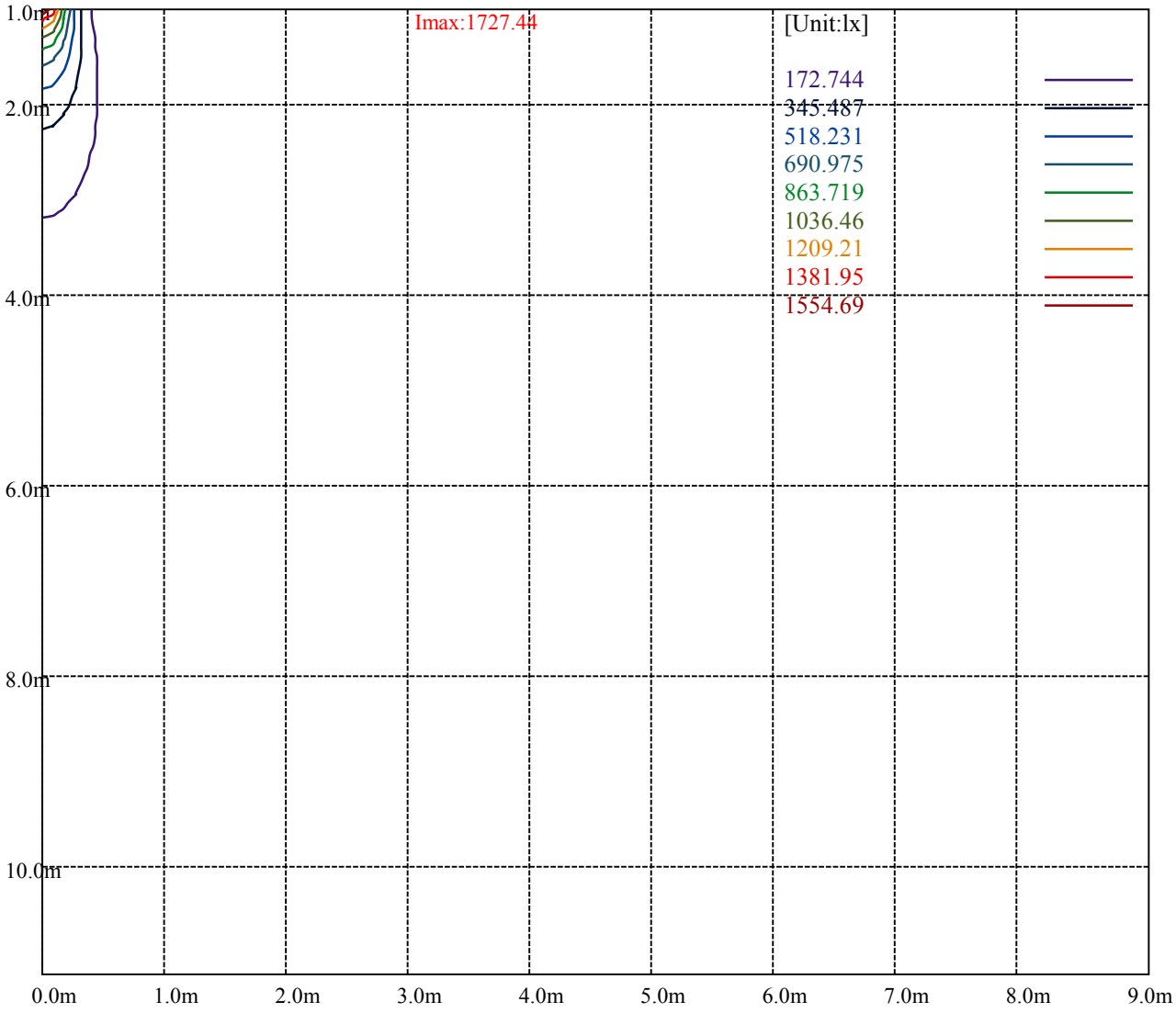
(10%Imax) 172.744
(20%Imax) 345.487
(30%Imax) 518.231
(40%Imax) 690.975
(50%Imax) 863.719
(60%Imax) 1036.46
(70%Imax) 1209.21
(80%Imax) 1381.95
(90%Imax) 1554.69

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D03524EE-N

Luminance Limitting Curve(no luminous side)

Luminance Table

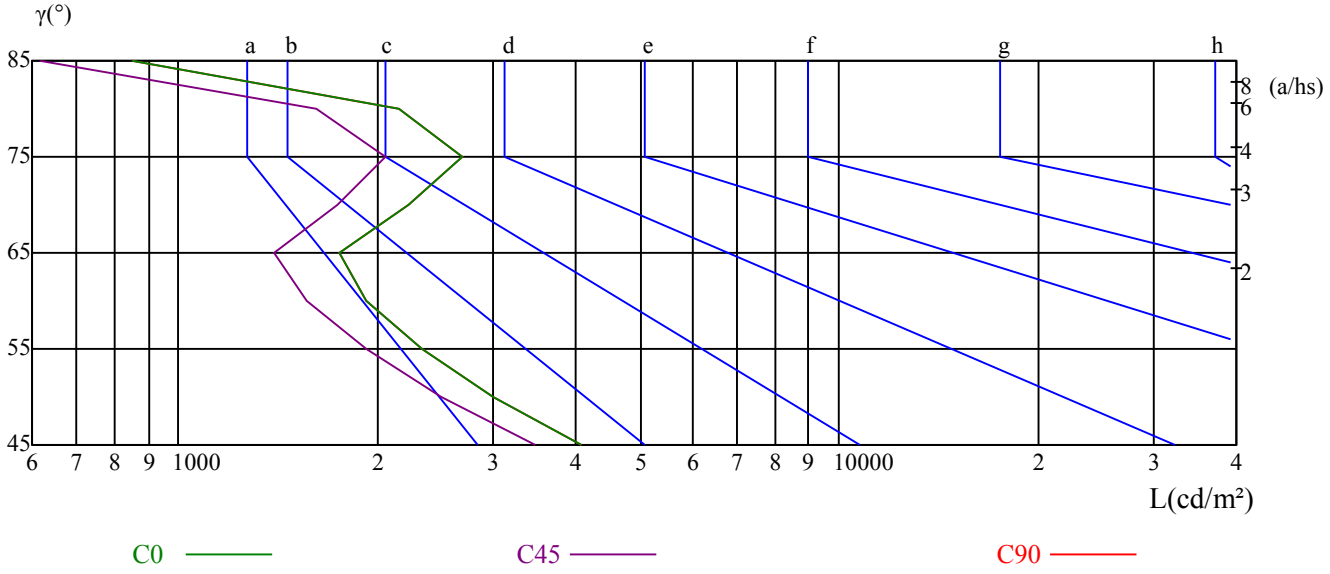
γ	45	50	55	60	65	70	75	80	85
C0	4081	3000	2341	1925	1756	2223	2681	2157	847
C45	3463	2507	1927	1559	1398	1737	2053	1615	618
C90	4081	3000	2341	1925	1756	2223	2681	2157	847

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4606	4606	4606	10254	10254	10254	8176	8176	8176

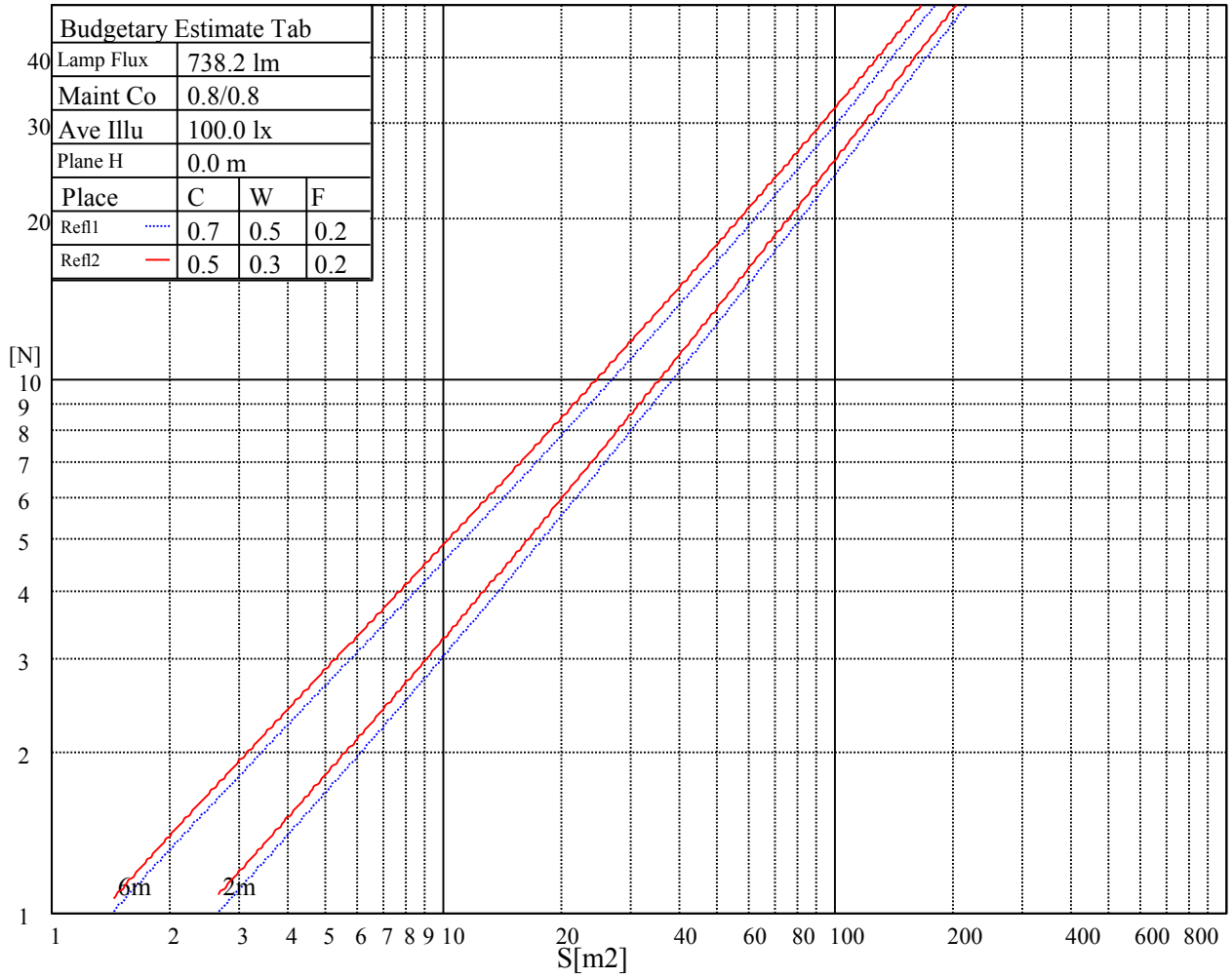
Glare Table

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

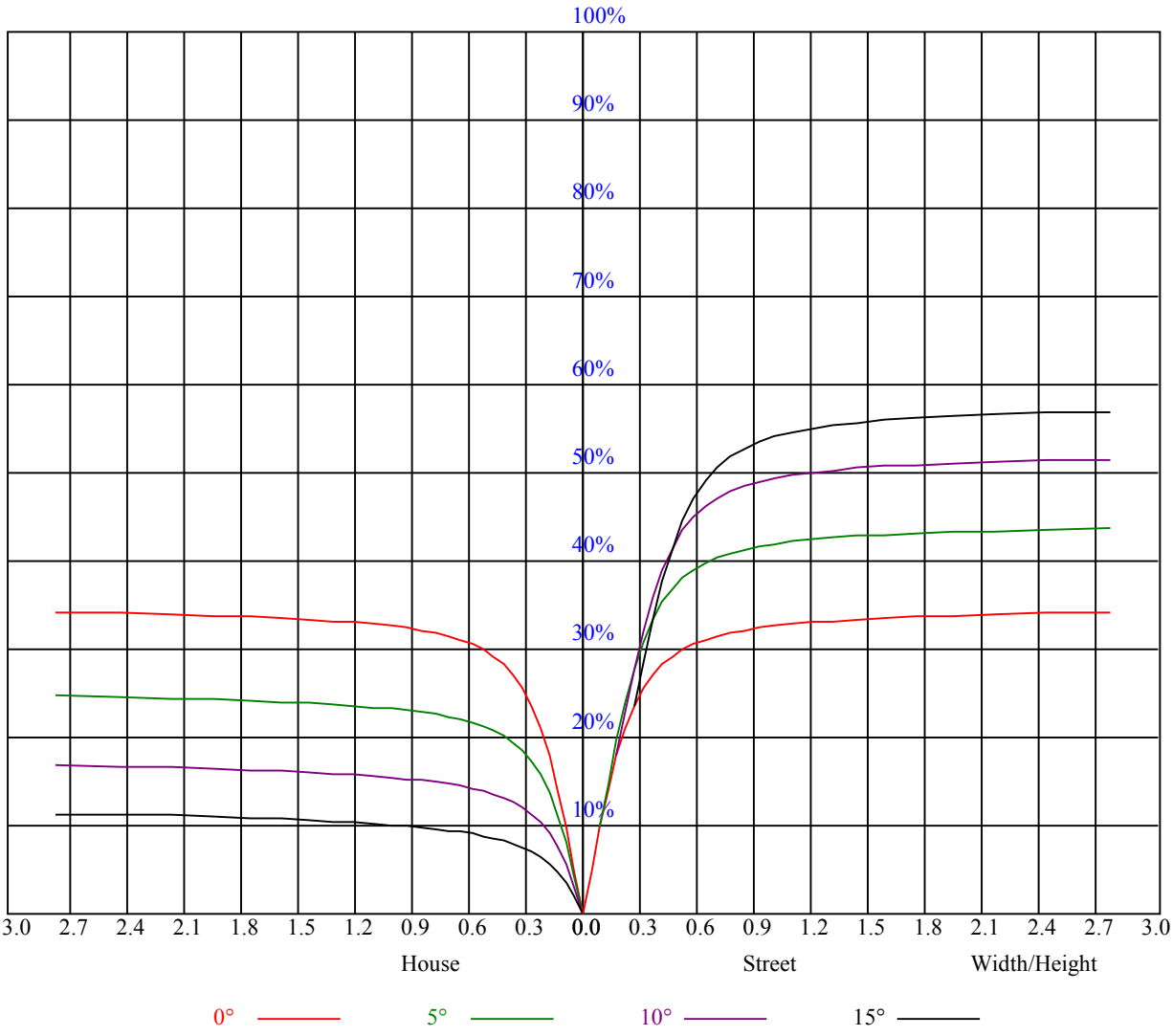


Equipment: GMS1980 Date: 2021/05/18 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.83	0.83	0.83	0.81	0.81	0.81	0.78	0.78	0.78	0.74	0.74	0.74	0.71	0.71	0.71	0.70
1	0.77	0.75	0.74	0.76	0.74	0.72	0.73	0.71	0.70	0.70	0.69	0.68	0.68	0.67	0.66	0.65
2	0.72	0.69	0.67	0.71	0.68	0.66	0.69	0.66	0.65	0.66	0.65	0.63	0.65	0.63	0.62	0.61
3	0.68	0.64	0.62	0.67	0.64	0.61	0.65	0.62	0.60	0.63	0.61	0.59	0.62	0.60	0.58	0.57
4	0.64	0.61	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.61	0.58	0.56	0.59	0.57	0.55	0.54
5	0.61	0.57	0.55	0.60	0.57	0.54	0.59	0.56	0.54	0.58	0.55	0.53	0.57	0.55	0.53	0.52
6	0.58	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.56	0.53	0.51	0.55	0.52	0.51	0.50
7	0.56	0.52	0.49	0.55	0.52	0.49	0.54	0.51	0.49	0.54	0.51	0.49	0.53	0.50	0.49	0.48
8	0.54	0.50	0.47	0.53	0.50	0.47	0.52	0.49	0.47	0.52	0.49	0.47	0.51	0.49	0.47	0.46
9	0.51	0.48	0.46	0.51	0.48	0.45	0.51	0.47	0.45	0.50	0.47	0.45	0.49	0.47	0.45	0.44
10	0.50	0.46	0.44	0.49	0.46	0.44	0.49	0.46	0.44	0.48	0.46	0.44	0.48	0.45	0.43	0.43

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/05/18	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	1704.94	1722.94	1727.44	1717.88	1694.25	1654.88	1600.88	1542.38	1465.31
45.0	1742.06	1738.13	1722.94	1690.88	1648.13	1598.06	1517.63	1444.50	1363.50
90.0	1734.75	1717.88	1690.31	1647.56	1589.06	1527.19	1444.50	1355.06	1267.31
135.0	1728.00	1709.44	1673.44	1631.25	1579.50	1498.50	1425.38	1343.81	1251.00
180.0	1704.94	1675.13	1629.00	1568.81	1505.81	1425.38	1334.25	1249.31	1122.41
225.0	1742.06	1726.88	1705.50	1665.56	1613.25	1554.19	1476.56	1392.75	1311.19
270.0	1734.75	1737.56	1724.06	1698.19	1660.50	1616.63	1538.44	1470.38	1405.13
315.0	1728.00	1730.25	1721.81	1697.63	1661.63	1607.63	1549.69	1476.56	1390.50
360.0	1704.94	1722.94	1727.44	1717.88	1694.25	1654.88	1600.88	1542.38	1465.31

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1378.69	1294.88	1194.75	1104.19	999.00	896.06	807.75	722.25	623.81
45.0	1256.06	1166.06	1073.25	969.75	866.81	782.44	692.44	616.50	541.13
90.0	1118.08	1071.79	970.65	881.27	784.80	695.03	620.33	550.52	471.66
135.0	1153.13	1061.44	958.50	870.75	774.00	684.00	610.88	534.38	465.75
180.0	1054.41	953.83	844.54	771.24	681.36	598.50	531.23	469.52	393.47
225.0	1227.94	1112.29	1023.19	932.96	825.30	742.33	666.17	593.78	510.75
270.0	1293.75	1208.81	1131.75	1020.94	920.81	844.88	740.25	662.06	587.81
315.0	1310.06	1190.81	1106.83	1016.04	924.64	816.47	733.89	655.48	574.65
360.0	1378.69	1294.88	1194.75	1104.19	999.00	896.06	807.75	722.25	623.81

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	553.50	489.38	417.38	367.88	324.00	285.75	243.84	217.01	193.56
45.0	471.38	417.38	363.38	316.13	288.00	245.42	211.73	187.31	168.47
90.0	415.58	366.41	317.81	276.19	244.46	213.98	187.59	167.63	147.94
135.0	410.63	362.25	309.94	286.31	239.79	212.85	183.43	162.39	145.63
180.0	351.73	309.54	268.93	234.73	209.36	185.79	160.76	143.61	127.13
225.0	452.59	393.86	347.57	302.40	267.08	232.43	202.67	180.28	158.96
270.0	507.38	450.00	398.25	341.44	302.06	284.63	228.66	203.06	180.45
315.0	501.98	444.38	386.61	335.53	296.55	257.63	227.76	199.29	175.16
360.0	553.50	489.38	417.38	367.88	324.00	285.75	243.84	217.01	193.56

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	170.72	148.11	131.06	118.29	105.98	96.41	86.91	79.43	71.16
45.0	149.12	132.24	118.01	106.88	94.44	85.84	78.58	70.43	63.73
90.0	132.81	117.96	104.91	94.95	86.06	76.56	69.92	64.13	57.43
135.0	128.14	115.48	103.44	92.42	82.69	75.26	67.89	61.76	56.19
180.0	114.64	102.49	91.74	83.42	76.05	68.06	62.55	57.60	52.09
225.0	142.31	125.94	112.16	101.53	92.14	81.84	74.59	68.18	61.09
270.0	158.74	140.01	125.49	111.88	99.96	90.62	81.45	74.31	66.99
315.0	156.66	140.51	123.08	111.26	100.58	89.04	81.06	73.97	65.98
360.0	170.72	148.11	131.06	118.29	105.98	96.41	86.91	79.43	71.16

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	65.31	60.19	55.52	50.18	46.35	43.09	39.32	36.62	34.09
45.0	57.71	53.21	49.16	45.06	41.23	38.25	34.82	32.34	30.21
90.0	52.71	48.38	44.38	40.67	37.80	34.93	32.68	30.43	28.52
135.0	51.47	47.59	43.43	39.99	37.13	34.31	31.28	29.14	27.23
180.0	48.32	44.78	41.51	38.08	35.49	33.02	30.49	28.18	26.38
225.0	56.14	51.81	47.42	43.43	40.39	37.18	34.48	31.89	29.59
270.0	60.58	55.58	51.08	45.96	42.30	39.21	35.72	33.24	30.94
315.0	60.47	55.69	50.29	46.35	42.86	39.09	36.45	33.64	30.83
360.0	65.31	60.19	55.52	50.18	46.35	43.09	39.32	36.62	34.09

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	31.50	29.14	27.23	25.31	23.85	22.28	20.98	19.97	18.90
45.0	28.29	26.21	24.86	23.57	21.88	20.64	19.63	18.45	17.33
90.0	26.83	25.20	23.91	22.67	20.59	18.62	17.61	16.82	15.81
135.0	25.20	23.79	22.61	21.04	19.74	18.79	17.72	16.71	15.75
180.0	24.64	23.06	21.83	20.59	19.69	18.68	17.66	16.93	16.14
225.0	27.79	26.04	24.41	22.89	21.66	20.25	19.24	18.17	17.16
270.0	28.69	26.61	24.98	23.29	21.83	20.42	19.13	18.17	17.16
315.0	29.14	27.34	25.09	23.91	22.56	20.98	19.91	18.79	17.55
360.0	31.50	29.14	27.23	25.31	23.85	22.28	20.98	19.97	18.90

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	17.94	17.16	16.54	15.69	15.13	14.57	13.67	13.11	12.60
45.0	16.48	15.58	14.85	14.12	13.44	12.88	12.32	11.76	11.36
90.0	14.96	14.29	13.61	13.05	12.60	12.15	11.70	11.36	11.03
135.0	15.02	14.23	13.61	12.88	12.38	11.87	11.36	10.91	10.52
180.0	15.13	14.51	14.06	13.33	12.71	12.15	11.59	11.03	10.58
225.0	16.20	15.47	14.68	14.01	13.33	12.77	12.26	11.76	11.25
270.0	16.14	15.47	14.91	14.06	13.44	12.88	12.21	11.81	11.36
315.0	16.48	15.69	14.85	14.18	13.44	12.83	12.32	11.70	11.25
360.0	17.94	17.16	16.54	15.69	15.13	14.57	13.67	13.11	12.60

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.98	11.53	11.14	10.63	10.24	9.96	9.62	9.39	9.23
45.0	11.03	10.58	10.24	9.90	9.51	9.17	8.83	8.55	8.21
90.0	10.86	11.81	13.56	15.81	18.56	22.22	24.64	26.89	29.48
135.0	10.13	9.79	9.45	9.06	8.72	8.44	8.16	7.93	7.59
180.0	10.13	9.73	9.39	9.06	8.83	8.61	8.49	8.38	8.27
225.0	10.86	10.41	10.01	9.68	9.39	8.94	8.72	8.55	8.16
270.0	10.97	10.80	11.53	13.33	15.47	18.51	21.71	24.30	27.17
315.0	10.80	10.41	9.96	9.68	9.34	9.06	8.72	8.55	8.16
360.0	11.98	11.53	11.14	10.63	10.24	9.96	9.62	9.39	9.23

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	9.06	9.06	8.94	8.83	8.66	8.44	8.04	7.59	7.03
45.0	7.93	7.59	7.31	6.98	6.58	6.30	6.02	5.63	5.34
90.0	32.01	34.09	36.23	36.62	35.66	33.08	30.88	28.46	26.04
135.0	7.31	7.03	6.75	6.36	6.02	5.74	5.40	5.12	4.84
180.0	8.04	7.76	7.48	6.92	6.47	6.08	5.57	5.18	4.89
225.0	7.76	7.43	7.03	6.75	6.41	6.08	5.85	5.51	5.18
270.0	29.93	32.34	34.65	36.79	36.79	35.78	33.41	30.43	28.13
315.0	7.88	7.65	7.31	7.03	6.69	6.41	6.08	5.79	5.40
360.0	9.06	9.06	8.94	8.83	8.66	8.44	8.04	7.59	7.03

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.53	5.91	5.40	4.95	4.61	4.28	3.66	3.32	3.09
45.0	5.01	4.78	4.50	4.22	3.94	3.43	3.21	2.98	2.76
90.0	23.18	16.26	8.04	4.44	3.88	3.04	2.76	2.42	2.25
135.0	4.50	4.28	3.99	3.71	3.43	2.98	2.76	2.53	2.42
180.0	4.56	4.28	3.94	3.60	3.21	2.93	2.70	2.48	2.48
225.0	4.95	4.73	4.33	4.05	3.71	3.32	3.04	2.81	2.59
270.0	25.71	21.04	12.83	5.85	4.44	3.60	3.09	2.76	2.53
315.0	5.06	4.84	4.44	4.22	3.99	3.54	3.21	2.98	2.70
360.0	6.53	5.91	5.40	4.95	4.61	4.28	3.66	3.32	3.09

Intensity data(cd)

C/γ(°)	90.0
0.0	2.87
45.0	2.64
90.0	2.25
135.0	2.42
180.0	2.36
225.0	2.59
270.0	2.25
315.0	2.48
360.0	2.87