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Nata

LumCAT: 2-1122-A4
Luminaire: 99.02.73.172+92.76.365.00
Report No: 200407-B015
Test No: 200407-C016
LampCAT: LUMINUS CXM-14-AC40
Lamp flux(lm): 1553.5
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 33.2800
Current(A): 0.3470
Power (W): 11.5480
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1397.22
Efficiency(%): 89.94%
Lumens(lm)/Power(W): 120.99
Central intensity(cd): 2996.156
Maximum intensity(cd): 2996.156
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.0
 [C90/270]Total=36.0
Field angle(10%Imax): [C0/180]Total=72.0
 [C90/270]Total=72.0
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
Maximum s/h(1/4): C0_180=0.59 C90_270=0.59
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.94%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.640%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2996.156	0.000	0	.000%	.000%
1.0	2986.805	2.863	2.863	.184%	.205%
2.0	2963.109	8.540	11.403	.550%	.816%
3.0	2924.086	14.080	25.483	.906%	1.824%
4.0	2876.063	19.415	44.898	1.250%	3.213%
5.0	2819.602	24.502	69.4	1.577%	4.967%
6.0	2755.266	29.297	98.698	1.886%	7.064%
7.0	2682.211	33.750	132.448	2.173%	9.479%
8.0	2612.039	37.890	170.338	2.439%	12.191%
9.0	2528.156	41.658	211.996	2.682%	15.173%
10.0	2437.875	44.941	256.937	2.893%	18.389%
11.0	2350.266	47.843	304.781	3.080%	21.813%
12.0	2250.211	50.290	355.07	3.237%	25.413%
13.0	2135.883	52.052	407.122	3.351%	29.138%
14.0	2021.203	53.210	460.333	3.425%	32.946%
15.0	1900.477	53.839	514.171	3.466%	36.800%
16.0	1765.828	53.722	567.893	3.458%	40.645%
17.0	1640.250	53.042	620.935	3.414%	44.441%
18.0	1494.633	51.687	672.622	3.327%	48.140%
19.0	1355.351	49.584	722.206	3.192%	51.689%
20.0	1233.626	47.385	769.591	3.050%	55.080%
21.0	1120.240	45.199	814.79	2.909%	58.315%
22.0	1011.333	42.835	857.625	2.757%	61.381%
23.0	926.430	40.660	898.285	2.617%	64.291%
24.0	845.494	38.741	937.025	2.494%	67.064%
25.0	772.369	36.787	973.812	2.368%	69.697%
26.0	718.467	35.191	1009.003	2.265%	72.215%
27.0	669.305	33.952	1042.955	2.186%	74.645%
28.0	628.538	32.859	1075.814	2.115%	76.997%
29.0	594.056	31.987	1107.801	2.059%	79.286%
30.0	560.798	31.181	1138.981	2.007%	81.518%
31.0	521.620	30.122	1169.104	1.939%	83.674%
32.0	483.300	28.790	1197.893	1.853%	85.734%
33.0	445.760	27.370	1225.264	1.762%	87.693%
34.0	396.302	25.483	1250.747	1.640%	89.517%
35.0	354.038	23.303	1274.05	1.500%	91.185%
36.0	299.032	20.794	1294.844	1.339%	92.673%
37.0	249.216	17.881	1312.724	1.151%	93.953%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	199.343	14.972	1327.697	.964%	95.025%
39.0	153.949	12.059	1339.756	.776%	95.888%
40.0	107.880	9.132	1348.887	.588%	96.541%
41.0	73.990	6.476	1355.364	.417%	97.005%
42.0	48.734	4.459	1359.822	.287%	97.324%
43.0	30.902	2.950	1362.772	.190%	97.535%
44.0	21.284	1.970	1364.742	.127%	97.676%
45.0	17.332	1.484	1366.226	.096%	97.782%
46.0	14.646	1.251	1367.477	.081%	97.872%
47.0	12.319	1.072	1368.549	.069%	97.948%
48.0	11.074	0.946	1369.495	.061%	98.016%
49.0	9.886	0.861	1370.355	.055%	98.078%
50.0	9.035	0.789	1371.144	.051%	98.134%
51.0	8.726	0.751	1371.896	.048%	98.188%
52.0	8.445	0.737	1372.633	.047%	98.241%
53.0	8.220	0.725	1373.357	.047%	98.292%
54.0	8.016	0.716	1374.073	.046%	98.344%
55.0	7.819	0.707	1374.78	.045%	98.394%
56.0	7.657	0.699	1375.479	.045%	98.444%
57.0	7.502	0.693	1376.172	.045%	98.494%
58.0	7.341	0.686	1376.859	.044%	98.543%
59.0	7.200	0.680	1377.538	.044%	98.592%
60.0	7.080	0.675	1378.213	.043%	98.640%
61.0	6.954	0.670	1378.883	.043%	98.688%
62.0	6.827	0.664	1379.547	.043%	98.735%
63.0	6.750	0.660	1380.207	.043%	98.783%
64.0	6.652	0.658	1380.865	.042%	98.830%
65.0	6.560	0.654	1381.519	.042%	98.877%
66.0	6.476	0.650	1382.169	.042%	98.923%
67.0	6.405	0.648	1382.817	.042%	98.969%
68.0	6.342	0.646	1383.463	.042%	99.016%
69.0	6.258	0.643	1384.105	.041%	99.062%
70.0	6.216	0.641	1384.746	.041%	99.108%
71.0	6.159	0.640	1385.386	.041%	99.153%
72.0	6.089	0.637	1386.022	.041%	99.199%
73.0	6.047	0.635	1386.657	.041%	99.244%
74.0	5.998	0.633	1387.29	.041%	99.290%
75.0	5.955	0.632	1387.922	.041%	99.335%

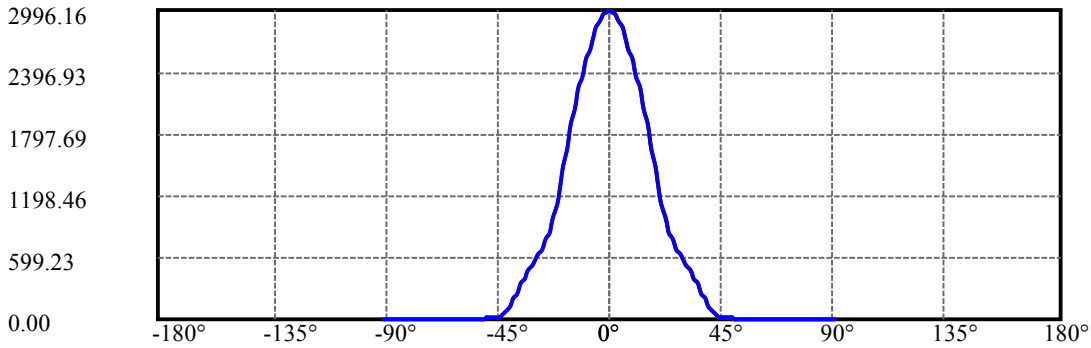
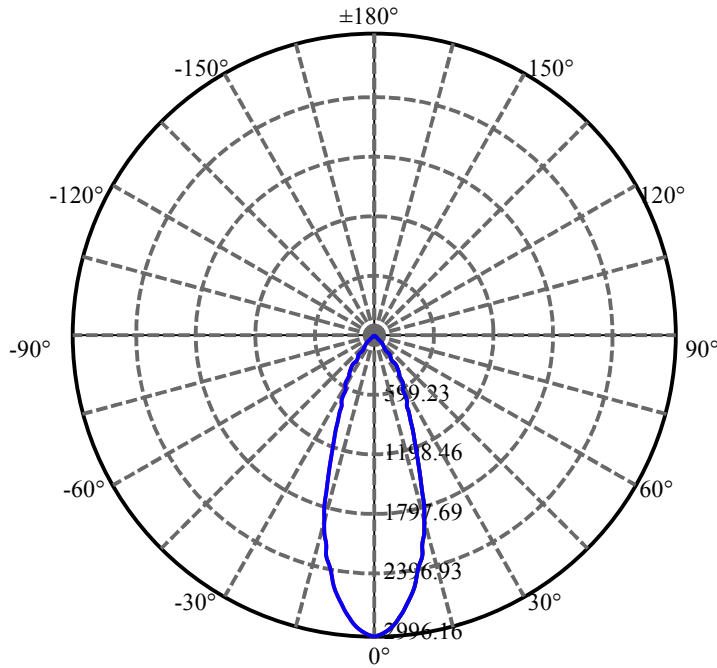
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.906	0.630	1388.552	.041%	99.380%
77.0	5.871	0.628	1389.179	.040%	99.425%
78.0	5.843	0.627	1389.807	.040%	99.470%
79.0	5.815	0.626	1390.433	.040%	99.515%
80.0	5.780	0.625	1391.058	.040%	99.559%
81.0	5.738	0.623	1391.681	.040%	99.604%
82.0	5.709	0.621	1392.302	.040%	99.648%
83.0	5.681	0.619	1392.921	.040%	99.693%
84.0	5.667	0.618	1393.539	.040%	99.737%
85.0	5.653	0.618	1394.157	.040%	99.781%
86.0	5.604	0.615	1394.772	.040%	99.825%
87.0	5.597	0.613	1395.385	.039%	99.869%
88.0	5.576	0.612	1395.997	.039%	99.913%
89.0	5.548	0.610	1396.607	.039%	99.956%
90.0	5.548	0.608	1397.215	.039%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1138.98	73.32%	81.52%
0-40	1348.89	86.83%	96.54%
0-60	1378.21	88.72%	98.64%
0-90	1396.61	89.90%	99.96%
0-120	1396.61	89.90%	99.96%
0-180	1397.22	89.94%	100.00%
60-90	19.07	1.23%	1.36%
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%
0-29.32	1117.77	71.95%	80.00%

ZONAL LUMEN SUMMARY

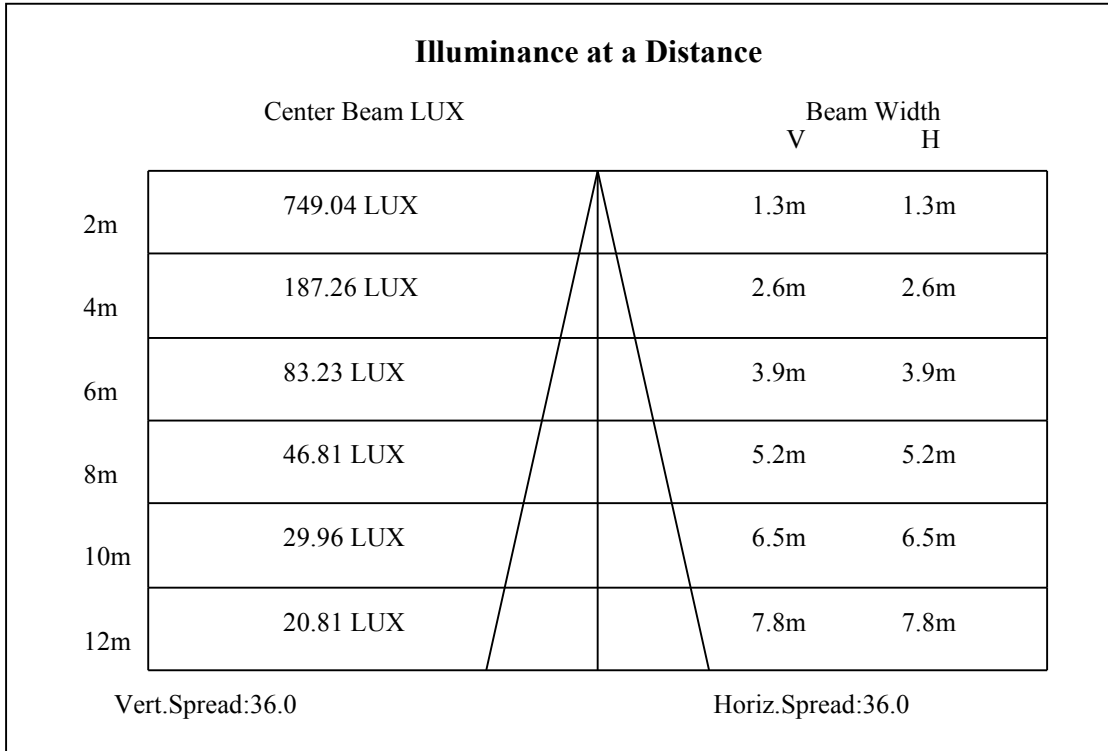
0-10	256.94
10-20	512.65
20-30	369.39
30-40	209.91
40-50	22.26
50-60	7.07
60-70	6.53
70-80	6.31
80-90	5.55
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

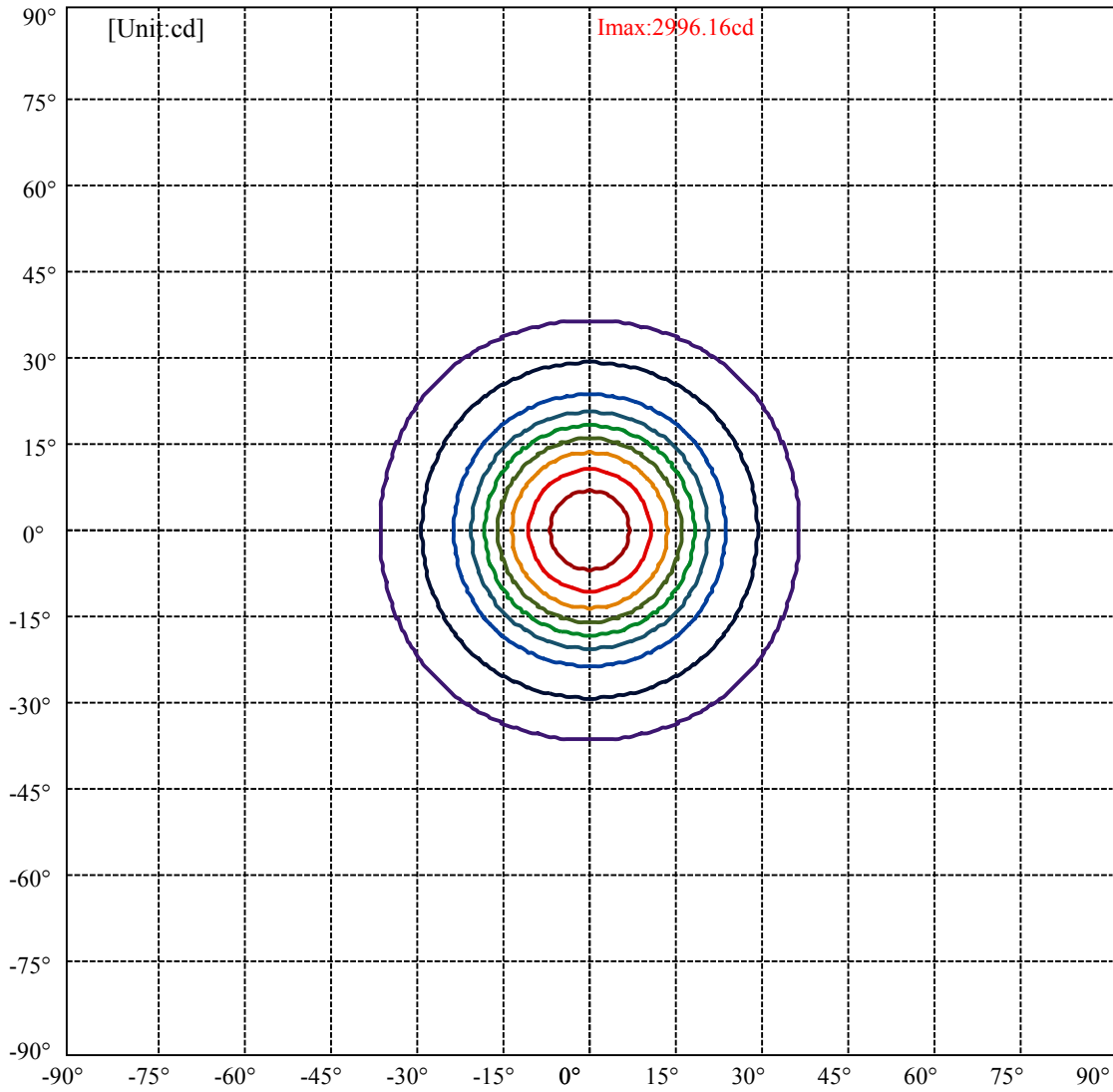


C0(Max): ———
C0/C180: ———
C90/C270: ———

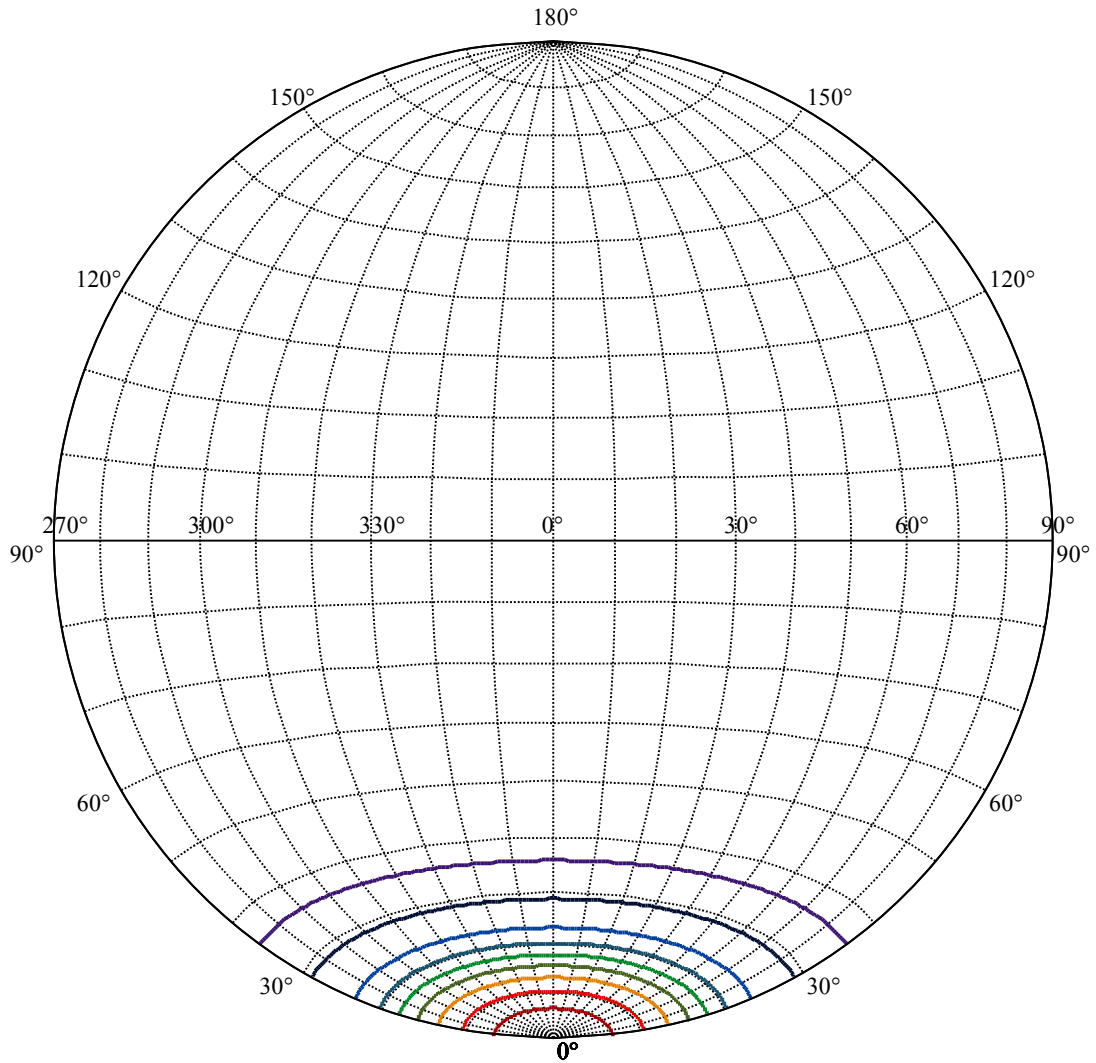
Field angle(10%Imax):C0/180Left:36.0 Right:36.0
:C90/270Left:36.0 Right:36.0

Beam Angle(50%Imax):C0/180Left:18.0 Right:18.0
:C90/270Left:18.0 Right:18.0





(10%Imax) 299.616	—
(20%Imax) 599.231	—
(30%Imax) 898.847	—
(40%Imax) 1198.46	—
(50%Imax) 1498.08	—
(60%Imax) 1797.69	—
(70%Imax) 2097.31	—
(80%Imax) 2396.93	—
(90%Imax) 2696.54	—



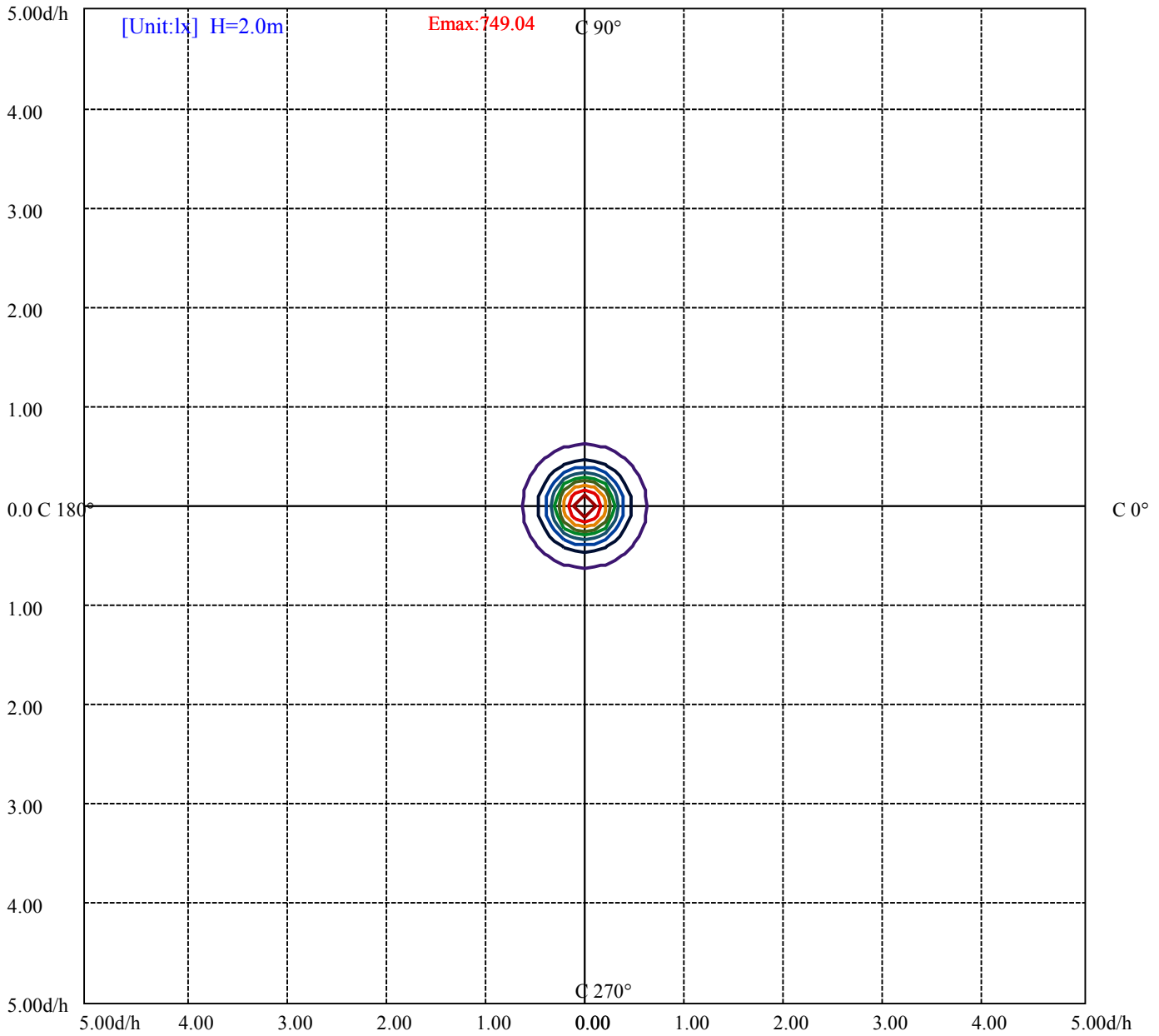
House

[Unit:cd]

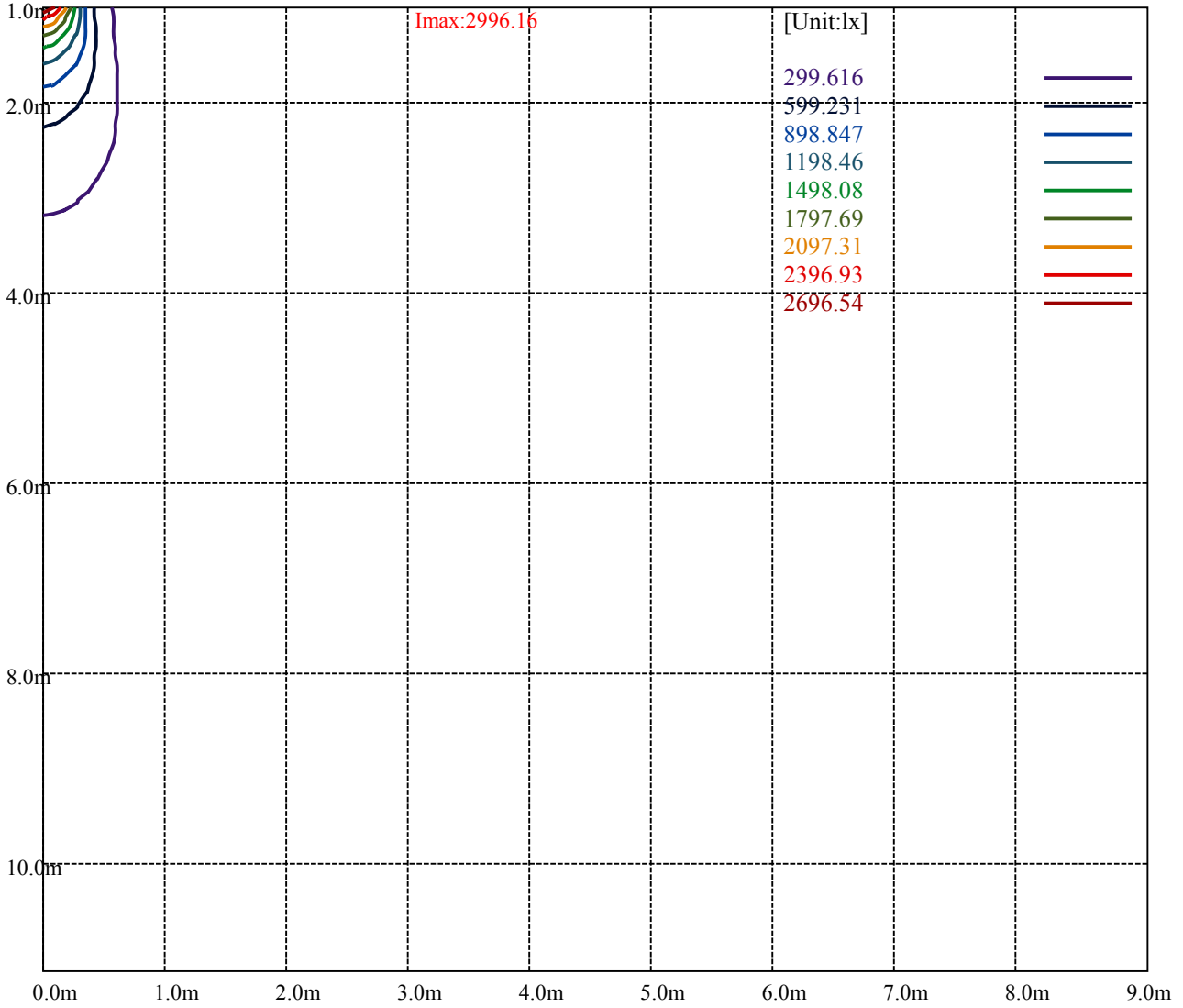
Road

Imax:2996.16

(10%Imax) 299.616	—
(20%Imax) 599.231	—
(30%Imax) 898.847	—
(40%Imax) 1198.46	—
(50%Imax) 1498.08	—
(60%Imax) 1797.69	—
(70%Imax) 2097.31	—
(80%Imax) 2396.93	—
(90%Imax) 2696.54	—



- (10%Emax) 74.90375
- (20%Emax) 149.8078
- (30%Emax) 224.7115
- (40%Emax) 299.615
- (50%Emax) 374.52
- (60%Emax) 449.4225
- (70%Emax) 524.3275
- (80%Emax) 599.23
- (90%Emax) 674.135



Luminance Table

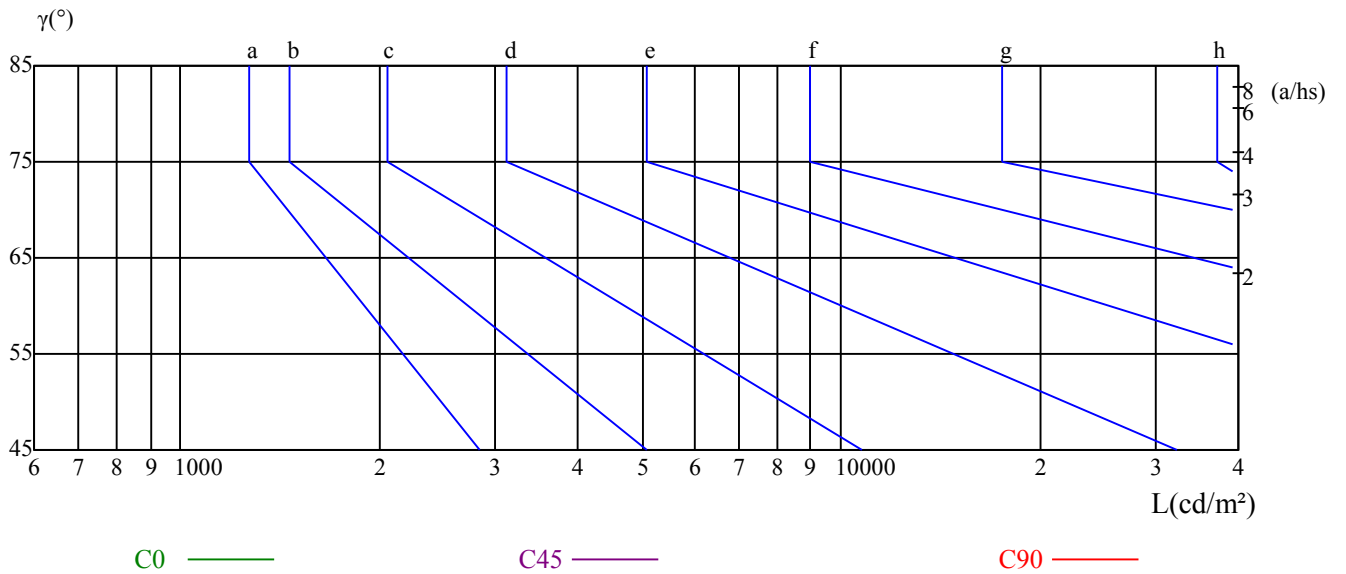
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

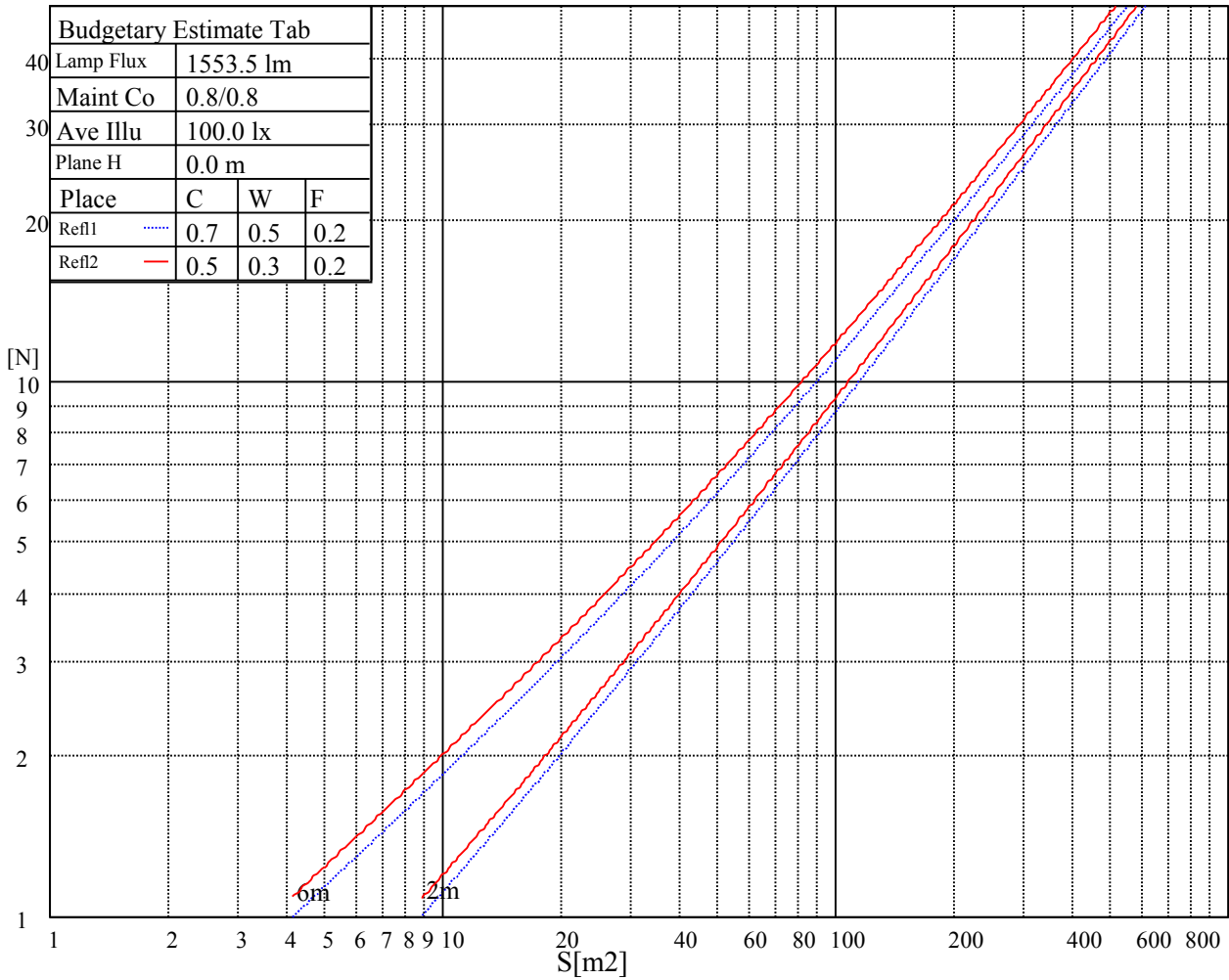
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

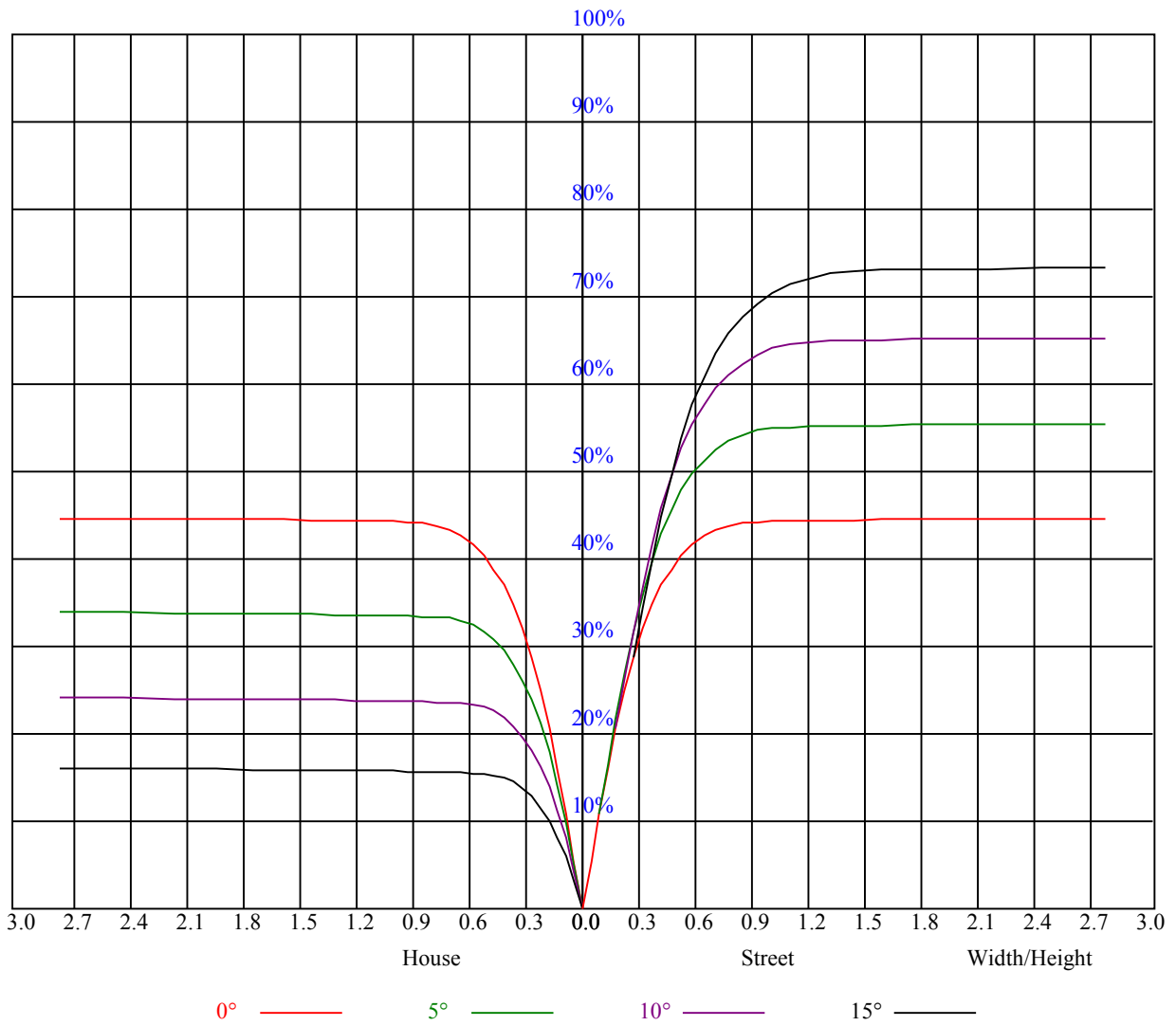
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.98	0.96	0.98	0.96	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85
2	0.94	0.91	0.88	0.92	0.89	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.80
3	0.89	0.85	0.81	0.87	0.84	0.81	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
4	0.84	0.79	0.76	0.83	0.79	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.72
5	0.79	0.75	0.71	0.79	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.74	0.71	0.69	0.68
6	0.75	0.71	0.67	0.75	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
7	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.61
8	0.69	0.64	0.61	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59
9	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.56
10	0.63	0.58	0.55	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54



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	2991.38	3022.88	3035.25	3026.25	3002.63	2964.38	2910.94	2858.06	2797.88
45.0	2992.50	2998.13	2980.13	2950.31	2904.19	2848.50	2790.56	2718.00	2650.50
90.0	2987.44	2954.25	2909.25	2841.19	2781.56	2716.88	2639.81	2561.06	2484.56
135.0	3013.31	2964.94	2905.31	2846.25	2775.38	2698.88	2628.00	2541.94	2463.75
180.0	2991.38	2939.06	2885.63	2823.75	2753.44	2683.69	2610.56	2512.69	2430.00
225.0	2992.50	2968.88	2935.13	2880.56	2829.38	2769.75	2697.19	2619.56	2547.00
270.0	2987.44	3007.13	3006.56	2990.25	2953.13	2904.19	2855.25	2790.56	2727.00
315.0	3013.31	3039.19	3047.63	3034.13	3008.81	2970.56	2909.81	2855.81	2795.63
360.0	2991.38	3022.88	3035.25	3026.25	3002.63	2964.38	2910.94	2858.06	2797.88
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2716.88	2643.19	2561.63	2473.88	2353.50	2249.44	2136.94	1985.63	1855.69
45.0	2572.31	2481.19	2391.19	2293.88	2164.50	2054.81	1939.50	1787.63	1662.75
90.0	2390.63	2287.13	2190.94	2076.75	1970.44	1842.75	1707.19	1580.63	1450.13
135.0	2370.38	2270.25	2176.31	2076.75	1946.25	1836.56	1722.94	1575.56	1452.94
180.0	2346.75	2237.06	2140.88	2040.75	1923.75	1802.25	1690.31	1559.25	1438.31
225.0	2463.75	2372.63	2284.31	2176.88	2071.69	1950.75	1824.75	1706.63	1582.31
270.0	2652.19	2571.19	2495.81	2414.25	2297.81	2194.88	2087.44	1943.44	1822.50
315.0	2712.38	2640.38	2561.06	2448.56	2359.13	2238.19	2094.75	1987.88	1857.38
360.0	2716.88	2643.19	2561.63	2473.88	2353.50	2249.44	2136.94	1985.63	1855.69
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1723.50	1578.94	1440.56	1320.19	1189.69	1068.75	971.44	875.81	804.38
45.0	1522.69	1401.75	1249.88	1137.94	1036.13	933.19	845.44	782.44	723.94
90.0	1293.75	1121.96	1071.39	946.86	877.78	810.11	745.93	693.68	654.41
135.0	1318.50	1194.75	1076.06	982.13	888.75	808.88	749.81	695.81	655.88
180.0	1297.13	1120.78	1057.05	953.21	863.04	796.11	739.07	679.39	639.56
225.0	1425.38	1306.13	1122.19	1058.29	964.07	881.83	803.76	739.01	691.03
270.0	1698.19	1554.75	1413.56	1291.50	1161.56	1056.38	950.63	858.94	790.88
315.0	1677.94	1563.75	1438.31	1271.81	1109.64	1056.21	957.88	853.88	787.67
360.0	1723.50	1578.94	1440.56	1320.19	1189.69	1068.75	971.44	875.81	804.38
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	739.13	687.94	649.13	619.31	579.38	555.19	536.06	491.06	450.00
45.0	675.56	638.44	600.19	571.50	542.25	509.06	470.25	420.75	369.00
90.0	614.81	583.54	551.81	515.64	474.92	424.07	370.58	322.82	275.51
135.0	614.25	581.06	554.63	518.63	462.94	416.25	372.38	304.31	286.31
180.0	604.86	572.85	543.54	506.36	457.82	405.45	357.75	302.68	255.26
225.0	645.53	608.91	574.14	544.05	515.03	470.48	421.20	373.39	325.97
270.0	727.31	677.25	638.44	604.13	567.56	541.69	515.81	470.25	426.94
315.0	732.99	678.32	640.58	606.77	573.08	544.22	522.06	485.16	443.31
360.0	739.13	687.94	649.13	619.31	579.38	555.19	536.06	491.06	450.00
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	410.63	350.44	294.75	288.56	188.38	143.33	95.57	57.15	33.75
45.0	321.75	286.88	212.06	165.94	122.40	77.06	41.96	25.99	21.66
90.0	215.49	169.54	124.76	74.76	44.27	26.10	20.98	16.93	13.89
135.0	205.14	157.16	106.37	68.23	37.13	22.11	18.73	15.08	12.49
180.0	202.11	150.58	108.79	67.61	35.72	21.49	18.68	14.51	11.98
225.0	265.39	217.58	172.35	117.56	79.03	47.03	24.58	20.81	16.82
270.0	379.69	323.44	286.31	215.33	175.67	119.87	75.83	45.96	27.73
315.0	392.06	338.12	289.35	233.61	180.45	134.94	93.54	50.79	31.95
360.0	410.63	350.44	294.75	288.56	188.38	143.33	95.57	57.15	33.75

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	25.20	19.91	16.03	13.73	11.08	9.56	9.17	8.83	8.61
45.0	17.16	14.18	12.38	10.74	9.51	9.11	8.83	8.55	8.27
90.0	12.32	11.14	9.79	9.39	9.06	8.72	8.49	8.27	8.04
135.0	11.42	10.80	9.73	9.34	8.89	8.61	8.44	8.16	7.99
180.0	11.08	10.35	9.73	9.34	8.94	8.66	8.33	8.04	7.88
225.0	12.54	11.36	10.41	9.45	9.11	8.66	8.38	8.21	7.99
270.0	23.06	19.01	14.46	12.71	11.19	9.39	9.00	8.66	8.38
315.0	25.88	20.42	16.03	13.89	11.31	9.56	9.17	8.83	8.61
360.0	25.20	19.91	16.03	13.73	11.08	9.56	9.17	8.83	8.61
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.38	8.16	7.99	7.82	7.65	7.48	7.37	7.26	7.14
45.0	8.04	7.88	7.71	7.59	7.43	7.26	7.14	7.03	6.92
90.0	7.88	7.65	7.54	7.37	7.20	7.03	6.98	6.81	6.69
135.0	7.82	7.65	7.43	7.31	7.14	7.09	6.98	6.86	6.69
180.0	7.71	7.48	7.37	7.26	7.09	6.98	6.86	6.75	6.64
225.0	7.76	7.65	7.48	7.31	7.14	7.03	6.92	6.81	6.69
270.0	8.21	7.99	7.82	7.59	7.48	7.31	7.14	7.03	6.86
315.0	8.33	8.10	7.93	7.76	7.59	7.43	7.26	7.09	6.98
360.0	8.38	8.16	7.99	7.82	7.65	7.48	7.37	7.26	7.14
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.03	6.86	6.81	6.69	6.64	6.53	6.47	6.41	6.30
45.0	6.86	6.75	6.64	6.53	6.47	6.41	6.30	6.24	6.19
90.0	6.64	6.53	6.47	6.36	6.30	6.24	6.13	6.13	6.08
135.0	6.64	6.53	6.47	6.36	6.30	6.24	6.19	6.13	6.13
180.0	6.58	6.53	6.41	6.36	6.30	6.24	6.19	6.13	6.08
225.0	6.58	6.53	6.41	6.36	6.30	6.24	6.13	6.13	6.08
270.0	6.75	6.69	6.58	6.53	6.41	6.36	6.30	6.24	6.19
315.0	6.92	6.81	6.69	6.64	6.53	6.47	6.36	6.30	6.24
360.0	7.03	6.86	6.81	6.69	6.64	6.53	6.47	6.41	6.30
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.24	6.19	6.13	6.08	6.02	5.96	5.91	5.85	5.85
45.0	6.13	6.08	6.02	5.96	5.91	5.85	5.79	5.79	5.74
90.0	5.96	5.96	5.91	5.91	5.85	5.79	5.74	5.79	5.74
135.0	6.08	6.02	5.96	5.91	5.91	5.91	5.85	5.85	5.79
180.0	6.02	5.96	5.96	5.91	5.91	5.85	5.85	5.79	5.79
225.0	5.96	5.96	5.91	5.85	5.79	5.79	5.79	5.74	5.68
270.0	6.13	6.08	6.02	6.02	5.91	5.91	5.91	5.85	5.79
315.0	6.19	6.13	6.08	6.02	5.96	5.91	5.91	5.85	5.85
360.0	6.24	6.19	6.13	6.08	6.02	5.96	5.91	5.85	5.85
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.79	5.74	5.79	5.74	5.68	5.63	5.63	5.63	5.57
45.0	5.74	5.68	5.68	5.63	5.63	5.57	5.51	5.57	5.46
90.0	5.74	5.68	5.68	5.63	5.63	5.57	5.57	5.57	5.51
135.0	5.74	5.74	5.68	5.68	5.68	5.63	5.63	5.57	5.57
180.0	5.68	5.68	5.63	5.68	5.63	5.63	5.63	5.57	5.57
225.0	5.68	5.68	5.63	5.63	5.63	5.57	5.57	5.51	5.51
270.0	5.74	5.74	5.68	5.68	5.68	5.63	5.63	5.57	5.57
315.0	5.79	5.74	5.68	5.68	5.68	5.63	5.63	5.63	5.63
360.0	5.79	5.74	5.79	5.74	5.68	5.63	5.63	5.63	5.57

Intensity data(cd)

C/γ(°)	90.0
0.0	5.57
45.0	5.51
90.0	5.57
135.0	5.57
180.0	5.57
225.0	5.51
270.0	5.51
315.0	5.57
360.0	5.57