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Nata

LumCAT: 3-1938-M	
Luminaire: BJB 47.319.2021	
Report No: GC2017050310	Voltage(V): 35.3000
Test No: NT-0010	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): 78	Width(mm): 78
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2082.97
Efficiency(%): 91.60%
Lumens(lm)/Power(W): 118.02
Central intensity(cd): 9975.945
Maximum intensity(cd): 9975.945
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=14.4
 [C90/270]Total=14.4
Field angle(10%Imax): [C0/180]Total=57.5
 [C90/270]Total=57.5
Maximum s/h(1/2): C0_180=0.25 C90_270=0.25
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.60%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.767%

Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/5/3
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	9975.944	0.000	0	.000%	.000%
1.0	9848.626	9.486	9.486	.417%	.455%
2.0	9515.673	27.793	37.279	1.222%	1.790%
3.0	8897.114	44.037	81.317	1.937%	3.904%
4.0	8067.277	56.785	138.102	2.497%	6.630%
5.0	7099.247	65.246	203.347	2.869%	9.762%
6.0	6102.176	69.377	272.724	3.051%	13.093%
7.0	5115.015	69.625	342.349	3.062%	16.436%
8.0	4436.720	68.360	410.709	3.006%	19.717%
9.0	3773.290	66.538	477.247	2.926%	22.912%
10.0	3358.027	64.536	541.783	2.838%	26.010%
11.0	3104.217	64.571	606.354	2.840%	29.110%
12.0	2888.534	65.509	671.863	2.881%	32.255%
13.0	2723.915	66.606	738.469	2.929%	35.453%
14.0	2579.668	67.885	806.354	2.985%	38.712%
15.0	2442.027	68.940	875.294	3.032%	42.021%
16.0	2300.669	69.494	944.788	3.056%	45.358%
17.0	2167.295	69.578	1014.366	3.060%	48.698%
18.0	2024.837	69.119	1083.485	3.040%	52.016%
19.0	1900.960	68.301	1151.786	3.004%	55.295%
20.0	1780.249	67.376	1219.163	2.963%	58.530%
21.0	1665.181	66.159	1285.322	2.909%	61.706%
22.0	1565.116	64.914	1350.236	2.855%	64.823%
23.0	1470.281	63.691	1413.927	2.801%	67.880%
24.0	1371.868	62.140	1476.066	2.733%	70.863%
25.0	1281.575	60.333	1536.4	2.653%	73.760%
26.0	1181.221	58.135	1594.534	2.556%	76.551%
27.0	1118.402	56.261	1650.795	2.474%	79.252%
28.0	1049.279	54.881	1705.676	2.413%	81.887%
29.0	980.486	53.104	1758.781	2.335%	84.436%
30.0	905.884	50.932	1809.712	2.240%	86.881%
31.0	806.218	47.645	1857.358	2.095%	89.169%
32.0	688.288	42.816	1900.173	1.883%	91.224%
33.0	569.861	37.066	1937.239	1.630%	93.004%
34.0	448.187	30.809	1968.048	1.355%	94.483%
35.0	334.825	24.317	1992.366	1.069%	95.650%
36.0	226.557	17.875	2010.24	.786%	96.508%
37.0	157.792	12.535	2022.775	.551%	97.110%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	73.308	7.714	2030.489	.339%	97.480%
39.0	41.857	3.931	2034.42	.173%	97.669%
40.0	30.006	2.506	2036.926	.110%	97.789%
41.0	25.959	1.993	2038.919	.088%	97.885%
42.0	22.270	1.752	2040.672	.077%	97.969%
43.0	18.953	1.527	2042.199	.067%	98.042%
44.0	16.324	1.331	2043.53	.059%	98.106%
45.0	14.260	1.175	2044.705	.052%	98.163%
46.0	12.525	1.048	2045.753	.046%	98.213%
47.0	11.438	0.953	2046.706	.042%	98.259%
48.0	10.653	0.893	2047.599	.039%	98.302%
49.0	10.048	0.850	2048.449	.037%	98.343%
50.0	9.731	0.825	2049.274	.036%	98.382%
51.0	9.483	0.813	2050.087	.036%	98.421%
52.0	9.277	0.805	2050.892	.035%	98.460%
53.0	9.126	0.801	2051.692	.035%	98.498%
54.0	8.974	0.798	2052.49	.035%	98.537%
55.0	8.864	0.796	2053.286	.035%	98.575%
56.0	8.754	0.796	2054.082	.035%	98.613%
57.0	8.644	0.795	2054.878	.035%	98.651%
58.0	8.589	0.797	2055.675	.035%	98.689%
59.0	8.534	0.800	2056.475	.035%	98.728%
60.0	8.506	0.805	2057.28	.035%	98.767%
61.0	8.437	0.809	2058.089	.036%	98.805%
62.0	8.396	0.811	2058.9	.036%	98.844%
63.0	8.369	0.815	2059.715	.036%	98.883%
64.0	8.341	0.820	2060.535	.036%	98.923%
65.0	8.286	0.823	2061.358	.036%	98.962%
66.0	8.245	0.825	2062.183	.036%	99.002%
67.0	8.231	0.828	2063.011	.036%	99.042%
68.0	8.217	0.833	2063.845	.037%	99.082%
69.0	8.203	0.838	2064.682	.037%	99.122%
70.0	8.190	0.842	2065.524	.037%	99.162%
71.0	8.148	0.844	2066.369	.037%	99.203%
72.0	8.148	0.847	2067.216	.037%	99.244%
73.0	8.135	0.851	2068.067	.037%	99.284%
74.0	8.148	0.856	2068.924	.038%	99.325%
75.0	8.135	0.860	2069.784	.038%	99.367%

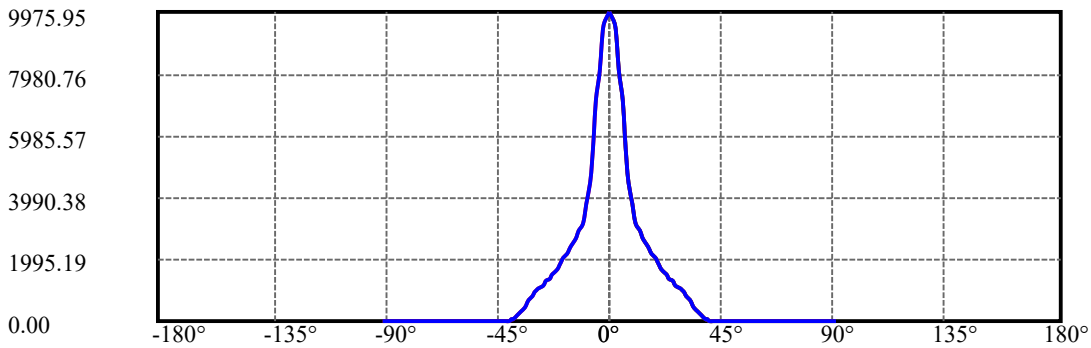
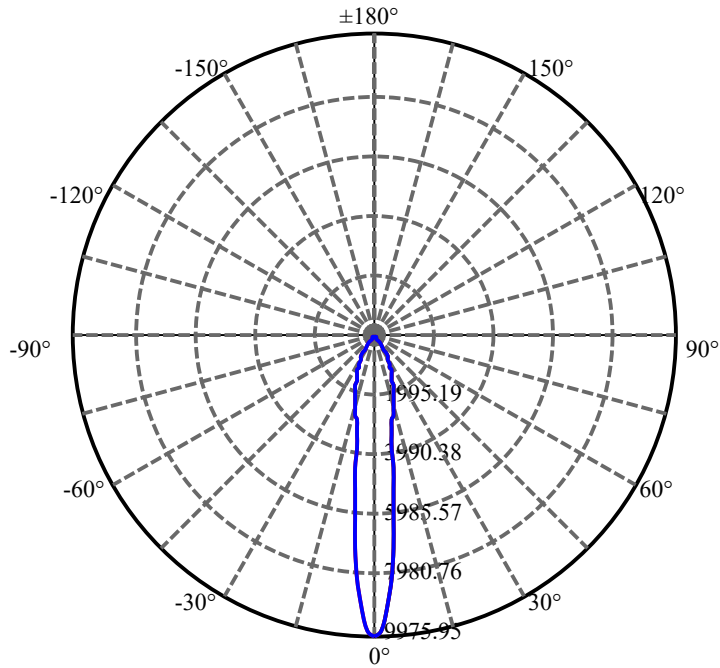
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.107	0.862	2070.646	.038%	99.408%
77.0	8.135	0.866	2071.512	.038%	99.450%
78.0	8.121	0.870	2072.382	.038%	99.492%
79.0	8.107	0.872	2073.254	.038%	99.533%
80.0	8.080	0.873	2074.127	.038%	99.575%
81.0	8.093	0.875	2075.001	.038%	99.617%
82.0	8.121	0.879	2075.881	.039%	99.659%
83.0	8.107	0.882	2076.763	.039%	99.702%
84.0	8.135	0.885	2077.648	.039%	99.744%
85.0	8.107	0.886	2078.534	.039%	99.787%
86.0	8.093	0.886	2079.42	.039%	99.829%
87.0	8.135	0.888	2080.308	.039%	99.872%
88.0	8.162	0.893	2081.2	.039%	99.915%
89.0	8.066	0.889	2082.09	.039%	99.958%
90.0	8.052	0.884	2082.974	.039%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1809.71	79.58%	86.88%
0-40	2036.93	89.57%	97.79%
0-60	2057.28	90.47%	98.77%
0-90	2082.09	91.56%	99.96%
0-120	2082.09	91.56%	99.96%
0-180	2082.97	91.60%	100.00%
60-90	25.61	1.13%	1.23%
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%
0-27.28	1666.38	73.28%	80.00%

ZONAL LUMEN SUMMARY

0-10	541.78
10-20	677.38
20-30	590.55
30-40	227.21
40-50	12.35
50-60	8.01
60-70	8.24
70-80	8.60
80-90	7.96
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: —————

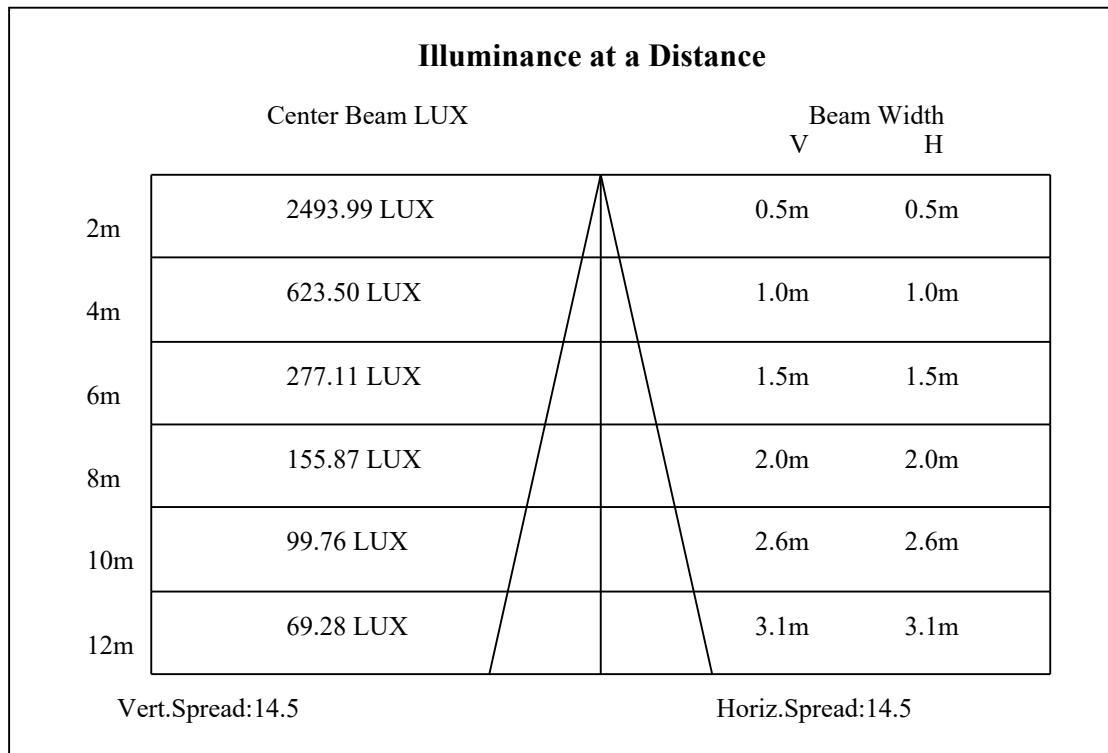
C90/C270: —————

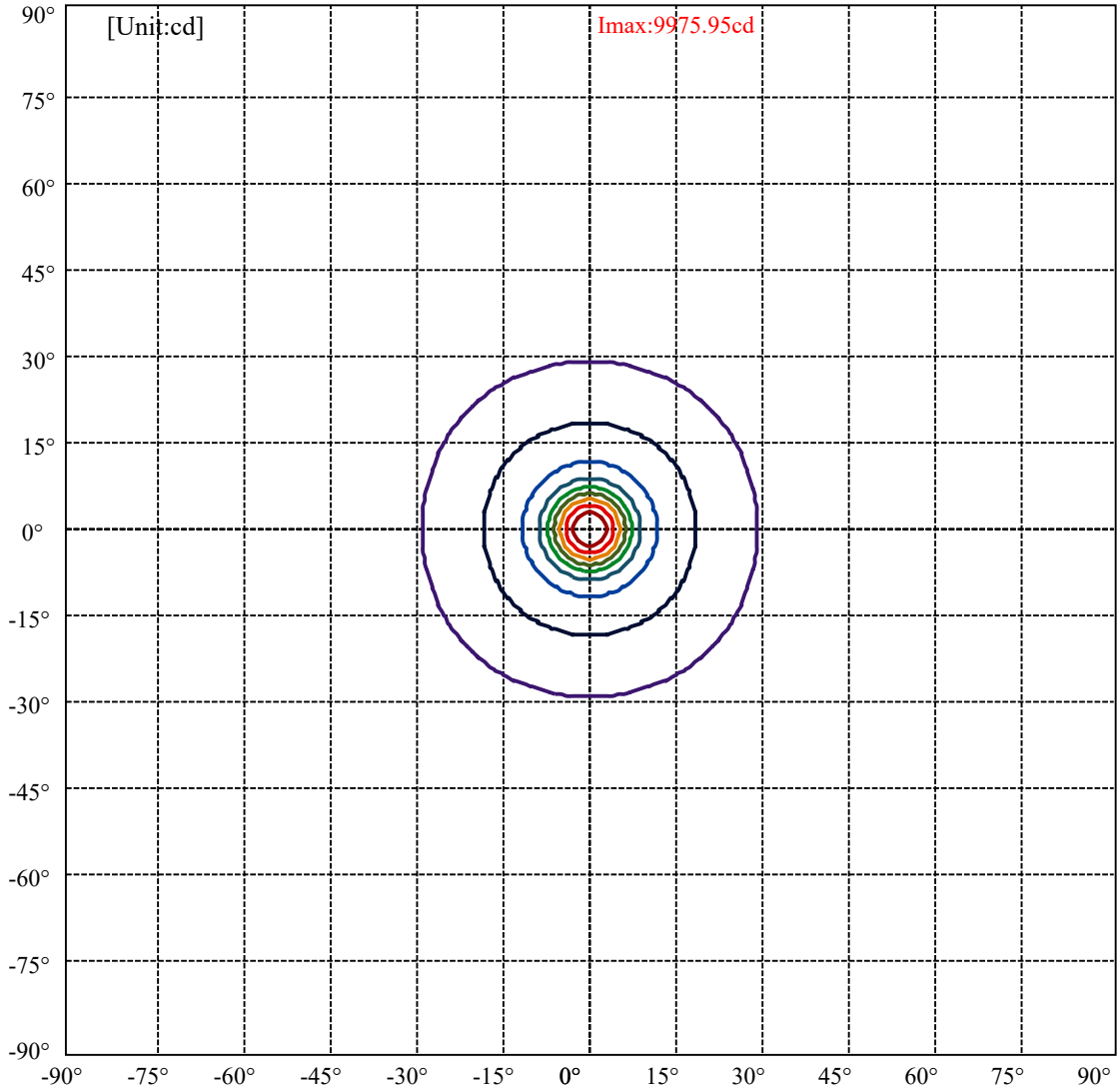
Field angle(10%Imax):C0/180Left:28.8 Right:28.8

:C90/270Left:28.8 Right:28.8

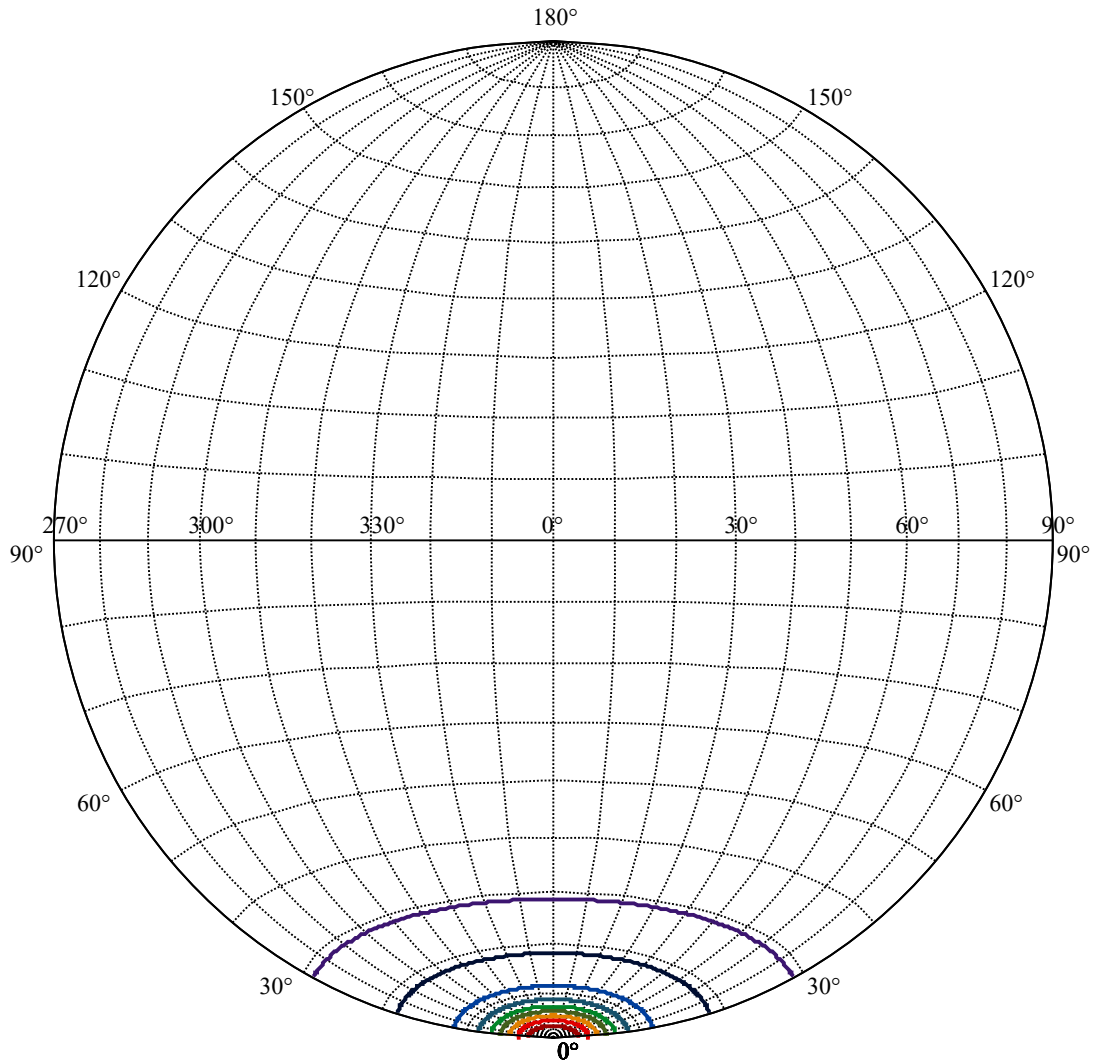
Beam Angle(50%Imax):C0/180Left:7.2 Right:7.2

:C90/270Left:7.2 Right:7.2





(10%Imax)	997.595	—
(20%Imax)	1995.19	—
(30%Imax)	2992.78	—
(40%Imax)	3990.38	—
(50%Imax)	4987.97	—
(60%Imax)	5985.57	—
(70%Imax)	6983.16	—
(80%Imax)	7980.76	—
(90%Imax)	8978.35	—



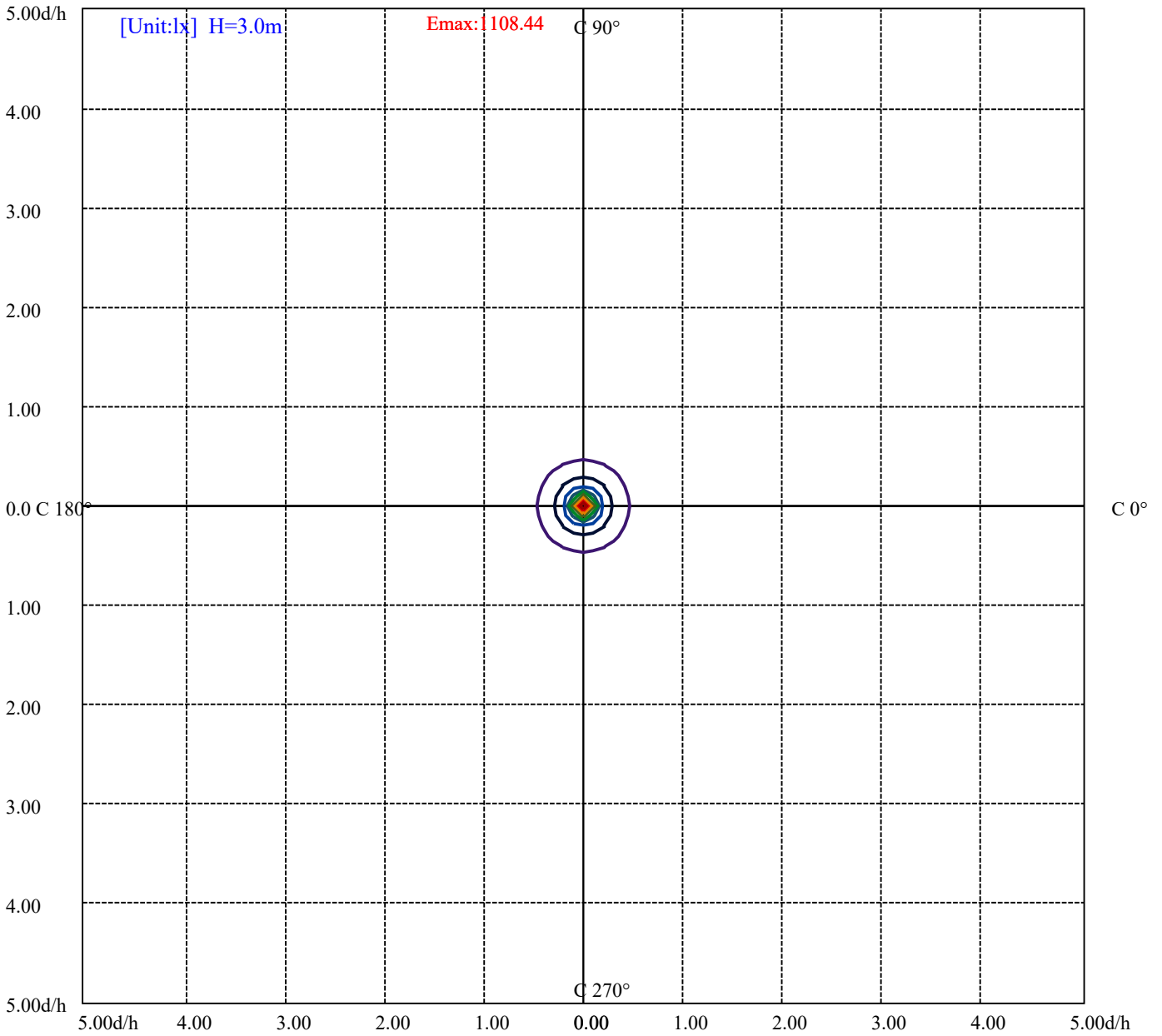
House

[Unit:cd]

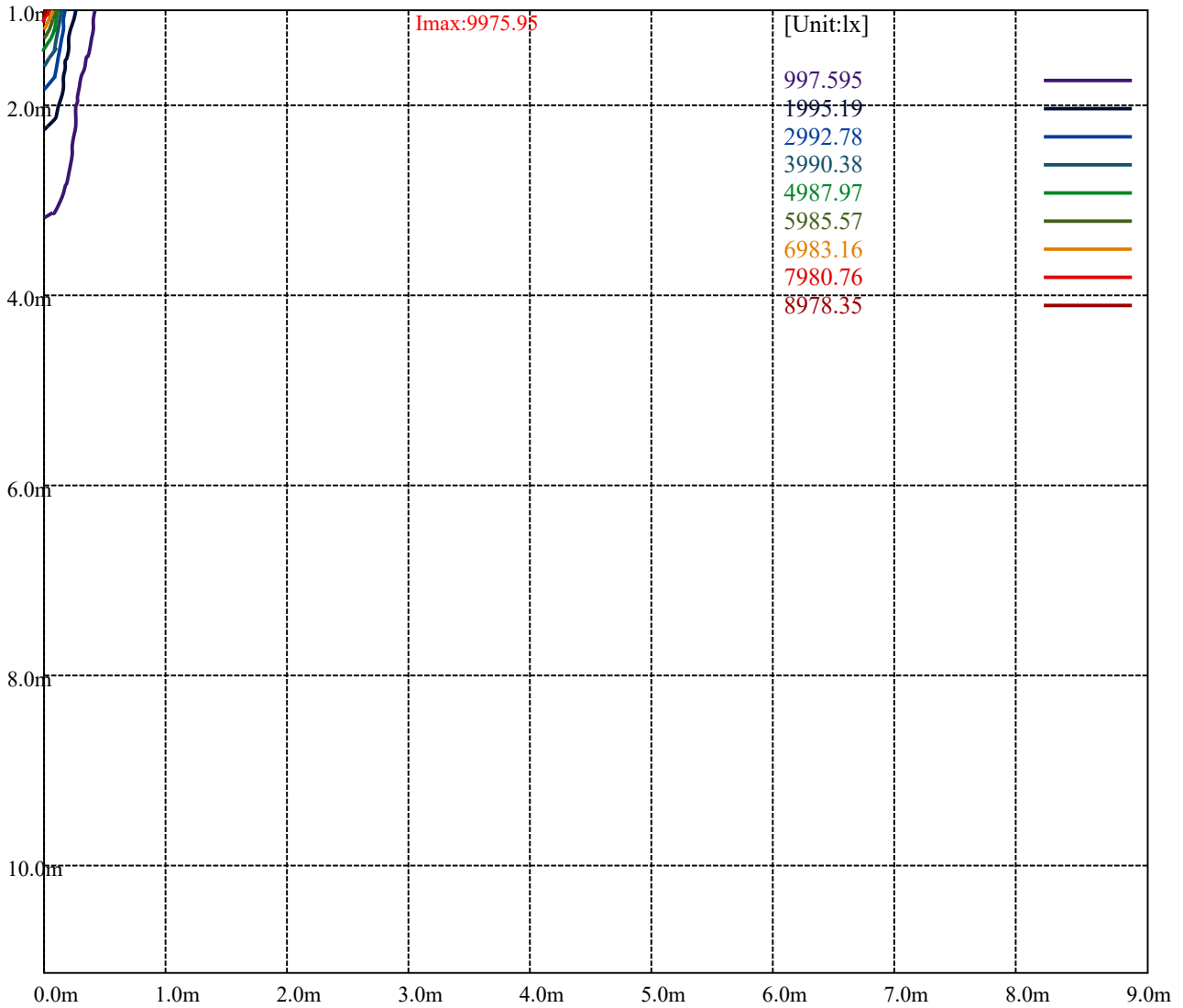
Road

Imax:9975.95

(10%Imax)	997.595	—
(20%Imax)	1995.19	—
(30%Imax)	2992.78	—
(40%Imax)	3990.38	—
(50%Imax)	4987.97	—
(60%Imax)	5985.57	—
(70%Imax)	6983.16	—
(80%Imax)	7980.76	—
(90%Imax)	8978.35	—



- (10%Emax) 110.8437
- (20%Emax) 221.6878
- (30%Emax) 332.5311
- (40%Emax) 443.3745
- (50%Emax) 554.2178
- (60%Emax) 665.0623
- (70%Emax) 775.9055
- (80%Emax) 886.7489
- (90%Emax) 997.5922



Luminance Table

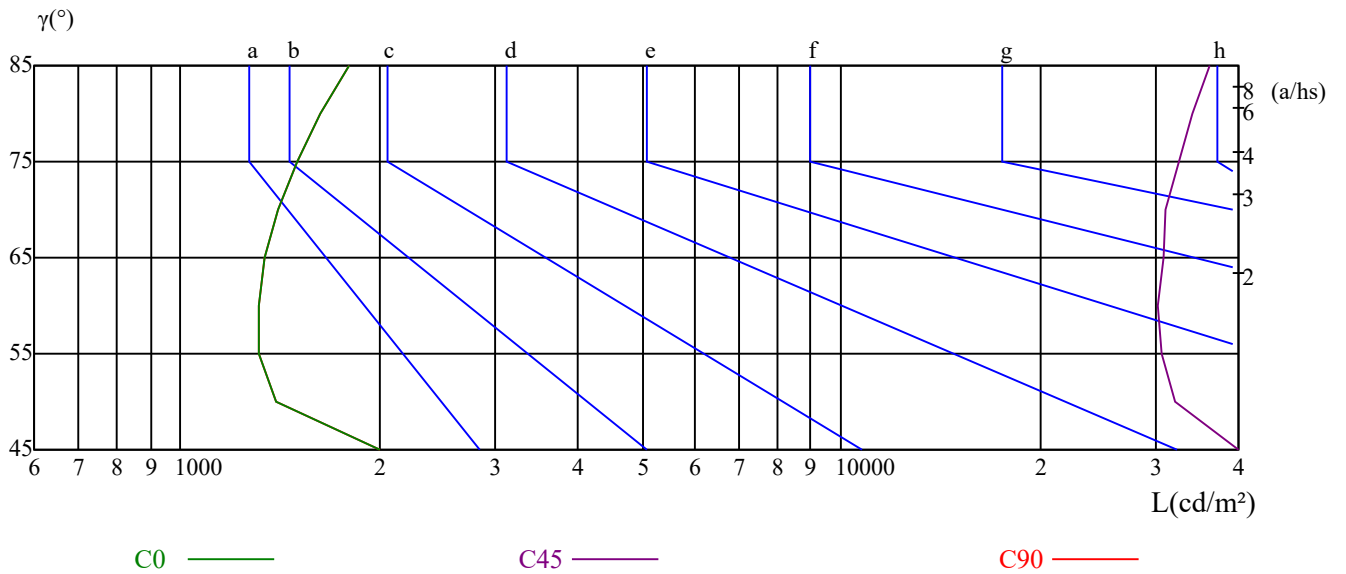
γ	45	50	55	60	65	70	75	80	85
C0	2004	1399	1314	1311	1342	1407	1502	1624	1804
C45	44357	32013	30618	30120	30773	30952	32400	34115	36123
C90	2004	1399	1314	1311	1342	1407	1502	1624	1804

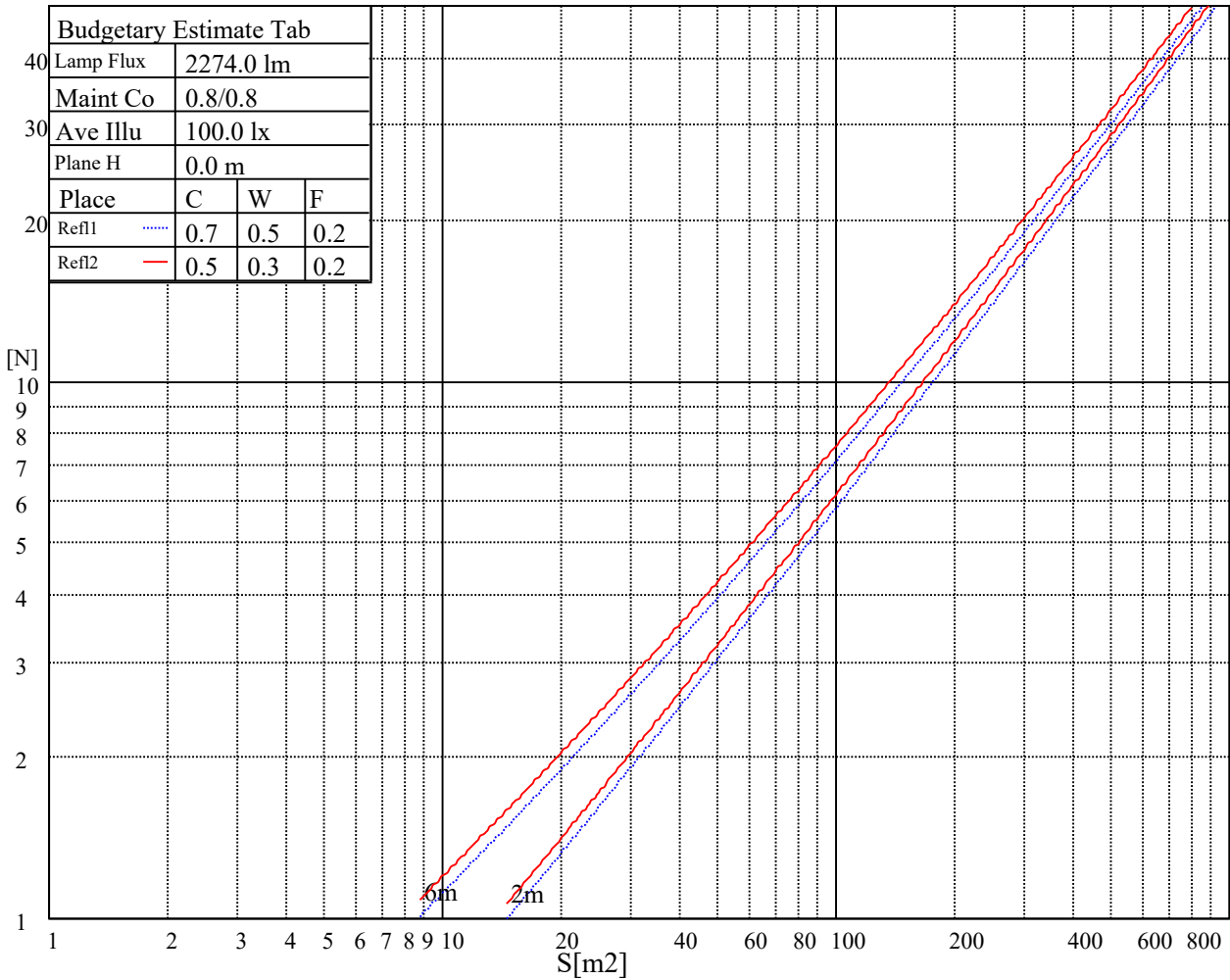
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3223	3223	91796	5166	5166	144209	15289	15289	417915

Glare Table

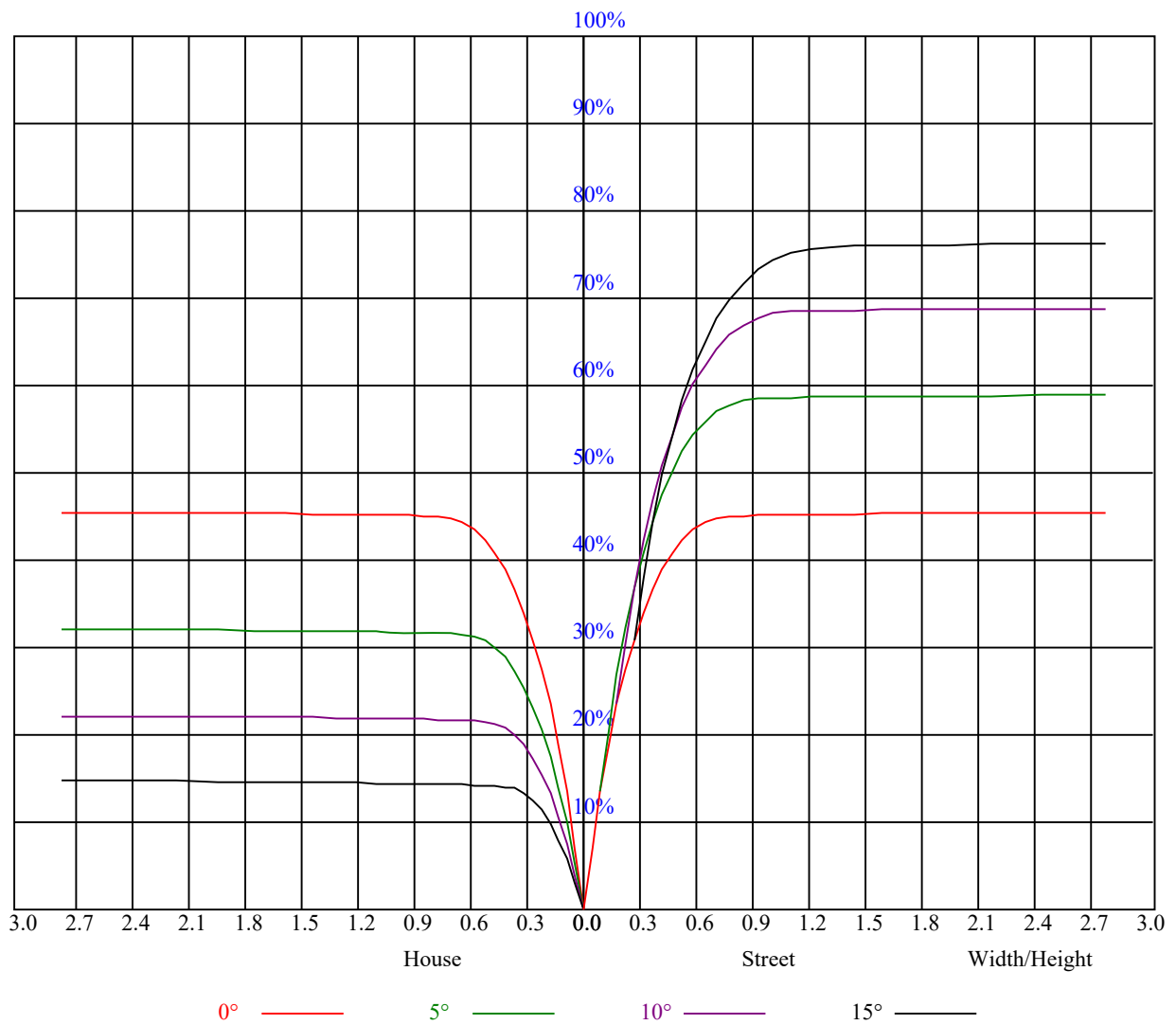
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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 RHOF=20 CU															
0	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	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	0.89	0.87
2	0.97	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.88	0.86	0.87	0.85	0.84	0.83
3	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.79	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.77	0.81	0.78	0.76	0.75
5	0.83	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.74	0.78	0.75	0.73	0.72
6	0.79	0.75	0.71	0.79	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
7	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.64	0.63
9	0.70	0.65	0.63	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.59



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	10009.80	10013.66	9791.23	9296.82	8605.32	7573.56	6476.83	5551.89	4735.95
90.0	9942.08	10036.23	9897.49	9507.14	8937.86	8059.16	7018.04	6063.36	5291.47
180.0	10009.80	9764.80	9323.25	8589.90	7603.29	6640.90	5701.64	4581.79	4022.42
270.0	9942.08	9579.81	9050.72	8194.59	7122.65	6123.37	5212.19	4263.02	3697.04
360.0	10009.80	10013.66	9791.23	9296.82	8605.32	7573.56	6476.83	5551.89	4735.95
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3939.84	3500.49	3203.73	2969.19	2788.61	2649.31	2503.97	2359.17	2227.58
90.0	4291.10	3750.44	3405.79	3081.51	2882.20	2737.40	2584.90	2434.59	2306.31
180.0	3556.64	3182.81	2981.85	2820.54	2667.48	2524.34	2394.95	2249.05	2119.12
270.0	3305.59	2998.37	2825.49	2682.90	2557.37	2407.62	2284.29	2159.86	2016.17
360.0	3939.84	3500.49	3203.73	2969.19	2788.61	2649.31	2503.97	2359.17	2227.58
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2081.68	1962.21	1839.98	1725.47	1628.02	1534.42	1425.41	1338.97	1259.69
90.0	2158.76	2026.08	1888.43	1762.91	1657.20	1556.99	1441.93	1354.94	1272.90
180.0	1978.18	1846.59	1738.13	1625.26	1518.46	1428.71	1340.62	1237.67	1096.17
270.0	1880.73	1768.96	1654.44	1547.08	1456.79	1360.99	1279.51	1194.72	1096.12
360.0	2081.68	1962.21	1839.98	1725.47	1628.02	1534.42	1425.41	1338.97	1259.69
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1163.34	1092.87	1027.90	968.44	867.69	760.88	644.16	501.56	394.75
90.0	1176.56	1111.04	1048.27	978.90	910.08	817.04	689.31	558.82	441.55
180.0	1087.47	1011.11	940.97	861.03	741.06	611.35	496.77	393.98	277.70
270.0	1046.24	982.10	904.80	815.17	706.04	563.89	449.21	338.38	225.29
360.0	1163.34	1092.87	1027.90	968.44	867.69	760.88	644.16	501.56	394.75
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	288.50	177.34	92.05	49.06	32.15	28.46	24.94	21.03	18.22
90.0	315.47	289.05	120.79	56.16	33.47	29.35	24.33	20.92	18.11
180.0	173.48	98.11	44.82	31.82	28.13	24.11	20.98	17.78	15.09
270.0	128.78	66.67	35.57	30.39	26.26	21.91	18.83	16.08	13.87
360.0	288.50	177.34	92.05	49.06	32.15	28.46	24.94	21.03	18.22
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	15.64	13.05	11.84	11.07	10.35	9.97	9.69	9.47	9.30
90.0	15.53	13.82	12.77	11.40	10.24	9.86	9.52	9.30	9.19
180.0	13.32	11.78	10.68	10.19	9.91	9.63	9.41	9.19	9.03
270.0	12.55	11.45	10.46	9.97	9.69	9.47	9.30	9.14	8.97
360.0	15.64	13.05	11.84	11.07	10.35	9.97	9.69	9.47	9.30
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.03	8.97	8.86	8.70	8.64	8.64	8.59	8.48	8.48
90.0	9.03	8.92	8.75	8.64	8.59	8.53	8.53	8.48	8.42
180.0	8.97	8.81	8.75	8.64	8.59	8.48	8.48	8.42	8.31
270.0	8.86	8.75	8.64	8.59	8.53	8.48	8.42	8.37	8.37
360.0	9.03	8.97	8.86	8.70	8.64	8.64	8.59	8.48	8.48
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.42	8.37	8.31	8.31	8.31	8.26	8.26	8.20	8.20
90.0	8.42	8.37	8.31	8.26	8.26	8.20	8.26	8.20	8.20
180.0	8.31	8.31	8.26	8.20	8.20	8.20	8.15	8.15	8.09
270.0	8.31	8.31	8.26	8.20	8.15	8.20	8.15	8.20	8.09
360.0	8.42	8.37	8.31	8.31	8.31	8.26	8.26	8.20	8.20

Nata 3-1938-M

Intensity data(cd)										Appendix Page: 17 Total:17
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	
0.0	8.20	8.15	8.15	8.15	8.15	8.20	8.15	8.09	8.09	
90.0	8.15	8.15	8.20	8.15	8.09	8.15	8.15	8.15	8.15	
180.0	8.09	8.09	8.09	8.09	8.09	8.04	8.09	8.09	8.04	
270.0	8.15	8.15	8.15	8.15	8.09	8.15	8.09	8.09	8.04	
360.0	8.20	8.15	8.15	8.15	8.15	8.20	8.15	8.09	8.09	
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0	
0.0	8.09	8.15	8.09	8.15	8.09	8.04	8.09	8.09	8.04	
90.0	8.15	8.15	8.20	8.20	8.20	8.26	8.31	8.48	8.09	
180.0	8.04	8.09	8.04	8.09	8.04	8.04	8.04	8.04	8.04	
270.0	8.09	8.09	8.09	8.09	8.09	8.04	8.09	8.04	8.09	
360.0	8.09	8.15	8.09	8.15	8.09	8.04	8.09	8.09	8.04	
C/γ(°)	90.0									
0.0	8.04									
90.0	8.09									
180.0	7.98									
270.0	8.09									
360.0	8.04									