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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: LN01D02817DA-N
Luminaire: 92.70.307.00
Report No: 211117-B008
Test No: 211117-C008
LampCAT: Bridgelux V4HD LES5.2
Lamp flux(lm): 719.0
Number of Lamps: 1
Length(mm): 111
Phm Type: C

Voltage(V): 35.8900
Current(A): 0.1800
Power (W): 6.4600
PF: 0.0000
Ballast type: DC
Width(mm): 111
Height(mm): 0

Photometric Results

Lumens(lm): 454.89
Efficiency(%): 63.26%
Lumens(lm)/Power(W): 70.42
Central intensity(cd): 1951.082
Maximum intensity(cd): 1951.082
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=21.6
[C90/270]Total=21.6
Field angle(10%Imax): [C0/180]Total=45.5
[C90/270]Total=45.5
Maximum s/h(1/2): C0_180=0.36 C90_270=0.36
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 63.26%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.901%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2021/11/17
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	1951.082	0.000	0	.000%	.000%
1.0	1938.459	1.861	1.861	.259%	.409%
2.0	1902.532	5.513	7.374	.767%	1.621%
3.0	1844.721	8.962	16.336	1.246%	3.591%
4.0	1768.462	12.094	28.431	1.682%	6.250%
5.0	1673.455	14.807	43.238	2.059%	9.505%
6.0	1563.509	17.011	60.249	2.366%	13.245%
7.0	1427.347	18.564	78.813	2.582%	17.326%
8.0	1310.269	19.593	98.406	2.725%	21.633%
9.0	1191.958	20.279	118.685	2.820%	26.091%
10.0	1062.182	20.399	139.084	2.837%	30.576%
11.0	951.662	20.122	159.206	2.799%	34.999%
12.0	841.537	19.602	178.809	2.726%	39.308%
13.0	735.932	18.721	197.529	2.604%	43.424%
14.0	643.524	17.657	215.186	2.456%	47.306%
15.0	563.335	16.568	231.754	2.304%	50.948%
16.0	489.496	15.427	247.181	2.146%	54.339%
17.0	425.411	14.248	261.429	1.982%	57.471%
18.0	369.654	13.109	274.538	1.823%	60.353%
19.0	327.409	12.127	286.665	1.687%	63.019%
20.0	286.605	11.238	297.903	1.563%	65.490%
21.0	247.377	10.254	308.157	1.426%	67.744%
22.0	215.170	9.295	317.452	1.293%	69.787%
23.0	189.081	8.482	325.934	1.180%	71.652%
24.0	166.808	7.781	333.715	1.082%	73.363%
25.0	147.306	7.142	340.857	.993%	74.933%
26.0	131.173	6.574	347.431	.914%	76.378%
27.0	116.682	6.064	353.495	.843%	77.711%
28.0	104.172	5.592	359.086	.778%	78.940%
29.0	93.274	5.166	364.252	.718%	80.076%
30.0	84.237	4.793	369.045	.667%	81.129%
31.0	75.938	4.457	373.502	.620%	82.109%
32.0	68.574	4.140	377.642	.576%	83.019%
33.0	62.666	3.866	381.509	.538%	83.869%
34.0	57.221	3.628	385.137	.505%	84.667%
35.0	52.426	3.405	388.542	.474%	85.415%
36.0	48.101	3.201	391.743	.445%	86.119%
37.0	44.434	3.018	394.761	.420%	86.783%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	41.088	2.855	397.616	.397%	87.410%
39.0	37.928	2.697	400.313	.375%	88.003%
40.0	35.314	2.554	402.867	.355%	88.565%
41.0	33.021	2.433	405.3	.338%	89.099%
42.0	30.780	2.318	407.618	.322%	89.609%
43.0	28.786	2.207	409.825	.307%	90.094%
44.0	27.105	2.109	411.934	.293%	90.558%
45.0	25.447	2.020	413.954	.281%	91.002%
46.0	24.013	1.934	415.888	.269%	91.427%
47.0	22.646	1.856	417.744	.258%	91.835%
48.0	21.451	1.783	419.527	.248%	92.227%
49.0	20.271	1.713	421.24	.238%	92.604%
50.0	19.151	1.644	422.884	.229%	92.965%
51.0	18.195	1.580	424.464	.220%	93.312%
52.0	17.284	1.522	425.986	.212%	93.647%
53.0	16.402	1.465	427.451	.204%	93.969%
54.0	15.566	1.409	428.86	.196%	94.279%
55.0	14.804	1.356	430.216	.189%	94.577%
56.0	14.064	1.304	431.521	.181%	94.864%
57.0	13.355	1.254	432.774	.174%	95.139%
58.0	12.675	1.204	433.978	.167%	95.404%
59.0	12.033	1.155	435.133	.161%	95.658%
60.0	11.398	1.107	436.24	.154%	95.901%
61.0	10.778	1.058	437.298	.147%	96.134%
62.0	10.255	1.013	438.312	.141%	96.357%
63.0	9.762	0.974	439.285	.135%	96.571%
64.0	9.269	0.934	440.219	.130%	96.776%
65.0	8.814	0.895	441.114	.124%	96.973%
66.0	8.410	0.859	441.973	.120%	97.162%
67.0	8.014	0.826	442.799	.115%	97.343%
68.0	7.648	0.793	443.593	.110%	97.517%
69.0	7.290	0.762	444.355	.106%	97.685%
70.0	6.954	0.732	445.086	.102%	97.846%
71.0	6.648	0.703	445.789	.098%	98.000%
72.0	6.379	0.677	446.467	.094%	98.149%
73.0	6.072	0.651	447.118	.091%	98.292%
74.0	5.833	0.626	447.744	.087%	98.430%
75.0	5.594	0.604	448.347	.084%	98.563%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.363	0.582	448.929	.081%	98.691%
77.0	5.146	0.560	449.489	.078%	98.814%
78.0	5.027	0.545	450.034	.076%	98.934%
79.0	4.945	0.536	450.57	.075%	99.051%
80.0	4.945	0.533	451.103	.074%	99.168%
81.0	4.974	0.536	451.639	.075%	99.286%
82.0	4.915	0.536	452.176	.075%	99.404%
83.0	4.773	0.527	452.702	.073%	99.520%
84.0	4.362	0.498	453.2	.069%	99.629%
85.0	3.667	0.438	453.638	.061%	99.726%
86.0	2.487	0.336	453.974	.047%	99.800%
87.0	2.188	0.256	454.23	.036%	99.856%
88.0	2.002	0.230	454.46	.032%	99.906%
89.0	1.912	0.215	454.674	.030%	99.954%
90.0	1.935	0.211	454.885	.029%	100.000%

Zonal flux distribution table

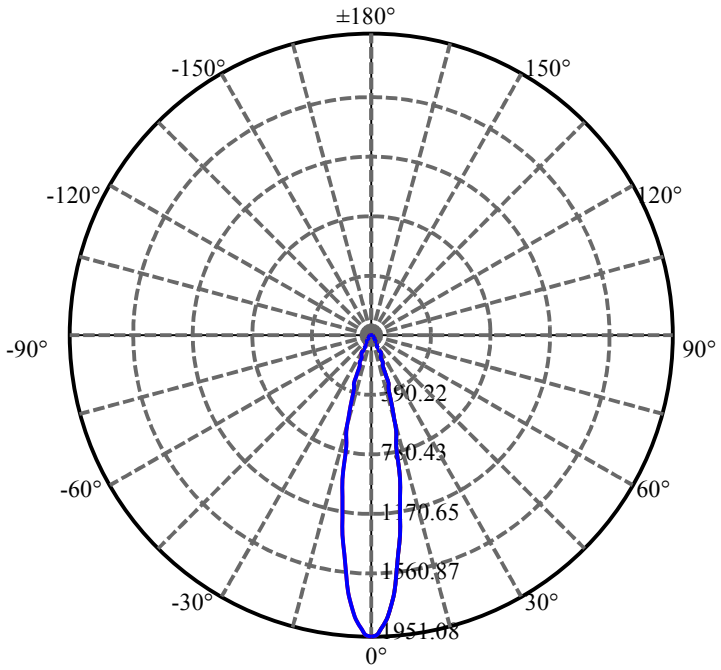
ZONAL LUMEN SUMMARY

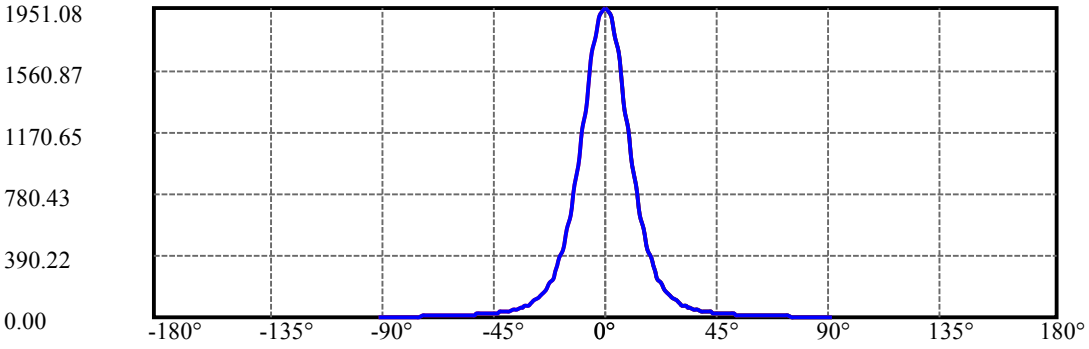
Zone	Lumens	%Lamp	%Fixt
0-30	369.04	51.33%	81.13%
0-40	402.87	56.03%	88.56%
0-60	436.24	60.67%	95.90%
0-90	454.67	63.24%	99.95%
0-120	454.67	63.24%	99.95%
0-180	454.89	63.26%	100.00%
60-90	19.54	2.72%	4.30%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.93	363.91	50.61%	80.00%

ZONAL LUMEN SUMMARY

0-10	139.08
10-20	158.82
20-30	71.14
30-40	33.82
40-50	20.02
50-60	13.36
60-70	8.85
70-80	6.02
80-90	3.57
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):

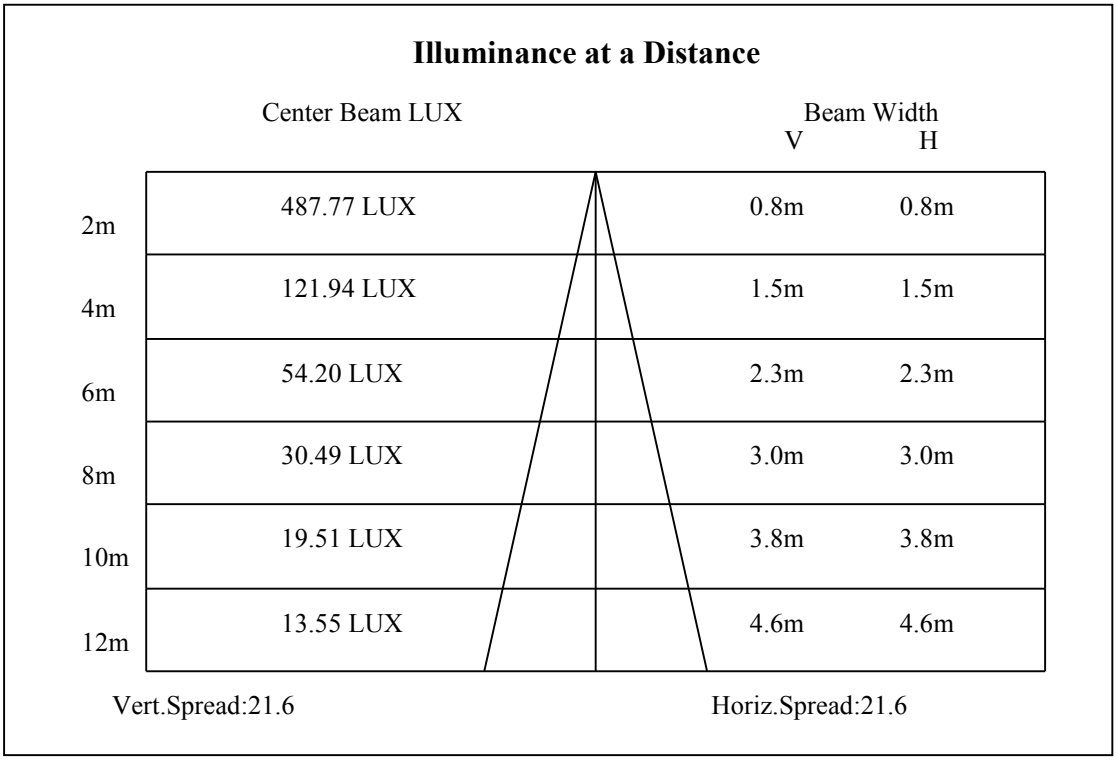
C0/C180:

C90/C270:

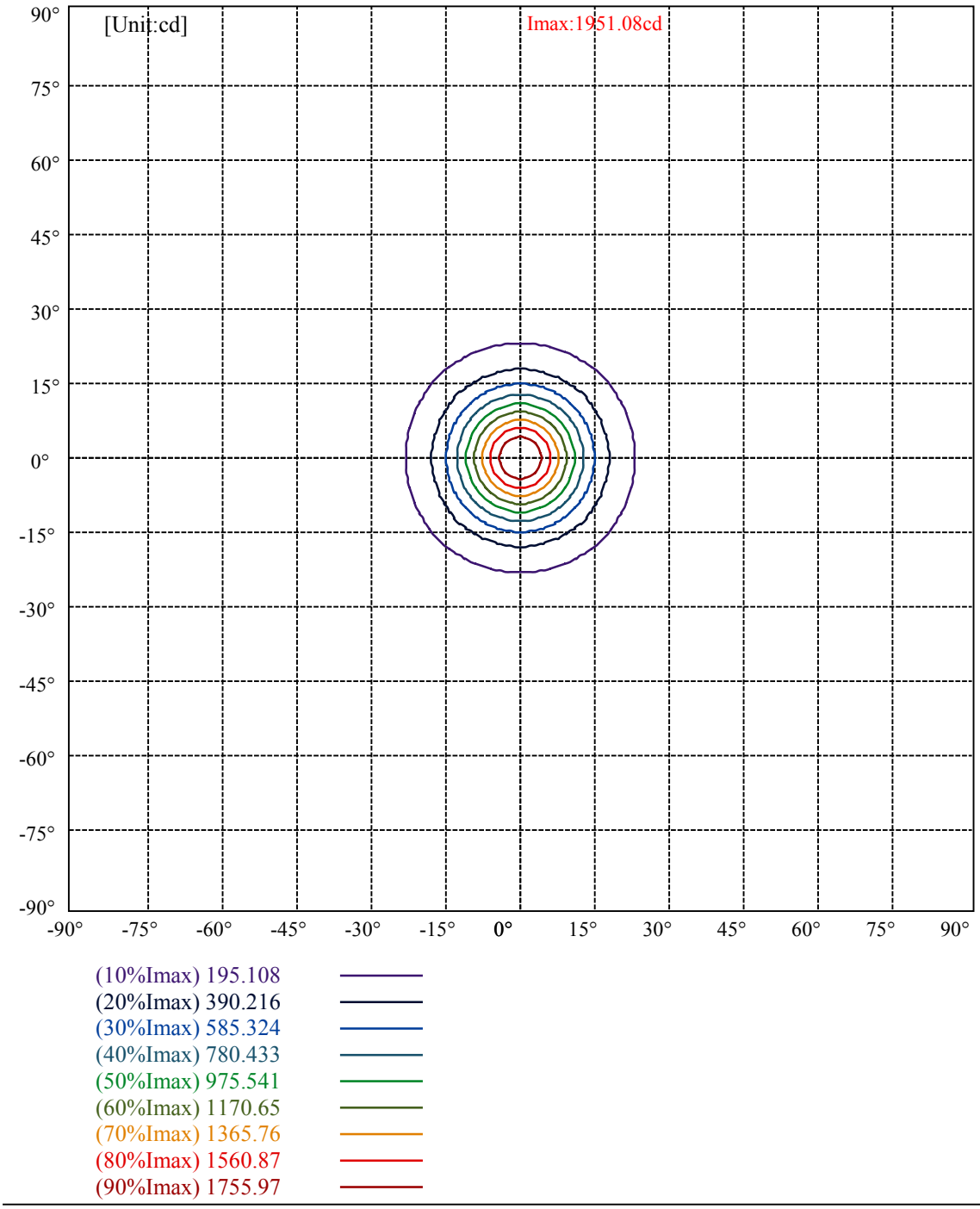
Field angle(10%Imax):C0/180Left:22.8 Right:22.8
:C90/270Left:22.8 Right:22.8

Beam Angle(50%Imax):C0/180Left:10.8 Right:10.8
:C90/270Left:10.8 Right:10.8

Lux distance Curve



ISO-Intensity(V-H)

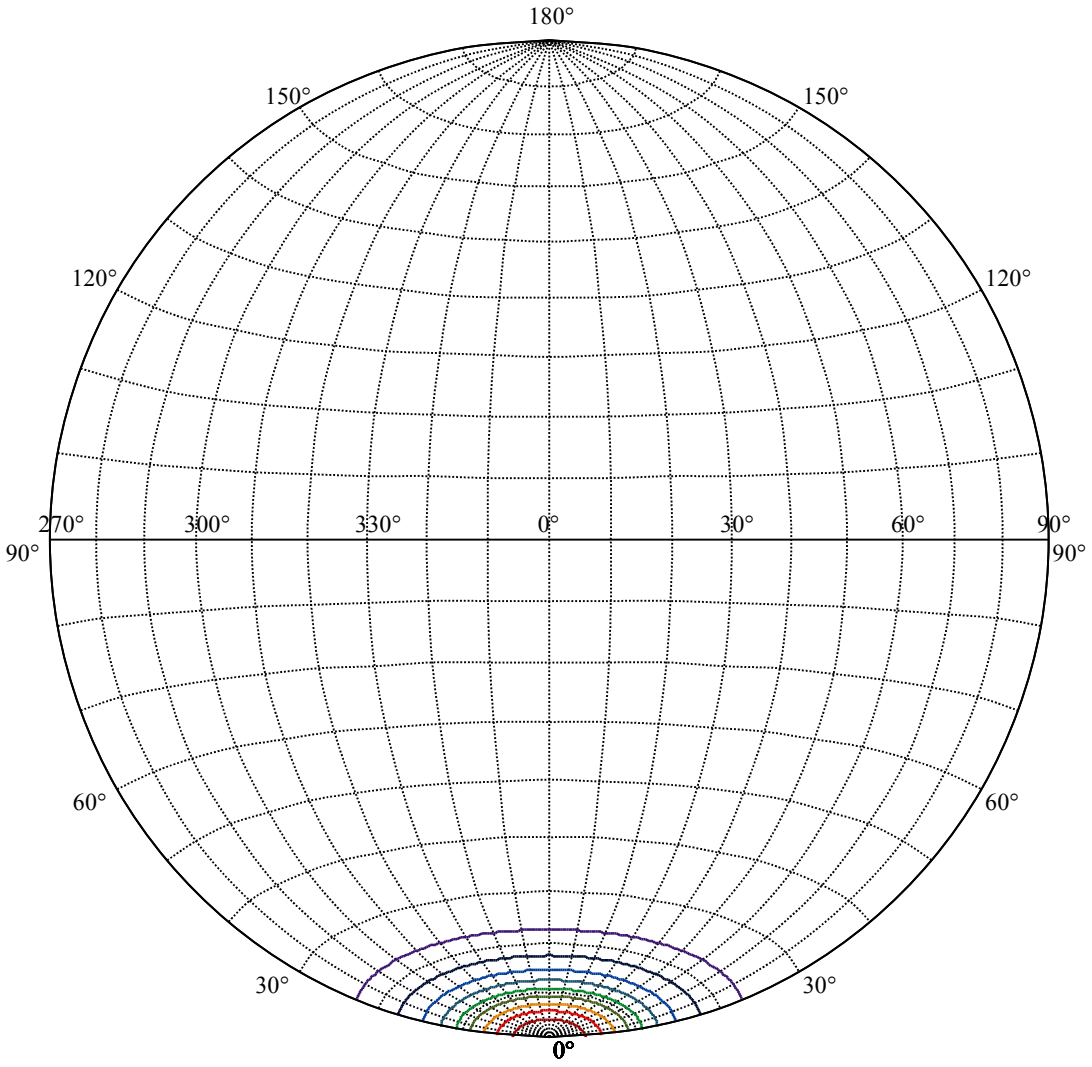


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/11/17
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

ISO candela diagram on circular web

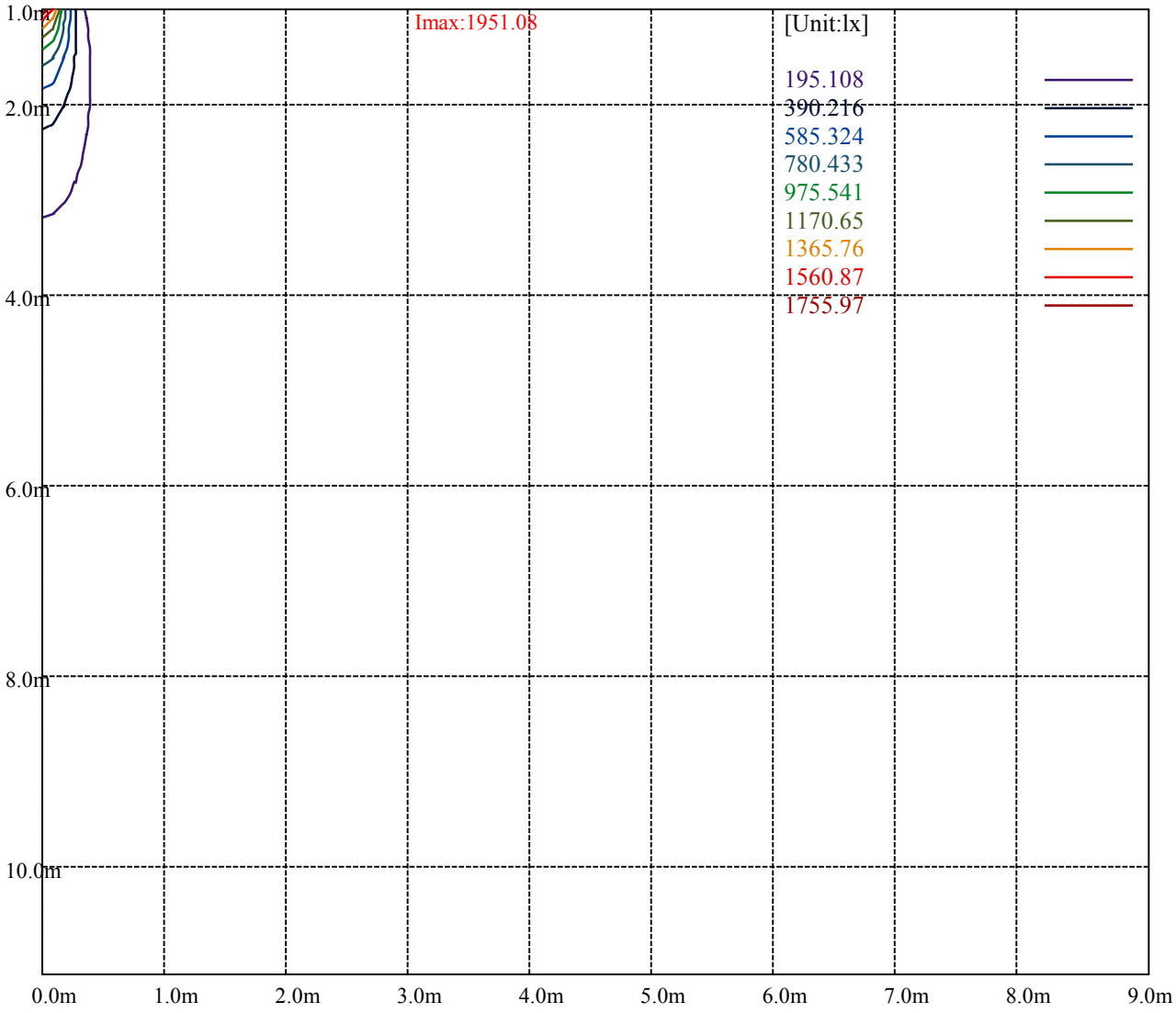


House [Unit:cd] Road

Imax:1951.08

(10%Imax) 195.108
(20%Imax) 390.216
(30%Imax) 585.324
(40%Imax) 780.433
(50%Imax) 975.541
(60%Imax) 1170.65
(70%Imax) 1365.76
(80%Imax) 1560.87
(90%Imax) 1755.97

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/11/17
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Nata LN01D02817DA-N

Luminance Limitting Curve(no luminous side)

Luminance Table

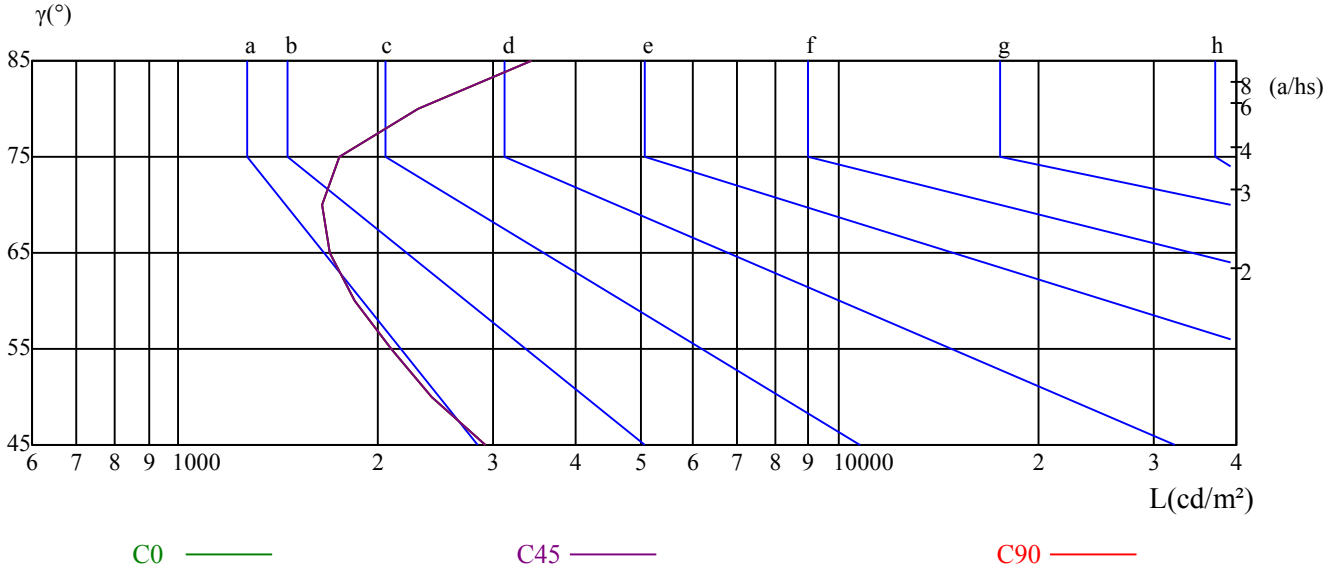
γ	45	50	55	60	65	70	75	80	85
C0	2921	2418	2095	1850	1693	1650	1754	2311	3415
C45	2921	2418	2095	1850	1693	1650	1754	2311	3415
C90	2921	2418	2095	1850	1693	1650	1754	2311	3415

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1693	1693	1693	1754	1754	1754	3415	3415	3415

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

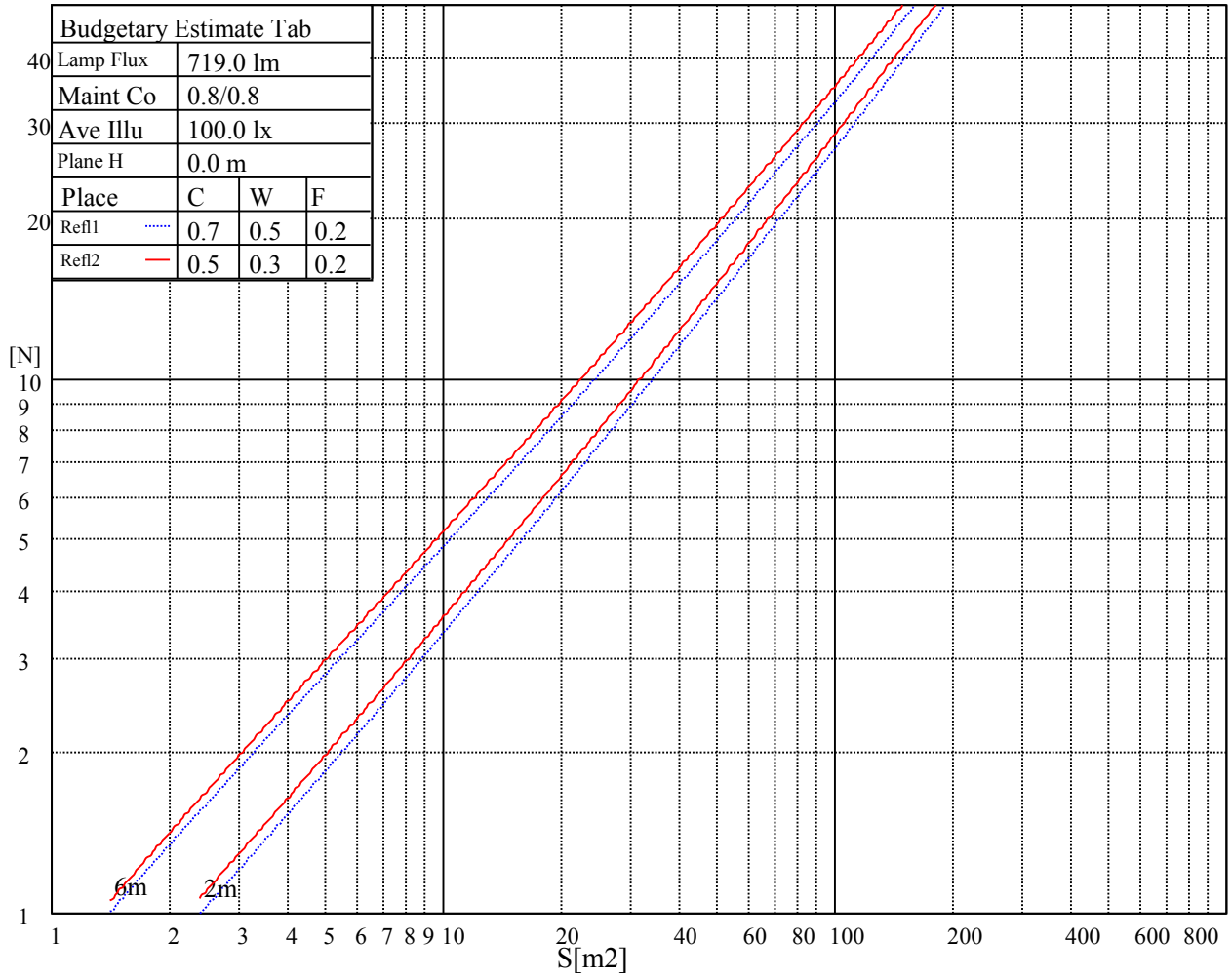


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/11/17
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

Budgetary Estimate Table

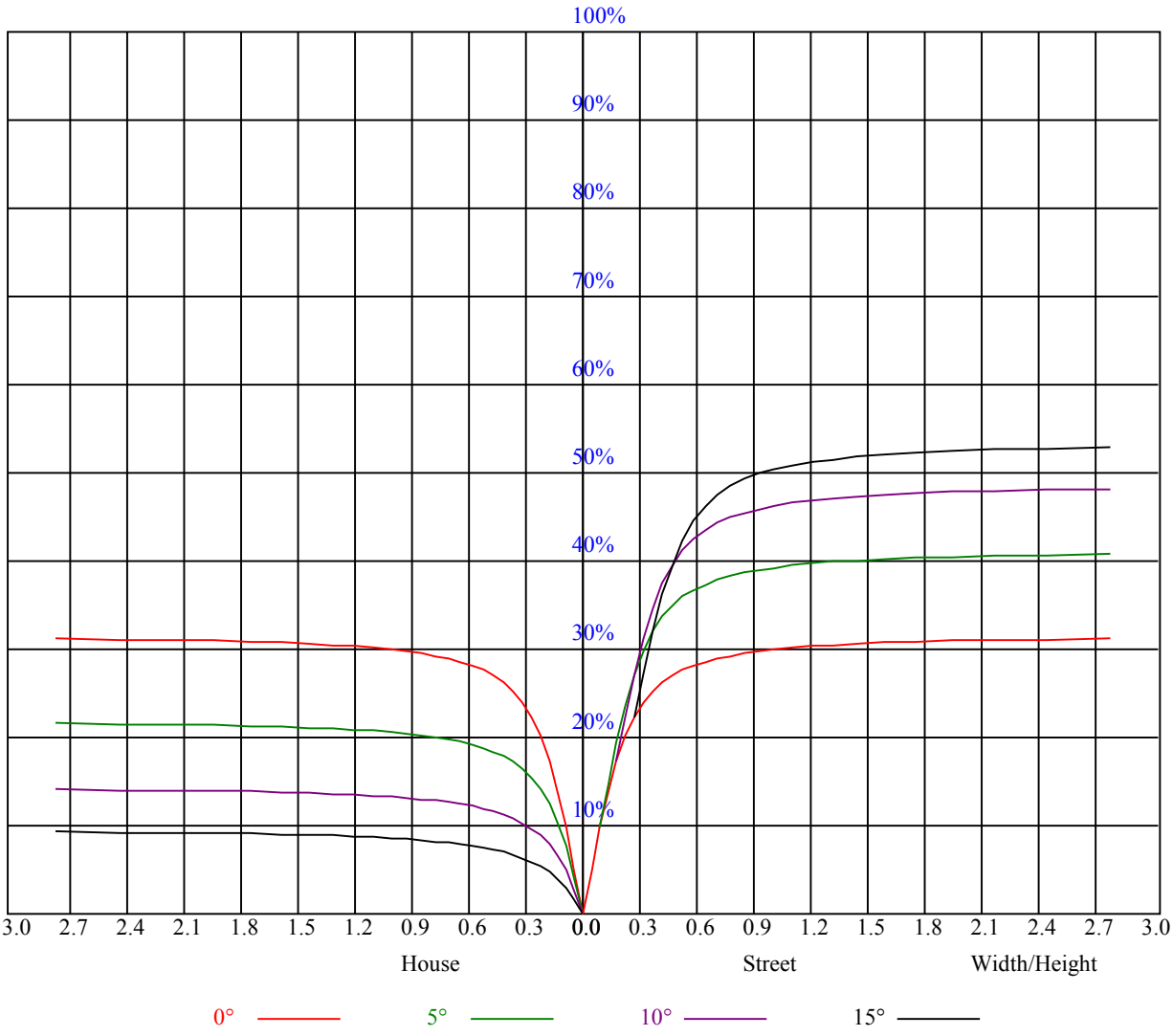


Equipment: GMS1980 Date: 2021/11/17 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.73

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	0.75	0.75	0.75	0.74	0.74	0.74	0.70	0.70	0.70	0.67	0.67	0.67	0.65	0.65	0.65	0.63
1	0.70	0.69	0.67	0.69	0.68	0.66	0.66	0.65	0.64	0.64	0.63	0.62	0.62	0.61	0.61	0.59
2	0.66	0.64	0.62	0.65	0.63	0.61	0.63	0.61	0.60	0.61	0.60	0.58	0.59	0.58	0.57	0.56
3	0.62	0.59	0.57	0.61	0.59	0.57	0.60	0.58	0.56	0.58	0.56	0.55	0.57	0.55	0.54	0.53
4	0.59	0.56	0.54	0.58	0.56	0.53	0.57	0.55	0.53	0.56	0.54	0.52	0.55	0.53	0.52	0.51
5	0.56	0.53	0.51	0.56	0.53	0.51	0.55	0.52	0.50	0.54	0.52	0.50	0.53	0.51	0.49	0.49
6	0.54	0.51	0.48	0.54	0.50	0.48	0.53	0.50	0.48	0.52	0.49	0.48	0.51	0.49	0.47	0.47
7	0.52	0.49	0.46	0.51	0.48	0.46	0.51	0.48	0.46	0.50	0.48	0.46	0.49	0.47	0.46	0.45
8	0.50	0.47	0.45	0.50	0.47	0.44	0.49	0.46	0.44	0.48	0.46	0.44	0.48	0.46	0.44	0.43
9	0.48	0.45	0.43	0.48	0.45	0.43	0.47	0.45	0.43	0.47	0.44	0.43	0.46	0.44	0.43	0.42
10	0.47	0.44	0.42	0.46	0.43	0.41	0.46	0.43	0.41	0.45	0.43	0.41	0.45	0.43	0.41	0.41

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/11/17	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	1967.07	1959.90	1921.65	1867.88	1796.77	1685.03	1580.46	1469.32	1339.66
45.0	1940.18	1899.54	1836.80	1773.47	1663.52	1561.34	1449.61	1300.82	1184.30
90.0	1938.98	1901.93	1848.16	1767.49	1667.11	1563.73	1450.80	1192.07	1177.13
135.0	1958.10	1949.74	1915.68	1856.52	1786.01	1687.42	1570.90	1456.78	1354.60
180.0	1967.07	1953.32	1913.29	1848.16	1772.27	1668.30	1561.34	1429.89	1185.20
225.0	1940.18	1949.74	1938.38	1896.56	1849.95	1780.64	1657.55	1570.31	1462.15
270.0	1938.98	1950.93	1939.58	1902.53	1849.35	1768.09	1667.70	1566.12	1459.17
315.0	1958.10	1942.57	1906.72	1845.17	1762.71	1673.08	1569.71	1433.47	1319.94
360.0	1967.07	1959.90	1921.65	1867.88	1796.77	1685.03	1580.46	1469.32	1339.66

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1208.20	1092.28	966.20	861.64	751.69	652.50	574.23	496.55	427.83
45.0	1068.98	929.16	824.59	728.39	622.63	549.13	482.80	417.67	361.51
90.0	1059.66	906.93	816.94	722.71	626.99	542.08	475.51	410.38	359.95
135.0	1192.67	1073.76	972.78	839.53	730.78	653.70	557.49	481.61	430.22
180.0	1170.20	1038.80	914.82	812.94	719.31	614.08	539.69	473.72	401.84
225.0	1333.09	1182.69	1082.07	970.81	839.53	743.62	657.82	570.76	493.32
270.0	1317.55	1202.83	1088.10	951.27	847.30	751.09	651.90	565.26	495.95
315.0	1185.32	1071.01	947.80	845.03	749.24	641.99	567.23	500.01	432.67
360.0	1208.20	1092.28	966.20	861.64	751.69	652.50	574.23	496.55	427.83

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	375.85	331.03	301.75	248.03	219.59	192.23	168.74	150.40	134.26
45.0	317.29	306.53	237.22	210.57	182.90	162.53	144.00	126.74	114.31
90.0	310.18	268.35	236.62	206.03	180.15	160.44	143.35	125.06	112.51
135.0	363.30	318.48	305.34	238.65	210.15	182.25	160.20	143.17	127.99
180.0	352.00	308.92	263.27	232.44	205.61	177.29	160.20	141.08	122.85
225.0	434.16	376.68	332.29	288.73	251.08	222.34	194.32	170.36	152.13
270.0	429.03	377.64	327.45	302.95	248.93	220.61	190.13	169.16	150.70
315.0	375.43	331.63	288.91	251.62	222.94	194.97	173.52	152.49	134.62
360.0	375.85	331.03	301.75	248.03	219.59	192.23	168.74	150.40	134.26

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	117.06	105.22	95.01	85.09	76.54	69.91	63.40	57.66	53.24
45.0	102.72	90.59	82.10	74.57	66.56	60.95	56.23	51.45	47.03
90.0	101.58	91.90	81.32	74.03	67.64	60.71	55.99	51.69	47.44
135.0	112.10	101.04	91.66	81.98	73.44	67.16	60.89	55.51	51.15
180.0	111.92	99.43	87.42	80.13	72.84	64.23	59.57	54.79	50.07
225.0	136.24	118.97	107.20	96.80	86.76	77.98	71.11	64.29	58.44
270.0	130.92	117.47	105.82	94.59	84.91	77.38	69.91	63.40	58.38
315.0	120.94	108.75	95.66	86.70	78.81	70.27	64.23	58.98	53.66
360.0	117.06	105.22	95.01	85.09	76.54	69.91	63.40	57.66	53.24

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	48.76	45.17	42.01	38.48	36.15	34.24	31.67	30.06	28.74
45.0	43.68	40.27	37.64	34.84	32.33	30.23	28.14	26.23	24.74
90.0	43.68	40.63	37.58	34.84	32.57	30.29	28.44	26.53	24.86
135.0	46.73	43.14	39.80	36.69	34.24	32.03	29.52	27.73	26.11
180.0	45.95	42.66	39.38	36.45	34.18	31.97	30.12	28.38	26.77
225.0	53.72	49.06	45.47	41.77	38.48	35.97	33.58	30.95	29.04
270.0	53.30	49.18	45.11	41.89	38.66	36.09	33.52	31.25	29.34
315.0	49.00	45.35	41.71	38.48	35.91	33.34	31.25	29.16	27.25
360.0	48.76	45.17	42.01	38.48	36.15	34.24	31.67	30.06	28.74

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	26.83	25.57	24.50	23.18	22.05	21.09	20.08	19.24	18.46
45.0	23.30	21.75	20.55	19.48	18.34	17.27	16.37	15.42	14.58
90.0	23.48	22.23	20.67	19.60	18.58	17.45	16.49	15.66	14.76
135.0	24.32	23.00	21.75	20.50	19.36	18.40	17.45	16.61	15.72
180.0	25.45	24.26	22.89	21.93	20.97	19.84	19.06	18.34	17.57
225.0	27.31	25.28	23.84	22.47	21.09	19.84	18.76	17.69	16.73
270.0	27.19	25.69	24.26	22.89	21.33	20.14	19.06	17.93	16.91
315.0	25.69	24.32	22.71	21.57	20.44	19.18	18.28	17.39	16.49
360.0	26.83	25.57	24.50	23.18	22.05	21.09	20.08	19.24	18.46

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	17.75	17.09	16.43	15.66	15.00	14.34	13.56	12.97	12.37
45.0	13.80	13.03	12.37	11.65	11.11	10.46	9.92	9.32	8.90
90.0	13.86	13.15	12.43	11.77	11.11	10.46	9.92	9.38	8.78
135.0	14.88	14.22	13.50	12.79	12.25	11.65	11.05	10.52	10.04
180.0	16.73	16.07	15.30	14.58	13.80	13.15	12.43	11.71	11.17
225.0	15.83	14.88	14.10	13.32	12.55	11.89	11.29	10.58	10.10
270.0	16.01	15.06	14.22	13.50	12.73	12.07	11.35	10.70	10.16
315.0	15.66	14.94	14.16	13.56	12.85	12.25	11.65	11.05	10.52
360.0	17.75	17.09	16.43	15.66	15.00	14.34	13.56	12.97	12.37

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.77	11.17	10.76	10.34	9.92	9.56	9.14	8.84	8.48
45.0	8.48	8.01	7.59	7.23	6.87	6.51	6.21	5.86	5.62
90.0	8.37	7.95	7.47	7.05	6.75	6.33	6.04	5.68	5.38
135.0	9.56	9.08	8.66	8.25	7.89	7.53	7.17	6.87	6.57
180.0	10.58	10.16	9.68	9.26	8.90	8.60	8.13	7.83	7.59
225.0	9.56	9.08	8.60	8.19	7.71	7.35	6.93	6.57	6.27
270.0	9.68	9.02	8.54	8.19	7.65	7.29	6.99	6.57	6.21
315.0	10.10	9.68	9.20	8.78	8.43	8.01	7.71	7.41	7.05
360.0	11.77	11.17	10.76	10.34	9.92	9.56	9.14	8.84	8.48

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.25	7.95	7.83	7.59	7.47	7.35	7.35	7.71	8.31
45.0	5.32	5.02	4.72	4.54	4.18	3.94	3.76	3.47	3.29
90.0	5.14	4.84	4.54	4.30	4.00	3.76	3.53	3.35	3.11
135.0	6.27	5.98	5.74	5.44	5.20	4.96	4.66	4.42	4.24
180.0	7.35	7.17	7.05	6.93	6.93	6.93	7.35	7.83	8.48
225.0	5.98	5.62	5.38	5.02	4.78	4.48	4.24	3.94	3.76
270.0	5.92	5.56	5.26	5.02	4.72	4.42	4.18	3.88	3.64
315.0	6.81	6.45	6.15	5.92	5.62	5.32	5.14	4.96	4.72
360.0	8.25	7.95	7.83	7.59	7.47	7.35	7.35	7.71	8.31

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.44	10.70	12.01	12.49	10.82	3.82	3.05	2.51	2.03
45.0	3.11	2.87	2.75	2.63	2.15	1.97	1.91	1.91	1.91
90.0	2.93	2.75	2.51	2.27	2.09	1.91	1.85	1.85	1.85
135.0	4.00	3.70	3.53	3.29	2.57	2.33	2.09	1.91	1.91
180.0	8.78	8.54	7.41	4.84	2.93	2.45	2.03	1.91	1.85
225.0	3.59	3.35	3.11	2.87	2.69	2.33	2.15	1.97	1.85
270.0	3.47	3.23	2.99	2.75	2.57	2.33	2.09	1.91	1.91
315.0	4.48	4.18	3.88	3.76	3.53	2.75	2.33	2.03	1.97
360.0	9.44	10.70	12.01	12.49	10.82	3.82	3.05	2.51	2.03

Intensity data(cd)

C/γ(°)	90.0
0.0	1.97
45.0	1.85
90.0	1.85
135.0	1.91
180.0	2.15
225.0	1.91
270.0	1.91
315.0	1.91
360.0	1.97