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Nata

LumCAT: 2-1746-N
Luminaire: 92.70.132.00

Report No: 200407-B030	Voltage(V): 220.4000
Test No: 200407-C030	Current(A): 0.0420
LampCAT: LUMILEDS LUXEON 1203	Power (W): 8.3100
Lamp flux(lm): 753.0	PF: 0.8970
Number of Lamps: 1	Ballast type: AC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 618.41
Efficiency(%): 82.13%
Lumens(lm)/Power(W): 74.42
Central intensity(cd): 2370.213
Maximum intensity(cd): 2370.213
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=22.6
[C90/270]Total=22.6
Field angle(10%Imax): [C0/180]Total=58.3
[C90/270]Total=58.3
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.41 C90_270=0.41
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.13%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.243%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2370.213	0.000	0	.000%	.000%
1.0	2361.339	2.264	2.264	.301%	.366%
2.0	2329.204	6.732	8.996	.894%	1.455%
3.0	2272.476	11.006	20.002	1.462%	3.234%
4.0	2197.129	14.961	34.963	1.987%	5.654%
5.0	2096.723	18.472	53.435	2.453%	8.641%
6.0	1979.961	21.424	74.859	2.845%	12.105%
7.0	1846.667	23.752	98.611	3.154%	15.946%
8.0	1710.648	25.459	124.07	3.381%	20.063%
9.0	1567.725	26.569	150.639	3.528%	24.359%
10.0	1413.028	26.975	177.614	3.582%	28.721%
11.0	1229.979	26.409	204.023	3.507%	32.991%
12.0	1079.707	25.248	229.271	3.353%	37.074%
13.0	977.637	24.415	253.687	3.242%	41.022%
14.0	868.729	23.633	277.32	3.139%	44.844%
15.0	764.298	22.419	299.739	2.977%	48.469%
16.0	673.185	21.063	320.802	2.797%	51.875%
17.0	594.676	19.744	340.546	2.622%	55.068%
18.0	535.205	18.629	359.176	2.474%	58.080%
19.0	482.403	17.704	376.88	2.351%	60.943%
20.0	437.352	16.834	393.714	2.236%	63.665%
21.0	398.889	16.058	409.771	2.132%	66.262%
22.0	366.923	15.389	425.161	2.044%	68.750%
23.0	336.616	14.762	439.923	1.960%	71.137%
24.0	314.197	14.229	454.152	1.890%	73.438%
25.0	294.644	13.844	467.996	1.838%	75.677%
26.0	277.834	13.513	481.509	1.795%	77.862%
27.0	264.105	13.259	494.768	1.761%	80.006%
28.0	252.011	13.067	507.835	1.735%	82.119%
29.0	239.546	12.861	520.695	1.708%	84.199%
30.0	224.006	12.516	533.211	1.662%	86.223%
31.0	211.327	12.115	545.326	1.609%	88.182%
32.0	172.580	10.998	556.324	1.461%	89.960%
33.0	136.768	9.114	565.438	1.210%	91.434%
34.0	103.816	7.281	572.718	.967%	92.611%
35.0	73.909	5.519	578.238	.733%	93.504%
36.0	50.174	3.951	582.189	.525%	94.142%
37.0	35.603	2.798	584.986	.372%	94.595%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	28.277	2.132	587.119	.283%	94.940%
39.0	23.764	1.776	588.895	.236%	95.227%
40.0	20.394	1.540	590.435	.205%	95.476%
41.0	18.045	1.369	591.804	.182%	95.697%
42.0	16.264	1.247	593.05	.166%	95.899%
43.0	14.826	1.152	594.202	.153%	96.085%
44.0	13.573	1.072	595.274	.142%	96.258%
45.0	12.587	1.005	596.279	.134%	96.421%
46.0	11.711	0.950	597.229	.126%	96.575%
47.0	11.032	0.905	598.134	.120%	96.721%
48.0	10.354	0.865	598.999	.115%	96.861%
49.0	9.803	0.828	599.826	.110%	96.995%
50.0	9.379	0.800	600.626	.106%	97.124%
51.0	8.898	0.773	601.399	.103%	97.249%
52.0	8.602	0.751	602.15	.100%	97.370%
53.0	8.283	0.734	602.885	.098%	97.489%
54.0	8.045	0.720	603.604	.096%	97.605%
55.0	7.790	0.707	604.311	.094%	97.720%
56.0	7.442	0.688	605	.091%	97.831%
57.0	7.094	0.665	605.664	.088%	97.939%
58.0	6.833	0.644	606.308	.086%	98.043%
59.0	6.595	0.628	606.936	.083%	98.144%
60.0	6.363	0.612	607.548	.081%	98.243%
61.0	6.143	0.597	608.145	.079%	98.340%
62.0	5.940	0.582	608.727	.077%	98.434%
63.0	5.731	0.568	609.295	.075%	98.526%
64.0	5.487	0.550	609.845	.073%	98.615%
65.0	5.261	0.532	610.377	.071%	98.701%
66.0	5.064	0.515	610.892	.068%	98.784%
67.0	4.867	0.499	611.392	.066%	98.865%
68.0	4.629	0.481	611.873	.064%	98.942%
69.0	4.408	0.461	612.334	.061%	99.017%
70.0	4.211	0.443	612.776	.059%	99.089%
71.0	4.037	0.426	613.203	.057%	99.158%
72.0	3.857	0.410	613.613	.055%	99.224%
73.0	3.683	0.394	614.007	.052%	99.288%
74.0	3.498	0.378	614.385	.050%	99.349%
75.0	3.318	0.360	614.745	.048%	99.407%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.173	0.345	615.09	.046%	99.463%
77.0	3.016	0.330	615.42	.044%	99.516%
78.0	2.865	0.315	615.734	.042%	99.567%
79.0	2.715	0.300	616.034	.040%	99.615%
80.0	2.564	0.285	616.319	.038%	99.661%
81.0	2.425	0.270	616.589	.036%	99.705%
82.0	2.274	0.255	616.843	.034%	99.746%
83.0	2.146	0.240	617.084	.032%	99.785%
84.0	2.019	0.227	617.31	.030%	99.822%
85.0	1.908	0.214	617.525	.028%	99.856%
86.0	1.792	0.202	617.727	.027%	99.889%
87.0	1.665	0.189	617.916	.025%	99.920%
88.0	1.543	0.176	618.092	.023%	99.948%
89.0	1.450	0.164	618.256	.022%	99.975%
90.0	1.404	0.156	618.412	.021%	100.000%

Zonal flux distribution table

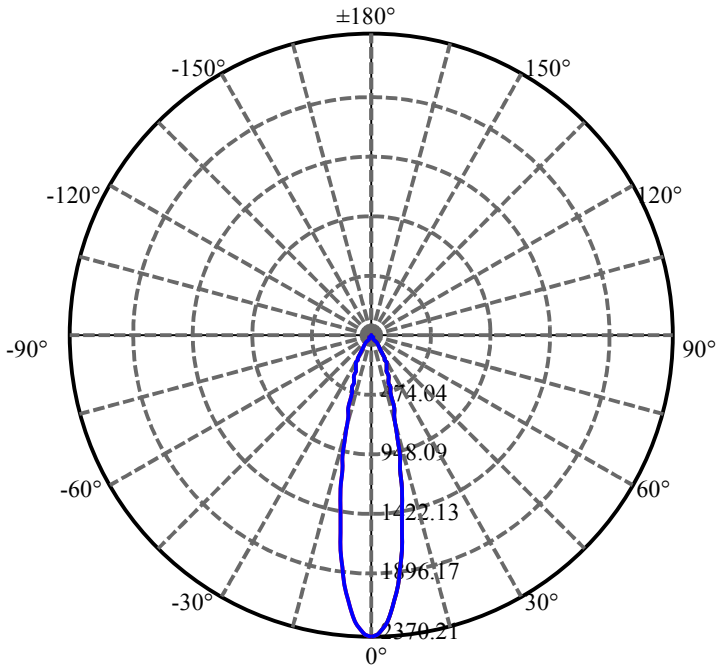
ZONAL LUMEN SUMMARY

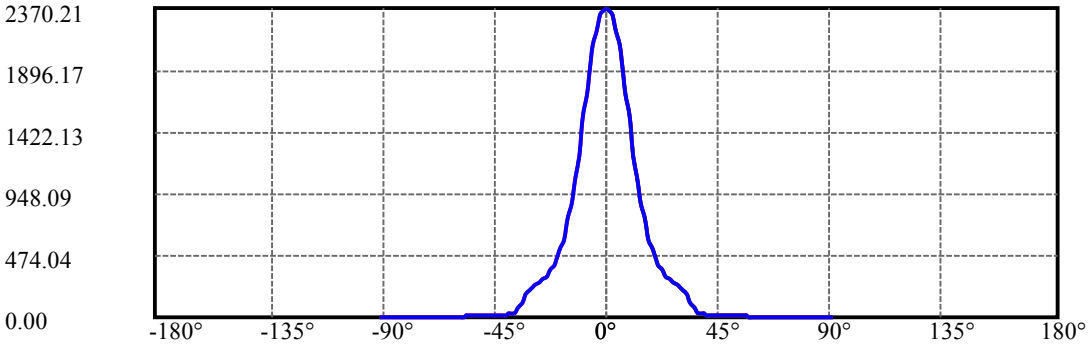
Zone	Lumens	%Lamp	%Fixt
0-30	533.21	70.81%	86.22%
0-40	590.43	78.41%	95.48%
0-60	607.55	80.68%	98.24%
0-90	618.26	82.11%	99.97%
0-120	618.26	82.11%	99.97%
0-180	618.41	82.13%	100.00%
60-90	11.32	1.50%	1.83%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.00	494.73	65.70%	80.00%

ZONAL LUMEN SUMMARY

0-10	177.61
10-20	216.10
20-30	139.50
30-40	57.22
40-50	10.19
50-60	6.92
60-70	5.23
70-80	3.54
80-90	1.94
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:29.2 Right:29.2
:C90/270Left:29.2 Right:29.2

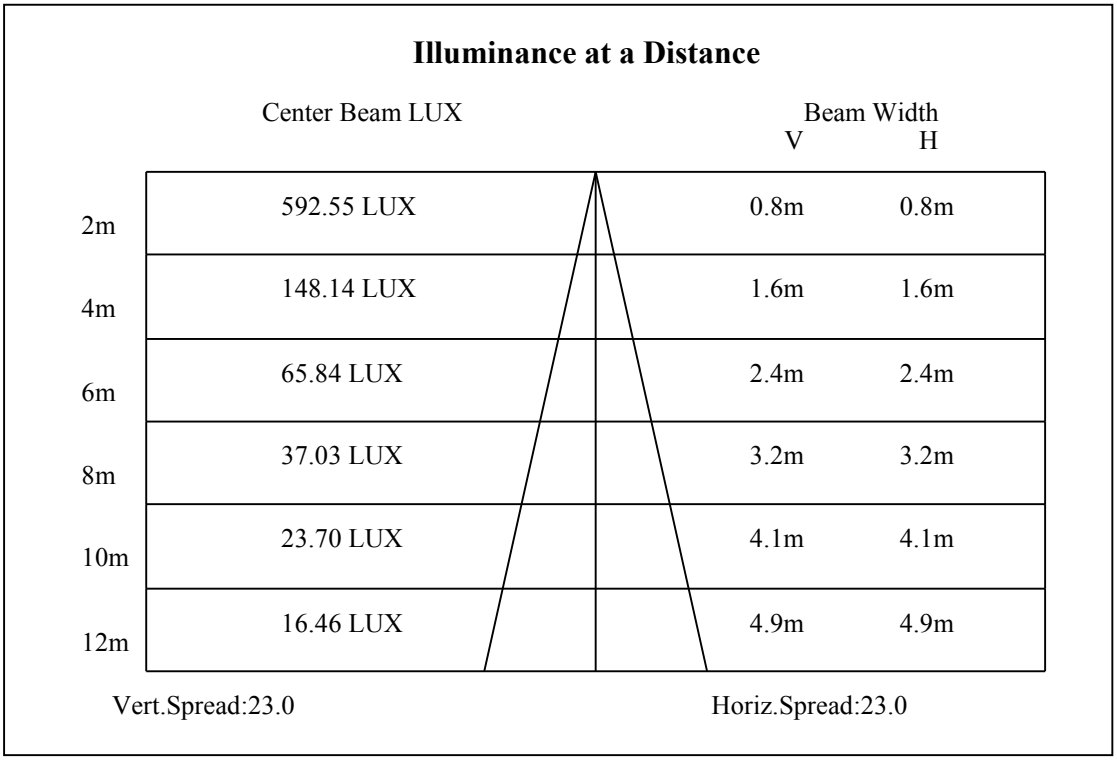
Beam Angle(50%Imax):C0/180Left:11.3 Right:11.3
:C90/270Left:11.3 Right:11.3

Equipment: GMS 1800
Temperature(°C): 25.0

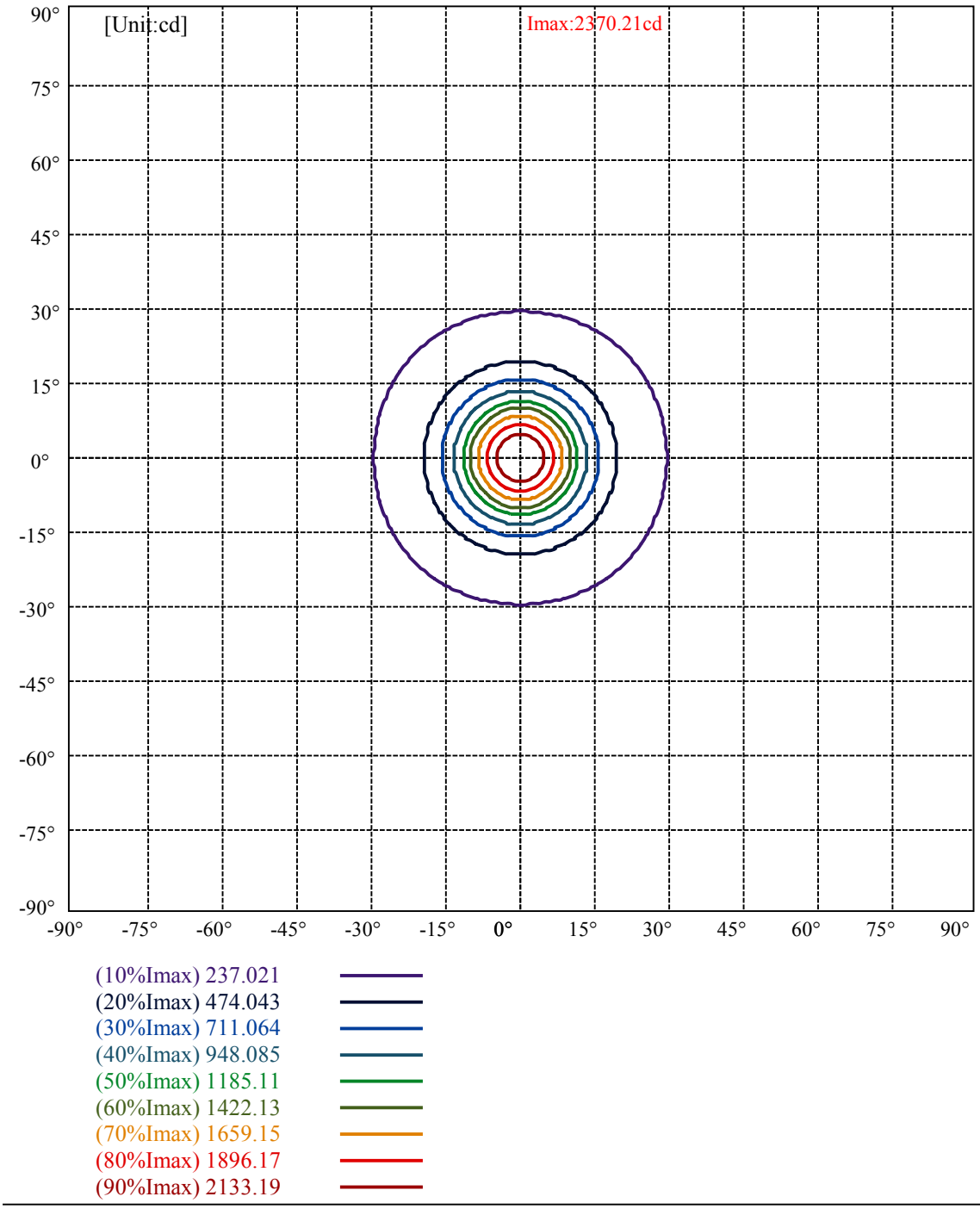
Date: 2020/4/7
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Lux distance Curve



ISO-Intensity(V-H)

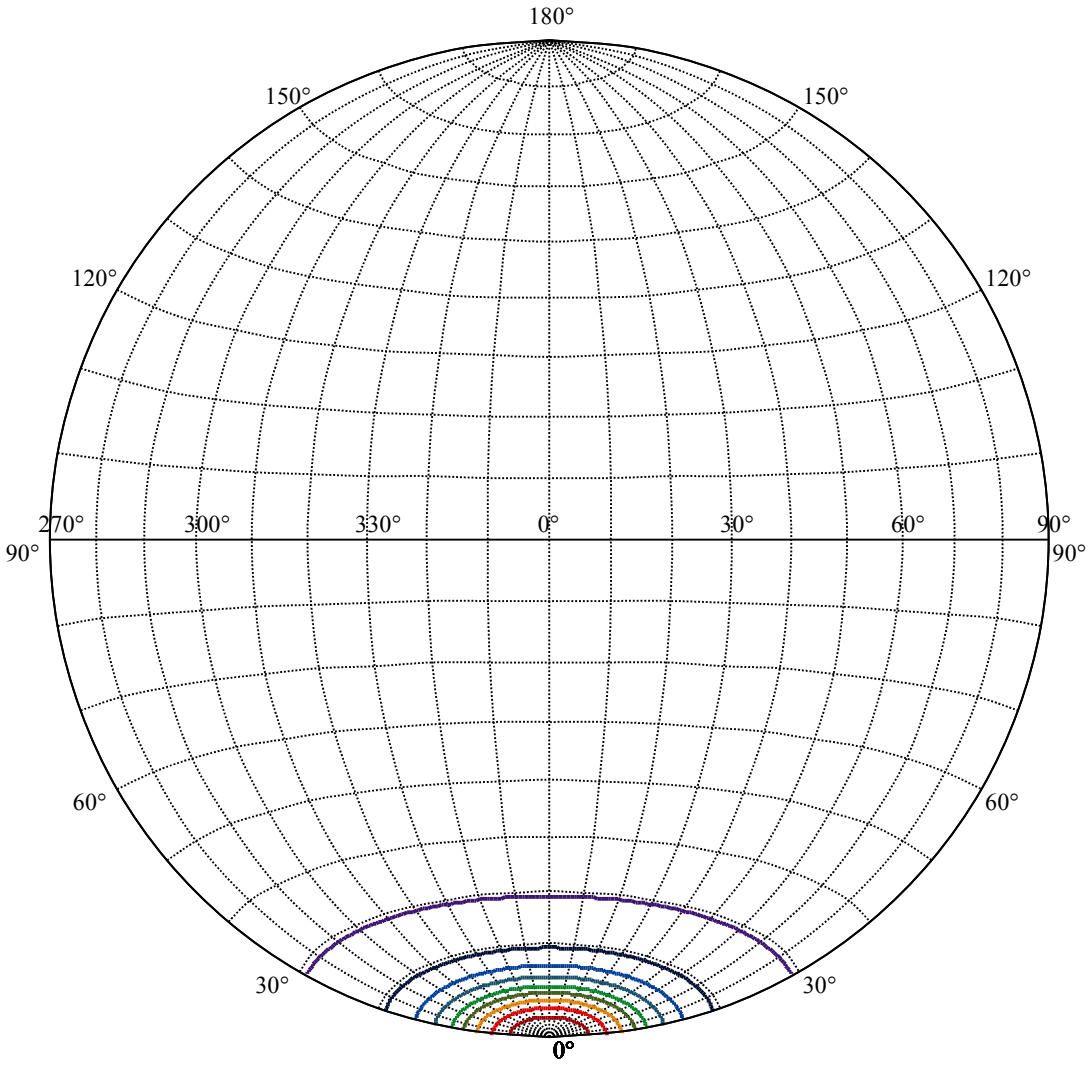


Equipment: GMS 1800
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 6.81

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:2370.21

(10%Imax) 237.021
(20%Imax) 474.043
(30%Imax) 711.064
(40%Imax) 948.085
(50%Imax) 1185.11
(60%Imax) 1422.13
(70%Imax) 1659.15
(80%Imax) 1896.17
(90%Imax) 2133.19

Equipment: GMS 1800
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 6.81

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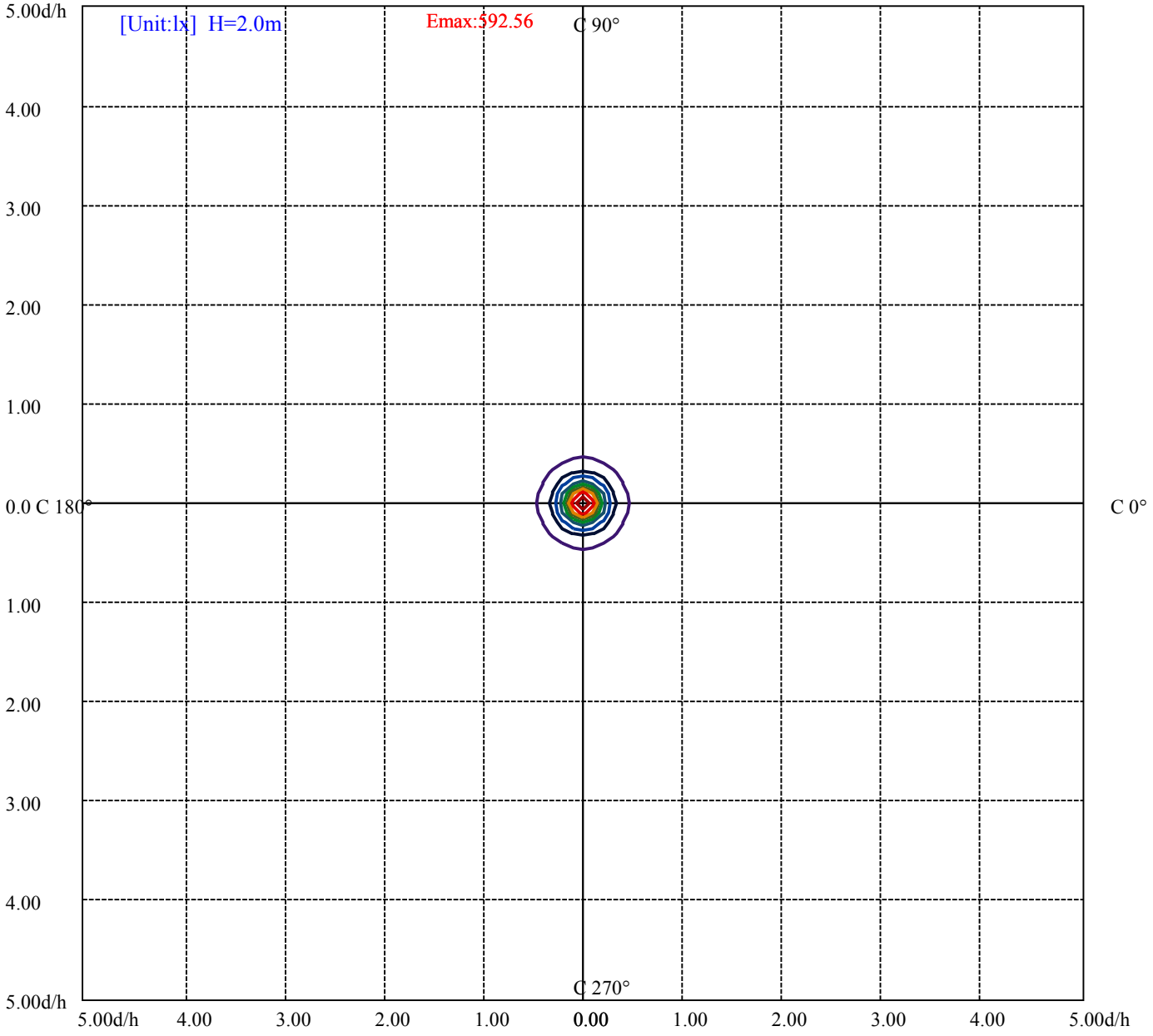
ISO illuminance diagram

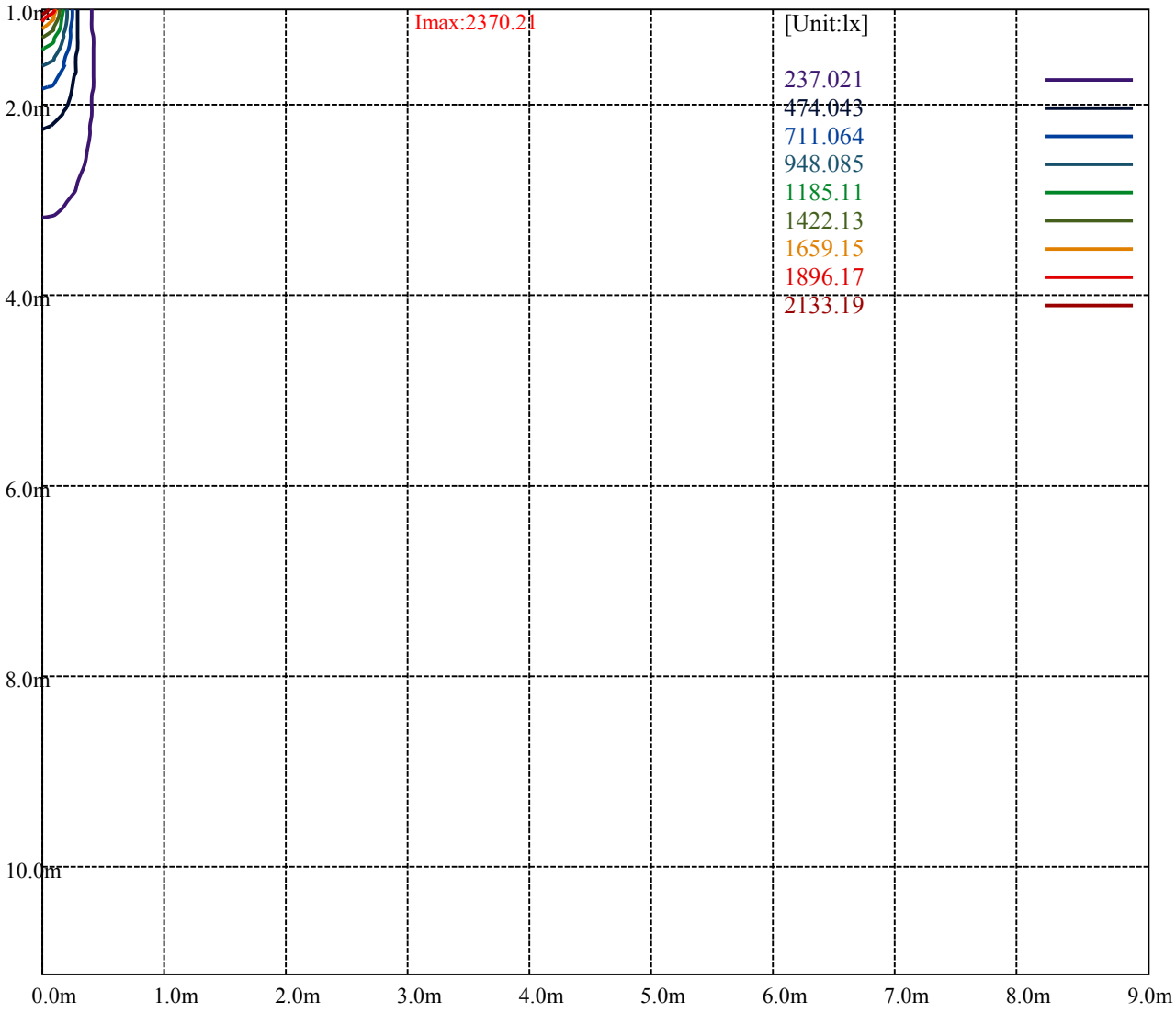


Equipment: GMS 1800
Temperature(°C): 25.0

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

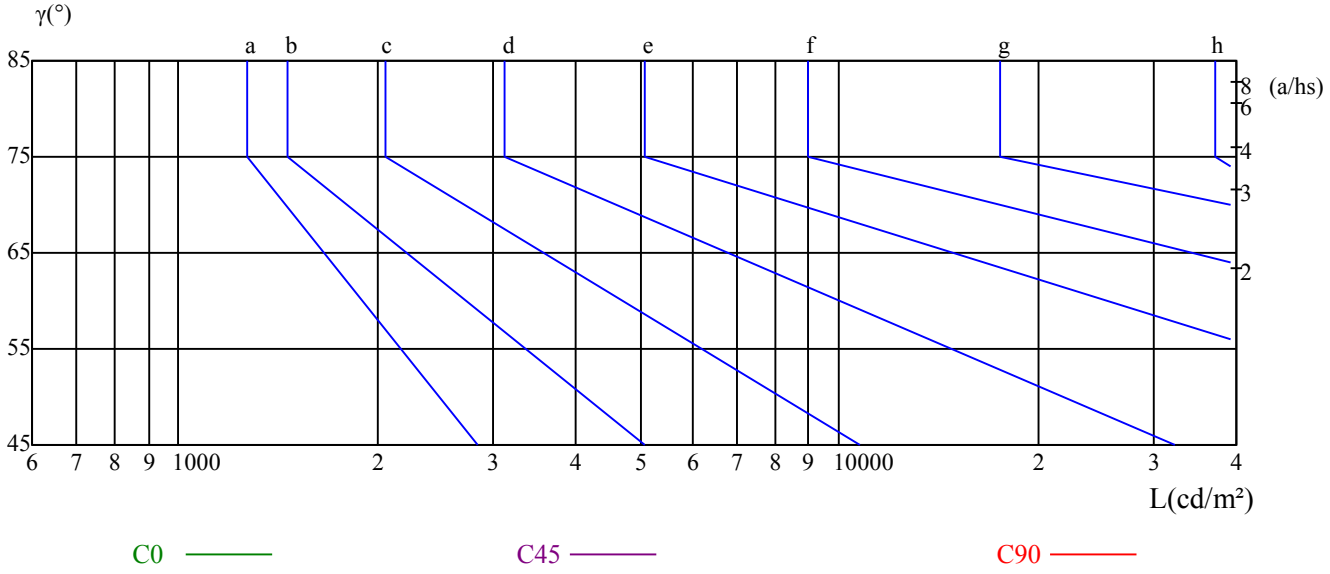
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

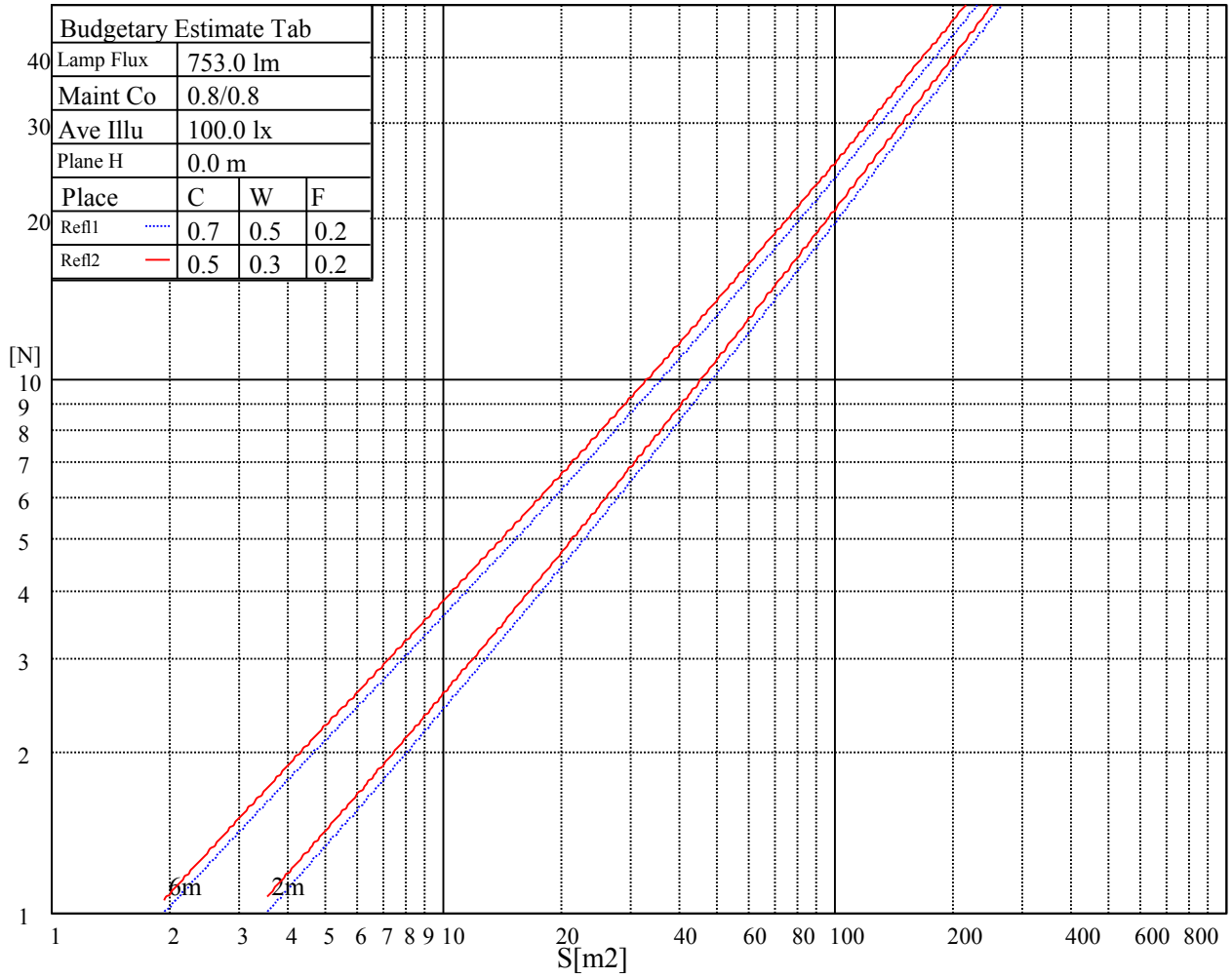
Glare Table

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

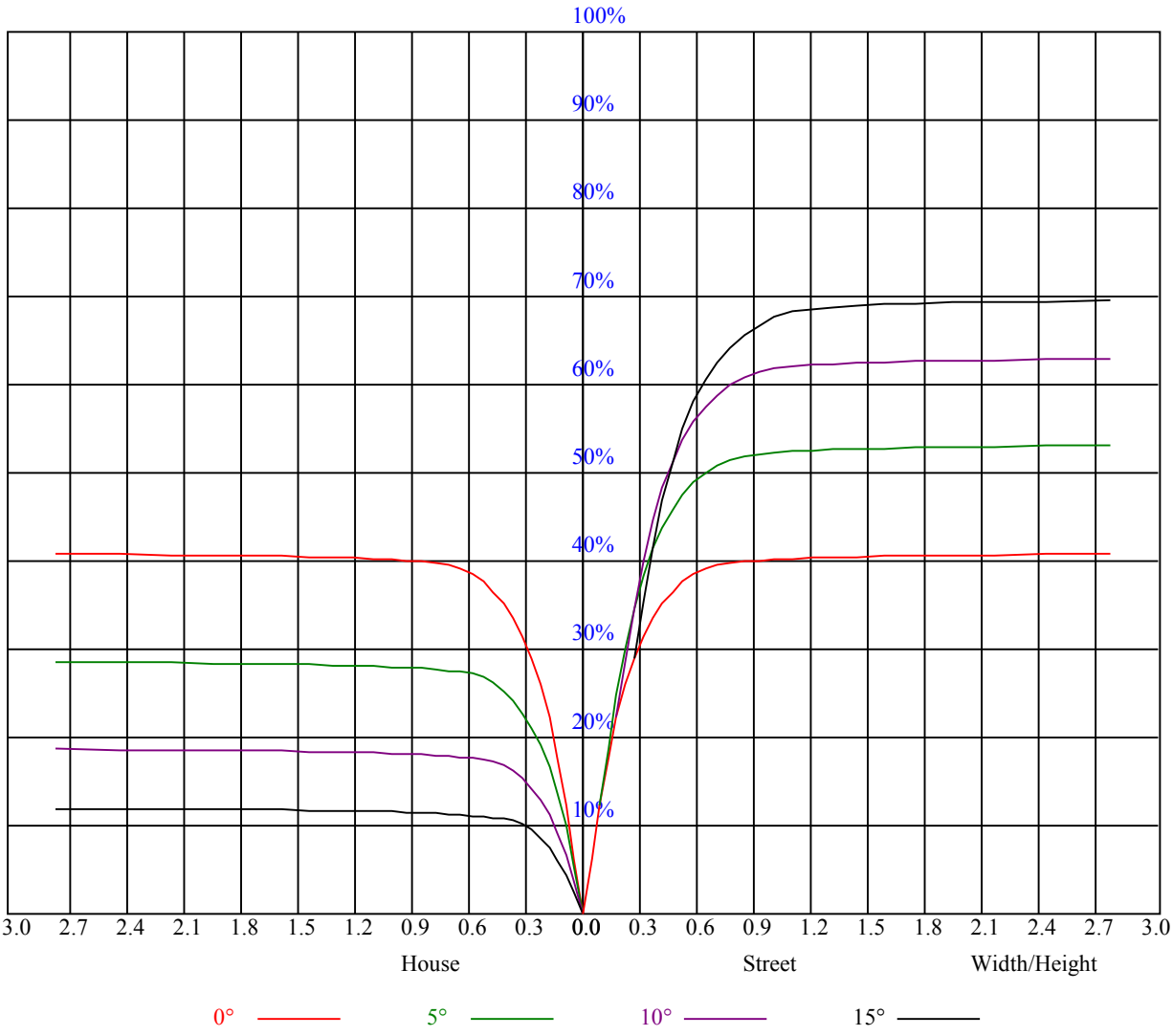


Equipment: GMS 1800 Date: 2020/4/7 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 6.81

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	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.82
1	0.92	0.90	0.88	0.90	0.88	0.87	0.87	0.85	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78
2	0.87	0.84	0.81	0.85	0.83	0.80	0.83	0.81	0.79	0.80	0.79	0.77	0.78	0.77	0.75	0.74
3	0.82	0.79	0.76	0.81	0.78	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.75	0.73	0.72	0.71
4	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.70	0.74	0.72	0.70	0.73	0.70	0.69	0.68
5	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.69	0.67	0.71	0.69	0.66	0.70	0.68	0.66	0.65
6	0.71	0.67	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
7	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
8	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58
9	0.64	0.60	0.57	0.63	0.59	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.61	0.58	0.56	0.56
10	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.59	0.57	0.55	0.54

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	2372.19	2372.19	2343.88	2291.91	2226.48	2132.74	2011.17	1872.42	1723.00
45.0	2364.30	2372.19	2360.12	2319.75	2262.67	2191.21	2110.93	1963.37	1827.87
90.0	2364.30	2330.42	2265.46	2181.47	2073.81	1955.95	1822.31	1681.24	1536.93
135.0	2380.07	2366.62	2329.03	2263.14	2180.54	2075.20	1955.02	1823.70	1687.27
180.0	2372.19	2361.98	2329.49	2270.10	2190.75	2091.91	1969.40	1832.98	1683.56
225.0	2364.30	2338.31	2286.80	2219.05	2125.32	2006.06	1877.99	1737.39	1586.58
270.0	2364.30	2371.26	2367.08	2339.24	2281.70	2204.67	2099.33	1973.58	1890.98
315.0	2380.07	2377.75	2351.77	2295.16	2235.76	2116.04	1993.53	1888.66	1748.99
360.0	2372.19	2372.19	2343.88	2291.91	2226.48	2132.74	2011.17	1872.42	1723.00

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1568.94	1413.03	1291.45	914.98	914.98	866.03	758.69	672.25	601.29
45.0	1708.62	1524.40	1401.89	1243.66	1084.49	934.15	804.68	701.66	618.14
90.0	1389.36	1240.87	913.08	866.86	866.86	764.82	677.58	603.24	537.77
135.0	1543.42	1393.54	1238.09	1088.67	1000.50	824.63	761.06	670.11	568.49
180.0	1594.47	1384.26	1294.70	1144.82	997.72	868.72	762.92	674.29	599.11
225.0	1433.45	1276.14	921.43	895.54	895.54	775.26	672.71	587.42	522.59
270.0	1695.62	1607.92	1461.29	1313.73	1165.70	1020.92	895.63	785.66	694.70
315.0	1607.92	1464.07	1317.90	1169.41	895.31	895.31	781.11	690.85	615.31
360.0	1568.94	1413.03	1291.45	914.98	914.98	866.03	758.69	672.25	601.29

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	540.27	487.42	440.37	403.25	371.41	344.96	322.74	303.94	287.75
45.0	550.85	495.17	448.30	407.93	370.81	337.86	309.56	287.28	268.72
90.0	480.83	432.11	390.62	357.03	332.20	314.01	299.44	287.14	274.85
135.0	532.76	478.93	434.38	396.79	363.38	337.40	316.98	299.35	284.03
180.0	536.93	485.43	440.88	403.29	369.88	342.04	319.30	298.42	283.11
225.0	472.15	430.76	396.01	359.30	323.99	291.32	265.61	247.52	233.73
270.0	617.67	554.57	500.74	456.66	417.21	381.02	351.32	327.19	308.16
315.0	550.16	494.85	447.51	406.86	386.49	344.31	328.63	306.31	282.32
360.0	540.27	487.42	440.37	403.25	371.41	344.96	322.74	303.94	287.75

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	274.75	267.98	251.18	234.01	217.96	186.08	150.76	114.43	80.97
45.0	252.48	239.95	229.74	229.74	222.83	185.61	156.98	126.22	96.15
90.0	262.09	248.40	238.28	197.86	176.89	140.88	105.89	74.71	49.61
135.0	270.11	258.05	244.59	234.85	234.85	161.34	133.87	101.21	70.21
180.0	267.79	253.41	241.34	234.85	234.85	165.34	130.76	96.75	66.68
225.0	221.44	213.64	205.06	183.29	162.09	130.63	98.19	69.74	47.47
270.0	291.46	276.15	260.83	245.52	231.60	231.60	172.02	135.59	100.23
315.0	272.71	258.51	245.33	231.92	209.56	179.16	145.66	111.88	79.95
360.0	274.75	267.98	251.18	234.01	217.96	186.08	150.76	114.43	80.97

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	52.44	34.76	28.63	23.94	20.32	18.05	16.24	14.76	13.50
45.0	68.72	47.15	35.64	29.98	25.10	21.67	19.26	17.35	15.78
90.0	34.94	28.96	24.32	20.79	18.47	16.66	15.22	13.97	12.85
135.0	45.75	33.41	28.26	23.67	20.42	18.28	16.57	15.03	13.83
180.0	43.48	32.53	27.33	22.78	19.72	17.54	15.82	14.39	13.13
225.0	34.25	28.35	23.85	20.51	18.24	16.43	14.90	13.69	12.67
270.0	68.91	44.87	30.53	25.01	21.02	18.00	16.06	14.52	13.36
315.0	52.90	34.80	27.66	23.43	19.86	17.73	16.06	14.90	13.46
360.0	52.44	34.76	28.63	23.94	20.32	18.05	16.24	14.76	13.50

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	12.53	11.65	10.86	10.21	9.70	9.19	8.77	8.45	8.17
45.0	14.62	13.27	12.48	11.69	10.86	10.35	9.74	9.37	8.96
90.0	11.93	11.23	10.58	10.02	9.47	9.19	8.68	8.49	8.26
135.0	12.85	12.02	11.23	10.67	10.12	9.61	9.33	8.96	8.54
180.0	12.06	11.28	10.58	9.88	9.37	9.05	8.63	8.31	7.93
225.0	11.79	11.00	10.39	9.88	9.37	9.05	8.49	8.31	8.07
270.0	12.25	11.42	11.00	10.02	9.65	9.19	8.54	8.35	7.98
315.0	12.67	11.83	11.14	10.44	9.88	9.42	9.00	8.58	8.35
360.0	12.53	11.65	10.86	10.21	9.70	9.19	8.77	8.45	8.17

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.93	7.70	7.33	6.87	6.64	6.45	6.17	5.99	5.75
45.0	8.63	8.40	8.03	7.61	7.24	6.87	6.64	6.40	6.13
90.0	7.98	7.66	7.24	7.01	6.73	6.45	6.22	5.99	5.80
135.0	8.40	8.17	7.75	7.38	7.19	6.96	6.77	6.59	6.40
180.0	7.66	7.47	7.19	6.77	6.54	6.36	6.13	5.89	5.61
225.0	7.84	7.52	7.10	6.82	6.59	6.40	6.17	5.85	5.66
270.0	7.75	7.61	7.38	7.05	6.77	6.54	6.31	6.08	5.94
315.0	8.17	7.80	7.52	7.24	6.96	6.73	6.50	6.36	6.22
360.0	7.93	7.70	7.33	6.87	6.64	6.45	6.17	5.99	5.75

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.57	5.38	5.15	4.87	4.69	4.50	4.27	4.08	3.85
45.0	5.85	5.57	5.34	5.15	4.83	4.59	4.45	4.18	4.04
90.0	5.52	5.24	5.10	4.83	4.59	4.32	4.13	3.94	3.76
135.0	6.17	5.94	5.71	5.57	5.38	5.15	5.01	4.83	4.59
180.0	5.48	5.24	5.01	4.78	4.59	4.36	4.13	3.99	3.85
225.0	5.48	5.20	4.87	4.73	4.55	4.27	3.99	3.81	3.67
270.0	5.80	5.52	5.29	5.15	4.97	4.78	4.45	4.22	4.08
315.0	5.99	5.80	5.61	5.43	5.34	5.06	4.83	4.64	4.45
360.0	5.57	5.38	5.15	4.87	4.69	4.50	4.27	4.08	3.85

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.71	3.57	3.39	3.11	3.02	2.83	2.69	2.55	2.37
45.0	3.85	3.62	3.39	3.20	3.06	2.92	2.74	2.55	2.41
90.0	3.53	3.39	3.25	3.06	2.88	2.69	2.55	2.46	2.27
135.0	4.55	4.36	4.22	4.13	3.99	3.85	3.71	3.67	3.53
180.0	3.67	3.53	3.29	3.16	2.97	2.83	2.64	2.51	2.37
225.0	3.53	3.34	3.16	2.97	2.83	2.69	2.55	2.37	2.18
270.0	3.81	3.67	3.43	3.25	3.16	2.97	2.78	2.60	2.51
315.0	4.22	3.99	3.85	3.67	3.48	3.34	3.25	3.02	2.88
360.0	3.71	3.57	3.39	3.11	3.02	2.83	2.69	2.55	2.37

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.23	2.04	1.86	1.86	1.67	1.53	1.44	1.35	1.30
45.0	2.27	2.09	1.95	1.76	1.67	1.53	1.39	1.35	1.25
90.0	2.13	2.00	1.90	1.81	1.62	1.62	1.48	1.39	1.30
135.0	3.39	3.34	3.20	3.11	3.06	2.88	2.60	2.32	2.18
180.0	2.23	2.04	1.90	1.81	1.58	1.53	1.48	1.35	1.30
225.0	2.09	1.86	1.81	1.62	1.58	1.44	1.39	1.30	1.21
270.0	2.32	2.18	2.09	1.86	1.81	1.67	1.53	1.44	1.35
315.0	2.74	2.64	2.46	2.32	2.27	2.13	2.00	1.86	1.72
360.0	2.23	2.04	1.86	1.86	1.67	1.53	1.44	1.35	1.30

Intensity data(cd)

C/γ(°)	90.0
0.0	1.25
45.0	1.21
90.0	1.21
135.0	2.13
180.0	1.21
225.0	1.21
270.0	1.30
315.0	1.72
360.0	1.25