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NT

Client: NT

LumCAT: 61-0224-1

Luminaire: 92.70.458.00

Report No: 20250519-B013

Ballast type: AC

Test No: 20250519-C013

LampCAT: CITIZEN CLU7A2

Lamp flux(lm): 624.3

Number of Lamps: 1

Length(mm): 35

Phm Type: C

Voltage(V): 36.360

Current(A): 0.176

Power (W): 6.393

PF: 0.000

Width(mm): 35

Height(mm): 17

Photometric Results

Lumens(lm): 574.32, Efficiency(%): 91.99% , Luminous Efficacy(lm/W): 89.84

Central intensity(cd): 4817.442, Maximum intensity(cd): 4817.442

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=16.0

[C90/270]Total=16.0

Field angle(10%Imax): [C0/180]Total=32.0

[C90/270]Total=32.0

Maximum s/h(1/2): C0_180=0.28 C90_270=0.28

Maximum s/h(1/4): C0_180=0.29 C90_270=0.29

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.99%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.263%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4817.443	0.000	0	0.00%	0.00%
1.0	4779.407	4.592	4.592	0.74%	0.80%
2.0	4661.636	13.551	18.143	2.17%	3.16%
3.0	4426.560	21.736	39.879	3.48%	6.94%
4.0	4115.347	28.592	68.471	4.58%	11.92%
5.0	3757.438	33.868	102.339	5.42%	17.82%
6.0	3332.583	37.260	139.599	5.97%	24.31%
7.0	2926.847	38.852	178.452	6.22%	31.07%
8.0	2422.097	38.281	216.733	6.13%	37.74%
9.0	2104.089	36.682	253.415	5.88%	44.12%
10.0	1689.986	34.335	287.75	5.50%	50.10%
11.0	1411.519	30.990	318.741	4.96%	55.50%
12.0	1164.187	28.156	346.897	4.51%	60.40%
13.0	890.789	24.387	371.284	3.91%	64.65%
14.0	743.029	20.913	392.197	3.35%	68.29%
15.0	593.371	18.347	410.543	2.94%	71.48%
16.0	484.633	15.796	426.339	2.53%	74.23%
17.0	398.036	13.746	440.085	2.20%	76.63%
18.0	319.813	11.836	451.921	1.90%	78.69%
19.0	263.159	10.143	462.063	1.62%	80.45%
20.0	220.674	8.855	470.919	1.42%	82.00%
21.0	194.169	7.966	478.884	1.28%	83.38%
22.0	162.235	7.162	486.046	1.15%	84.63%
23.0	130.807	6.149	492.195	0.98%	85.70%
24.0	111.496	5.298	497.493	0.85%	86.62%
25.0	91.266	4.610	502.103	0.74%	87.43%
26.0	78.343	4.004	506.107	0.64%	88.12%
27.0	67.052	3.557	509.664	0.57%	88.74%
28.0	57.433	3.152	512.816	0.50%	89.29%
29.0	50.432	2.822	515.638	0.45%	89.78%
30.0	44.271	2.557	518.195	0.41%	90.23%
31.0	39.175	2.322	520.517	0.37%	90.63%
32.0	35.071	2.127	522.644	0.34%	91.00%
33.0	31.561	1.963	524.607	0.31%	91.34%
34.0	28.543	1.819	526.426	0.29%	91.66%
35.0	26.139	1.698	528.124	0.27%	91.96%
36.0	24.207	1.603	529.727	0.26%	92.23%
37.0	22.482	1.523	531.25	0.24%	92.50%

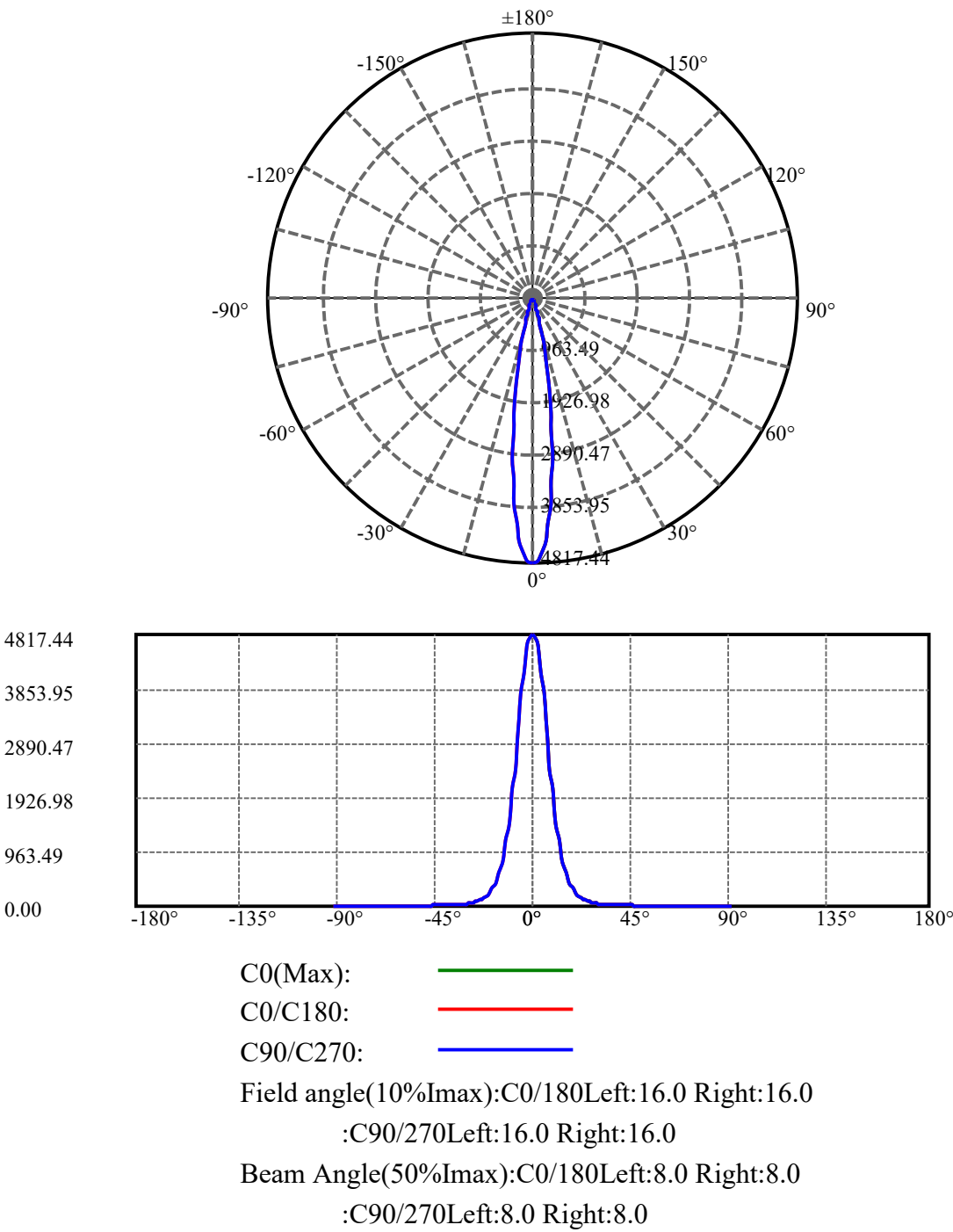
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	20.983	1.451	532.701	0.23%	92.75%
39.0	19.731	1.390	534.09	0.22%	92.99%
40.0	18.558	1.335	535.426	0.21%	93.23%
41.0	17.726	1.292	536.718	0.21%	93.45%
42.0	16.933	1.259	537.977	0.20%	93.67%
43.0	16.300	1.231	539.208	0.20%	93.89%
44.0	15.694	1.208	540.416	0.19%	94.10%
45.0	15.214	1.188	541.603	0.19%	94.30%
46.0	14.835	1.175	542.779	0.19%	94.51%
47.0	14.508	1.167	543.946	0.19%	94.71%
48.0	14.222	1.161	545.107	0.19%	94.91%
49.0	14.042	1.161	546.268	0.19%	95.11%
50.0	13.855	1.163	547.431	0.19%	95.32%
51.0	13.676	1.165	548.596	0.19%	95.52%
52.0	13.489	1.166	549.761	0.19%	95.72%
53.0	13.249	1.163	550.924	0.19%	95.93%
54.0	12.989	1.156	552.081	0.19%	96.13%
55.0	12.636	1.144	553.225	0.18%	96.33%
56.0	12.290	1.126	554.351	0.18%	96.52%
57.0	11.884	1.105	555.456	0.18%	96.71%
58.0	11.497	1.081	556.538	0.17%	96.90%
59.0	10.991	1.051	557.589	0.17%	97.09%
60.0	10.545	1.017	558.606	0.16%	97.26%
61.0	10.078	0.984	559.591	0.16%	97.43%
62.0	9.645	0.950	560.541	0.15%	97.60%
63.0	9.213	0.917	561.458	0.15%	97.76%
64.0	8.773	0.883	562.341	0.14%	97.91%
65.0	8.307	0.845	563.186	0.14%	98.06%
66.0	7.880	0.808	563.994	0.13%	98.20%
67.0	7.454	0.771	564.765	0.12%	98.34%
68.0	7.014	0.733	565.498	0.12%	98.46%
69.0	6.615	0.695	566.193	0.11%	98.58%
70.0	6.202	0.658	566.851	0.11%	98.70%
71.0	5.822	0.621	567.472	0.10%	98.81%
72.0	5.402	0.584	568.056	0.09%	98.91%
73.0	5.029	0.545	568.602	0.09%	99.00%
74.0	4.703	0.512	569.113	0.08%	99.09%
75.0	4.423	0.482	569.595	0.08%	99.18%

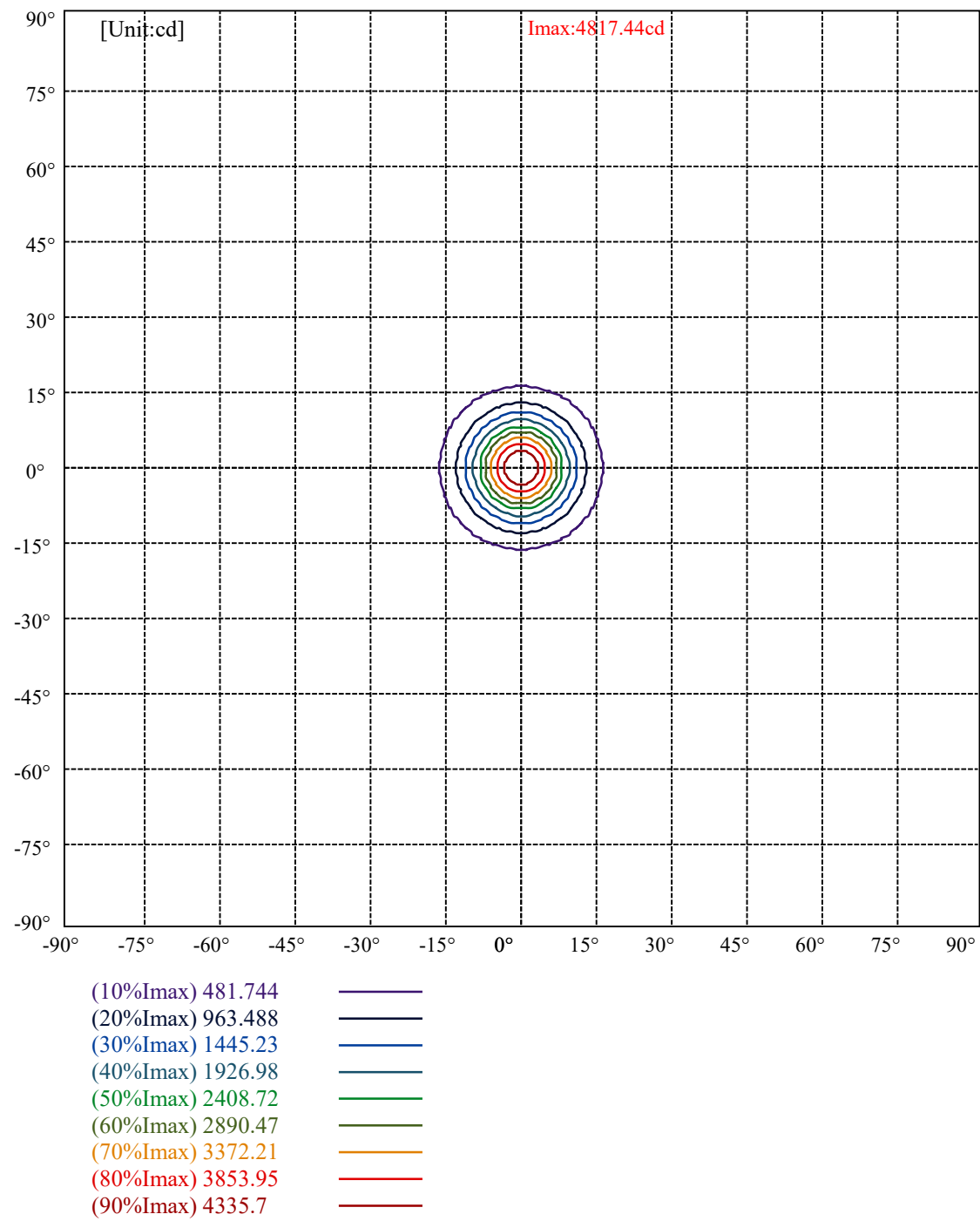
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.090	0.452	570.047	0.07%	99.26%
77.0	3.870	0.424	570.472	0.07%	99.33%
78.0	3.590	0.399	570.871	0.06%	99.40%
79.0	3.391	0.375	571.246	0.06%	99.46%
80.0	3.211	0.356	571.602	0.06%	99.53%
81.0	3.051	0.339	571.941	0.05%	99.59%
82.0	2.924	0.324	572.265	0.05%	99.64%
83.0	2.758	0.309	572.574	0.05%	99.70%
84.0	2.618	0.293	572.866	0.05%	99.75%
85.0	2.485	0.278	573.145	0.04%	99.79%
86.0	2.325	0.263	573.408	0.04%	99.84%
87.0	2.212	0.248	573.656	0.04%	99.88%
88.0	2.065	0.234	573.89	0.04%	99.92%
89.0	1.972	0.221	574.112	0.04%	99.96%
90.0	1.892	0.212	574.323	0.03%	100.00%

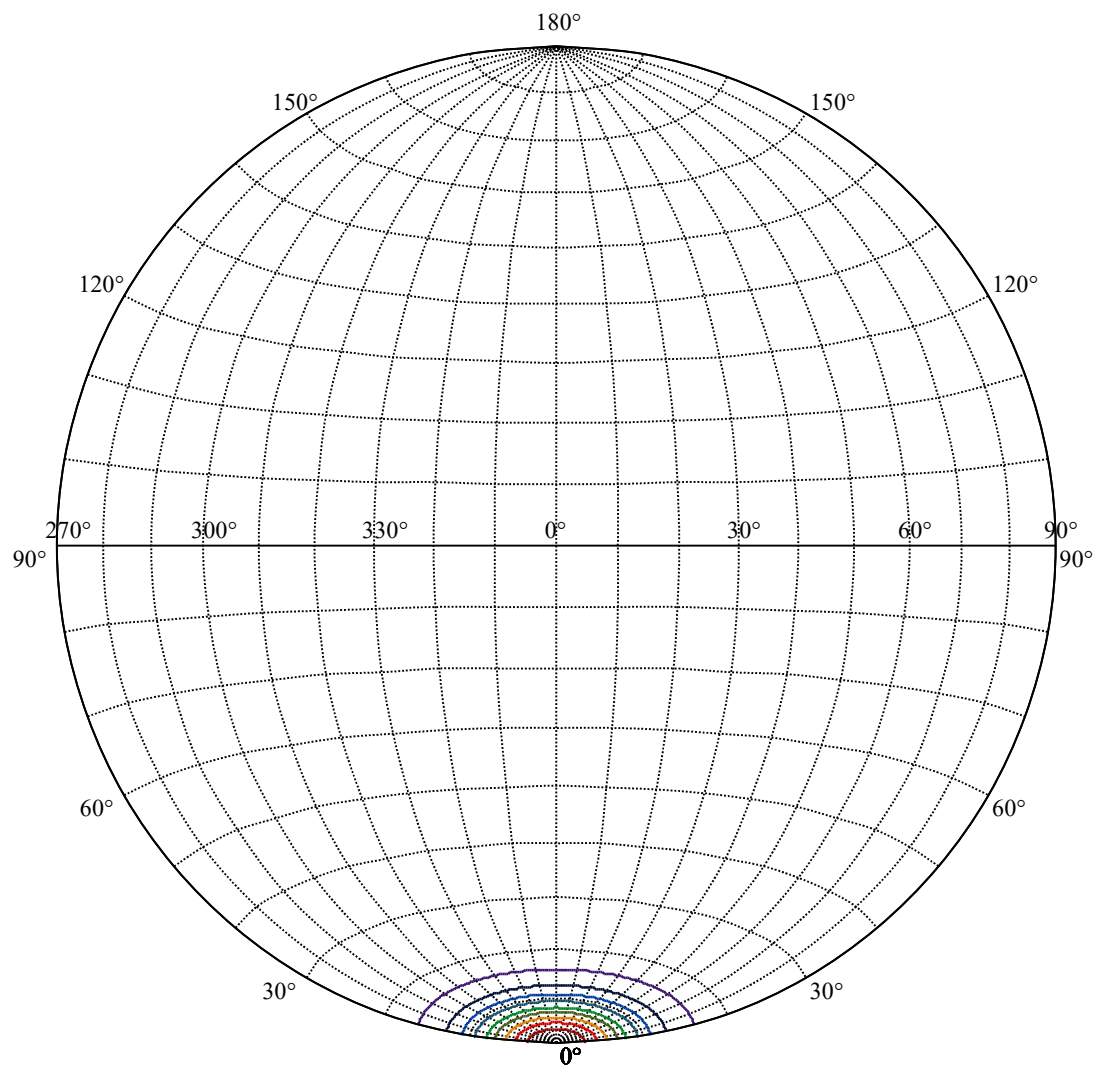
ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	518.19	83.00%	90.23%
0-40	535.43	85.76%	93.23%
0-60	558.61	89.48%	97.26%
0-90	574.11	91.96%	99.96%
0-120	574.11	91.96%	99.96%
0-180	574.32	91.99%	100.00%
60-90	15.51	2.48%	2.70%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-18.74	459.46	73.59%	80.00%

ZONAL LUMEN SUMMARY

0-10	287.75
10-20	183.17
20-30	47.28
30-40	17.23
40-50	12.01
50-60	11.18
60-70	8.24
70-80	4.75
80-90	2.51
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





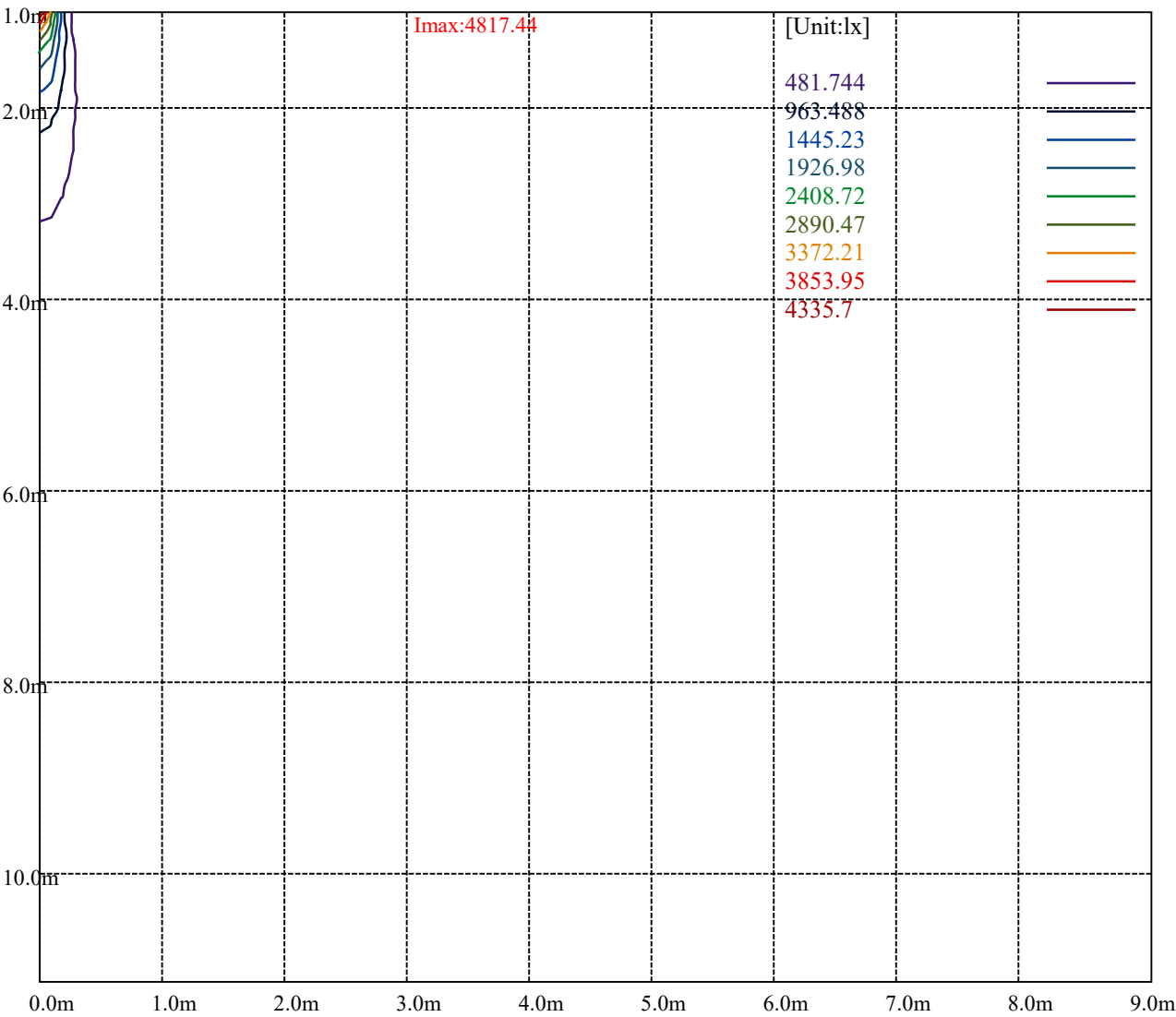


House

[Unit:cd]

Road

Imax:4817.44	
(10%Imax) 481.744	_____
(20%Imax) 963.488	_____
(30%Imax) 1445.23	_____
(40%Imax) 1926.98	_____
(50%Imax) 2408.72	_____
(60%Imax) 2890.47	_____
(70%Imax) 3372.21	_____
(80%Imax) 3853.95	_____
(90%Imax) 4335.7	_____



Luminance Table

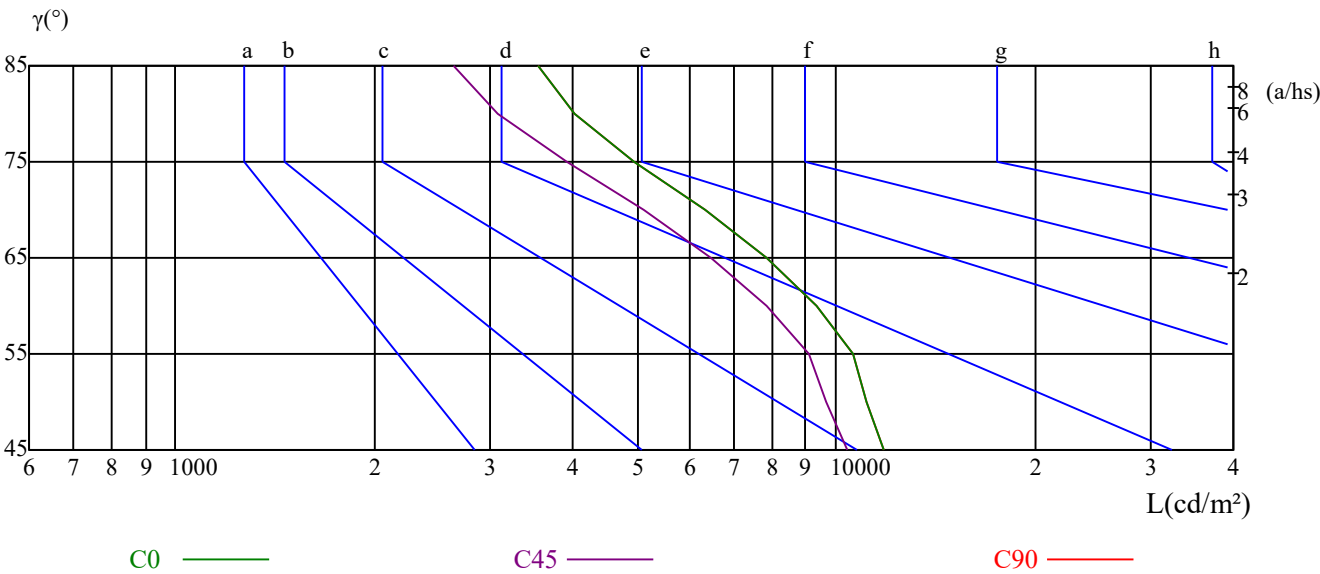
γ	45	50	55	60	65	70	75	80	85
C0	11822	11145	10619	9350	7859	6341	4960	4020	3552
C45	10412	9676	9078	7862	6488	5127	3915	3083	2629
C90	11822	11145	10619	9350	7859	6341	4960	4020	3552

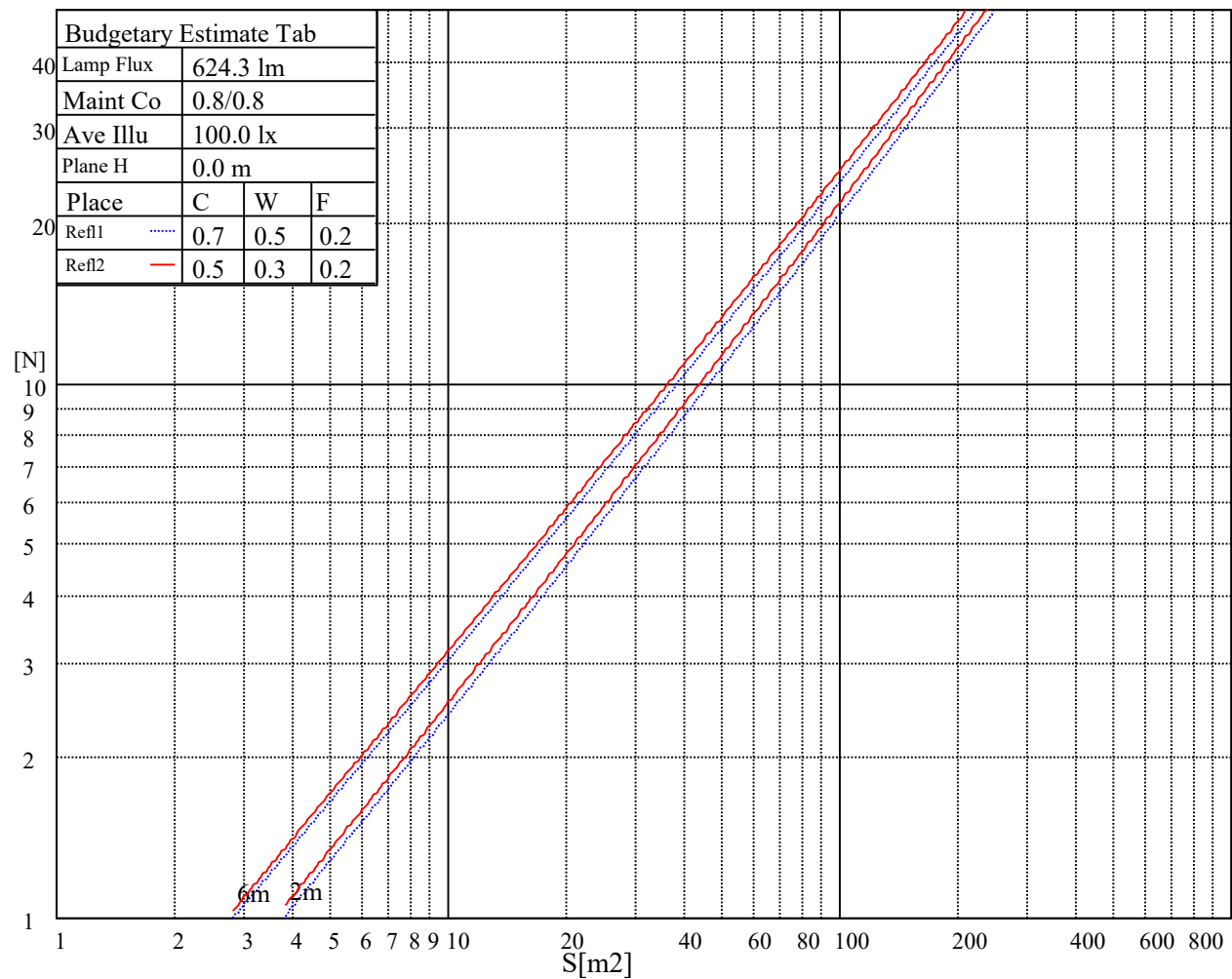
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
16045	16045	16045	13951	13951	13951	23272	23272	23272

Glare Table

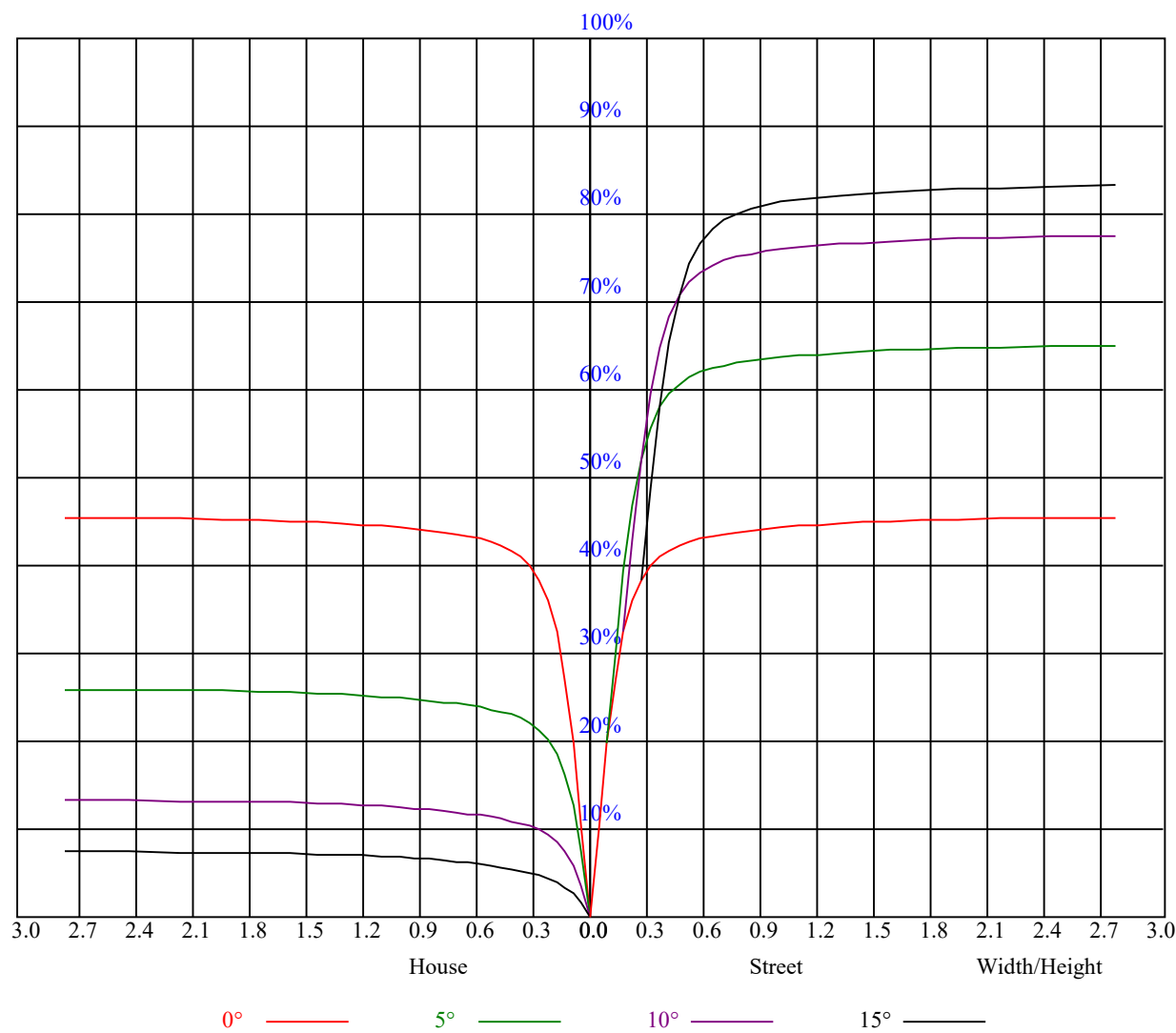
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

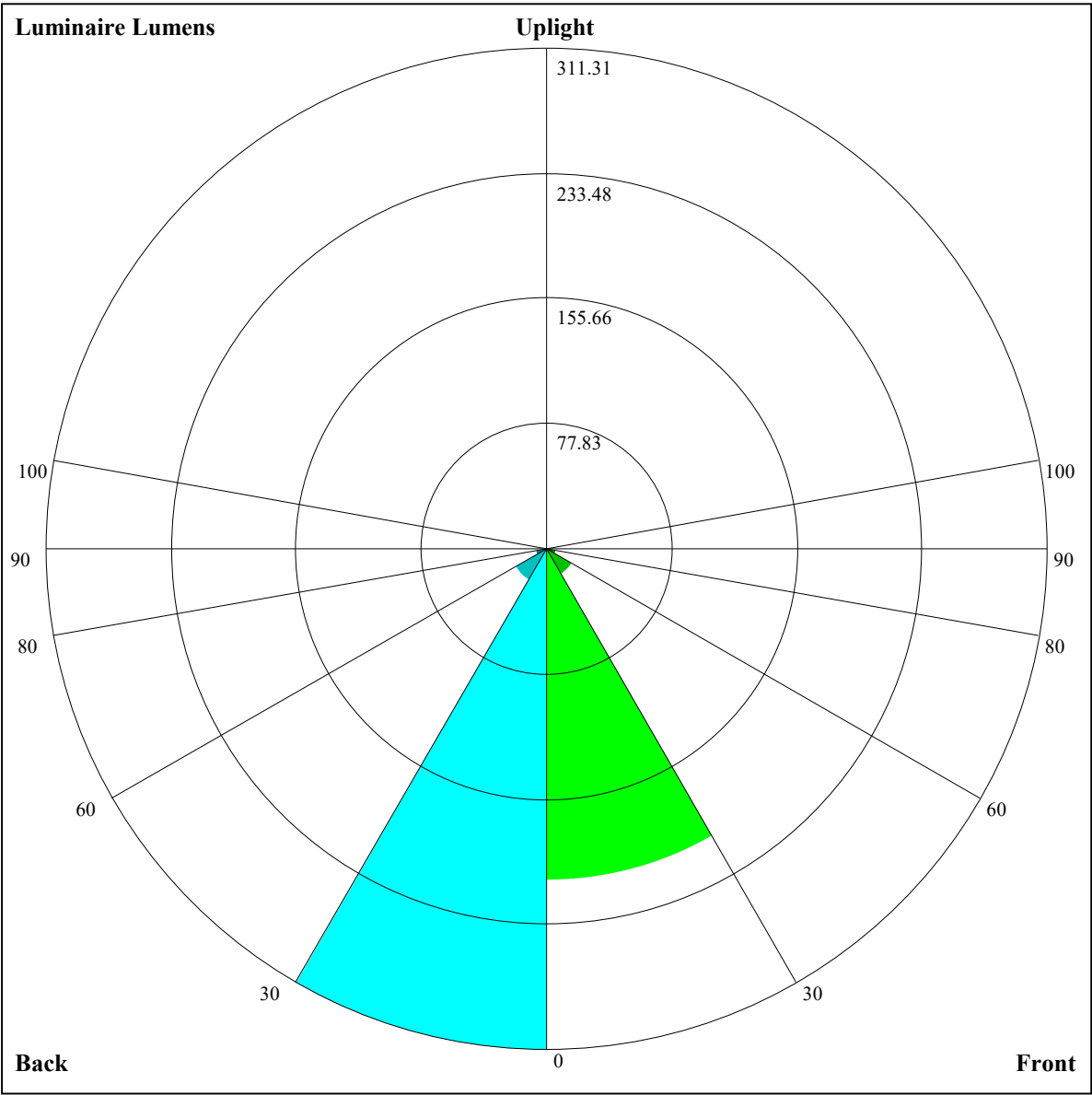
Luminance Limiting Curve





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	COEFFCIENTS 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	1.04	1.02	1.00	1.02	1.00	0.98	0.98	0.97	0.95	0.95	0.94	0.93	0.91	0.91	0.90	0.88
2	0.99	0.96	0.93	0.97	0.95	0.92	0.94	0.92	0.90	0.92	0.90	0.88	0.89	0.88	0.87	0.85
3	0.94	0.91	0.88	0.93	0.90	0.88	0.91	0.88	0.86	0.89	0.87	0.85	0.87	0.85	0.84	0.83
4	0.91	0.87	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.80
5	0.88	0.84	0.82	0.87	0.84	0.81	0.86	0.83	0.81	0.84	0.82	0.80	0.83	0.81	0.79	0.78
6	0.85	0.82	0.79	0.85	0.81	0.79	0.84	0.81	0.78	0.82	0.80	0.78	0.81	0.79	0.77	0.76
7	0.83	0.79	0.77	0.83	0.79	0.77	0.82	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.76	0.75
8	0.81	0.77	0.75	0.81	0.77	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.73
9	0.79	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.73	0.77	0.75	0.73	0.77	0.74	0.73	0.72
10	0.78	0.74	0.72	0.77	0.74	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.71	0.70





Luminaire Lumens:

FL=206.39,FM=18.18,FH=6.13,FVH=1.35

BL=311.31,BM=22.07,BH=6.87,BVH=1.36

UL=0,UH=0

BUG Rating:B1-U0-G0

Intensity data(cd)

Appendix Page: 17 Total:19

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	4591.09	4281.48	3846.10	3373.95	2893.81	2422.72	1982.55	1586.07	976.81
45.0	4985.44	4644.38	4402.98	3957.48	3468.81	2977.47	2500.53	2054.49	1651.62
90.0	4747.23	4416.84	4023.55	3582.85	3121.89	2657.20	2221.29	1816.82	1058.45
135.0	4946.00	4957.73	4844.75	4619.34	4295.33	3907.92	3479.46	3036.62	2595.92
180.0	4591.09	4906.57	5148.51	5210.32	5168.22	4989.17	4697.14	4319.85	3881.80
225.0	4985.44	5228.44	5351.01	5332.89	5181.01	4898.04	4510.63	4048.07	3556.20
270.0	4747.23	4984.37	5097.88	5089.89	4952.93	4815.98	4345.43	4093.36	3632.41
315.0	4946.00	4815.44	4578.30	4245.77	3840.77	3391.00	2923.65	2459.49	2023.58
360.0	4591.09	4281.48	3846.10	3373.95	2893.81	2422.72	1982.55	1586.07	976.81
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	976.81	757.94	596.42	478.86	387.05	313.19	252.86	222.91	166.64
45.0	1297.77	1009.47	786.72	618.86	494.69	399.30	324.16	275.14	275.14
90.0	1058.45	874.60	762.53	613.05	459.79	407.83	335.03	276.36	228.56
135.0	2254.86	1785.91	1442.72	1207.71	965.77	779.26	637.51	527.20	438.74
180.0	3414.98	2942.30	2479.21	2051.82	1664.41	1332.41	1056.37	842.67	683.34
225.0	3051.55	2565.54	2107.78	1692.12	1059.30	1059.30	833.35	693.09	556.35
270.0	3151.73	2665.73	2198.37	1776.85	1407.55	1103.26	862.39	677.48	541.05
315.0	1626.57	918.40	918.40	874.22	687.76	549.69	445.29	362.21	294.48
360.0	976.81	757.94	596.42	478.86	387.05	313.19	252.86	222.91	166.64
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	147.03	119.80	98.21	81.43	68.37	58.25	50.25	43.75	38.80
45.0	168.34	138.02	122.73	94.22	84.30	66.03	59.90	51.37	44.60
90.0	189.34	157.26	130.93	109.46	92.14	77.86	66.45	57.07	49.77
135.0	365.73	307.11	276.73	276.73	183.16	155.02	131.04	111.59	101.57
180.0	559.70	462.18	383.31	343.35	287.93	269.27	230.21	171.33	144.68
225.0	451.31	368.93	303.49	250.41	207.83	173.09	144.20	120.54	100.88
270.0	437.14	356.67	290.59	267.68	267.68	158.80	136.21	112.28	93.20
315.0	239.91	195.31	159.39	130.08	106.47	88.14	73.70	62.19	53.24
360.0	147.03	119.80	98.21	81.43	68.37	58.25	50.25	43.75	38.80
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	34.75	31.33	28.56	26.27	24.30	22.65	21.16	19.98	18.92
45.0	39.22	34.80	31.12	28.19	25.69	23.66	21.90	20.36	19.02
90.0	43.80	38.74	34.48	31.01	28.19	26.65	24.46	21.96	21.05
135.0	87.08	70.82	65.17	57.07	50.20	44.34	39.38	35.17	31.60
180.0	122.57	104.18	88.89	76.15	65.71	57.18	50.09	44.23	39.33
225.0	84.89	71.94	61.60	53.29	46.42	40.71	36.13	32.40	29.31
270.0	77.91	65.92	56.38	48.76	42.69	37.78	33.89	30.59	27.82
315.0	46.20	41.73	37.25	33.41	30.22	27.60	25.47	23.66	22.06
360.0	34.75	31.33	28.56	26.27	24.30	22.65	21.16	19.98	18.92
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	18.01	17.43	16.52	16.04	15.40	14.87	14.49	14.07	13.75
45.0	17.96	17.05	16.52	15.45	14.76	14.44	13.96	13.64	13.38
90.0	19.93	18.97	18.07	17.27	16.68	16.25	15.83	15.35	14.92
135.0	28.56	26.01	23.82	22.01	20.46	19.24	18.12	17.16	16.47
180.0	35.22	31.76	28.72	26.65	23.98	22.59	21.05	19.72	18.60
225.0	27.71	25.31	23.29	21.64	20.25	19.02	17.85	17.00	16.20
270.0	25.53	23.61	21.90	20.46	19.29	18.28	17.43	17.00	16.04
315.0	20.73	19.72	19.02	18.33	17.64	17.11	16.73	16.47	16.20
360.0	18.01	17.43	16.52	16.04	15.40	14.87	14.49	14.07	13.75

Intensity data(cd)

Appendix Page: 18 Total:19

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	13.59	13.48	13.32	13.16	13.06	12.90	12.58	12.26	11.88
45.0	13.16	13.06	12.95	12.84	12.74	12.52	12.36	12.15	11.88
90.0	14.55	14.18	13.91	13.75	13.70	13.54	13.32	13.06	12.79
135.0	15.88	15.40	15.03	14.87	14.65	14.49	14.34	14.07	13.75
180.0	17.69	16.95	16.31	15.77	15.45	15.19	14.97	14.81	14.65
225.0	15.51	14.97	14.60	14.34	14.12	14.02	13.96	13.86	13.70
270.0	15.51	15.19	14.76	14.39	14.18	14.02	13.91	13.80	13.64
315.0	15.83	15.45	15.19	14.65	14.44	14.18	13.96	13.91	13.70
360.0	13.59	13.48	13.32	13.16	13.06	12.90	12.58	12.26	11.88
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	11.51	11.03	10.60	10.23	9.97	9.33	8.90	8.63	8.21
45.0	11.51	11.19	10.87	10.44	10.07	9.65	9.27	8.85	8.58
90.0	12.52	11.88	11.51	10.98	10.50	9.97	9.43	9.01	8.63
135.0	13.48	13.11	12.63	12.15	11.72	11.19	10.71	10.23	9.75
180.0	14.44	14.18	13.86	13.48	13.11	12.63	12.36	11.62	11.14
225.0	13.54	13.32	13.06	12.74	12.36	11.94	11.51	11.08	10.60
270.0	13.54	13.32	13.00	12.63	12.31	11.88	11.40	10.98	10.55
315.0	13.38	13.06	12.79	12.42	11.94	11.35	10.76	10.23	9.70
360.0	11.51	11.03	10.60	10.23	9.97	9.33	8.90	8.63	8.21
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.83	7.35	6.93	6.55	6.18	5.76	5.38	5.06	4.69
45.0	8.10	7.62	7.25	6.82	6.39	5.97	5.60	5.22	4.85
90.0	8.10	7.62	7.19	6.82	6.39	5.97	5.60	5.22	4.90
135.0	9.27	8.79	8.31	7.83	7.35	6.82	6.61	6.08	5.81
180.0	10.82	10.39	9.86	9.38	8.90	8.37	7.94	7.46	6.98
225.0	10.18	9.75	9.33	8.85	8.37	7.89	7.41	6.93	6.50
270.0	10.13	9.81	9.17	8.79	8.47	7.99	7.57	7.09	6.61
315.0	9.27	8.85	8.42	7.99	7.57	7.35	6.82	6.55	6.23
360.0	7.83	7.35	6.93	6.55	6.18	5.76	5.38	5.06	4.69
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.26	3.94	3.73	3.57	3.30	3.14	2.98	2.82	2.66
45.0	4.48	4.10	3.78	3.62	3.41	3.20	2.98	2.77	2.61
90.0	4.48	4.05	3.84	3.68	3.41	3.36	3.09	2.88	2.72
135.0	5.44	5.01	4.69	4.37	3.89	3.68	3.46	3.30	3.04
180.0	6.50	6.13	5.70	5.33	4.90	4.53	4.16	3.89	3.62
225.0	6.13	5.70	5.28	5.01	4.64	4.37	3.94	3.68	3.52
270.0	6.29	5.92	5.54	5.12	4.80	4.53	4.10	3.84	3.68
315.0	5.65	5.38	5.06	4.69	4.37	4.16	4.00	3.94	3.84
360.0	4.26	3.94	3.73	3.57	3.30	3.14	2.98	2.82	2.66
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.61	2.50	2.34	2.24	2.08	1.97	1.87	1.81	1.87
45.0	2.45	2.40	2.24	2.13	2.03	1.92	1.87	1.81	1.76
90.0	2.50	2.45	2.34	2.18	2.03	1.92	1.87	1.76	1.76
135.0	2.82	2.66	2.45	2.34	2.24	2.13	1.97	1.87	1.76
180.0	3.41	3.25	2.93	2.82	2.66	2.45	2.34	2.18	2.03
225.0	3.30	3.09	2.98	2.72	2.56	2.40	2.34	2.18	2.08
270.0	3.52	3.30	3.09	2.82	2.72	2.50	2.45	2.24	2.13
315.0	3.78	3.73	3.68	3.68	3.57	3.30	2.98	2.66	2.40
360.0	2.61	2.50	2.34	2.24	2.08	1.97	1.87	1.81	1.87

Intensity data(cd)

C/ $\gamma(^{\circ})$	90.0
0.0	1.81
45.0	1.76
90.0	1.71
135.0	1.71
180.0	1.87
225.0	1.97
270.0	2.08
315.0	2.24
360.0	1.81