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Nata

LumCAT: LN01D03524EE-N
Luminaire: 92.70.307.00
Report No: 210520-B002
Test No: 210520-C002
LampCAT: CITIZEN CLU700 LES6
Lamp flux(lm): 642.2
Number of Lamps: 1
Length(mm): 74
Phm Type: C

Voltage(V): 221.4000
Current(A): 0.0650
Power (W): 6.9000
PF: 0.4810
Ballast type: DC
Width(mm): 74
Height(mm): 56

Photometric Results

Lumens(lm): 437.72
Efficiency(%): 68.16%
Lumens(lm)/Power(W): 63.44
Central intensity(cd): 1429.594
Maximum intensity(cd): 1429.594
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=51.5
[C90/270]Total=51.5
Maximum s/h(1/2): C0_180=0.44 C90_270=0.44
Maximum s/h(1/4): C0_180=0.45 C90_270=0.45
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 68.16%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 93.880%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1429.594	0.000	0	.000%	.000%
1.0	1423.547	1.365	1.365	.213%	.312%
2.0	1406.953	4.063	5.428	.633%	1.240%
3.0	1377.563	6.660	12.087	1.037%	2.761%
4.0	1339.102	9.094	21.181	1.416%	4.839%
5.0	1293.891	11.327	32.508	1.764%	7.427%
6.0	1229.534	13.261	45.769	2.065%	10.456%
7.0	1150.720	14.774	60.543	2.300%	13.831%
8.0	1100.784	16.114	76.657	2.509%	17.513%
9.0	1025.501	17.232	93.889	2.683%	21.449%
10.0	941.569	17.801	111.691	2.772%	25.516%
11.0	867.537	18.077	129.767	2.815%	29.646%
12.0	790.784	18.128	147.895	2.823%	33.787%
13.0	703.202	17.730	165.625	2.761%	37.838%
14.0	634.310	17.120	182.745	2.666%	41.749%
15.0	567.330	16.497	199.242	2.569%	45.518%
16.0	500.484	15.646	214.888	2.436%	49.092%
17.0	438.455	14.622	229.51	2.277%	52.432%
18.0	386.880	13.608	243.118	2.119%	55.541%
19.0	338.196	12.615	255.733	1.964%	58.423%
20.0	297.211	11.630	267.363	1.811%	61.080%
21.0	267.202	10.838	278.2	1.688%	63.556%
22.0	229.458	9.981	288.181	1.554%	65.836%
23.0	201.656	9.046	297.227	1.408%	67.903%
24.0	176.555	8.269	305.496	1.288%	69.792%
25.0	155.173	7.543	313.039	1.174%	71.515%
26.0	139.359	6.952	319.991	1.083%	73.103%
27.0	125.121	6.471	326.462	1.008%	74.582%
28.0	109.392	5.937	332.399	.924%	75.938%
29.0	98.789	5.447	337.846	.848%	77.182%
30.0	89.515	5.084	342.93	.792%	78.344%
31.0	80.114	4.721	347.65	.735%	79.422%
32.0	72.626	4.376	352.026	.681%	80.422%
33.0	66.354	4.094	356.121	.638%	81.357%
34.0	60.216	3.830	359.951	.596%	82.232%
35.0	54.731	3.570	363.521	.556%	83.048%
36.0	50.330	3.345	366.866	.521%	83.812%
37.0	46.104	3.145	370.011	.490%	84.531%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	42.588	2.960	372.972	.461%	85.207%
39.0	39.052	2.787	375.758	.434%	85.843%
40.0	36.014	2.618	378.376	.408%	86.442%
41.0	33.448	2.473	380.85	.385%	87.007%
42.0	31.008	2.342	383.191	.365%	87.542%
43.0	28.631	2.209	385.401	.344%	88.046%
44.0	26.796	2.092	387.493	.326%	88.524%
45.0	25.158	1.997	389.489	.311%	88.980%
46.0	23.330	1.896	391.386	.295%	89.414%
47.0	22.029	1.804	393.19	.281%	89.826%
48.0	20.848	1.733	394.923	.270%	90.222%
49.0	19.568	1.660	396.583	.258%	90.601%
50.0	18.323	1.580	398.162	.246%	90.962%
51.0	17.367	1.510	399.672	.235%	91.307%
52.0	16.411	1.449	401.122	.226%	91.638%
53.0	15.560	1.391	402.513	.217%	91.956%
54.0	14.766	1.337	403.849	.208%	92.261%
55.0	14.027	1.285	405.134	.200%	92.555%
56.0	13.444	1.241	406.376	.193%	92.838%
57.0	12.811	1.200	407.576	.187%	93.112%
58.0	12.220	1.158	408.734	.180%	93.377%
59.0	11.721	1.119	409.853	.174%	93.633%
60.0	11.229	1.084	410.937	.169%	93.880%
61.0	10.730	1.048	411.985	.163%	94.120%
62.0	10.350	1.016	413.001	.158%	94.352%
63.0	10.013	0.990	413.991	.154%	94.578%
64.0	9.738	0.969	414.96	.151%	94.799%
65.0	9.745	0.964	415.925	.150%	95.020%
66.0	9.837	0.977	416.902	.152%	95.243%
67.0	10.076	1.001	417.903	.156%	95.472%
68.0	10.385	1.036	418.939	.161%	95.708%
69.0	10.702	1.076	420.015	.167%	95.954%
70.0	11.088	1.119	421.134	.174%	96.210%
71.0	11.398	1.162	422.296	.181%	96.475%
72.0	11.693	1.201	423.497	.187%	96.750%
73.0	11.967	1.237	424.734	.193%	97.032%
74.0	12.150	1.268	426.002	.197%	97.322%
75.0	12.227	1.288	427.29	.201%	97.616%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	11.897	1.281	428.571	.199%	97.909%
77.0	11.264	1.235	429.806	.192%	98.191%
78.0	10.568	1.169	430.974	.182%	98.458%
79.0	9.724	1.090	432.065	.170%	98.707%
80.0	9.042	1.012	433.076	.158%	98.938%
81.0	8.276	0.937	434.013	.146%	99.152%
82.0	6.581	0.806	434.819	.125%	99.336%
83.0	4.873	0.623	435.441	.097%	99.478%
84.0	3.776	0.471	435.912	.073%	99.586%
85.0	3.368	0.390	436.302	.061%	99.675%
86.0	2.953	0.346	436.648	.054%	99.754%
87.0	2.651	0.307	436.955	.048%	99.824%
88.0	2.419	0.278	437.232	.043%	99.887%
89.0	2.229	0.255	437.487	.040%	99.946%
90.0	2.109	0.238	437.725	.037%	100.000%

Zonal flux distribution table

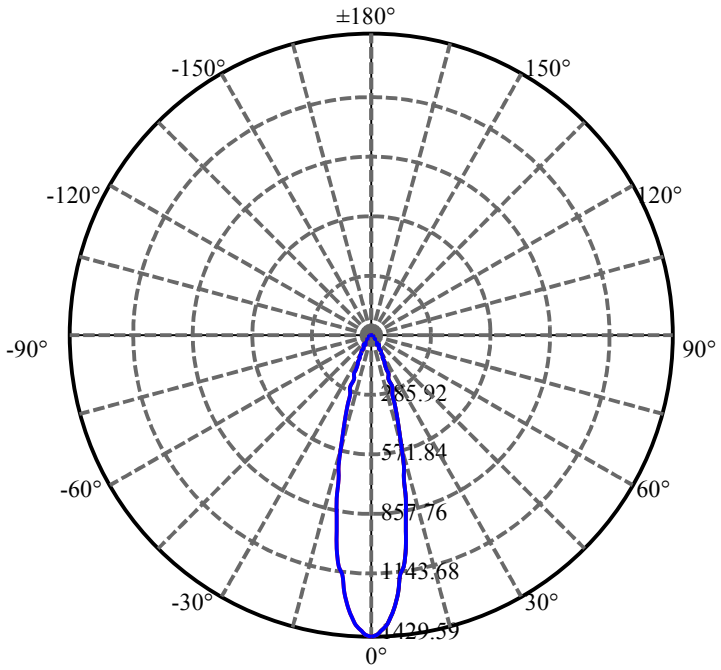
ZONAL LUMEN SUMMARY

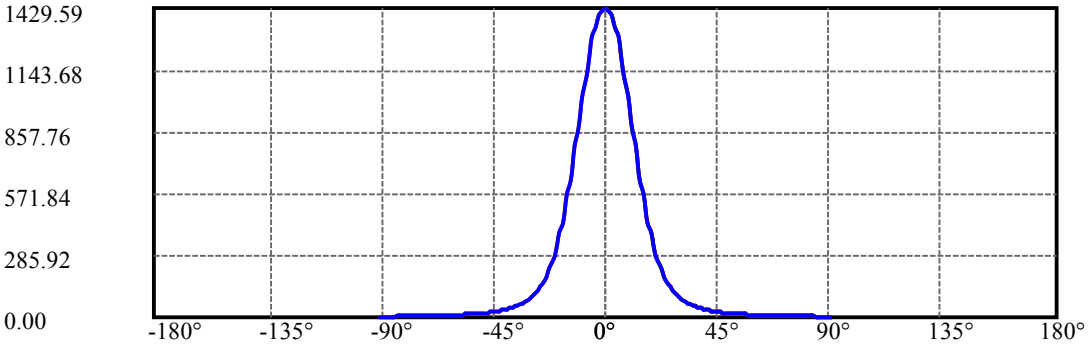
Zone	Lumens	%Lamp	%Fixt
0-30	342.93	53.40%	78.34%
0-40	378.38	58.92%	86.44%
0-60	410.94	63.99%	93.88%
0-90	437.49	68.12%	99.95%
0-120	437.49	68.12%	99.95%
0-180	437.72	68.16%	100.00%
60-90	27.63	4.30%	6.31%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-31.58	350.18	54.52%	80.00%

ZONAL LUMEN SUMMARY

0-10	111.69
10-20	155.67
20-30	75.57
30-40	35.45
40-50	19.79
50-60	12.77
60-70	10.20
70-80	11.94
80-90	4.41
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):

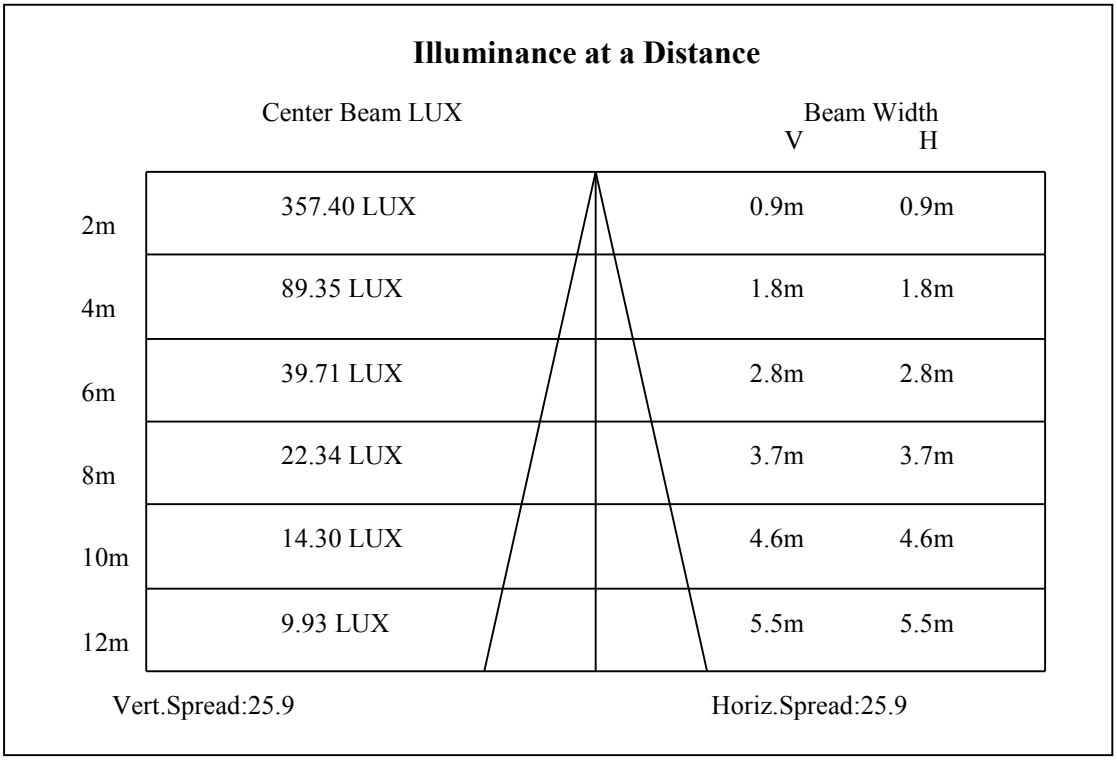
C0/C180:

C90/C270:

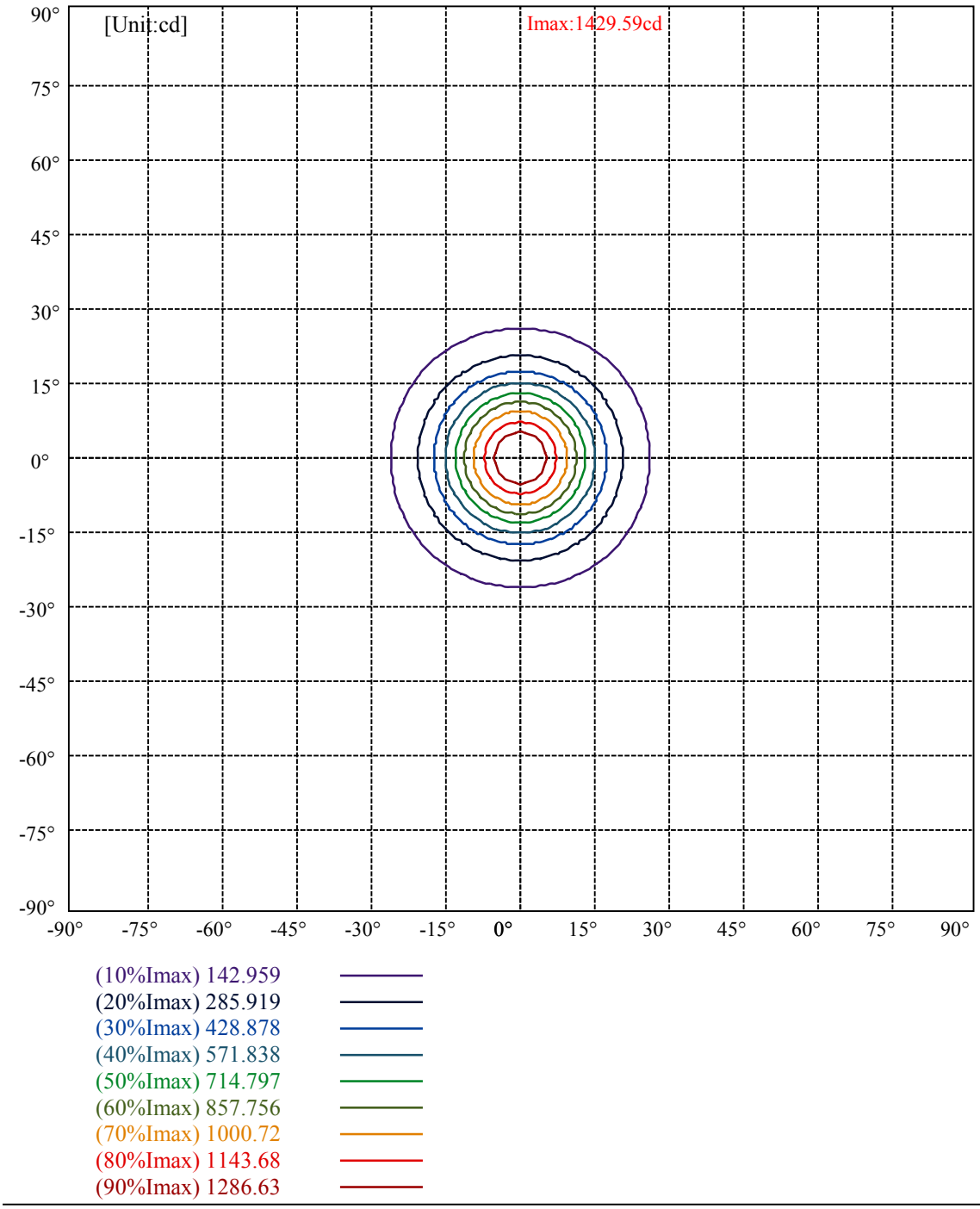
Field angle(10%Imax):C0/180Left:25.8 Right:25.8
:C90/270Left:25.8 Right:25.8

Beam Angle(50%Imax):C0/180Left:12.9 Right:12.9
:C90/270Left:12.9 Right:12.9

Lux distance Curve



ISO-Intensity(V-H)



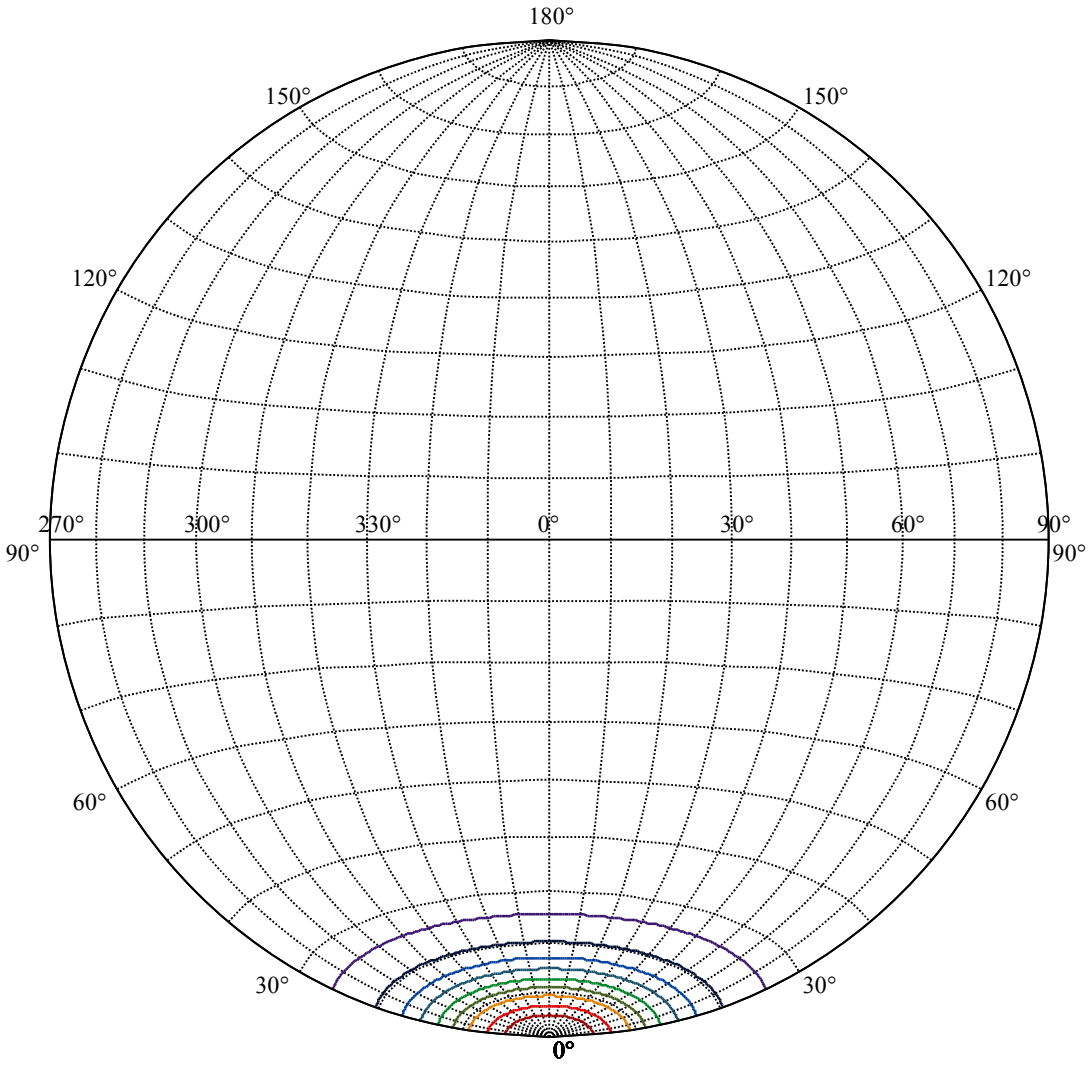
(10%Imax) 142.959
(20%Imax) 285.919
(30%Imax) 428.878
(40%Imax) 571.838
(50%Imax) 714.797
(60%Imax) 857.756
(70%Imax) 1000.72
(80%Imax) 1143.68
(90%Imax) 1286.63

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/20
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:1429.59

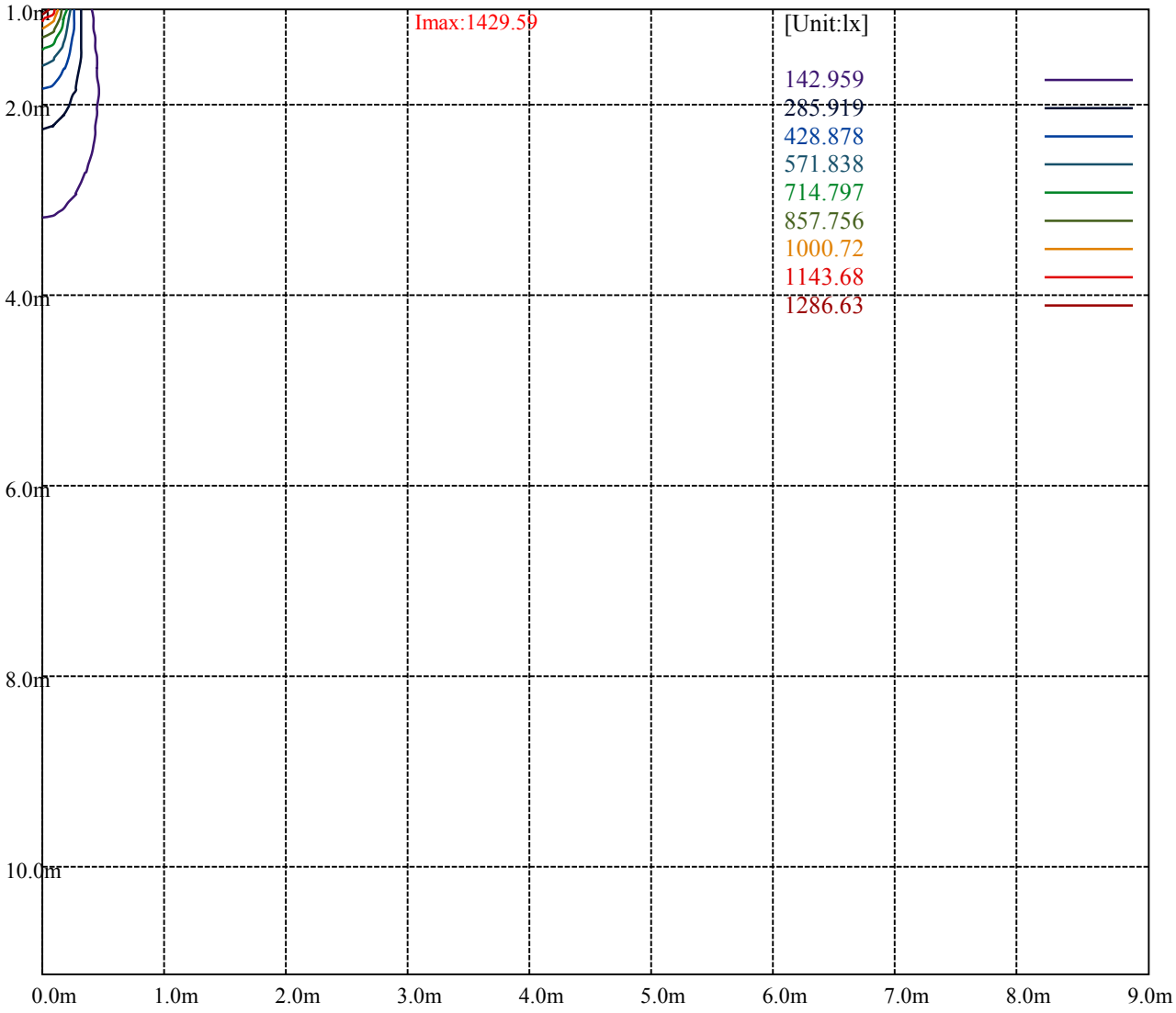
(10%Imax) 142.959
(20%Imax) 285.919
(30%Imax) 428.878
(40%Imax) 571.838
(50%Imax) 714.797
(60%Imax) 857.756
(70%Imax) 1000.72
(80%Imax) 1143.68
(90%Imax) 1286.63

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/20
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/20
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D03524EE-N

Luminance Limitting Curve(no luminous side)

Luminance Table

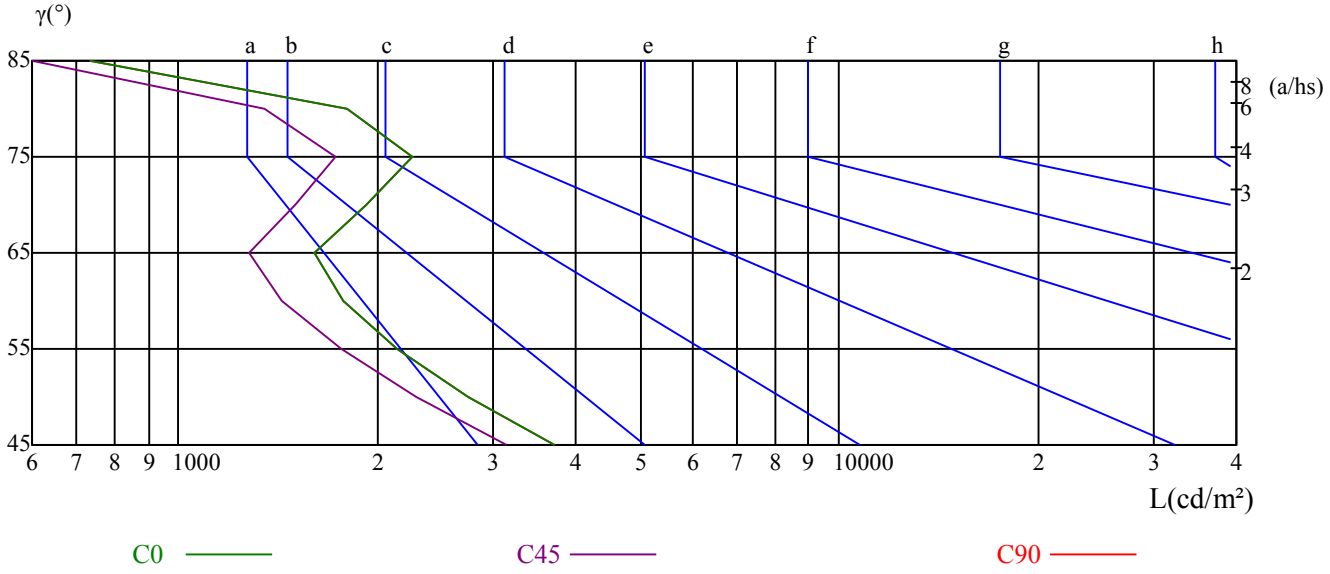
γ	45	50	55	60	65	70	75	80	85
C0	3698	2737	2146	1775	1605	1923	2256	1797	731
C45	3138	2288	1766	1437	1278	1502	1727	1345	533
C90	3698	2737	2146	1775	1605	1923	2256	1797	731

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4211	4211	4211	8627	8627	8627	7057	7057	7057

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

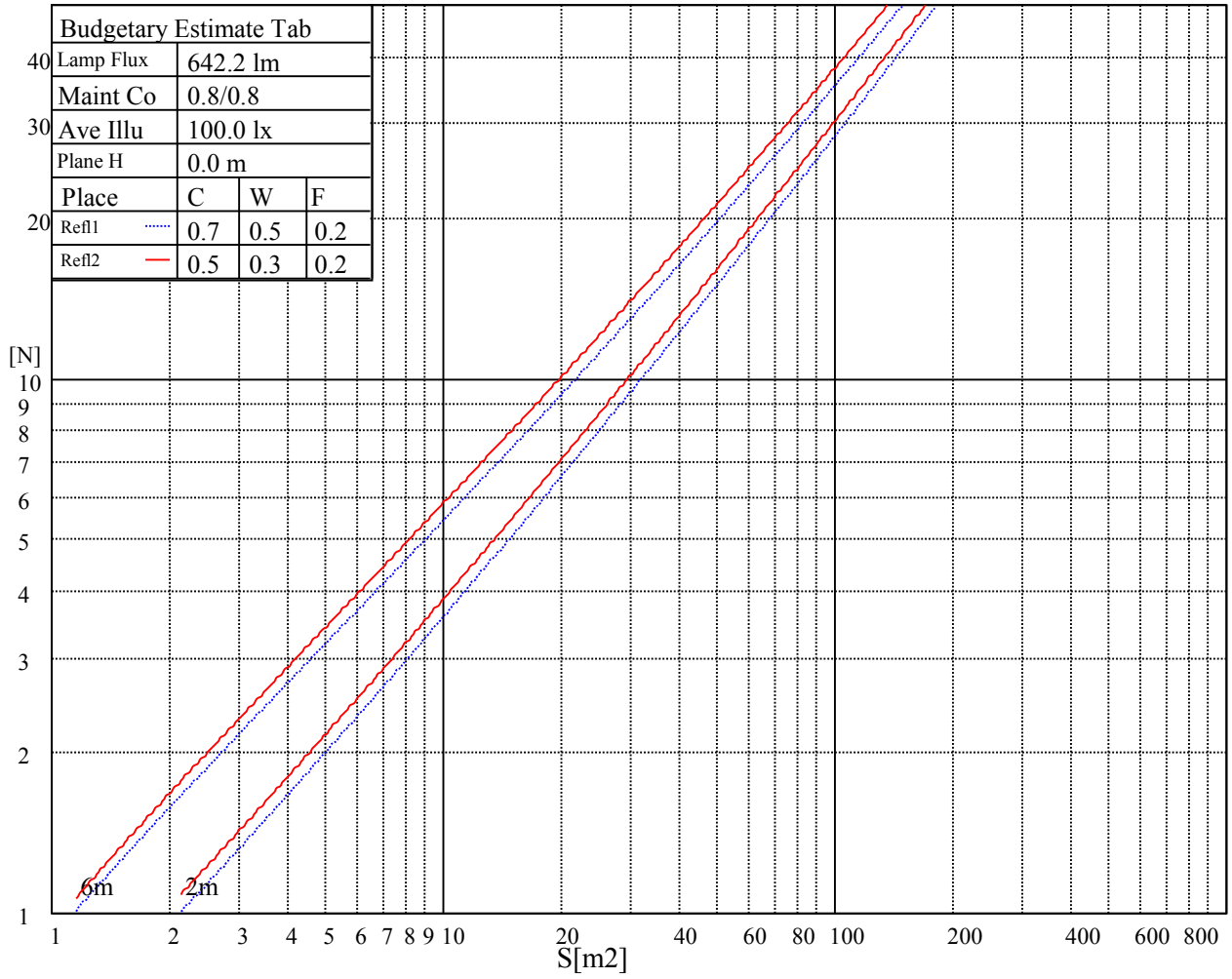


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/20
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

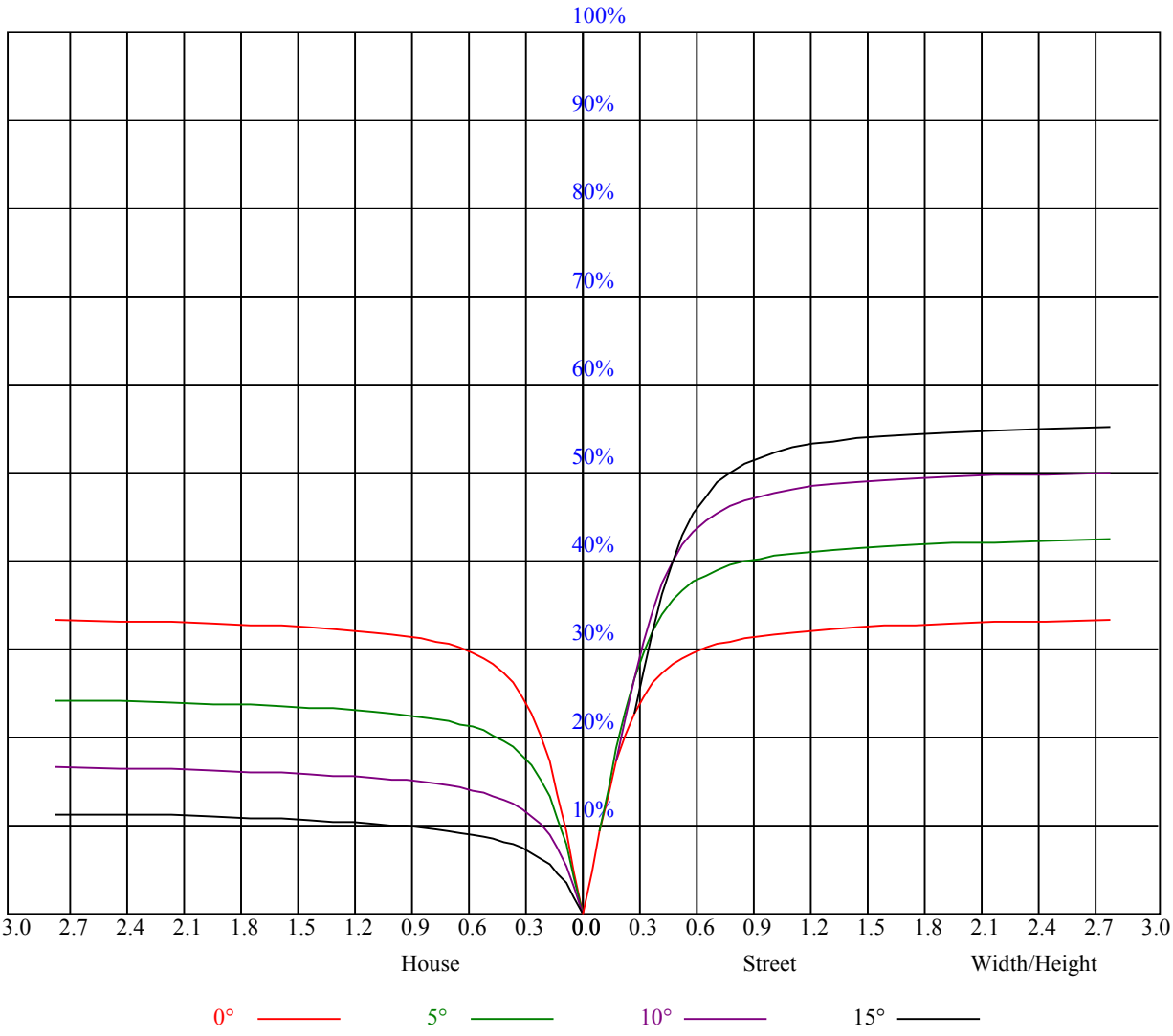


Equipment: GMS1980	Date: 2021/05/20	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	0.81	0.81	0.81	0.79	0.79	0.79	0.76	0.76	0.76	0.73	0.73	0.73	0.70	0.70	0.70	0.68
1	0.75	0.73	0.72	0.74	0.72	0.71	0.71	0.70	0.68	0.68	0.67	0.66	0.66	0.65	0.64	0.63
2	0.70	0.67	0.65	0.69	0.66	0.64	0.67	0.65	0.63	0.65	0.63	0.61	0.63	0.61	0.60	0.59
3	0.66	0.63	0.60	0.65	0.62	0.59	0.63	0.61	0.59	0.62	0.59	0.58	0.60	0.58	0.57	0.56
4	0.62	0.59	0.56	0.62	0.58	0.56	0.60	0.57	0.55	0.59	0.56	0.54	0.57	0.55	0.54	0.53
5	0.59	0.56	0.53	0.59	0.55	0.53	0.57	0.54	0.52	0.56	0.54	0.52	0.55	0.53	0.51	0.50
6	0.56	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.50	0.54	0.51	0.49	0.53	0.51	0.49	0.48
7	0.54	0.50	0.48	0.54	0.50	0.48	0.53	0.50	0.47	0.52	0.49	0.47	0.51	0.49	0.47	0.46
8	0.52	0.48	0.46	0.51	0.48	0.46	0.51	0.48	0.45	0.50	0.47	0.45	0.49	0.47	0.45	0.44
9	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
10	0.48	0.45	0.42	0.48	0.44	0.42	0.47	0.44	0.42	0.47	0.44	0.42	0.46	0.44	0.42	0.41

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/05/20	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	1407.38	1420.88	1427.06	1417.50	1398.38	1370.81	1319.63	1271.81	1215.56
45.0	1439.44	1445.63	1436.63	1419.19	1385.44	1350.00	1300.50	1232.44	1167.19
90.0	1443.38	1437.19	1422.56	1396.13	1355.63	1311.75	1252.69	1119.66	1110.99
135.0	1428.19	1419.75	1398.94	1365.75	1327.50	1281.38	1212.75	1152.00	1085.63
180.0	1407.38	1381.50	1341.56	1298.81	1241.44	1171.69	1107.96	1030.67	959.63
225.0	1439.44	1423.69	1400.63	1353.94	1314.00	1264.50	1168.31	1114.37	1054.91
270.0	1443.38	1434.94	1415.25	1384.31	1344.38	1298.25	1230.75	1168.88	1104.75
315.0	1428.19	1424.81	1413.00	1384.88	1346.06	1302.75	1243.69	1115.94	1107.62
360.0	1407.38	1420.88	1427.06	1417.50	1398.38	1370.81	1319.63	1271.81	1215.56

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1136.81	1068.75	995.06	909.00	822.94	747.56	664.88	594.56	522.56
45.0	1099.13	1006.31	930.94	852.19	756.56	684.00	615.94	544.50	476.44
90.0	1039.95	948.54	873.62	798.08	707.23	637.76	572.85	503.27	439.93
135.0	998.44	925.31	849.94	766.69	687.94	619.88	549.56	491.63	429.75
180.0	885.43	794.14	722.81	653.51	572.23	511.93	455.74	398.03	346.39
225.0	985.28	894.54	821.64	748.52	660.83	595.01	532.91	469.01	409.61
270.0	1018.69	946.13	873.00	799.88	711.00	640.69	574.31	506.25	442.69
315.0	1040.29	948.83	873.28	798.41	706.89	637.65	572.46	496.63	440.27
360.0	1136.81	1068.75	995.06	909.00	822.94	747.56	664.88	594.56	522.56

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	456.75	403.88	351.00	304.31	286.31	235.91	203.57	181.52	162.51
45.0	422.44	369.00	321.19	288.00	244.58	216.23	189.45	166.61	148.84
90.0	388.29	338.29	298.58	259.93	227.03	201.54	176.74	155.59	139.39
135.0	375.19	332.44	289.69	285.19	221.74	196.65	171.84	151.37	136.24
180.0	305.33	265.61	235.07	206.16	184.16	163.58	143.27	126.00	113.57
225.0	364.05	317.70	281.03	245.36	214.26	190.24	166.50	146.81	131.91
270.0	392.06	343.13	299.81	285.75	231.08	205.76	180.34	158.91	142.03
315.0	390.94	335.53	301.33	262.91	226.52	203.34	180.73	154.58	140.40
360.0	456.75	403.88	351.00	304.31	286.31	235.91	203.57	181.52	162.51

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	142.93	124.99	112.50	100.46	90.23	82.35	74.42	68.06	61.82
45.0	133.48	116.89	104.96	94.78	83.93	76.56	69.58	63.23	57.32
90.0	125.16	109.74	98.78	89.44	80.16	72.06	65.87	59.79	54.45
135.0	124.43	107.83	96.69	88.59	78.08	71.49	65.87	59.01	53.55
180.0	102.71	90.90	82.58	75.32	68.85	61.76	56.93	52.09	47.70
225.0	118.46	104.18	94.39	85.78	77.29	69.75	63.96	57.88	52.71
270.0	127.52	111.32	100.46	91.07	80.94	73.69	67.28	61.03	55.29
315.0	126.28	109.29	99.96	90.68	81.45	73.35	66.94	60.64	55.01
360.0	142.93	124.99	112.50	100.46	90.23	82.35	74.42	68.06	61.82

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	56.42	52.03	48.04	43.48	40.33	37.58	34.37	32.12	29.93
45.0	52.54	48.09	44.38	40.78	37.41	34.65	32.01	29.48	27.56
90.0	50.12	45.62	42.02	38.48	35.44	32.96	30.83	28.52	26.89
135.0	49.56	45.00	41.68	38.70	35.27	32.91	30.60	27.96	26.21
180.0	44.21	41.06	37.86	35.04	32.68	30.26	28.24	26.16	24.30
225.0	48.54	44.55	41.34	37.97	35.10	32.57	30.32	27.84	26.16
270.0	50.68	46.18	42.64	38.87	35.78	33.19	30.66	28.35	26.55
315.0	50.57	46.29	42.75	39.09	36.11	33.47	31.05	28.63	26.78
360.0	56.42	52.03	48.04	43.48	40.33	37.58	34.37	32.12	29.93

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	27.96	25.71	24.08	22.67	21.21	19.86	18.90	17.94	17.04
45.0	25.82	23.96	22.67	21.49	20.14	19.01	18.00	17.04	16.09
90.0	25.37	23.63	22.39	21.32	19.86	18.06	16.88	15.81	15.19
135.0	24.53	22.78	21.54	20.48	19.13	18.00	17.10	16.14	15.19
180.0	22.89	21.26	20.14	19.13	18.28	17.21	16.43	15.69	14.96
225.0	24.64	22.95	21.71	20.42	19.24	18.11	17.16	16.14	15.36
270.0	24.92	23.01	21.66	20.42	19.07	17.89	16.99	16.03	15.19
315.0	25.14	23.34	22.05	20.87	19.63	18.45	17.49	16.48	15.47
360.0	27.96	25.71	24.08	22.67	21.21	19.86	18.90	17.94	17.04

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	16.26	15.47	14.91	14.29	13.73	13.22	12.54	11.93	11.42
45.0	15.24	14.46	13.78	13.11	12.54	11.98	11.48	10.97	10.58
90.0	14.34	13.50	12.99	12.38	11.81	11.48	11.08	10.58	10.35
135.0	14.40	13.67	13.05	12.49	11.81	11.36	10.86	10.41	10.01
180.0	14.18	13.56	13.05	12.49	11.87	11.25	10.80	10.29	9.84
225.0	14.57	13.84	13.22	12.54	11.98	11.48	11.08	10.58	10.18
270.0	14.51	13.89	13.33	12.66	11.98	11.53	11.03	10.63	10.29
315.0	14.63	13.84	13.22	12.54	12.04	11.48	10.97	10.46	10.13
360.0	16.26	15.47	14.91	14.29	13.73	13.22	12.54	11.93	11.42

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.08	10.52	10.18	9.90	9.39	9.11	8.89	8.61	8.44
45.0	10.18	9.79	9.45	9.11	8.83	8.49	8.16	7.88	7.54
90.0	10.07	10.07	10.80	11.87	13.61	15.58	17.44	19.69	21.49
135.0	9.68	9.23	8.94	8.61	8.21	7.93	7.65	7.43	7.14
180.0	9.45	9.06	8.72	8.44	8.21	7.93	7.82	7.65	7.48
225.0	9.84	9.45	9.06	8.72	8.44	8.16	7.93	7.65	7.31
270.0	10.01	10.46	11.76	13.33	15.41	17.72	19.80	22.16	24.41
315.0	9.79	9.34	9.06	8.72	8.49	8.16	7.93	7.65	7.37
360.0	11.08	10.52	10.18	9.90	9.39	9.11	8.89	8.61	8.44

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.33	8.16	8.04	7.82	7.48	7.20	6.92	6.41	5.96
45.0	7.31	7.03	6.75	6.41	6.08	5.74	5.46	5.18	4.89
90.0	23.46	25.31	26.83	28.13	28.01	26.44	24.53	22.28	20.48
135.0	6.92	6.58	6.30	5.96	5.68	5.40	5.12	4.78	4.50
180.0	7.20	6.92	6.53	6.13	5.74	5.34	5.01	4.67	4.33
225.0	6.98	6.64	6.30	6.02	5.74	5.46	5.18	4.84	4.61
270.0	26.27	28.29	29.93	31.11	30.54	28.91	27.00	24.64	22.84
315.0	7.09	6.81	6.53	6.24	5.91	5.63	5.34	5.01	4.73
360.0	8.33	8.16	8.04	7.82	7.48	7.20	6.92	6.41	5.96

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.57	5.06	4.67	4.28	3.99	3.54	3.15	2.81	2.64
45.0	4.61	4.39	4.05	3.77	3.49	3.09	2.87	2.64	2.48
90.0	18.23	12.71	7.03	3.99	3.26	2.81	2.53	2.31	2.03
135.0	4.28	3.94	3.71	3.43	3.15	2.81	2.53	2.36	2.14
180.0	4.05	3.77	3.49	3.21	2.81	2.59	2.36	2.08	2.08
225.0	4.33	4.05	3.83	3.54	3.26	2.87	2.59	2.42	2.19
270.0	20.70	14.51	8.33	4.39	3.66	2.98	2.53	2.25	2.03
315.0	4.44	4.22	3.88	3.60	3.32	2.93	2.64	2.48	2.25
360.0	5.57	5.06	4.67	4.28	3.99	3.54	3.15	2.81	2.64

Intensity data(cd)

C/γ(°)	90.0
0.0	2.48
45.0	2.25
90.0	1.91
135.0	2.03
180.0	2.03
225.0	2.25
270.0	1.91
315.0	2.03
360.0	2.48