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Nata

LumCAT: 2-1747-N
Luminaire: 92.70.124.00

Report No: 200407-B023	Voltage(V): 220.4000
Test No: 200407-C023	Current(A): 0.0400
LampCAT: LUMINUS CXM-9-AC40	Power (W): 8.0800
Lamp flux(lm): 738.0	PF: 0.8950
Number of Lamps: 1	Ballast type: AC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 606.62
Efficiency(%): 82.20%
Lumens(lm)/Power(W): 75.08
Central intensity(cd): 1188.320
Maximum intensity(cd): 1188.320
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=39.7
[C90/270]Total=39.7
Field angle(10%Imax): [C0/180]Total=68.2
[C90/270]Total=68.2
Maximum s/h(1/2): C0_180=0.64 C90_270=0.64
Maximum s/h(1/4): C0_180=0.65 C90_270=0.65
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.20%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.145%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1188.320	0.000	0	.000%	.000%
1.0	1187.044	1.137	1.137	.154%	.187%
2.0	1181.940	3.400	4.537	.461%	.748%
3.0	1172.427	5.631	10.168	.763%	1.676%
4.0	1160.362	7.809	17.976	1.058%	2.963%
5.0	1144.875	9.917	27.893	1.344%	4.598%
6.0	1126.662	11.938	39.831	1.618%	6.566%
7.0	1104.910	13.851	53.682	1.877%	8.849%
8.0	1081.418	15.647	69.329	2.120%	11.429%
9.0	1045.148	17.235	86.564	2.335%	14.270%
10.0	1017.712	18.668	105.232	2.530%	17.347%
11.0	992.742	20.089	125.321	2.722%	20.659%
12.0	944.842	21.181	146.501	2.870%	24.150%
13.0	907.423	21.982	168.483	2.979%	27.774%
14.0	865.857	22.698	191.181	3.076%	31.516%
15.0	823.671	23.195	214.375	3.143%	35.339%
16.0	776.751	23.451	237.826	3.178%	39.205%
17.0	729.577	23.458	261.284	3.179%	43.072%
18.0	681.160	23.260	284.544	3.152%	46.907%
19.0	633.585	22.874	307.417	3.099%	50.677%
20.0	586.643	22.334	329.751	3.026%	54.359%
21.0	541.283	21.658	351.409	2.935%	57.929%
22.0	499.799	20.921	372.33	2.835%	61.378%
23.0	456.667	20.069	392.4	2.719%	64.686%
24.0	420.188	19.171	411.571	2.598%	67.847%
25.0	388.048	18.378	429.948	2.490%	70.876%
26.0	356.117	17.566	447.514	2.380%	73.772%
27.0	325.931	16.686	464.201	2.261%	76.523%
28.0	295.787	15.741	479.942	2.133%	79.118%
29.0	272.150	14.859	494.8	2.013%	81.567%
30.0	245.085	13.965	508.766	1.892%	83.869%
31.0	217.695	12.879	521.644	1.745%	85.992%
32.0	186.849	11.590	533.234	1.570%	87.903%
33.0	146.461	9.819	543.053	1.331%	89.521%
34.0	121.513	8.110	551.163	1.099%	90.858%
35.0	90.568	6.586	557.749	.892%	91.944%
36.0	67.923	5.046	562.796	.684%	92.776%
37.0	50.661	3.868	566.663	.524%	93.414%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	39.176	2.999	569.662	.406%	93.908%
39.0	31.577	2.415	572.077	.327%	94.306%
40.0	26.444	2.024	574.1	.274%	94.640%
41.0	23.283	1.771	575.871	.240%	94.931%
42.0	20.841	1.603	577.474	.217%	95.196%
43.0	19.060	1.478	578.952	.200%	95.439%
44.0	17.448	1.378	580.33	.187%	95.667%
45.0	16.079	1.288	581.619	.175%	95.879%
46.0	15.029	1.217	582.835	.165%	96.079%
47.0	14.141	1.160	583.995	.157%	96.271%
48.0	13.184	1.105	585.1	.150%	96.453%
49.0	12.448	1.053	586.153	.143%	96.626%
50.0	11.815	1.012	587.164	.137%	96.793%
51.0	11.201	0.974	588.138	.132%	96.954%
52.0	10.609	0.936	589.074	.127%	97.108%
53.0	10.087	0.900	589.974	.122%	97.256%
54.0	9.530	0.865	590.839	.117%	97.399%
55.0	9.072	0.830	591.669	.113%	97.536%
56.0	8.608	0.799	592.468	.108%	97.667%
57.0	8.167	0.767	593.235	.104%	97.794%
58.0	7.778	0.737	593.972	.100%	97.915%
59.0	7.413	0.710	594.683	.096%	98.032%
60.0	7.059	0.684	595.366	.093%	98.145%
61.0	6.746	0.659	596.025	.089%	98.254%
62.0	6.438	0.635	596.66	.086%	98.359%
63.0	6.148	0.612	597.273	.083%	98.459%
64.0	5.870	0.590	597.862	.080%	98.557%
65.0	5.626	0.569	598.431	.077%	98.650%
66.0	5.365	0.548	598.98	.074%	98.741%
67.0	5.116	0.527	599.507	.071%	98.828%
68.0	4.901	0.507	600.014	.069%	98.911%
69.0	4.681	0.489	600.503	.066%	98.992%
70.0	4.484	0.471	600.974	.064%	99.070%
71.0	4.281	0.453	601.427	.061%	99.144%
72.0	4.066	0.434	601.861	.059%	99.216%
73.0	3.851	0.414	602.275	.056%	99.284%
74.0	3.683	0.396	602.671	.054%	99.349%
75.0	3.492	0.379	603.05	.051%	99.412%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.289	0.360	603.41	.049%	99.471%
77.0	3.103	0.341	603.751	.046%	99.527%
78.0	2.912	0.322	604.073	.044%	99.580%
79.0	2.744	0.304	604.377	.041%	99.631%
80.0	2.570	0.286	604.663	.039%	99.678%
81.0	2.372	0.267	604.93	.036%	99.722%
82.0	2.210	0.248	605.179	.034%	99.763%
83.0	2.053	0.232	605.411	.031%	99.801%
84.0	1.885	0.215	605.625	.029%	99.836%
85.0	1.740	0.198	605.823	.027%	99.869%
86.0	1.613	0.183	606.006	.025%	99.899%
87.0	1.485	0.170	606.176	.023%	99.927%
88.0	1.375	0.157	606.332	.021%	99.953%
89.0	1.293	0.146	606.479	.020%	99.977%
90.0	1.247	0.139	606.618	.019%	100.000%

Zonal flux distribution table

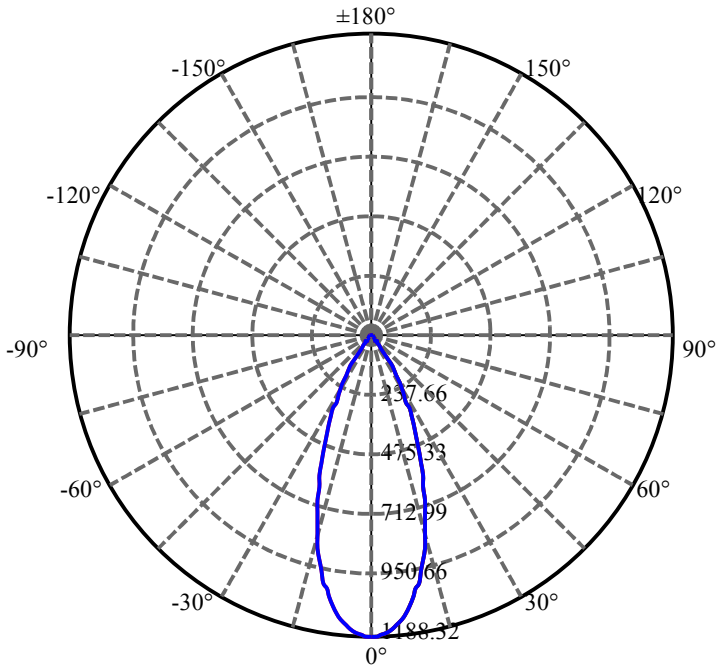
ZONAL LUMEN SUMMARY

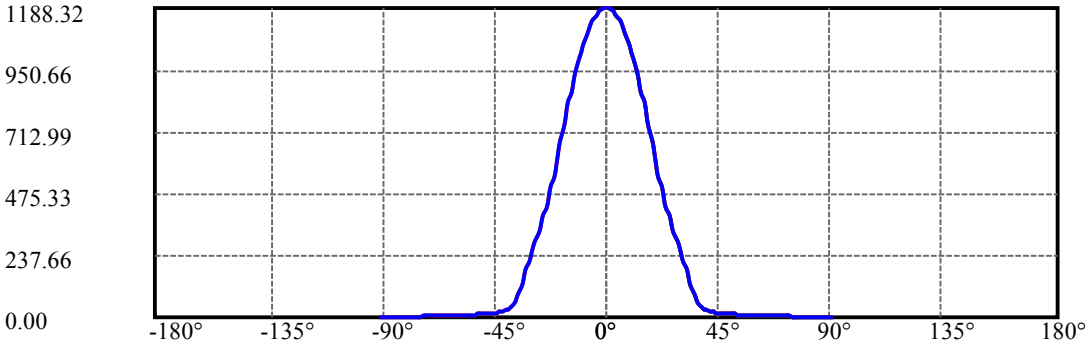
Zone	Lumens	%Lamp	%Fixt
0-30	508.77	68.94%	83.87%
0-40	574.10	77.79%	94.64%
0-60	595.37	80.67%	98.15%
0-90	606.48	82.18%	99.98%
0-120	606.48	82.18%	99.98%
0-180	606.62	82.20%	100.00%
60-90	11.80	1.60%	1.94%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.36	485.29	65.76%	80.00%

ZONAL LUMEN SUMMARY

0-10	105.23
10-20	224.52
20-30	179.01
30-40	65.33
40-50	13.06
50-60	8.20
60-70	5.61
70-80	3.69
80-90	1.82
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):

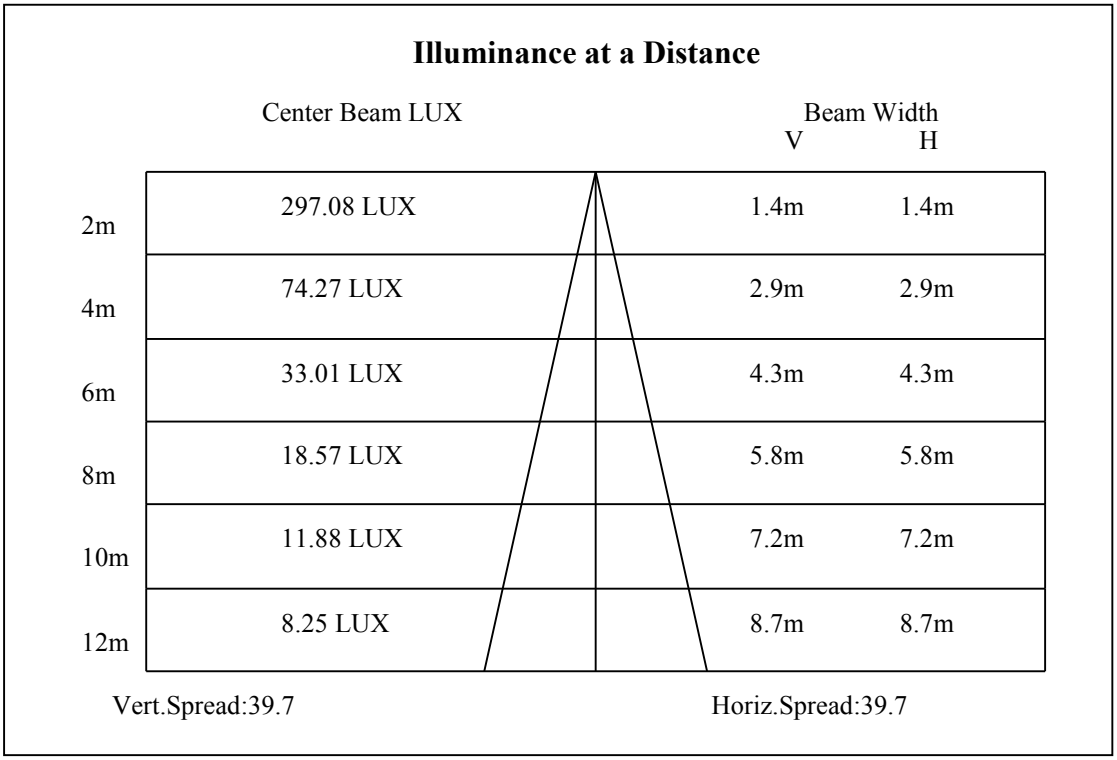
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:34.1 Right:34.1
:C90/270Left:34.1 Right:34.1

Beam Angle(50%Imax):C0/180Left:19.8 Right:19.8
:C90/270Left:19.8 Right:19.8

Lux distance Curve

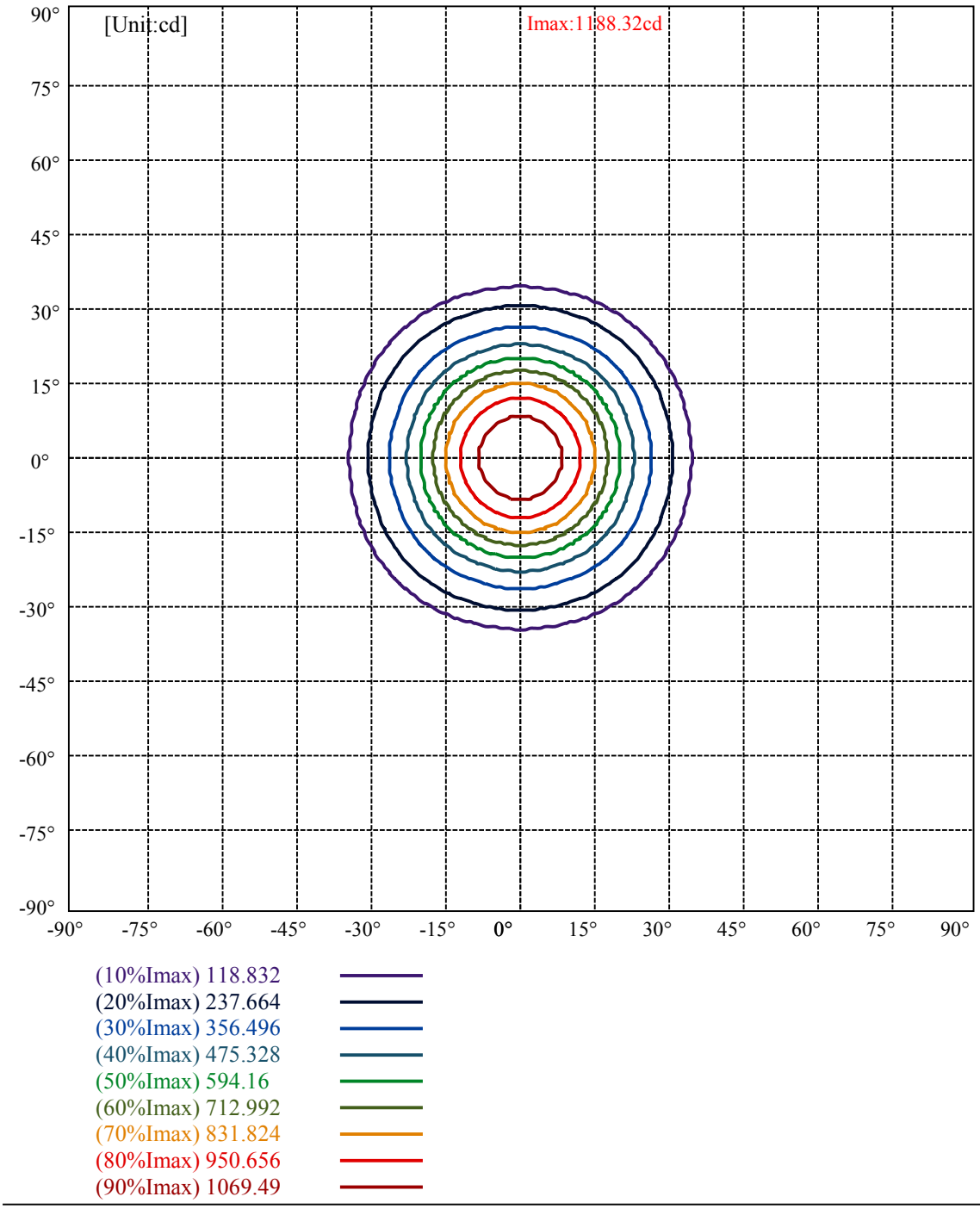


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

ISO-Intensity(V-H)

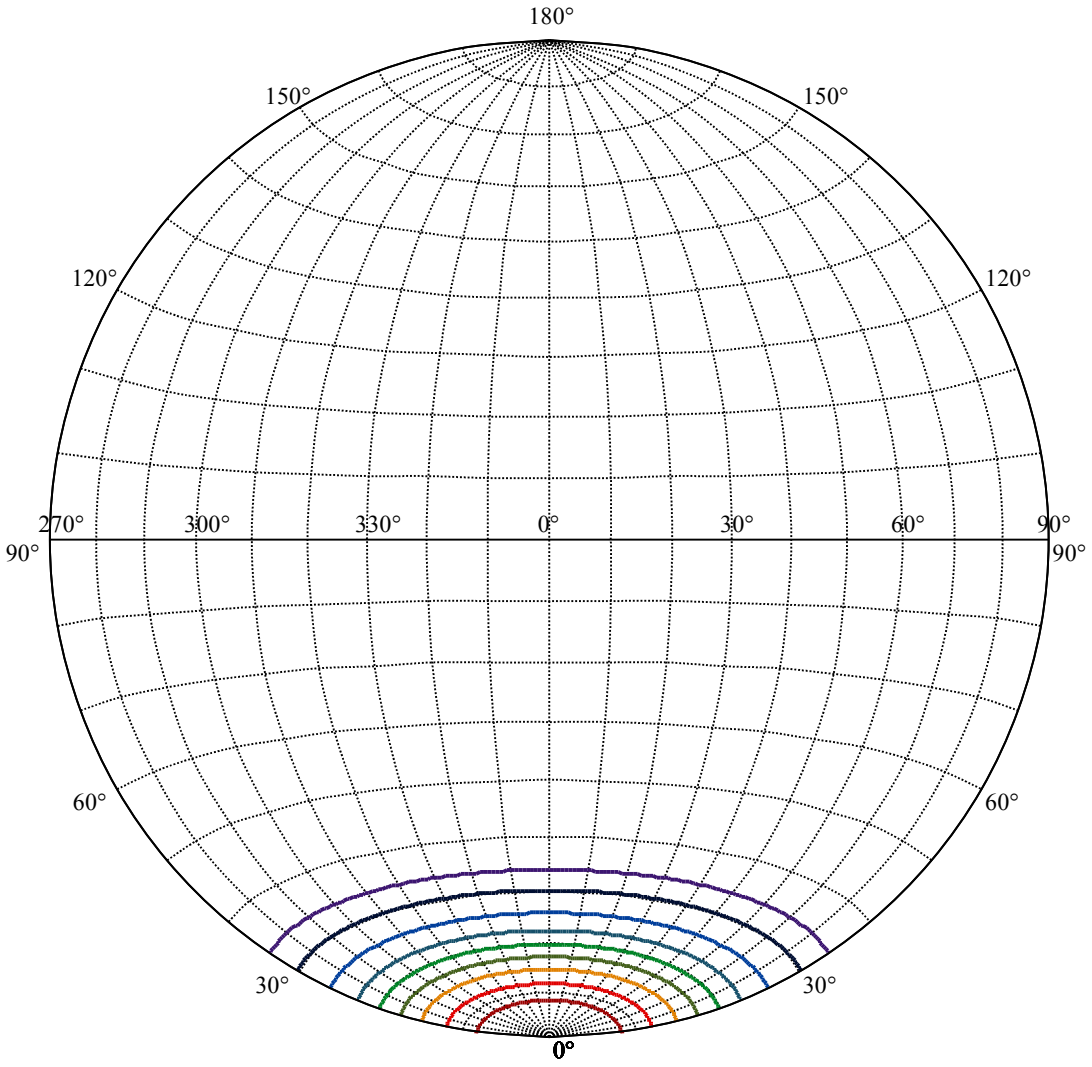


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:1188.32

(10%Imax) 118.832
(20%Imax) 237.664
(30%Imax) 356.496
(40%Imax) 475.328
(50%Imax) 594.16
(60%Imax) 712.992
(70%Imax) 831.824
(80%Imax) 950.656
(90%Imax) 1069.49

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

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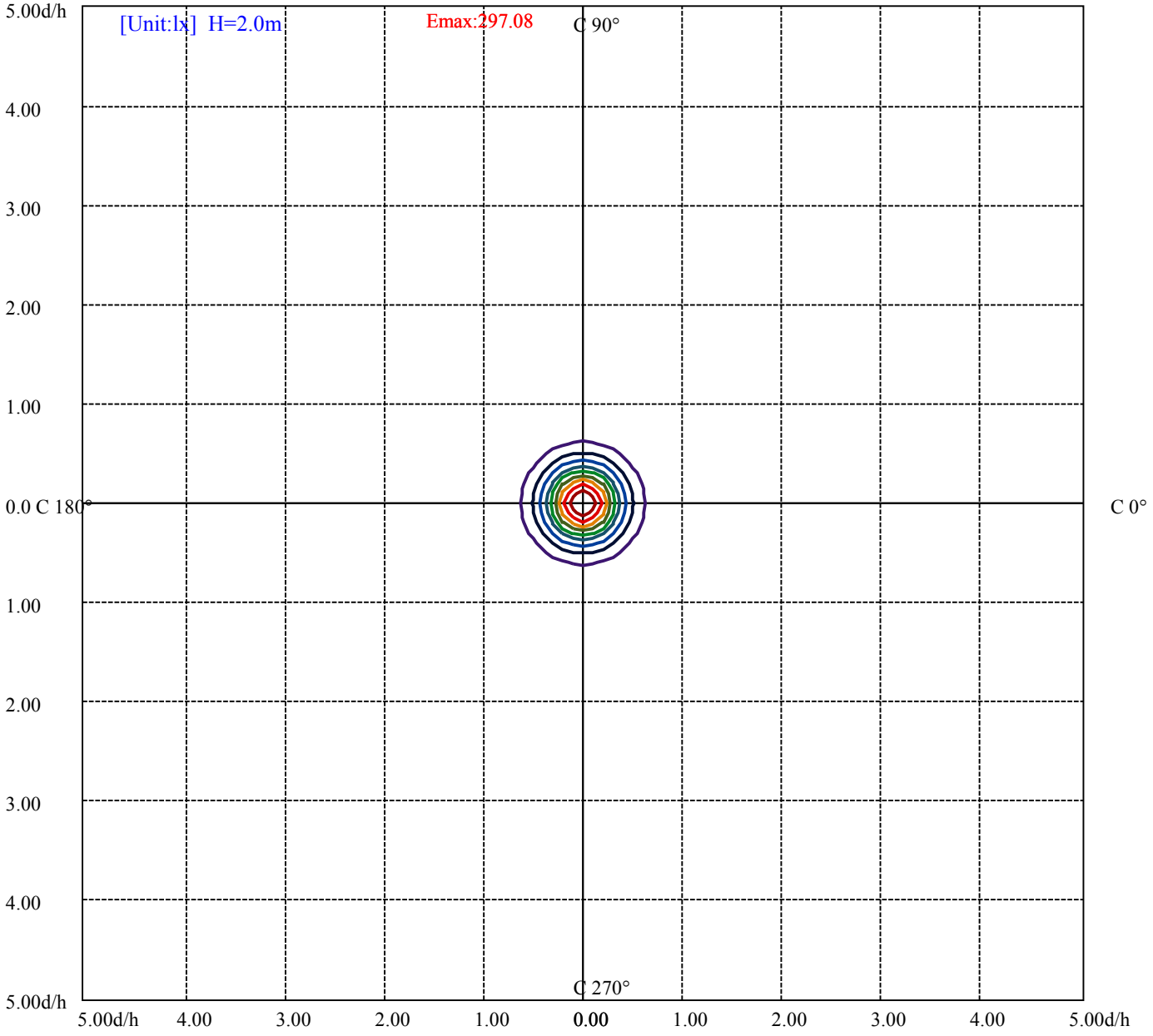
ISO illuminance diagram

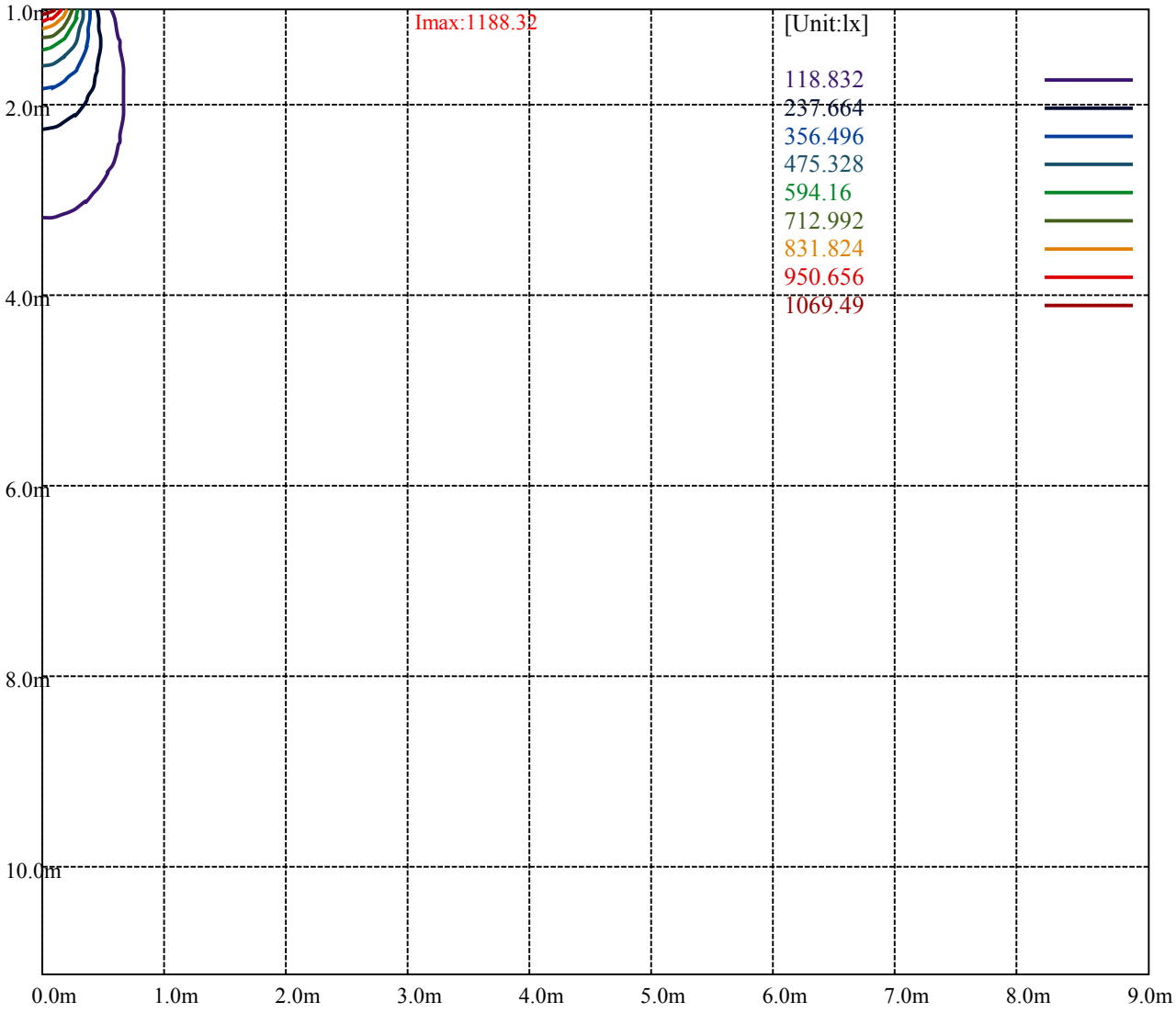


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Space ISO Lux diagram



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Luminance Limitting Curve(no luminous side)

Luminance Table

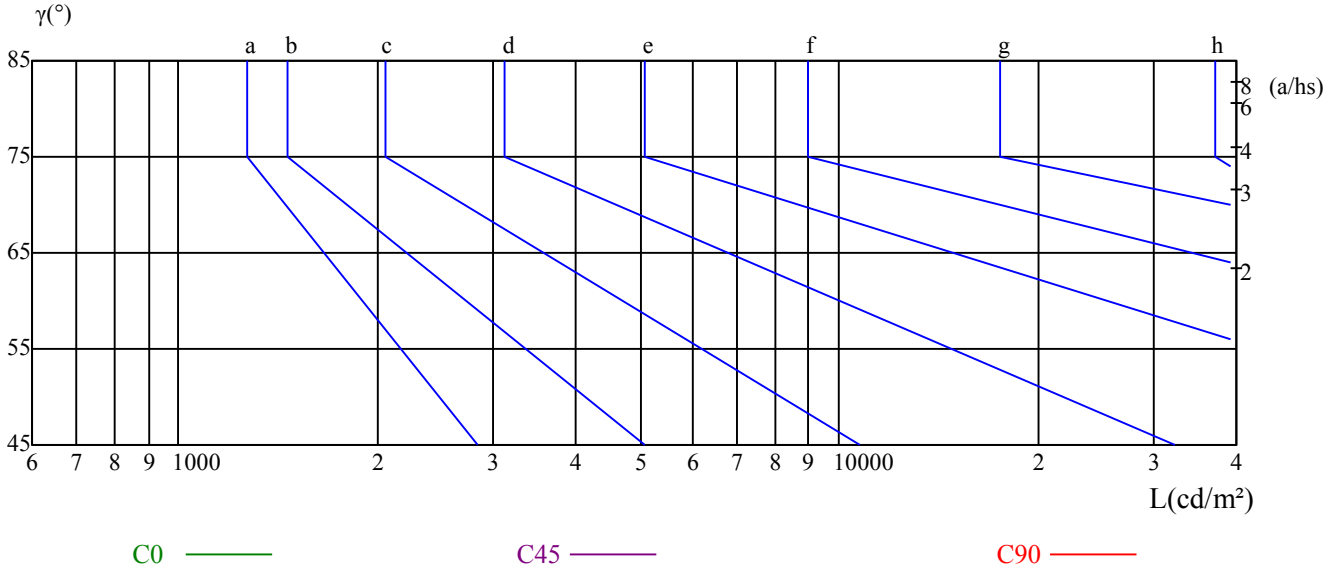
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

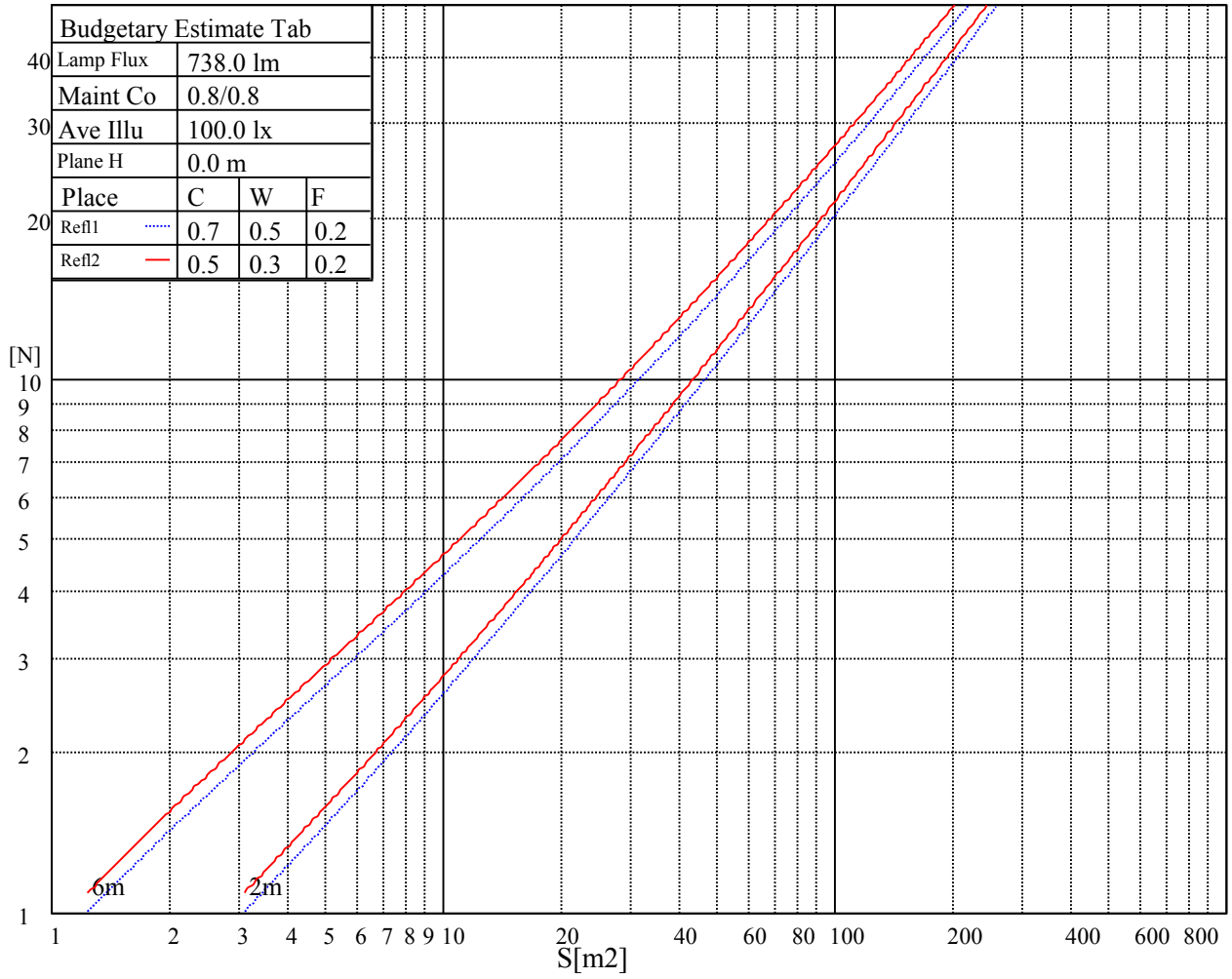
Glare Table

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

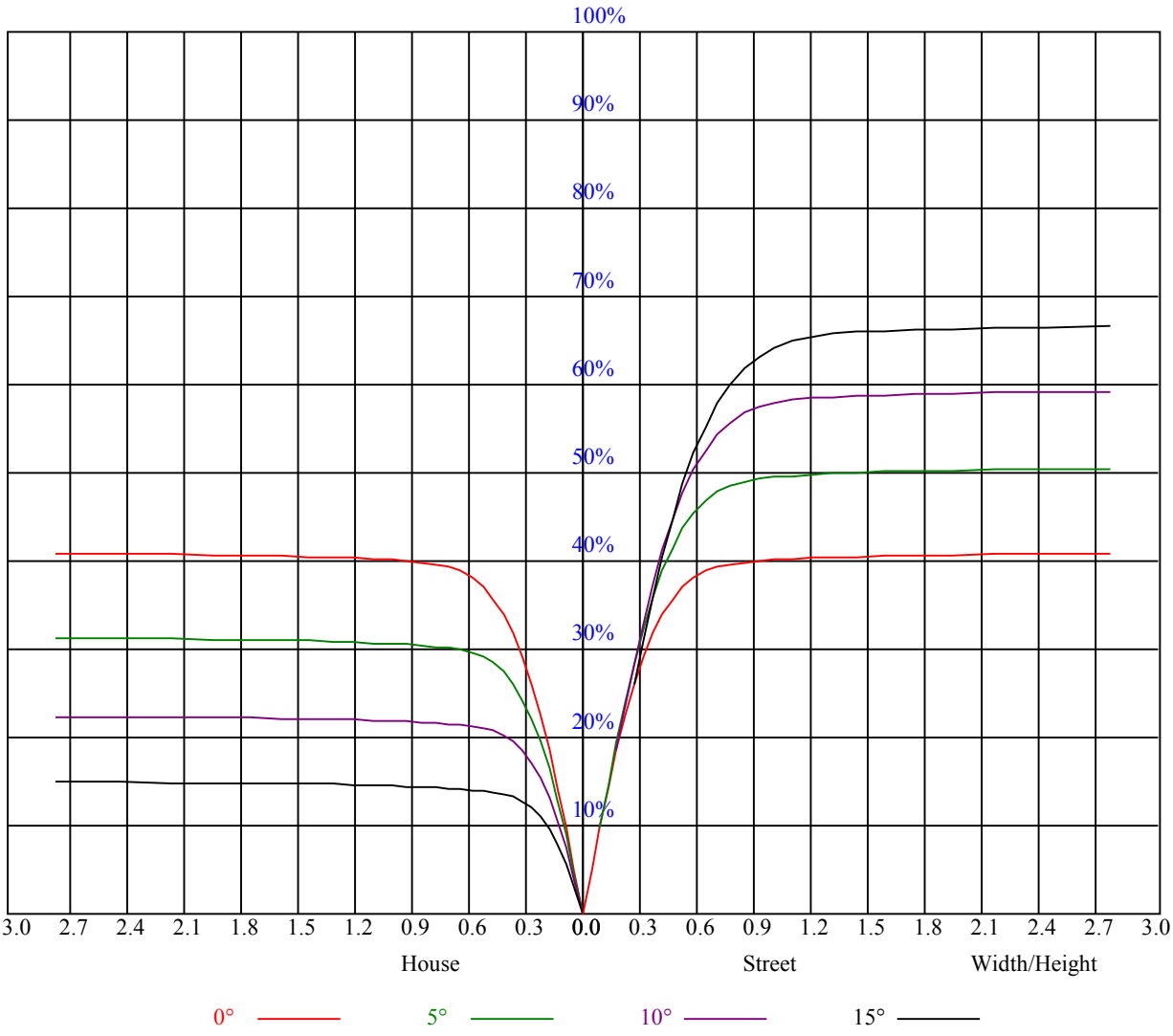


Equipment: GMS 1800 Date: 2020/4/7 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 6.81

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	0.98	0.98	0.98	0.96	0.96	0.96	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.82
1	0.91	0.89	0.88	0.90	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.79	0.77
2	0.86	0.83	0.80	0.84	0.82	0.79	0.82	0.79	0.77	0.79	0.77	0.76	0.77	0.76	0.74	0.73
3	0.81	0.77	0.74	0.80	0.76	0.73	0.77	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.69
4	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.70	0.68	0.72	0.69	0.67	0.71	0.68	0.66	0.65
5	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
6	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59
7	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.56
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.54	0.59	0.56	0.54	0.53
9	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.52	0.51
10	0.57	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.50	0.55	0.52	0.50	0.55	0.52	0.49	0.49

Coefficient Utilization Curve



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

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	1188.44	1185.65	1179.62	1170.34	1156.88	1141.10	1121.62	1096.56	1069.18
45.0	1192.61	1187.04	1179.62	1168.02	1156.88	1136.93	1116.97	1092.85	1075.21
90.0	1183.33	1174.05	1158.74	1140.64	1120.22	1099.81	1069.64	1040.41	1005.61
135.0	1188.90	1187.04	1180.08	1169.87	1156.88	1138.32	1116.97	1094.24	1066.40
180.0	1188.44	1187.04	1184.26	1176.84	1161.99	1147.14	1136.46	1106.30	1094.24
225.0	1192.61	1190.76	1187.04	1174.05	1161.06	1143.89	1127.18	1105.37	1078.00
270.0	1183.33	1190.76	1196.32	1193.54	1190.76	1184.72	1170.80	1158.74	1145.28
315.0	1188.90	1194.00	1189.83	1186.12	1178.23	1167.09	1153.63	1144.82	1117.44
360.0	1188.44	1185.65	1179.62	1170.34	1156.88	1141.10	1121.62	1096.56	1069.18

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1038.09	1004.68	988.44	914.24	897.21	852.89	812.34	764.12	716.79
45.0	1030.20	1007.93	970.34	928.58	880.78	834.38	786.12	737.86	689.14
90.0	917.77	917.77	910.11	864.73	819.20	769.88	721.62	673.87	627.70
135.0	1033.91	997.25	959.20	916.05	888.67	822.78	795.40	746.68	699.81
180.0	1067.32	1022.31	998.65	958.28	917.44	875.21	828.81	785.19	740.64
225.0	1045.51	1011.18	983.33	914.61	914.61	866.91	816.98	768.95	717.67
270.0	1124.86	1102.13	1080.32	1044.59	1019.99	983.33	943.43	901.20	856.19
315.0	1103.52	1078.46	1051.55	1017.67	921.48	921.48	884.68	836.14	788.67
360.0	1038.09	1004.68	988.44	914.24	897.21	852.89	812.34	764.12	716.79

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	669.00	621.80	575.03	528.02	482.32	444.73	412.85	383.85	356.42
45.0	639.48	593.55	548.07	506.31	464.54	425.57	392.15	363.38	333.69
90.0	583.29	538.84	495.54	452.71	415.73	381.11	349.56	316.19	288.95
135.0	651.55	604.22	557.35	511.88	468.26	428.81	393.55	359.67	328.12
180.0	694.70	650.62	606.07	561.53	518.37	476.14	437.17	401.44	370.35
225.0	661.02	608.21	557.40	511.78	466.96	425.38	391.74	362.09	345.19
270.0	810.71	761.06	712.80	664.54	616.28	567.56	521.16	477.54	436.70
315.0	739.53	690.39	640.88	593.50	565.94	504.03	463.34	440.23	389.51
360.0	669.00	621.80	575.03	528.02	482.32	444.73	412.85	383.85	356.42

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	327.28	300.88	275.87	245.20	224.64	188.21	137.08	116.61	86.22
45.0	300.74	272.43	257.58	235.31	235.31	156.98	126.96	100.28	76.94
90.0	259.26	225.85	197.82	163.99	130.76	98.84	71.51	49.84	37.35
135.0	297.03	270.58	240.42	240.42	165.75	144.78	112.20	82.46	57.45
180.0	345.75	309.09	280.79	256.66	237.17	237.17	150.39	114.89	84.31
225.0	307.56	282.69	267.75	230.58	213.22	182.88	151.60	119.40	90.76
270.0	400.04	368.02	350.86	310.02	286.36	271.04	241.34	241.34	175.78
315.0	369.79	336.75	306.12	278.51	248.35	214.89	180.60	147.28	115.73
360.0	327.28	300.88	275.87	245.20	224.64	188.21	137.08	116.61	86.22

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	61.90	45.15	36.24	30.77	26.54	23.71	21.35	19.49	17.91
45.0	55.68	41.62	34.62	29.28	25.48	22.78	20.56	18.79	17.87
90.0	31.23	26.45	23.39	21.11	19.21	17.59	16.24	15.13	14.06
135.0	40.93	33.36	28.03	24.22	21.76	19.81	18.14	16.75	15.55
180.0	59.40	42.04	33.09	27.84	23.90	21.44	19.49	17.91	16.47
225.0	66.50	47.15	36.10	30.35	25.99	23.02	20.88	19.07	17.54
270.0	140.93	107.01	76.61	52.57	37.91	31.46	26.50	23.25	20.93
315.0	86.82	62.51	45.34	36.47	30.77	26.45	23.57	22.09	19.26
360.0	61.90	45.15	36.24	30.77	26.54	23.71	21.35	19.49	17.91

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	16.57	15.36	14.34	13.46	12.67	11.97	11.28	10.90	10.35
45.0	16.06	14.90	14.34	13.09	12.62	11.97	11.28	10.67	10.07
90.0	13.22	12.48	11.79	11.14	10.58	10.07	9.74	9.00	8.77
135.0	14.57	13.69	12.85	12.44	11.51	10.90	10.53	10.07	9.56
180.0	15.31	14.34	13.74	12.67	11.93	11.60	10.95	10.44	9.93
225.0	16.19	15.13	14.11	13.22	12.48	11.97	11.32	10.72	10.16
270.0	19.07	17.49	16.43	14.99	14.20	13.32	12.53	11.74	11.14
315.0	17.63	16.84	15.55	14.48	13.60	12.71	11.97	11.32	10.72
360.0	16.57	15.36	14.34	13.46	12.67	11.97	11.28	10.90	10.35

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.56	9.23	8.72	8.31	7.93	7.52	7.15	6.87	6.54
45.0	9.56	9.05	8.58	8.12	7.75	7.38	7.05	6.68	6.40
90.0	8.26	7.93	7.56	7.15	6.82	6.54	6.22	5.94	5.66
135.0	9.05	8.63	8.21	7.80	7.38	7.10	6.77	6.50	6.13
180.0	9.51	8.96	8.49	8.07	7.75	7.33	7.01	6.68	6.45
225.0	9.65	9.19	8.68	8.26	7.89	7.52	7.15	6.87	6.59
270.0	10.53	10.02	9.51	9.00	8.54	8.17	7.70	7.33	7.01
315.0	10.12	9.56	9.10	8.63	8.17	7.75	7.42	7.10	6.73
360.0	9.56	9.23	8.72	8.31	7.93	7.52	7.15	6.87	6.54

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.22	5.89	5.71	5.48	5.15	4.92	4.73	4.50	4.36
45.0	6.13	5.89	5.71	5.29	5.06	4.92	4.69	4.55	4.32
90.0	5.43	5.20	4.92	4.69	4.55	4.32	4.04	3.85	3.71
135.0	5.85	5.61	5.38	5.15	4.87	4.69	4.50	4.27	4.04
180.0	6.13	5.85	5.61	5.38	5.15	4.87	4.69	4.50	4.32
225.0	6.31	5.99	5.71	5.52	5.20	4.97	4.73	4.59	4.32
270.0	6.73	6.36	6.08	5.85	5.57	5.38	5.10	4.92	4.73
315.0	6.40	6.17	5.89	5.57	5.38	5.15	4.97	4.69	4.45
360.0	6.22	5.89	5.71	5.48	5.15	4.92	4.73	4.50	4.36

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.04	3.85	3.67	3.48	3.29	3.06	2.88	2.74	2.55
45.0	4.08	3.85	3.71	3.48	3.25	3.02	2.92	2.69	2.51
90.0	3.53	3.29	3.20	3.02	2.78	2.74	2.51	2.32	2.18
135.0	3.85	3.67	3.48	3.34	3.11	2.92	2.74	2.60	2.41
180.0	4.13	3.85	3.71	3.53	3.29	3.11	2.92	2.74	2.60
225.0	4.22	3.90	3.76	3.57	3.39	3.16	2.97	2.83	2.60
270.0	4.41	4.32	4.08	3.90	3.71	3.53	3.29	3.16	2.97
315.0	4.27	4.08	3.85	3.62	3.48	3.29	3.06	2.88	2.74
360.0	4.04	3.85	3.67	3.48	3.29	3.06	2.88	2.74	2.55

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.37	2.23	2.09	1.90	1.76	1.62	1.44	1.35	1.25
45.0	2.32	2.13	1.95	1.81	1.62	1.53	1.39	1.30	1.25
90.0	2.04	1.90	1.76	1.58	1.48	1.39	1.35	1.21	1.16
135.0	2.23	2.09	1.95	1.76	1.58	1.48	1.39	1.35	1.16
180.0	2.37	2.18	2.04	1.86	1.72	1.53	1.44	1.30	1.25
225.0	2.37	2.18	2.04	1.95	1.76	1.62	1.44	1.35	1.30
270.0	2.74	2.55	2.37	2.23	2.04	1.90	1.76	1.62	1.53
315.0	2.55	2.41	2.23	2.00	1.95	1.81	1.67	1.53	1.44
360.0	2.37	2.23	2.09	1.90	1.76	1.62	1.44	1.35	1.25

Intensity data(cd)

C/γ(°)	90.0
0.0	1.25
45.0	1.16
90.0	1.16
135.0	1.16
180.0	1.21
225.0	1.25
270.0	1.39
315.0	1.39
360.0	1.25