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NT

Client:
LumCAT: 2-2685-L
Luminaire: 92.70.411.00
Report No: 2024424-B007
Ballast type: AC

Test No: 2024424-C007	Voltage(V): 36.470
LampCAT: NICHIA NFCWJ130B-V3	Current(A): 0.576
Lamp flux(lm): 2924.0	Power (W): 21.007
Number of Lamps: 1	PF: 0.000
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2484.72, Efficiency(%): 84.98% , Luminous Efficacy(lm/W): 118.28
Central intensity(cd): 4233.430, Maximum intensity(cd): 4233.430
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=45.4
[C90/270]Total=45.4
Field angle(10%Imax): [C0/180]Total=69.4
[C90/270]Total=69.4
Maximum s/h(1/2): C0_180=0.72 C90_270=0.72
Maximum s/h(1/4): C0_180=0.70 C90_270=0.70
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.98%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.855%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4233.430	0.000	0	0.00%	0.00%
1.0	4229.845	4.050	4.05	0.14%	0.16%
2.0	4219.311	12.127	16.177	0.41%	0.65%
3.0	4199.999	20.136	36.313	0.69%	1.46%
4.0	4175.127	28.034	64.347	0.96%	2.59%
5.0	4139.867	35.771	100.118	1.22%	4.03%
6.0	4102.559	43.316	143.434	1.48%	5.77%
7.0	4047.840	50.589	194.023	1.73%	7.81%
8.0	3980.393	57.457	251.48	1.96%	10.12%
9.0	3903.436	63.894	315.374	2.19%	12.69%
10.0	3804.679	69.756	385.13	2.39%	15.50%
11.0	3709.580	75.083	460.212	2.57%	18.52%
12.0	3607.751	79.989	540.201	2.74%	21.74%
13.0	3502.338	84.379	624.58	2.89%	25.14%
14.0	3387.487	88.189	712.769	3.02%	28.69%
15.0	3258.006	91.232	804.002	3.12%	32.36%
16.0	3116.601	93.406	897.407	3.19%	36.12%
17.0	2980.536	94.949	992.356	3.25%	39.94%
18.0	2822.160	95.674	1088.03	3.27%	43.79%
19.0	2683.974	95.795	1183.826	3.28%	47.64%
20.0	2533.059	95.486	1279.312	3.27%	51.49%
21.0	2387.338	94.482	1373.793	3.23%	55.29%
22.0	2232.253	92.833	1466.626	3.17%	59.03%
23.0	2071.901	90.313	1556.939	3.09%	62.66%
24.0	1918.646	87.248	1644.186	2.98%	66.17%
25.0	1764.585	83.749	1727.935	2.86%	69.54%
26.0	1598.454	79.385	1807.32	2.71%	72.74%
27.0	1342.155	71.943	1879.263	2.46%	75.63%
28.0	1257.590	65.820	1945.083	2.25%	78.28%
29.0	1130.742	62.486	2007.568	2.14%	80.80%
30.0	980.354	56.999	2064.567	1.95%	83.09%
31.0	835.116	50.522	2115.089	1.73%	85.12%
32.0	695.152	43.840	2158.93	1.50%	86.89%
33.0	574.874	37.415	2196.345	1.28%	88.39%
34.0	479.241	31.901	2228.246	1.09%	89.68%
35.0	397.214	27.219	2255.465	0.93%	90.77%
36.0	332.920	23.248	2278.713	0.80%	91.71%
37.0	277.543	19.910	2298.623	0.68%	92.51%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	254.310	17.753	2316.375	0.61%	93.22%
39.0	188.340	15.109	2331.484	0.52%	93.83%
40.0	152.371	11.883	2343.367	0.41%	94.31%
41.0	125.889	9.909	2353.276	0.34%	94.71%
42.0	104.726	8.379	2361.654	0.29%	95.05%
43.0	88.632	7.163	2368.817	0.24%	95.34%
44.0	75.289	6.187	2375.004	0.21%	95.58%
45.0	65.882	5.425	2380.429	0.19%	95.80%
46.0	58.405	4.861	2385.29	0.17%	96.00%
47.0	53.168	4.438	2389.727	0.15%	96.18%
48.0	49.166	4.137	2393.864	0.14%	96.34%
49.0	45.574	3.891	2397.755	0.13%	96.50%
50.0	42.648	3.678	2401.433	0.13%	96.65%
51.0	40.176	3.504	2404.937	0.12%	96.79%
52.0	38.054	3.357	2408.294	0.11%	96.92%
53.0	36.196	3.230	2411.524	0.11%	97.05%
54.0	34.506	3.116	2414.64	0.11%	97.18%
55.0	33.007	3.014	2417.654	0.10%	97.30%
56.0	31.756	2.926	2420.58	0.10%	97.42%
57.0	30.395	2.842	2423.422	0.10%	97.53%
58.0	29.144	2.753	2426.175	0.09%	97.64%
59.0	27.871	2.666	2428.841	0.09%	97.75%
60.0	26.569	2.572	2431.413	0.09%	97.85%
61.0	25.370	2.479	2433.891	0.08%	97.95%
62.0	24.177	2.387	2436.279	0.08%	98.05%
63.0	23.102	2.299	2438.578	0.08%	98.14%
64.0	22.085	2.217	2440.795	0.08%	98.23%
65.0	21.075	2.136	2442.931	0.07%	98.32%
66.0	20.168	2.058	2444.989	0.07%	98.40%
67.0	19.576	1.998	2446.988	0.07%	98.48%
68.0	19.100	1.959	2448.947	0.07%	98.56%
69.0	18.786	1.933	2450.88	0.07%	98.64%
70.0	18.508	1.915	2452.795	0.07%	98.72%
71.0	18.252	1.900	2454.695	0.06%	98.79%
72.0	18.062	1.888	2456.583	0.06%	98.87%
73.0	17.849	1.878	2458.461	0.06%	98.94%
74.0	17.659	1.867	2460.328	0.06%	99.02%
75.0	17.454	1.855	2462.183	0.06%	99.09%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	17.235	1.841	2464.024	0.06%	99.17%
77.0	17.023	1.826	2465.851	0.06%	99.24%
78.0	16.767	1.809	2467.66	0.06%	99.31%
79.0	16.357	1.780	2469.439	0.06%	99.39%
80.0	15.860	1.737	2471.176	0.06%	99.46%
81.0	15.209	1.680	2472.856	0.06%	99.52%
82.0	14.499	1.611	2474.467	0.06%	99.59%
83.0	13.577	1.526	2475.994	0.05%	99.65%
84.0	12.641	1.428	2477.422	0.05%	99.71%
85.0	11.909	1.340	2478.762	0.05%	99.76%
86.0	11.309	1.269	2480.031	0.04%	99.81%
87.0	10.929	1.217	2481.248	0.04%	99.86%
88.0	10.615	1.180	2482.428	0.04%	99.91%
89.0	10.388	1.151	2483.579	0.04%	99.95%
90.0	10.329	1.136	2484.715	0.04%	100.00%

Zonal flux distribution table

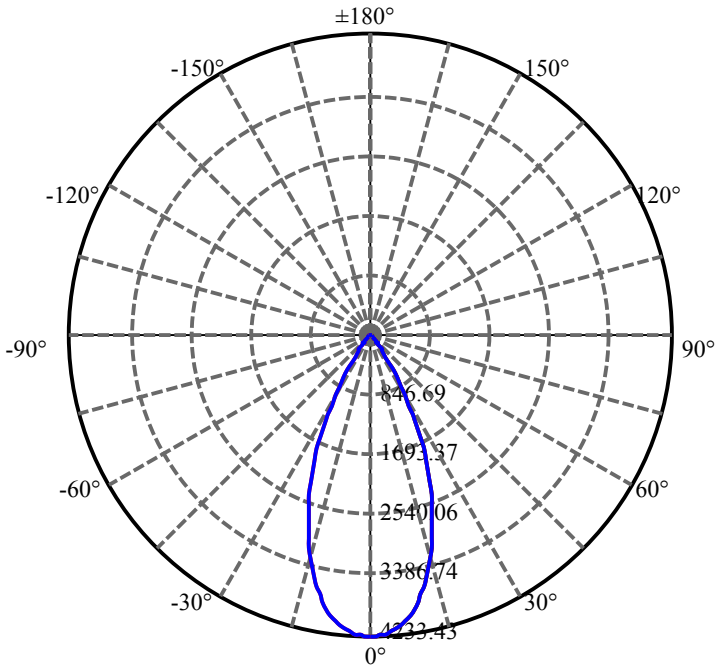
ZONAL LUMEN SUMMARY

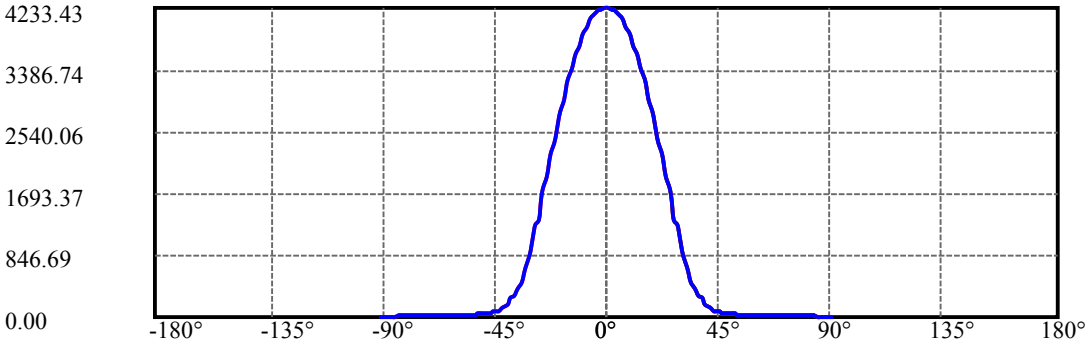
Zone	Lumens	%Lamp	%Fixt
0-30	2064.57	70.61%	83.09%
0-40	2343.37	80.14%	94.31%
0-60	2431.41	83.15%	97.85%
0-90	2483.58	84.94%	99.95%
0-120	2483.58	84.94%	99.95%
0-180	2484.72	84.98%	100.00%
60-90	52.17	1.78%	2.10%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.68	1987.77	67.98%	80.00%

ZONAL LUMEN SUMMARY

0-10	385.13
10-20	894.18
20-30	785.26
30-40	278.80
40-50	58.07
50-60	29.98
60-70	21.38
70-80	18.38
80-90	12.40
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):

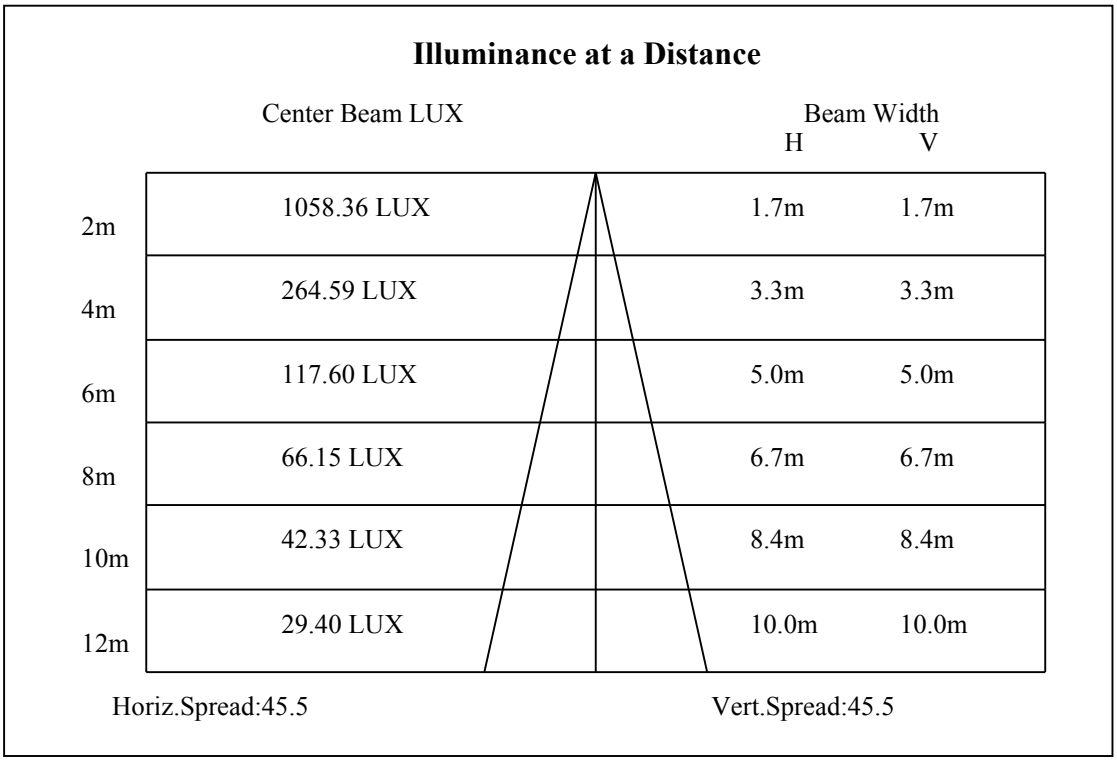
C0/C180:

C90/C270:

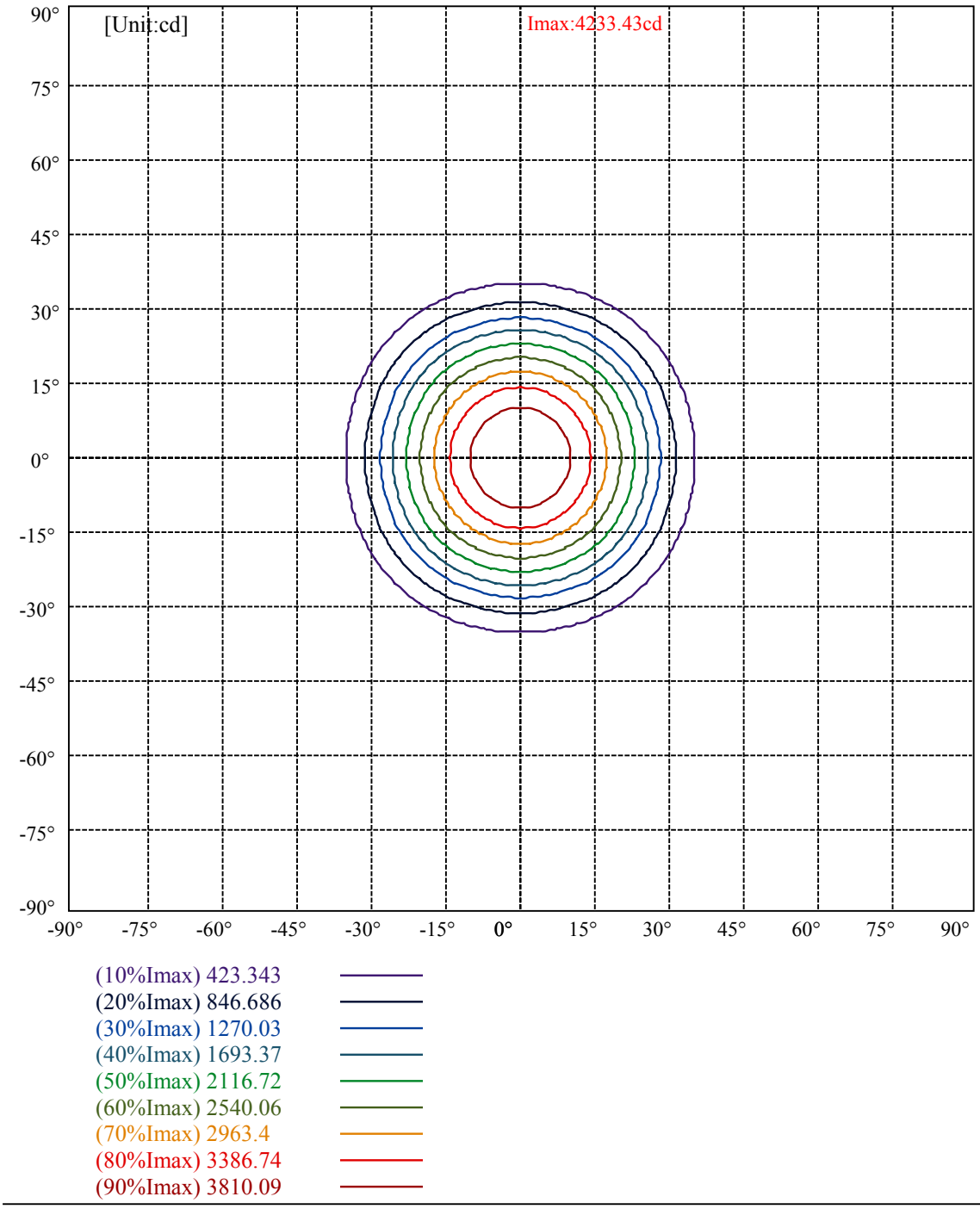
Field angle(10%Imax):C0/180Left:34.7 Right:34.7
:C90/270Left:34.7 Right:34.7

Beam Angle(50%Imax):C0/180Left:22.7 Right:22.7
:C90/270Left:22.7 Right:22.7

Lux distance Curve



ISO-Intensity(V-H)

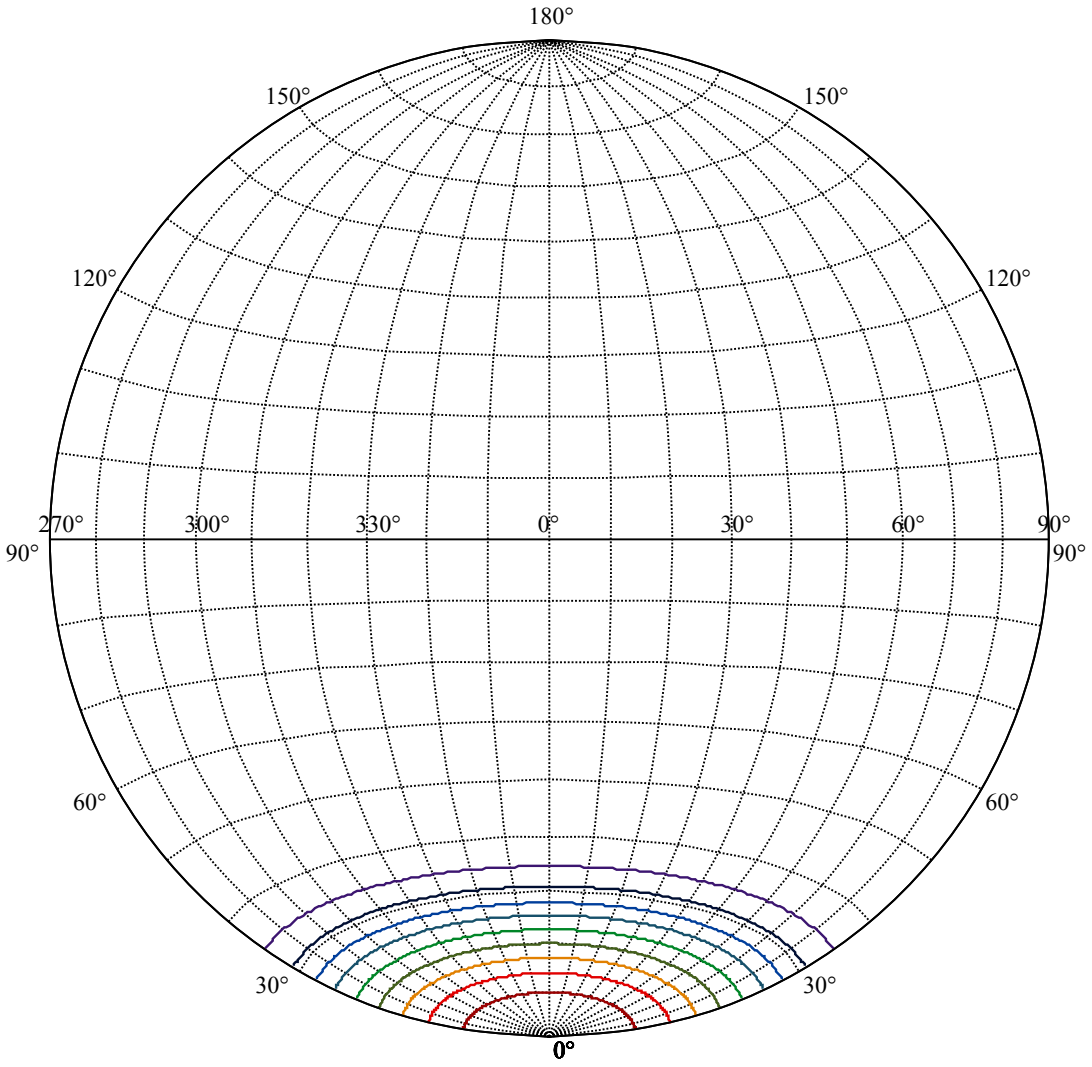


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/4/24
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

ISO candela diagram on circular web



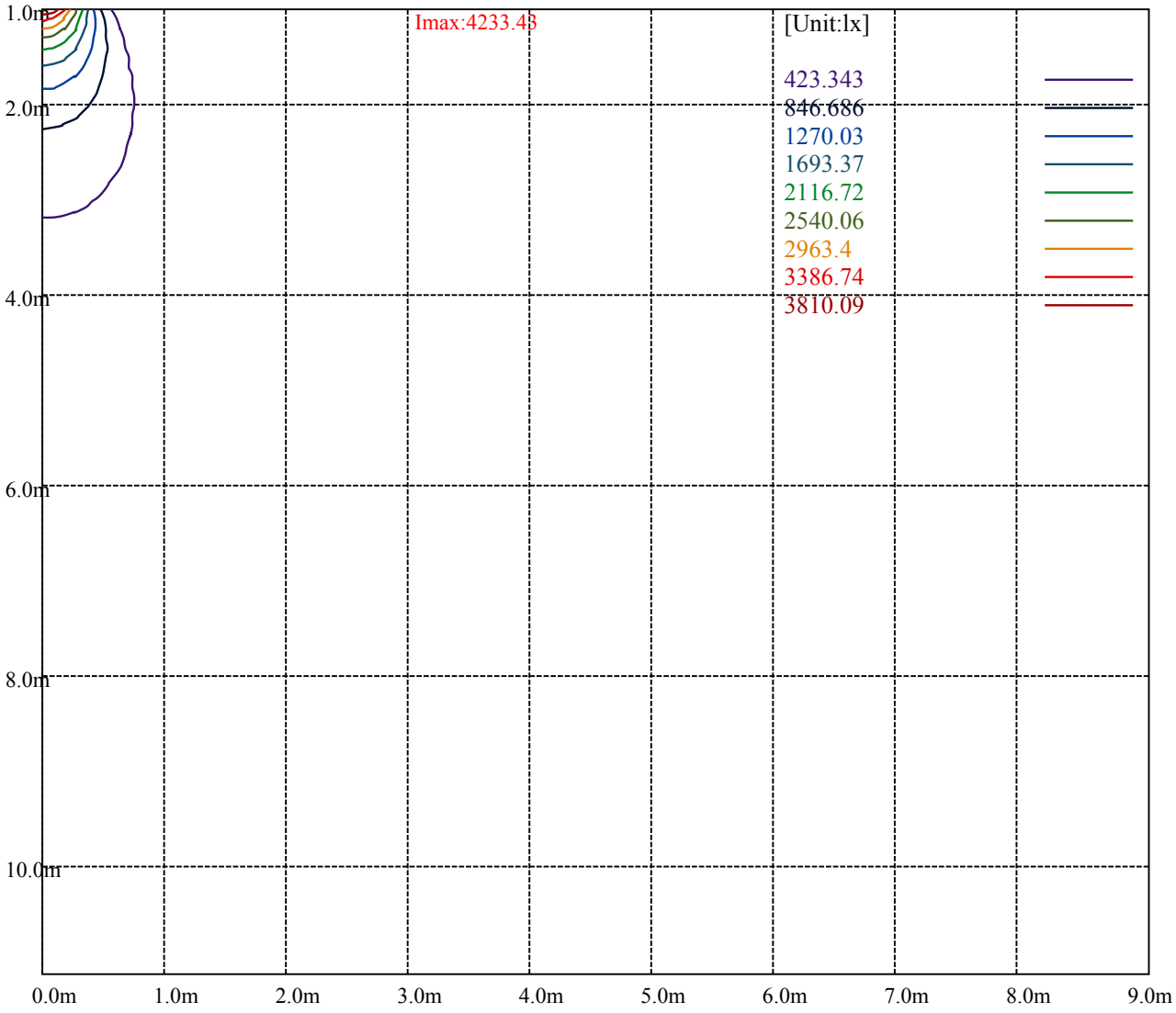
[Unit:cd]

Imax:4233.43

(10%Imax) 423.343
(20%Imax) 846.686
(30%Imax) 1270.03
(40%Imax) 1693.37
(50%Imax) 2116.72
(60%Imax) 2540.06
(70%Imax) 2963.4
(80%Imax) 3386.74
(90%Imax) 3810.09

Equipment: GMS1980	Date: 2024/4/24	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.65

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2024/4/24
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.65

Luminance Limitting Curve(no luminous side)

Luminance Table

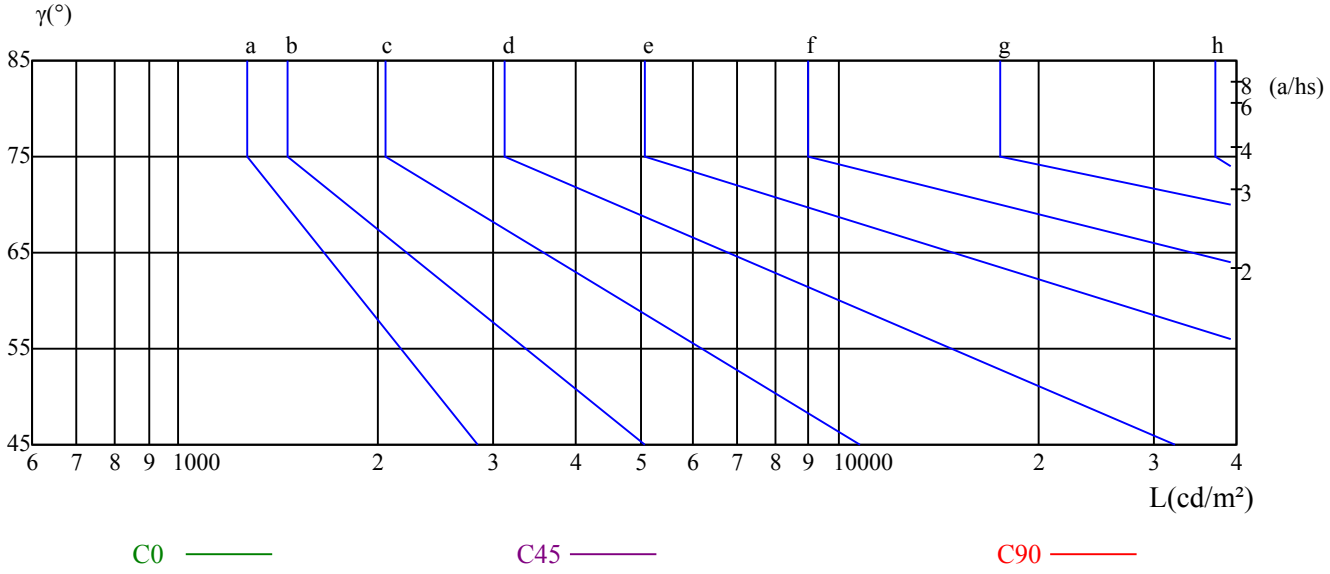
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

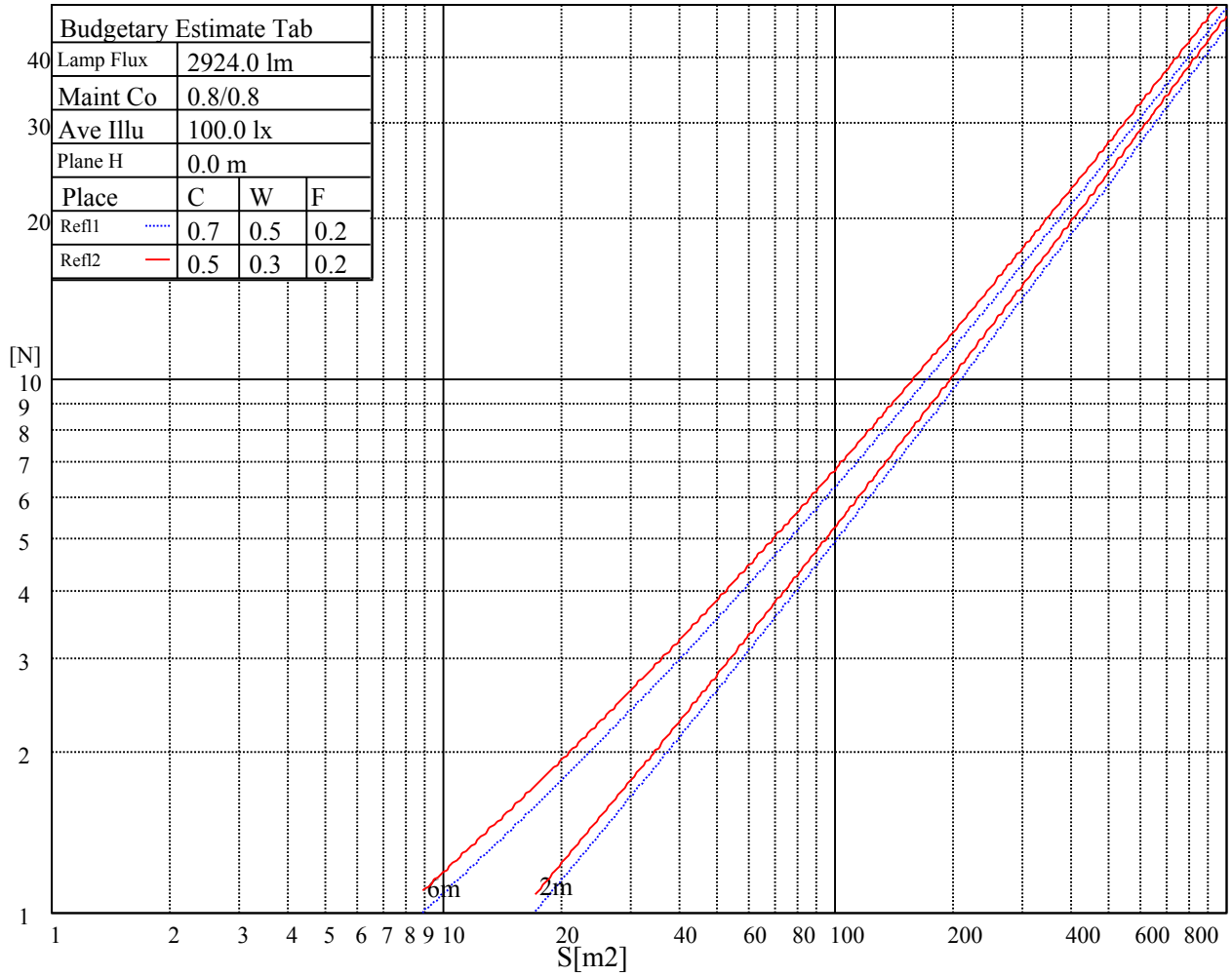
Glare Table

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

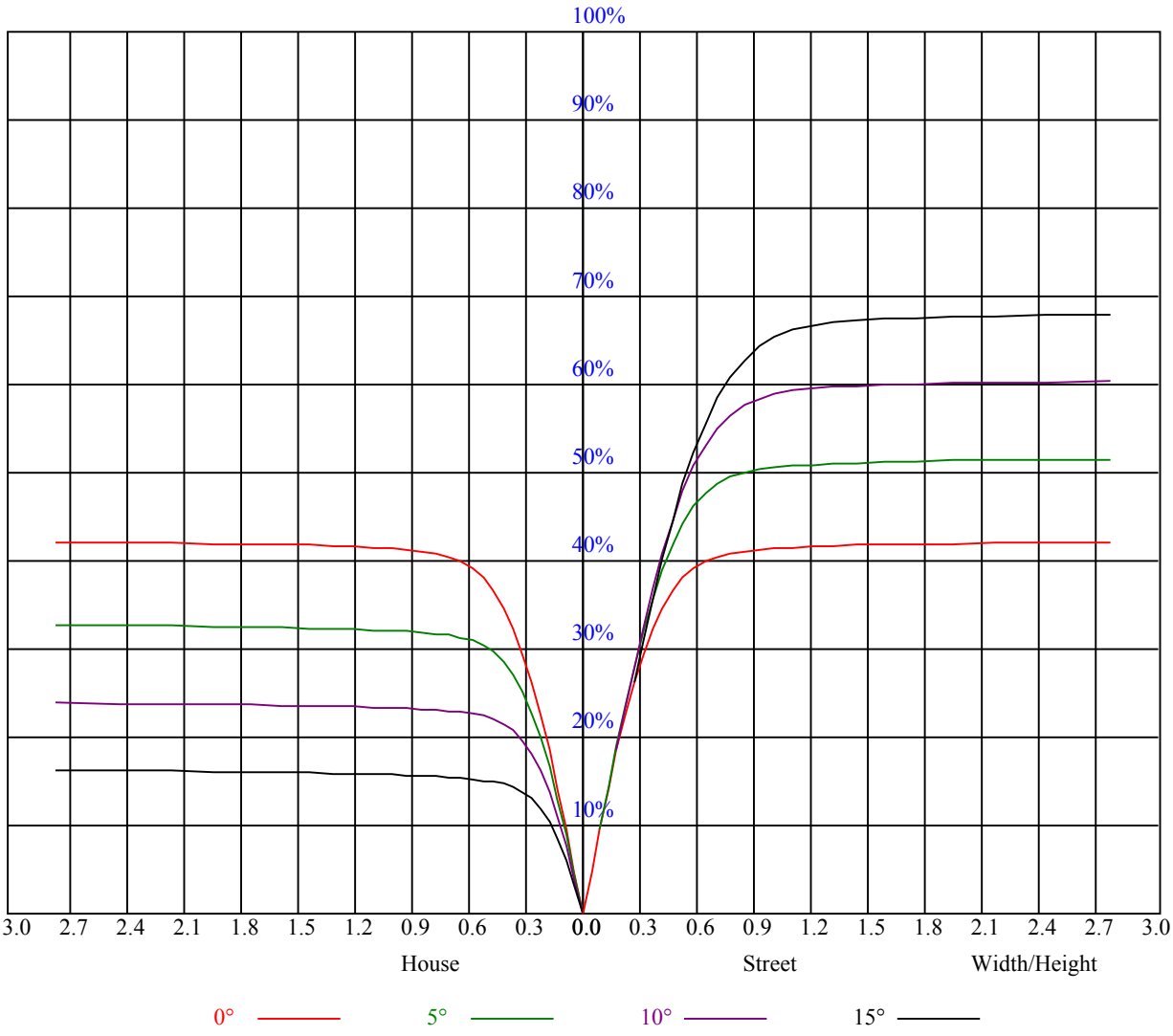


Equipment: GMS1980 Date: 2024/4/24 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 7.65

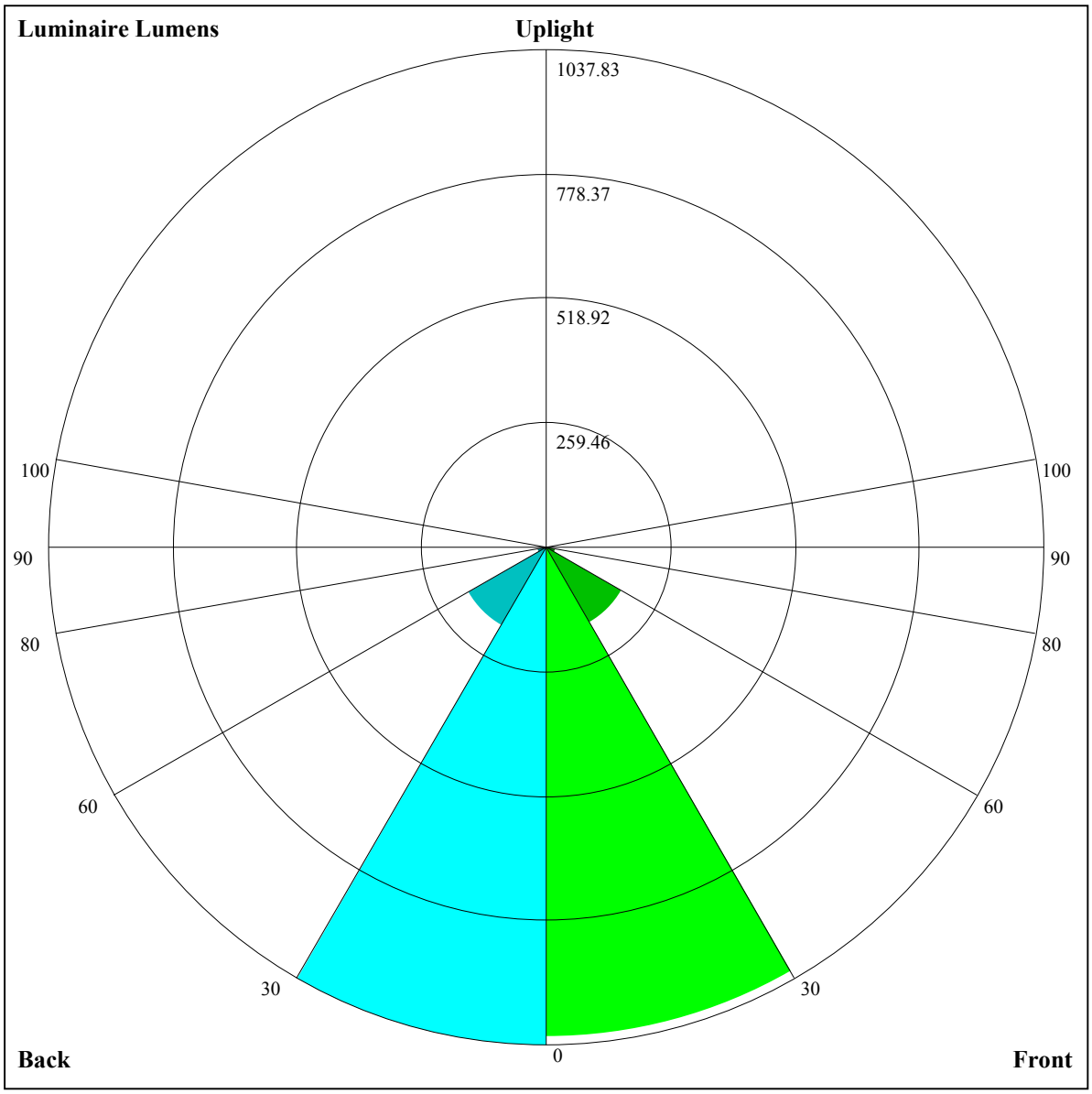
Utilization factor table for indoor luminaire

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	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.94	0.92	0.90	0.92	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.88	0.85	0.82	0.87	0.84	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.79	0.78	0.76	0.75
3	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
4	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.69	0.72	0.70	0.68	0.67
5	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.63
6	0.70	0.66	0.62	0.70	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
7	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.58	0.57
8	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.61	0.57	0.55	0.54
9	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.51
10	0.58	0.53	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.49

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2024/4/24	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 60.0%	Distance(m): 7.65



Luminaire Lumens:
FL=1022.3,FM=181.67,FH=19.72,FVH=6.73
BL=1037.83,BM=188.56,BH=20.05,BVH=6.86
UL=0,UH=0

BUG Rating:B3-U0-G0

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	4234.75	4218.95	4200.22	4175.05	4148.13	4113.61	4074.98	4007.68	3939.21
45.0	4235.33	4230.65	4216.02	4190.27	4169.79	4143.45	4115.36	4063.28	4005.34
90.0	4228.31	4213.68	4196.71	4176.22	4149.30	4101.90	4062.11	4001.24	3933.36
135.0	4235.33	4242.35	4236.50	4214.26	4192.03	4162.76	4125.31	4073.81	4018.80
180.0	4234.75	4243.52	4242.94	4234.16	4213.09	4176.22	4139.35	4095.46	4026.41
225.0	4235.33	4234.75	4227.14	4203.14	4179.74	4138.77	4092.54	4038.70	3948.57
270.0	4228.31	4234.16	4232.99	4221.87	4191.44	4162.18	4130.58	4090.78	4025.82
315.0	4235.33	4220.70	4201.97	4185.00	4157.50	4120.04	4080.25	4011.78	3945.65
360.0	4234.75	4218.95	4200.22	4175.05	4148.13	4113.61	4074.98	4007.68	3939.21

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3859.03	3748.42	3655.37	3531.31	3424.80	3308.34	3180.17	3007.53	2873.51
45.0	3923.41	3845.57	3758.37	3646.01	3554.13	3444.69	3330.57	3163.78	3024.50
90.0	3850.84	3738.48	3647.77	3551.79	3421.28	3305.99	3144.47	3008.70	2869.42
135.0	3946.82	3846.74	3755.45	3667.08	3544.18	3438.26	3325.31	3168.47	3035.62
180.0	3959.69	3855.52	3762.47	3667.08	3569.93	3437.67	3328.82	3211.19	3077.17
225.0	3863.13	3771.25	3651.86	3559.40	3458.74	3352.23	3202.99	3069.56	2932.62
270.0	3962.62	3884.78	3794.07	3680.54	3586.32	3488.00	3349.89	3236.35	3105.85
315.0	3861.96	3746.67	3651.28	3558.81	3459.32	3324.72	3201.82	3067.22	2925.60
360.0	3859.03	3748.42	3655.37	3531.31	3424.80	3308.34	3180.17	3007.53	2873.51

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2738.33	2601.97	2429.91	2293.56	2149.00	1965.24	1818.35	1670.29	1485.94
45.0	2889.31	2751.20	2585.00	2449.81	2315.79	2133.79	1990.99	1846.44	1659.17
90.0	2697.95	2559.83	2421.72	2285.36	2101.02	1955.88	1813.09	1666.78	1487.12
135.0	2898.68	2761.74	2596.12	2460.34	2316.96	2170.07	1988.07	1840.59	1653.90
180.0	2908.04	2767.59	2621.87	2486.68	2310.53	2160.12	2017.33	1841.18	1695.46
225.0	2759.39	2621.87	2481.41	2339.20	2157.78	2011.48	1832.40	1685.51	1538.03
270.0	2933.21	2788.66	2645.86	2476.73	2337.45	2187.04	2043.66	1866.93	1717.11
315.0	2752.37	2618.94	2482.58	2307.02	2169.49	1991.58	1845.27	1698.97	1550.90
360.0	2738.33	2601.97	2429.91	2293.56	2149.00	1965.24	1818.35	1670.29	1485.94

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1161.44	1161.44	1024.79	891.12	761.61	639.59	531.21	425.40	358.57
45.0	1507.60	1325.59	1181.04	1043.51	905.99	736.27	615.13	512.72	431.37
90.0	1158.22	1158.22	1052.53	875.85	741.60	593.59	495.74	414.87	330.24
135.0	1505.26	1357.20	1176.36	1035.91	893.11	759.10	610.45	513.89	433.13
180.0	1546.22	1375.34	1223.18	1041.76	900.72	765.53	617.47	517.98	436.05
225.0	1141.54	1141.54	1070.38	928.17	757.69	635.67	535.31	450.86	379.69
270.0	1567.88	1392.31	1240.74	1092.67	951.05	784.26	656.68	550.17	444.83
315.0	1149.09	1149.09	1076.93	933.84	769.16	647.20	537.00	448.05	363.83
360.0	1161.44	1161.44	1024.79	891.12	761.61	639.59	531.21	425.40	358.57

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	300.86	241.70	202.90	170.12	137.53	116.58	99.14	81.76	71.05
45.0	364.65	304.96	304.96	199.21	159.65	134.02	108.62	92.64	79.59
90.0	274.41	227.18	187.56	149.41	125.41	105.87	90.01	74.62	65.25
135.0	364.07	303.79	303.79	196.05	163.57	131.32	111.08	94.57	79.12
180.0	366.99	307.89	307.89	201.02	168.02	141.27	114.53	98.08	82.34
225.0	306.25	256.21	213.31	169.95	141.86	119.09	96.50	82.58	69.35
270.0	377.53	317.84	303.79	243.80	173.69	138.46	115.64	97.62	83.10
315.0	308.59	260.78	210.27	177.15	149.23	120.50	102.30	87.20	72.51
360.0	300.86	241.70	202.90	170.12	137.53	116.58	99.14	81.76	71.05

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	62.68	55.30	50.86	47.34	44.30	41.08	38.92	37.04	35.41
45.0	66.89	59.58	54.13	49.92	45.71	42.84	40.38	38.33	36.17
90.0	58.35	52.14	48.46	45.41	42.08	39.97	38.10	35.93	34.47
135.0	69.64	61.10	56.06	51.91	47.58	44.48	41.96	39.74	37.45
180.0	72.33	64.67	57.53	52.96	49.16	45.00	42.37	40.15	38.16
225.0	61.45	55.77	51.38	47.87	44.18	41.61	39.39	36.99	35.35
270.0	71.81	61.16	55.36	49.92	46.64	43.83	40.79	38.68	36.75
315.0	63.91	57.53	51.56	47.99	44.95	42.37	39.50	37.57	35.82
360.0	62.68	55.30	50.86	47.34	44.30	41.08	38.92	37.04	35.41

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	33.65	32.36	31.08	29.50	28.27	26.80	25.63	24.52	23.29
45.0	34.65	33.18	31.89	30.31	29.14	27.74	26.57	25.40	23.99
90.0	33.12	31.66	30.55	29.44	28.27	27.10	25.63	24.52	23.58
135.0	35.82	34.29	33.01	31.49	30.31	29.09	27.51	26.45	25.22
180.0	35.93	34.41	33.12	31.89	30.37	29.20	27.97	26.51	25.28
225.0	33.88	32.30	31.13	30.02	28.56	27.45	26.28	24.87	23.76
270.0	34.70	33.24	32.01	30.84	29.73	28.32	27.15	25.98	24.64
315.0	34.29	32.60	31.25	29.67	28.50	27.27	25.81	24.70	23.64
360.0	33.65	32.36	31.08	29.50	28.27	26.80	25.63	24.52	23.29

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	22.36	21.36	20.54	19.84	19.37	18.96	18.67	18.38	18.14
45.0	23.00	22.18	21.19	20.01	19.55	19.08	18.73	18.38	18.14
90.0	22.36	21.36	20.25	19.66	19.25	18.84	18.61	18.43	18.26
135.0	23.94	22.94	21.95	20.66	20.07	19.61	19.25	18.90	18.61
180.0	23.94	22.94	21.95	20.95	20.01	19.55	19.14	18.84	18.49
225.0	22.88	21.71	20.72	19.90	19.37	18.84	18.61	18.38	18.14
270.0	23.58	22.65	21.48	20.42	19.61	19.02	18.67	18.38	18.08
315.0	22.77	21.54	20.54	19.90	19.37	18.90	18.61	18.38	18.14
360.0	22.36	21.36	20.54	19.84	19.37	18.96	18.67	18.38	18.14

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	17.97	17.73	17.56	17.38	17.15	16.91	16.56	15.86	15.27
45.0	17.97	17.67	17.50	17.32	17.09	16.91	16.62	16.33	15.80
90.0	18.02	17.85	17.67	17.50	17.26	17.03	16.74	16.09	15.57
135.0	18.38	18.20	17.91	17.73	17.44	17.26	17.09	16.68	16.33
180.0	18.32	18.08	17.91	17.62	17.38	17.15	16.91	16.62	16.21
225.0	17.97	17.79	17.56	17.38	17.15	16.97	16.74	16.39	15.80
270.0	17.91	17.79	17.62	17.44	17.26	17.15	16.97	16.68	16.44
315.0	17.97	17.67	17.56	17.26	17.15	16.80	16.50	16.21	15.45
360.0	17.97	17.73	17.56	17.38	17.15	16.91	16.56	15.86	15.27

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	14.69	13.75	12.82	12.06	11.53	11.06	10.77	10.48	10.36
45.0	15.27	14.63	13.58	12.52	11.94	11.35	10.89	10.59	10.30
90.0	15.04	13.99	12.99	12.17	11.41	10.94	10.71	10.42	10.30
135.0	15.51	14.98	13.93	12.99	12.11	11.41	11.06	10.71	10.42
180.0	15.57	15.04	14.16	13.23	12.41	11.59	11.12	10.83	10.59
225.0	15.22	14.46	13.64	12.58	11.88	11.35	10.94	10.59	10.36
270.0	15.57	15.16	14.34	13.34	12.41	11.65	11.18	10.83	10.53
315.0	14.81	13.99	13.17	12.23	11.59	11.12	10.77	10.48	10.24
360.0	14.69	13.75	12.82	12.06	11.53	11.06	10.77	10.48	10.36

Intensity data(cd)

C/γ(°)	90.0
0.0	10.42
45.0	10.36
90.0	10.30
135.0	10.30
180.0	10.30
225.0	10.30
270.0	10.30
315.0	10.36
360.0	10.42