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Nata

LumCAT: 2-1678-M
Luminaire: 92.70.124.00
Report No: NATA0100
Test No: GC2018073010
LampCAT: BRIDGELUX V6HD
Lamp flux(lm): 1112.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 35.9000
Current(A): 0.3000
Power (W): 10.7700
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 1013.91
Efficiency(%): 91.18%
Lumens(lm)/Power(W): 94.64
Central intensity(cd): 22790.600
Maximum intensity(cd): 22790.600
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=7.8
[C90/270]Total=7.8
Field angle(10%Imax): [C0/180]Total=14.8
[C90/270]Total=14.8
Maximum s/h(1/2): C0_180=0.14 C90_270=0.14
Maximum s/h(1/4): C0_180=0.13 C90_270=0.13
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.67%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.196%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	22790.598	5.453	5.453	.490%	.538%
1.0	21918.641	41.949	47.401	3.772%	4.675%
2.0	18604.383	71.201	118.602	6.403%	11.698%
3.0	15081.668	86.557	205.159	7.784%	20.234%
4.0	10983.064	84.016	289.175	7.555%	28.521%
5.0	6820.249	65.185	354.36	5.862%	34.950%
6.0	4438.372	50.876	405.236	4.575%	39.968%
7.0	2757.176	36.848	442.083	3.314%	43.602%
8.0	1574.283	24.026	466.11	2.161%	45.971%
9.0	1097.797	18.832	484.942	1.694%	47.829%
10.0	860.490	16.386	501.328	1.474%	49.445%
11.0	728.974	15.253	516.581	1.372%	50.949%
12.0	642.873	14.657	531.239	1.318%	52.395%
13.0	588.030	14.506	545.744	1.304%	53.826%
14.0	544.886	14.455	560.2	1.300%	55.251%
15.0	513.766	14.582	574.782	1.311%	56.690%
16.0	489.149	14.785	589.567	1.330%	58.148%
17.0	469.253	15.045	604.612	1.353%	59.632%
18.0	452.247	15.325	619.937	1.378%	61.143%
19.0	439.460	15.690	635.627	1.411%	62.691%
20.0	427.128	16.020	651.647	1.441%	64.271%
21.0	416.749	16.378	668.025	1.473%	65.886%
22.0	408.821	16.794	684.819	1.510%	67.542%
23.0	401.877	17.220	702.039	1.549%	69.241%
24.0	395.154	17.625	719.664	1.585%	70.979%
25.0	390.054	18.077	737.741	1.626%	72.762%
26.0	385.257	18.520	756.261	1.665%	74.588%
27.0	380.405	18.938	775.199	1.703%	76.456%
28.0	375.670	19.341	794.54	1.739%	78.364%
29.0	369.986	19.670	814.21	1.769%	80.304%
30.0	364.928	20.009	834.219	1.799%	82.277%
31.0	359.429	20.300	854.519	1.826%	84.280%
32.0	353.737	20.556	875.076	1.849%	86.307%
33.0	347.592	20.760	895.836	1.867%	88.354%
34.0	340.737	20.895	916.73	1.879%	90.415%
35.0	323.697	20.360	937.09	1.831%	92.423%
36.0	285.860	18.426	955.516	1.657%	94.241%
37.0	229.819	15.167	970.683	1.364%	95.737%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	149.217	10.074	980.757	.906%	96.730%
39.0	79.302	5.473	986.23	.492%	97.270%
40.0	40.852	2.880	989.11	.259%	97.554%
41.0	23.034	1.657	990.767	.149%	97.717%
42.0	16.317	1.197	991.964	.108%	97.835%
43.0	13.509	1.010	992.975	.091%	97.935%
44.0	10.777	0.821	993.796	.074%	98.016%
45.0	8.568	0.664	994.46	.060%	98.082%
46.0	6.662	0.526	994.985	.047%	98.133%
47.0	5.464	0.438	995.424	.039%	98.177%
48.0	5.299	0.432	995.856	.039%	98.219%
49.0	5.189	0.429	996.285	.039%	98.262%
50.0	5.079	0.427	996.712	.038%	98.304%
51.0	4.989	0.425	997.137	.038%	98.346%
52.0	4.914	0.425	997.562	.038%	98.387%
53.0	4.838	0.424	997.985	.038%	98.429%
54.0	4.769	0.423	998.408	.038%	98.471%
55.0	4.700	0.422	998.831	.038%	98.513%
56.0	4.645	0.422	999.253	.038%	98.554%
57.0	4.577	0.421	999.674	.038%	98.596%
58.0	4.528	0.421	1000.095	.038%	98.637%
59.0	4.487	0.422	1000.517	.038%	98.679%
60.0	4.446	0.422	1000.939	.038%	98.721%
61.0	4.411	0.423	1001.362	.038%	98.762%
62.0	4.377	0.424	1001.786	.038%	98.804%
63.0	4.349	0.425	1002.211	.038%	98.846%
64.0	4.336	0.427	1002.638	.038%	98.888%
65.0	4.294	0.427	1003.065	.038%	98.930%
66.0	4.281	0.429	1003.494	.039%	98.973%
67.0	4.267	0.431	1003.925	.039%	99.015%
68.0	4.253	0.432	1004.357	.039%	99.058%
69.0	4.226	0.433	1004.79	.039%	99.100%
70.0	4.212	0.434	1005.224	.039%	99.143%
71.0	4.205	0.436	1005.66	.039%	99.186%
72.0	4.205	0.439	1006.098	.039%	99.229%
73.0	4.191	0.440	1006.538	.040%	99.273%
74.0	4.177	0.440	1006.978	.040%	99.316%
75.0	4.164	0.441	1007.419	.040%	99.360%

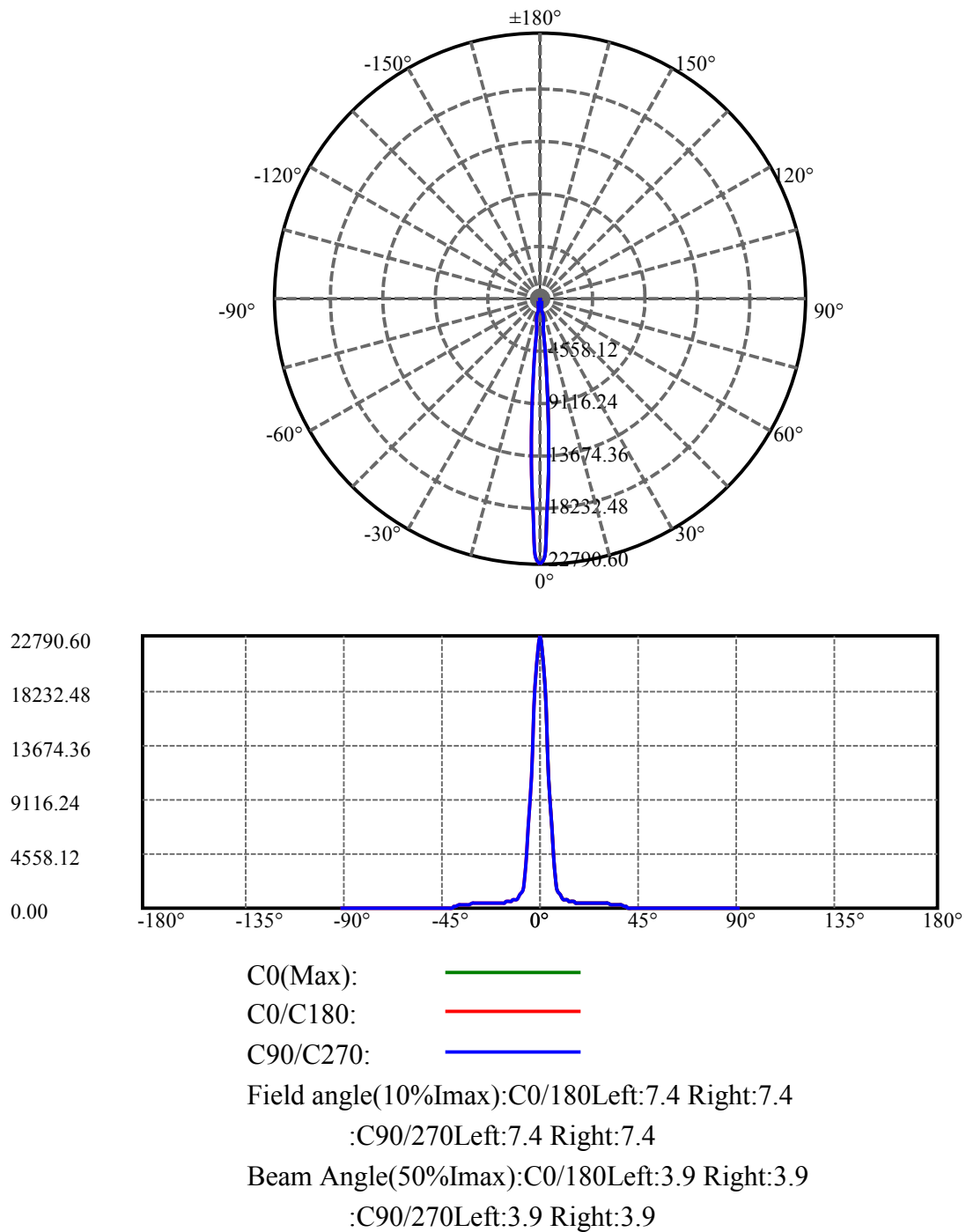
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.157	0.442	1007.861	.040%	99.403%
77.0	4.143	0.443	1008.304	.040%	99.447%
78.0	4.136	0.444	1008.748	.040%	99.491%
79.0	4.164	0.448	1009.196	.040%	99.535%
80.0	4.136	0.447	1009.643	.040%	99.579%
81.0	4.136	0.448	1010.091	.040%	99.623%
82.0	4.136	0.449	1010.54	.040%	99.667%
83.0	4.136	0.450	1010.99	.040%	99.712%
84.0	4.122	0.450	1011.439	.040%	99.756%
85.0	4.115	0.450	1011.889	.040%	99.801%
86.0	4.122	0.451	1012.34	.041%	99.845%
87.0	4.102	0.449	1012.789	.040%	99.889%
88.0	4.088	0.448	1013.237	.040%	99.934%
89.0	4.102	0.450	1013.687	.040%	99.978%
90.0	4.088	0.224	1013.911	.020%	100.000%

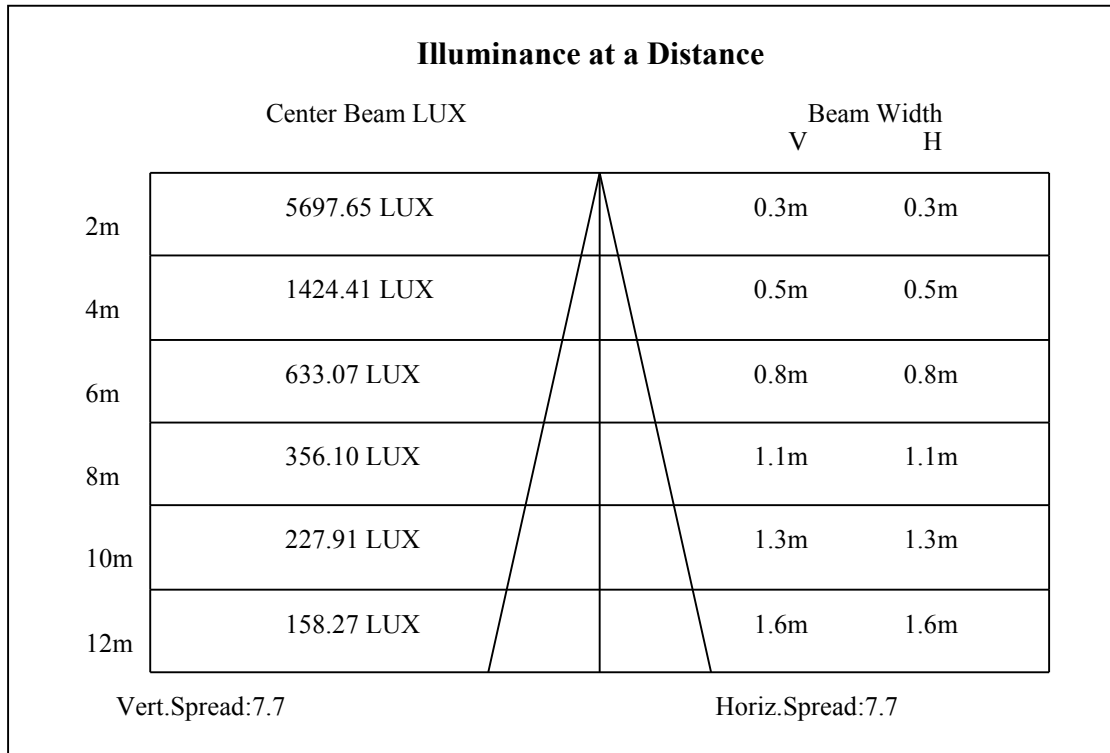
ZONAL LUMEN SUMMARY

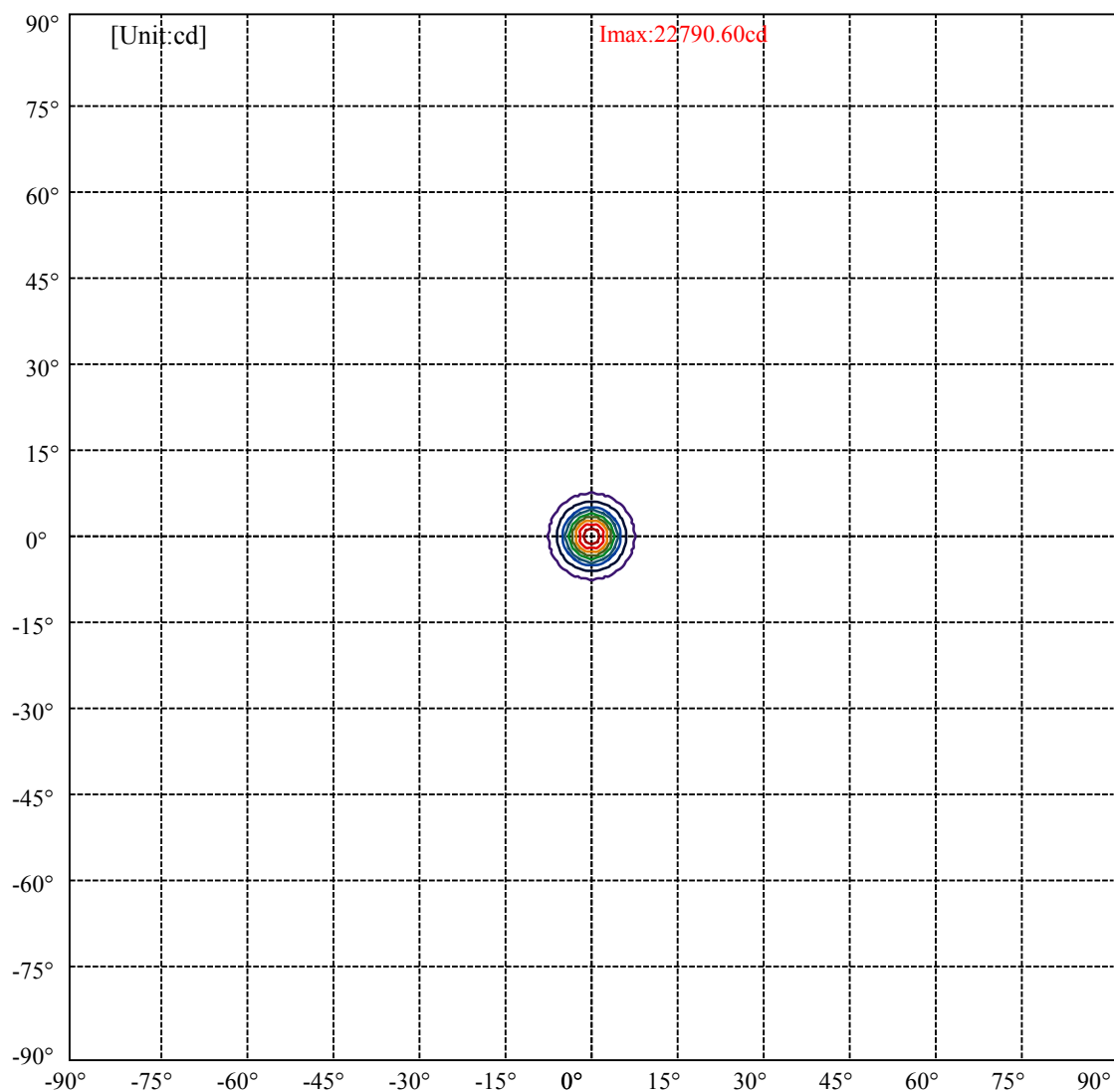
Zone	Lumens	%Lamp	%Fixt
0-30	834.22	75.02%	82.28%
0-40	989.11	88.95%	97.55%
0-60	1000.94	90.01%	98.72%
0-90	1013.69	91.16%	99.98%
0-120	1013.69	91.16%	99.98%
0-180	1013.91	91.18%	100.00%
60-90	13.17	1.18%	1.30%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.84	811.13	72.94%	80.00%

ZONAL LUMEN SUMMARY

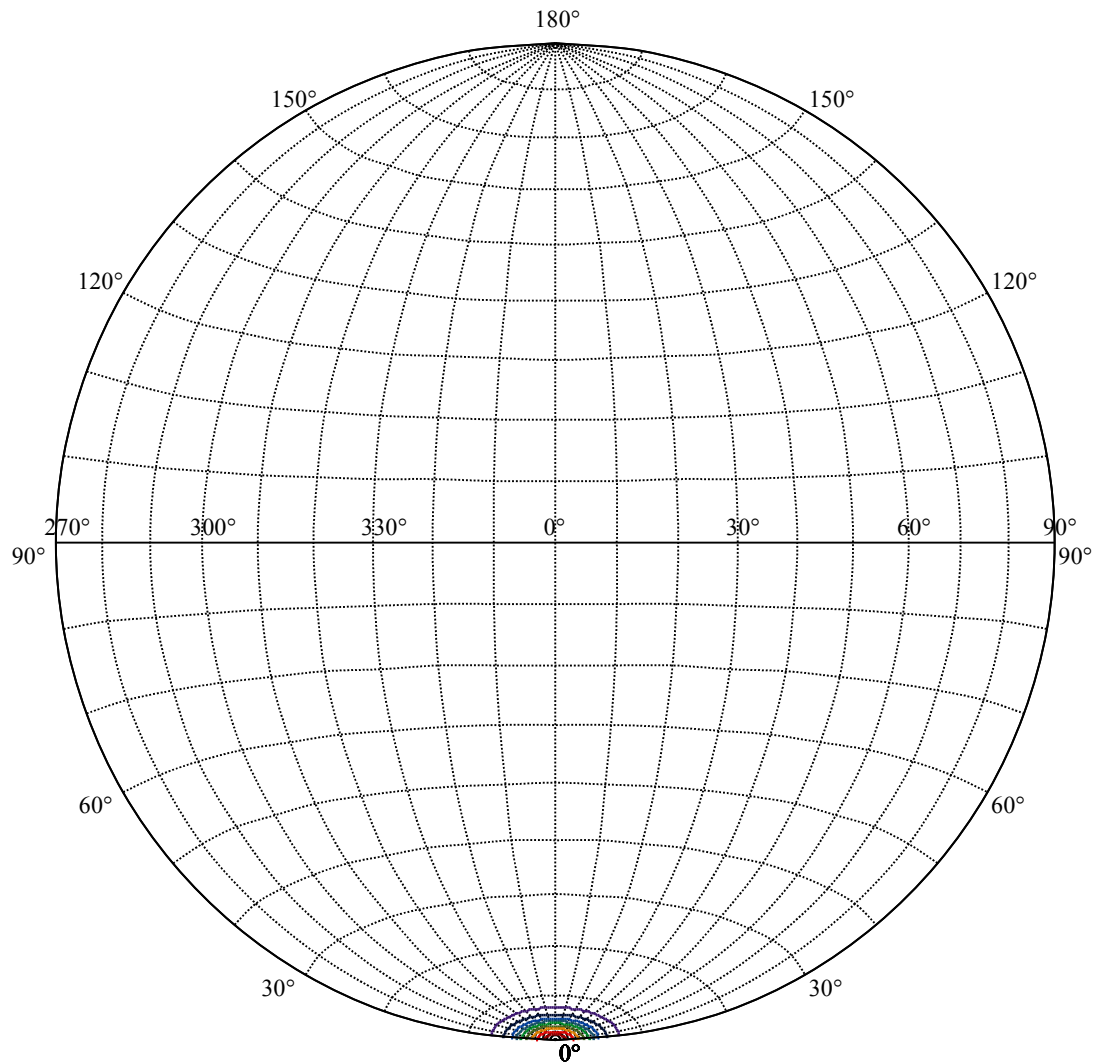
0-10	501.33
10-20	150.32
20-30	182.57
30-40	154.89
40-50	7.60
50-60	4.23
60-70	4.28
70-80	4.42
80-90	4.04
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00







(10%Imax) 2279.06	—————
(20%Imax) 4558.12	—————
(30%Imax) 6837.18	—————
(40%Imax) 9116.24	—————
(50%Imax) 11395.3	—————
(60%Imax) 13674.4	—————
(70%Imax) 15953.4	—————
(80%Imax) 18232.5	—————
(90%Imax) 20511.5	—————



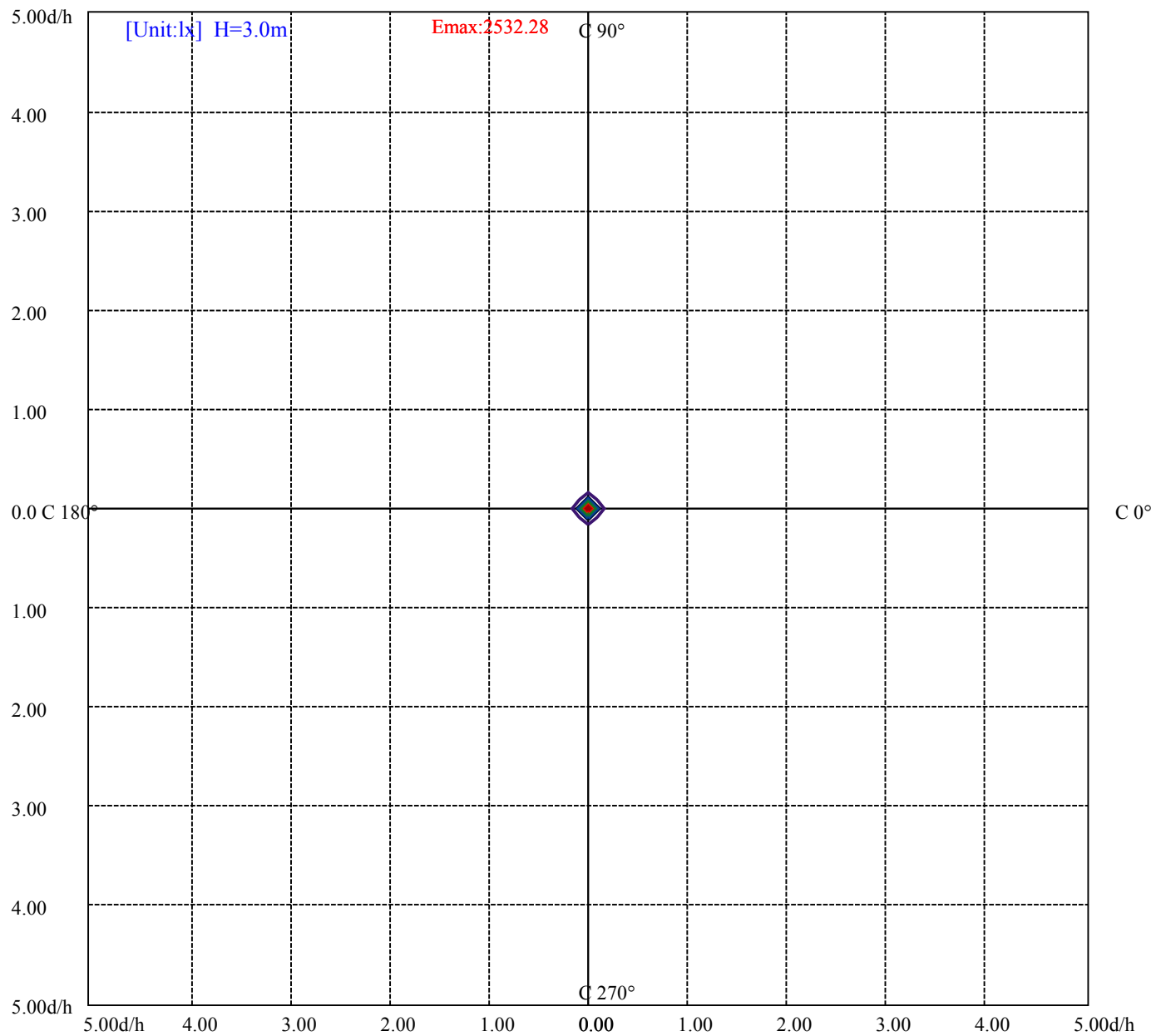
House

[Unit:cd]

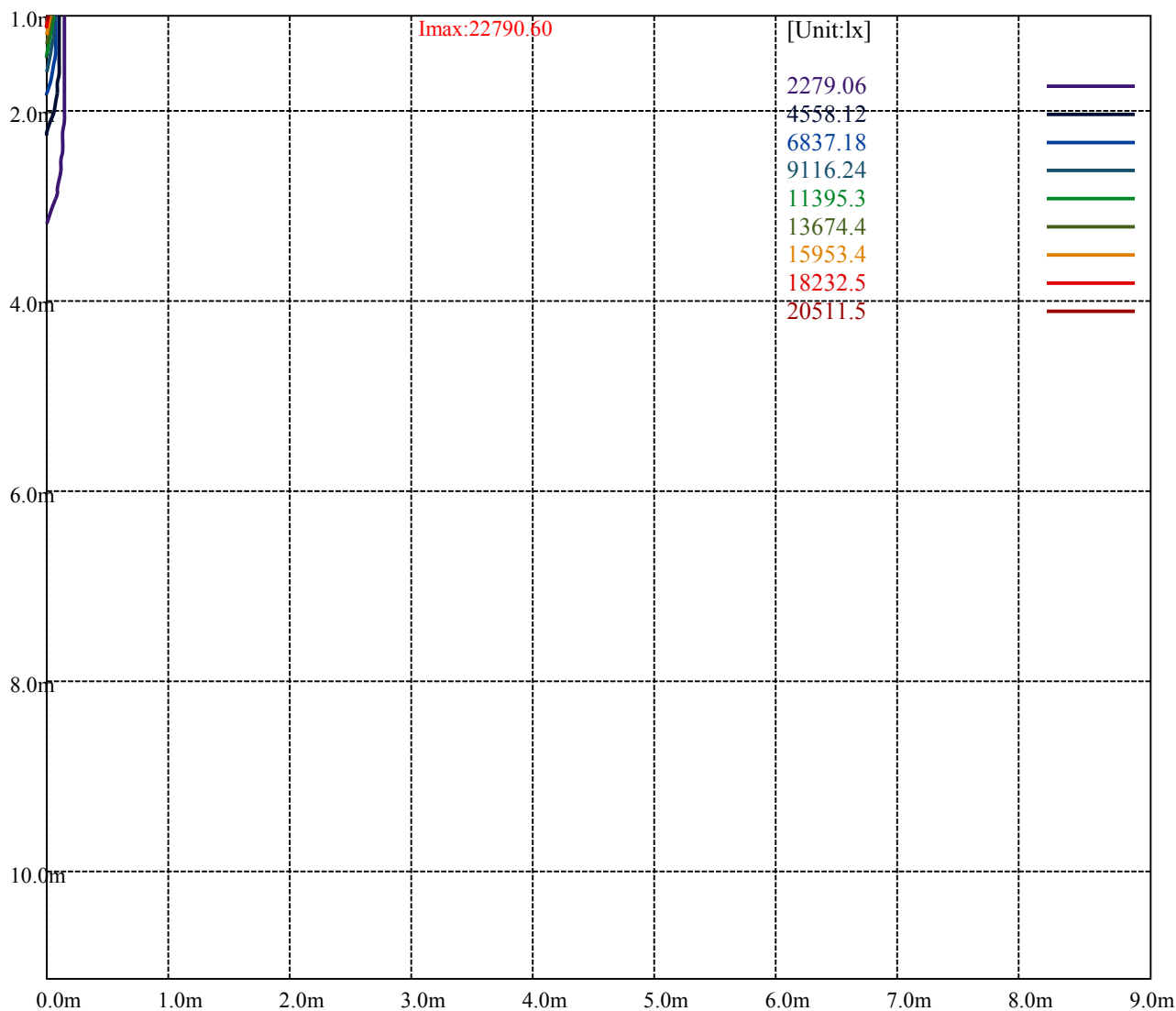
Road

Imax:22790.60

(10%Imax)	2279.06	—
(20%Imax)	4558.12	—
(30%Imax)	6837.18	—
(40%Imax)	9116.24	—
(50%Imax)	11395.3	—
(60%Imax)	13674.4	—
(70%Imax)	15953.4	—
(80%Imax)	18232.5	—
(90%Imax)	20511.5	—



(10%Emax)	253.2278	—
(20%Emax)	506.4544	—
(30%Emax)	759.6823	—
(40%Emax)	1012.91	—
(50%Emax)	1266.133	—
(60%Emax)	1519.367	—
(70%Emax)	1772.589	—
(80%Emax)	2025.822	—
(90%Emax)	2279.044	—



Luminance Table

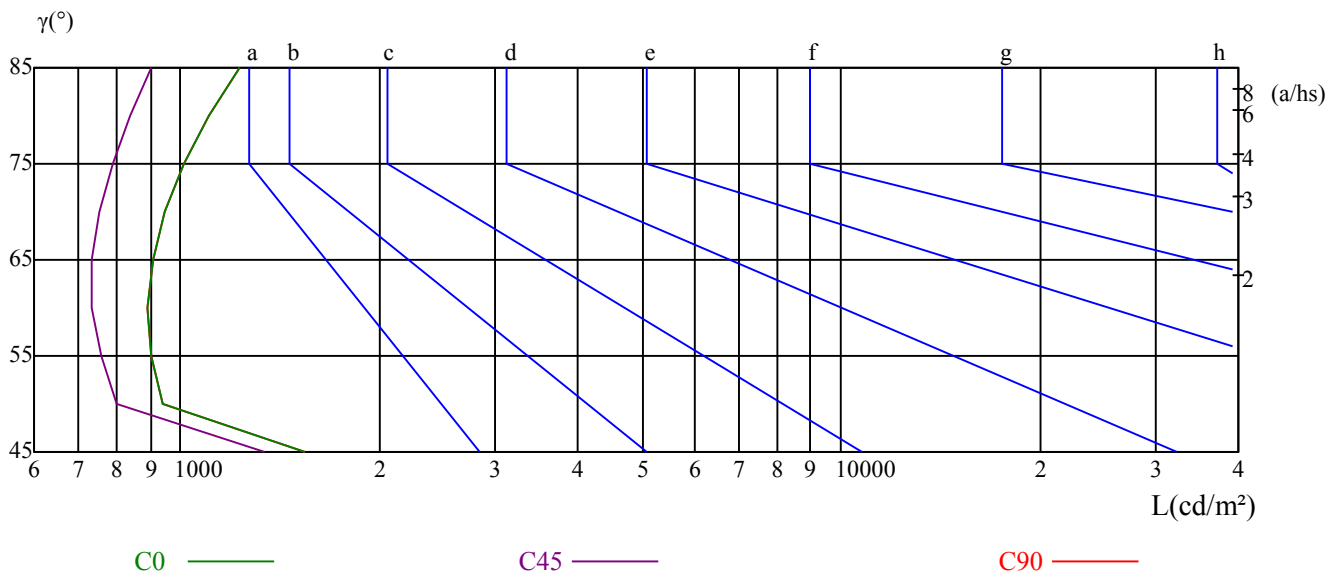
γ	45	50	55	60	65	70	75	80	85
C0	1546	940	901	890	907	949	1014	1104	1226
C45	1338	802	756	735	735	754	788	836	901
C90	1546	940	901	890	907	949	1014	1104	1226

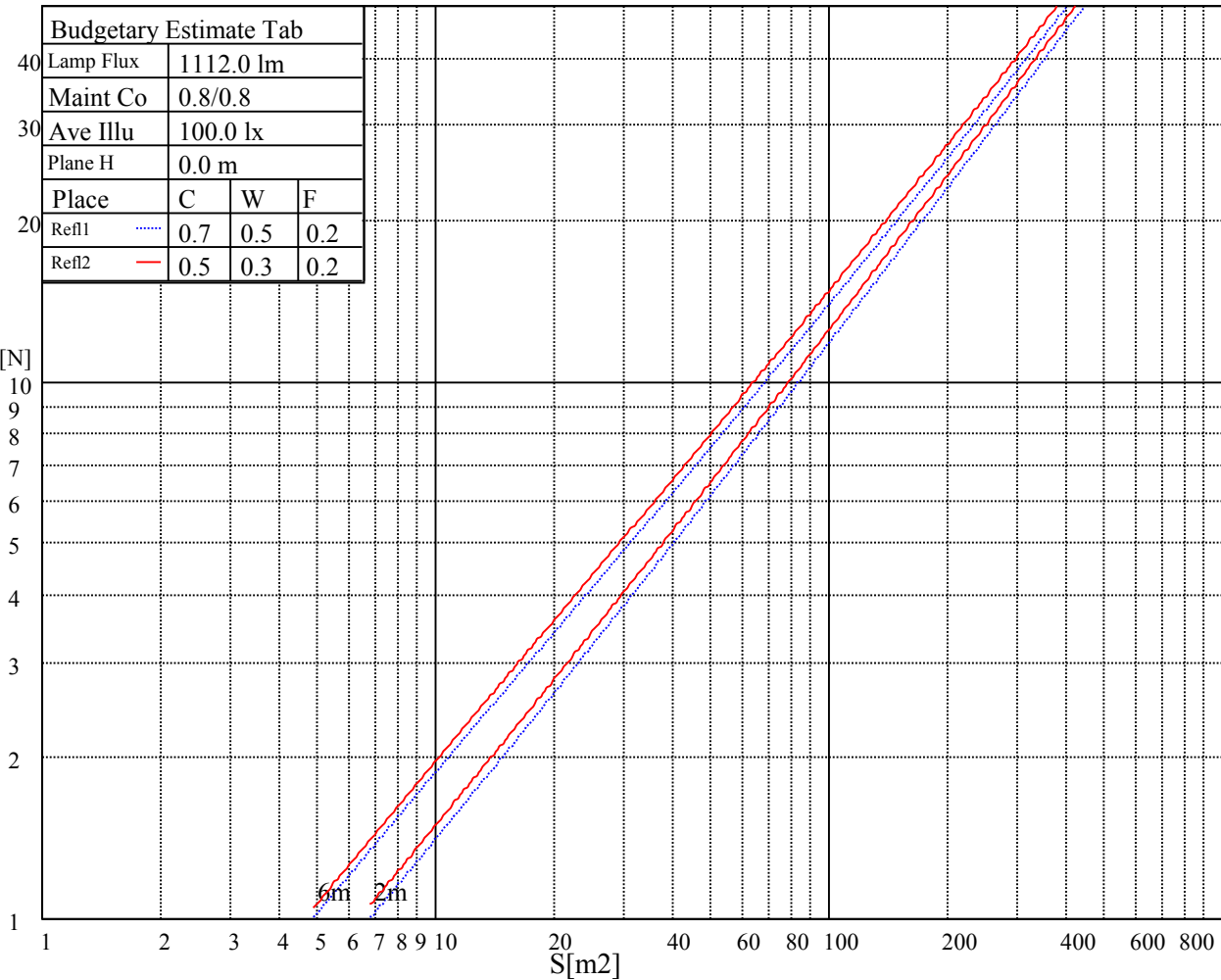
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2074	2074	2074	3283	3283	3283	9637	9637	9637

Glare Table

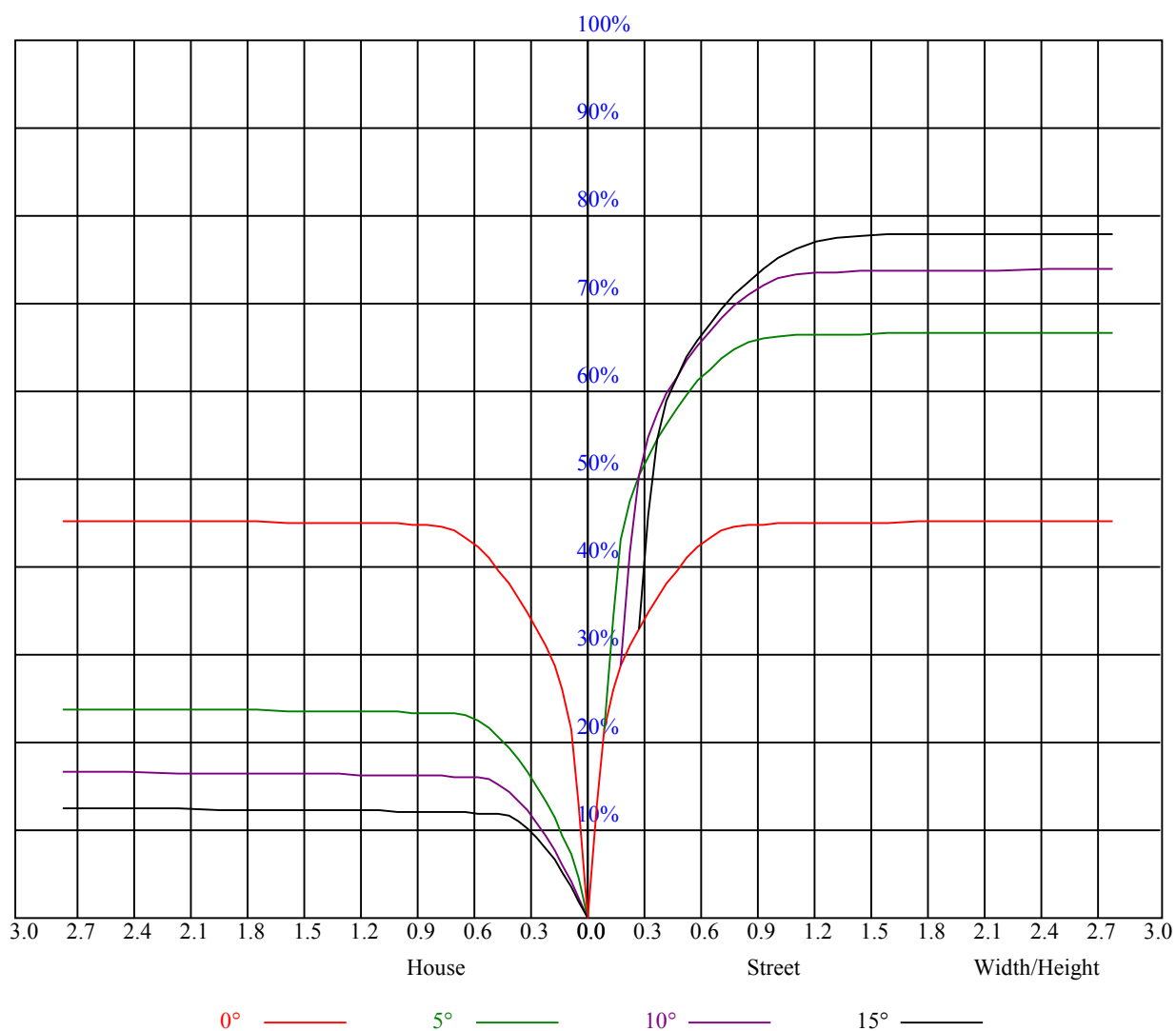
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.09	1.09	1.09	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	0.89	0.87
2	0.97	0.94	0.92	0.96	0.93	0.91	0.93	0.90	0.89	0.90	0.88	0.87	0.88	0.86	0.85	0.83
3	0.93	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.82	0.80
4	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.82	0.80	0.83	0.80	0.79	0.78
5	0.85	0.81	0.78	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.77	0.80	0.78	0.76	0.75
6	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.73
7	0.80	0.75	0.73	0.79	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
8	0.77	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
9	0.75	0.71	0.68	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67
10	0.73	0.69	0.66	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



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Intensity data(cd)									Appendix Page: 16 Total:18
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	23597.17	22485.03	18658.61	14375.23	10064.31	5990.14	3391.47	2813.38	1414.40
45.0	22760.32	19561.54	14199.05	9888.13	6303.96	3314.40	2917.99	1359.34	982.21
90.0	21719.75	18350.30	10902.27	8921.89	5564.55	3061.69	1860.36	1087.53	907.27
135.0	23085.15	21901.44	18102.54	14017.36	9877.12	5571.71	3259.34	2851.92	1336.22
180.0	23597.17	22798.86	20227.72	15850.74	10853.27	6980.05	4108.86	2223.73	1085.88
225.0	22760.32	24213.80	23668.75	20915.93	16990.41	10689.75	7709.55	4319.73	2362.47
270.0	21719.75	23542.12	23360.43	21213.23	17491.42	11980.27	7972.17	4911.03	2945.52
315.0	23085.15	22496.05	19715.70	15470.85	10719.48	6973.99	4287.24	2490.75	1560.30
360.0	23597.17	22485.03	18658.61	14375.23	10064.31	5990.14	3391.47	2813.38	1414.40
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	981.11	800.52	695.36	621.59	569.28	535.15	505.42	481.74	465.23
45.0	785.10	691.51	625.99	574.79	537.35	507.07	486.15	467.98	453.66
90.0	762.48	667.12	602.32	560.03	526.28	490.22	472.71	455.98	438.69
135.0	943.67	786.76	691.51	618.28	567.08	529.64	497.16	472.38	455.87
180.0	1016.18	807.35	697.62	633.04	586.19	539.11	509.00	485.10	464.40
225.0	1526.71	1071.12	834.49	717.22	647.24	585.08	547.76	516.87	490.11
270.0	1678.67	1193.07	960.18	768.59	674.99	623.79	571.49	535.15	510.92
315.0	1088.47	866.48	724.32	649.45	595.82	549.02	520.45	497.99	475.14
360.0	981.11	800.52	695.36	621.59	569.28	535.15	505.42	481.74	465.23
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	451.46	440.45	429.99	421.18	413.47	407.42	400.26	395.86	391.45
45.0	440.45	428.34	418.43	409.62	402.46	396.96	391.45	387.60	384.29
90.0	426.69	416.67	406.87	399.49	394.97	388.86	384.73	380.00	374.71
135.0	439.90	428.34	416.23	407.42	400.26	393.65	386.50	383.19	378.79
180.0	447.44	434.78	422.61	411.99	404.33	398.06	392.00	386.55	382.53
225.0	467.04	450.47	435.06	421.07	411.99	403.56	395.53	389.52	384.13
270.0	483.95	467.98	454.22	439.90	428.89	420.63	410.17	403.56	396.96
315.0	461.04	448.65	433.62	423.33	414.19	405.88	400.59	394.15	389.19
360.0	451.46	440.45	429.99	421.18	413.47	407.42	400.26	395.86	391.45
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	386.50	383.19	377.14	372.18	366.68	362.82	355.11	349.06	342.45
45.0	379.34	373.28	368.88	363.92	358.97	352.36	345.75	337.50	300.06
90.0	370.53	363.81	358.47	354.40	350.43	342.40	336.50	326.76	267.85
135.0	373.83	369.98	363.37	357.87	354.01	349.06	341.90	335.84	327.59
180.0	378.46	374.27	367.12	360.07	356.33	349.72	343.33	337.17	330.17
225.0	379.23	375.81	370.09	366.24	357.59	352.47	347.68	341.74	336.17
270.0	389.80	384.29	380.99	375.48	367.23	362.27	357.87	351.81	345.20
315.0	385.56	380.72	373.83	369.26	364.20	358.80	352.58	346.03	340.08
360.0	386.50	383.19	377.14	372.18	366.68	362.82	355.11	349.06	342.45
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	301.71	285.74	141.77	61.11	23.51	18.11	15.03	11.67	8.92
45.0	241.15	129.33	53.13	19.10	16.46	13.87	9.97	7.60	6.44
90.0	188.40	115.12	51.97	20.15	18.22	15.31	12.17	9.69	6.77
135.0	282.44	199.80	117.88	49.99	21.58	18.77	15.97	13.16	11.01
180.0	291.85	223.14	135.44	66.95	27.20	18.77	17.01	13.76	10.46
225.0	329.90	306.83	245.50	152.67	82.42	35.90	22.57	20.21	17.07
270.0	339.70	327.04	282.44	177.94	103.78	43.94	20.59	18.22	15.14
315.0	311.73	251.55	165.61	86.49	33.64	19.60	17.23	13.76	10.41
360.0	301.71	285.74	141.77	61.11	23.51	18.11	15.03	11.67	8.92

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Intensity data(cd)										Appendix Page: 17 Total:18	
C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	7.10	5.62	5.45	5.29	5.18	5.12	5.01	4.90	4.84		
45.0	5.62	5.45	5.34	5.23	5.12	5.01	4.96	4.90	4.79		
90.0	5.51	5.40	5.29	5.18	5.07	4.96	4.90	4.79	4.73		
135.0	7.98	5.40	5.29	5.18	5.07	5.01	4.90	4.84	4.79		
180.0	8.92	5.45	5.23	5.18	5.07	4.96	4.90	4.84	4.79		
225.0	13.43	11.34	5.62	5.45	5.34	5.18	5.07	5.01	4.90		
270.0	10.96	8.97	6.06	5.56	5.45	5.29	5.18	5.12	5.01		
315.0	9.03	5.67	5.45	5.34	5.23	5.12	5.01	4.90	4.84		
360.0	7.10	5.62	5.45	5.29	5.18	5.12	5.01	4.90	4.84		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	4.79	4.68	4.62	4.57	4.51	4.46	4.46	4.40	4.35		
45.0	4.73	4.68	4.62	4.57	4.51	4.46	4.46	4.40	4.40		
90.0	4.73	4.62	4.62	4.51	4.51	4.46	4.40	4.40	4.35		
135.0	4.68	4.62	4.62	4.51	4.46	4.46	4.40	4.40	4.35		
180.0	4.68	4.62	4.57	4.51	4.51	4.46	4.40	4.35	4.35		
225.0	4.84	4.79	4.73	4.62	4.57	4.51	4.51	4.40	4.40		
270.0	4.90	4.84	4.73	4.73	4.62	4.62	4.51	4.51	4.46		
315.0	4.79	4.73	4.62	4.57	4.51	4.46	4.40	4.40	4.35		
360.0	4.79	4.68	4.62	4.57	4.51	4.46	4.46	4.40	4.35		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	4.35	4.29	4.29	4.29	4.24	4.24	4.18	4.24	4.18		
45.0	4.35	4.35	4.29	4.29	4.29	4.29	4.24	4.24	4.24		
90.0	4.35	4.35	4.29	4.29	4.24	4.24	4.24	4.18	4.18		
135.0	4.35	4.35	4.29	4.24	4.29	4.24	4.24	4.18	4.18		
180.0	4.29	4.29	4.24	4.24	4.24	4.24	4.18	4.18	4.18		
225.0	4.35	4.35	4.29	4.29	4.29	4.24	4.24	4.24	4.24		
270.0	4.40	4.40	4.35	4.35	4.29	4.29	4.24	4.24	4.24		
315.0	4.35	4.29	4.29	4.24	4.24	4.24	4.24	4.18	4.18		
360.0	4.35	4.29	4.29	4.29	4.24	4.24	4.18	4.24	4.18		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	4.18	4.18	4.18	4.18	4.18	4.13	4.13	4.18	4.13		
45.0	4.24	4.24	4.18	4.18	4.18	4.18	4.18	4.18	4.18		
90.0	4.18	4.18	4.18	4.18	4.13	4.13	4.13	4.18	4.13		
135.0	4.18	4.18	4.18	4.13	4.13	4.13	4.13	4.13	4.13		
180.0	4.18	4.18	4.18	4.13	4.13	4.13	4.13	4.13	4.13		
225.0	4.24	4.18	4.18	4.18	4.18	4.13	4.13	4.18	4.13		
270.0	4.24	4.18	4.18	4.18	4.18	4.18	4.13	4.18	4.13		
315.0	4.18	4.18	4.13	4.13	4.13	4.13	4.13	4.13	4.13		
360.0	4.18	4.18	4.18	4.18	4.18	4.13	4.13	4.18	4.13		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.07	4.13		
45.0	4.18	4.18	4.18	4.13	4.13	4.13	4.07	4.13	4.07		
90.0	4.13	4.13	4.13	4.07	4.13	4.07	4.07	4.07	4.07		
135.0	4.13	4.13	4.13	4.13	4.13	4.13	4.07	4.07	4.13		
180.0	4.13	4.13	4.13	4.13	4.07	4.13	4.13	4.07	4.13		
225.0	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.07		
270.0	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.07	4.13		
315.0	4.13	4.13	4.13	4.13	4.07	4.13	4.07	4.07	4.07		
360.0	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.07	4.13		

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	4.13
45.0	4.13
90.0	4.07
135.0	4.07
180.0	4.07
225.0	4.07
270.0	4.07
315.0	4.07
360.0	4.13