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Nata

LumCAT: 2-1566-M	
Luminaire: BJB47.319.2021	
Report No: NT2017050301	Voltage(V): 35.3000
Test No: GC2017050301	Current(A): 0.5000
LampCAT: bridgelux V13B	Power (W): 17.6500
Lamp flux(lm): 2274.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2091.44
Efficiency(%): 91.97%
Lumens(lm)/Power(W): 118.50
Central intensity(cd): 7227.529
Maximum intensity(cd): 7227.529
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=17.2
 [C90/270]Total=17.2
Field angle(10%Imax): [C0/180]Total=67.9
 [C90/270]Total=67.9
Maximum s/h(1/2): C0_180=0.29 C90_270=0.29
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 92.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.724%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7227.529	1.729	1.729	.076%	.083%
1.0	7187.200	13.755	15.484	.605%	.740%
2.0	7013.772	26.842	42.327	1.180%	2.024%
3.0	6706.282	38.489	80.816	1.693%	3.864%
4.0	6317.171	48.324	129.139	2.125%	6.175%
5.0	5743.897	54.898	184.037	2.414%	8.800%
6.0	5092.992	58.379	242.416	2.567%	11.591%
7.0	4508.018	60.247	302.663	2.649%	14.472%
8.0	3904.600	59.591	362.254	2.621%	17.321%
9.0	3412.120	58.534	420.788	2.574%	20.120%
10.0	3045.169	57.987	478.776	2.550%	22.892%
11.0	2782.275	58.217	536.993	2.560%	25.676%
12.0	2604.856	59.390	596.383	2.612%	28.515%
13.0	2465.976	60.832	657.214	2.675%	31.424%
14.0	2355.313	62.485	719.699	2.748%	34.412%
15.0	2250.843	63.884	783.583	2.809%	37.466%
16.0	2151.604	65.036	848.619	2.860%	40.576%
17.0	2035.710	65.268	913.888	2.870%	43.697%
18.0	1924.221	65.206	979.094	2.867%	46.814%
19.0	1823.055	65.087	1044.181	2.862%	49.926%
20.0	1711.979	64.210	1108.391	2.824%	52.997%
21.0	1605.582	63.098	1171.488	2.775%	56.014%
22.0	1514.051	62.197	1233.685	2.735%	58.987%
23.0	1424.584	61.040	1294.725	2.684%	61.906%
24.0	1337.045	59.636	1354.362	2.623%	64.757%
25.0	1258.741	58.336	1412.698	2.565%	67.547%
26.0	1192.701	57.336	1470.033	2.521%	70.288%
27.0	1114.011	55.461	1525.494	2.439%	72.940%
28.0	1063.112	54.732	1580.226	2.407%	75.557%
29.0	1013.478	53.881	1634.107	2.369%	78.133%
30.0	966.997	53.021	1687.128	2.332%	80.668%
31.0	915.285	51.695	1738.823	2.273%	83.140%
32.0	860.421	50.000	1788.824	2.199%	85.531%
33.0	797.946	47.658	1836.481	2.096%	87.810%
34.0	719.959	44.149	1880.63	1.941%	89.921%
35.0	624.532	39.282	1919.913	1.727%	91.799%
36.0	524.522	33.809	1953.722	1.487%	93.415%
37.0	424.003	27.982	1981.704	1.231%	94.753%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	330.159	22.290	2003.995	.980%	95.819%
39.0	251.704	17.371	2021.365	.764%	96.650%
40.0	158.645	11.183	2032.548	.492%	97.184%
41.0	119.761	8.616	2041.164	.379%	97.596%
42.0	58.057	4.260	2045.424	.187%	97.800%
43.0	37.879	2.833	2048.257	.125%	97.935%
44.0	25.932	1.975	2050.232	.087%	98.030%
45.0	22.105	1.714	2051.946	.075%	98.112%
46.0	19.394	1.530	2053.476	.067%	98.185%
47.0	16.902	1.356	2054.832	.060%	98.250%
48.0	14.796	1.206	2056.038	.053%	98.307%
49.0	13.048	1.080	2057.118	.047%	98.359%
50.0	11.672	0.981	2058.098	.043%	98.406%
51.0	10.777	0.918	2059.017	.040%	98.450%
52.0	10.117	0.874	2059.891	.038%	98.492%
53.0	9.483	0.831	2060.721	.037%	98.531%
54.0	9.181	0.814	2061.536	.036%	98.570%
55.0	9.015	0.810	2062.346	.036%	98.609%
56.0	8.878	0.807	2063.153	.035%	98.648%
57.0	8.726	0.803	2063.955	.035%	98.686%
58.0	8.699	0.809	2064.764	.036%	98.725%
59.0	8.616	0.810	2065.574	.036%	98.763%
60.0	8.520	0.809	2066.383	.036%	98.802%
61.0	8.451	0.811	2067.194	.036%	98.841%
62.0	8.396	0.813	2068.007	.036%	98.880%
63.0	8.355	0.816	2068.823	.036%	98.919%
64.0	8.327	0.821	2069.644	.036%	98.958%
65.0	8.258	0.821	2070.465	.036%	98.997%
66.0	8.258	0.827	2071.292	.036%	99.037%
67.0	8.217	0.829	2072.122	.036%	99.076%
68.0	8.176	0.831	2072.953	.037%	99.116%
69.0	8.176	0.837	2073.79	.037%	99.156%
70.0	8.162	0.841	2074.631	.037%	99.196%
71.0	8.121	0.842	2075.473	.037%	99.237%
72.0	8.093	0.844	2076.317	.037%	99.277%
73.0	8.080	0.847	2077.164	.037%	99.318%
74.0	8.066	0.850	2078.015	.037%	99.358%
75.0	8.066	0.854	2078.869	.038%	99.399%

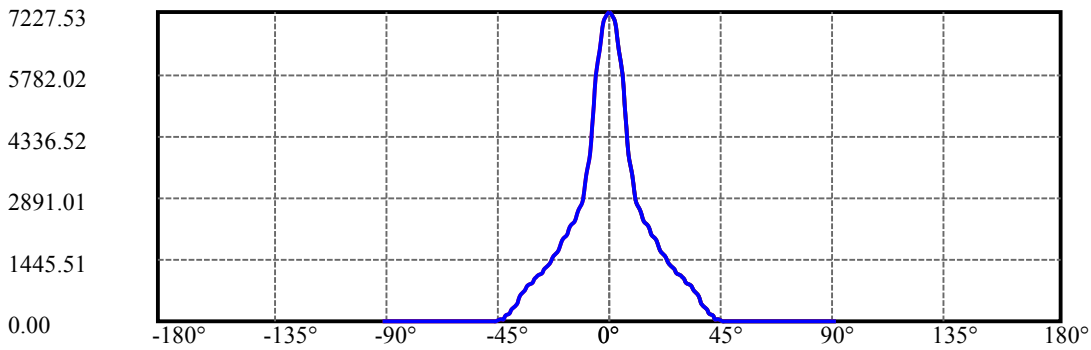
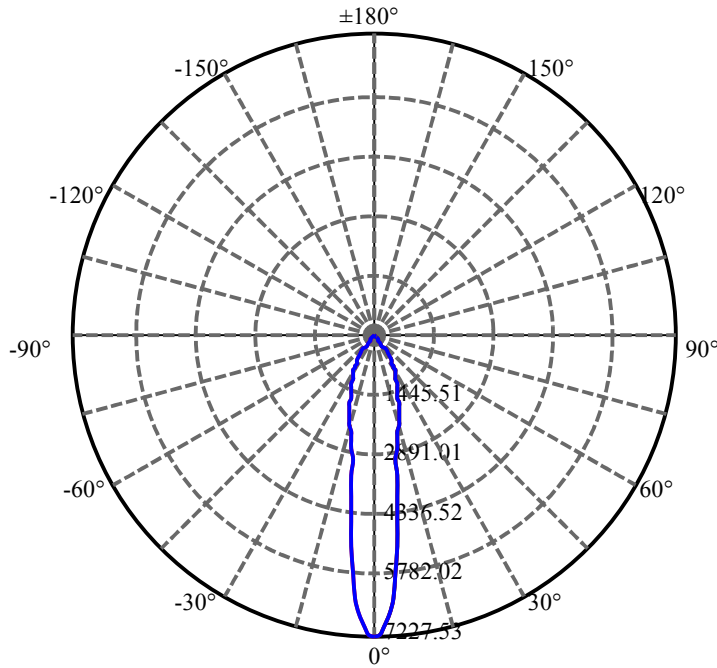
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.066	0.858	2079.727	.038%	99.440%
77.0	8.052	0.860	2080.587	.038%	99.481%
78.0	8.024	0.861	2081.448	.038%	99.522%
79.0	7.997	0.861	2082.309	.038%	99.564%
80.0	7.997	0.864	2083.173	.038%	99.605%
81.0	8.011	0.868	2084.04	.038%	99.646%
82.0	7.997	0.868	2084.909	.038%	99.688%
83.0	7.969	0.867	2085.776	.038%	99.729%
84.0	7.956	0.868	2086.644	.038%	99.771%
85.0	7.969	0.871	2087.514	.038%	99.812%
86.0	7.956	0.870	2088.385	.038%	99.854%
87.0	7.956	0.871	2089.256	.038%	99.896%
88.0	7.956	0.872	2090.128	.038%	99.937%
89.0	7.956	0.872	2091	.038%	99.979%
90.0	7.956	0.436	2091.436	.019%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1687.13	74.19%	80.67%
0-40	2032.55	89.38%	97.18%
0-60	2066.38	90.87%	98.80%
0-90	2091.00	91.95%	99.98%
0-120	2091.00	91.95%	99.98%
0-180	2091.44	91.97%	100.00%
60-90	25.43	1.12%	1.22%
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%
0-29.74	1673.15	73.58%	80.00%

ZONAL LUMEN SUMMARY

0-10	478.78
10-20	629.62
20-30	578.74
30-40	345.42
40-50	25.55
50-60	8.29
60-70	8.25
70-80	8.54
80-90	7.83
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



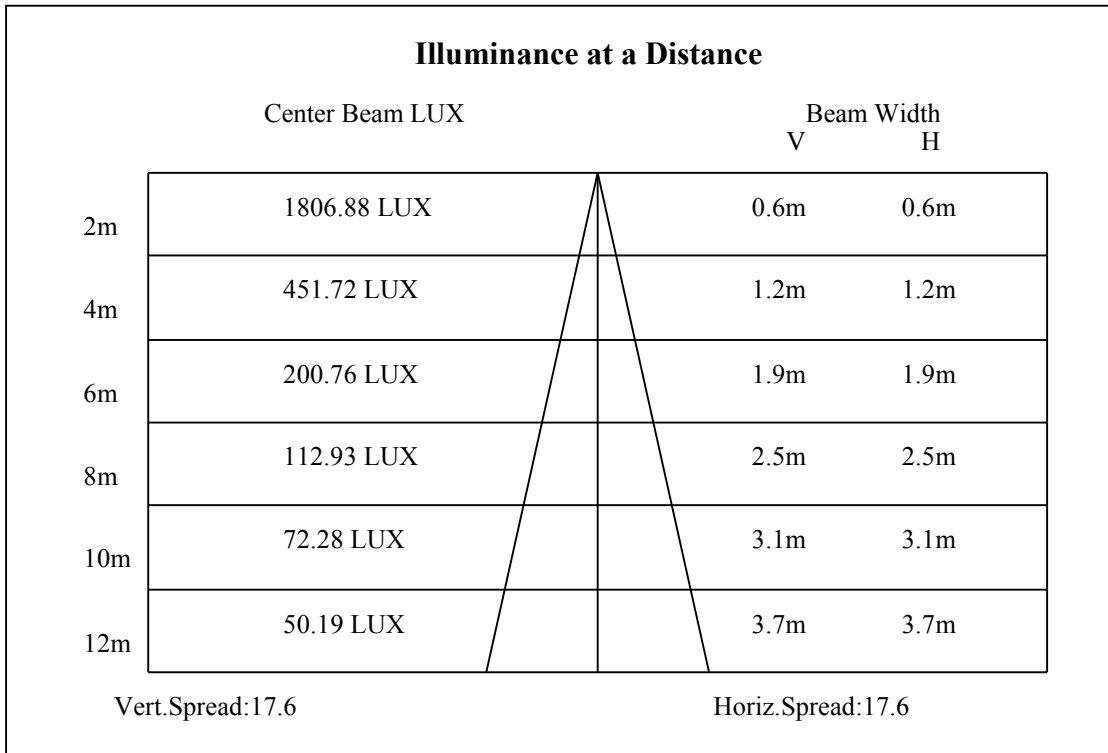
C0(Max): —————

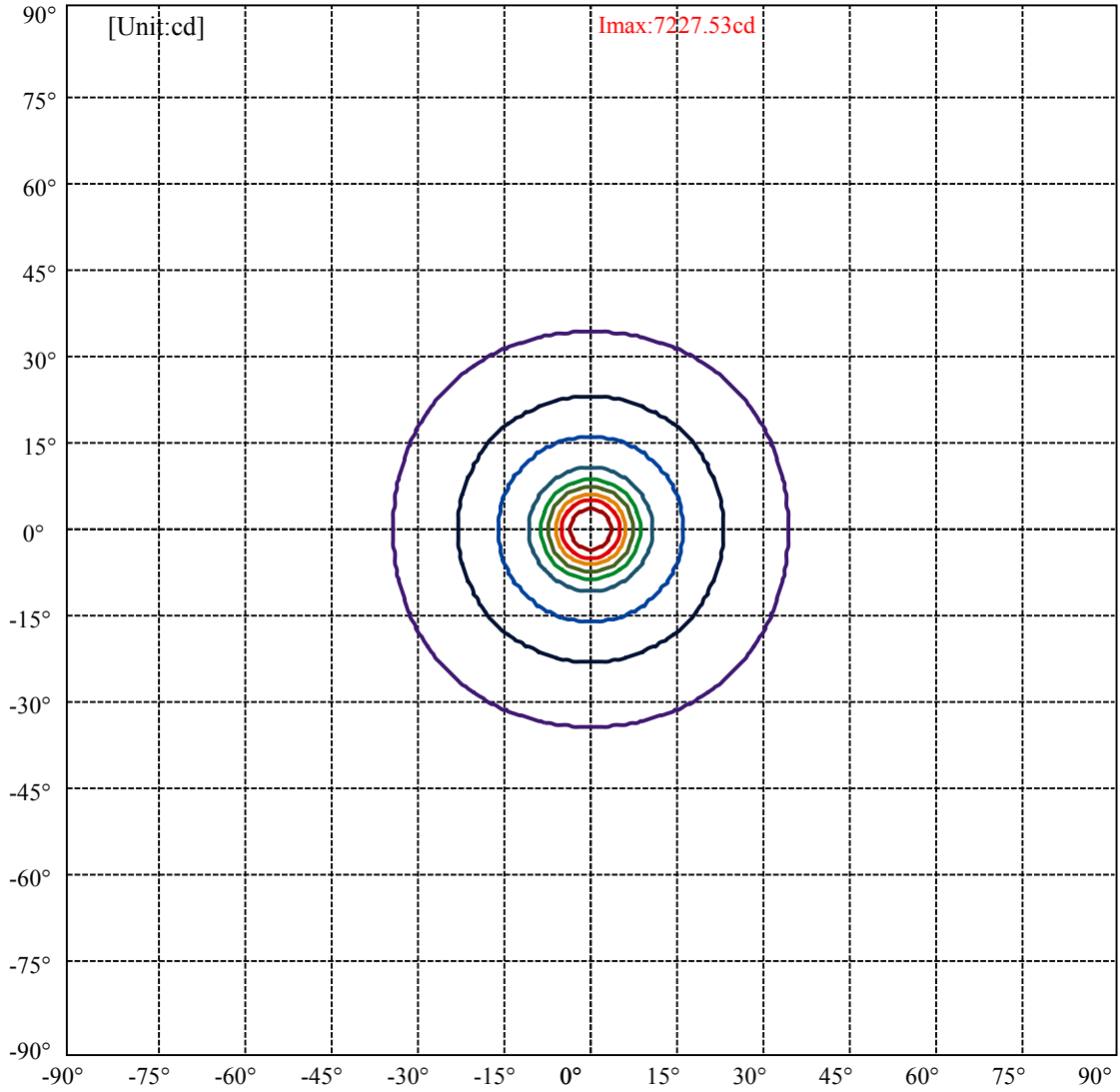
C0/C180: —————

C90/C270: —————

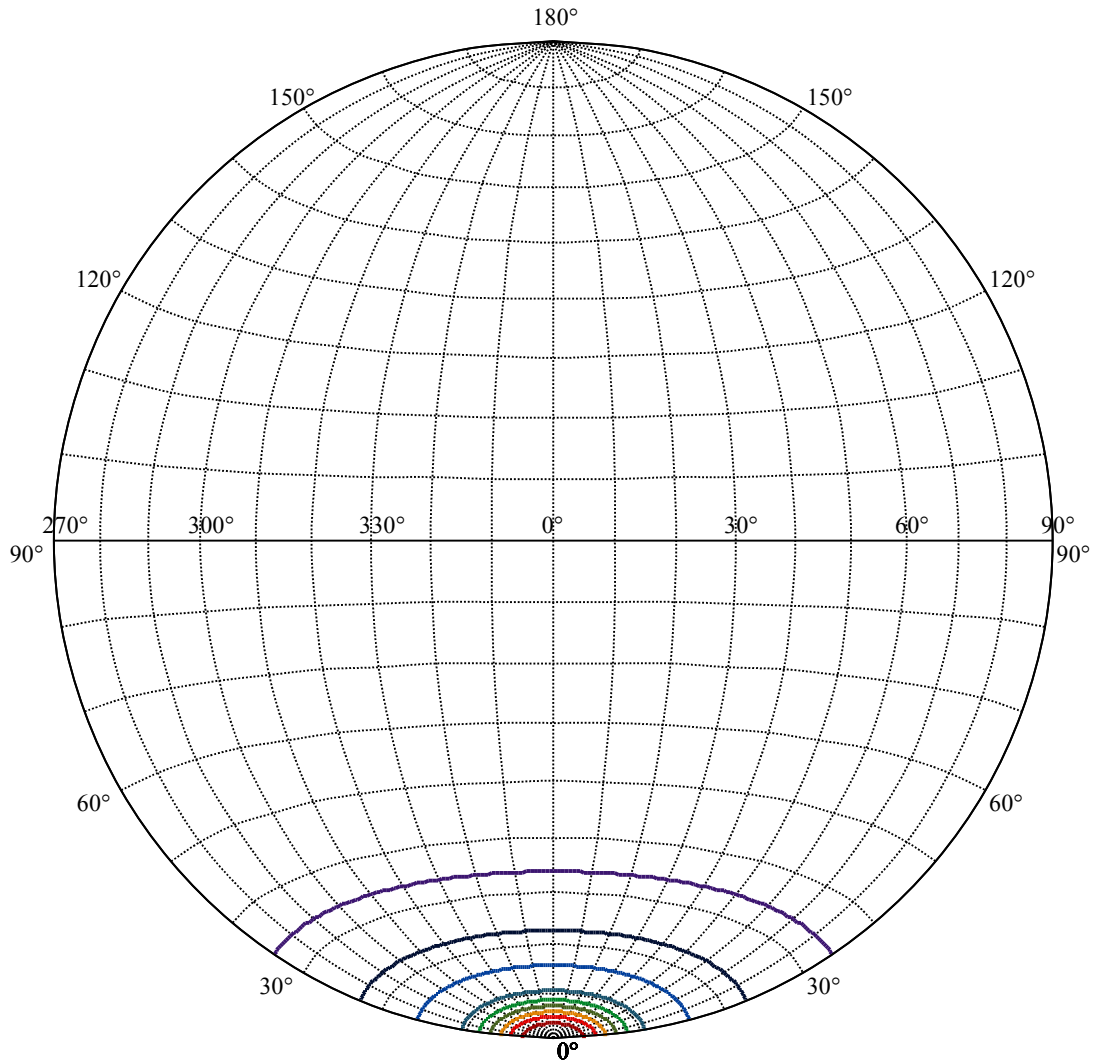
Field angle(10%Imax):C0/180Left:34.0 Right:34.0
:C90/270Left:34.0 Right:34.0

Beam Angle(50%Imax):C0/180Left:8.6 Right:8.6
:C90/270Left:8.6 Right:8.6





(10%Imax) 722.753	—
(20%Imax) 1445.51	—
(30%Imax) 2168.26	—
(40%Imax) 2891.01	—
(50%Imax) 3613.76	—
(60%Imax) 4336.52	—
(70%Imax) 5059.27	—
(80%Imax) 5782.02	—
(90%Imax) 6504.78	—



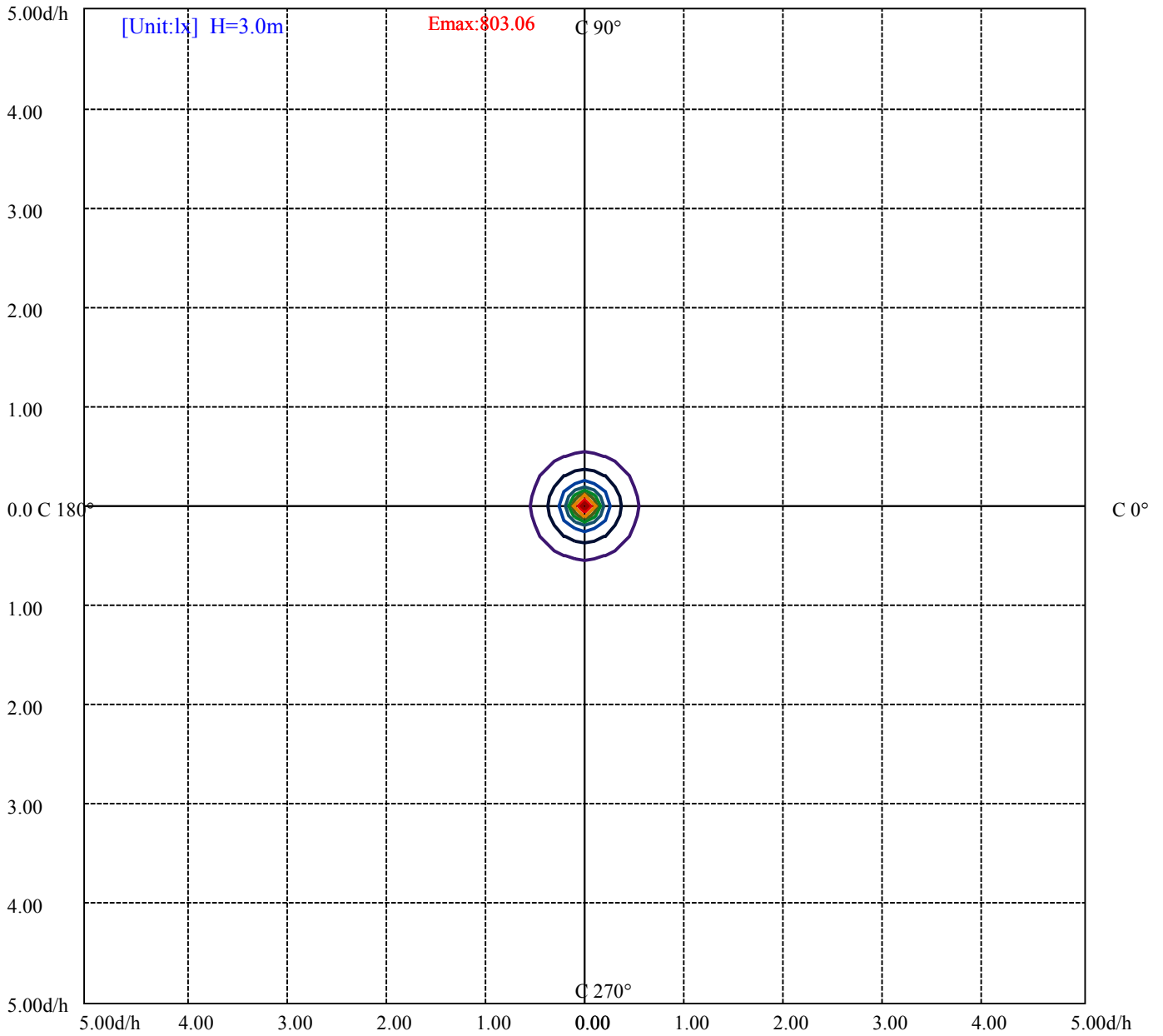
House

[Unit:cd]

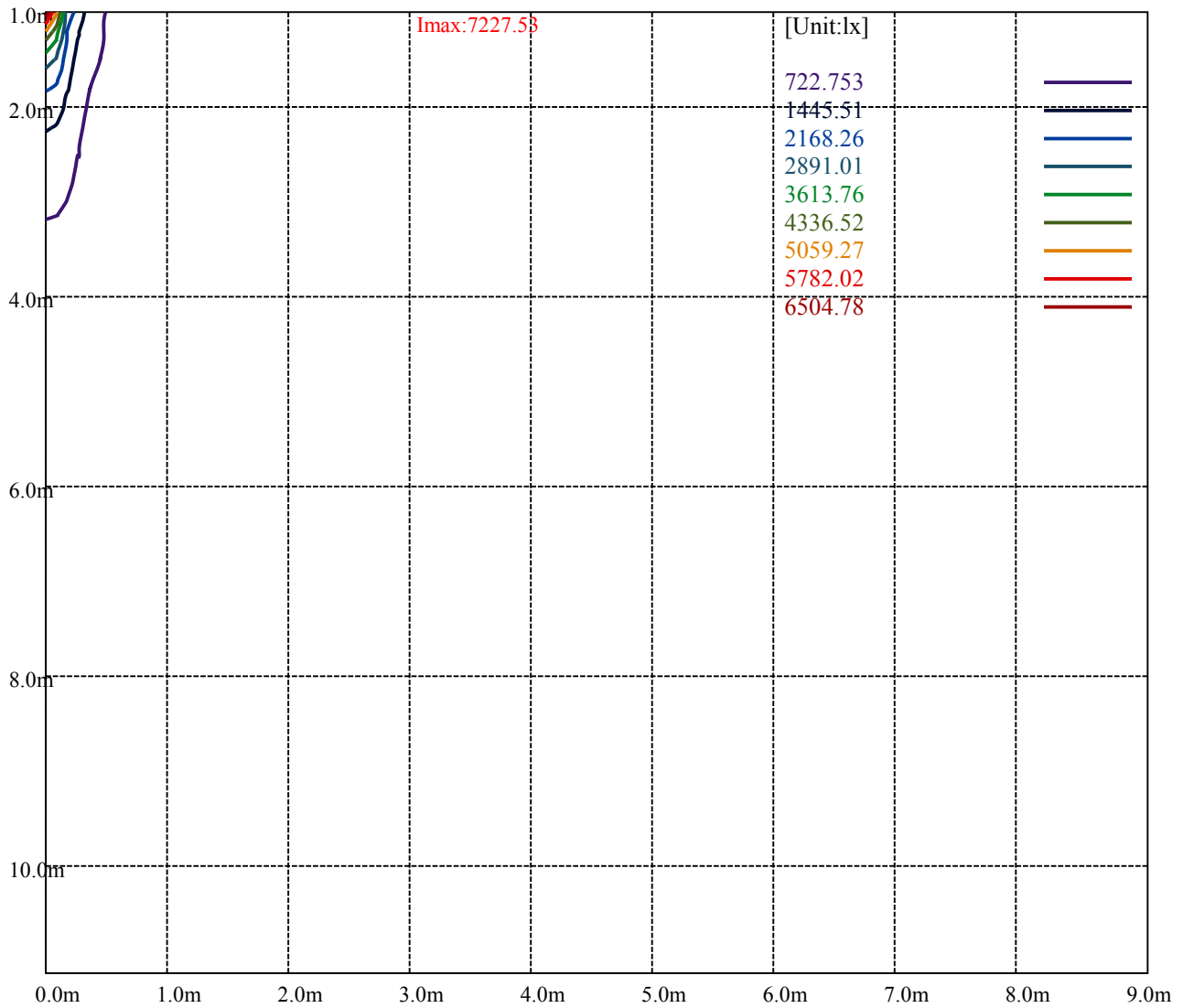
Road

Imax:7227.53

(10%Imax) 722.753	—
(20%Imax) 1445.51	—
(30%Imax) 2168.26	—
(40%Imax) 2891.01	—
(50%Imax) 3613.76	—
(60%Imax) 4336.52	—
(70%Imax) 5059.27	—
(80%Imax) 5782.02	—
(90%Imax) 6504.78	—



- (10%Emax) 80.30578
- (20%Emax) 160.6111
- (30%Emax) 240.9178
- (40%Emax) 321.2233
- (50%Emax) 401.5289
- (60%Emax) 481.8344
- (70%Emax) 562.1411
- (80%Emax) 642.4467
- (90%Emax) 722.7522



Luminance Table

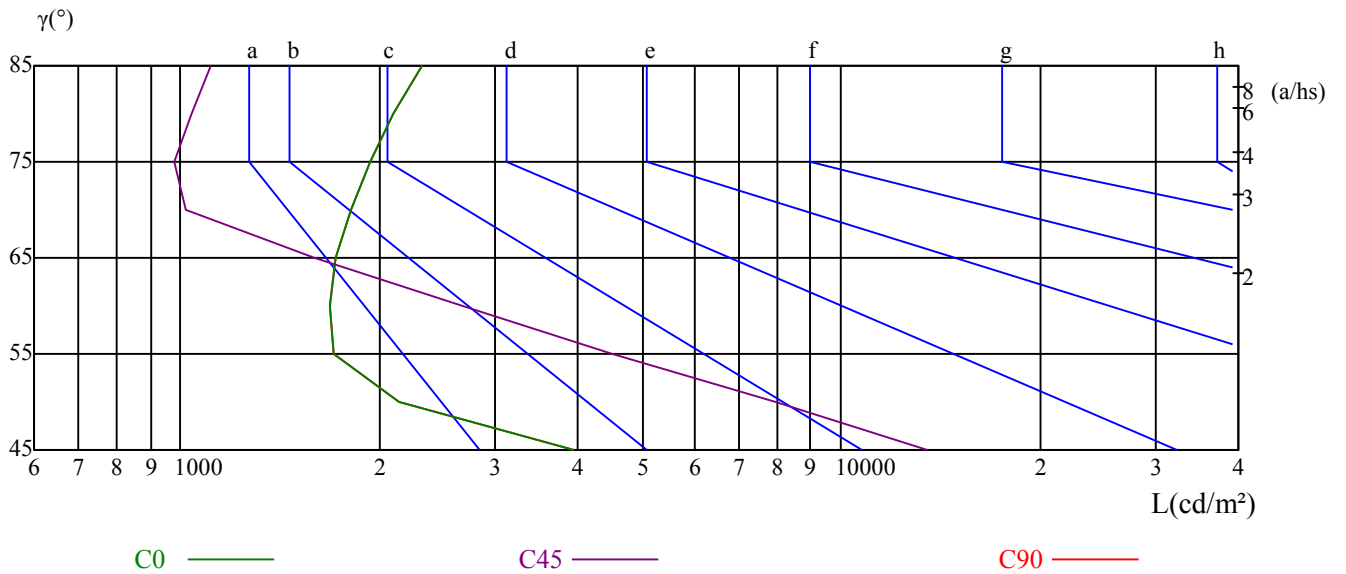
γ	45	50	55	60	65	70	75	80	85
C0	3952	2140	1709	1685	1721	1812	1932	2096	2326
C45	13510	7950	4518	2679	1591	1016	981	1041	1113
C90	3952	2140	1709	1685	1721	1812	1932	2096	2326

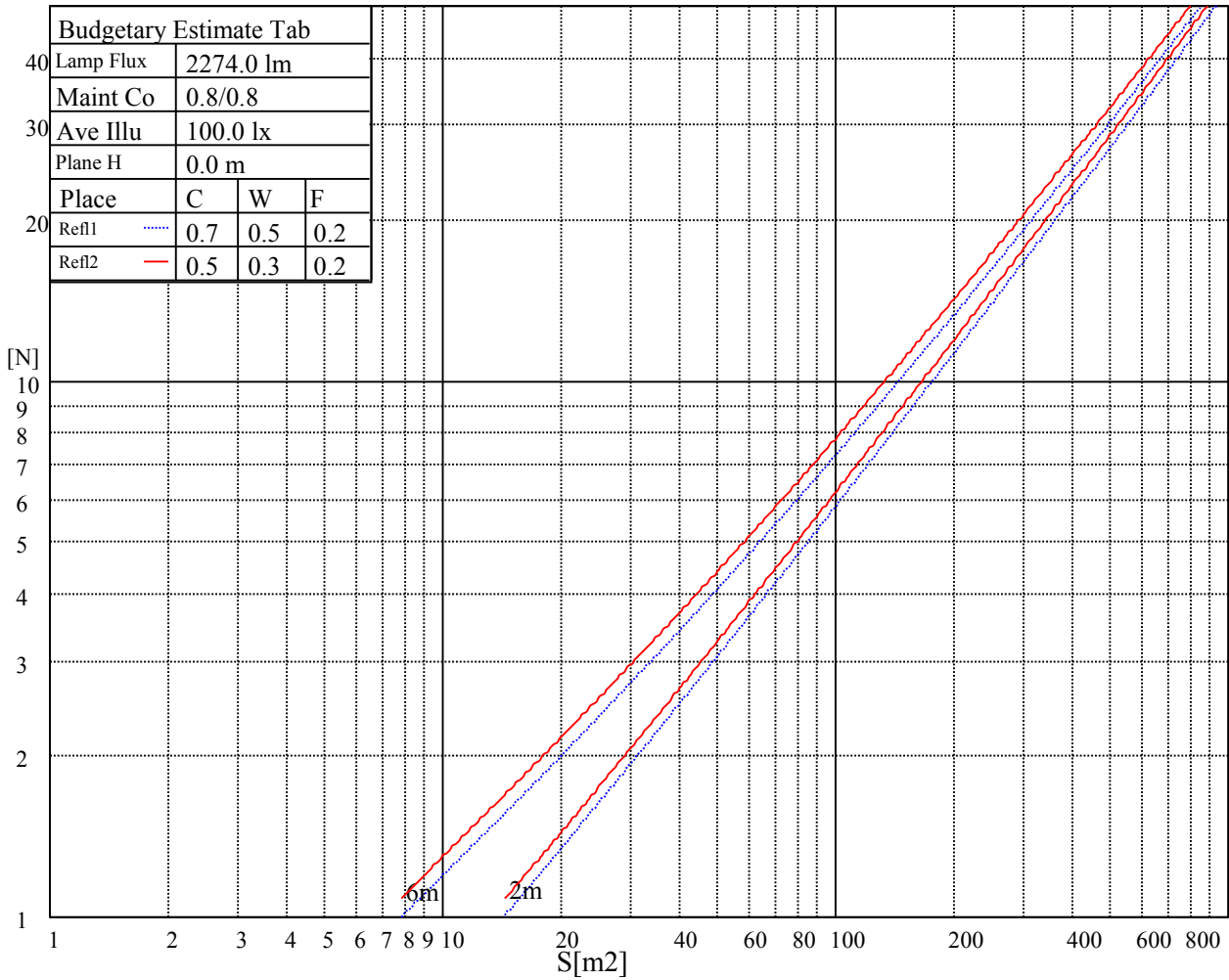
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3988	3988	4556	6360	6360	4162	18661	18661	12167

Glare Table

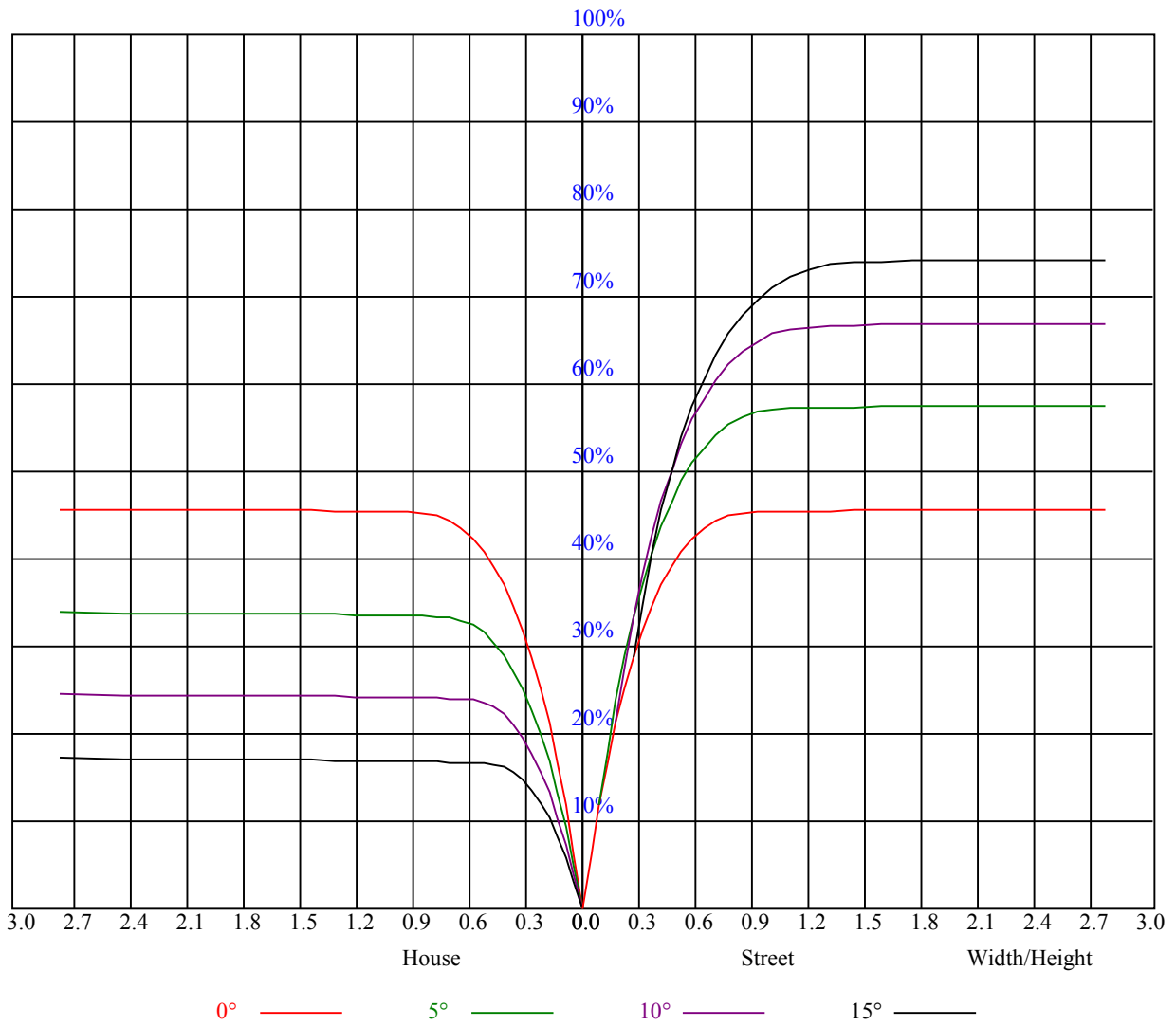
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.10	1.10	1.10	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.02	1.00	0.98	1.00	0.99	0.97	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87
2	0.96	0.93	0.90	0.95	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.87	0.85	0.84	0.82
3	0.91	0.87	0.83	0.90	0.86	0.83	0.87	0.84	0.82	0.85	0.82	0.80	0.83	0.81	0.79	0.78
4	0.86	0.81	0.78	0.85	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.74
5	0.82	0.77	0.73	0.81	0.76	0.73	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.70
6	0.78	0.73	0.69	0.77	0.72	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
7	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.63
8	0.71	0.66	0.63	0.70	0.66	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.61
9	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.58
10	0.65	0.60	0.57	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56



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	7318.10	7258.09	7010.88	6699.81	6305.06	5554.09	4813.58	4257.51	3562.15
90.0	7136.96	7291.12	7319.75	7276.25	7103.38	6806.07	6397.00	5767.71	5111.44
180.0	7318.10	7297.18	7176.05	6938.21	6599.06	6035.83	5317.90	4640.70	3944.24
270.0	7136.96	6902.42	6548.41	5910.86	5261.19	4579.59	3843.49	3366.15	3000.57
360.0	7318.10	7258.09	7010.88	6699.81	6305.06	5554.09	4813.58	4257.51	3562.15
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3107.93	2850.82	2622.34	2505.07	2409.27	2299.16	2202.26	2108.66	1978.18
90.0	4383.59	3738.88	3287.42	2957.63	2695.01	2573.34	2478.09	2365.77	2270.53
180.0	3440.47	3014.34	2752.27	2612.43	2495.16	2395.50	2300.81	2205.01	2078.93
270.0	2716.48	2576.64	2467.08	2344.30	2264.47	2153.26	2022.22	1926.97	1815.21
360.0	3107.93	2850.82	2622.34	2505.07	2409.27	2299.16	2202.26	2108.66	1978.18
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1865.86	1761.25	1638.48	1545.98	1460.10	1370.35	1288.32	1221.70	1150.13
90.0	2175.83	2061.86	1950.10	1844.94	1722.71	1615.91	1524.51	1425.41	1347.78
180.0	1981.48	1878.52	1772.82	1650.04	1558.10	1470.01	1366.50	1292.72	1221.15
270.0	1673.71	1590.58	1486.52	1381.37	1315.30	1242.07	1168.85	1095.13	1051.74
360.0	1865.86	1761.25	1638.48	1545.98	1460.10	1370.35	1288.32	1221.70	1150.13
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1093.42	1035.61	985.51	945.87	905.13	863.28	802.17	726.74	614.43
90.0	1264.09	1183.16	1123.70	1066.44	1002.58	955.78	915.04	864.39	795.56
180.0	1094.63	1080.32	1027.19	972.02	926.82	880.57	821.61	745.85	645.43
270.0	1003.90	953.36	917.51	883.66	826.62	742.05	652.97	542.86	442.71
360.0	1093.42	1035.61	985.51	945.87	905.13	863.28	802.17	726.74	614.43
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	520.28	424.48	320.98	285.74	136.15	68.49	34.30	27.53	24.56
90.0	706.37	593.51	494.96	394.20	293.45	282.44	124.76	73.61	33.97
180.0	538.07	443.75	348.84	241.26	164.12	100.15	47.68	28.19	25.66
270.0	333.37	234.26	155.86	85.61	40.85	27.97	25.49	22.19	19.55
360.0	520.28	424.48	320.98	285.74	136.15	68.49	34.30	27.53	24.56
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	22.08	19.32	16.68	14.65	12.94	11.51	10.63	9.97	9.41
90.0	26.54	23.84	20.98	18.39	15.91	13.98	12.55	11.56	10.24
180.0	22.63	19.71	17.23	14.76	12.99	11.56	10.63	9.80	9.25
270.0	17.18	14.70	12.72	11.40	10.35	9.63	9.30	9.14	9.03
360.0	22.08	19.32	16.68	14.65	12.94	11.51	10.63	9.97	9.41
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.25	9.08	8.92	8.81	8.75	8.64	8.53	8.48	8.37
90.0	9.58	9.36	9.14	9.03	8.92	8.81	8.70	8.64	8.59
180.0	8.97	8.86	8.81	8.48	8.59	8.53	8.42	8.37	8.31
270.0	8.92	8.75	8.64	8.59	8.53	8.48	8.42	8.31	8.31
360.0	9.25	9.08	8.92	8.81	8.75	8.64	8.53	8.48	8.37
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.31	8.26	8.26	8.26	8.20	8.15	8.15	8.15	8.09
90.0	8.53	8.48	8.37	8.37	8.31	8.31	8.26	8.26	8.20
180.0	8.31	8.31	8.20	8.20	8.20	8.15	8.15	8.15	8.09
270.0	8.26	8.26	8.20	8.20	8.15	8.09	8.15	8.09	8.09
360.0	8.31	8.26	8.26	8.26	8.20	8.15	8.15	8.15	8.09

Nata 2-1566-M

Intensity data(cd)									
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.04	8.09	8.04	8.04	8.04	8.04	8.04	7.98	7.98
90.0	8.15	8.15	8.15	8.15	8.15	8.09	8.04	8.04	8.04
180.0	8.09	8.04	8.04	8.04	8.04	8.04	7.98	7.98	7.98
270.0	8.09	8.04	8.04	8.04	8.04	8.04	8.04	7.98	7.98
360.0	8.04	8.09	8.04	8.04	8.04	8.04	8.04	7.98	7.98
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	8.04	7.98	7.98	7.93	7.98	7.93	7.93	7.98	7.98
90.0	8.04	8.04	7.98	8.04	7.98	8.04	8.04	8.04	7.98
180.0	7.98	7.98	7.93	7.93	7.93	7.93	7.93	7.87	7.93
270.0	7.98	7.98	7.98	7.93	7.98	7.93	7.93	7.93	7.93
360.0	8.04	7.98	7.98	7.93	7.98	7.93	7.93	7.98	7.98
C/γ(°)	90.0								
0.0	7.98								
90.0	7.93								
180.0	7.93								
270.0	7.98								
360.0	7.98								