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Nata

LumCAT: 3-2042-M
Luminaire: 92.70.135.00
Report No: GC2017122802
Test No: NT-0010
LampCAT: NICHIA NVEWJ048Z-V1
Lamp flux(lm): 3051.0
Number of Lamps: 1
Length(mm): 84
Phm Type: C

Voltage(V): 43.4000
Current(A): 0.5000
Power (W): 21.7000
PF: 0.0000
Ballast type: DC
Width(mm): 84
Height(mm): 0

Photometric Results

Lumens(lm): 2722.91
Efficiency(%): 89.25%
Lumens(lm)/Power(W): 125.48
Central intensity(cd): 23626.080
Maximum intensity(cd): 23626.080
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=13.6
 [C90/270]Total=13.6
Field angle(10%Imax): [C0/180]Total=27.7
 [C90/270]Total=27.7
Maximum s/h(1/2): C0_180=0.24 C90_270=0.24
Maximum s/h(1/4): C0_180=0.24 C90_270=0.24
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.25%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.475%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2017/12/28
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	23626.078	0.000	0	.000%	.000%
1.0	23439.574	22.520	22.52	.738%	.827%
2.0	22646.074	66.146	88.667	2.168%	3.256%
3.0	21339.172	105.198	193.865	3.448%	7.120%
4.0	19602.143	137.044	330.908	4.492%	12.153%
5.0	17037.203	157.621	488.529	5.166%	17.941%
6.0	13795.551	162.034	650.563	5.311%	23.892%
7.0	11368.802	156.195	806.758	5.119%	29.629%
8.0	9022.780	145.939	952.697	4.783%	34.988%
9.0	6862.643	128.743	1081.439	4.220%	39.716%
10.0	5276.881	109.858	1191.298	3.601%	43.751%
11.0	4076.032	93.455	1284.752	3.063%	47.183%
12.0	3278.609	80.397	1365.149	2.635%	50.136%
13.0	2696.250	70.907	1436.056	2.324%	52.740%
14.0	2305.074	64.017	1500.072	2.098%	55.091%
15.0	1996.827	59.058	1559.131	1.936%	57.260%
16.0	1766.966	55.150	1614.281	1.808%	59.285%
17.0	1573.925	52.027	1666.307	1.705%	61.196%
18.0	1442.959	49.742	1716.049	1.630%	63.023%
19.0	1346.542	48.532	1764.581	1.591%	64.805%
20.0	1261.893	47.742	1812.323	1.565%	66.558%
21.0	1198.853	47.251	1859.574	1.549%	68.294%
22.0	1150.094	47.203	1906.777	1.547%	70.027%
23.0	1110.233	47.428	1954.205	1.554%	71.769%
24.0	1081.081	47.910	2002.115	1.570%	73.528%
25.0	1059.092	48.663	2050.778	1.595%	75.316%
26.0	1037.455	49.489	2100.267	1.622%	77.133%
27.0	1015.612	50.229	2150.495	1.646%	78.978%
28.0	995.819	50.925	2201.421	1.669%	80.848%
29.0	978.841	51.663	2253.083	1.693%	82.745%
30.0	959.296	52.329	2305.413	1.715%	84.667%
31.0	932.559	52.648	2358.06	1.726%	86.601%
32.0	880.606	51.945	2410.005	1.703%	88.508%
33.0	799.295	49.491	2459.496	1.622%	90.326%
34.0	706.711	45.576	2505.072	1.494%	92.000%
35.0	580.171	39.966	2545.038	1.310%	93.468%
36.0	455.915	32.989	2578.027	1.081%	94.679%
37.0	347.034	26.188	2604.215	.858%	95.641%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	243.969	19.727	2623.942	.647%	96.365%
39.0	146.168	13.316	2637.258	.436%	96.854%
40.0	75.647	7.736	2644.994	.254%	97.138%
41.0	45.305	4.307	2649.301	.141%	97.297%
42.0	32.759	2.836	2652.137	.093%	97.401%
43.0	27.865	2.246	2654.383	.074%	97.483%
44.0	24.610	1.981	2656.364	.065%	97.556%
45.0	22.594	1.814	2658.178	.059%	97.623%
46.0	21.513	1.725	2659.903	.057%	97.686%
47.0	20.715	1.680	2661.582	.055%	97.748%
48.0	20.041	1.648	2663.23	.054%	97.808%
49.0	19.476	1.623	2664.852	.053%	97.868%
50.0	18.891	1.600	2666.452	.052%	97.927%
51.0	18.361	1.576	2668.028	.052%	97.984%
52.0	17.893	1.556	2669.584	.051%	98.042%
53.0	17.370	1.534	2671.118	.050%	98.098%
54.0	16.861	1.509	2672.627	.049%	98.153%
55.0	16.489	1.489	2674.115	.049%	98.208%
56.0	16.145	1.475	2675.59	.048%	98.262%
57.0	15.815	1.461	2677.051	.048%	98.316%
58.0	15.547	1.450	2678.502	.048%	98.369%
59.0	15.299	1.442	2679.944	.047%	98.422%
60.0	15.044	1.434	2681.377	.047%	98.475%
61.0	14.817	1.425	2682.802	.047%	98.527%
62.0	14.624	1.419	2684.221	.046%	98.579%
63.0	14.432	1.413	2685.634	.046%	98.631%
64.0	14.253	1.408	2687.042	.046%	98.683%
65.0	14.088	1.403	2688.444	.046%	98.734%
66.0	13.922	1.398	2689.842	.046%	98.786%
67.0	13.785	1.393	2691.235	.046%	98.837%
68.0	13.647	1.390	2692.624	.046%	98.888%
69.0	13.523	1.386	2694.01	.045%	98.939%
70.0	13.427	1.384	2695.395	.045%	98.989%
71.0	13.317	1.382	2696.777	.045%	99.040%
72.0	13.227	1.380	2698.157	.045%	99.091%
73.0	13.145	1.379	2699.536	.045%	99.142%
74.0	13.090	1.379	2700.915	.045%	99.192%
75.0	13.028	1.380	2702.295	.045%	99.243%

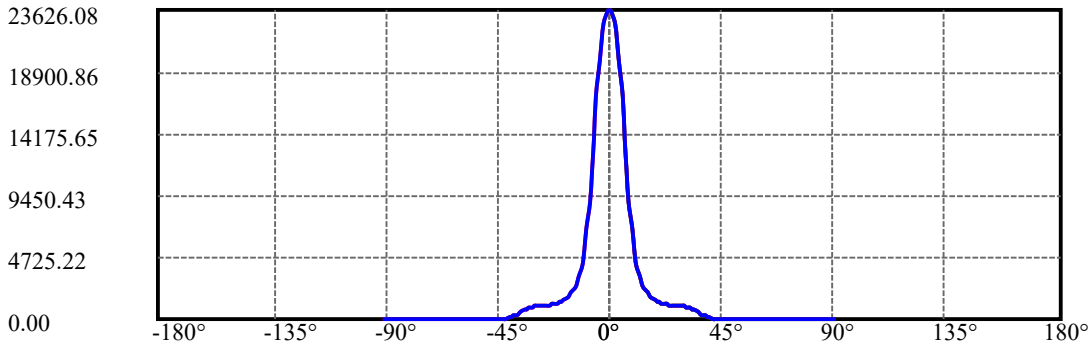
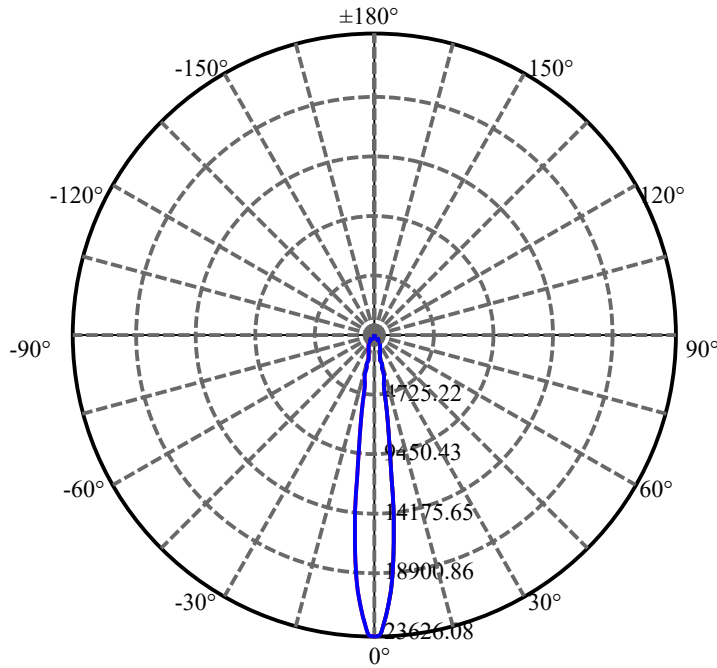
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	12.959	1.379	2703.675	.045%	99.294%
77.0	12.904	1.379	2705.054	.045%	99.344%
78.0	12.863	1.379	2706.433	.045%	99.395%
79.0	12.807	1.379	2707.812	.045%	99.445%
80.0	12.752	1.378	2709.19	.045%	99.496%
81.0	12.711	1.377	2710.567	.045%	99.547%
82.0	12.677	1.377	2711.944	.045%	99.597%
83.0	12.642	1.376	2713.32	.045%	99.648%
84.0	12.608	1.376	2714.696	.045%	99.698%
85.0	12.587	1.375	2716.071	.045%	99.749%
86.0	12.532	1.373	2717.444	.045%	99.799%
87.0	12.498	1.370	2718.814	.045%	99.850%
88.0	12.463	1.367	2720.181	.045%	99.900%
89.0	12.450	1.366	2721.547	.045%	99.950%
90.0	12.429	1.364	2722.911	.045%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2305.41	75.56%	84.67%
0-40	2644.99	86.69%	97.14%
0-60	2681.38	87.89%	98.47%
0-90	2721.55	89.20%	99.95%
0-120	2721.55	89.20%	99.95%
0-180	2722.91	89.25%	100.00%
60-90	41.60	1.36%	1.53%
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%
0-27.55	2178.33	71.40%	80.00%

ZONAL LUMEN SUMMARY

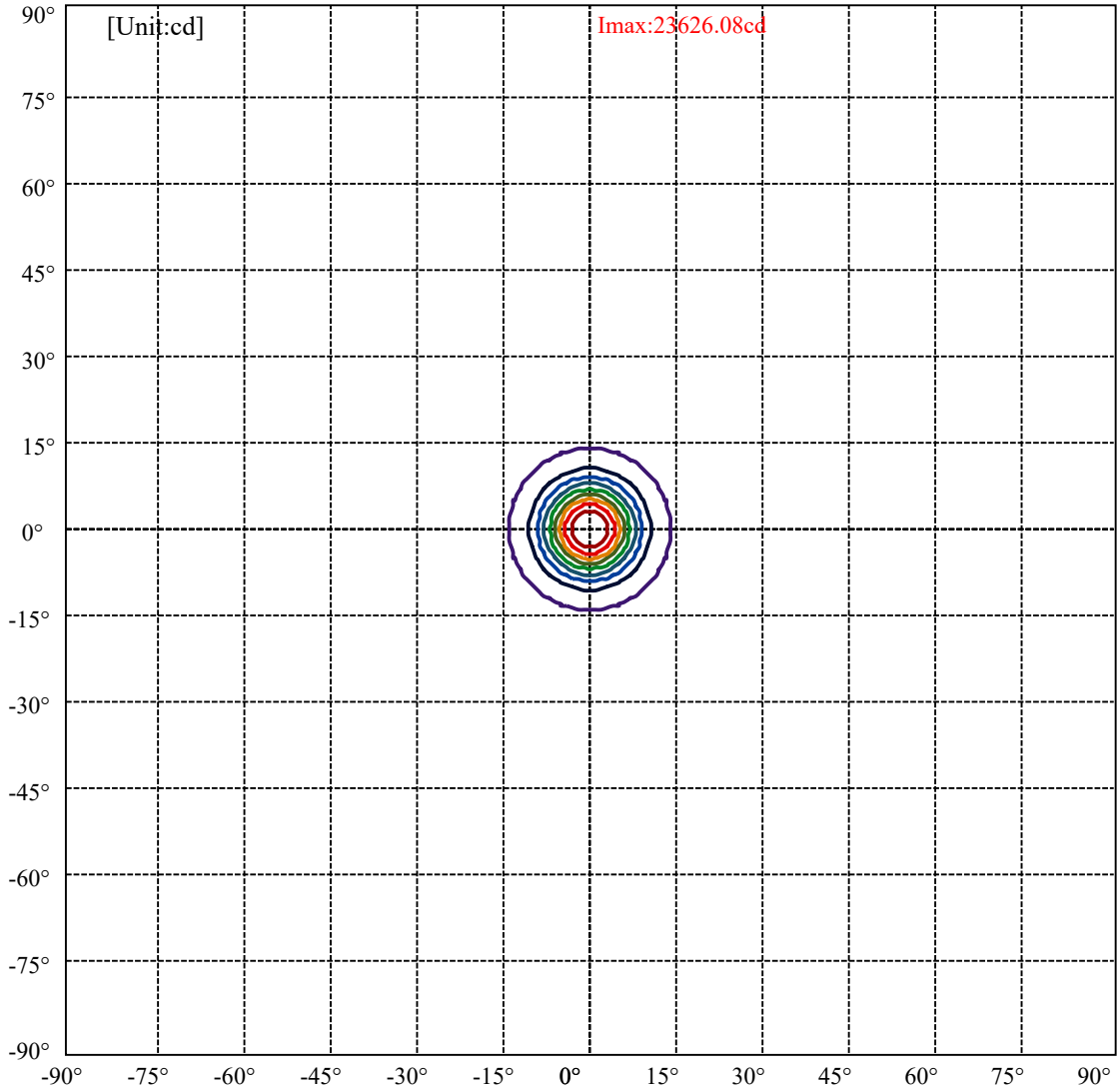
0-10	1191.30
10-20	621.02
20-30	493.09
30-40	339.58
40-50	21.46
50-60	14.93
60-70	14.02
70-80	13.80
80-90	12.36
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



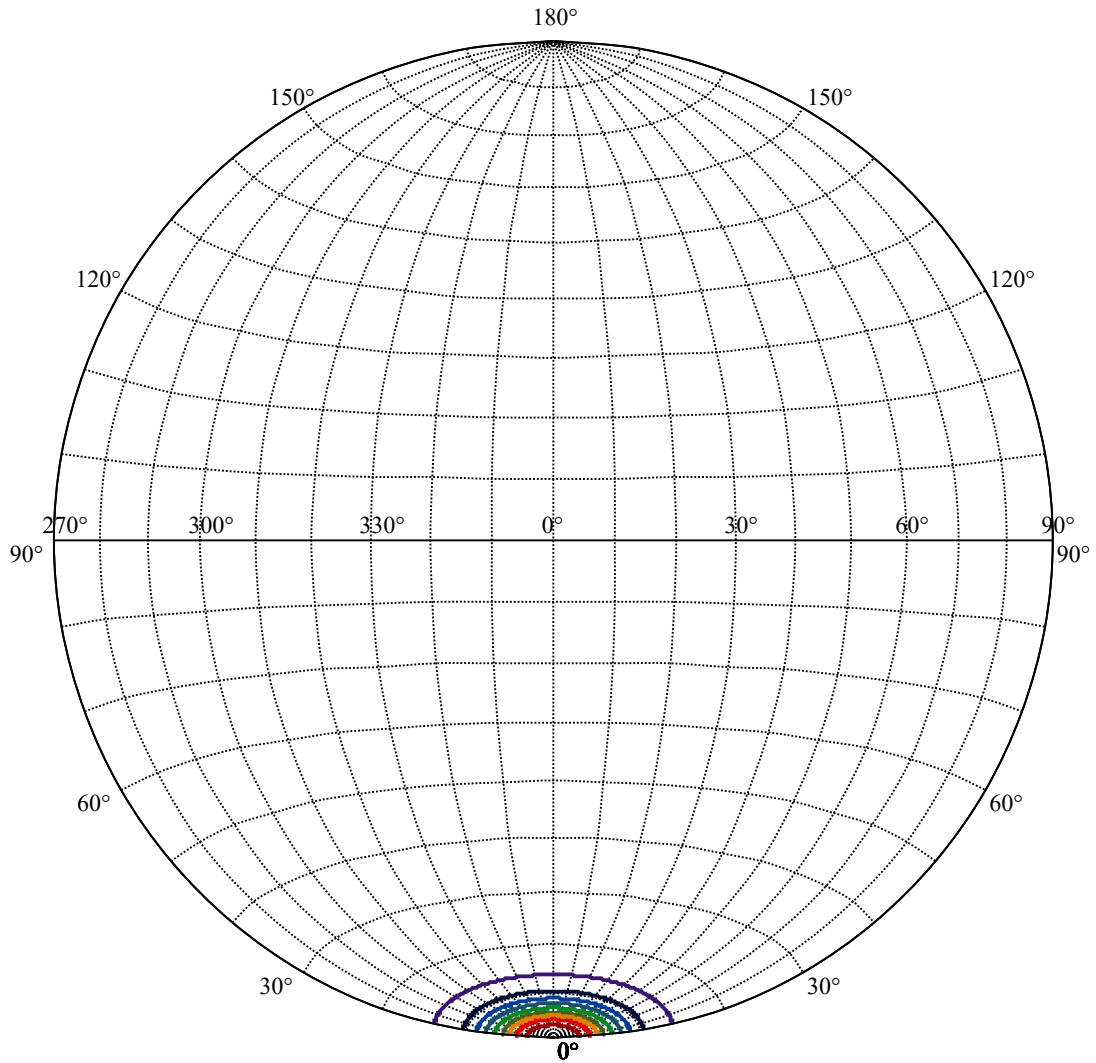
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:13.9 Right:13.9
:C90/270Left:13.9 Right:13.9

Beam Angle(50%Imax):C0/180Left:6.8 Right:6.8
:C90/270Left:6.8 Right:6.8



(10%I _{max}) 2362.61	—
(20%I _{max}) 4725.22	—
(30%I _{max}) 7087.82	—
(40%I _{max}) 9450.43	—
(50%I _{max}) 11813	—
(60%I _{max}) 14175.6	—
(70%I _{max}) 16538.3	—
(80%I _{max}) 18900.9	—
(90%I _{max}) 21263.5	—



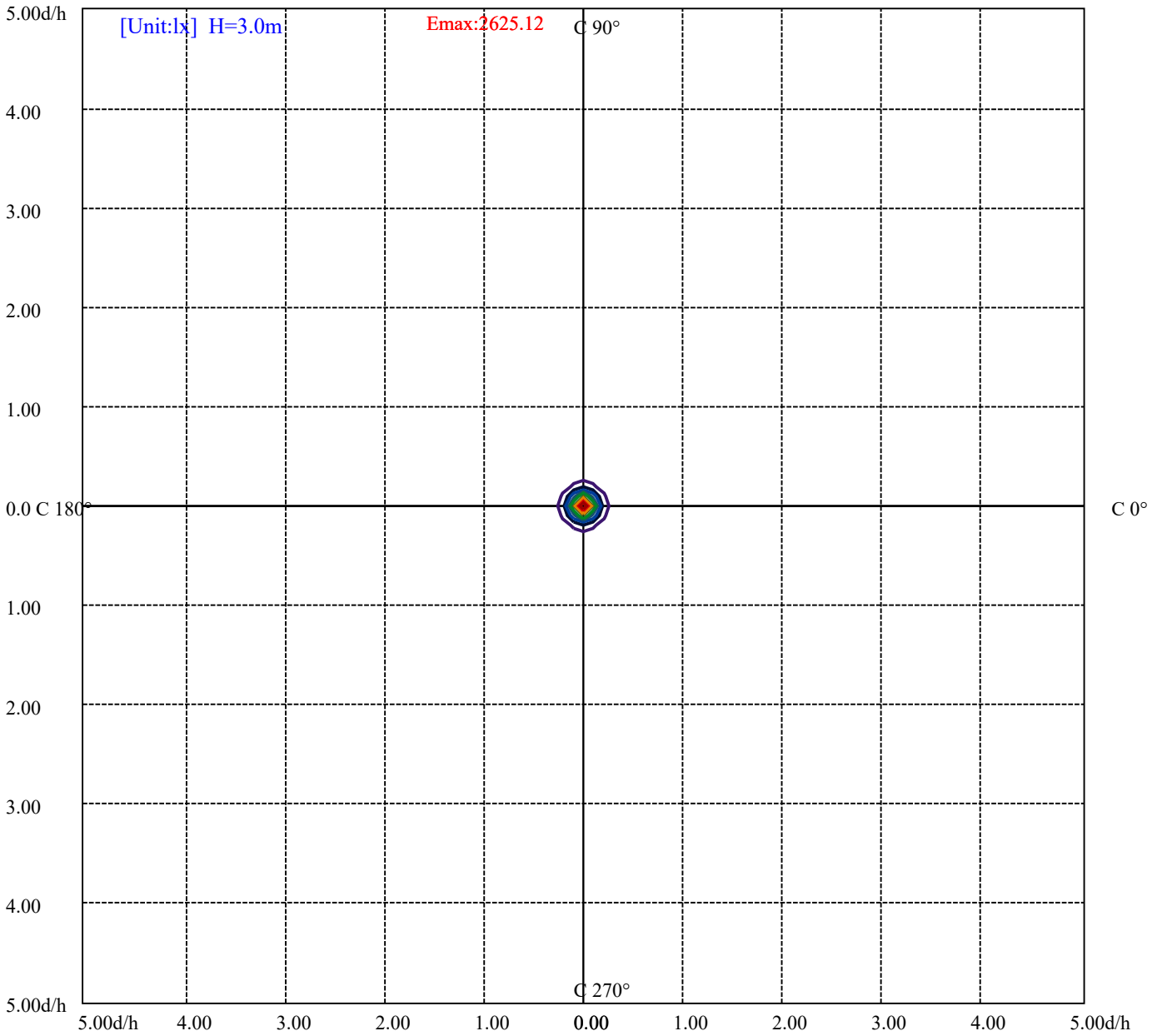
House

[Unit:cd]

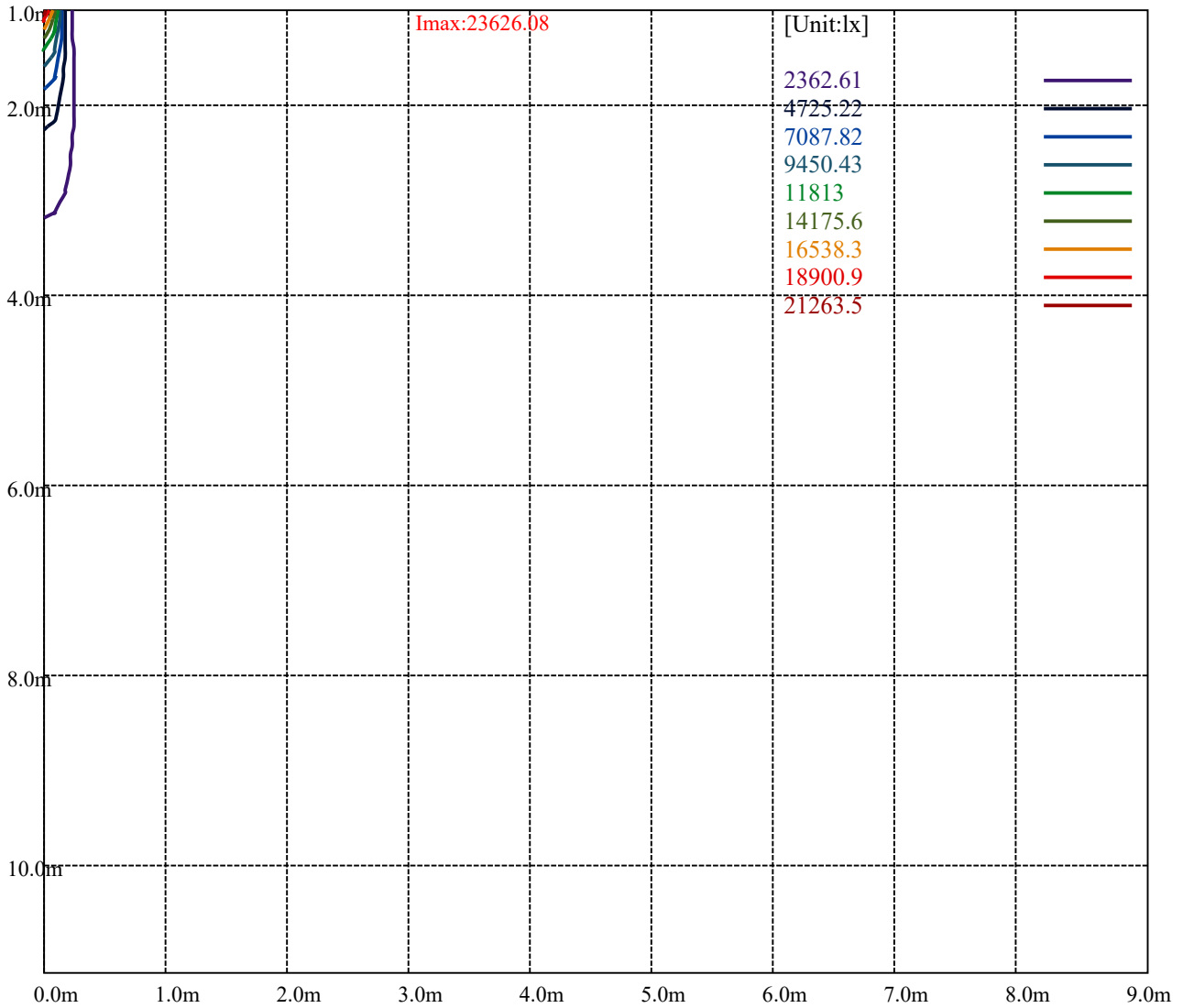
Road

Imax:23626.08

(10%Imax)	2362.61	—
(20%Imax)	4725.22	—
(30%Imax)	7087.82	—
(40%Imax)	9450.43	—
(50%Imax)	11813	—
(60%Imax)	14175.6	—
(70%Imax)	16538.3	—
(80%Imax)	18900.9	—
(90%Imax)	21263.5	—



(10%Emax) 262.5122	—
(20%Emax) 525.0233	—
(30%Emax) 787.5355	—
(40%Emax) 1050.047	—
(50%Emax) 1312.556	—
(60%Emax) 1575.067	—
(70%Emax) 1837.578	—
(80%Emax) 2100.089	—
(90%Emax) 2362.6	—



Luminance Table

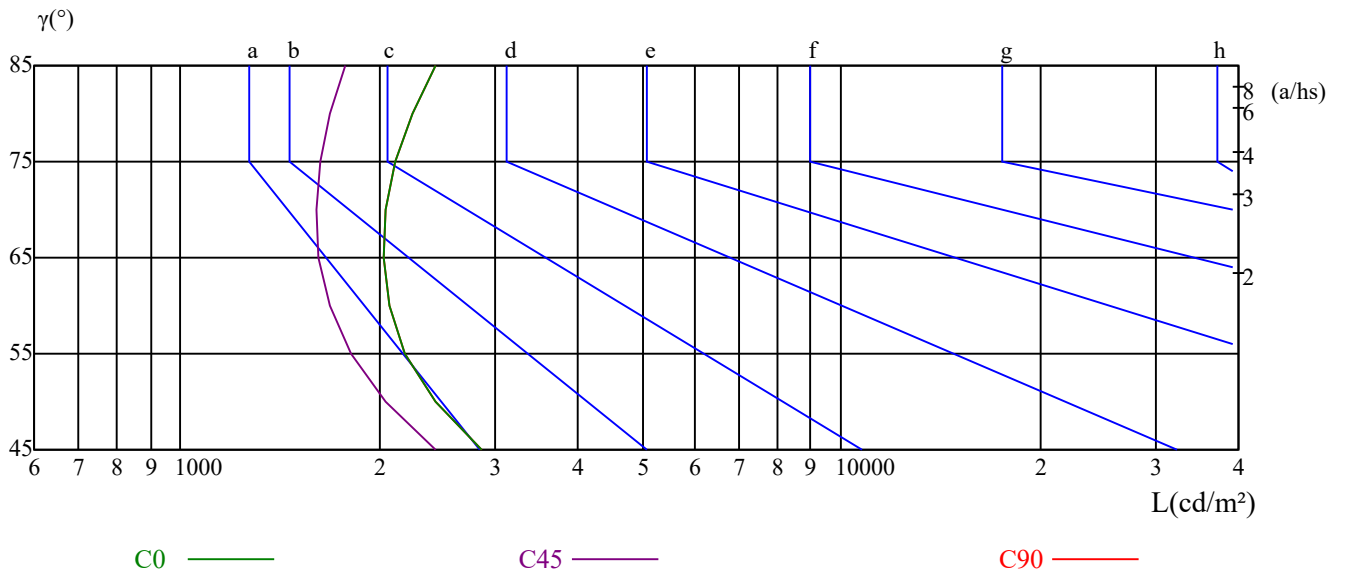
γ	45	50	55	60	65	70	75	80	85
C0	2859	2436	2185	2067	2025	2040	2116	2243	2434
C45	2441	2049	1810	1684	1621	1602	1627	1685	1779
C90	2859	2436	2185	2067	2025	2040	2116	2243	2434

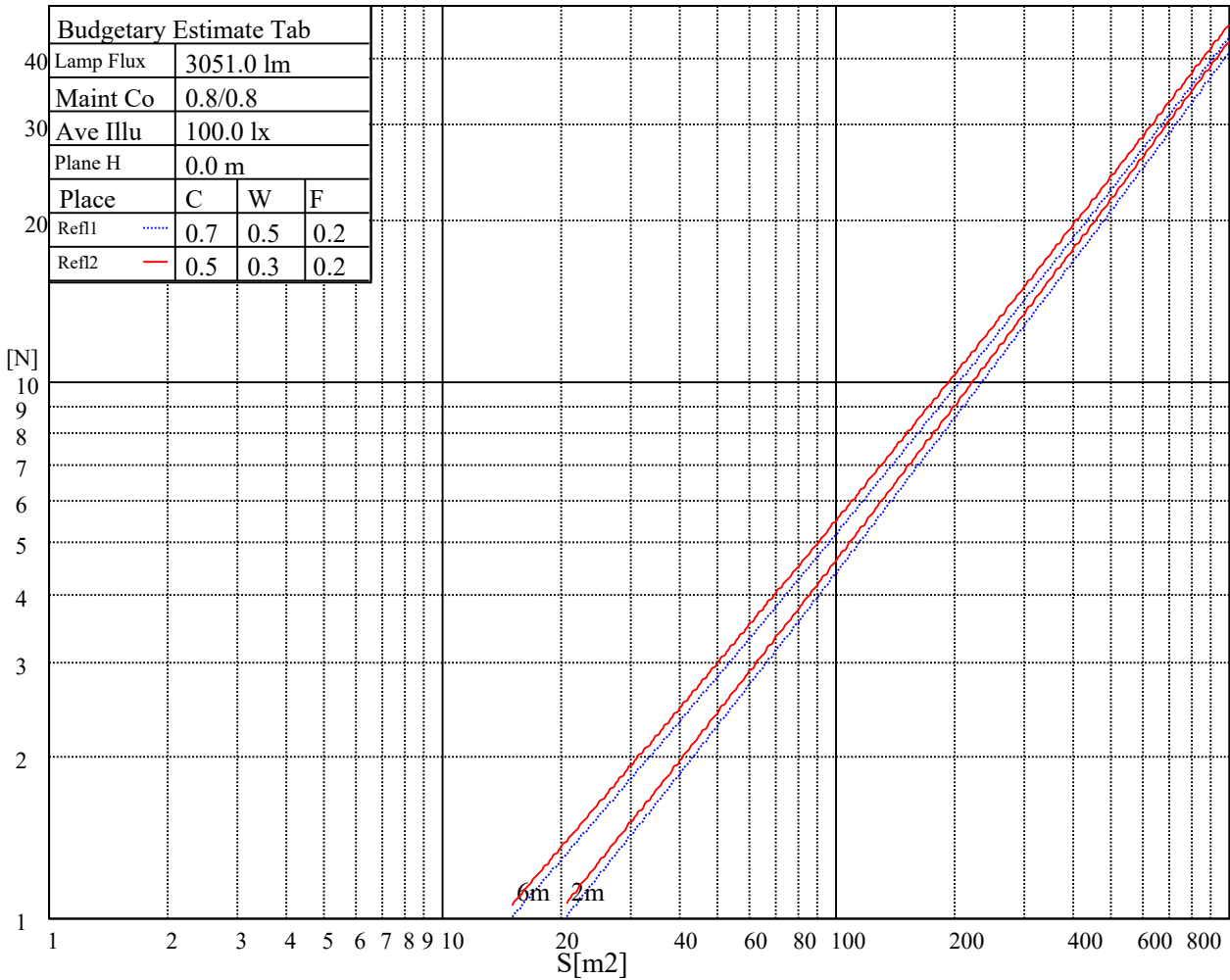
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5081	5081	5081	7672	7672	7672	22012	22012	22012

Glare Table

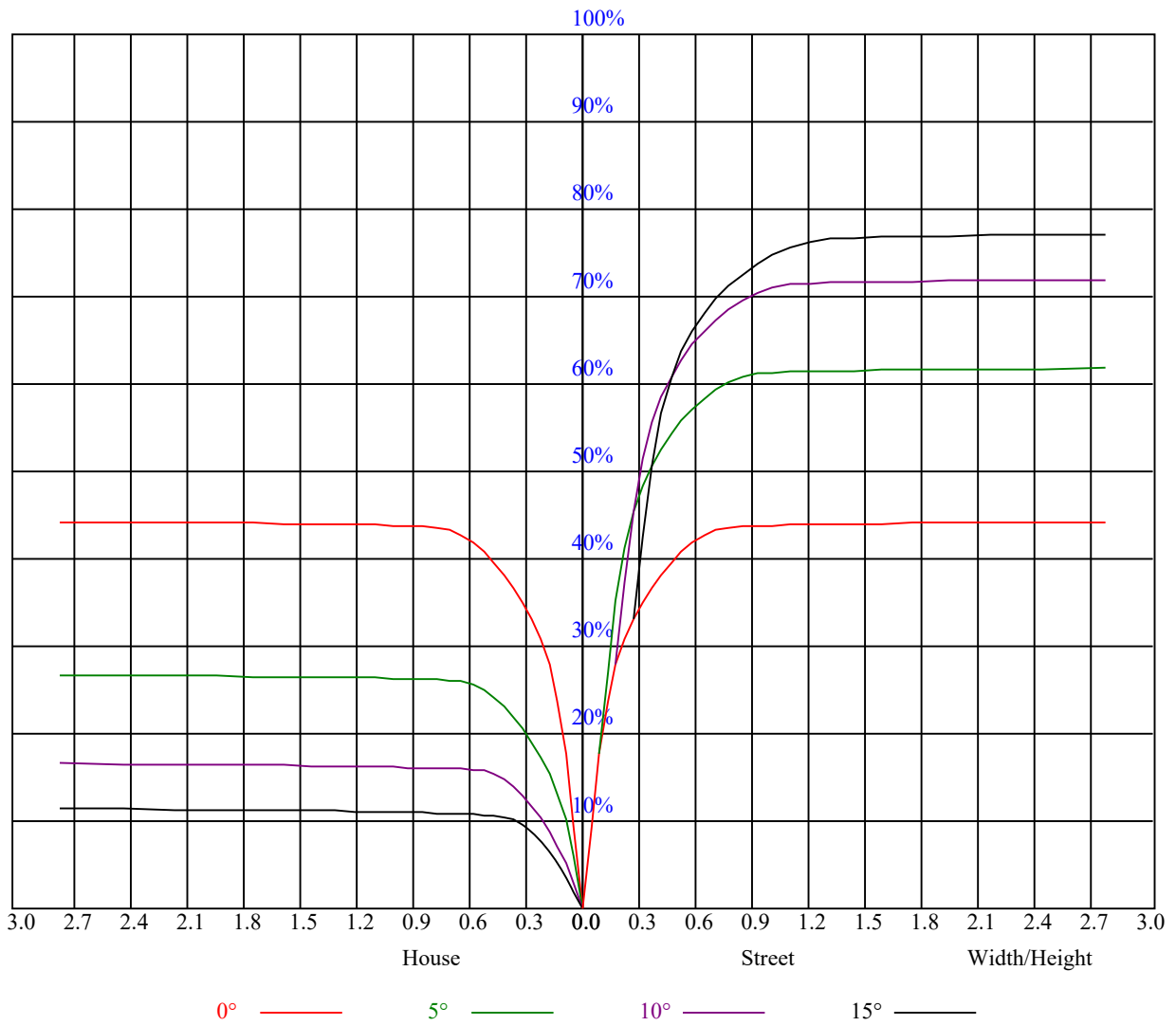
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.00	0.98	0.97	0.98	0.97	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.85
2	0.95	0.92	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.86	0.85	0.86	0.84	0.83	0.82
3	0.91	0.87	0.84	0.89	0.86	0.84	0.87	0.85	0.82	0.85	0.83	0.81	0.83	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.81	0.79	0.77	0.76
5	0.83	0.79	0.77	0.83	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.80	0.76	0.74	0.80	0.76	0.73	0.79	0.75	0.73	0.77	0.75	0.72	0.76	0.74	0.72	0.71
7	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.69
8	0.75	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67
9	0.73	0.69	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.63



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	23487.06	23844.93	23762.34	23255.82	22292.34	20536.04	18075.02	15525.90	12536.34
45.0	23657.74	23795.38	23432.00	22666.72	21218.74	19330.30	16632.54	13945.79	10983.75
90.0	23652.23	23310.88	22534.58	20833.34	18856.82	16439.84	10772.34	10451.91	8109.81
135.0	23707.29	23376.95	22143.68	20596.60	18807.27	15735.12	12745.56	10455.21	7619.81
180.0	23487.06	22705.26	21213.23	18972.44	16533.44	12574.88	10524.58	8144.49	6047.95
225.0	23657.74	23118.18	21780.31	20084.57	17838.27	15234.11	10876.39	9350.78	7233.31
270.0	23652.23	23630.21	23019.08	22000.54	20403.90	17915.35	15024.89	12349.15	9541.27
315.0	23707.29	23734.81	23283.35	22303.35	20866.38	18531.98	15713.10	10727.19	10110.01
360.0	23487.06	23844.93	23762.34	23255.82	22292.34	20536.04	18075.02	15525.90	12536.34
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	9700.94	7487.67	5588.22	4393.50	3446.53	2785.85	2537.00	2070.12	1795.39
45.0	8324.53	6370.03	4767.88	3787.88	3028.10	2829.90	2175.83	1928.63	1694.64
90.0	6009.41	4532.24	3632.07	2925.70	2434.04	2119.67	1858.15	1678.67	1513.50
135.0	5698.34	4591.70	3468.55	2846.42	2539.20	2033.23	1808.05	1631.32	1459.55
180.0	4707.32	3664.55	2954.33	2505.62	2136.19	1869.72	1684.73	1534.42	1381.92
225.0	5427.46	4157.31	3369.45	2742.36	2288.69	2002.95	1767.86	1607.65	1463.40
270.0	7173.85	5555.19	4255.86	3446.53	2796.87	2332.74	2035.99	1812.46	1609.30
315.0	7859.30	5856.35	4571.88	3580.87	2900.37	2466.53	2107.01	1872.47	1673.71
360.0	9700.94	7487.67	5588.22	4393.50	3446.53	2785.85	2537.00	2070.12	1795.39
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1629.12	1489.83	1363.75	1287.77	1226.66	1170.50	1127.00	1095.62	1069.75
45.0	1535.52	1418.25	1302.63	1228.86	1173.80	1125.90	1090.12	1065.89	1044.42
90.0	1387.97	1300.98	1233.26	1167.75	1095.02	1091.11	1057.14	1039.69	1019.75
135.0	1356.04	1285.57	1212.89	1166.65	1130.31	1098.93	1071.40	1050.48	1027.35
180.0	1293.27	1226.66	1170.50	1130.31	1095.95	1074.87	1051.91	1032.69	1012.87
225.0	1354.39	1279.51	1222.25	1165.54	1131.96	1097.66	1068.20	1052.73	1031.76
270.0	1474.41	1373.11	1281.16	1221.15	1178.21	1130.86	1098.38	1075.25	1052.68
315.0	1512.95	1398.43	1308.69	1222.80	1168.85	1092.04	1084.50	1060.39	1041.06
360.0	1629.12	1489.83	1363.75	1287.77	1226.66	1170.50	1127.00	1095.62	1069.75
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1044.97	1020.75	1002.58	983.31	967.34	950.82	920.54	856.68	753.17
45.0	1022.95	1001.48	982.76	965.69	946.42	921.64	864.39	781.25	651.87
90.0	998.28	979.62	964.04	944.71	923.68	862.73	764.40	664.26	539.83
135.0	1006.98	988.26	971.75	955.78	923.30	847.87	755.37	648.56	505.42
180.0	992.83	973.78	957.10	930.23	873.69	777.40	660.18	547.37	422.12
225.0	1009.62	992.78	977.03	953.03	918.62	840.33	721.68	623.73	491.38
270.0	1029.55	1009.73	991.02	975.05	956.33	919.44	851.17	763.08	629.29
315.0	1019.70	1000.15	984.46	966.57	951.10	924.62	856.62	768.75	648.29
360.0	1044.97	1020.75	1002.58	983.31	967.34	950.82	920.54	856.68	753.17
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	630.95	515.88	399.16	282.44	154.76	82.58	41.18	34.96	29.29
45.0	540.65	433.84	307.77	282.44	108.02	50.32	36.23	30.39	25.33
90.0	413.42	301.87	201.01	97.34	49.66	36.50	30.61	24.72	22.63
135.0	388.15	284.09	212.68	82.42	44.32	36.17	28.57	25.16	23.51
180.0	293.29	190.22	105.82	47.40	37.82	31.77	26.43	23.73	22.52
225.0	344.54	247.70	152.62	61.00	41.07	35.46	28.90	25.77	22.85
270.0	514.78	397.51	280.79	152.29	78.73	42.12	35.07	29.07	25.60
315.0	521.55	405.16	291.91	164.01	90.79	47.51	35.07	29.12	25.16
360.0	630.95	515.88	399.16	282.44	154.76	82.58	41.18	34.96	29.29

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	25.66	23.56	21.91	21.09	20.43	19.77	19.16	18.66	18.17
45.0	23.01	21.58	20.87	20.15	19.49	18.94	18.44	18.00	17.40
90.0	21.36	20.48	19.88	19.38	18.77	18.28	17.84	17.34	16.85
135.0	21.75	20.92	20.32	19.71	19.21	18.61	18.17	17.67	17.07
180.0	21.69	20.98	20.37	19.77	19.27	18.72	18.17	17.67	17.23
225.0	21.91	21.14	20.48	19.82	19.32	18.77	18.17	17.73	17.18
270.0	22.96	21.86	21.03	20.37	19.77	19.10	18.61	18.11	17.51
315.0	22.41	21.58	20.87	20.04	19.55	18.94	18.33	17.95	17.56
360.0	25.66	23.56	21.91	21.09	20.43	19.77	19.16	18.66	18.17
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	17.62	17.07	16.63	16.19	15.91	15.64	15.31	15.09	14.87
45.0	16.90	16.46	16.13	15.86	15.58	15.25	15.03	14.81	14.59
90.0	16.46	16.08	15.80	15.53	15.25	15.03	14.81	14.59	14.37
135.0	16.63	16.30	15.97	15.64	15.36	15.14	14.92	14.70	14.53
180.0	16.74	16.41	16.13	15.80	15.53	15.31	15.03	14.81	14.65
225.0	16.68	16.41	16.08	15.80	15.53	15.31	15.09	14.81	14.65
270.0	17.01	16.68	16.30	15.97	15.69	15.42	15.14	14.92	14.70
315.0	16.85	16.52	16.13	15.75	15.53	15.31	15.03	14.81	14.65
360.0	17.62	17.07	16.63	16.19	15.91	15.64	15.31	15.09	14.87
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	14.65	14.42	14.31	14.09	13.93	13.87	13.71	13.60	13.43
45.0	14.42	14.26	14.04	13.87	13.76	13.60	13.49	13.38	13.27
90.0	14.20	14.04	13.87	13.71	13.60	13.43	13.38	13.27	13.16
135.0	14.37	14.15	13.98	13.82	13.71	13.60	13.43	13.38	13.27
180.0	14.42	14.26	14.15	13.98	13.82	13.71	13.60	13.49	13.38
225.0	14.42	14.31	14.09	13.98	13.82	13.65	13.54	13.43	13.32
270.0	14.53	14.31	14.15	13.98	13.87	13.65	13.54	13.43	13.32
315.0	14.42	14.26	14.09	13.93	13.76	13.65	13.49	13.43	13.38
360.0	14.65	14.42	14.31	14.09	13.93	13.87	13.71	13.60	13.43
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	13.32	13.27	13.21	13.16	13.05	12.99	12.99	12.88	12.83
45.0	13.21	13.10	13.05	12.99	12.94	12.88	12.83	12.77	12.72
90.0	13.10	12.99	12.94	12.88	12.83	12.77	12.77	12.66	12.66
135.0	13.16	13.10	13.05	12.99	12.94	12.88	12.83	12.77	12.72
180.0	13.27	13.21	13.16	13.05	12.99	12.94	12.88	12.88	12.83
225.0	13.27	13.16	13.10	13.05	12.99	12.94	12.83	12.83	12.72
270.0	13.27	13.16	13.10	13.05	12.94	12.88	12.83	12.77	12.72
315.0	13.21	13.16	13.10	13.05	12.99	12.94	12.94	12.88	12.83
360.0	13.32	13.27	13.21	13.16	13.05	12.99	12.99	12.88	12.83
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	12.77	12.77	12.72	12.66	12.66	12.61	12.61	12.55	12.55
45.0	12.72	12.66	12.66	12.61	12.61	12.55	12.50	12.50	12.44
90.0	12.61	12.55	12.55	12.50	12.50	12.44	12.44	12.39	12.39
135.0	12.66	12.66	12.61	12.61	12.55	12.50	12.44	12.44	12.44
180.0	12.77	12.72	12.72	12.66	12.66	12.55	12.50	12.44	12.44
225.0	12.72	12.66	12.61	12.61	12.55	12.55	12.44	12.44	12.44
270.0	12.72	12.66	12.61	12.61	12.55	12.50	12.50	12.44	12.44
315.0	12.72	12.72	12.66	12.61	12.61	12.55	12.55	12.50	12.44
360.0	12.77	12.77	12.72	12.66	12.66	12.61	12.61	12.55	12.55

Intensity data(cd)

C/γ(°)	90.0
0.0	12.50
45.0	12.44
90.0	12.39
135.0	12.44
180.0	12.44
225.0	12.44
270.0	12.39
315.0	12.39
360.0	12.50